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MAINTENANCE MANUAL

CHEVROLET

CHEVROLET

¾-TON (LC) 4 x 2 TRUCK

Built for

UNITED STATES ARMY

Model 3605

CONTRACT NUMBER
W-398-QM-1092

U.S.A. Registration Numbers
W-243622 TO W-243665

Chevrolet Motor Division
General Motors Sales Corporation
Detroit, Michigan

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WAR DEPARTMENT

Washington, November 15, 1941

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By order of the Secretary of War:

G. C. MARSHALL,
Chief of Staff

Official:
E. S. ADAMS,
Major General
The Adjutant General

TM10-1287

MAINTENANCE MANUAL

CHEVROLET ¾-TON 4 x 2 TRUCK

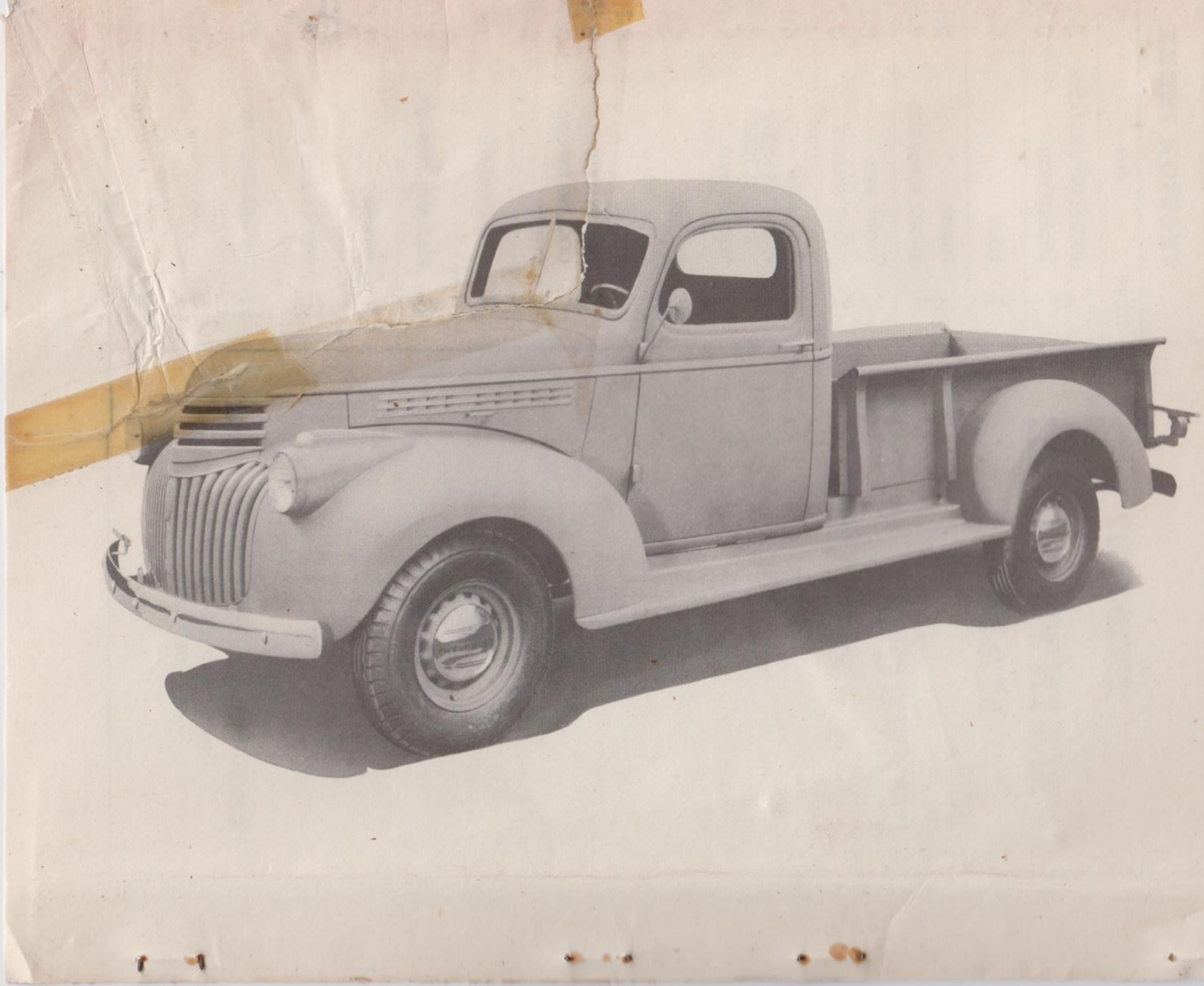
FOREWORD

This manual contains information covering the Operation, Maintenance and Repair of Chevrolet ¾-Ton — 4 x 2 Trucks.

For the convenience of the user it is arranged in sections. All information pertaining to a given unit will be found in the section devoted to that unit. The manual is written for the guidance of the operator and repair men who are responsible for the vehicle. Keep it handy and refer to it often.

CHEVROLET MOTOR DIVISION
General Motors Sales Corporation
DETROIT, MICHIGAN

SECTION INDEX



Section 0

DRIVER INSTRUCTIONS

It is of definite importance that the driver of one of these vehicles be thoroughly familiar with the various controls and instruments and their proper use. Even the experienced driver should study the controls before attempting to start the engine or move the vehicle.

Fig. 1 illustrates the controls and instruments; in the following paragraphs dealing with the purpose and use of the instruments and controls we will refer to the key number of the instrument or control being discussed, so the reader may easily follow the instructions. Starting with Fig. 1 we find the following:

IGNITION SWITCH No. 1 is operated by the ignition key; turning the switch to the right turns on the ignition and turning the switch to the left turns the ignition off.

HAND THROTTLE No. 2 is located on the instrument panel to the right of the ignition switch; pulling this button opens the throttle. This control may be used when starting or, if it is desired, to run the engine at a constant speed.

CARBURETOR CHOKE No. 3 is used when starting a cold engine. Pulling out this control button shuts off the air to the carburetor, providing a rich mixture for easy starting. The choke button should be pushed in when the engine starts. If the engine is warm, the use of the choke should be unnecessary.

FUEL GAUGE No. 4 registers the amount of fuel in the tank when the ignition switch is turned on. The dial has graduations for empty, half full and full.

TEMPERATURE INDICATOR No. 5 indicates the temperature of the liquid in the cooling system at all times. The driver should watch this instrument closely. A red band at the right of the dial is used to indicate excessive temperature. Whenever the indicator hand enters this band, the driver should immediately investigate the cause of the excessive temperature. Continuing to drive an overheated engine may cause permanent damage to its working parts.

