

To THE OWNER of this

HUDSON EIGHT MOTOR CAR

A great deal of money, time and care has been devoted to the proper designing, manufacturing and preparation of this car for delivery into your hands.

We share your pride in its character and appearance, and our sincere hope is that you derive from its operation the full enjoyment and utility to which you looked forward in purchasing it.

For these reasons, may we take the liberty of suggesting that a fine mechanism such as this new car of yours will always respond with its best to considerate treatment and care?

It will repay you well for the slight outlay in attention and cost required to give it regular and proper lubrication, inspection at stated intervals, and such adjustments as may be indicated from time to time. This is to bespeak for your car and your own pocket no more nor less than *the ounce of prevention which is worth so much more than the pound of cure.*

Hudson and Essex Distributors and Dealers in your community, and practically everywhere you may drive, are prepared with equipment facilities and experienced personnel to give your car uniform, proper and complete attention in these respects at moderate prices for the materials supplied and services rendered. We commend to you their expert and friendly interest in your car.

As to this manual itself, its chief purpose is to acquaint you with the means of taking the best care of your car, so that you may derive from it the full measure of operating quality and long economical life built into it at the factory. Will you coöperate to the extent of reading this manual and keeping it in one of the side pockets of your car for ready reference as needed?

HUDSON MOTOR CAR COMPANY
Detroit, Michigan

INDEX

General

	Page
BREAKING-IN INSTRUCTIONS.....	13
CARE OF THE FINISH.....	35
LICENSE DATA AND TECHNICAL INFORMATION.....	7
OPERATION.....	10
STARTING THE ENGINE.....	12
WARRANTY.....	6

Lubrication

BRAKE CROSS SHAFT.....	23
CHASSIS LUBRICATION CHART.....	14
CLUTCH.....	17
DISTRIBUTOR.....	16
DOOR DOVETAILS.....	23
DOOR LOCKS.....	23
ENGINE.....	15
FRONT WHEEL BEARINGS.....	21
GENERATOR.....	16
HOOD LEDGE LACINGS.....	23
HOOD LOCKS.....	23
REAR AXLE.....	21
REAR WHEEL BEARINGS.....	22
STARTING MOTOR.....	17
STEERING GEAR.....	22
THROTTLE CONTROL RODS AND LEVERS.....	23
TRANSMISSION.....	20
UNIVERSAL JOINTS.....	20
WATER PUMP.....	16

Adjustment

ADJUST DISTRIBUTOR POINTS.....	24
BATTERY.....	29
BRAKES.....	32
CARBURETOR.....	27
CLUTCH PEDAL ADJUSTMENT.....	28
DISTRIBUTOR.....	24
FAN AND WATER PUMP.....	27
FRONT WHEEL ALIGNMENT.....	32
FRONT WHEEL BEARINGS.....	30
HEADLAMPS.....	35
IGNITION TIMING.....	24
RADIATOR.....	34
REAR WHEEL BEARINGS.....	30
SHOCK ABSORBERS.....	34
SPARK PLUGS.....	25
SPRING MOUNTINGS.....	33
STEERING GEAR.....	29
SYNCHRONIZE BREAKER POINTS.....	25
TAPPETS.....	26
TIMING CHAIN.....	26
TIRES.....	31
VACUUM TANK.....	28
WHEELS—REMOVAL AND INSTALLATION.....	31
WIRING DIAGRAM.....	18-19

Warranty

"We warrant each new passenger automobile manufactured by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory any part or parts thereof, including all equipment or trade accessories (except tires) supplied by the Car Manufacturer, which shall, within ninety (90) days after making delivery of such vehicle to the original purchaser or before such vehicle has been driven 4000 miles, whichever event shall first occur, be returned to us with transportation charges prepaid, and which our examination shall disclose to our 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 our part, and we neither assume nor authorize any other person to assume for us any liability in connection with the sale of our vehicles.

"This warranty shall not apply to any vehicle which shall have been repaired or altered by other than an authorized Hudson and Essex Distributor or Dealer 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."

HUDSON MOTOR CAR COMPANY

Detroit, Michigan, U. S. A.

License Data

CAR SERIAL NUMBER (On plate on dash under hood)—

Standard Series
930770 and up

Sterling Series
62884 and up

Major Series
250001 and up

ENGINE SERIAL NUMBER—Stamped on left side of cylinder block opposite cylinder No. 1

CYLINDER BORE—3"

PISTON STROKE—4½"

NUMBER OF CYLINDERS—8

N. A. C. C. HORSEPOWER RATING—28.8

PISTON DISPLACEMENT—254

Body Types

Standard Series
119" Wheelbase

STANDARD SEDAN
COACH

RUMBLE COUPE

2-PASSENGER COUPE

TOWN SEDAN

SPECIAL COUPE

CONVERTIBLE COUPE

Sterling Series
126" Wheelbase

SUBURBAN
SPECIAL SEDAN

Major Series
132" Wheelbase

BROUGHAM

TOURING SEDAN

CLUB SEDAN

7-PASSENGER SEDAN

7-PASSENGER PHAETON

Technical Information

Engine

TYPE—8 cylinders in line

ACTUAL DEVELOPED H. P.—101 at
3600 R. P. M.

COMPRESSION RATIO—5.8 to 1

FIRING ORDER—1-6-2-5-8-3-7-4

NUMBER MAIN BEARINGS—5

TYPE OF CRANKSHAFT—Fully Compensated—Statically and Dynamically Balanced

MAIN BEARING CLEARANCE—.001"-.0015"

MAIN BEARING END PLAY—.006"-.012"

CONNECTING ROD LOWER BEARING CLEARANCE — .001"-.0015"; Side Clearance, .006"-.010"

PISTON MATERIAL—Silicon Aluminum Alloy

PISTON TYPE—T Slot Cam Ground

PISTON WEIGHT—9¾ ounces

SKIRT CLEARANCE—Top, .0015"-.002";
Bottom, .0005"-.001"

NUMBER OF PISTON RINGS—Compression, 2; Oil Control, 2

PISTON RING GAP—.009"-.011"

CAMSHAFT DRIVE—Adjustable Silent Chain

VALVE MATERIAL—Silicon Chrome Alloy Steel

VALVE HEAD DIAMETER—Intake, 1½"; Exhaust, 1⅜"

VALVE TAPPET CLEARANCE—Intake, .003"-.005"; Exhaust, .005"-.007"
Measure with engine hot

LUBRICATION—Hudson Duoflo Automatic System

OIL PUMP TYPE—Oscillating Plunger

Cooling System

TYPE—Pump Circulation	COOLING SYSTEM CAPACITY—4¼ gals.
RADIATOR TYPE—Copper Ribbon Cellular	FAN BELT—"V" Type
	WATER PUMP DRIVE—"V" Belt

Fuel System

CARBURETOR — 1½" Marvel Air Valve Type	FUEL FEED—Vacuum System with Vacuum Booster
AIR CLEANER—Flame Arrester, Silencer Type	GASOLINE TANK CAPACITY—16 gals.

Starting and Ignition

MAKE—Auto-Lite	SPARK PLUG GAP—.022"
SPARK CONTROL—Full Automatic	GENERATOR REGULATION — Third Brush
TIMING—Dead Center	GENERATOR NORMAL CHARGING RATE —6 volts—14 amps.; 7 volts—16 amps.; 8 volts—18 amps.
FIRING ORDER—1-6-2-5-8-3-7-4	
DISTRIBUTOR POINT GAP—.020"	
SPARK PLUG MAKE—A. C.	
SPARK PLUG TYPE—G-8-Metric	

Lamp Bulb Specifications

	C.P.	Base	Voltage		C.P.	Base	Voltage
HEAD	32-32	D.C.	6-8	DASH	3	S.C.	6-8
SIDE	3	S.C.	6-8	TAIL & STOP	2-21	D.C.	6-8
TELLTALE	3	D.C.	6-8	DOME	15	S.C.	6-8

LIGHTING CIRCUIT FUSE SIZE—30 amps.

Clutch

TYPE—Oil Cushioned, Single Plate with Modulator Hub	CLUTCH PEDAL CLEARANCE AT FLOOR BOARD—¾"
---	--

Transmission

TYPE—Features—Full Range Selective, Silent Second Syncro-Mesh, Free Wheeling with automatic retraction reverse	SPEEDS—3 forward, 1 reverse
--	-----------------------------

Rear Axle

Semi-floating Type with Hotchkiss Drive	Four Pinion Differential
One-piece Banjo Housing	Heavy Duty Tapered Roller Bearings throughout
One-piece Differential Carrier with offset pinion for equalized bearing loads	Positive Oil Seal at wheel and pinion shafts
	Positive Oil Circulation to pinion bearings

Front Axle

TYPE—I-Beam, Reverse Elliott with Inclined Spindle Pins	TOE-IN—Zero to $\frac{1}{8}$ "
SPINDLE PIN THRUST BEARING TYPE— Radial Thrust Ball Bearing	CASTER ANGLE—Zero to 1° backward
	CAMBER— 1°
	TIE ROD—Rubber Silenced Joints

Brakes

TYPE—4 Wheel Cable Control	CLEARANCE BETWEEN LINING AND
SIZE—13" Diameter—Lining Width, $1\frac{3}{4}$ "; Thickness, $\frac{7}{32}$ "	DRUM—.014" at adjusting screw; .008" at anchor pin

Steering Gear

TYPE—Variable Pitch Worm and Sector	STEERING COLUMN HEIGHT—Adjust- able to Five Positions
GEAR REDUCTION—17 to 1	

Tires

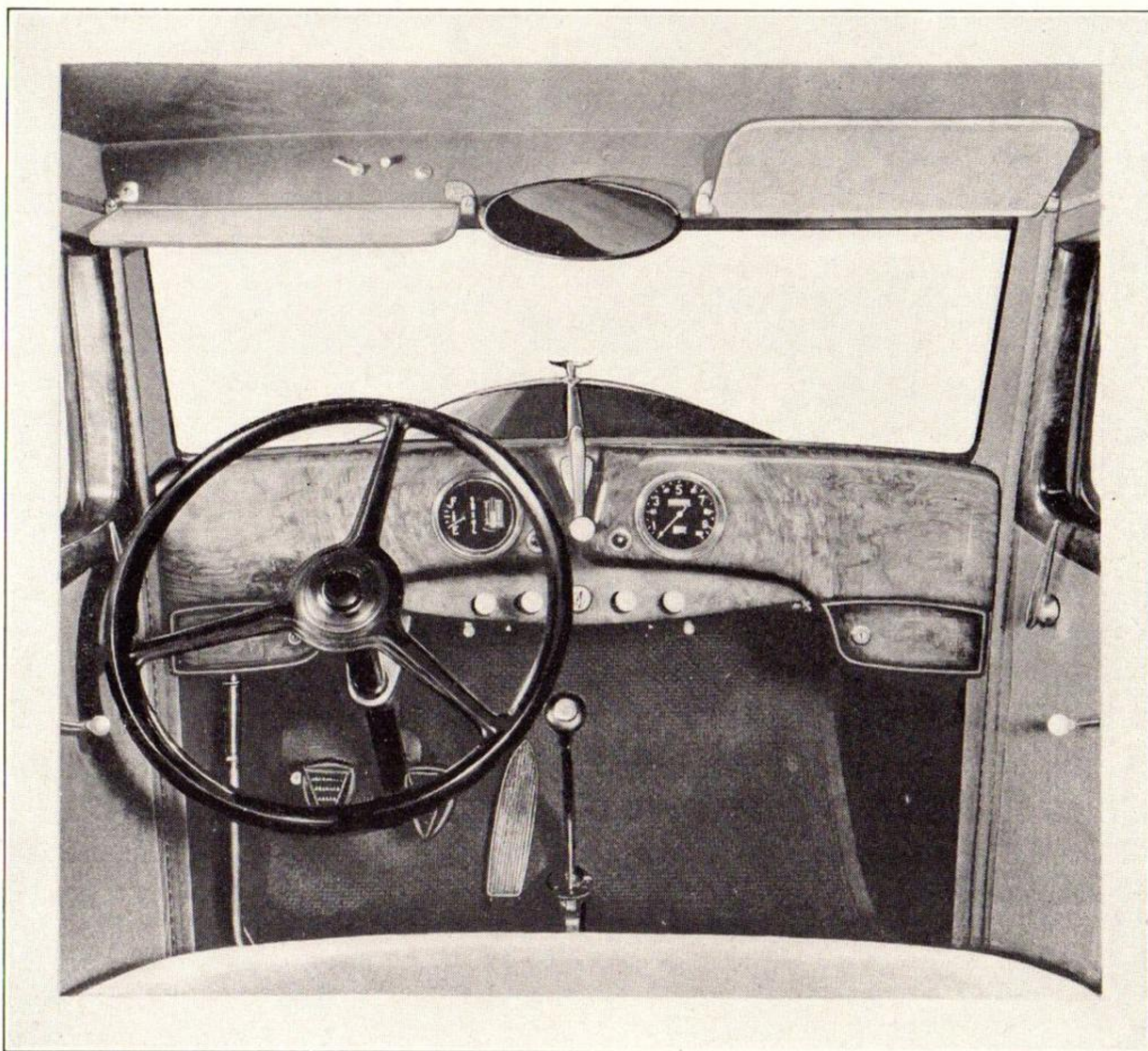
SIZE—119" W. B.—17 x 6.00; 126" W. B.—17 x 6.00; 132" W. B.— 17 x 6.50	PRESSURE — Average Driving, 32 pounds, Front and Rear High-Speed Driving, 40 pounds, Front and Rear
--	--

Chassis Dimensions

WHEELBASE	OVERALL LENGTH (including bumpers)
Standard Series 119"	185 $\frac{3}{4}$ "
Sterling Series 126"	192 $\frac{1}{2}$ "
Major Series 132"	198 $\frac{3}{4}$ "

Keys

Keys are numbered to correspond to the lock. Since it is necessary to conceal the number on the lock for theft protection, the key number should be noted on your identification card or in some other accessible place. Keys can be supplied only by number. For your own protection in case of loss of keys, record the numbers.



Operation

The operation of the Hudson Eight follows standard practice in many respects; however, even those accustomed to Hudson products may refresh their memories on some of the details by reading the following paragraphs:

The clutch is disengaged in the conventional manner by depressing the left foot pedal to release the engine drive from the transmission. Form the habit of keeping the foot off the clutch pedal except when shifting gears or coming to a stop.

The transmission operation conforms to the standard shift. The clutch must be disengaged to shift gears except when the car is in motion and "free wheeling."

Breaking-in Instructions

Keep Radiator Full

Heat is a major consideration in a new engine. Do not allow the engine to overheat. Although the heat indicator on the instrument panel shows the general temperature of the engine, it will not show a sudden rise in temperature of an individual part.

The pressure imposed on parts such as bearings and pistons due to rapid acceleration or hard pulling will cause them to overheat if the car has not been driven sufficiently to break them in. Avoid fast acceleration and hard pulling while breaking in.

High speed also develops higher operating temperatures and to avoid damage the car speed should be kept within the following recommendations:

0-250 MILES

Do not exceed 40 miles per hour in high gear or 20 miles per hour in second. Do not accelerate rapidly. Use second gear on steep grades. Keep motor temperature within "driving range" on dash heat indicator.

