

Driver's Manual

DODGE *Job-Rated* **TRUCKS**

SERIES

B-I-F, B-I-FA, B-I-FL,
B-I-FS B-I-H, B-I-HA

LICENSE DATA

TRUCK SERIAL NUMBER.....	Stamped on serial number plate on left door hinge post.
ENGINE SERIAL NUMBER.....	Stamped on left side of cylinder block between No. 1 and No. 2 cylinders.
CYLINDER BORE.....	3 $\frac{7}{16}$ in.
STROKE.....	4 $\frac{1}{4}$ in.
NUMBER OF CYLINDERS.....	6
A.M.A. HORSEPOWER RATING....	28.35
PISTON DISPLACEMENT.....	237 cu. in.

KEY NUMBER

The key or lock number is stamped only on the tag attached to the lock keys. For theft protection, record this number and destroy the tag. Your Dodge dealer also has a record of this number.

BREAK-IN SPEEDS

Until your truck has covered its first 500 miles, it is advisable not to drive in excess of 35 miles per hour. During the succeeding 2000 miles of operation, the speed may be gradually increased to complete the "break-in" process. Do not drive at continued high speeds during the first 2500 miles. If the best economy in operation and maintenance is to be obtained, the maximum gross weight recommended should not be exceeded.

FOREWORD

THIS MANUAL POINTS THE WAY TO THE GREATEST POSSIBLE PERFORMANCE FROM YOUR NEW TRUCK

Your purchase of a new Dodge truck exemplifies sound judgment of truck values and operating economy. You have a truck that is built to stand up and give you the dependable service you rightfully expect. However, to get the most out of your Dodge truck, you must treat it right.

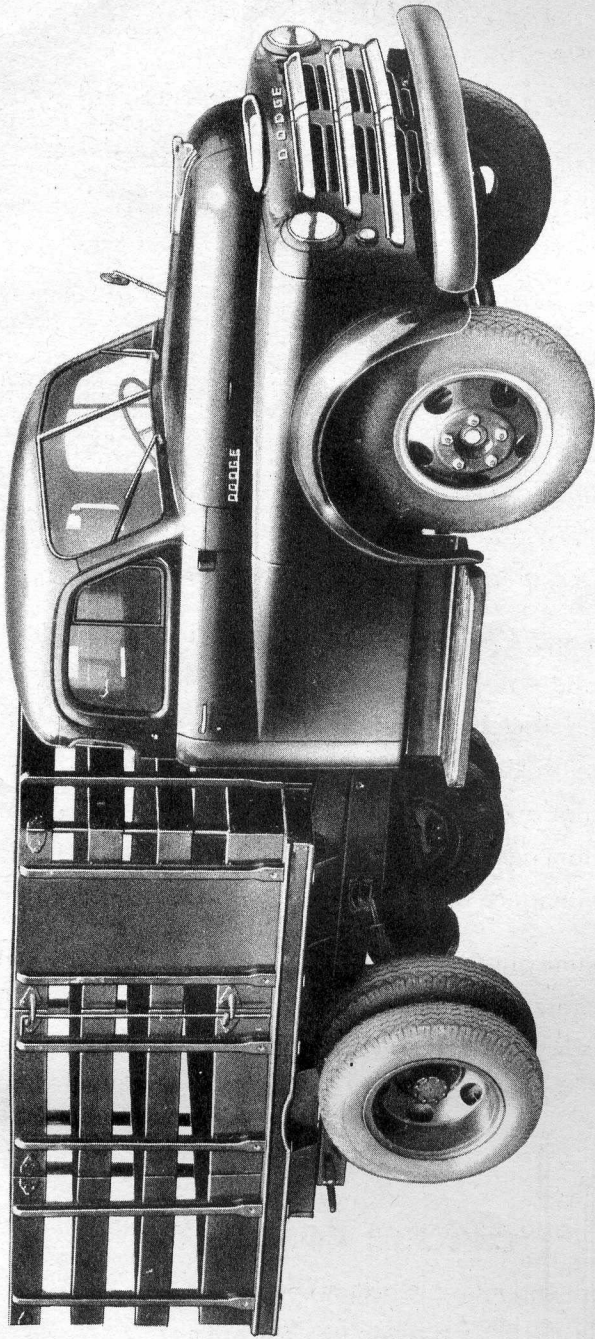
This manual is intended to help you get the utmost in service and satisfaction from your truck. The time will be well spent if you—and anybody else who may drive the truck—will take a few minutes to read it through. Also keep this manual available for ready reference. It contains useful information and helpful suggestions on the operation, care and maintenance of your Dodge truck.

Communications with reference to your truck should give the purchase date, truck serial number, model designation and the distance the truck has traveled.

CHRYSLER CORPORATION

Dodge Division

Detroit 31, Michigan



DODGE TRUCK—SERIES B-1-F (Typical of Series B-1-H)

MAINTAINING DODGE TRUCK DEPENDABILITY

The most advanced engineering and manufacturing, and the most efficient methods of distribution, have brought you this truck.

But if you are always to get the very maximum of economy, be sure to pay special attention to service. Any machine requires regular and efficient service if peak performance is to be maintained. Service of such caliber you are most certain to obtain through your Dodge truck dealer. He knows your truck and it is decidedly to his interest to do everything in his power to make sure that your truck is always performing at its maximum efficiency.



LOOK FOR THE SIGN FOR DODGE "DEPENDABLE" SERVICE

This sign means that the Dodge dealer who displays it can furnish genuine parts for your truck and the parts built for replacement purposes measure up to the same high standards of quality as original parts. Dealers displaying this sign employ men especially trained in the maintenance of your truck.

Such dealers also have equipped themselves with the special tools that insure the best possible service. The use of these tools results in better workmanship, an appreciable saving in the time required for any particular job and lower costs for you.

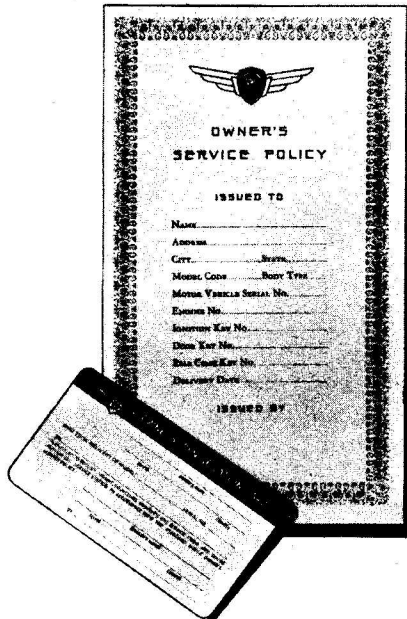
OWNER'S SERVICE POLICY

WHAT IT MEANS

With your Dodge truck, you should receive an Owner's Service Policy and also an Owner's Identification Card. These should be properly filled in by your dealer. Read the Owner's Service Policy carefully and be sure you understand your obligations and privileges.

You will notice two coupons attached to the Owner's Service Policy. These coupons entitle you to have your truck inspected, by the Dodge dealer from whom it was purchased, at the intervals shown on the coupons. There will be no charge for these inspections, other than for oil and lubricants used.

As you will see by reading the coupons, these are very thorough inspections designed to assure you that your truck will be in satisfactory condition during the life of the Service Policy. We suggest that you continue afterward to return the truck to your Dodge dealer for periodic inspections and maintenance service.



OWNER'S SERVICE POLICY

OPERATING THE TRUCK

Into your new Dodge truck has been built every feature known to modern automotive engineering that makes for greater driving ease, control and safety. Your truck is thoroughly responsive.

Anyone who can drive at all will find this truck exceptionally easy to handle. But with the volume of traffic on the road today, and with this volume steadily increasing, it becomes more and more important that one be not merely an adequate driver, but an expert driver. Careful attention to the suggestions in this manual will mean that you and your truck will get the best results under any given set of driving conditions.

There's more to being an expert driver than proper manipulation of the truck. One most important sign of the expert is the care he gives his truck. The expert driver's truck is kept in condition by experts. That is why we keep urging that you take your truck to your authorized Dodge dealer whenever attention is required.

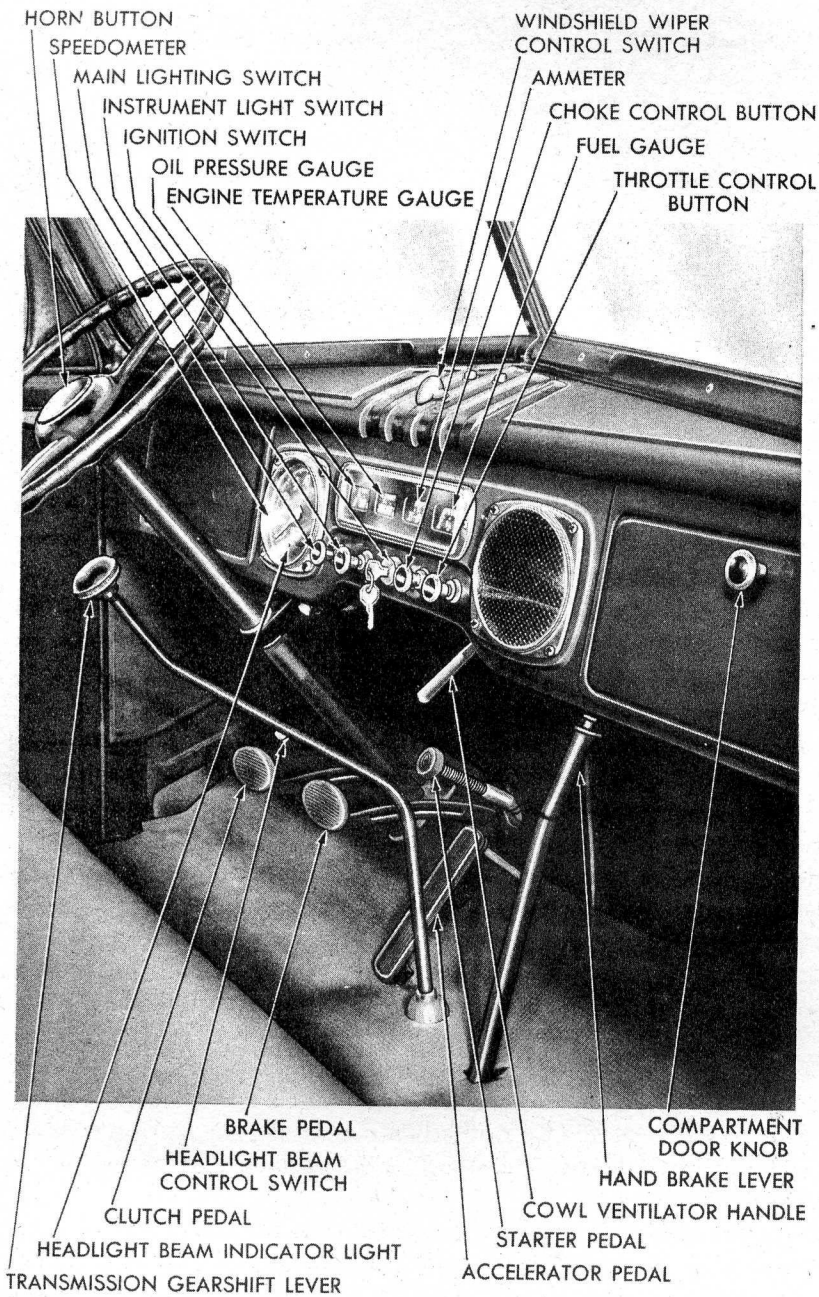
STARTING THE ENGINE

Hold the clutch pedal down while starting the engine. This prevents any danger of the vehicle starting before you're ready, in the event that the transmission had been accidentally left in gear. When you hold down the clutch pedal, the starter does not have the burden of turning the gears in the transmission as well as cranking the engine.

Turning the ignition switch key to the right connects the ignition. If the engine is cold the choke control button should be pulled out. The starter pedal should then be pushed down with the foot to the limit of its travel.

As soon as the engine starts to run under its own power, the starter pedal should be released. In cold weather it is advisable, after the engine is running properly, to engage the clutch slowly, so that the engine will not be stalled by the thick oil in the transmission. The choke button should be pushed in immediately to its best running position and all the way in as soon as the engine is warm enough to permit it.

Remember, if your engine has been cold, it's always best to let it idle a few minutes before starting off, and then drive slowly awhile to let it warm up thoroughly. This is important to insure proper circulation of oil to all parts, and that can't be done before your engine attains its proper operating temperature.



TRUCK CONTROLS

If the engine does not start readily when hot, the throttle control button should be pulled all the way out and the choke pushed all the way in. This will allow any unvaporized fuel which may have accumulated in the manifold or cylinders to be quickly cleared away. The throttle control button should be pushed at least most of the way in as soon as the engine starts.

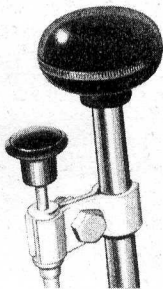
THE RECOMMENDED WAY TO SHIFT GEARS

Under nearly all conditions your truck should be started in low gear. But very shortly you can shift to second, unless starting on a grade. It is usually best to shift into high gear at about 20 to 25 miles per hour.

When rapidly shifting gears it is advisable to double clutch. That is, when shifting to a higher gear, release the clutch and shift to neutral, engage the clutch so that its speed will be reduced with reduced engine speed. Then release the clutch again and shift into the higher gear.

When shifting to a lower gear, release the clutch and shift to neutral, engage the clutch and speed the engine up to the speed it will have to run in the lower gear. Then release the clutch and quickly shift to the lower gear.

With a little practice, double clutching can be done fast and easily and the advantages will be readily recognized.