AMMETER No. 6 is used to indicate whether the battery is being charged or discharged when the vehicle is in operation. If the ammeter shows discharge at all times, the cause should be investigated and corrected, otherwise the battery will be discharged.

OIL GAUGE No. 7 indicates the oil pressure. The dial has three divisions showing 0, 15 and 30. The driver should watch this instrument closely and, if the indicator hand drops below zero, the engine should be stopped immediately and the cause of the oil pressure failure investigated and corrected before continuing to run the engine.

SPEEDOMETER No. 8 indicates the speed at which the vehicle is being driven. The odometer registers the total number of miles the vehicle has been driven.

LIGHTING SWITCH No. 9 controls the lighting circuits. When the switch button is pulled out to the first position, it turns on the parking lights and tail light. Pulling the switch button all the way out turns on the headlights; the tail lamp is also turned on in this position.

WINDSHIELD WIPER SWITCH No. 10 is used to turn the windshield wiper on or off, by turning the button alongside the switch.

WINDSHIELD QUADRANT ADJUSTING SCREWS No. 11 are used to lock the windshield at various degrees of opening.

GLOVE COMPARTMENT LOCK No. 12. Pressing downward on the glove compartment lock cylinder opens the glove compartment door. A key is provided to lock this compartment.

ASH RECEIVER No. 13 is for the convenience of the driver; pulling the receiver outward uncovers the tray. The tray may be lifted out to empty the ashes.

VENTILATOR CONTROL LEVER No. 14 is used to open and close the cowl ventilator.

CLUTCH PEDAL No. 15 is used to disengage the engine from the transmission when shifting gears. The clutch pedal should never be engaged quickly when the vehicle is in gear. Driving with foot on pedal will cause wear of clutch facings and throw-out bearing. There should be one to one-and-a-quarter inches of free travel of the clutch pedal before the clutch starts to disengage.

BRAKE PEDAL No. 16. Pressing down on the brake pedal applies the hydraulic brakes at all four wheels. Avoid driving with foot on brake pedal, as brakes will be partially applied and cause rapid wear of lining.

HEADLIGHT DIMMER SWITCH No. 17 is a foot switch used to select the headlight beam (upper or lower) desired after the headlights are turned on, by pressing down on the switch button with the foot. When the upper beam is turned on, the headlight beam indicator is automatically turned on. This is a small red light located below the 50-mile graduation on the speedometer scale. When the lower beam is in use, the beam indicator is turned off. Always use the lower beam when passing approaching vehicles. This is an important highway safety rule in night driving.

INSTRUMENT LIGHT SWITCH No. 18 is used to turn on the instrument and ignition switch light. Moving the switch handle to the right turns on the ignition switch light, while moving it to the left turns on the instrument lights.

ACCELERATOR No. 19 is used in driving to control the speed of the engine.

STARTER SWITCH PEDAL No. 20. Pressing down on pedal with foot engages the starter and flywheel gears and also closes the starter switch, com-

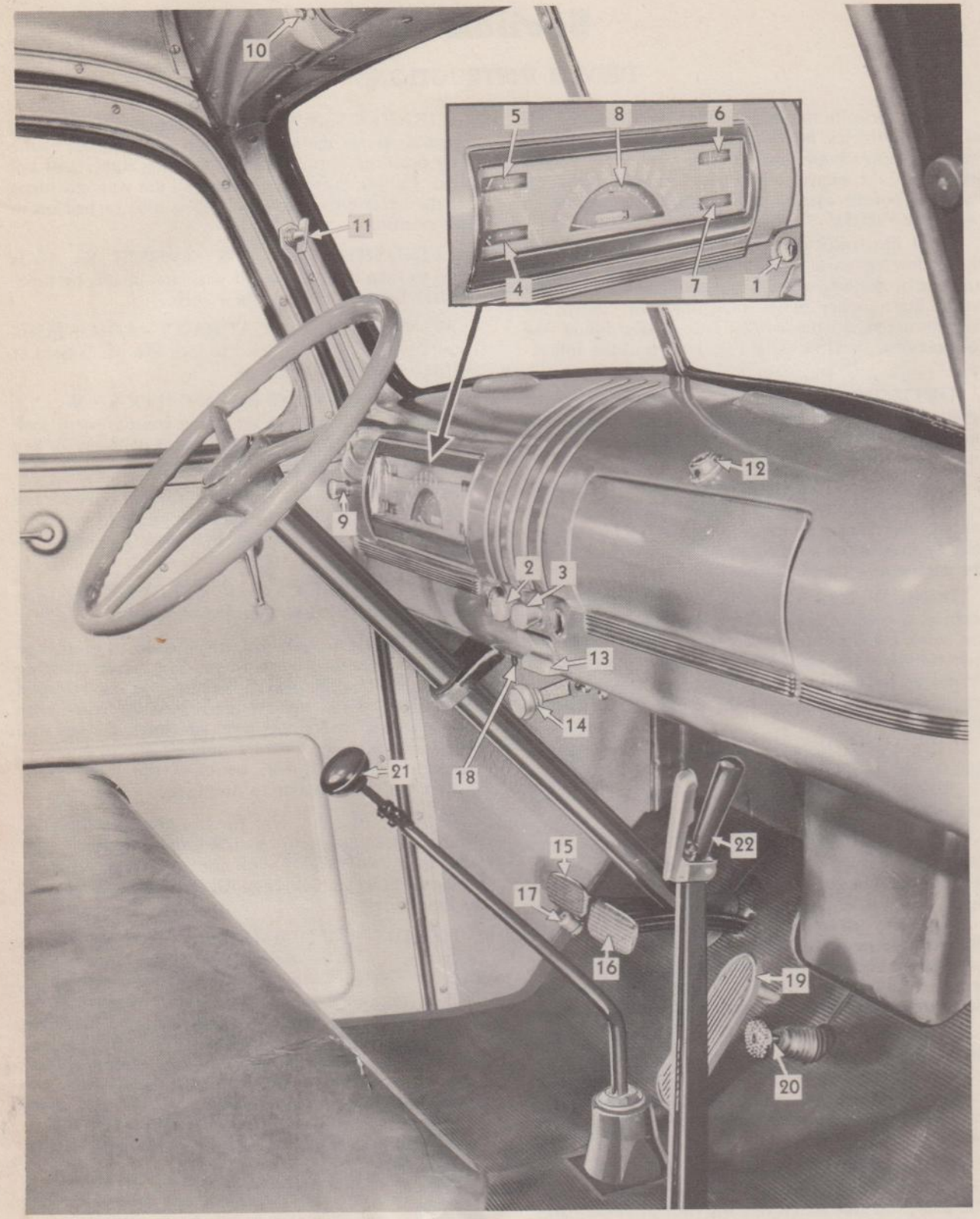


Fig. 1—Interior of Cab showing Location of Instruments and Controls

1—Ignition Switch
2—Hand Throttle
3—Carburetor Choke
4—Fuel Gauge
5—Temperature Indicator
6—Ammeter
7—Oil Gauge
8—Speedometer
9—Lighting Switch
10—Windshield Wiper Switch
11—Windshield Control Handle
12—Glove Compartment Lock
13—Ash Receiver
14—Ventilator Control Lever
15—Clutch Pedal
16—Brake Pedal
17—Headlight Dimmer Switch
18—Instrument Light Switch
19—Accelerator
20—Starter Switch Pedal
21—Transmission Gearshift Lever
22—Hand Brake Lever