250-500 MILES

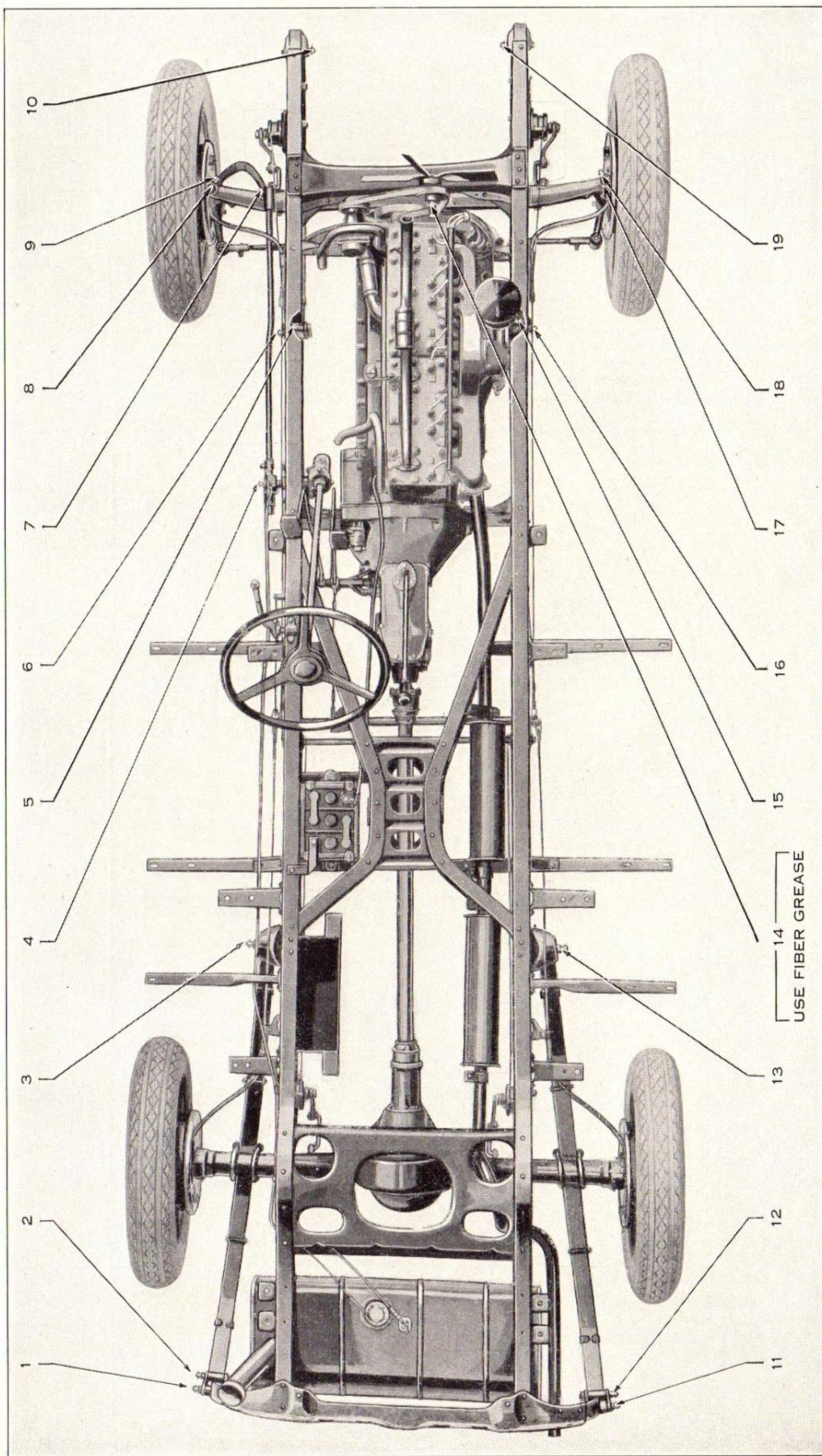
Do not exceed 50 miles per hour in high gear or 25 miles per hour in second.

500-1000 MILES

During this period the speed should not exceed 60 miles per hour.

IMPORTANT

Do not UNDER ANY CONSIDERATION attempt to maintain a high rate of speed unless the crankcase is full of good oil, and until the engine is thoroughly warmed up. Cold oil is not able to flow freely into the small clearances between working parts so that damage may occur if sufficient time is not allowed for warming up before attempting high speeds.



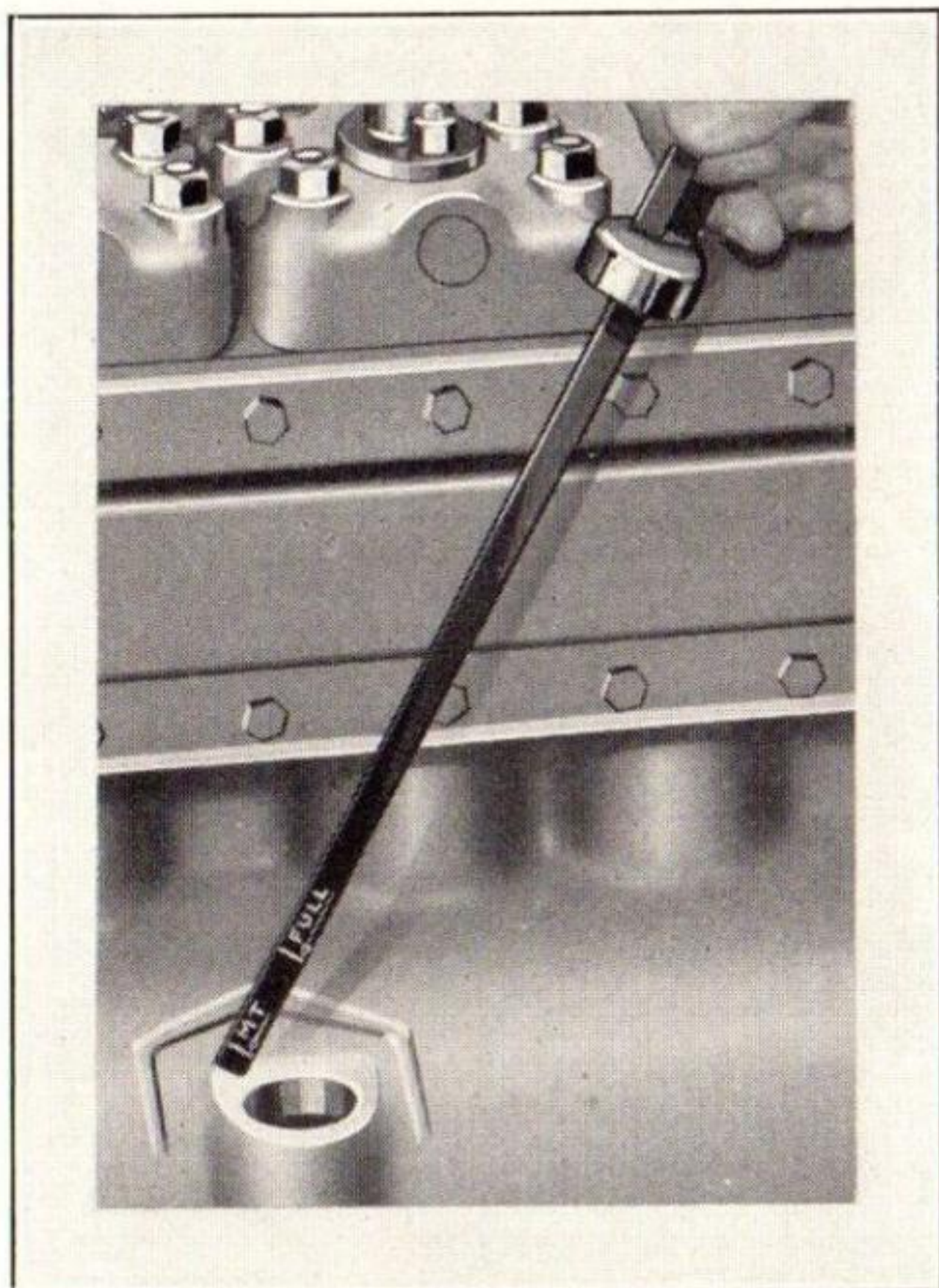
CHASSIS LUBRICATION CHART

Once a week lubricate at all 19 points shown in the illustration. Count them as you go to eliminate chances of missing any.

Lubrication

Engine

Use High-Grade Oil—Medium Heavy Body or S. A. E. 30



Consult your dealer if you are in doubt as to what oil to use.

When the ignition switch is turned "on" the red jewel to the left of the center of the instrument board should flash red. If it does not, the bulb is either burned out, the circuit to the oil relief valve broken or the oil relief plunger sticking.

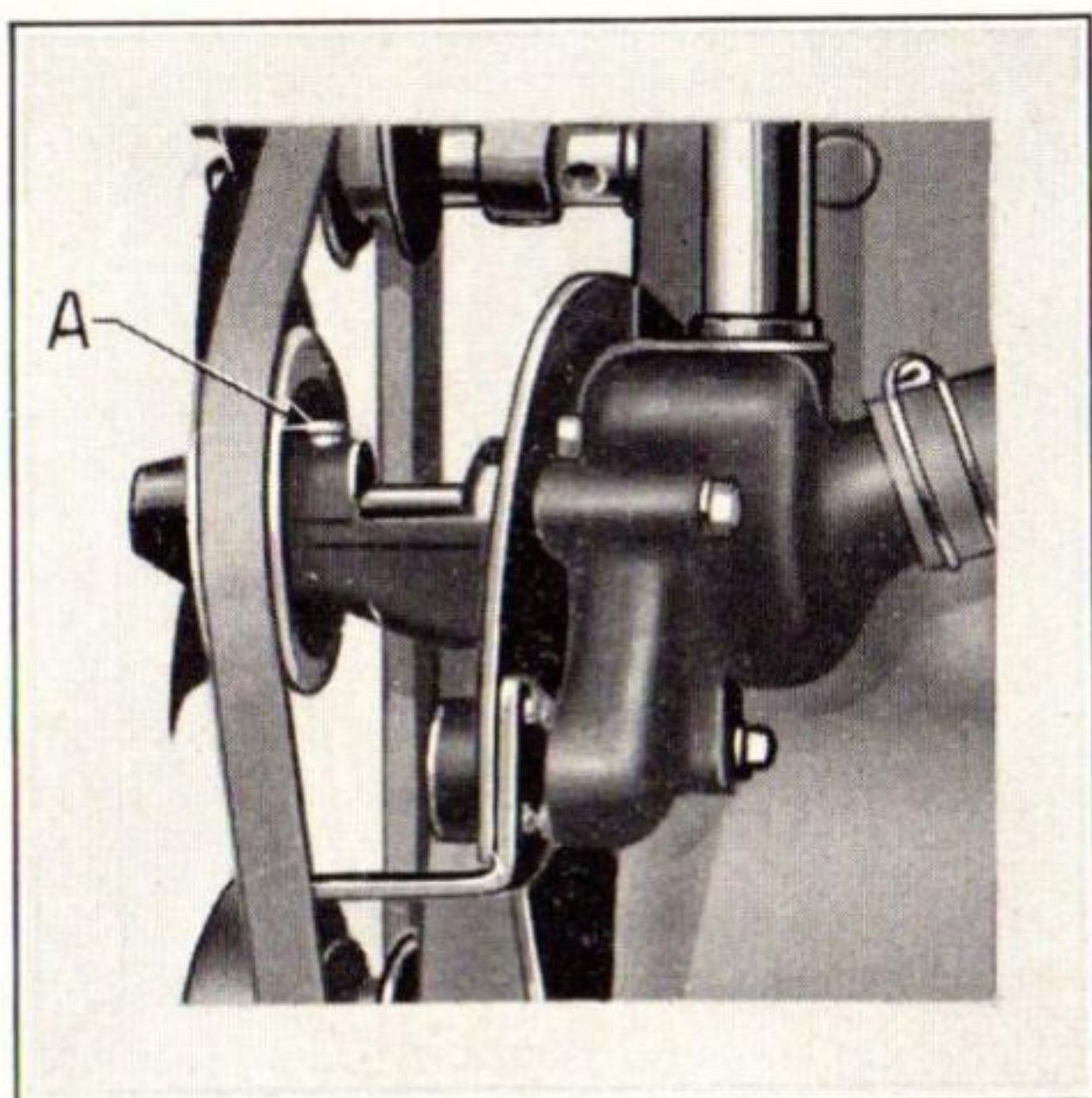
As soon as the engine is running, the light should go out. A flash of the red jewel while the engine is running above idling speed indicates interruption of the oil supply. The engine should be stopped immediately and the lubrication system inspected.

The amount of oil in the reservoir is shown on the gauge on the instrument panel marked "Gas or Oil" when the ignition electrolock is turned "on" (turn to left to read gauges without starting engine) and the button under the instrument panel below the gauge is pressed up.

A bayonet gauge is also provided at the oil filler. See illustration.

The Hudson Duoflo oiling system provides not only purification from dilution but also double screening and cooling of the oil. The oil is therefore maintained in good condition for a longer time than in other lubricating systems. Oil should be added as necessary to maintain the quantity in the reservoir. The reservoir should be drained and refilled with eight (8) quarts of oil at least every 2500 miles.

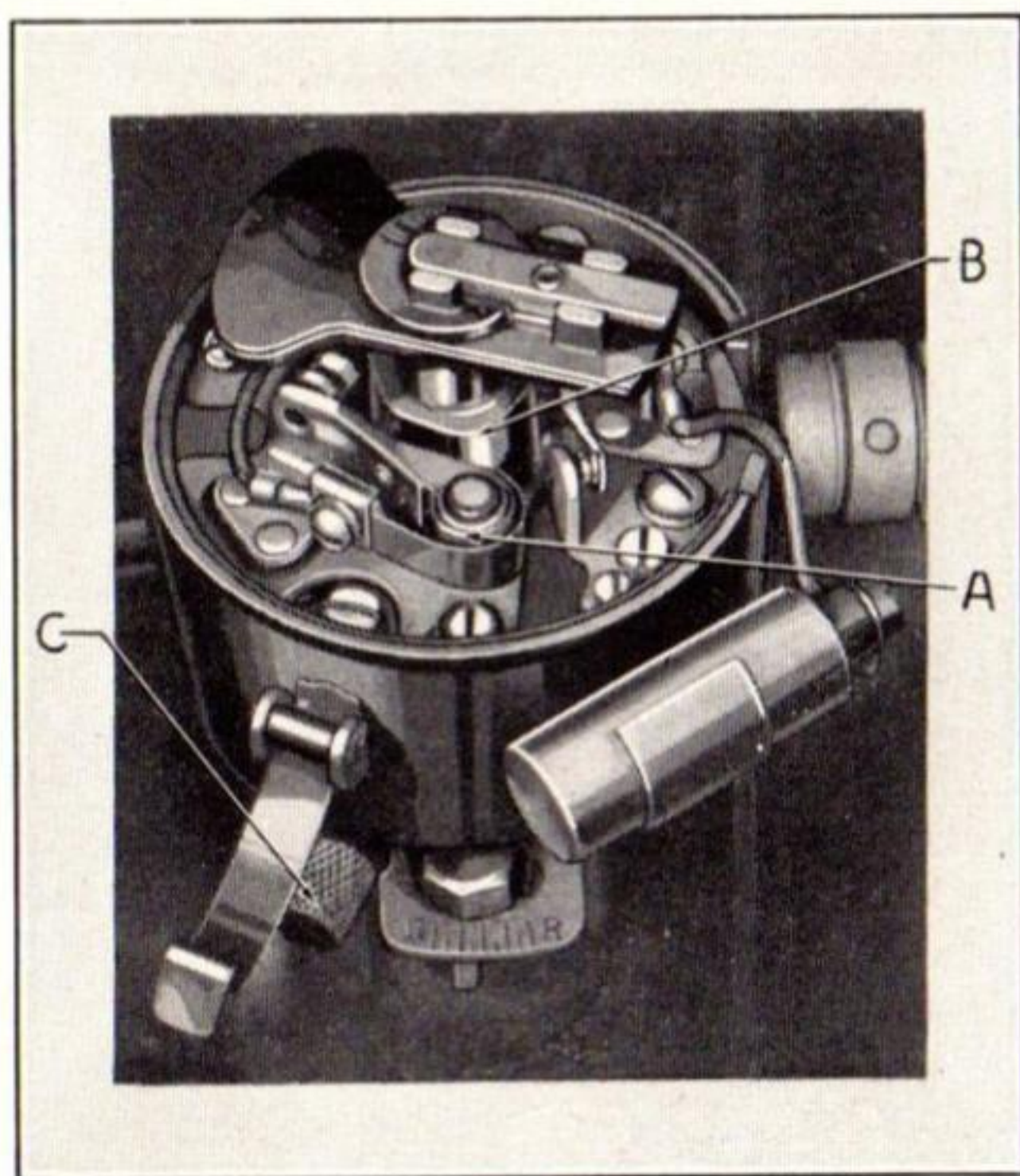
It is, however, recommended to drain the initial supply of oil after the first 500 miles of driving. To drain the reservoir remove the plug from the rear of the oil reservoir. Be sure the drain plug is tightened securely when replaced.



Water Pump

Use Motor Oil

Supply three or four drops of light motor oil in the oil cup "A," shown in the illustration, every 1000 miles. This is the only point on the pump requiring lubrication. Do not over-lubricate, and wipe off excess oil as this may get on the belt and cause slippage on the pump and fan pulleys.