<p>TWO-SPEED AXLE SHIFT TO SHIFT INTO LOW SPEED RATIO AT: HIGH SPEEDS: DEPRESS ACCELERATOR, PUSH BUTTON DOWN, RELEASE AND DEPRESS ACCELERATOR QUICKLY. LOW SPEEDS: DEPRESS ACCELERATOR, PUSH BUTTON DOWN, DISENGAGE AND REENGAGE CLUTCH QUICKLY.</p> <p>TO SHIFT INTO HIGH SPEED RATIO: DEPRESS ACCELERATOR, PULL BUTTON UP, RELEASE ACCELERATOR UNTIL SHIFT IS COMPLETED.</p> <p>IMPORTANT</p> <ol style="list-style-type: none">1. ALWAYS DEPRESS ACCELERATOR WHEN SHIFTING.2. ALWAYS PARK AND START TRUCK IN LOW SPEED RATIO.	
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TWO-SPEED AXLE SHIFT INSTRUCTION PLATE

SHIFTING GEARS IN TWO-SPEED REAR AXLE

In addition to the transmission gear shifting lever, a control button mounted on the gear shift lever is provided for shifting the gears in the two-speed rear axle. The axle speed change is accomplished by means of a vacuum control cylinder that mechanically operates

the shifting mechanism. The high-speed ratio can be engaged by pulling the control button up and the low-speed ratio engaged by pushing the button down. There is no definite neutral position and the shift should always be in either of the axle speeds to prevent damage to the axle by shock loads. The accelerator pedal is also operated when moving the control button to increase the vacuum in the shifting diaphragm for making the shift.

Always start the truck with the rear axle in the low-speed ratio or power range. Also, when parking the truck, make sure that the rear axle has been shifted to the low-speed ratio. The most satisfactory results will be obtained by performing the various shifts, as follows:

SHIFTING INTO LOW-SPEED RATIO

On level roads or at high truck speeds, keep the engine under load by keeping the accelerator pedal depressed and push the control button down. Then release the accelerator pedal and depress again as quickly as possible. (Do not operate clutch.)

On an upgrade or at slow truck speeds, keep the engine under load (accelerator pedal depressed) and push the control button down. Without releasing the accelerator pedal, disengage and engage clutch as quickly as possible.

On a downgrade against the engine, release the accelerator pedal and push the control button down. Depress accelerator pedal enough to synchronize gears and then immediately release pedal. (Do not operate clutch.)

SHIFTING INTO HIGH-SPEED RATIO

At all times except downgrade against the engine, keep the engine under load (accelerator pedal depressed) and pull control button up. Then gradually release the accelerator pedal. Do not depress the accelerator pedal until the shift is completed.

On a downgrade against the engine, release the accelerator pedal and pull control button up. With accelerator pedal released, disengage and engage clutch.

SPLIT SHIFTING

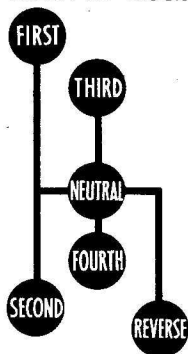
To shift to the next higher transmission gear and from high to low speed axle ratio at the same time, accomplish the transmission shift in the usual manner and, just before engaging the clutch, push the control button down.

To shift to the next lower transmission gear and from low to high speed axle ratio at the same time, pull the control button up, release the accelerator pedal and shift the transmission in the usual manner.

HANDLING THE TRUCK ON HILLS

Too many drivers feel a certain sense of shame in shifting out of high gear when climbing a long or steep hill. Your truck needs its gears, and you should use the gears for the purpose for which they were intended. Even if a steep hill can be climbed in high, it is usually better to shift to a lower gear while the vehicle still has good momentum, thereby saving time as well as strain on the engine and minimizing the inconvenience of stalling.

FRONT OF TRUCK



GEARSHIFT LEVER POSITIONS

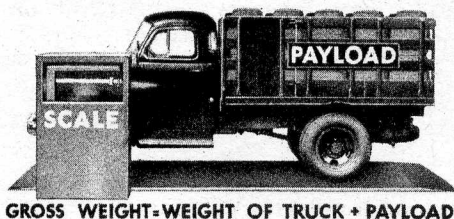
Before starting down a steep or long grade, it is advisable to shift to the same gear you would use if driving up the hill. Shift to the lower gear and engage the clutch at once to hold the vehicle speed down. Do not allow the vehicle to gain speed after shifting to a lower gear and then engage the clutch, as such an operation is almost sure to cause damage to the drive line of the vehicle.

If the truck is equipped with a governor, it cannot be driven faster than the speed for which the governor is set when on level roads or when going up any grade. When going down hill, do not under any circumstances allow the truck to exceed the governed speed of the engine. Faster speeds will "rev up" the engine beyond the requirements for which it was designed and built, and is almost sure to cause damage. Use the brakes intermittently to hold the speed of the truck within limits.

FACTS ABOUT ECONOMY

Real economy has been engineered and built into your Dodge truck. Economy, however, varies with different operating and load conditions which cannot be controlled by the truck manufacturer, but can be controlled by the driver.

Overload and high speeds are the greatest enemies of economy. Either of these conditions increase operating and maintenance costs to the point where they become expensive rather than economical.



Your truck should not be loaded above the recommended gross laden rating. The gross laden rating means the combined weight of the complete truck and the load it carries. To determine the gross laden weight of your truck, weigh the truck just as it operates when fully loaded.

Unnecessary high vehicle and engine speeds should be avoided. More power is required to propel a vehicle a given distance at 50 miles per hour than would be required to propel the vehicle the same distance at 30 miles per hour. Therefore fuel and oil consumption is increased by high speeds.

Sudden starts and stops reduce fuel economy and increase maintenance costs.

Tires should be inflated to the recommended pressure and wheel alignment maintained. Under-inflated tires or misaligned wheels waste fuel because they increase rolling friction, which means that more power, hence more fuel, is required to move the truck.

Allowing the engine to idle while the truck is standing for any length of time will cut down fuel economy and increase operating costs.

Engine operating temperature is an important factor in engine economy. Engine operating temperatures that are above normal will increase engine oil temperatures and reduce oil economy. When the engine is continuously operated below normal operating temperatures the fuel mixture is not completely burned in the combustion chambers. Some unburned fuel passes the pistons and dilutes the engine oil. Also, condensation and sludge may form in the crankcase. Dilution, condensation or sludge deteriorates oil and promotes rapid wear of the engine parts which the oil is expected to protect.

Your Dodge truck engine is equipped with advanced and outstanding features which, under normal operating conditions, will automatically maintain the proper engine operating temperature and ventilate the crankcase. If your engine is operated under unusual conditions and normal engine temperatures are not maintained, economy will suffer and it is suggested that you see your Dodge dealer for his recommendations.

Brake adjustments should be checked, and the engine tuned, periodically.

Maintenance and lubrication as specified in this manual will insure engine efficiency and help materially to reduce frictional power loss, thereby improving economy.

GENERAL CARE OF YOUR TRUCK

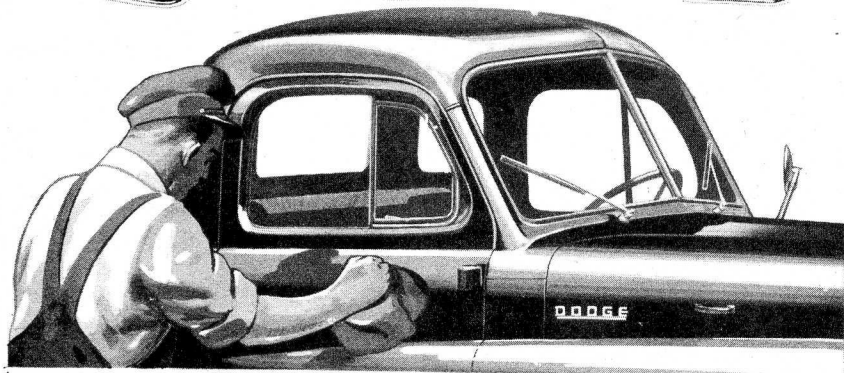
We hope that you are very proud of this truck, and if you are, of course you will want to keep it always as clean, neat and trim-looking as it can possibly be. This is not hard to do.

WASHING AND POLISHING

The finish on your truck should be washed often enough to keep it free from dust and road scum. This should be done by using either cold or warm water and a sponge followed with a damp chamois. A mild soap may be used occasionally if desired, with a thorough

rinsing afterwards. Your truck should always be washed in a shaded place, as washing it in strong sunlight may result in water spotting and staining which are difficult to remove.

It is particularly important during the winter months to make sure that anti-freeze preparations do not get on the finish. It is common



CLEANING THE CAB

practice in most communities to use chemicals, particularly calcium chloride, on the streets to melt snow and ice. The use of such chemicals results in a slush which, if it contacts the finish of your truck, will be harmful unless it is washed off as soon as possible.

If the paint surface is not kept clean, the action of the elements and accumulation of dirt, road scum, corrosive salts, etc., will eventually cause damage to the finish and also present a very unattractive appearance. The more frequent washings will eliminate the necessity of using polish. If, after extended neglect, strong sunlight and the elements have caused the finish to dull, MOPAR Liquid Automobile Polish can be used to restore the luster of the finish. Paste wax and abrasive cleaners are not recommended.

CLEANING GLASS

In cleaning windows, windshield and other glass equipment, use MOPAR Glass Cleaner or wash with water and wipe dry with a linen cloth or chamois. A cloth slightly dampened with household ammonia will remove the thin scum difficult to remove with water alone.

CLEANING THE RUNNING GEAR

Cleaning the under side of the truck and the inside of the wheels can best be done with a small, powerful stream of water from a hose. This stream dislodges mud and dirt that may have accumulated. Occasionally, the use of a stiff brush may be necessary.

REMOVING TAR OR ROAD OIL

Tar or road oil can be removed from the cab and body without injury to the finish by using one of the standard brands of tar remover. If the tar has hardened into lumps, soften it first by using lard, butter or kerosene, after which treat the finish with MOPAR Liquid Automobile Polish.

CLEANING CHROME TRIMMING

Clean the grille and other chromium-plated parts with MOPAR Chromium Polish. It removes rust where the plating has been scratched or rubbed off and covers the spot to prevent more rust forming.

LUBRICATION

The present day commercial vehicles perform an entirely different type of service from that of a short time past. Higher speeds are developed and longer distances are traveled in shorter time. This type of performance demands very exacting lubrication. The necessary mechanical changes have brought about the necessity for a variety of lubricants to take care of the lubrication requirements adequately.

Proper lubrication is of vital importance to you in the economical operation of your truck. We urge you to read carefully the following paragraphs concerning this subject and study the lubrication charts on pages 19 to 24, inclusive, so you will know just what the lubrication requirements are for your truck.

ENGINE OIL RECOMMENDATIONS

The engine oil recommendations given in the lubrication chart, page 19, are based upon the principle that the lower viscosity oils circulate more rapidly and lubricate parts with close clearances more readily than the heavier oils. Their complete satisfaction, however, depends upon the use of only well refined or high quality products. Purchases should be made, therefore, only from reputable manufacturers or dealers.

For sub-normal winter conditions such as temperatures below -10° F., the No. 10W should be diluted with about 10% colorless refined kerosene, which should be thoroughly mixed with the oil before being added to the engine. If this is not convenient, consult your dealer or any reputable oil company who should have specially prepared oils for these conditions.

The oil industry markets several types of crankcase oil for various types of truck operation.

The following information is intended only as an explanation of the types of oil, without definite recommendation as to the type of oil best suited for your truck operation.

The types of oil are defined by the Lubrication Committee, Division of Marketing of the American Petroleum Institute as follows:

"REGULAR TYPE. This term designates motor oil generally suitable for use in internal combustion engines under moderate operating conditions."

"PREMIUM TYPE. This term designates motor oil having the oxidation stability and bearing corrosion preventive properties necessary to make it generally suitable for use in internal combustion engines where operating conditions are more severe than regular duty."

"HEAVY DUTY TYPE. This term designates motor oil having the oxidation stability, bearing corrosion preventive properties, and detergent-dispersant characteristics necessary to make it generally suitable for use in both High Speed Diesel and Gasoline Engines under Heavy Duty service conditions."

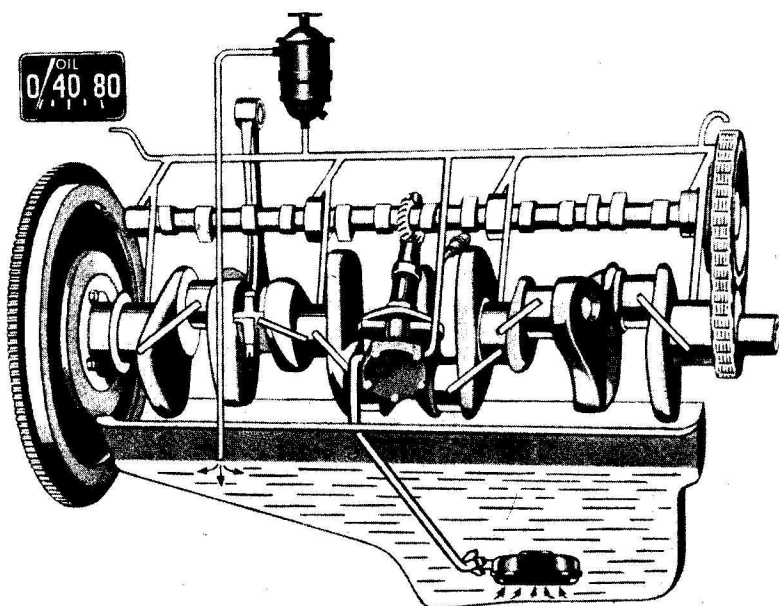
FIRST 1,000 MILES

During the first 1,000 miles, it is recommended that you use the engine oil (No. 10W) which is in the oil pan when the truck is delivered. If necessary to add oil during the first 1,000 miles, No. 10W should be used regardless of the season of the year or climatic conditions.