pleting the electrical circuit between battery and starter. Rotation of the starter armature through the gears cranks the engine. When the engine starts, foot should be removed from pedal immediately.

TRANSMISSION GEARSHIFT LEVER No. 21 is used to select various gear ratios provided in the transmission. There are four speeds forward and one reverse. Reverse gear can only be engaged when latch on gearshift lever is raised. Lever positions for various gears are shown on the shifting diagram, Fig. 2.

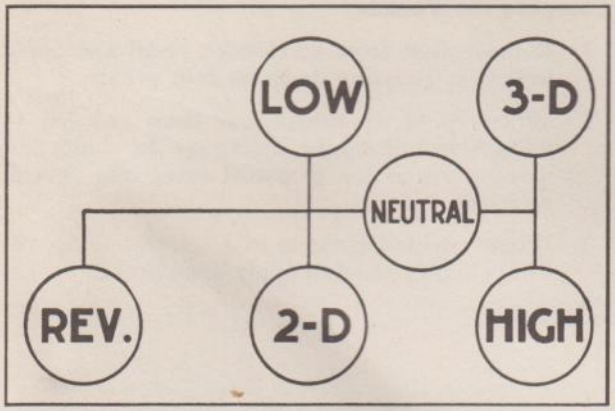


Fig. 2—Four-Speed Transmission Gearshifting Diagram

Half-ton Trucks are equipped with a three-speed transmission having three speeds forward and one reverse. Fig. 3, shifting diagram, shows the gearshift lever positions for the various speeds.

HAND BRAKE LEVER No. 22 operates the brakes on the rear wheels mechanically. Whenever the vehicle is parked, the lever should be pulled toward the rear as far as possible. Before moving the vehicle, lever should be in released position.

OPERATING INSTRUCTIONS

Each day the following inspections should be made before starting the vehicle:

1. Check the oil level on the dip stick. If oil is down to the low mark, add oil.
2. Check the water in the radiator, and fill if necessary. Check hose connections for leaks. Check fan belt for looseness.
3. Note condition of tires and see that they are properly inflated.

Starting the Engine

1. Transmission gearshift lever must be in neutral position. See shifting diagram.
2. Pull out hand throttle about ⅜ inch. This is not necessary if engine is warm.
3. Pull out choke button to obtain proper fuel and air mixture for starting. If the engine is warm, choking will be unnecessary.

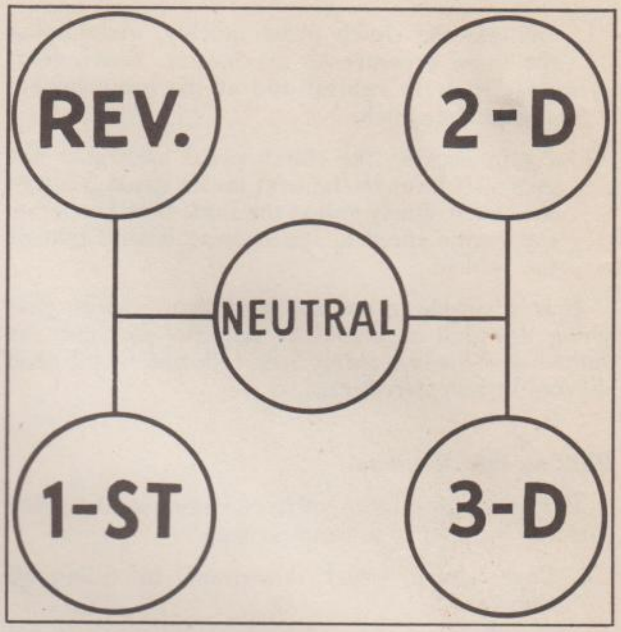


Fig. 3—Three-Speed Transmission Gearshifting Diagram

4. Insert key in ignition switch and turn switch to "On" position.
5. Step on starter pedal to crank the engine. Release pedal as soon as engine starts.
6. Push in on choke button and adjust hand throttle to obtain even idling. When engine is cold, it should be run several minutes before attempting to move the vehicle.

Starting the Vehicle

1. Push clutch pedal downward to disengage the clutch.
2. On four-speed transmissions, move transmission gearshift lever to the left and forward into first gear position; on three-speed transmissions, move the gearshift lever to the left and backward into first gear position—see shifting diagram.
3. Release the hand brake lever.
4. Step down on accelerator pedal to speed up the engine. Release clutch pedal slowly and push accelerator pedal down as necessary to pick up the load and prevent stalling the engine as the vehicle starts to move.
5. As vehicle speed increases, release accelerator pedal, depress the clutch, move gearshift lever to neutral and then to next higher speed. Step down on accelerator and engage clutch as explained above. Repeat this operation until transmission is in high gear.

Shifting to Lower Speed in Transmission

The transmission should always be shifted to the next lower speed before engine begins to labor or before vehicle speed is reduced appreciably. Shifting to lower speed is accomplished as follows:

1. Depress the clutch pedal quickly, maintaining the same pressure on accelerator. Move gearshift lever to neutral and at the same instant engage the clutch.
2. Again depress the clutch pedal and move the gearshift lever to the next lower speed. Engage the clutch slowly and at the same time accelerate the engine speed to synchronize it with that of the vehicle.

It is advisable to use the same transmission gear going downhill as would be required to climb the same hill. This is a safety rule followed by all good drivers in hilly territory.

Shifting into Reverse

Before attempting to shift into reverse, the truck must be brought to a complete stop.

1. Push clutch pedal downward to disengage clutch.
2. On four-speed transmissions, raise latch on gearshift lever and move lever to left as far as possible, then toward the rear; on three-speed transmissions, move the gearshift lever to left, then forward into reverse—see shifting diagram.
3. Engage clutch and accelerate the engine in the same manner as previously explained under the heading "Starting the Vehicle."