Distributor

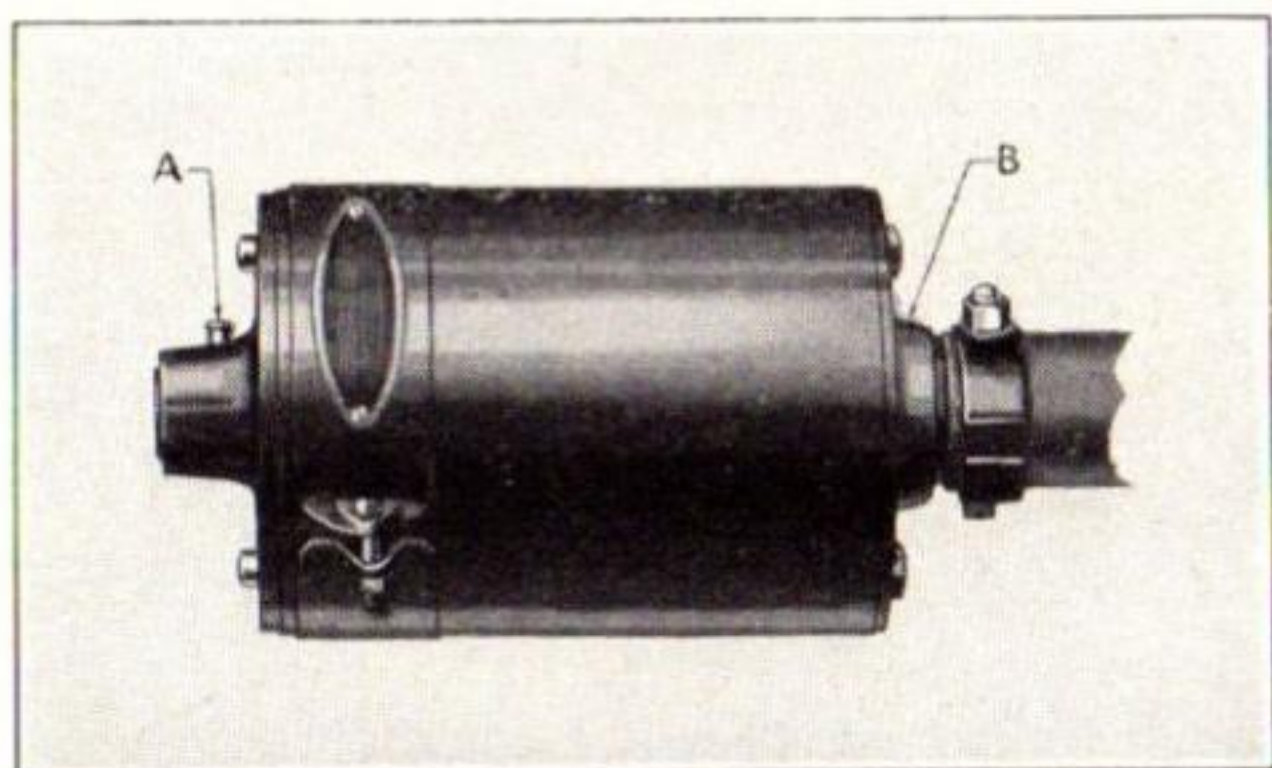
Use Motor Oil

Fill distributor base to the level of the oil cup "C" with motor oil every 2000 miles.

Coat rotor cam "B" lightly with vaseline or light cup grease every 2000 miles.

Apply a drop of oil at breaker arm pivots "A" every 2000 miles. *Note:* One breaker arm pivot not shown in illustration.

Remove the rotor and apply a few drops of oil to wick on top of shaft. Do not overlubricate. Wipe off all excess oil.



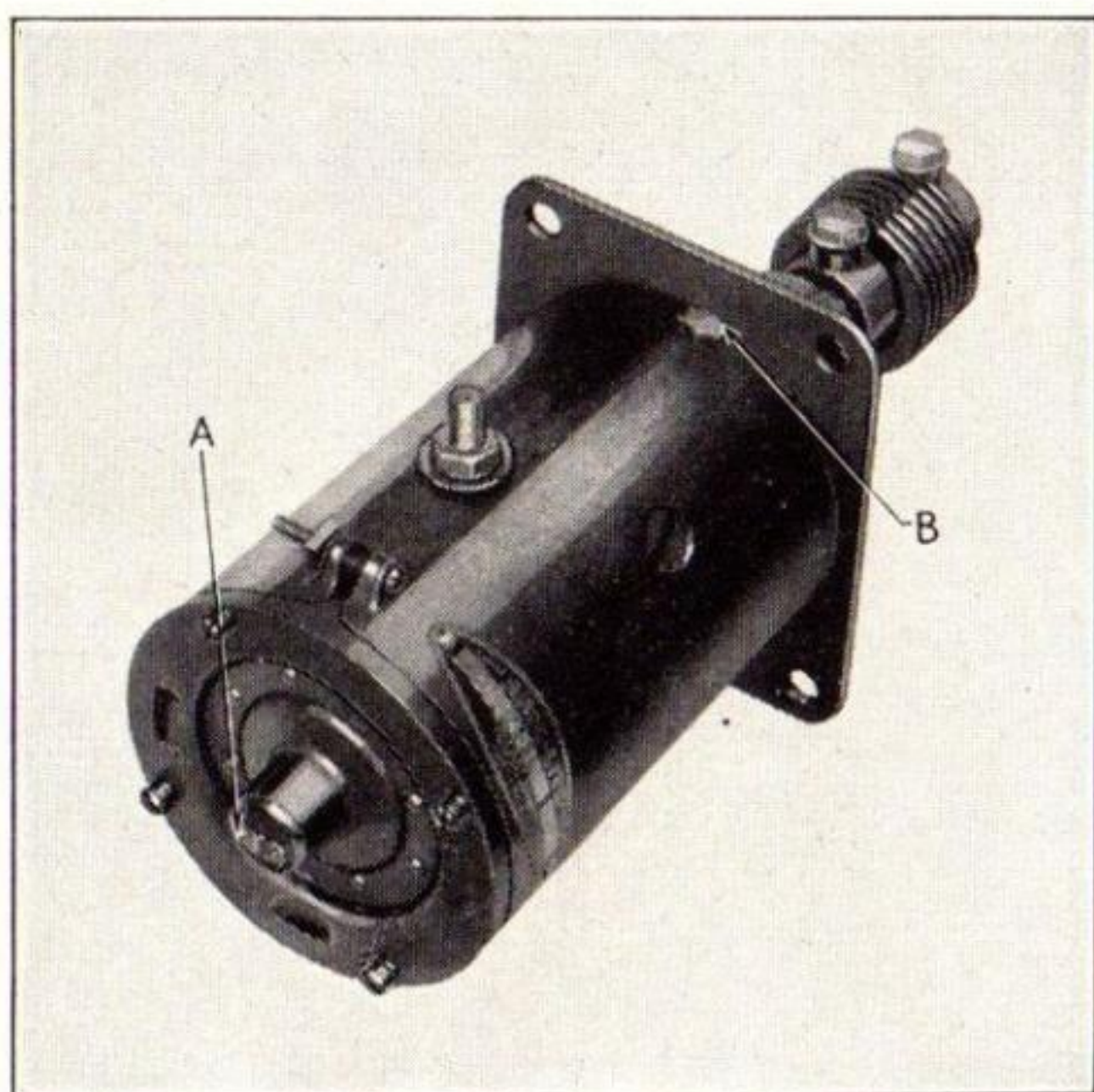
Generator

Use Motor Oil

Three or four drops of light motor oil at points "A" and "B" in the illustration every 1000 miles.

Do not attempt to supply more oil than is required to fill the cups once as excess oil may prevent proper operation of the unit.

Starting Motor

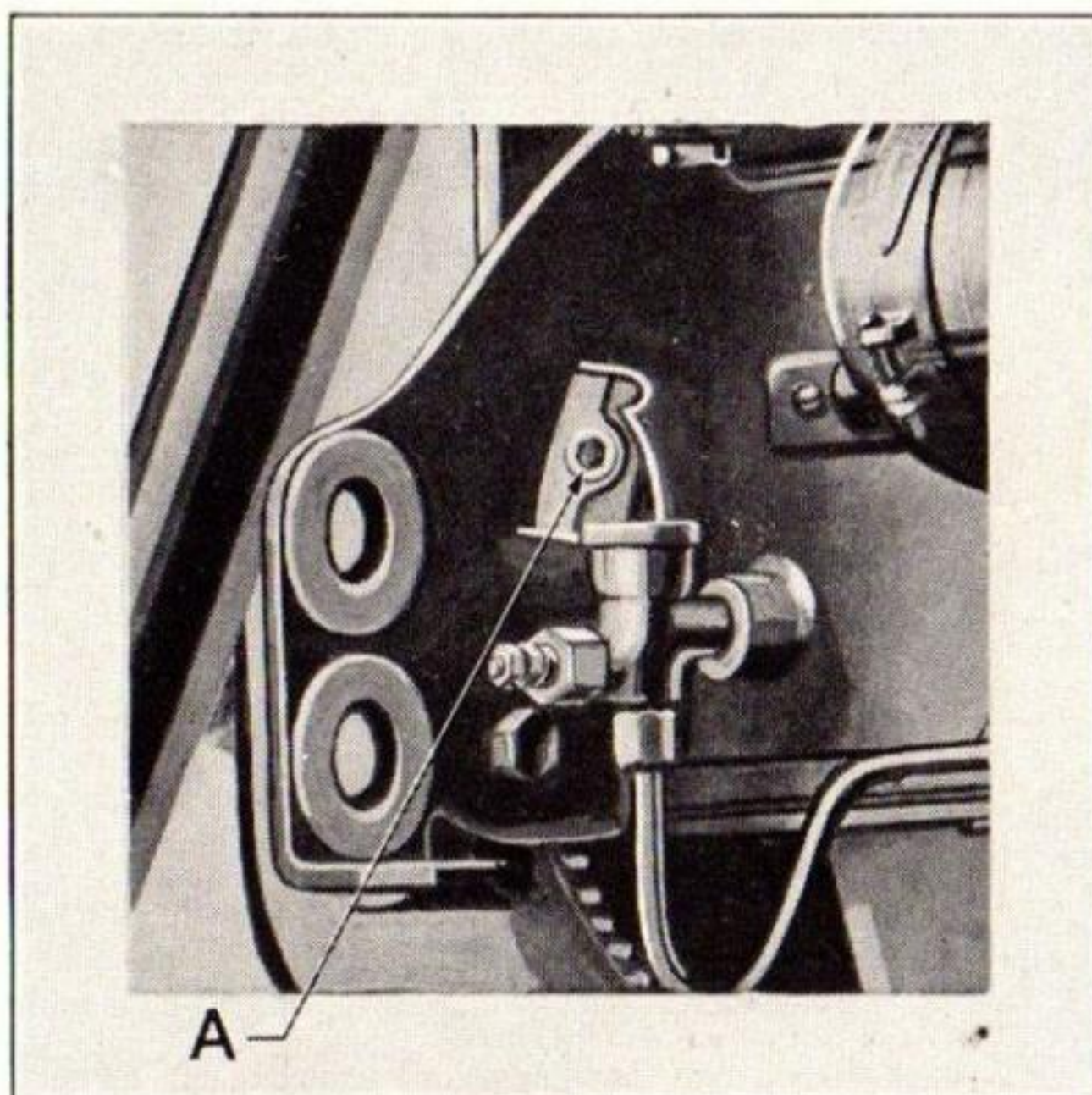


Use Motor Oil

Three or four drops of light motor oil at points "A" and "B" in the illustration every 1000 miles.

The oil cups on the starting motor have been made small to prevent overlubrication, which might find its way to the windings or commutator and eventually cause failure of the unit. Do not attempt to supply more oil than is required to fill the cups once.

Clutch



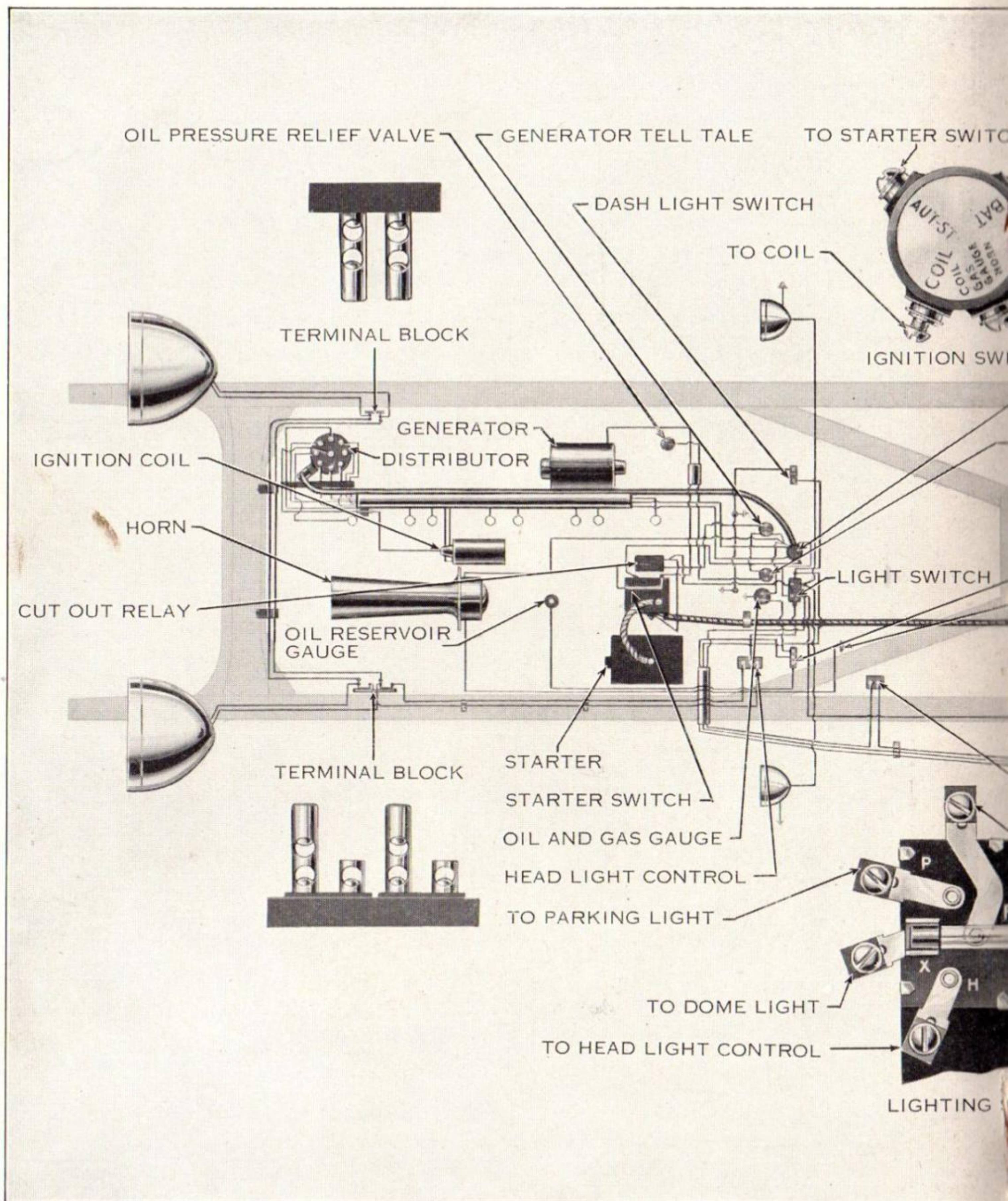
Use 1/6 Pint of Light Motor Oil and 1/6 Pint of Kerosene

The clutch lubricant is sealed into the clutch and supplies the driving surfaces as well as the throwout bearing with oil.