AFTER 1,000 MILES

When your speedometer registers 1,000 miles, the oil pan should be drained and refilled with the proper viscosity oil according to the anticipated atmospheric temperature. See lubrication chart, page 19, for engine oil recommendations and frequency of oil changes.

The oil pan should be drained while the engine is at normal operating temperature. Oil will drain more completely when hot, and will, therefore, carry more of the foreign matter with it.



ENGINE OILING SYSTEM

ABNORMAL CONDITIONS

WINTER DRIVING—If the truck is driven for short distances of only a few miles at a time and at low speeds, or is engaged in frequent stops or door-to-door delivery type of service, moisture will condense in the oil pan and form a sludge, which may freeze and clog the oil inlet screen. Under conditions of this kind the engine does not become sufficiently warm to expel the condensation through the crankcase ventilating system and the engine oil should be changed approximately every 500 miles—under extreme conditions more often may be necessary.

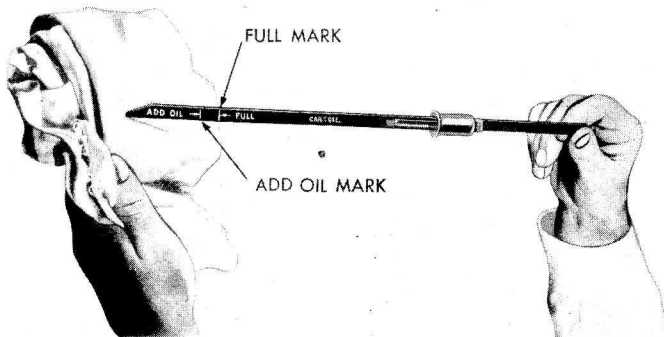
This sludging condition can be corrected to a large degree by the use of various equipment, which tends to increase the engine temperature rapidly, such as 180° thermostats, winterfronts, etc. Note: When using 180° thermostats it is necessary to use a permanent type of anti-freeze to prevent boiling away.

As an alternative to this frequent change period or use of special equipment, an occasional drive of 30 miles or more at higher speeds will do much toward expelling the condensation through the crankcase ventilating system. If these longer drives are made frequently, the change period may be extended to the normally recommended winter change.

DUSTY CONDITIONS—Driving over dusty roads or through dust storms introduces abrasive material into the engine. If the air cleaners are kept in good condition, they will decrease the amount of dust entering the crank chamber. However, if the engine oil becomes contaminated with dust or dirt the oil pan should be promptly drained, flushed out and refilled with new oil of the proper grade to prevent harmful engine wear. The frequency of draining depends upon the severity of the dust conditions, therefore, no definite draining periods can be recommended.

CHECKING OIL LEVEL

Each time you stop for fuel the oil level should be checked. The oil level indicator is marked at "FULL" and "ADD OIL." The "FULL" mark shows the proper level of oil after the engine has been standing for a few hours. As soon as the engine has started running, the level will drop somewhat, due to the filling of oil passages and the filter.



CHECKING THE OIL LEVEL

A quart of oil should be added when the level is at or just above the "ADD OIL" mark on the oil level indicator. The level should never be allowed to drop below the "ADD OIL" mark.

OIL FILTER

The function of the oil filter on the engine is to remove dirt and foreign material from the oil in order to assist in keeping the oil clean. This is a continuous process, and the filter element will continue to trap dirt until it becomes clogged. Due to the manner of connecting the oil filter to the oiling system, clogging of the filter will not stop the circulation of oil to the bearings. However, when the oil filter is clogged it ceases to filter the oil. It is advisable, therefore, to install a new oil filter or filter element, depending on the type of filter used, every 10,000 miles. In dusty areas it may be advisable to examine the oil and service the filter more frequently, or at any time when the oil appears to be excessively dirty.

AIR CLEANER

Road dust and other abrasives are filtered out of the air entering your engine through the carburetor, by means of an air cleaner. The cleaning and servicing of the air cleaner is covered in the lubrication chart, page 20. If properly and periodically serviced, the parts of the engine subjected to wear are protected from the abrasive action of dust and dirt. The result is much longer engine life and economy and efficiency is maintained for thousands of extra miles. The air cleaner should be serviced at regular intervals, even daily may be necessary under extreme conditions in dusty territory.

CRANKCASE VENTILATION

In the operation of an automobile engine, the engine oil is subjected to dilution and contamination by water, fuel, acid and other foreign elements which reduce the lubricating quality of the oil. In your Dodge engine, a special ventilating system expels a large amount of these undesirable elements, but enough remain to make it advisable to drain the crankcase at the intervals recommended in this manual.

Accumulations of non-lubricating elements in the engine oil have a damaging effect on highly finished metal surfaces. Water has no lubricating value, and is likely to freeze. Fuel thins the oil, thus reducing its value as a lubricant. Acid attacks metal surfaces, causing excessive wear.

Air for ventilating the crank chamber enters the oil filler pipe. This air is filtered by passing through the air cleaner in the filler pipe cap. Therefore, in order for the crankcase ventilation system to function efficiently and expel as much of these undesirable elements as possible, the oil filler pipe air cleaner should be serviced as recommended in the lubrication chart, page 20.

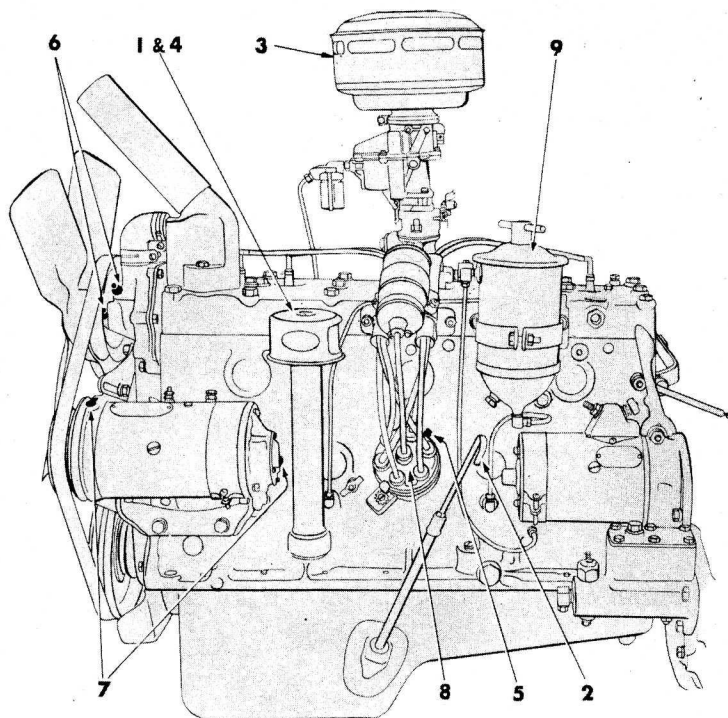
SPECIAL ATTENTION

Trucks operated principally on gravel or dusty roads may need lubrication attention more frequently than recommended in this manual and should be serviced accordingly.

WARNING! CARBON MONOXIDE GAS

The exhaust gases from all motor vehicles are highly dangerous. While carbon monoxide gas is colorless, tasteless and odorless, it is extremely poisonous. *Never start or run an engine in a closed garage.*

ENGINE LUBRICATION



1. **ENGINE OIL**—(Refill capacity 5 qts.) Oil changes should be made—under normal conditions—every 1,500 to 2,000 miles if average atmospheric temperature is below $+32^{\circ}$ F. and every 2,500 to 3,000 miles if the average temperature is above $+32^{\circ}$ F. (For abnormal conditions see page 16.)

If it is anticipated that the atmospheric temperature will be:

Not lower than $+32^{\circ}$ F.....	Use SAE 30
As low as $+10^{\circ}$ F.....	Use No. 20 W
As low as -10° F.....	Use No. 10 W
Below -10° F.....	Use No. 10 W blended with 10% colorless re- fined kerosene. See note.

NOTE: If kerosene is not obtainable, consult your dealer or any reputable oil company which should have specially prepared oils for these conditions.

2. **OIL LEVEL INDICATOR**—Maintain oil level in oil pan above the "ADD OIL" mark on the indicator. Do not add oil until the oil level approaches the "ADD OIL" mark and never allow the oil level to drop below the "ADD OIL" mark.

(Continued on next page)

EVERY ENGINE OIL CHANGE

3. **CARBURETOR AIR CLEANER**—Under normal conditions the air cleaner should be examined at each recommended crankcase oil change interval. If the sump is found to contain a semi-solid mixture of oil and dirt up to the shelf, the air cleaner should be thoroughly cleaned. Remove cover and filter element and rinse element clean in kerosene and drain. Empty the dirty oil from reservoir, clean out the sump and refill to indicated level with the following viscosity engine oils.
Above +32° F..... Use SAE 50 *
Below +32° F..... Use No. 20 W
*If SAE 50 oil is not available SAE 40 oil may be used. In dusty territories the air cleaner should be cleaned often. Under extreme conditions, once a day may be necessary.
4. **OIL FILLER PIPE AIR CLEANER**—Remove cap, wash filter element in kerosene, dry thoroughly and dip in fresh SAE 50 Engine Oil. If this grade of oil is not available, SAE 40 Engine Oil may be used. Reinstall cap. In dusty territories, the oil filler pipe air cleaner should be cleaned more often.
5. **DISTRIBUTOR**—1 oil cup. Light Engine Oil.

EVERY 1,000 MILES

6. **WATER PUMP**—2 fittings. Water Pump Grease.

EVERY 10,000 MILES

7. **GENERATOR**—1 oil cup at front—oil hole with slide cover at rear. Five or ten drops of light Engine Oil in each. Caution: After oil is applied be sure the oil cup and hole covers are closed.
8. **DISTRIBUTOR WICK**—Remove cap and rotor and apply two or three drops of light Engine Oil to felt wick in top of cam. Caution: See that no oil gets on or near contact points.
9. **OIL FILTER**—Replace filter or filter element at this mileage under normal conditions (to coincide with an engine oil change) or when the oil becomes dirty.

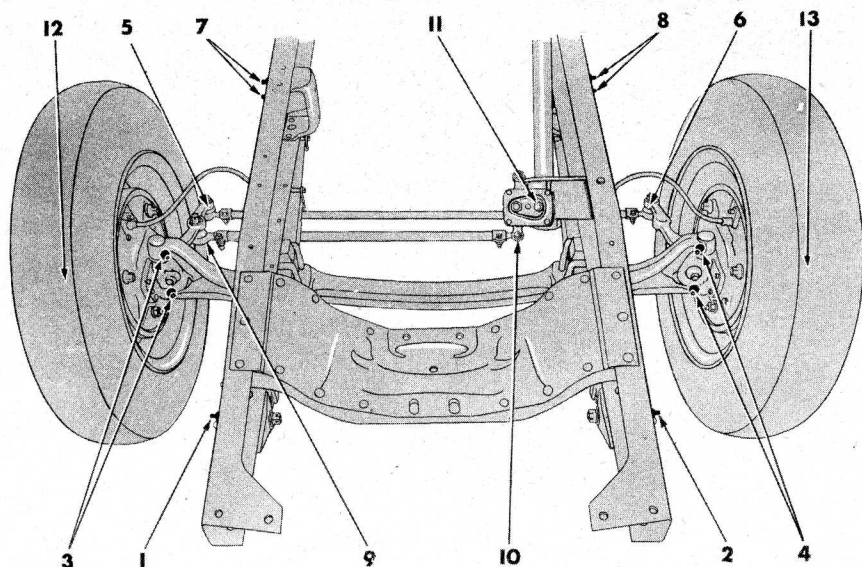
CAUTION: After servicing the filter, idle the engine for about five minutes and check for oil leaks. The oil level in the oil pan should then be corrected to compensate for the oil absorbed by the filter.

CAPACITIES

U. S. S. Measure

Engine (refill).....	5	qts.
Fuel tank.....	18	gals.
Cooling system.....	19¼	qts.
Transmission.....	6	pts.
Rear Axle—Single-Speed.....	11	pts.
2-Speed.....	13	pts.

FRONT END, FRONT AXLE AND STEERING GEAR LUBRICATION



EVERY 1,000 MILES

1. & 2. FRONT SPRING BOLT—1 fitting each side. Chassis Lubricant.
3. & 4. KING PIN BUSHINGS—2 fittings each side. Chassis Lubricant.
5. & 6. TIE ROD BALL JOINT—1 fitting each end of tie rod. Chassis Lubricant.
7. & 8. FRONT SPRING SHACKLE—2 fittings each side. Chassis Lubricant.
9. & 10. DRAG LINK BALL JOINT—1 fitting each end of drag link. Chassis Lubricant.

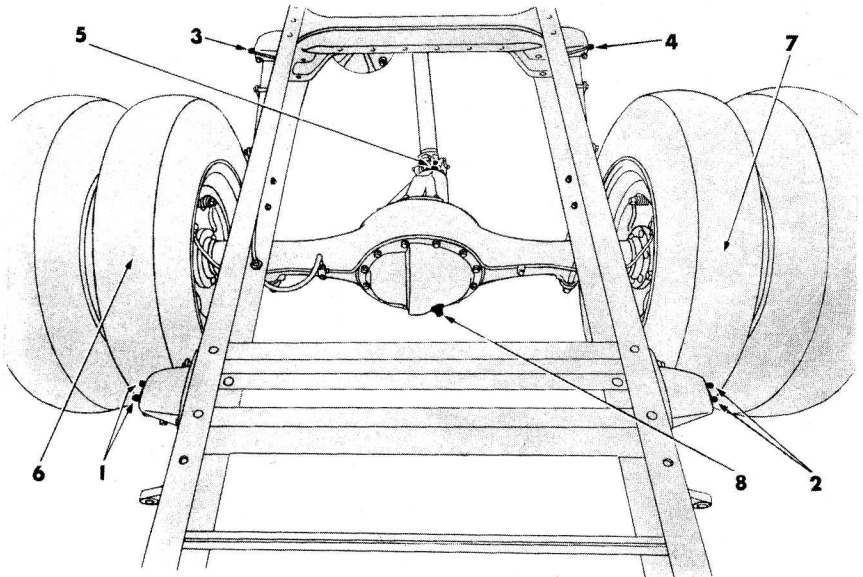
EVERY 10,000 MILES

11. STEERING GEAR—Remove filler plug and check level of lubricant. If lubricant level is below filler plug hole, replenish with SAE 90 low cold test Fluid Gear Lubricant. In extremely cold weather (below -10° F.), dilute with small amount of No. 10W Engine Oil to ease steering.