Stopping the Vehicle

1. Remove foot from accelerator pedal and apply brakes by pressing down on foot pedal.
2. When speed of vehicle has been reduced to idling speed of engine, disengage the clutch and move transmission gearshift lever into neutral position.
3. When vehicle has come to a complete stop, release clutch pedal and apply hand brake.

GENERAL LUBRICATION

Lubrication of a truck is important to prevent damage to moving parts due to friction, heat or foreign material. As all moving parts are not subjected to the same type of operating conditions the lubricant to be used is that which most nearly meets the requirements of the part involved. In some places excessive heat or cold is the problem to overcome, in others it is extreme pressure, water, sand or grit. The type of operating surface must also be taken into consideration as certain parts rotate or oscillate on bronze bushings, roller bearings, ball bearings or cast iron bearings. Each of the above conditions or constructions make necessary the application of a specialized lubricant.

Lubricants are much cheaper than repair bills and should be applied regularly to secure a maximum of useful service from a truck. Consequently, it is of equal importance that not only the proper grade of lubricant be used but that it be applied in accordance with a definite schedule.

The chart at the end of this section should be referred to for instructions on the mileage of application and the grade and quantity of lubricant required for all parts of the truck. A more detailed account of certain phases of lubrication is given in the following paragraphs.

ENGINE

Oil Gauge

When starting a cold engine, it will be noted that the oil gauge on the instrument panel will register a high oil pressure. As the engine warms up, the pressure will drop until it reaches a point where changes to higher speeds will raise the pressure very little, if at all.

If the oil pressure registers abnormally high after the engine is thoroughly warmed up, an inspection should be made to ascertain if the oil lines and passages are "plugged."

Lubrication

First 500 Miles

Proper selection of the oil to be used will add much to the performance, reliability, economy and long life of an engine.

It is important that the recommended light oils be used in the engine during the "breaking-in" period as they assure ease of starting the engine; prompt flow of a sufficient quantity of oil to the bearings; less friction between moving parts; less wear of moving parts, etc.

The crankcase of the engine, as delivered from the factory, is filled with 10-W oil. This should be left in during the first 500 miles and then the crankcase should be drained (while hot) and refilled to the proper level.

After 500 Miles

After the first 500 miles the crankcase oil should be selected to give the best performance for the climatic and driving conditions under which the truck is being operated.

Climatic Conditions

During the colder months of the year, an oil which will permit easy starting at the lowest atmospheric temperature likely to be encountered should be used.

When the crankcase is drained and refilled, the crankcase oil should be selected not on the basis of the existing temperature at the time of the change, but on the lowest temperature anticipated for the period during which the oil is to be used.

If oil is selected for existing temperatures, starting trouble may be encountered due to slower cranking speeds caused by too heavy an oil.

The viscosity grade of crankcase oil will, therefore, depend upon the climatic conditions under which the truck is operated.

Fall — Winter — Spring

The viscosity grade best suited for use in the engine at the various temperatures is given under reference Note 5 at the end of this section. Use the grade indicated for the lowest temperature expected. Always use the lighter grade oil when in doubt.

10-W oil plus 10% kerosene is recommended only for those territories where the temperature falls below 10 degrees below zero for protracted periods.

Summer

The use of 20-W or SAE 20 oils during the summer months will permit better all around performance than will the heavier body oils, with no appreciable increase in oil consumption.

If SAE 20 or 20-W oil is not available, SAE 30 oil may be used if it is expected that the average prevailing daylight temperature will consistently be above 90° F.

Maintaining Oil Level

The Oil Gauge Rod (Fig. 1) is marked "Full" or "Add Oil." These notations have broad arrows pointing to the level lines.

The oil level should be maintained between the two lines; neither going above the "Full" line nor under the "Add Oil" line.

Check the oil level frequently and add oil when necessary. Always be sure the crankcase is full before starting on a long drive.

Fig. 1—Oil Gauge Rod

When to Change Crankcase Oil

Some oils have been greatly improved, driving conditions have changed, and improvements in en-

gines. such as the crankcase ventilating system, have greatly lengthened the life of good lubricating oils. However, to insure continuation of best performance, low maintenance cost and long engine life, it is necessary to change the crankcase oil whenever it becomes contaminated with harmful foreign materials. Under normal driving conditions draining the crankcase and replacing with fresh oil every 2000 or 3000 miles is recommended. Under the adverse driving conditions described in the following paragraphs, it may become necessary to drain the crankcase oil more frequently.

Driving over dusty roads or through dust storms introduces abrasive material into the engine. Carburetor Air Cleaners decrease the amount of dust that may enter the crankcase. The frequency of draining depends upon severity of dust conditions and no definite draining periods can be recommended.

Short runs in cold weather, such as city driving, do not permit thorough warming up of the engine and water may accumulate in the crankcase from condensation of moisture produced by the burning of the fuel. Water in the crankcase may freeze and interfere with proper oil circulation. It also promotes rusting and may cause clogging of oil screens and passages. Under normal driving conditions this water is removed by the crankcase ventilator. But if water accumulates it should be removed by draining the crankcase as frequently as may be required.

It is always advisable to let the engine reach normal operating temperature before draining the crankcase. The benefit of draining is, to a large extent, lost if the crankcase is drained when the engine is cold as some of the suspended foreign material will cling to the sides of the oil pan and will not drain out readily with the slower moving oil.

Crankcase Dilution

Probably the most serious phase of engine oil deterioration is that of crankcase dilution, which is the thinning of the oil by fuel vapors leaking by the pistons and rings and mixing with the oil.

Leakage of fuel, or fuel vapors, into the oil pan occurs mostly during the "warming-up" period, when the fuel is not thoroughly vaporized and burned.

Automatic Control

The Chevrolet engine is equipped with automatic devices which aid greatly in minimizing the danger of crankcase dilution.

Rapid warming up of the engine is aided by the thermostatic water temperature control, which automatically prevents circulation of the water in the cooling system until it reaches a predetermined temperature.

Thermostatic heat control on the exhaust manifold, during the "warming-up" period, automatically directs the hot exhaust gases against the center of the intake manifold, greatly aiding the proper vaporization of the fuel.

The down-draft carburetor is an aid to easy starting, thereby minimizing the use of the choke. Sparing use of the choke reduces danger of raw, or unvaporized, fuel entering the combustion chamber and leaking into the oil reservoir.

An efficient crankcase ventilating system drives off fuel vapors and aids in the evaporization of the raw fuel and water which may find its way into the oil reservoir.

Control by Truck Operator

Ordinarily the above automatic control devices will minimize, or eliminate, the danger of crankcase dilution.