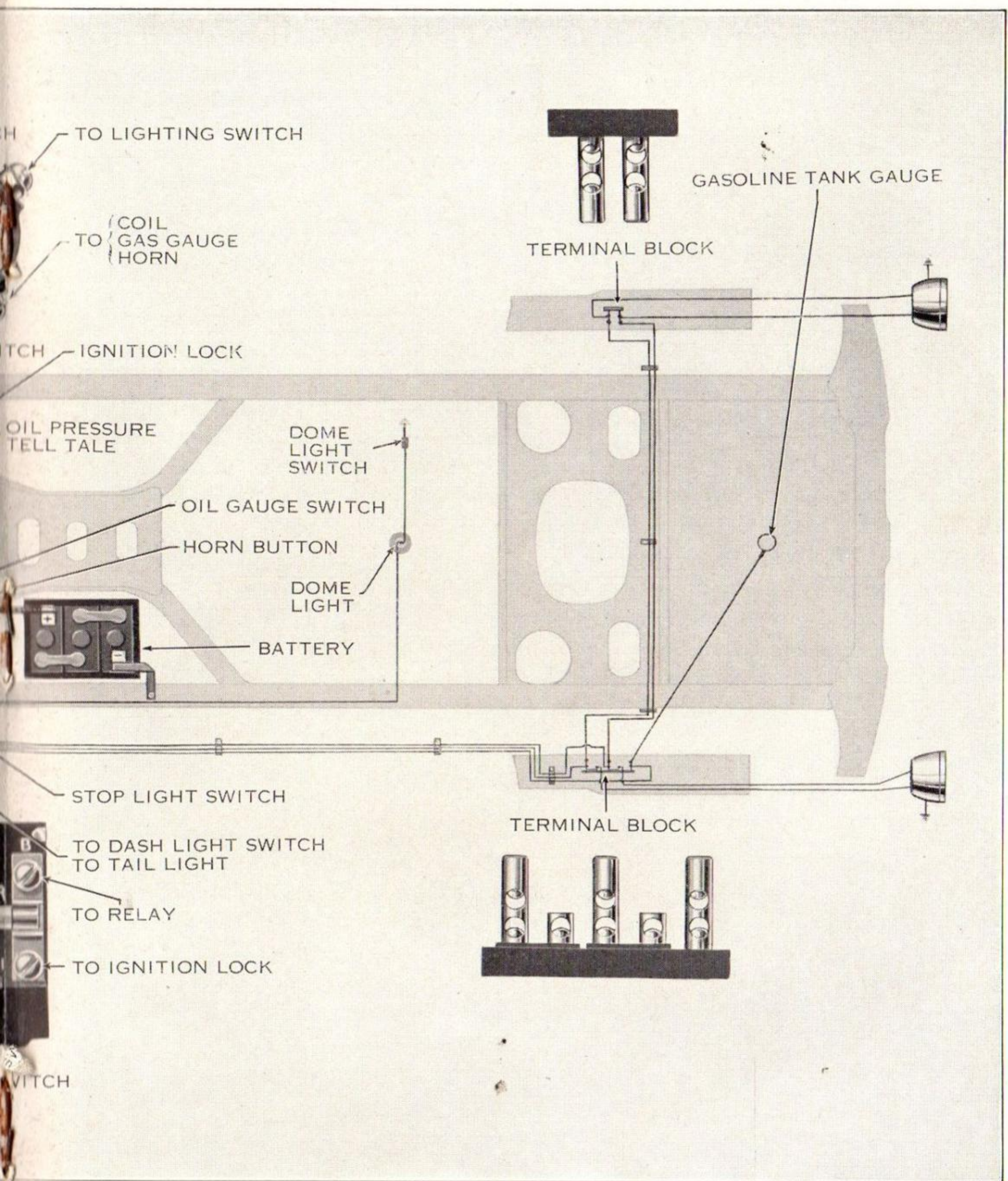
The life of the lubricant is largely dependent on the usage of the clutch. Harsh clutch action indicates the need of fresh oil and the clutch should be promptly inspected by your Hudson dealer if this condition develops. In

any event the oil should be changed at least every 15,000 miles.

To drain the clutch, crank the engine by hand until the oil filler plug "A" on the front side of the flywheel is visible through the timing inspection hole. Remove the plug and turn engine slowly to allow lubricant to drain. Bring plug hole back to opening and insert new lubricant. Replace the drain plug securely.

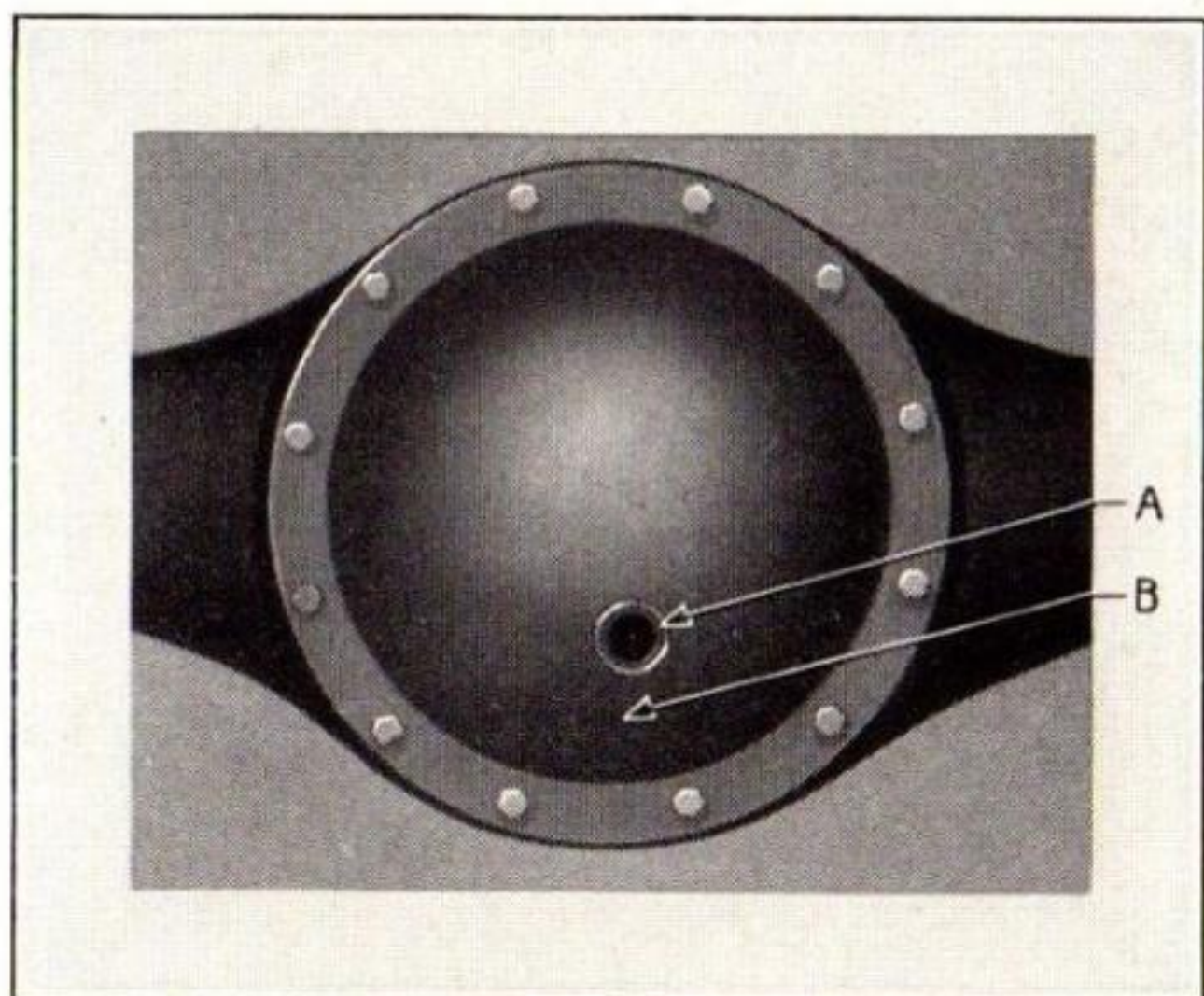


WIRING



DIAGRAM

Rear Axle



Use High-Grade Gear Oil—
Heavy Body or
S. A. E. 110 in Summer—
S. A. E. 90 in Winter

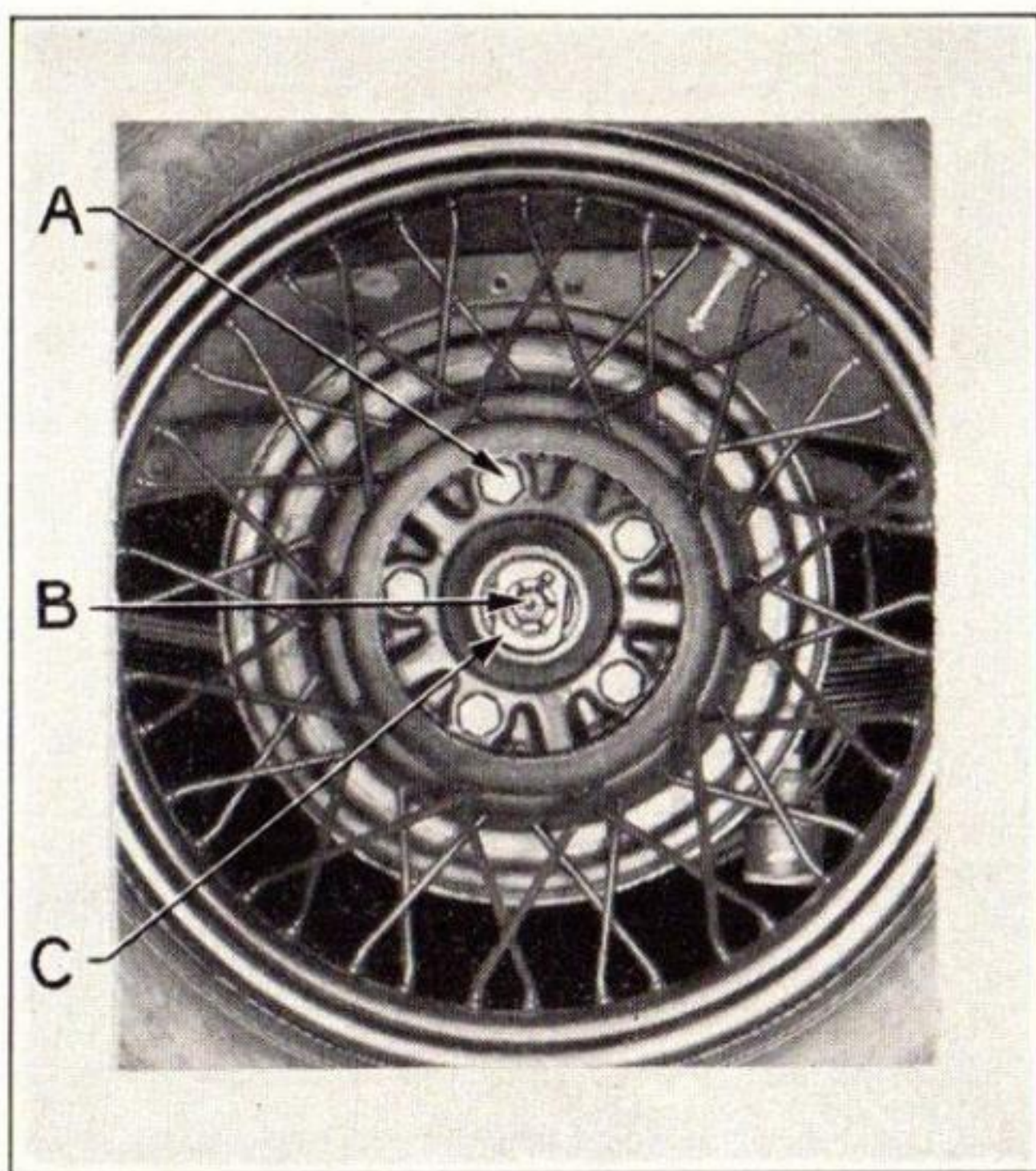
The oil supply in the axle housing should be kept level with the lower edge of the filler plug opening "A."

There are special oil passages and baffles in the differential carrier housing which catch oil thrown from the ring gear and carry it to the pinion bearings and return the overflow to the axle housing. This keeps the pinion bearings under a constant bath of oil and eliminates the necessity of oiling them separately.

Every 5000 miles drain, flush out with kerosene and refill.

Housing may be drained by removing cover "B."

Front Wheel Bearings



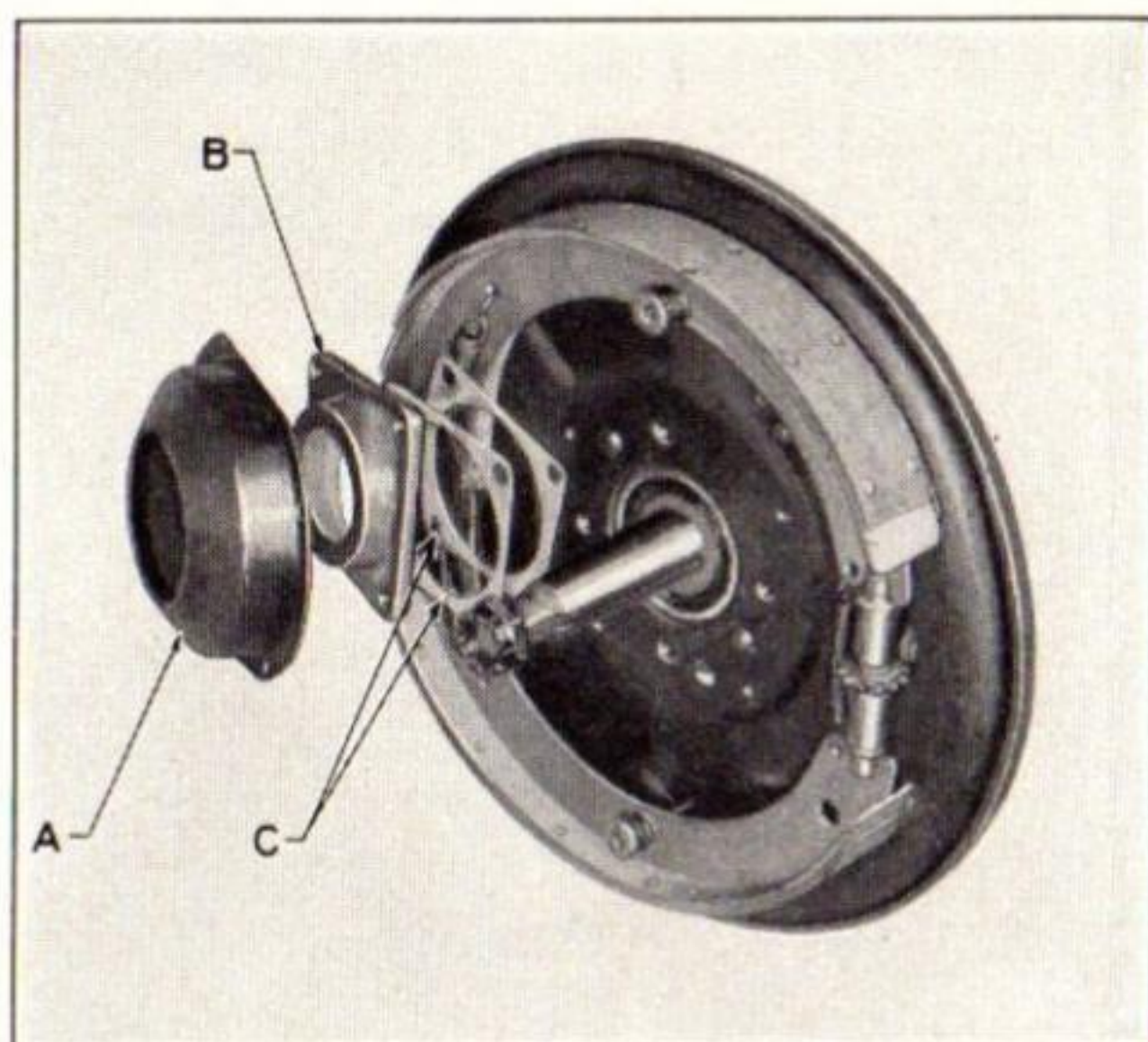
Use Cup Grease

The front wheel bearings should be lubricated every 5000 miles. Jack up the front of the car and remove the wheel from the hub. (See page 31 for method of removing and installing wheels.)

Remove the inside hub cap and withdraw the cotter key holding the nut "B." Unscrew the nut "B" and remove the washer "C." The hub and brake drum can then be removed and the bearing and inside of the hub and drum washed out with kerosene. Pack the bearings and hub with three ounces

of cup grease. Renew the felt washer at the inner end of the hub, if necessary. Replace wheel. (See page 30 for bearing adjustment.)