EVERY 15,000 MILES

12. & 13. FRONT WHEEL BEARINGS—Remove hub and bearings, clean and re-pack with Short Fiber Wheel Bearing Grease. If on examination the grease is found to be in good condition, do not remove bearings, but add grease if necessary.

REAR END AND REAR AXLE LUBRICATION



EVERY 1,000 MILES

1. & 2. REAR SPRING SHACKLE—2 fittings each side. Chassis Lubricant.
3. & 4. REAR SPRING BOLT—1 fitting each side. Chassis lubricant.
5. UNIVERSAL JOINT—1 fitting. S.A.E. 140 Gear Lubricant.

EVERY 15,000 MILES

6. & 7. REAR WHEEL BEARINGS—Remove axle shaft, hub and bearings, clean and repack with Short Fiber Wheel Bearing Grease. If on examination the grease is found to be in good condition, do not remove bearings, but add grease if necessary.
8. REAR AXLE DIFFERENTIAL—(Capacities: Single-Speed 11 pts., *2-Speed 13 pts.) Drain and refill with NON-CORROSIVE TRUCK DUTY HYPOID LUBRICANT, using the proper SAE grades for atmospheric temperatures as shown below:

If it is anticipated that the atmospheric temperature will be:

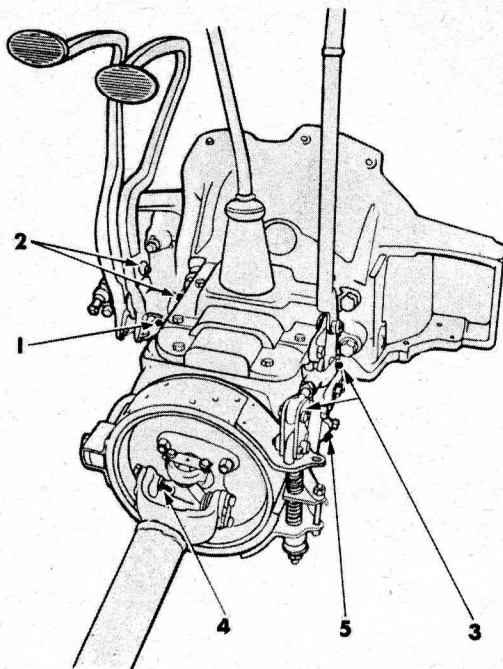
Above + 100° F. (Two-speed axles only).....Use SAE 140

As low as — 10° F:.....Use SAE 90

Below — 10° F.....Use SAE 80

*This two-speed axle should be filled until lubricant flows from overflow plug hole. (This requires about 13 pints of lubricant.) Insert plug. Then add one pint of lubricant, using filler hole at top of carrier, to supply the extra lubricant required to fill the differential and planetary unit. Do not overfill.

LUBRICATION OF TRANSMISSION AND NEAR-BY CONTROLS



EVERY 1,000 MILES

1. BRAKE PEDAL—1 fitting. Chassis Lubricant.
2. BRAKE PEDAL CLEVIS PINS, ROD CONNECTIONS AND WICK IN CLUTCH RELEASE FORK BEARING—Engine Oil.
3. HAND BRAKE CONNECTIONS—Apply Engine Oil to clevis pins and rod connections. Also apply a few drops of Engine Oil to hand brake lever pivot.
4. UNIVERSAL JOINT—1 fitting. SAE 140 Gear Lubricant.

EVERY 15,000 MILES

5. TRANSMISSION—(Capacity 6 pts.) Drain and refill with FLUID GEAR LUBRICANT, using the proper SAE grades for atmospheric temperatures as follows:

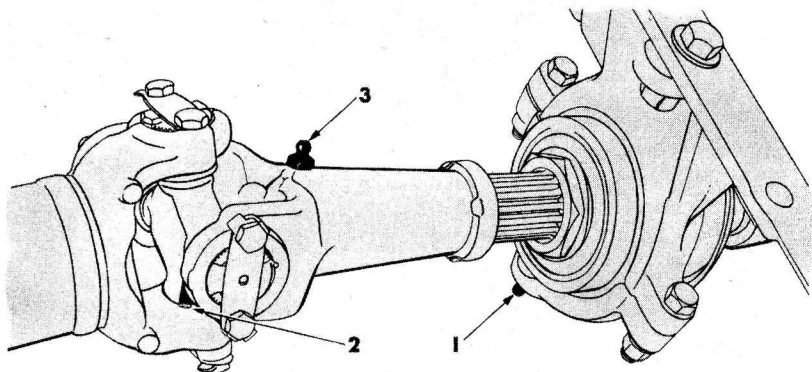
If it is anticipated that the atmospheric temperature will be:

As low as -10° F..... Use SAE 90

Below -10° F..... Use SAE 80*

*If SAE 80 is not obtainable, SAE 90 blended with 20% of No. 10W Engine Oil may be used.

CENTER BEARING LUBRICATION



EVERY 1,000 MILES

1. PROPELLER SHAFT CENTER BEARING—1 fitting. Short Fibre Wheel Bearing Grease.
2. UNIVERSAL JOINT—1 fitting. S.A.E. 140 Gear Lubricant.
3. PROPELLER SHAFT SPLINE—1 fitting. Chassis Lubricant.

MISCELLANEOUS LUBRICATION POINTS

1,000 MILES—DOOR HINGES, HOOD HINGES, LOCKS and other hard to lubricate places. Use MOPAR Dripless Penetrating Oil. DOOR STRIKER PLATES AND DOVETAILS. Use MOPAR Door-Ease Lubricant. DOOR LOCK CYLINDERS. Use Lubriplate.

10,000 MILES—SPEEDOMETER CABLE. Requires special type of grease. See your local Dodge Dealer. DUAL ELECTRIC WINDSHIELD WIPERS (if so equipped). Felt washers at operating linkage pivots should be soaked with Light Engine Oil. BLADE OPERATING SHAFTS. Remove screw in top of cover and add a few drops of Light Engine Oil. BRAKE BOOSTER CONTROL VALVE AIR CLEANER. Remove and clean thoroughly with kerosene. Drain kerosene completely from filter before installing, as kerosene will have a detrimental effect on the rubber diaphragm, which condition might affect operation of the diaphragm or result in booster failure.

POINTS REQUIRING NO LUBRICATION

THE CLUTCH RELEASE BEARING, BRAKE DIAPHRAGMS, BRAKE BOOSTER CYLINDER AND STARTER require no lubrication.

MECHANICAL INFORMATION

The continuously successful performance of any machine is in great part the result of efficient maintenance. Nowhere is this more true than in truck performance.

To help truck operators to a full appreciation of the importance of maintenance and service, the following pages of this manual are devoted to presenting information on the major parts of your truck. These are described and illustrated, and an attempt has been made to make the description as non-technical as possible.

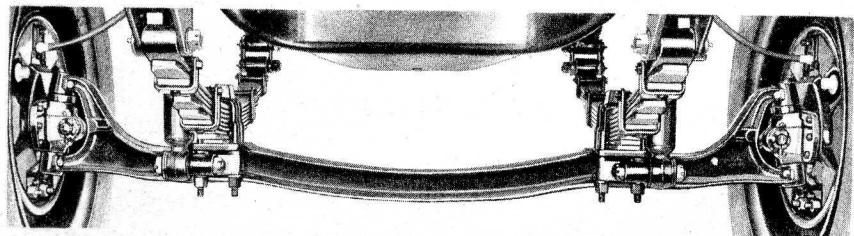
The whole purpose of the following pages is to give you a better knowledge of "what makes the wheels go round"—and what is necessary to keep them going round to your entire satisfaction.

Those who desire more mechanical information can obtain a copy of the Dodge Truck Shop Manual through an authorized Dodge dealer at its regular established price.

FRONT AXLE

The front axle I-beam and steering knuckles are forged from high grade steel. They are of ample size to handle the gross laden weight recommended for your truck.

The front wheel bearings should be kept in proper adjustment. See adjustment instructions on page 53.



FRONT AXLE

The turning radius is controlled by stop screws in the steering knuckles. The right and left stop screws should be turned in until the steering gear bottoms and then backed out to get the gear slightly off bottom. This will provide maximum turn. With this adjustment there should be 1½ to 2 inches clearance between the tires and the frame with the front wheels turned to the extreme positions.

When properly adjusted the stop screws prevent the steering gear bottoming which would cause undue stress on the steering mechanism.

The front wheels should toe in 1/16 to 1/8 in. when measured at hub height. Adjustment can be made by loosening the clamp bolts at both ends of the tie rod and turning the tie rod. The rod has a right-hand thread on one end and a left-hand thread on the other end. Be sure to tighten the clamp bolts after the adjustment is made.

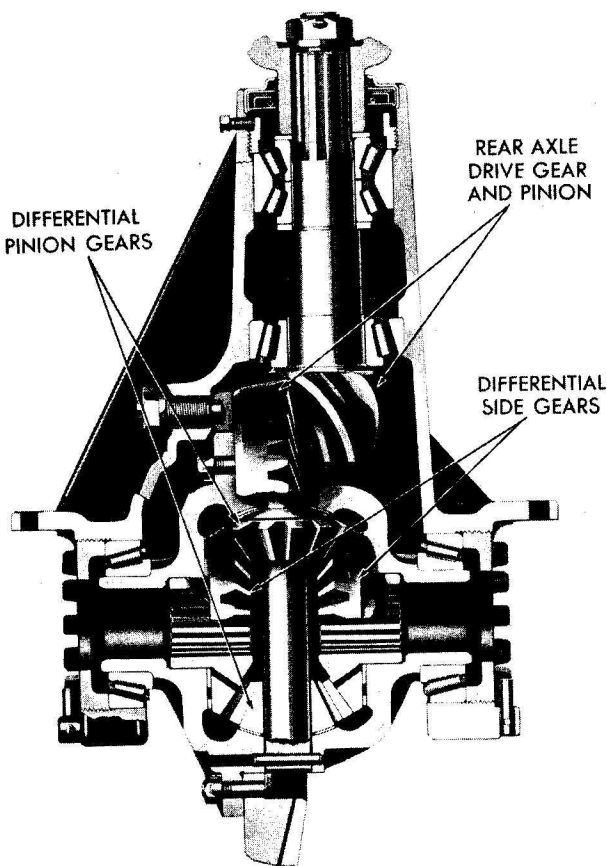
REAR AXLE

The differential and drive pinion assemblies of all rear axle types are mounted on taper roller bearings and are adjustable. However, due to the fact that adjustments are seldom needed and some special tools are required to make proper adjustments, it is recommended that any adjustment which may become necessary be made by your authorized Dodge dealer.

It is important that the quality and level of lubricant be maintained in the axle housing and that the rear wheel bearings be lubricated strictly in accordance with the maintenance schedule. Excessive lubricant at either point may work into the brakes and cause erratic brake operation. A vent is provided at the top of the axle housing to prevent air pressure building up and forcing lubricant into the brakes, but the vent will not take care of excess lubricant.

SINGLE-SPEED HYPOID REAR AXLE

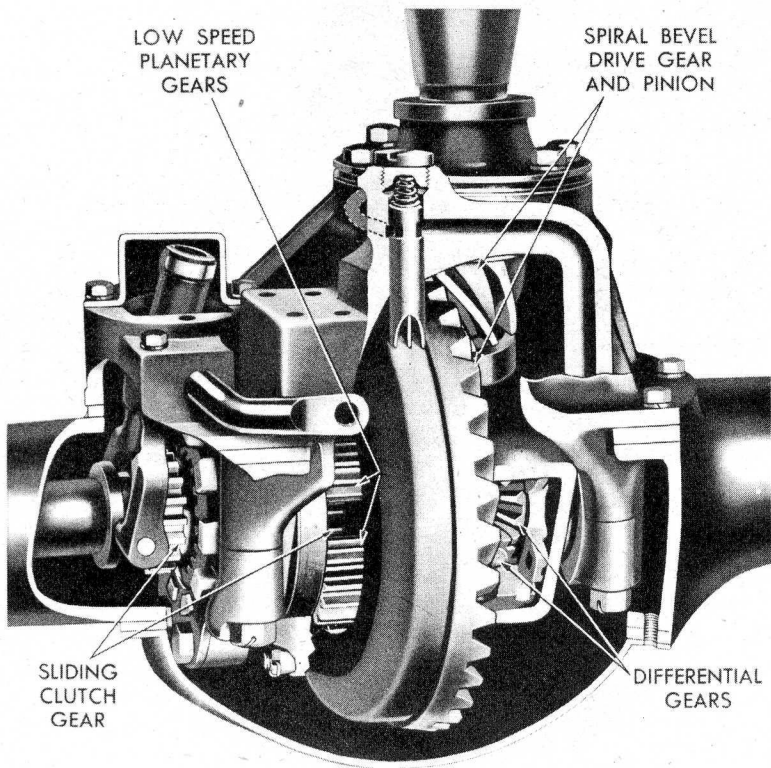
The standard rear axle is of the full-floating hypoid type, which means that all weight is carried by the axle housing and not by the axle shafts. The axle shafts and differential carrier assembly can be removed without raising the wheels off the ground.