However, there are abnormal conditions of service when the truck operator must aid in the control of crankcase dilution.

Short runs in cold weather, such as city driving, do not permit the thorough warming up of the engine nor the efficient operation of automatic control devices. It is recommended that the oil be changed more often when the truck is subject to this type of operation.

Poor mechanical condition of the engine, such as scored cylinders, poor ring fit, "sloppy" or loose pistons, faulty valves, poor ignition, will increase crankcase dilution. Keep the truck in good mechanical condition.

Poor fuels which contain portions hard to ignite and slow to burn will increase crankcase dilution. Use good fuel.

Water in Crankcase

Serious lubrication troubles may result in cold weather by an accumulation of water in the oil pan. This condition is, as a rule, little understood by the truck operator. To demonstrate the chief cause of water in the oil pan, hold a piece of cold metal near the end of the exhaust pipe of the engine and note the rapid condensation and collection of drops of water on it. The exhaust gases are charged with water vapor and the moment these gases strike a cold surface, they will condense, forming drops of water.

A slight amount of these gases pass the pistons and rings, even under the most favorable conditions, and cause the formation of water in the oil pan, in a greater or less degree, until the engine becomes warm. When the engine becomes thoroughly warm, the crankcase will no longer act as a condenser and all of these gases will pass out through the crankcase ventilator system.

Short runs in cold weather, such as city driving, will aggravate this condensing action.

Corrosion

Practically all present-day engine fuel contains a small amount of sulphur which, in the state in which it is found, is harmless; but this sulphur on burning, forms certain gases, a small portion of which is likely to leak past the pistons and rings and reacting with water, when present in the crankcase, form very corrosive acids. The more sulphur in the fuel, the greater the danger from this type of corrosion. This

is a condition which we cannot wholly avoid, but it may be reduced to a minimum by proper care of the engine.

As long as the gases and the internal walls of the crankcase are hot enough to keep water vapor from condensing, no harm will result; but when an engine is run in low temperatures, moisture will collect and unite with the gases formed by combustion; thus, acid will be formed and is likely to cause serious etching or pitting. This etching, pitting or corrosion, when using fuel containing considerable sulphur, manifests itself in excessively rapid wear on piston pins, camshaft bearings and other moving parts of the engine, oftentimes causing the owner to blame the truck manufacturer or the lubricating oil when in reality the trouble may be traced back to the character of fuel used, or a condition of the engine, such as excessive blow-bys or improper carburetor adjustment.

SAE Viscosity Numbers

The viscosity of a lubricant is simply a measure of its body or fluidity. The oils with the lower SAE numbers are lighter and flow more readily than do the oils with the higher numbers.

The SAE viscosity numbers constitute a classification of lubricants in terms of viscosity or fluidity, but with no reference to any other characteristics or properties.

The refiner or marketer supplying the oil is responsible for the quality of its product. His reputation is your best indication of quality.

The SAE viscosity numbers have been adopted by practically all oil companies, and no difficulty should be experienced in obtaining the proper grade of lubricant to meet seasonal requirements.

REAR AXLE AND TRANSMISSION

The rear axle and transmission case are filled with SAE 90 Universal Gear lubricant at the factory—this being satisfactory for "year around" use.

Although SAE 90 grades of lubricants are recommended for "year around" service, whenever extremely low or high temperatures are encountered for protracted periods, or when the truck is excessively overloaded or subject to other severe service conditions, the recommendations given in reference notes 1 and 2 at the end of this section should be followed.

"All Purpose" or "Universal" Gear Lubricants

Due to the increase in the number of truck manufacturers using Hypoid Rear Axles, "All Purpose" or "Universal" Gear Lubricants have been developed.

These lubricants can be satisfactorily used in truck rear axles, transmissions, steering gears, and universal joints requiring a fluid lubricant.

"All Purpose" or "Universal" Gear Lubricants must be manufactured under carefully-controlled conditions and the lubricant manufacturer must be responsible for the satisfactory performance of his product. His reputation is your best indication of quality.

Lubricant Additions

The lubricant level in these units should be checked periodically.

It is recommended that any additions required to bring up the lubricant level be made, using the same type of lubricant as in the housing.

Lubricant Changes

While seasonal changes of the lubricant are not required, it is recommended that the housing be drained and refilled with the recommended lubricant at least twice a year, or every 6,000 to 10,000 miles.

It may be necessary and desirable to drain rear axles and transmissions in trucks subject to severe service more frequently than recommended above.

CAUTION—Use a light flushing oil to flush out the housings when draining. DO NOT use water, steam, kerosene, gasoline, alcohol, etc.

OIL FILTER

The drain plug on the bottom of the oil filter should be removed periodically to drain off any water or sludge deposit trapped in the filter. The filter element should be replaced every 8,000 to 10,000 miles, or when the oil gauge rod shows the oil to be dark.

OIL BATH AIR CLEANER

About once every 2,000 miles or oftener if the truck is being operated where an unusual amount of dust and dirt is in the air, remove the oil bath air cleaner and empty out the old oil and accumulated dirt. Wash out with clean gasoline and wipe dry. Wash the filter element by slushing up and down in clean gasoline. Dry thoroughly and fill the body with SAE 50 viscosity oil according to instructions given on the cleaner. Air cleaner oil capacities vary, and it is extremely important that the correct amount of oil be installed for satisfactory performance. SAE 50 viscosity oil is satisfactory for summer or winter use, however, in certain localities where exceptionally cold weather is encountered for protracted periods of time, an oil of lower viscosity should be used.

SHOCK ABSORBERS

The shock absorbers should be kept filled with a low viscosity (light body) shock absorber fluid that has a pour test not higher than 30° below zero.

The same fluid is used both summer and winter and will have similar operating characteristics the year around.

The shock insulation fluid recommended should have a viscosity of from 70 to 80 seconds at 100° F. (Sayboldt Universal) and should not exceed 975 to 1,000 seconds at 20° F. This type of fluid is carried by all Chevrolet Dealers.

NOTE—Do not, under any circumstances, use a shock insulation fluid heavier in viscosity, or body, than that recommended above. Heavy body fluids are detrimental to the proper functioning of the unit.

STEERING GEAR LUBRICATION

The steering gear is filled at the factory with an all-season gear lubricant. Seasonal change of this lubricant is unnecessary and the housing should not be drained. Whenever required, additions should be made using steering gear lubricants marketed by many oil companies, "All Purpose" or "Universal" gear lubricants or chassis lubricants.

A pipe plug is installed at this point to prevent over-lubrication, generally occasioned by the use of a pressure gun.