Rear Wheel Bearings



Use Cup Grease

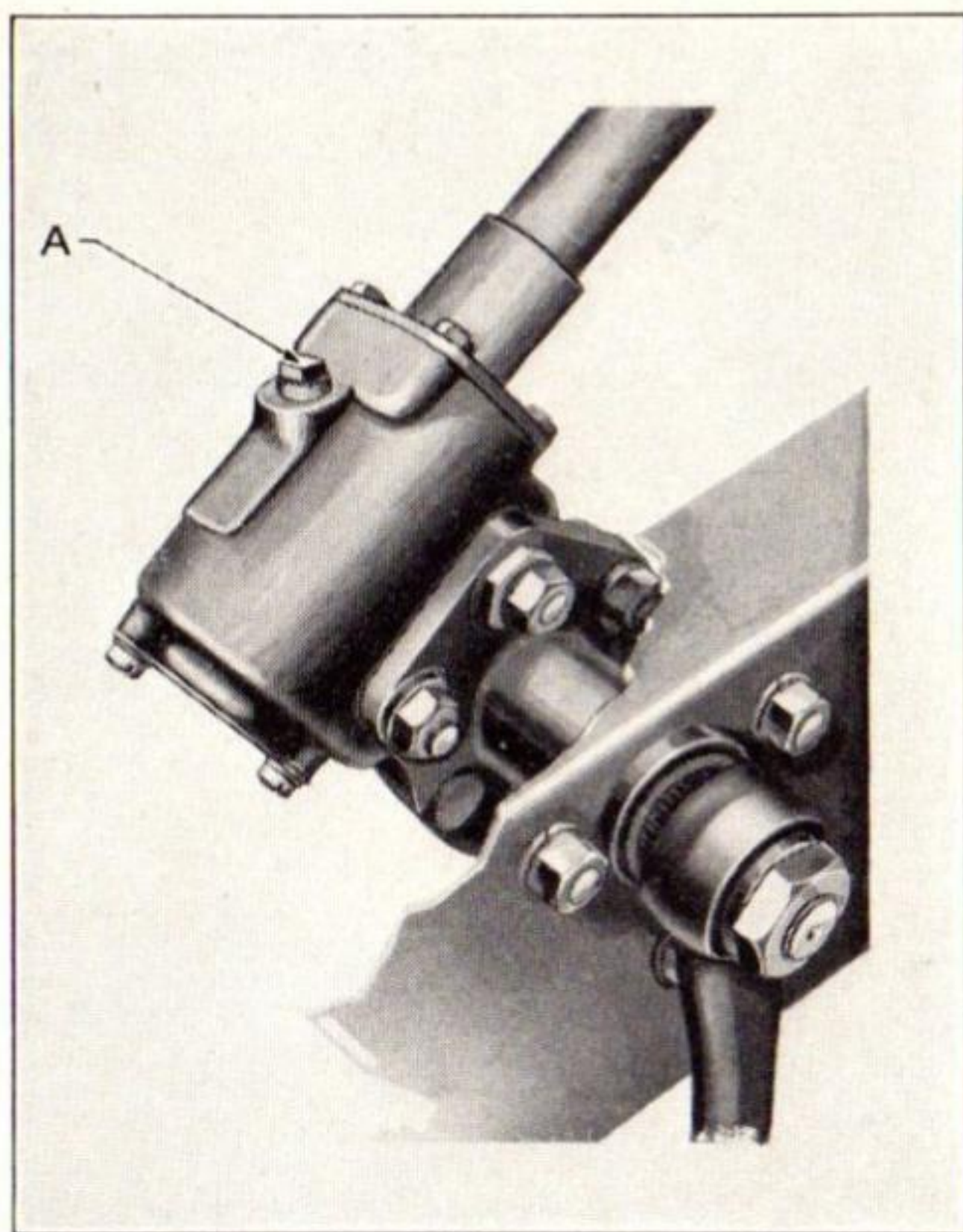
The rear wheel bearings should be lubricated every 5000 miles. Jack up rear of car and remove the wheel from the hub. (See page 31 for method of removing and installing wheels.) Withdraw cotter key and remove nut from end of axle shaft. Pull hub and brake drum off the shaft.

Unscrew four screws holding grease deflector "A" and remove deflector. Remove four screws from bearing cap "B" and remove cap and shims "C." Remove bearing and insert ten (10) ounces of grease in the housing.

Wash the cap and bearing in kerosene and replace bearing after filling with grease. Renew the felt washer in the bearing cap, if necessary. Replace shims and bearing cap. Replace the grease deflector. See that all brake parts and the brake drum are free from grease before replacing the hub and wheel.

Steering Gear

Use High-Grade Gear Oil—Heavy Body



Remove plug "A" and fill the steering gear housing every 2000 miles. The use of a good grade heavy bodied gear oil is necessary to provide free operation under all climatic conditions. (Do not use grease.)

If the steering becomes stiff and complete lubrication of the unit and the attached parts connecting with the front wheels does not correct the condition, follow the instructions on page 29 for adjustment and alignment of the steering gear. Noise in the unit may be due to use of oil of insufficient body. Stiff operation may be experienced in cold weather if poor oil or grease is used.

Miscellaneous

THROTTLE CONTROL RODS AND LEVERS—Oil or grease all accelerator connections. Throttle linkage should work with a snap. Grease choke and throttle wires occasionally to eliminate sticking.

BRAKE CROSS SHAFT—Coat brake cross shaft pivot pins with light cup grease every 1000 miles. Do not allow oil or grease to collect inside of brake drum.

HOOD LEDGE LACINGS—Use motor oil. Saturate with motor oil frequently to remove squeaks and preserve lacing.

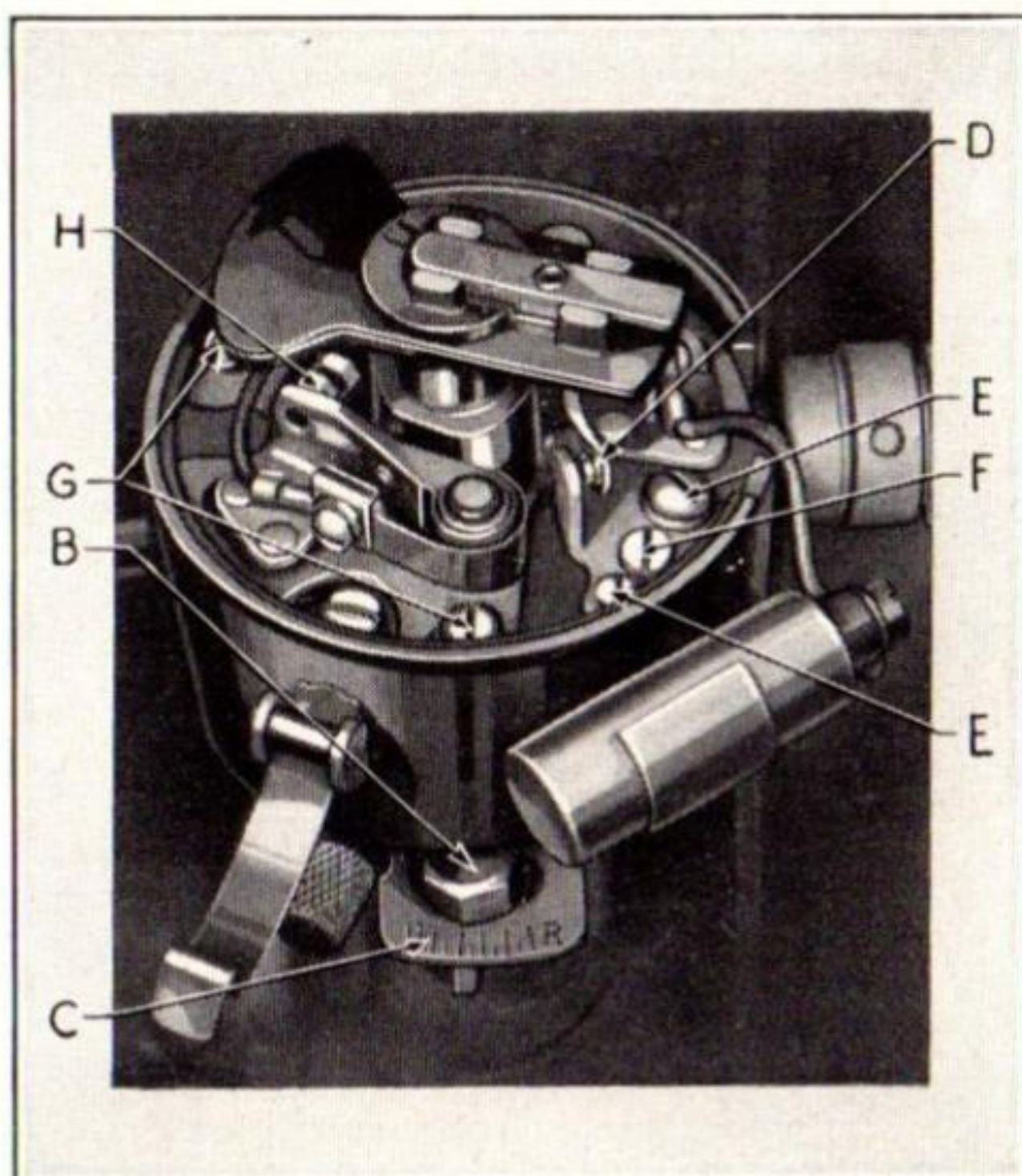
HOOD LOCKS—Use motor oil. Lubricate occasionally by injecting a few drops of oil through hole in the barrel just below the handle.

DOOR LOCKS—Use motor oil. Lubricate occasionally with a few drops of oil on the latch bar. Work lock several times to spread oil, then wipe off excess.

DOOR DOVETAILS—Lubricate with grease or soap. Wipe off excess.

DOOR HINGES—Lubricate with light oil. Wipe off excess.

Adjustment Ignition Timing



Should it be necessary to reset the ignition timing, loosen the distributor adjusting plate lock screw "B." If the adjustment is being made because of sluggish performance, turn the distributor counterclockwise one division of the scale on the locking plate. Tighten screw "B" and try the performance of the car on the road. A slight spark knock should be heard when the car is being accelerated on a level road in high gear at ten to twenty-five miles an hour with the throttle wide open. This gives the best performance and fuel economy.

If a spark knock is not heard, turn the distributor one division counterclockwise as before and test again. If the knock is too loud, turn the distributor clockwise one-half division at a time to reduce the knock until it can just be heard by the driver.

Should the distributor require any other adjustments, the car should be taken to an authorized Hudson or Electric Auto-Lite Service Station. The following instructions are given for use in case of an emergency, but should not be attempted by the owner unless absolutely necessary. The results obtained from these adjustments depend entirely on the accuracy with which they are performed.

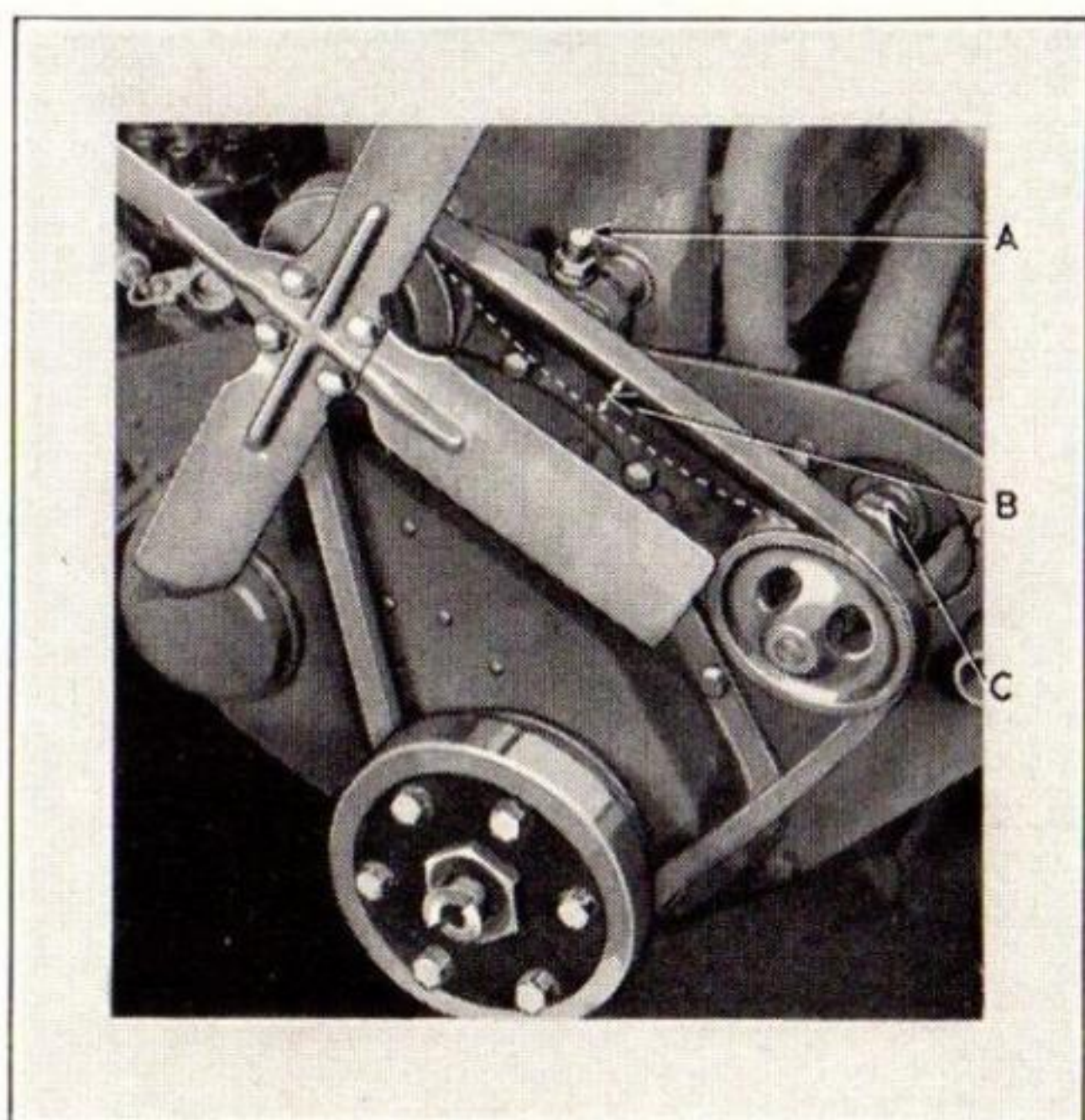
Adjust Distributor Points

Breaker points should be clean, flat and spaced .020" when at their maximum opening.

Remove distributor cap and inspect points and clean if necessary. A special breaker point file or stone should be used. Place file or stone between points and move straight up and down, dressing both points at the same time.

Crank engine by hand until the breaker arm fiber block of points "H" is on the highest point of the cam, giving the points their maximum opening. Adjust the opening to exactly .020" by loosening the lock nut and turning the adjusting screw on which the stationary point is mounted. Tighten lock nut.