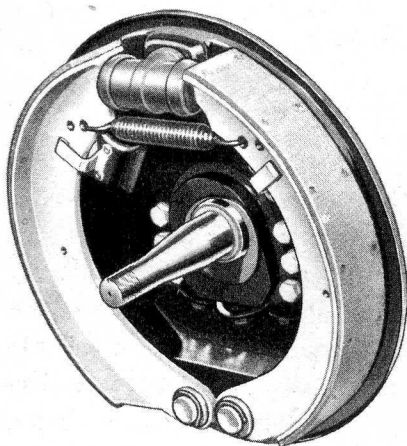
SINGLE-SPEED HYPOID REAR AXLE

TWO-SPEED SPIRAL BEVEL REAR AXLE

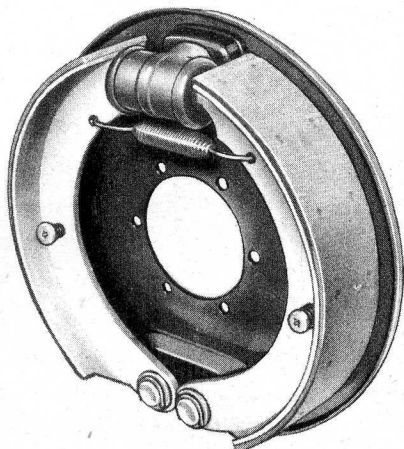
This rear axle is of the full-floating spiral bevel type with single-reduction and double-reduction features combined into one unit. (See illustration of this rear axle on page 28.) In the high-speed ratio, the axle functions as a standard single-reduction unit, the ratio being obtained through the spiral bevel pinion and ring gear. When the axle is shifted into the low-speed ratio, the planetary gears come into operation and through them a secondary reduction is obtained. The axle now functions as a double-reduction unit, the first reduction being obtained through the spiral bevel pinion and ring gear, and the second reduction through the planetary gears.



TWO-SPEED SPIRAL BEVEL REAR AXLE



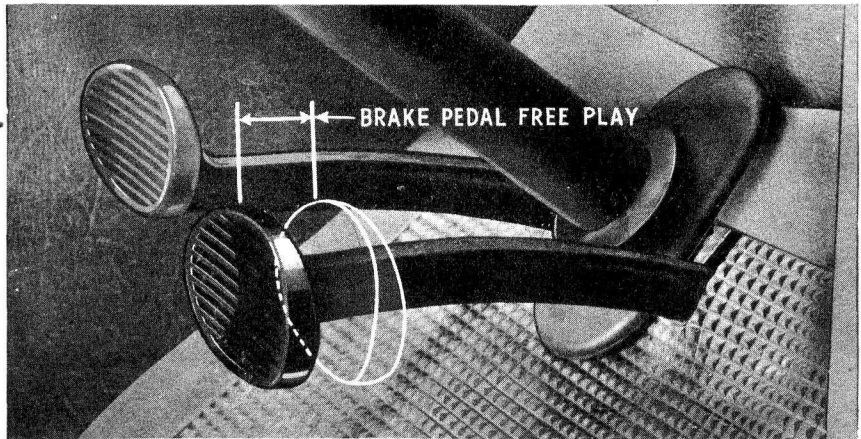
LEFT FRONT BRAKE



LEFT REAR BRAKE

BRAKES

Dodge perfected Hydraulic Brakes require a minimum of attention. Minor adjustments compensate for natural lining wear and can readily be made.

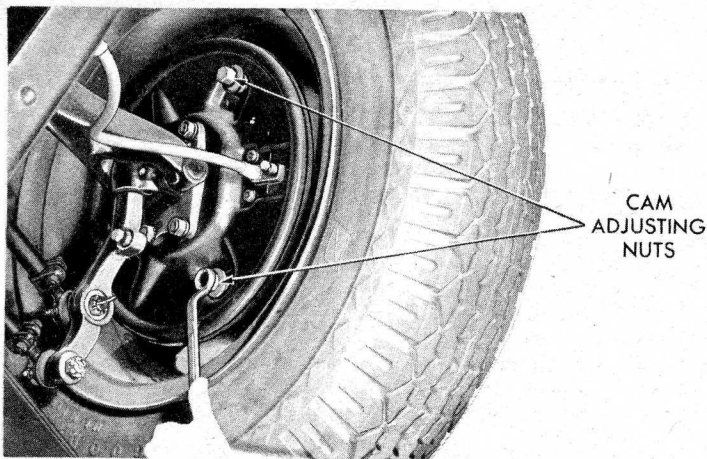


BRAKE PEDAL FREE PLAY

Free travel of the brake pedal is important. The total free travel is made up of travel of the master cylinder piston rod before touching the piston, travel of the piston to cover the bleeder port and then travel of the shoes to take up clearance from the free running position to the position of contact with the brake drums. The total free travel of the pedal from full released position to the point where the shoes contact the drums is $\frac{3}{4}$ in. to 1 in. This is obtained by proper brake shoe adjustment.

MINOR BRAKE SHOE ADJUSTMENT

A quick way of adjusting the brake shoe cams is to first jack up the truck so one wheel can be rotated freely. Then, while rocking that wheel forward and backward, turn one cam adjusting nut until the shoe starts to drag on the brake drum. Then back off the adjusting nut until the shoe just clears the drum so the wheel will turn freely. This will give approximately the correct clearance between the toe end of the shoe and the drum. Then make the same adjustment to the other shoe for the same wheel. It is important that these adjustments be made the same for the other three wheels. If one or more shoes have less clearance than is obtained by this adjustment there



SERVICE BRAKE ADJUSTMENT

may be "brake drag" which causes over-heating of the drums and possible seizure of a shoe.

IMPORTANT

Make sure wheel bearings are correctly adjusted before attempting to adjust the brakes.

Make sure the brake adjustment is securely locked where lock nuts are provided.

Make sure the shoe facings are not worn excessively.

MAJOR BRAKE ADJUSTMENT

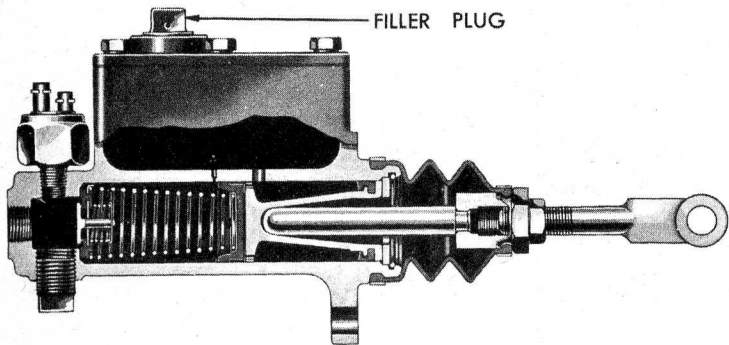
A major adjustment will not be necessary until considerable lining wear has taken place. In order to make a major adjustment or reline the brakes, it is necessary to remove the wheels and brake drums and reset the brake shoe anchor bolts which makes necessary the use of an approved rear wheel puller and brake shoe adjusting gauge. It is recommended that major brake adjustments be made by your Dodge dealer as he has the necessary equipment and experience.

BRAKE FLUID

It is important that only MOPAR Super Brake Fluid be used in the hydraulic braking system. This fluid and the component parts of your hydraulic braking system are designed to function together.

FLUID LEVEL IN BRAKE MASTER CYLINDER

The level of the brake fluid in the master cylinder should be checked whenever brake shoe adjustment is required. However, unless there is a leak somewhere in the system it is improbable that it will be necessary to add fluid. The level should be maintained "full" or not less than "half-full". This can be inspected by removing the filler plug from the top of the master cylinder. All traces of dirt should be wiped off the cylinder and plug before it is removed so as to avoid the possibility of dirt entering the cylinder when removing the plug. Absolute cleanliness of the fluid is essential for the safe and satisfactory operation of the brake system.



BRAKE MASTER CYLINDER

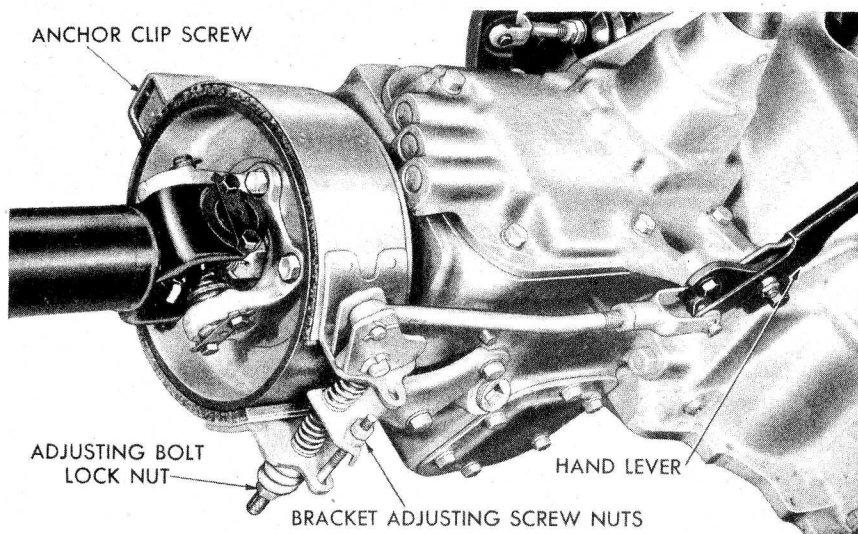
ADJUSTMENT OF HAND BRAKE

Clearance at the band should be .010 to .012 inch. The clearance will increase with use because of natural wear on the lining. When the clearance becomes too great, it should be reduced to .010 inch by adjusting the band. To adjust the brake band, proceed as follows:

1. Set hand lever in fully released position.
2. Remove anchor clip screw lock wire and adjust screw so band and drum have .010 inch clearance.
3. Lock anchor clip screw with lock wire.
4. Back off large adjusting bolt lock nuts until free.
5. Turn bracket adjusting screw nut after loosening lock nut until band and drum have .010 inch clearance.
6. Lock bracket adjusting screw nut with lock nut.

7. Tighten large adjusting bolt nut until tension on the bracket adjusting screw is just relieved at either end.
8. Lubricate all frictional surfaces of brake control linkage and bracket adjusting screw with engine oil. See lubrication chart, page 23.

Free play between the side of the anchor clip at the center of the band and the anchor must not be more than .005 in., otherwise, band distortion may result on brake application. This free play, if excessive, may be reduced by compressing the clip in a vise or tapping gently with a hammer against a block or anvil.



HAND BRAKE ADJUSTMENT

CAB

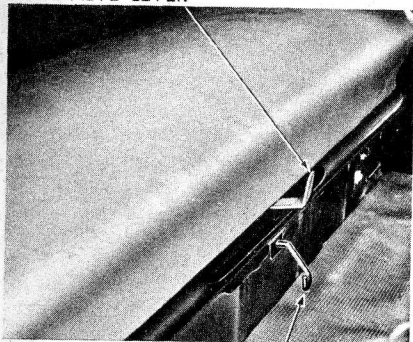
DRIVER'S SEAT IS ADJUSTABLE

The driver's seat is adjustable and can be moved by releasing the locking mechanism and sliding the frame forward or backward on the ways. A lever for releasing the lock is located near the floor at the center of the seat. In order to slide the seat, lift up on the lever. Release lever to lock seat in the desired position.

The seat back is hooked to the seat cushion. This feature makes it possible to adjust the angle of the seat back by moving the cushion

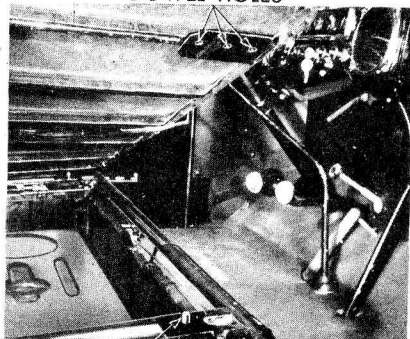
forward or back on the seat frame. Three holes are provided in plates on the under side of the cushion so that the cushion can be located over dowels on the frame to any one of three positions. When reinstalling the cushion, make sure that the prongs on the seat back enter the brackets on the cushion.

AIR VALVE LEVER



LOCK RELEASE LEVER

DOWEL HOLES



DOWEL

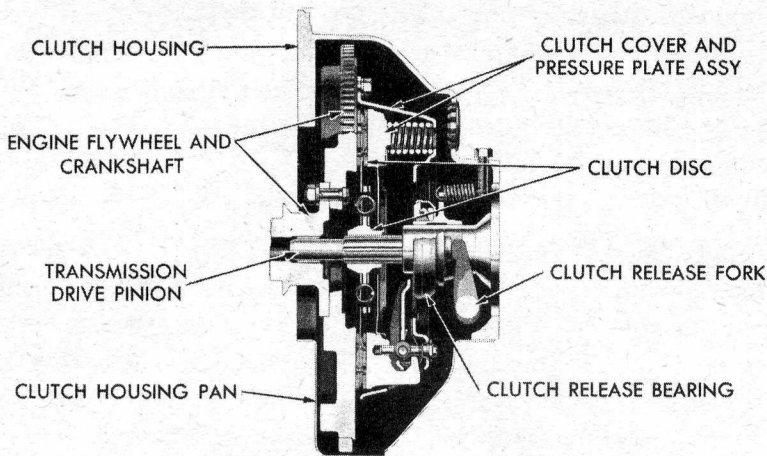
SEAT ADJUSTMENT

AIR-O-RIDE SEAT CUSHION

In addition to the seat adjustments, the riding qualities of the cushion can be regulated. The cushion is equipped with a valve to control the escape and re-entry of air. The valve operating lever extends forward from under the center of the cushion. To adjust the ride, move this lever from side to side. When the lever is placed in the central position, the valve is closed and the passage of air is restricted to provide a firm ride. When the lever is moved to the right or left, the valve is opened to the maximum for a soft ride.