Over-lubrication of this unit might result in forcing lubricant up the steering gear tube to the horn button and steering wheel.

PERMANENTLY LUBRICATED PARTS

Water Pump

The water pump bearing is of the permanently sealed and lubricated type and requires no lubrication throughout its life.

Clutch Throwout Bearing

The clutch throwout bearing is packed with lubricant at the time of assembly and requires no further attention. Upon removal for clutch overhaul, however, the recess in the throwout bearing collar should be cleaned and repacked with a high-melting-point lubricant.

Clutch Pilot Bearing

No lubrication of the clutch pilot bearing is necessary unless the clutch is being overhauled, at which time it should be removed from the crankshaft, cleaned, inspected and repacked with a small amount of high-melting-point lubricant.

CHASSIS LUBRICATION

For complete chassis lubrication consult the lubrication charts and Figs. 2 and 3 to which the "Key" numbers refer. These charts indicate the location of the units to be lubricated, capacity, type of lubricant, grade and mileage of lubrication or change.

The term "Chassis Lubricant" as used in this manual, describes a semi-fluid lubricant designed for application by commercial pressure gun equipment. For its composition refer to specification note "B" at the end of the lubrication chart.

Wheel Bearings

To lubricate the front wheel bearings, remove the drive flange and wheel hub according to instructions given in Section 3 of this Manual. Wash all old grease from the bearings and hub. Hand pack the bearings with Marfak lubricant or its equivalent, using No. 2 in Summer and No. 1 in Winter. In addition, distribute one pint of lubricant in the space between the bearings in the wheel hub. Reassemble wheel hub and adjust bearings according to instructions given in Section 3 of this Manual.

To lubricate the rear wheel bearings, remove the rear axle shaft and wheel hub according to instructions in Section 4 of this Manual. Wash out the old lubricant and hand pack the bearings with Marfak lubricant or its equivalent, using No. 2 in Summer and No. 1 in Winter. In addition, distribute one pint of lubricant in space between the bearings in the wheel hub.

Lubrication Charts showing the location of lubrication points and also the kind and quantity of lubricant to use will be found on the following pages.