Fan and Water Pump

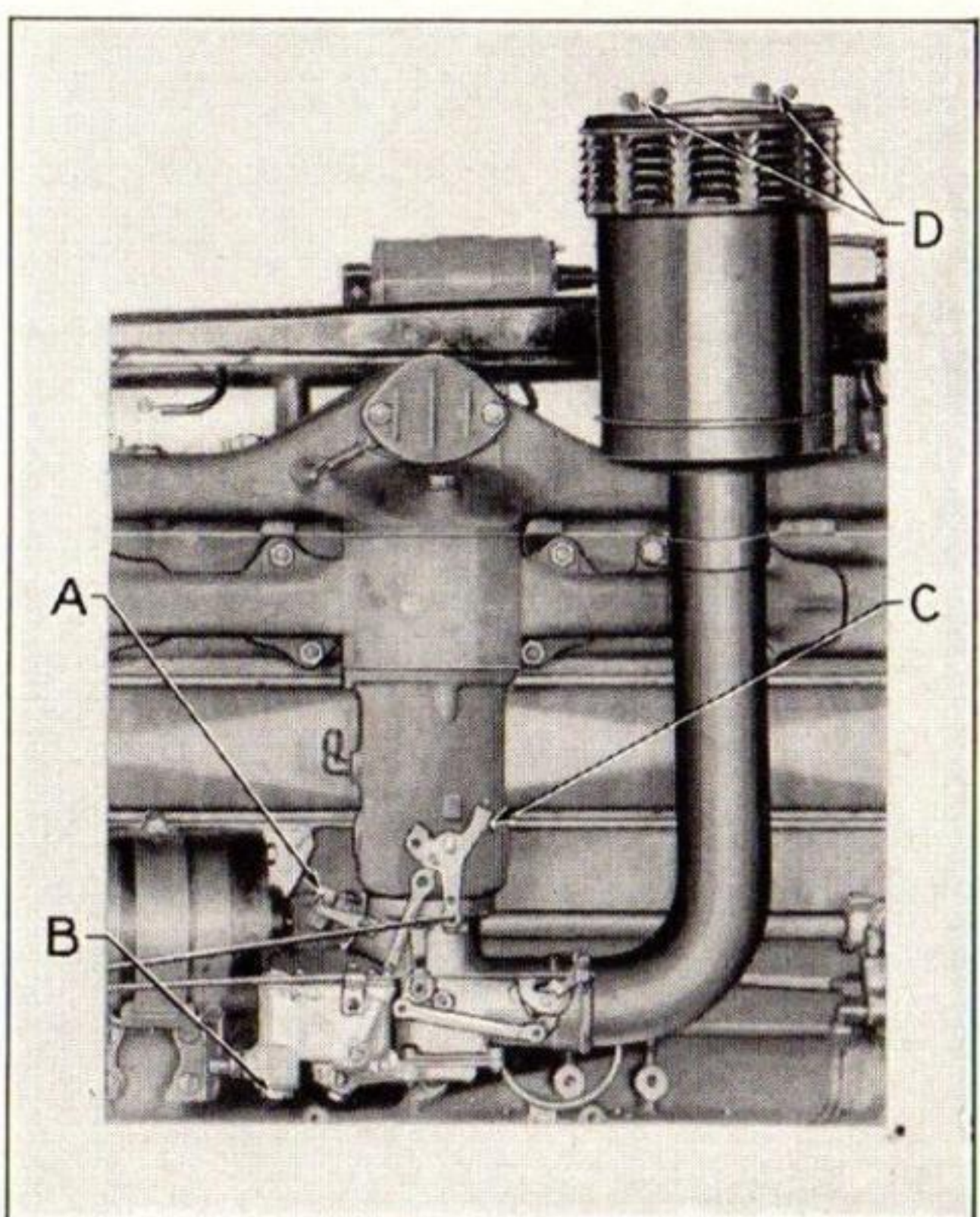


To adjust the belt, loosen the nut "A" and raise the fan until the belt can be deflected $\frac{5}{8}$ " below a straight-edge laid on the fan and pump pulleys. This measurement of deflection is indicated in the illustration at "B."

Do not adjust the belt too tight as it will throw an excessive load on the fan and pump bearings.

Adjust the water pump packing gland "C" finger tight. Do not tighten with a wrench as the packing may bind the shaft and throw a heavy load on the belt.

Carburetor



Spark plugs and breaker points should be cleaned, spark gaps properly spaced and all residue in gasoline passages removed before adjusting the carburetor.

See page 28 for removal of vacuum tank filter to stop flow of gasoline while cleaning carburetor.

Clean carburetor filter screen "B."

Adjust set screw "C" for correct idling speed of seven miles per hour.

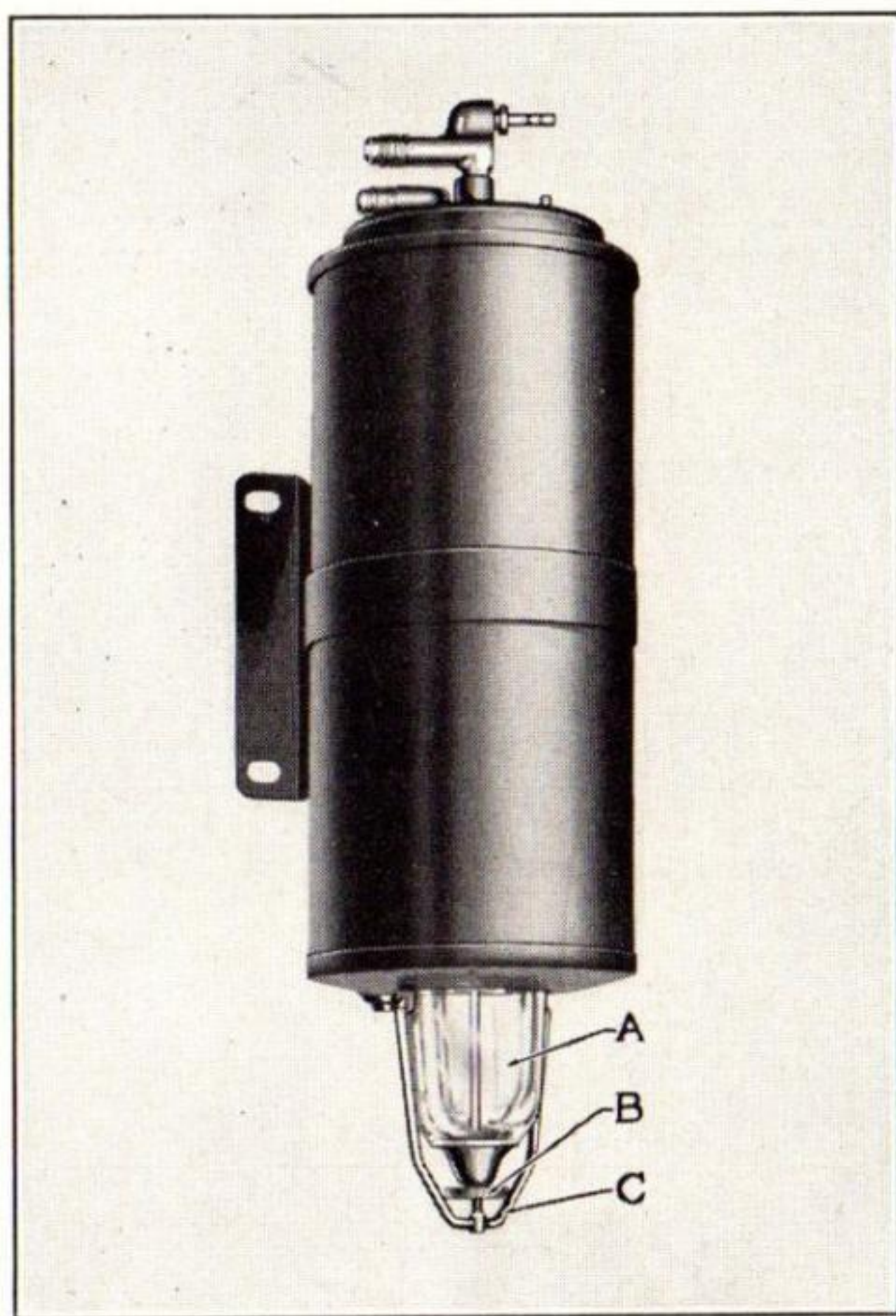
Turn air screw "A" until the end is flush with the end of the ratchet spring bearing against it. This is the normal mixture adjustment and the final setting should be within $\frac{1}{2}$ turn of this point. Warm engine to proper operating temperature. Turn air screw counterclockwise until the engine hesitates, then clockwise one notch

at a time until the engine runs smoothly.

The heat supplied to the carburetor from the exhaust is automatically controlled by a thermostat and requires no adjustment.

The air cleaner unit should be cleaned every 2500 miles, except under extremely dusty operating conditions when the cleaning should be more frequent. The unit can be lifted off the carburetor silencer after removing the thumbscrews "D." Wash in gasoline and then soak with motor oil. Drain off excess oil and replace.

Vacuum Tank

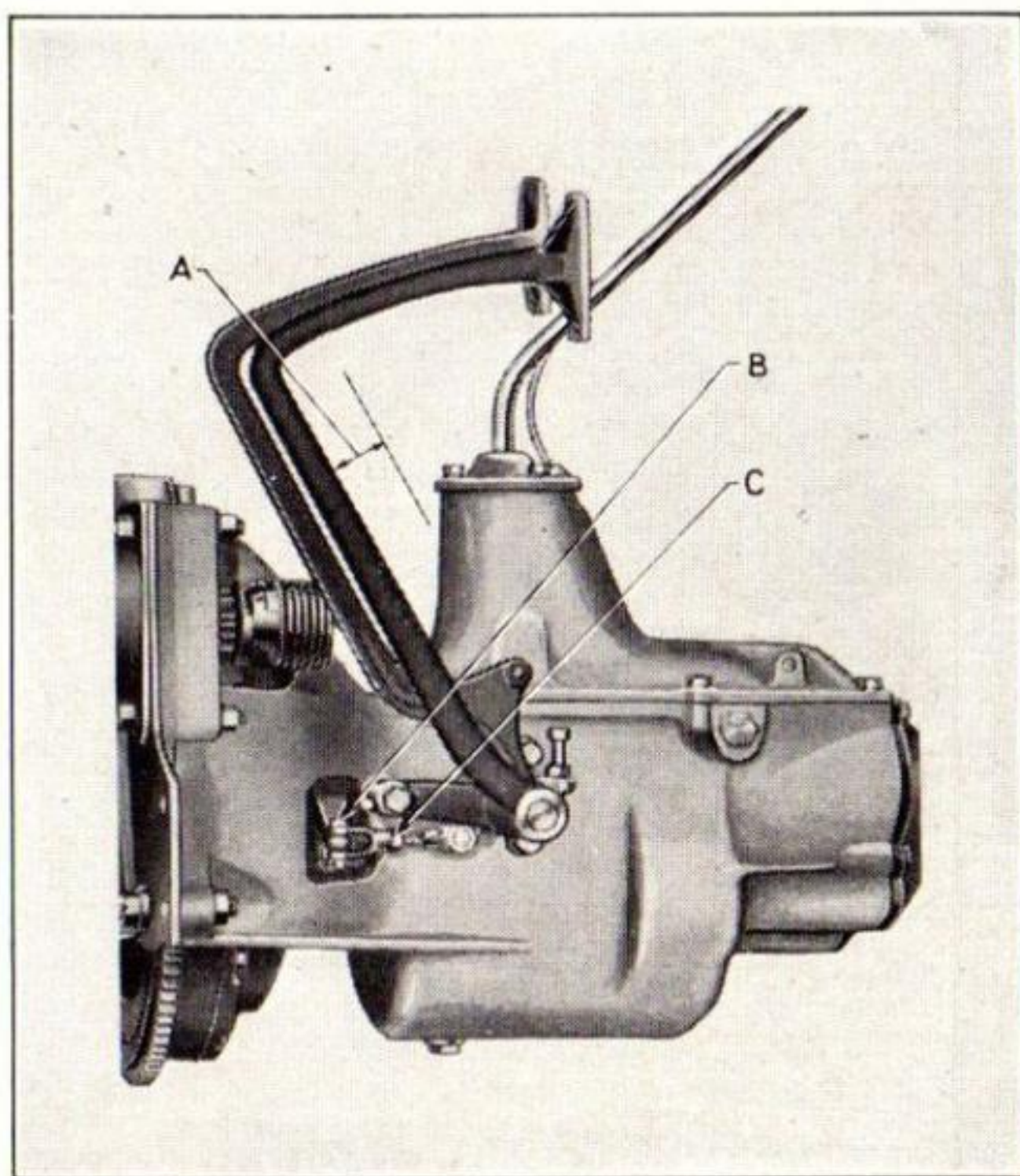


The glass sediment chamber at the bottom of the vacuum tank should be removed and cleaned whenever its contents show an accumulation of water or dirt. The water, due to the fact that it is heavier than gasoline, settles to the bottom of the glass and is easily distinguished.

The flow of gasoline is automatically shut off as soon as the glass is removed, so that it is only necessary to hold the glass "A" in one hand, loosen the thumbscrew "B," and swing the bracket "C" to one side to empty the glass.

The removal of the sediment chamber also acts as a cut-off so that the carburetor feed line can be removed without loss of gasoline from the vacuum tank.

Clutch Pedal Adjustment



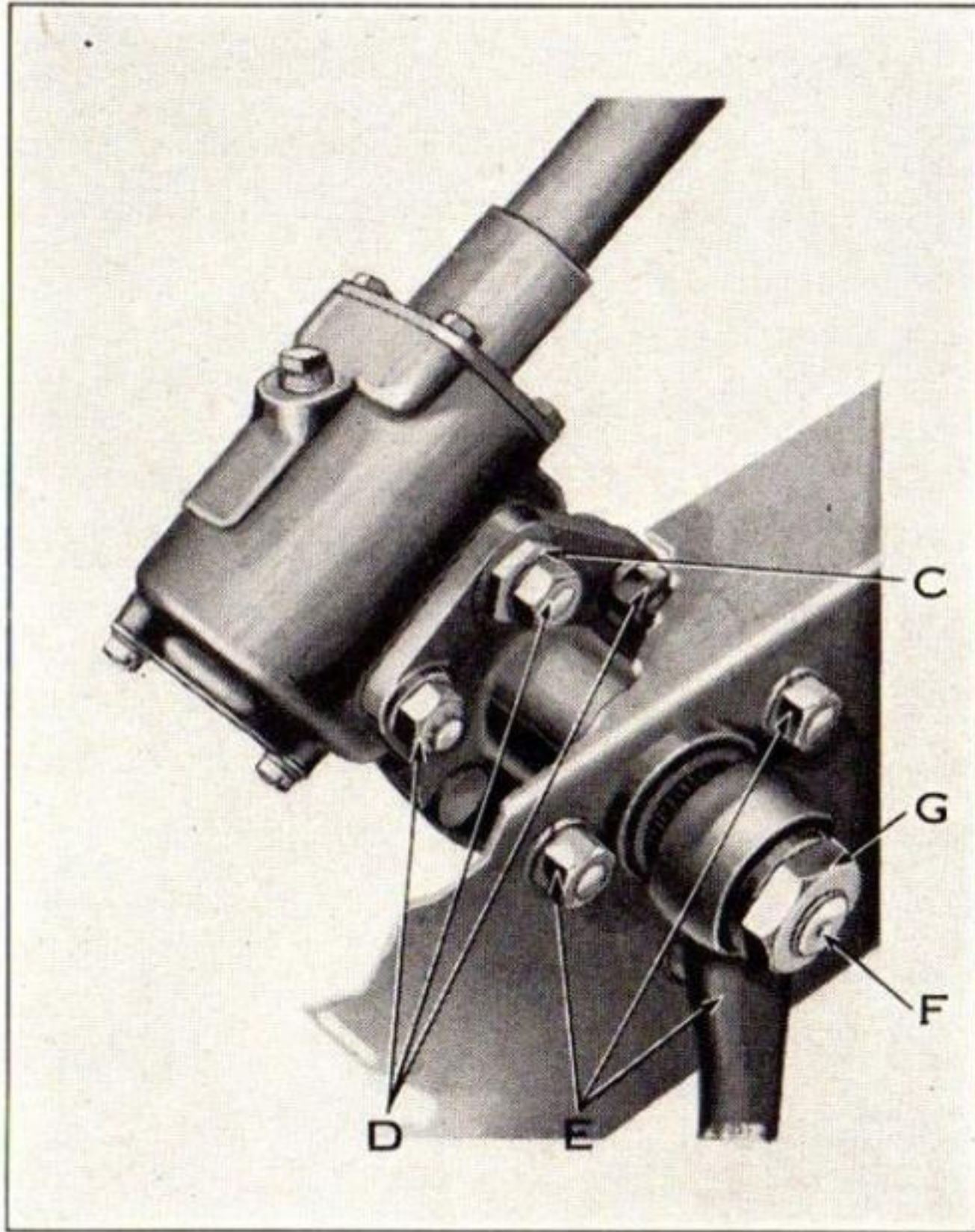
A clearance of $\frac{3}{4}$ " must be maintained between the clutch pedal shank and the toe board, as shown in the illustration at "A."

This adjustment should be made accurately as too much clearance will reduce the pedal movement and may prevent complete clutch disengagement, causing hard shifting. Too little clearance may, after slight wear of the clutch disc facing, permit the clutch pedal to rest against the toe board and hold the clutch in partial disengagement. This will cause slippage and rapid wear.

To adjust, remove the clevis pin "B" and loosen the lock nut "C."