CLUTCH

The clutch in your truck is of ample size and is designed to give extra long life. However, it functions by friction and if allowed to slip excessively by careless operation or by "riding" the clutch pedal, sufficient heat will be generated within the clutch to shorten its life considerably.



CLUTCH

CLUTCH PEDAL FREE PLAY

Free play or free movement of the clutch pedal is necessary to allow the clutch disc to seat properly and to avoid slippage. It insures proper clearance between the clutch release bearing and the clutch release lever.

The proper amount of free play for the clutch pedal is 1 inch. The adjustment is made by turning the clutch pedal adjusting collar set screws.

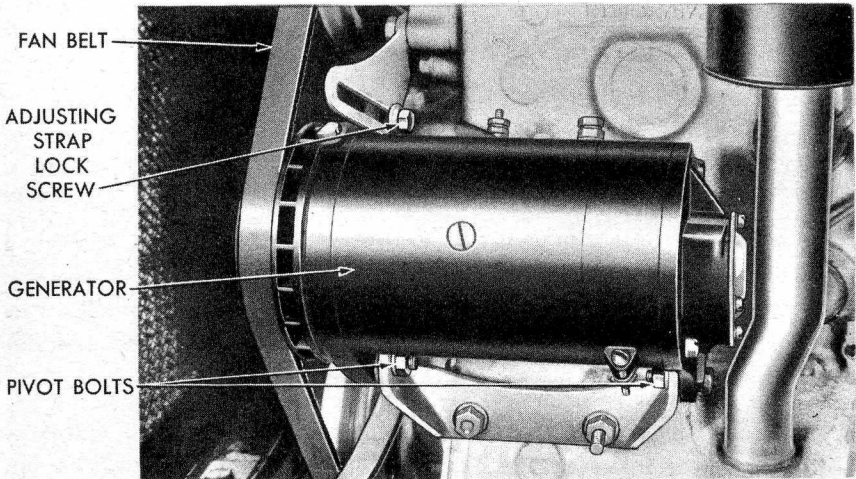


CLUTCH PEDAL FREE PLAY

THE COOLING SYSTEM

It is a recognized fact that a truck engine operates most efficiently at a certain temperature. The cooling system of your Dodge engine automatically maintains the most desirable engine operating temperatures under all normal operating conditions.

When the engine is started cold, a thermostat prevents the circulation of water to the radiator and a simple by-pass allows the water to circulate only in the water jackets of the engine until normal engine operating temperature has been reached. When the water temperature, as shown by the heat indicator, reaches a pre-determined point, the thermostat starts to open allowing some water to circulate through the radiator and when the thermostat is fully open it allows unrestricted radiator circulation. As the water circulates through the radiator it is cooled, but when the temperature of the water in the engine goes below the desired temperature the thermostat starts to close and retards circulation through the radiator, but not through the engine. Therefore, by automatic operation of the thermostat and by-pass the desired temperature is automatically maintained.



FAN BELT ADJUSTMENT

FAN BELT ADJUSTMENT

To assure satisfactory generator operation, keep the fan belt adjusted so that the belt can be deflected about $\frac{1}{4}$ in. with the fingers midway between the pulleys. To adjust the belt, first loosen the generator mounting bracket pivot bolts. Second, loosen the adjusting strap lock screw. Third, pull outward on the generator until the belt is under good tension. While holding the generator in this position, tighten the adjusting strap lock screw and the bracket pivot bolts. Do not overtighten the belt. Never make adjustment by moving the generator with a pry bar.

FILLING AND DRAINING THE COOLING SYSTEM

When water is added to the cooling system be sure it is clean and does not contain alkali which forms scale and eventually clogs the passages. Never pour cold water or anti-freeze into the radiator when the engine is overheated. The level of the cooling liquid should be $\frac{1}{4}$ in. below the bottom of the filler neck. Have the fan belt, hoses and connections checked periodically.

When draining the radiator in cold weather, be sure to drain the cylinder block also. Open the drain cock at the lower corner of the radiator and also the drain cock on the left side of the engine.

THE USE OF ANTI-FREEZE

At the approach of freezing weather an anti-freeze cooling solution should be used. Always flush the system clean before adding anti-freeze in fall and after draining it in the spring. In climates where anti-freeze solutions are not required, flush the cooling system twice a year. When anti-freeze is not in use, treat the cooling system of your truck with rust resistor every time it is drained and refilled. This is unnecessary when using an anti-freeze solution containing a rust resistor. Have the solution tested frequently during freezing weather to make certain that you are well protected against a freeze-up.

CAUTION: Anti-freeze solutions containing salt, calcium chloride, soda, sugar or mineral oils such as kerosene or engine oil should never be used in the cooling system. They will clog water passages or damage hose connections and other parts.

THE ELECTRICAL SYSTEM

BATTERY

The battery is located under the floor of the cab at the left side of the truck. It is reached by turning back the floor mat and lifting the cover plate.

It's easy to take care of your battery; all that is necessary is to keep it filled with distilled water. Inspect the water level frequently. Distilled water should be added to the battery about every two weeks in winter, once a week in summer.

If you ever should store your truck for an extended period, the battery should be removed and taken to a battery service station for attention during the period the truck is out of service.

CAUTION: Do not allow flames or sparks to be brought near the vent openings of the battery since hydrogen gas, produced in the course of normal operation may be present and might explode.

GENERATOR

The increased use of electrically operated accessories has created the necessity for having a generator capable of a great current output and at the same time attend to this increased duty in the typical way of Dodge Dependability. The windings, bearings and other parts are all made of ample size to take care of this important function of generating the current required. This makes the generator last longer, even though it operates most of the time under a load. The generator is air-cooled by a vacuum fan which creates a positive circulation of air through the generator. As the volume and force of cool air vary with the speed at which the generator is being driven, a more nearly perfect operating temperature is maintained at all times.

STARTER

The starter is of the positive shift type with a sliding gear and over-running clutch.

CAUTION: Care must be taken not to engage the starter switch when the engine is running.

IGNITION SYSTEM

The ignition system consists of the distributor, the coil, the spark plugs in the engine cylinders, the ignition switch and some source of electric current which in your truck is the storage battery. The purpose of the ignition system is to provide an electric spark at the spark plugs at the correct time to ignite the combustible fuel mixture in the cylinders for running the engine.

The operation of the engine of your truck will be seriously affected if the distributor contact points and spark plug gaps are not kept properly adjusted and the ignition correctly timed. The results of improper ignition are sluggish engine performance, poor pickup and excessive fuel consumption.

DISTRIBUTOR CONTACT POINTS

Improperly adjusted contact points will affect ignition timing and engine operation. Before attempting to check or adjust the contact points to a feeler gauge, the engine should be turned sufficiently to bring the breaker arm in contact with the peak of a lobe on the distributor cam. Due to the passage of primary current across the contact points, a normal transfer of metal from one point to the other may cause the surface of the points to become slightly rough or pitted. Such roughness must be removed with a fine file or hone before the points can be accurately adjusted to a feeler gauge. The points should open .020 to .024 in. The adjustment is made by loosening the locking screw and turning the adjusting screw until the proper gap is obtained.

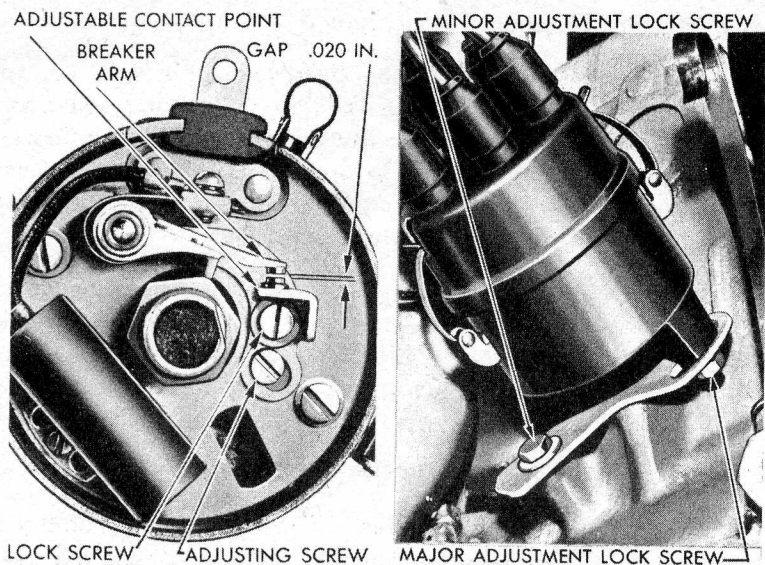
IGNITION TIMING

The timing should be set so that the distributor contact points just start to open for No. 1 cylinder when the piston is on top dead center.

In low altitudes with standard brands of non-premium gasoline, the engine will give its best performance if timed at standard setting.

With this timing, there will be a trace of spark knock when accelerating with wide open throttle.

When using lower grade fuels, or after carbon has accumulated, spark knock may be excessive with standard setting. In such cases the ignition should be retarded not to exceed 4 degrees late of standard setting.



IGNITION DISTRIBUTOR ADJUSTMENTS

In high altitudes there is less tendency for spark knock, and the same thing is true in low altitudes when using premium gasolines. In such cases improved performance may be obtained by advancing the spark not to exceed 4 degrees of standard setting.

Minor adjustment of the timing is easily made by loosening the screws at the outer ends of the locking plate lever and then rotating the distributor in the desired direction. When finished with the adjustment, be sure to tighten the lock screw.

To adjust the ignition timing further, loosen the clamping screw in the locking plate at the bottom of the distributor housing and rotate the distributor in the direction required. The rotor should be pressed against its normal direction of rotation so as to take up backlash in the distributor driving mechanism. Tighten the clamping screw after making the adjustment.

To reset ignition timing when the distributor has been removed, turn the engine until No. 6 piston is on top dead center with No. 6 exhaust valve just closing. The position of the piston can be checked by removing the small plug from the ignition timing hole above No. 6 piston and inserting a timing indicator, or by lining up the timing mark on the fan drive pulley with the pointer on the chain case cover. By watching the valve action the proper stroke can be determined.

No. 6 exhaust valve should close and No. 6 intake valve open at that point. With No. 6 piston at the top of the exhaust stroke, No. 1 piston will be at the top for the firing stroke.

Turn distributor shaft in a clockwise direction until the rotor points to the cap post to which No. 1 spark plug wire is connected, and with the contact points just starting to open. Install the distributor and adjust timing.

The firing order of the engine is 1-5-3-6-2-4.

SPARK PLUG ADJUSTMENT

The gap between the electrodes of each spark plug should be .025 inch. The gap will gradually increase with use and should be adjusted by bending the outside electrode. Measurement of the gap can most accurately be made with a wire rather than a flat feeler gauge.

For efficient and economical operation, all spark plugs should be replaced every 10,000 miles with the same type as the original equipment.

CLEANLINESS OF IGNITION SYSTEM IMPORTANT

A film of dirty oil and water gradually accumulates on parts of the engine. It is essential, for best engine performance, that exposed parts of the ignition system be kept clean and dry.

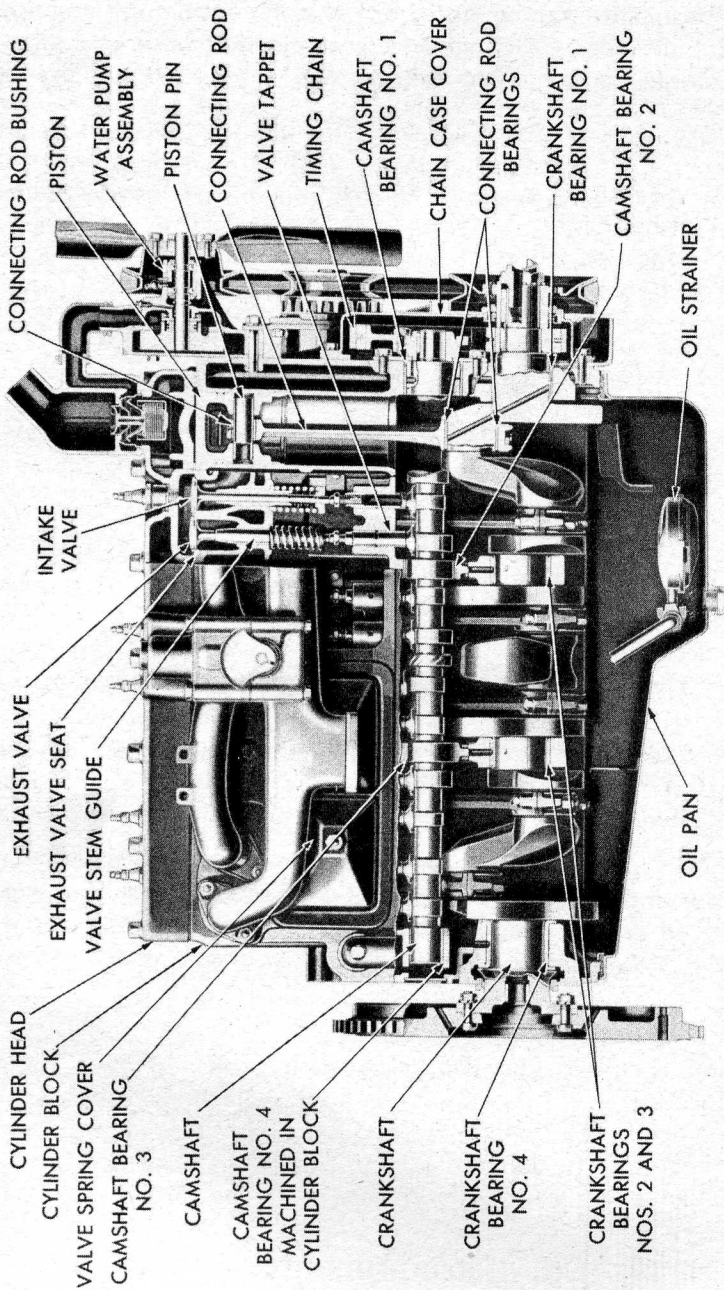
The porcelains of the spark plugs and the outside of the distributor cap, as well as the exposed end of the spark coil, should be kept clean at all times. The wires leading from the distributor to the spark plug and coil should also be clean and free from dirt, water and oil.