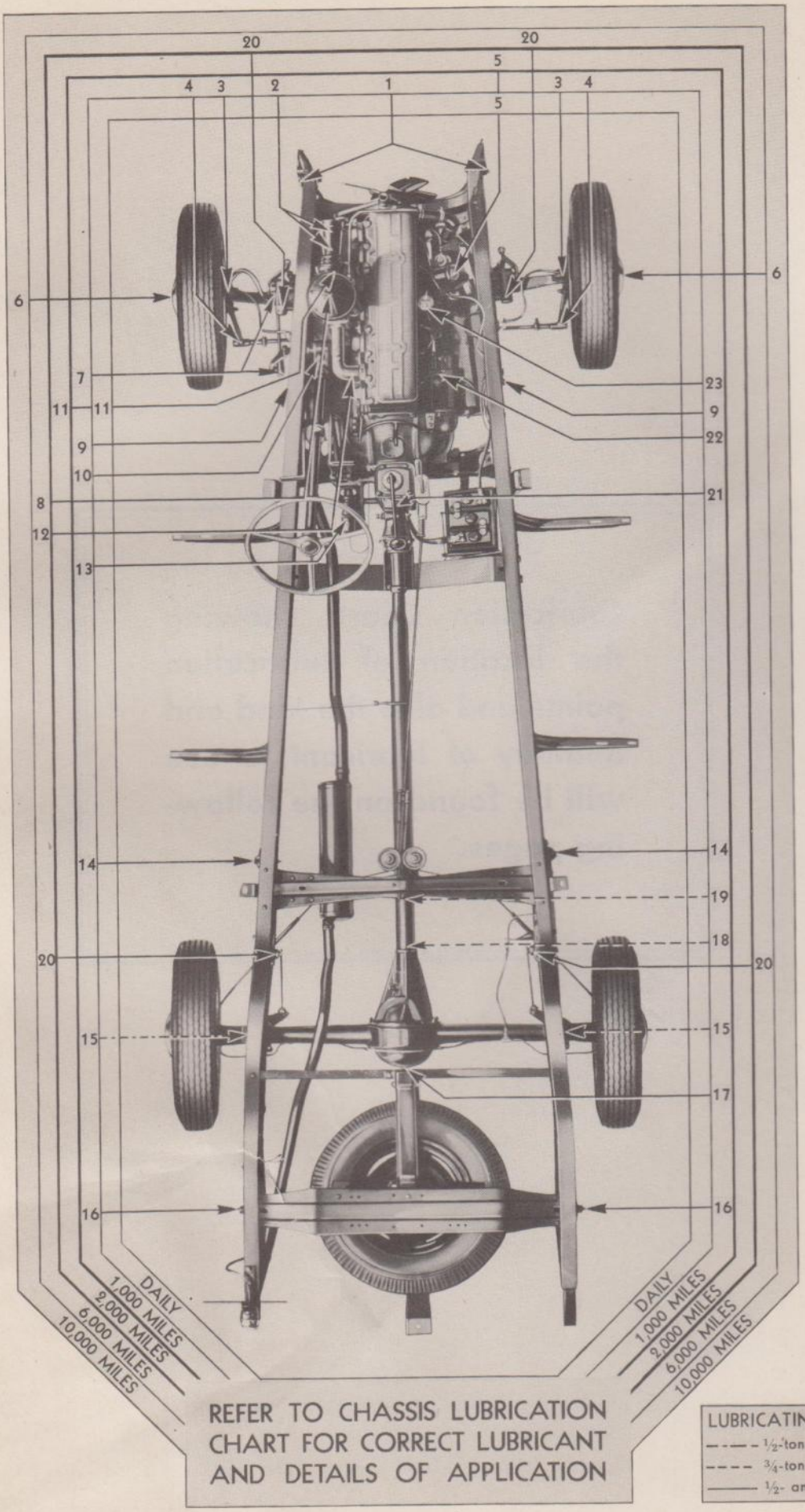


Fig. 2—½- and ¾-Ton Truck Lubrication Chart

CHASSIS LUBRICATION CHART—½ AND ¾ TON TRUCKS

Key	Location	How Applied	Capacity	Lubricant	Type (See Specification Notes)	Grade Recommended		See Ref. Note	Miles
						Summer	Winter		
1	Front Spring Shackles	2 Fittings each side	——	Chassis	B	No. 2	No. 1	—	1,000
2	Generator	1 Oil Cup each end	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	1,000
3	King Pin	2 Fittings—top and bottom	——	Chassis	B	No. 2	No. 1	—	1,000
4	Tie Rod	1 Fitting each end	——	Chassis	B	No. 2	No. 1	—	1,000
5	Crankcase	Filler Neck—Right Side	5 qts. (when filter is drained 6½ qts.)	Engine Oil	—	——	——	5	Change 2,000-3,000 Miles (Check Daily—Keep Up Level)
6	Front Wheel Bearings	Hand Pack	——	Marfak or equivalent	B	No. 2	No. 1	—	10,000
7	Steering Connecting Rod	1 Fitting each end	——	Chassis	B	No. 2	No. 1	—	1,000
8	Carburetor Pump Arm Shaft	Remove Dust Cover, Saturate Felt Ring	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	6,000
9	Front Spring Rear Eye Bolt	1 Fitting each side	——	Chassis	B	No. 2	No. 1	—	1,000
10	Steering Gear	Filler Hole—Top of Housing	——	Universal Gear	A	S.A.E. 90	S.A.E. 90	4	Check every 1,000 miles and add lubricant if required
11	Air Cleaner	Remove Cover	(See Instructions on Cleaner Body)	Engine Oil	—	S.A.E. 50	S.A.E. 50	6	2,000 (Check every day under extreme dust conditions)
12	Throttle Bell Crank	At Bell Crank Shaft	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	6,000
13	Brake Master Cylinder	Filler Hole—Top of Master Cylinder	1 pt.	Hydraulic Brake Fluid	—	——	——	—	1,000 mile inspection
14	Rear Spring Front Eye Bolt	1 Fitting each side	——	Chassis	B	No. 2	No. 1	—	1,000
15	Rear Spring Seat (½ Ton Trucks only)	1 Fitting each seat	——	Chassis	B	No. 2	No. 1	—	1,000
16	Rear Spring Shackles	2 Fittings each side	——	Chassis	B	No. 2	No. 1	—	1,000
17	Rear Axle Housing	Filler Hole in Differential Cover	4½ pts.	Universal Gear	A	S.A.E. 90	S.A.E. 90	1	Change 6,000-10,000 miles (Check every 1,000 miles and add lubricant if required)
18	Rear Universal Joint and Propeller Shaft Slip Joint (¾ Ton Trucks only)	1 Fitting each joint and slip joint	——	Transmission or Universal Gear	A	S.A.E. 90	S.A.E. 90	3	1,000

CHASSIS LUBRICATION CHART—(Cont.)

Key	Location	How Applied	Capacity	Lubricant	Type (See Specification Notes)	Grade Recommended		See Ref. Note	Miles
						Summer	Winter		
19	Intermediate Universal Joint and Propeller Shaft Slip Joint (¾ Ton Trucks only)	1 Fitting each joint and slip joint	——	Transmission or Universal Gear	A	S.A.E. 90	S.A.E. 90	3	1,000
20	Shock Absorbers	Filler Hole— Top of Housing	——	Shock Absorber Fluid	—	——	——	—	6,000 miles or 6 months
21	Transmission 3-Speed 4-Speed	Filler Hole Filler Hole	1½ pts. 5½ pts.	Navy No. optional 3080-3100-1100 or Universal Gear	A	S.A.E. 90	S.A.E. 90	2	Change 6,000-10,000 (Check every 1,000 miles and add lubricant if required)
22	Starting Motor	1 Oil Cup	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	1,000
23	Ignition Distributor	1 Grease Cup— Fill and turn down	——	Marfak or Petrolatum	C A	No. 2	No. 1	—	1,000

LUBRICATION SPECIFICATION AND REFERENCE NOTES

The following "Specification Notes" and "Reference Notes" apply to the ½ and ¾-Ton Truck Lubrication Chart shown on pages 0-106 and 0-107; they also apply to the 1½-Ton Truck Lubrication Chart shown on pages 0-111 and 0-112.

SPECIFICATION NOTES

A. See Federal Stock Catalogue or General Schedule of Supplies, 14-L-188, also circular letter No. 78.

B. See Contract Bulletin No. 123, Subject—Q.M.C. Contract for Greases Lubricating, Mineral (for Automotive Use) Office Q.M. General. Sept. 14, 1940.

C. See U. S. Army Specifications No. 2-67 or Federal Stock Catalogue No. 51-P-364.

REFERENCE NOTES

1. For Rear Axle Housing—For extremely low temperatures Class 1 Universal Gear Lubricant may be used.

2. For Transmission—**Summer**—When temperatures are very high or for severe service conditions S.A.E. 140, Navy No. 1150—3120—1120—5150 may be used or Class 3 Universal Gear Lubricant.

   For Transmission—**Winter**—Extremely low temperatures—S.A.E. 80, Navy No. 3065—1080 or S.A.E. 90 to which has been added 10% to 20% transformer oil Navy No. 9045 may be used or Class 1 Universal Gear Lubricant.

3. Propeller Shaft Universal Joints—**Summer**—When temperatures are very high S.A.E. 140, Navy No. 1150—3120—1120—5150 may be used or Class 3 Universal Gear Lubricant.

4. Steering Gear—When temperatures are very high, Class 3 Universal Gear Lubricant may be used.

5. Engine Crankcase—Use Navy No. or S.A.E. No oil for temperatures indicated in the following chart.

Atmospheric Temperatures	Navy No.	S.A.E. No.
Above 90° F.	3065	30
32° to 90° F.	3050	20 or 20W
10° to 32° F.	3050	20W
Plus 10° F. to Minus 10° F.	2110	10W
Below Minus 10° F.	2110 plus 10% No. 9045	10W plus 10% kerosene

6. Oil Bath Air Cleaner—When exceptionally cold temperatures are encountered use S.A.E. 30 Navy No. 3065 or S.A.E. 20 Navy No. 3050.