Turn the yoke on the link to obtain proper length. Lengthening the link increases the clearance between the clutch pedal shank and the toe board, while shortening the link reduces it.

Steering Gear



The bearings on the steering gear worm shaft are preloaded by the pressure of a spring located between the outer race of the upper bearing and cover plate. This spring pressure prevents development of end play in the worm, so that no adjustment is necessary to take care of normal wear.

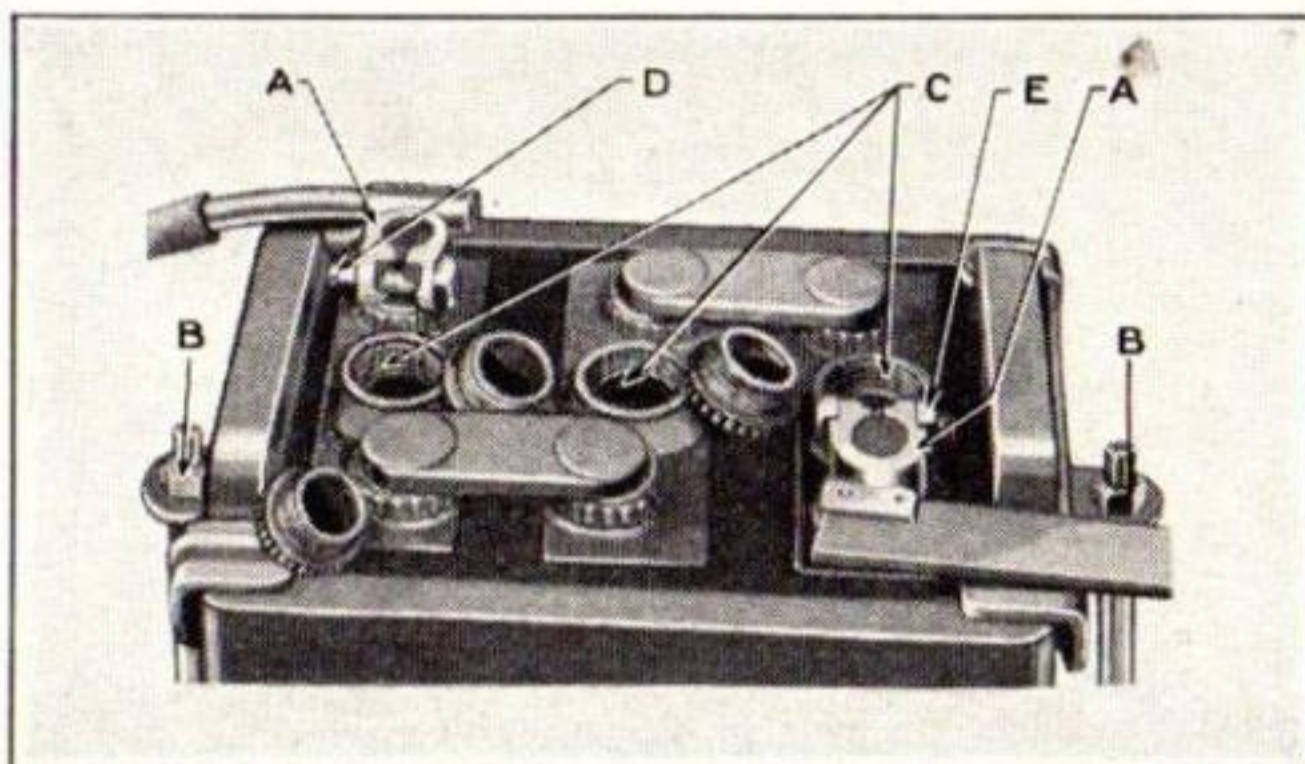
To remove side play in cross shaft: The adjustment for cross shaft "F" is on the opposite end to that shown in the illustration. Loosen the lock nut and with a screwdriver turn the adjusting screw down as tightly as possible, then back up slightly. Tighten lock nut.

To remove play in mesh of worm and cross shaft sector: Locate wheels in straight-ahead position, disconnect drag link from steering arm and shake arm to determine the amount of play. Loosen four stud nuts "D" ($\frac{1}{4}$ turn only). Turn eccentric sleeve "C" to right or clockwise direction only in gradual stages, noting result by shaking steering arm at each step and using care at last stage to turn sleeve just sufficiently to remove play and no further. Securely tighten cover stud nuts "D."

To change position of steering wheel to suit requirements of driver: It is necessary to loosen frame bracket stud nuts "E," as well as cowl bracket nut under cowl, then set steering wheel at desired position.

Keep the steering column to dash clamp bolt, the cross shaft nut "G" and the frame stud nuts "E" tight.

Battery

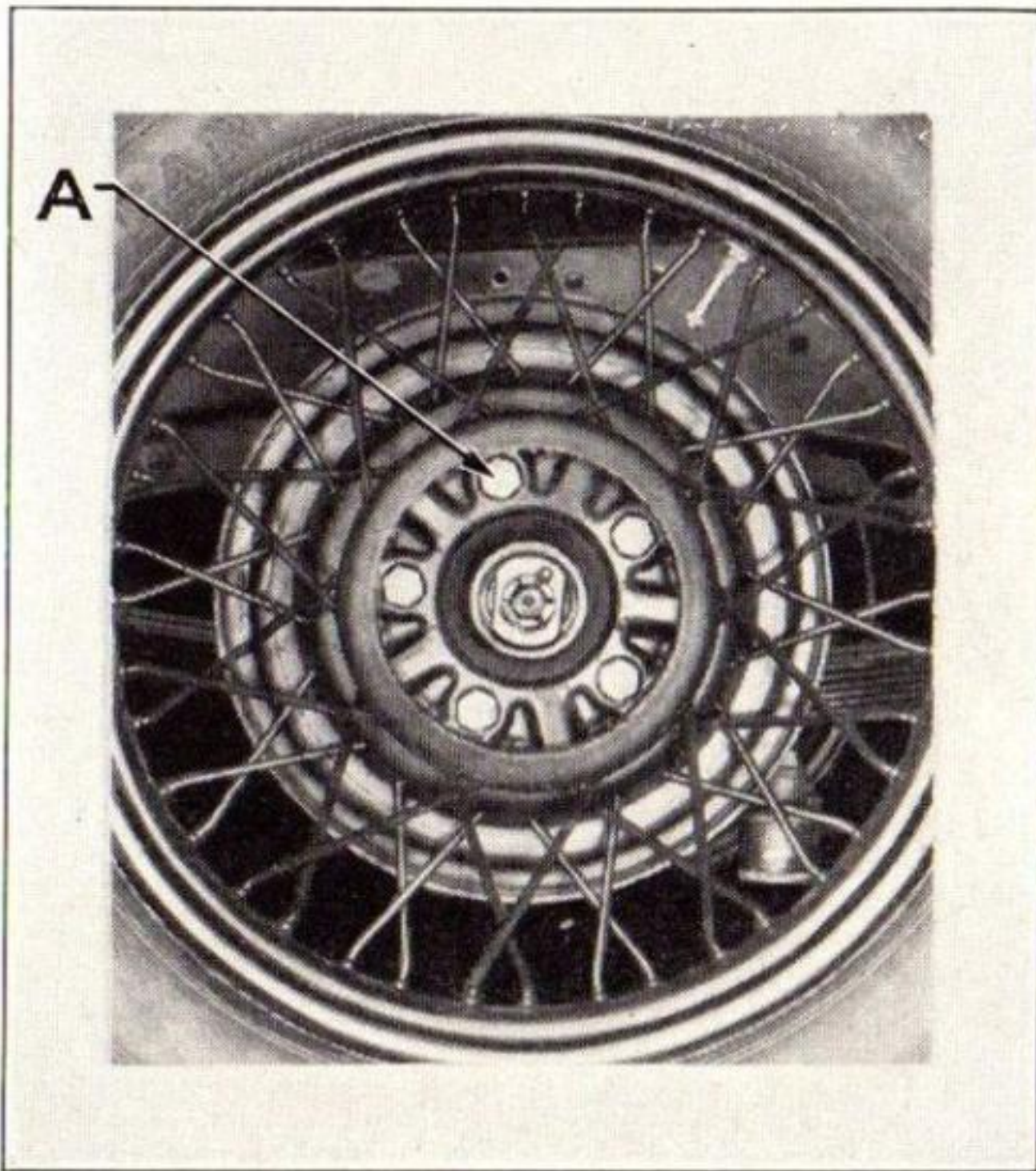


Periodically disconnect terminals "A" from the battery. Clean thoroughly, coat with vaseline, replace and tighten securely.

Battery must be kept securely fastened in tray. Tighten at "B."

Inspect battery liquid at least every two weeks in warm weather (required less frequently in cooler weather) and add distilled water at openings "C" to cover plates if necessary.

Removal and Installation of Wheels



To remove either the demountable wood or wire wheels, place a screwdriver behind the hub cap and pry off. Loosen the five cap screws "A" with the socket wrench provided in the tool kit. Remove the cap screw "A" which is at the lowest position on the wheel and insert the handle of the wrench through the screw hole in the wheel into the hub. While holding the wheel in position with the wrench, remove the other cap screws "A" and lift off the wheel.

When reinstalling the wheel, jack up the car so that there is just sufficient clearance for the wheel to slide onto the hub. Place the handle of the wrench through the lower cap screw hole in the wheel and the drum. Lift

up on the wrench so that the wheel will clear the ground and push the wheel in place. Align the screw holes by moving the wrench back and forth. While holding the wheel in place with the wrench, start at least two of the cap screws. Remove the wrench and start the remainder of the screws.

Tighten every other cap screw until all are down just enough to hold the wheel in place to be sure it is square on the hub. Tighten every other cap screw, continuing around until all screws are securely tightened.

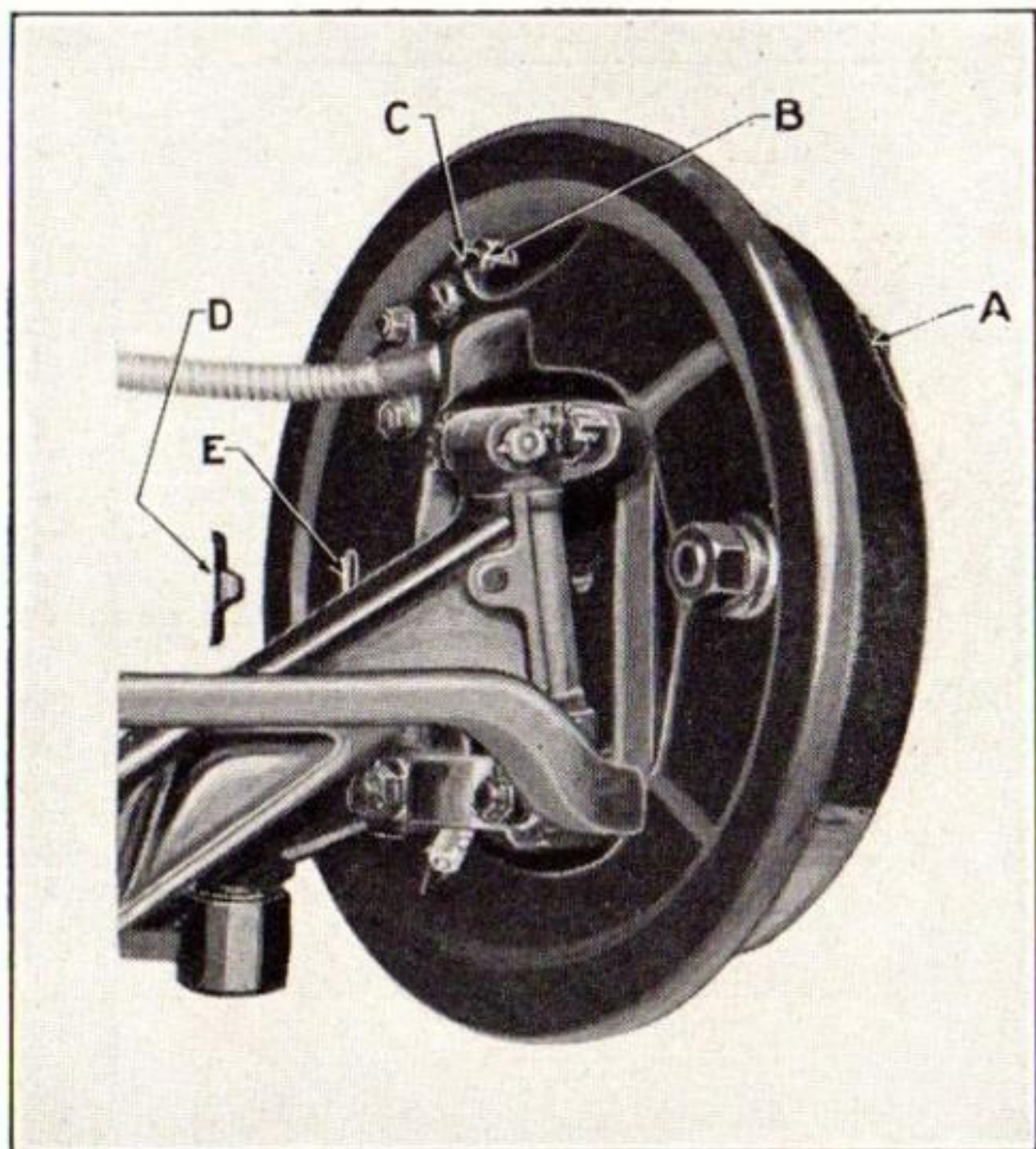
Tires

Check tires once a week and keep inflated to 32 pounds pressure. For fast driving inflate tires to 40 pounds. Be sure front tire pressures are equalized.

To remove the tires from the wheels, let all air out of the tube. Push valve stem up into tire. Starting at the valve stem press the beads of the tire together and into the base of the rim for about one foot in each direction. Insert an iron under both beads directly opposite the valve and force the tire over the rim. The tire can then be lifted off.

To install a tire, inflate the tube until it is barely round and place it in the casing with the valve stem in line with the red dot on the side wall of the casing to preserve the tire balance. Press the beads of the tire together at the valve stem and place tire on wheel so that the beads go to the bottom of the rim well and the valve stem enters the hole in the rim. Working both ways from the valve stem, press the beads together and down into the rim well until the portion of the tire opposite the valve can be forced over the rim. Raise tire up and allow beads to spread until the tire is centered on the rim. Inflate tube to five pounds pressure and work tire back and forth to insure proper seating of tire on rim. Inflate to proper operating pressure.

Brakes



When the brake pedal travels to within $1\frac{1}{2}$ " of the toe board, the brakes should be adjusted as follows:

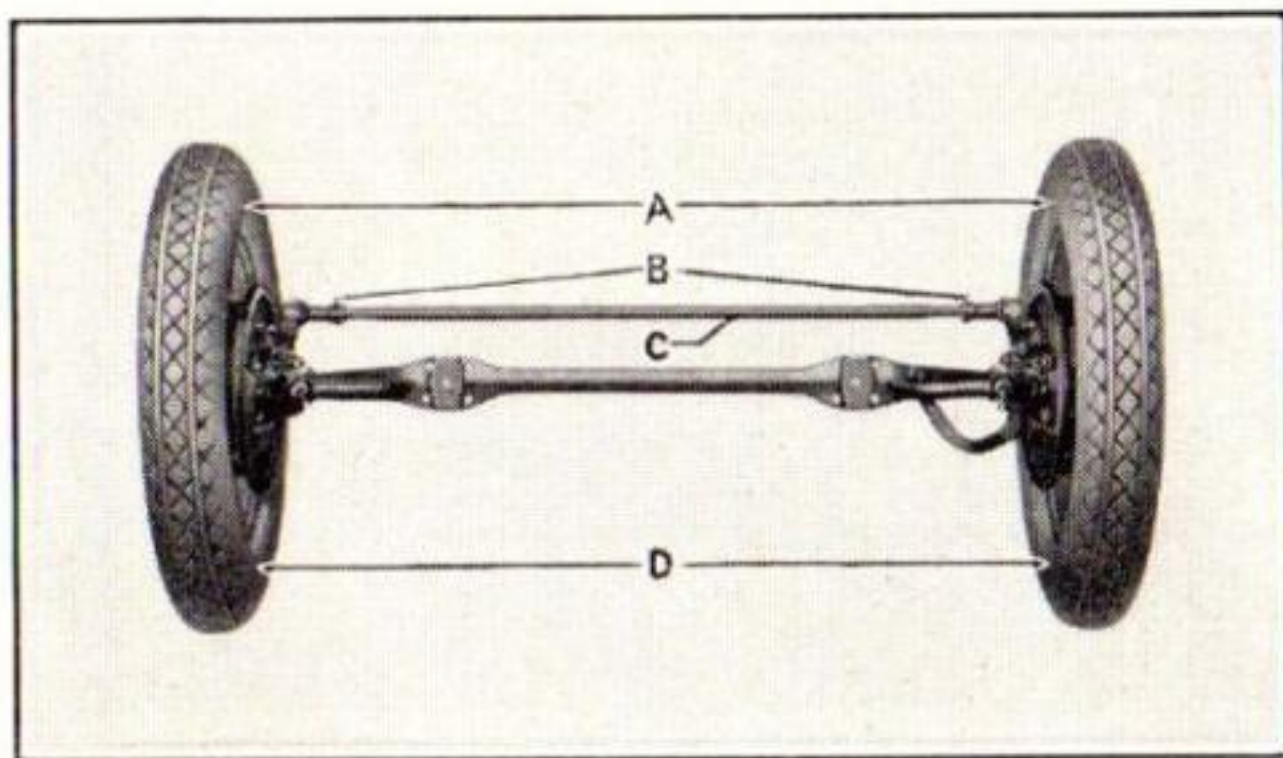
Jack up all four wheels and remove the inspection cover "A" from the brake drum. Turn the brake drum as necessary and insert a .014" feeler between the drum and the lining $1\frac{1}{2}$ " from the adjusting screw end (rear of front brakes—front of rear brakes) of the lining of the upper shoe.