LIGHTING SYSTEM

The lighting circuit of your Dodge truck is protected by a circuit breaker located at the back of the light switch. In case a short circuit develops in the lighting system, the circuit breaker will automatically open before damage occurs. The circuit breaker will continue to open and close until the "short" in the circuit has been eliminated.

HEADLIGHTS

The headlight lens, bulb and reflector are built up into one water-proof and dustproof pre-focused unit which is replaceable as a unit



ENGINE

should replacement become necessary due to accidental damage or the bulb burning out. Replacement of this unit is made by removing the headlight rim, loosening the retaining ring screws, turning the retaining ring to unhook it from the screws and then pulling the connector straight off.

To insure the maximum of night driving comfort and safety, it is necessary that headlights be properly aimed at all times. It is advisable to have the headlights on your truck checked occasionally by your Dodge dealer, and the headlights properly aimed when necessary.

PARKING LIGHT BULB REPLACEMENT

Parking light bulbs may be replaced by loosening the screw on the front of the frame and removing the frame and lens assembly.

TAIL LIGHT BULB REPLACEMENT

Tail light bulb replacement is made by removing the lens.

THE ENGINE

The engine is regarded as a device for producing mechanical power. It must perform smoothly and efficiently and it must be economical, dependable over a long period of use and require a minimum amount of maintenance.

Treat your engine with the consideration it deserves. With reasonable care and ordinary maintenance, it will deliver in full measure the economical, dependable performance built into it.

TROUBLE DIAGNOSIS

Today's high compression engines and high speeds demand accurate settings of the ignition and fuel systems for maximum performance. A frequent engine tuneup should, therefore, be made in order to maintain the standard of performance originally built into the engine. Consult your Dodge dealer.

IF THE ENGINE STOPS OR FAILS TO START

It must be remembered that engine operation depends upon three factors:

1. The proper mixture of fuel and air entering the cylinders.
2. Reasonable compression of the fuel mixture.
3. Adequate spark at the proper time to ignite the compressed fuel mixture.

If fuel is being delivered to the carburetor, a blocked orifice or jet in the carburetor is about the only cause for it not entering the cylinders, and unless there is an excessive air leak in the manifold or at the manifold gaskets, the mixture should be burnable under reasonable compression.

If fuel is not being delivered to the carburetor, one of the following conditions may exist:

1. Empty fuel tank.
2. Stoppage in the fuel line.
3. Closed vent in the fuel tank filler cap.
4. Air leak in the fuel line between the tank and the fuel pump or in the fuel pump.
5. Dirt, water or ice in the fuel line.
6. Inoperative fuel pump.

Fuel pump operation can be checked by disconnecting the fuel line from the tank to the pump, at the pump, and holding a finger over the fitting in the fuel pump body. If intermittent suction is felt at that point when the engine is being cranked, the pump is in working order.

With a reasonable mixture entering the cylinders the engine should start and run provided an adequate spark is delivered to the spark plugs at the proper time. The intensity of spark can be checked by disconnecting a wire from a spark plug and holding it about $\frac{1}{4}$ inch from the cylinder head while the engine is being cranked with the ignition switched on. If the spark jumps $\frac{1}{4}$ to $\frac{3}{8}$ inch to the cylinder head, it should be adequate to start the engine.

If no spark is being delivered to the spark plugs, the difficulty may be due to:

1. No contact at ignition switch.
2. Broken distributor drive shaft or gear.
3. Burned or dirty distributor points.
4. Loose or corroded battery terminals.
5. Loose or broken wire or connection in low tension circuit.
6. Shorted condenser.
7. Faulty ignition coil.
8. Faulty insulation on large wire running from the coil to the distributor cap.

9. Accumulation of moisture, dirt or oil on the distributor cap, wires or spark plugs.
10. Cracked distributor cap or rotor.

The difficulty may be located by the following procedure. When the engine is being cranked with the ignition switch on and all other electrical equipment off, a slight intermittent discharge should show on the ammeter. If such a discharge does not show, look for difficulties covered by items 1, 2, 3, 4 and 5: If a continuous discharge shows and the distributor points are breaking, the condenser is shorted and should be replaced. If the intermittent discharge shows, items 7 and 8 should be checked by pulling the large wire running from the coil to the distributor out of the distributor cap, then holding the end of the wire about $\frac{1}{4}$ in. from the cylinder block while the engine is being cranked with the ignition switched on. If the spark does not jump that gap, the coil is faulty.

If spark is being delivered to the distributor cap, items 9 and 10 should be checked. The spark timing can be checked by the procedure outlined under the electrical system for setting ignition timing.

If the distributor shaft or gear is broken, the distributor rotor will not turn when the engine is cranked.

See "The Electrical System" for timing instructions.

OCCASIONAL OR REPEATED ENGINE MISS

If a miss occurs in one or more cylinders while accelerating or at high engine speeds, the difficulty is more than likely due to faulty ignition in which case the procedure given under "If the Engine Stops or Fails to Start" should be followed and the spark plugs should be carefully checked in accordance with instructions given in the electrical section of this manual.

If the engine momentarily ceases to fire on all cylinders when accelerating or at high speeds, the difficulty may be caused by a loose or broken electrical connection or by a restricted flow of fuel through the carburetor. (See "Fuel Pump", page 47, for information on cleaning the fuel filter.) A miss which occurs only at idling or slow engine speed when the throttle is nearly closed would indicate improper mixture of fuel and air, improperly adjusted spark plug gaps or insufficient compression. (See page 46 for carburetor adjustments.) If adjusting the idling fuel and air mixture does not eliminate the difficulty, the cylinder in which the miss occurs can be determined by using a screw driver with an insulated handle to short circuit the spark

plugs one at a time. If the engine operation is not changed by shorting a certain spark plug, that cylinder is not firing properly. When the spark plug in a cylinder which is firing properly is shorted the engine will slow down and run more unevenly.

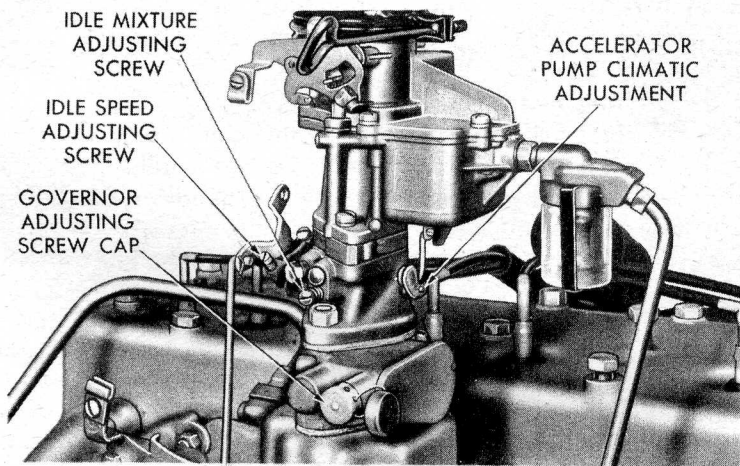
When the faulty cylinder has been determined, reset the spark plug gap and if that does not eliminate the miss, the difficulty may be due to insufficient compression.

Poor compression may be caused by a scored piston, worn or broken piston rings, or leaky cylinder head gasket, but more likely by poorly seated valves or improperly adjusted valve tappets. If the tappets have clearance as specified in the Adjustment Reference section of this manual, and the foregoing suggestions have been followed without success, the truck should as soon as possible be taken to your Dodge dealer who has the necessary equipment and experience to locate and correct the difficulty.

THE FUEL SYSTEM

CARBURETOR

The carburetor is scientifically designed and carefully calibrated to the proper mixture for most economical and efficient engine performance at all speeds. Above the idling engine speed, performance cannot be improved by carburetor adjustment. Therefore, provision is made for idling adjustments only.



CARBURETOR ADJUSTMENTS

The idling mixture can be adjusted by turning the adjusting screw. Not more than one quarter turn should be required at any time.

The engine idling speed can be regulated by turning the throttle stop screw.

Adjustments should be made only when the engine is thoroughly warmed up.

FUEL PUMP AND FUEL FILTER

Fuel is furnished to the carburetor by a mechanically driven fuel pump. All fuel is filtered to remove any sediment or water that may find its way into the fuel supply tank. The filter bowl screws into the carburetor. Remove this bowl occasionally and clean the filter element.

AIR CLEANER

It is important that the air cleaner be serviced as recommended on the lubrication chart, page 20.

FUEL GAUGE OPERATION

The fuel gauge operates by means of small electro-magnets controlled by a variable resistance unit linked to a float in the fuel tank. Electric current is supplied to the gauge from the ignition switch. Thus when the switch is turned off the indicator moves to the *Empty* position. When the ignition switch is turned to the *On* position, the fuel gauge instantly indicates the amount of fuel in the tank. Construction of the gauge is simple. The register unit contains two small magnetic coils, one of which exerts a constant force on the needle while the other, which is wired to the resistance unit in the tank, exerts an opposing force which varies in proportion to the amount of fuel.

SPRINGS AND SHOCK ABSORBERS

In designing the springs of your truck, Dodge engineers have worked out carrying capacities and rates of action that enable the springs to carry the maximum recommended load with a reasonable mar-

gin of safety, yet with resiliency to protect a partial or fragile load and to provide riding comfort for the driver.

Spring bolts and spring shackles on trucks require frequent lubrication because the loads carried by the truck develop high pressures at those points. See lubrication charts, pages 21 and 22.

The U-bolts which hold the springs to the axles should be kept tight. Loose bolts may cause spring leaf or center tie bolt breakage.

Hydraulic double-acting shock absorbers are available as extra equipment for the front and rear springs of your Dodge truck. They require little or no attention for many thousands of miles. The rubber mounting bushings must not be lubricated. If they squeak, it indicates they are worn or damaged and should be replaced. Special tools are required for servicing or refilling the units themselves, therefore it is recommended that such service be rendered by your Dodge dealer, if needed.

STEERING SYSTEM

The steering mechanism of your Dodge truck requires only the ordinary maintenance to insure maximum steering ease and comfort. Misalignment of the front wheels or the chassis, caused by accident, should be corrected by your Dodge dealer.

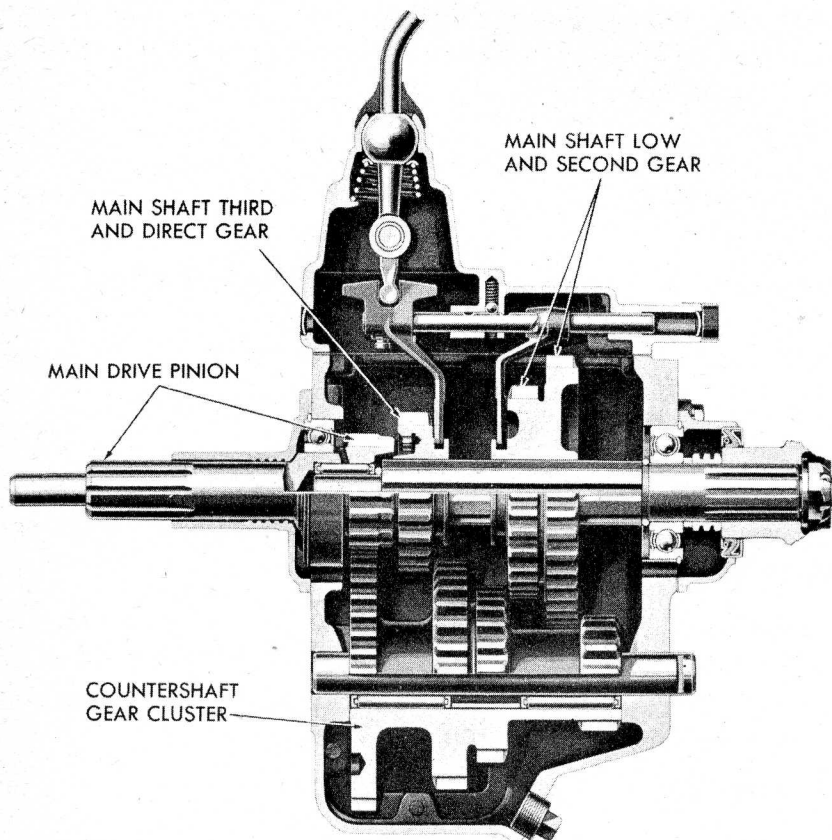
Proper and equal tire inflation is an important factor in steering.

The steering gear, steering connections and king pins must be lubricated as specified in the lubrication chart, page 21. Steering gear adjustment is seldom required, but if it should become necessary after considerable mileage, your Dodge dealer is best equipped to do the job.

TRANSMISSION

The purpose of the transmission is to make the full power of the engine available at low speeds for starting and pulling the truck up grades and to allow the truck to be backed up. See illustration of the transmission on page 49.

Under normal service, the only attention required by the transmission is the checking of the lubricant level and replacing of the lubricant according to the lubrication chart on page 23.



TRANSMISSION

UNIVERSAL JOINTS

The universal joints require no adjustment and little attention other than lubrication as specified in the lubrication charts, pages 22, 23 and 24.

WHEELS AND TIRES

The wheels and tires require frequent attention to keep them in good condition. The wheel bearings require periodic lubrication

service. The wheels must also be kept tight on their hubs. Proper balance of the wheels and tires and alignment of the front axle are essential to long tire life.

CARE OF TIRES

The condition of the tires on your truck should be one of your greatest concerns. Today's tires, if given reasonable care, will give you many thousands of miles of trouble-free service. But if you abuse them, they may fail you prematurely.