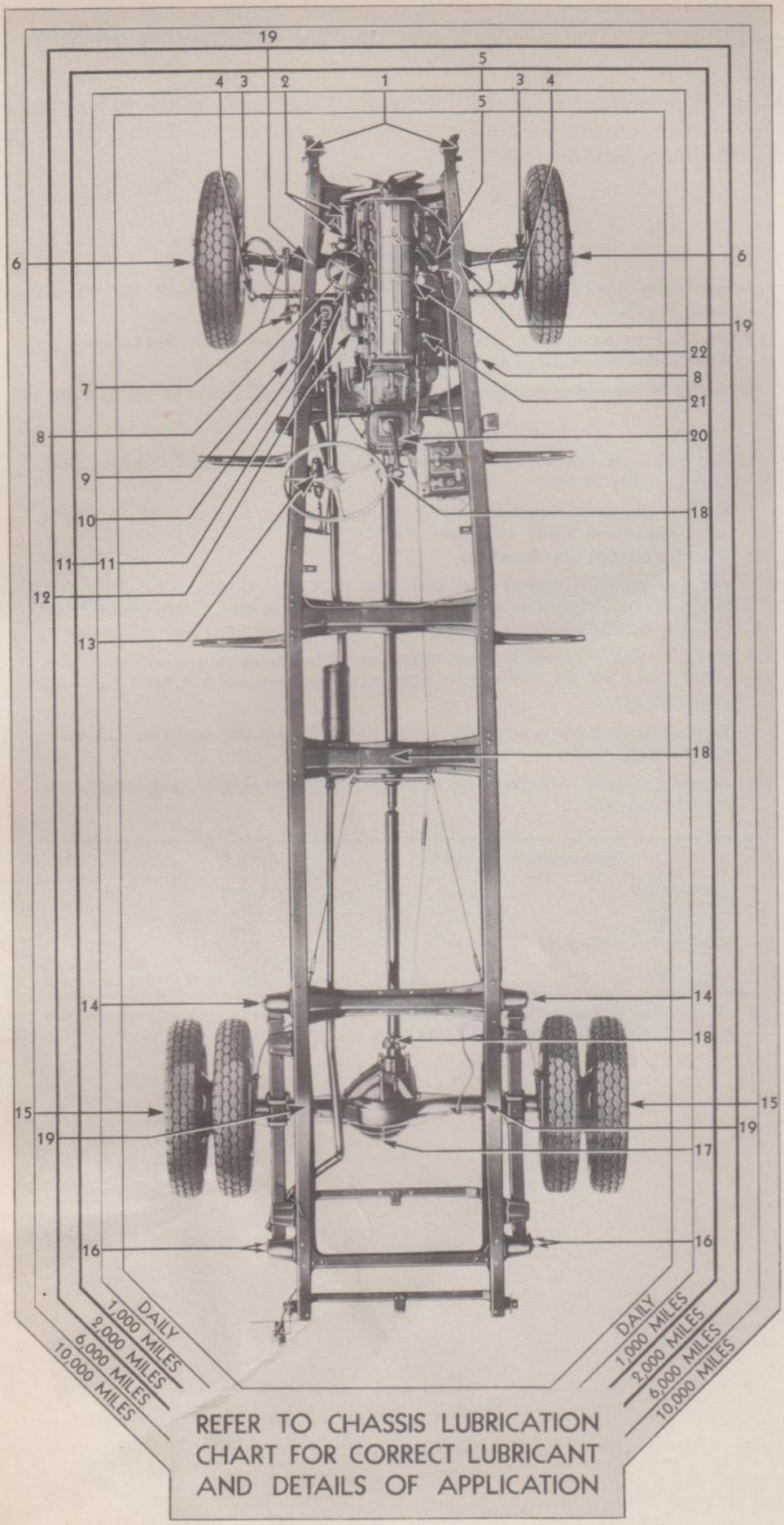


Fig. 3—1½-Ton Truck Lubrication Chart

CHASSIS LUBRICATION CHART—1½ TON TRUCKS

Key	Location	How Applied	Capacity	Lubricant	Type (See Specification Notes)	Grade Recommended		See Ref. Note	Miles
						Summer	Winter		
1	Front Spring Shackles	2 Fittings each side	——	Chassis	B	No. 2	No. 1	—	1,000
2	Generator	1 Oil Cup each end	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	1,000
3	King Pin	2 Fittings—top and bottom	——	Chassis	B	No. 2	No. 1	—	1,000
4	Tie Rod	1 Fitting each end	——	Chassis	B	No. 2	No. 1	—	1,000
5	Crankcase	Filler Neck—Right Side	5 qts. (when filter is drained 6½ qts.)	Engine Oil	—	——	——	5	Change 2,000-3,000 Miles (Check Daily—Keep Up Level)
6	Front Wheel Bearings	Hand Pack	——	Marfak or equivalent	B	No. 2	No. 1	—	10,000
7	Steering Connecting Rod	1 Fitting each end	——	Chassis	B	No. 2	No. 1	—	1,000
8	Carburetor Pump Arm Shaft	Remove Dust Cover, Saturate Felt Ring	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	6,000
9	Front Spring Rear Eye Bolt	1 Fitting each side	——	Chassis	B	No. 2	No. 1	—	1,000
10	Steering Gear	Filler Hole—Top of Housing	——	Universal Gear	A	S.A.E. 90	S.A.E. 90	4	Check every 1,000 miles and add lubricant if required
11	Air Cleaner	Remove Cover	1 pt.	Engine Oil	—	S.A.E. 50	S.A.E. 50	6	2,000 (Check daily under extreme dust conditions)
12	Throttle Bell Crank	At Bell Crank Shaft	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	6,000
13	Brake Master Cylinder	Filler Hole—Top of Master Cylinder	1 pt.	Hydraulic Brake Fluid	—	——	——	—	1,000 mile inspection
14	Rear Spring Front Eye Bolt	1 Fitting each side	——	Chassis	B	No. 2	No. 1	—	1,000
15	Rear Wheel Bearings	Hand Pack	——	Marfak or equivalent	B	No. 2	No. 1	—	10,000
16	Rear Spring Shackles	2 Fittings each side	——	Chassis	B	No. 2	No. 1	—	1,000
17	Rear Axle Housing	Filler Hole in Differential Cover	11 pts.	Universal Gear	A	S.A.E. 90	S.A.E. 90	1	Change 6,000-10,000 miles (Check every 1,000 miles and add lubricant if required)
18	Universal Joint and Propeller Shaft Slip	1 Fitting each joint and slip joint	——	Transmission or Universal Gear	A	S.A.E. 90	S.A.E. 90	3	1,000

CHASSIS LUBRICATION CHART—(Cont.)

Key	Location	How Applied	Capacity	Lubricant	Type (See Specification Notes)	Grade Recommended		See Ref. Note	Miles
						Summer	Winter		
19	Shock Absorbers	Filler Hole—Top of Housing	——	Shock Absorber Fluid	—	——	——	—	6,000 miles or 6 months
20	Transmission	Filler Hole—Right Rear Side	5½ pts.	Navy No. optional 3080-3100-1100 or Universal Gear	A	S.A.E. 90	S.A.E. 90	2	Change 6,000-10,000 miles (Check every 1,000 miles and add lubricant if required)
21	Starting Motor	1 Oil Cup	——	Engine Oil	—	S.A.E. 30	S.A.E. 10	5	1,000
22	Ignition Distributor	1 Grease Cup—Fill and turn down	——	Marfak or Petrolatum	C A	No. 2	No. 1	—	1,000