Loosen the eccentric lock nut "B" and turn the eccentric "C" in the direction the wheel rotates when the

car is moving forward until the feeler is held snugly.

Adjust all four wheels as outlined above. Depress the brake pedal to within $3\frac{1}{2}$ " of the toe board. Try the braking effect by pulling each wheel over by hand. If the braking effect is unequal, or insufficient, adjust by removing the adjusting hole cover "D" and inserting adjusting tool or screwdriver in hole "E" and engaging adjusting screw ratchet. Move hand end of tool toward the axle to increase, and away from axle to decrease, braking effect.

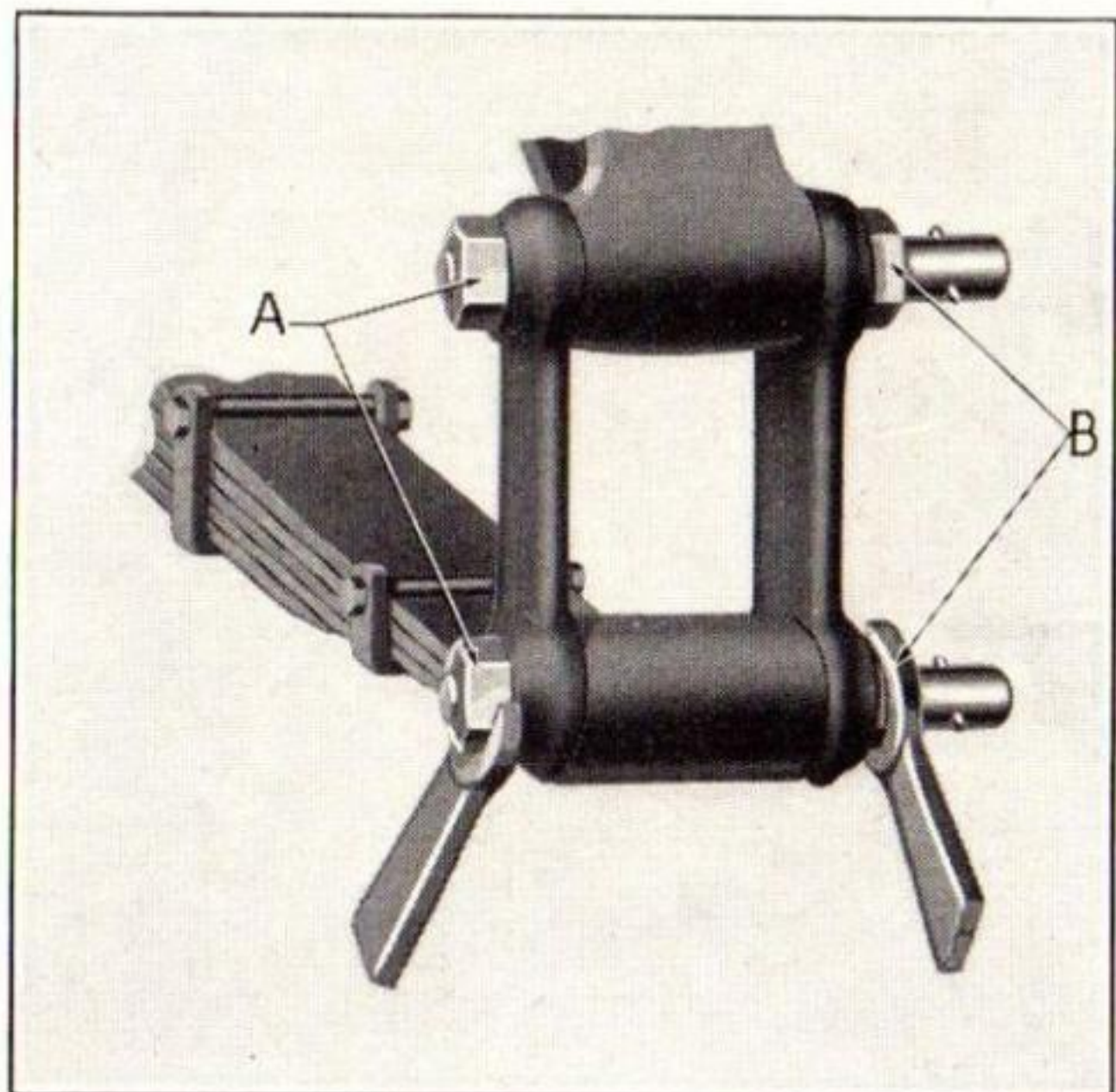
Front Wheel Alignment



Measure the distances "A" and "D" as shown in the illustration. The distance "A" should be the same as "D" or not over $\frac{1}{8}$ " longer—never shorter.

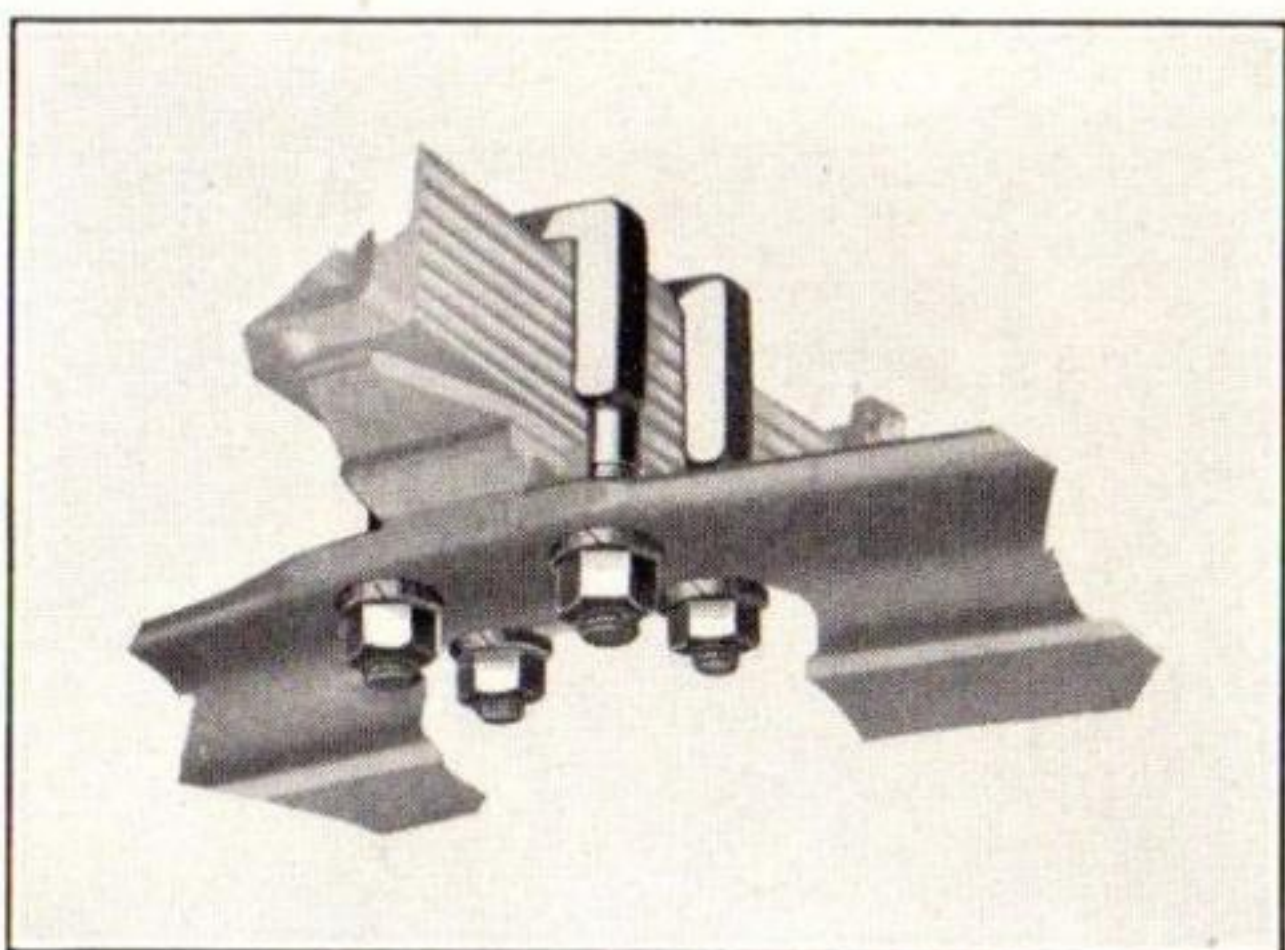
A special tool should be used for this purpose and the measurement taken between the rims at a height about even with the hubs. Loosen clamp bolts "B" and turn tie rod "C" clockwise as viewed from the right to increase "A" and counterclockwise to decrease "A."

Spring Mountings



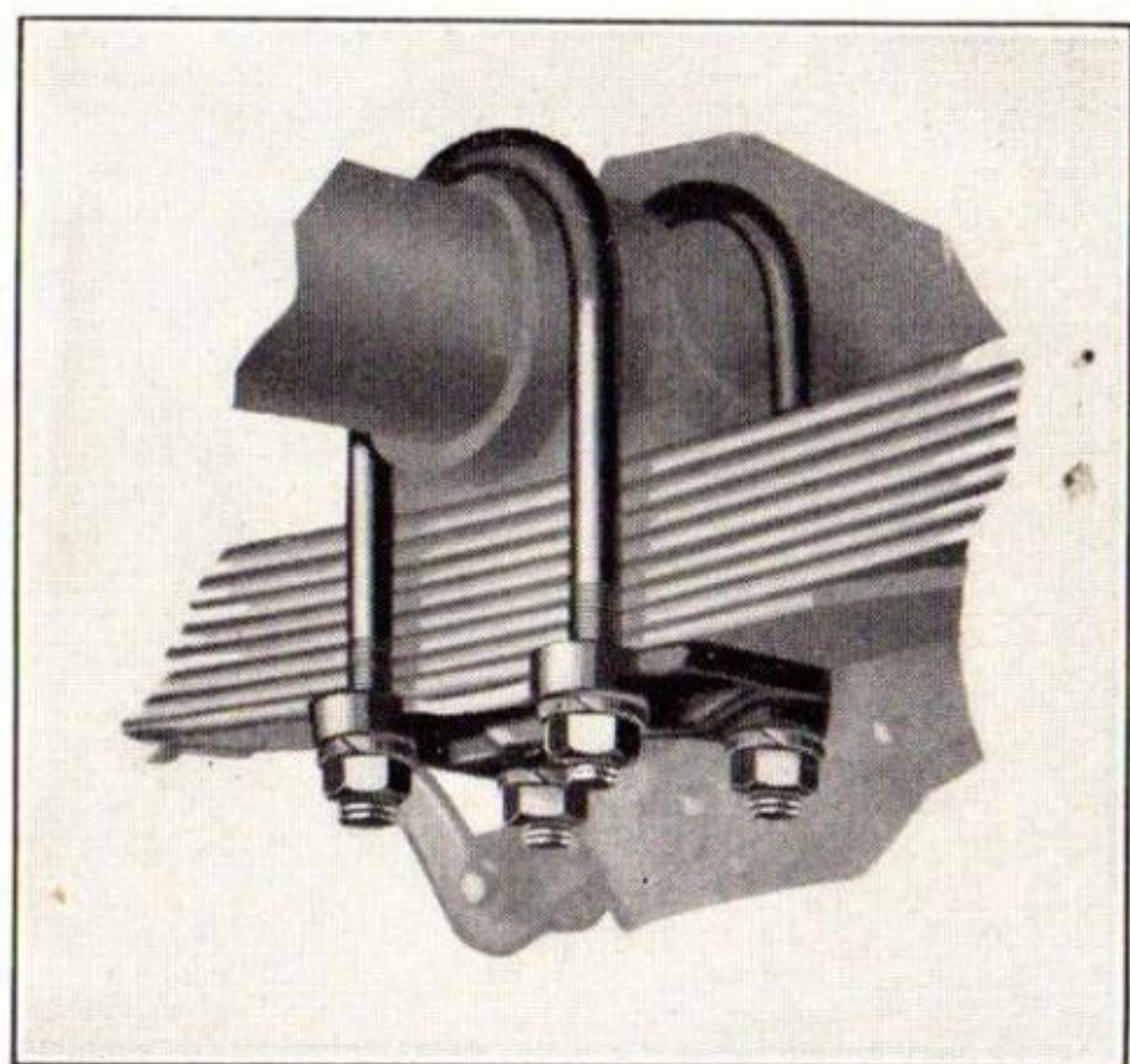
Chassis noise, erratic spring action and wandering of the car on the road can often be attributed to spring mountings.

Adjust the spring shackles to remove end play of spring on shackle bolt by loosening the locking nut "A" and turning the bolt "B" until tight, then turn back one-sixth turn and tighten nut "A."



This operation should be performed every 5000 miles on both upper and lower shackle bolts at the rear of both the front and rear springs and on the anchor bolts (not illustrated), holding the front ends of front and rear springs to the frame brackets.

The spring clip nuts (front and rear) shown in the illustration should be tightened every 5000 miles.



When making the above adjustments the body hold-down bolts should also be tightened. There are eight of these, four on each side, located just outside the frame side members and under the body sills. Draw the nuts tight after the first 1500 miles and every 5000 miles thereafter.

Headlamps

Place the vehicle under normal load on a level floor squarely facing a smooth wall 25 feet from the headlamps.

Measure the height of the lamp bulbs from the ground and draw a horizontal line on the wall at the same height as the bulbs.

Sight through windshield along hood rod and radiator cap to determine the center line of the vehicle. Locate center lines of lamps on the wall from this line.

With the light control in the position throwing the light beam farthest from the vehicle, cover left lamp to obscure its light beam.

Loosen the right mounting nut (under fender apron) and aim the right lamp so that the top of the beam is just even with the horizontal line and equal portions on each side of line on the wall indicating the center line of the right lamp.

Repeat operations with the left lamp and the headlamps will be properly aligned.

Care of the Finish

The same care should be exercised in washing and cleaning cars finished in lacquer or enamel as is employed in the handling of varnished surfaces. Dry dirt accumulations should not be wiped off but should be softened and removed by thoroughly soaking the body with flowing water, applied under light pressure.

After careful washing of the car, an application of Hudson-Essex polish is recommended. This high-grade cleaner and polish, especially prepared for lacquer and enameled surfaces, may be obtained from your Hudson-Essex dealer and its periodic use will maintain the original high luster and preserve the finish. Polishes containing strong abrasives are particularly destructive to the striping and their use should be avoided. Anti-freeze solutions containing alcohol when accidentally spilled on the finish should be immediately washed off with clear water to prevent spotting, as alcohol is a solvent of lacquer.