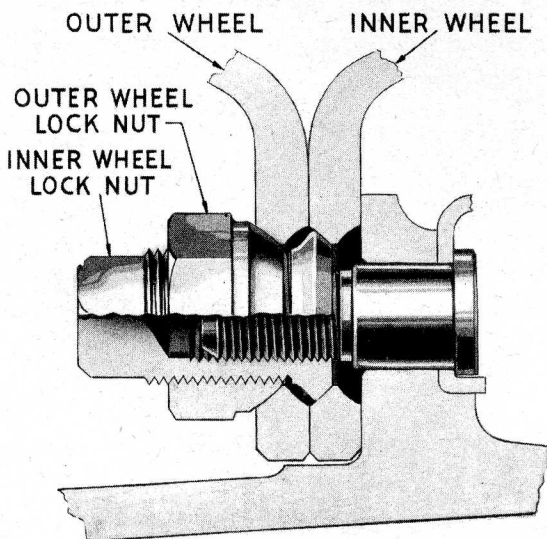
Check the tire pressures regularly. Once a week is not too often. Keep them inflated to the recommended pressure given in the Adjustment Reference table, page 57. The valve caps should be kept tight on all tires.

If the front and rear tires on your truck are the same size, it is recommended that you rotate them about every 3,000 miles for maximum tire life. It is not necessary to remove the tire from the rim, but rotate the complete wheel-and-tire.

DUAL WHEELS

It is important that the wheel lock nuts be checked for looseness at regular intervals. They must be kept tight at all times. Also when the wheels are removed and installed the lock nuts must be tightened as tightly as possible with the special wrench furnished for that purpose. The wheel lock nuts should be tightened with a torque of 375 to 425 foot pounds.

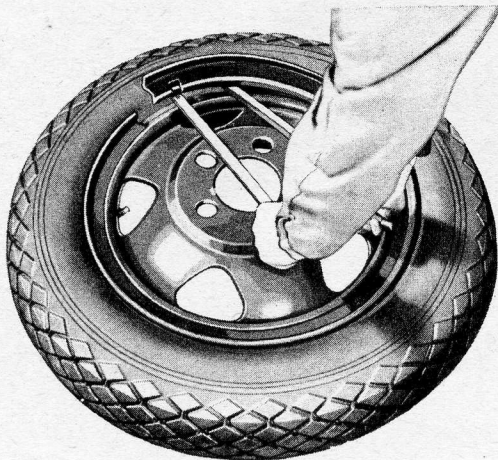
When tightening or installing dual wheels, the inner wheel lock nuts must be securely tightened first (outer nuts loose) and then the outer wheel lock nuts securely tightened. The inner wheels cannot be tightened by the outer nuts.



WHEEL LOCK NUTS

HOW TO CHANGE A TIRE

1. Apply hand brakes. It is also advisable to block one or more of the remaining wheels to prevent possible movement of the truck.
2. Raise wheel off the ground, using the jack supplied with the truck.
3. Remove the nuts from the studs which hold the wheel to the hub.
4. With dual rear wheels, remove the large outer lock nuts to remove the outer wheel and then the small lock nuts from the inner wheel.
5. Lift off the wheel.
6. Remove all air from inner tube. Break tire loose from wheel by stepping on sidewall of tire. Using a tire tool or other similar instrument, pry one end of rim side ring up out of rim channel and pull it away from tire throughout its entire length.
7. Pull tire off the rim or pick up the tire and drop the wheel from about waist height onto a large block so that the tire will drop away.
8. To reinstall tire on wheel, place the wheel flat on the floor (or ground) and drop the tire down over the wheel. Then install the

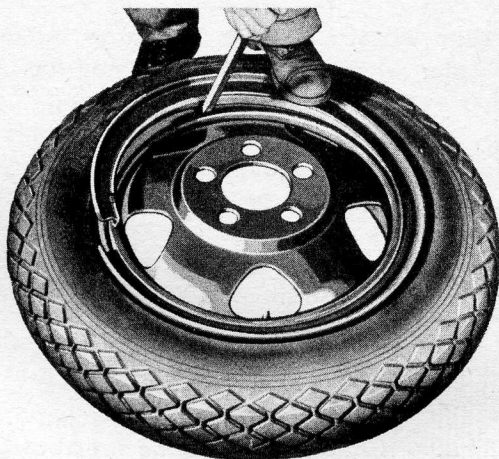


REMOVING TIRE SIDE RING

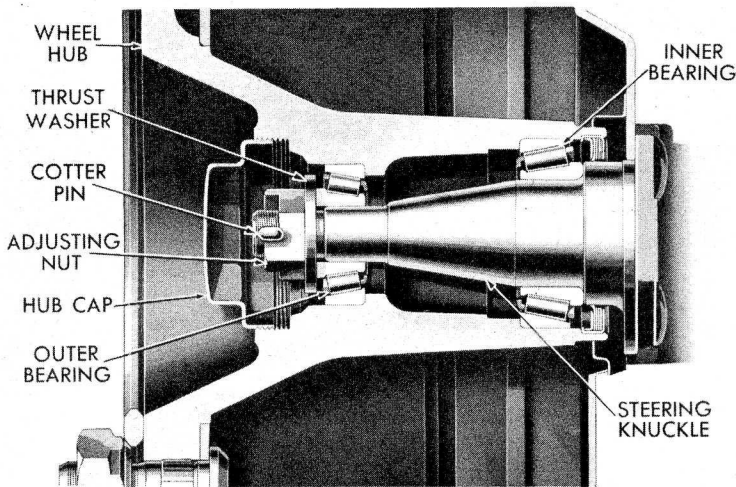
side ring (hook end first). Work the side ring into place by starting near the hook end and prying the ring down into its groove in the wheel as shown in the illustration.

When installing a tire, inflate the tube sufficiently to just round it out to prevent the tube falling out of the casing or being pinched during the mounting operation.

Tire changing is made easier by coating the base of the tire bead with liquid soap or soft soap. **DO NOT USE OIL OR GREASE.**



INSTALLING TIRE SIDE RING



FRONT WHEEL BEARINGS

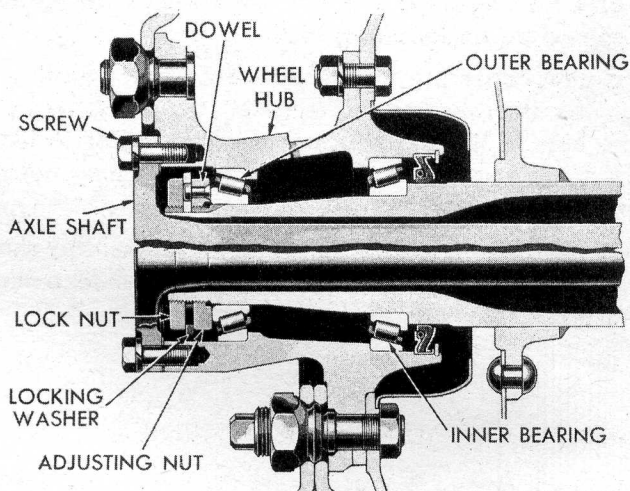
ADJUSTMENT OF FRONT WHEEL BEARINGS

1. Raise front end of the truck so that the tire just clears the floor.
2. Remove wheel hub cap.
3. Remove the cotter pin from the front wheel bearing adjusting nut.
4. Tighten the adjusting nut until the wheel cannot be shaken by hand and the bearings will not bind when rolling the wheel. There should be no looseness in the bearings.
5. Insert a new cotter pin through a slot in the adjusting nut and through the steering knuckle spindle. If a slot does not line up with the hole in the spindle, turn the nut tighter to line up slot and hole. Another method is to turn the adjusting nut tight and back it off two slots to nearest cotter pin hole.
6. After inserting the cotter pin check the adjustment by shaking the wheel on the bearings and rolling the wheel to make certain that there is no more than a slight drag.
7. Install the hub cap.

ADJUSTMENT OF REAR WHEEL BEARINGS

1. Raise the rear end of the truck until the tires just clear the floor or ground.

2. Remove the axle shaft flange stud nuts and pull out the axle shaft. Then remove the oil seal and gaskets.
3. Remove the hub bearing lock nut and withdraw the adjusting nut locking washer.
4. Turn the hub bearing adjusting nut, until the bearings are tight so that the wheel cannot be shaken by hand, but can be rotated without binding. This is sometimes difficult to detect when adjusting rear wheel bearings because of the weight of the wheel, especially with dual wheel equipment. Another method is to turn the adjusting nut tight and back it off about 1/6 of a turn.
5. Install locking washer and make certain that the dowel pin in the nut enters a hole in the washer. The nut may require turning slightly in one direction or another in order to permit the dowel pin to enter.
6. Install lock nut and tighten it securely.
7. Test bearing adjustment again after tightening the lock nut, as the adjusting nut may have been tightened when tightening the lock nut. If so, loosen the lock nut and repeat the foregoing operations. *Do not attempt to free up the bearing by loosening the lock nut only.*



REAR WHEEL BEARINGS

ADJUSTMENT REFERENCE

AXLE—FRONT

Toe-in (actual measurement)	1/16 to 1/8 in.
Caster (no load)	1 deg.
Camber	2 deg.
<i>Caster and camber must be uniform at both wheels.</i>	
King pin angle	7 deg.

AXLE—REAR

Backlash between ring gear and pinion005 to .010 in.
-------------------------------------------------	------------------

BATTERY

Terminal grounded	Positive
Specific gravity charged	1.275 to 1.300
Specific gravity discharged	1.150
Capacity in ampere-hours	114 at 20 hr. discharge rate
Voltage	6
Number of plates per cell	17

BRAKES—HAND

Band to drum clearance010 to .012 in.
----------------------------------	------------------

BRAKES—SERVICE

Pedal free play	3/4 in. to 1 in.
---------------------------	------------------

CAPACITIES

Engine (refill)	5 qts.
Fuel tank	18 gals.
Cooling System	19 1/4 qts.
Transmission	6 pts.
Rear Axle—Single-Speed	11 pts.
2-Speed	13 pts.

CLUTCH

Pedal free play	1 in.
---------------------------	-------

CONNECTING ROD

Bearing clearance001 to .0015 in.
Side play at bearings006 to .011 in.

CRANKSHAFT

Bearing clearance (desired)001 to .0015 in.
End play003 to .007 in.

CYLINDERS

Maximum allowable taper020 in.
Maximum allowable out of round005 in.
Reconditioning working limits0005 in.

IGNITION

Distributor contact point gap020-.024 in.
Spark plug gap025 in.
Ignition timing (Set points to open) T. D. C.
Firing order 1-5-3-6-2-4

LIGHT BULBS

Location	C.P.	Mazda No.	Dodge Part No.
Headlight	45-35 (Watts)		853369
Headlight Upper Beam			
Indicator Light	1	51	115273
Tail and Stop Light	21-3	1154	145416
Parking Light	3	63	142303
Instrument Light	2	55	125588

LUBRICATION, ENGINE

Normal oil pressure at 2000 R.P.M. 45-55 lbs.

PISTONS

Skirt Clearance (thrust side— $\frac{3}{4}$ in. from bottom)001 in.

PISTON PINS

Clearance:

In Piston and Rod Bushing Thumb push fit at 70° F.

PISTON RINGS

Gap clearance007 to .015 in.
Side clearance in groove.....	Oil rings .001 to .0025 in.
	Compression .002 to .0035

TIRES

	Pressure	
	Front	Rear
6.50 x 20— 6 ply.....	50	50
7.00 x 20— 8 ply.....	55	55
7.50 x 20— 8 ply.....	55	55
7.50 x 20—10 ply.....	75	75
8.25 x 20—10 ply.....		60

VALVES

Tappet clearance, engine hot:

Intake010 in.
Exhaust014 in.

Intake opens B.T.D.C. (Crankshaft rotation)..... 17 to 5 degs.

Valve tappet clearance to check timing (cold)..... .014 in.

Distance from top of valve guide to top face
of cylinder block..... $\frac{7}{8}$ in.

Stem clearance in guide:

Intake0015 to .0035 in.
Exhaust002 to .004 in.

Valve guide, ream after assembly:

Intake and Exhaust

	.343 in.
--	----------

Valve lift

	.379 in.
--	----------

Spring tension, compressed to $1\frac{3}{8}$ in..... 107 to 115 lbs.

Spring tension, compressed to $1\frac{3}{4}$ in..... 40 to 45 lbs.

(Specifications subject to change without notice.)

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AUTOMOBILE MANUFACTURERS ASSOCIATION

UNIFORM WARRANTY

"The Manufacturer warrants each new Motor Vehicle manufactured by it, to be free from defects in material and workmanship under normal use and service, its obligation under the Warranty being limited to making good at its factory any part or parts thereof, including all equipment or trade accessories (except tires) supplied by the Motor Vehicle Manufacturer, which shall, within ninety (90) days after making delivery of such vehicle to the original purchaser or before such vehicle has been driven 4,000 miles, whichever event shall first occur, be returned to it with transportation charges prepaid, and which its examination shall disclose to its satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on its part, and it neither assumes nor authorizes any other person to assume for it any liability in connection with the sale of its vehicles.

"This warranty shall not apply to any vehicle which shall have been repaired or altered outside of an Authorized Dodge Service Station in any way so as, in the judgment of the manufacturer, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident."

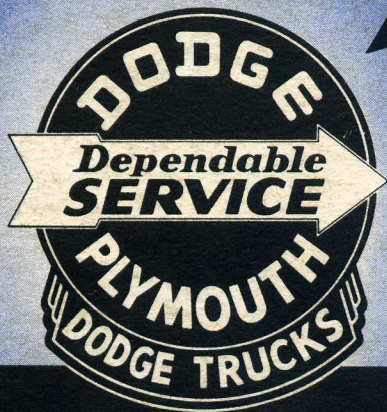
CHRYSLER CORPORATION

Dodge Division

Detroit 31, Michigan, U.S.A.

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