Instruction Book

HUDSON

Super-Six

JULY
1927

HUDSON MOTOR CAR COMPANY
DETROIT, MICHIGAN, U. S. A.

PRINTED IN U. S. A.

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Warranty

The factory obligation with respect to replacement of alleged defective parts is fully covered by our warranty as follows:

"We warrant the automobiles 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 any part or parts thereof which shall, within ninety (90) days after delivery of such automobile to the original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective.

"This warranty is 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 other liability in connection with the sale of our automobiles.

"This warranty shall not apply to any Hudson automobile which shall have been repaired or altered outside of our factory in any way so as, in our judgment, to affect its stability or reliability, or which has been subject to misuse, negligence, or accident.

"We make no warranty whatever in respect to tires, rims, ignition apparatus, tops, upholstery, horns or other signaling devices, batteries, speedometers, or other trade accessories."

HUDSON MOTOR CAR COMPANY
Detroit, Michigan

The factory does not participate in any labor costs incident to the replacement of parts under the warranty. The warranty under which Hudson motor cars are sold will be interpreted by the Distributor or Dealer from whom the car was purchased. If you are touring and require service, be sure and get in touch with your nearest authorized Hudson Distributor or Dealer.

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License Data

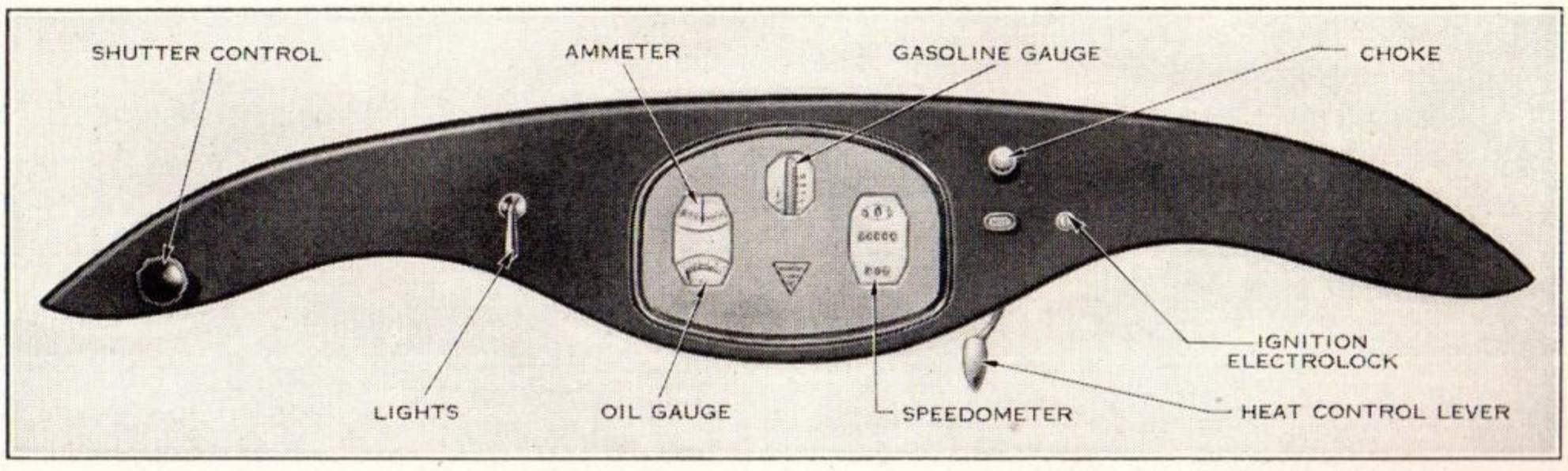
Car serial number.....(see plate on front of dash under hood).
Motor serial number.....(stamped on left front motor leg).
Number of cylinders 6.
Cylinder bore 3½ in.
Stroke 5 in.
Standard horsepower rating for license purposes 29.4.
Piston displacement 288 cu. in.
Weight—Coach 3505 lbs., Brougham 3660 lbs., 7-Pass. Sedan 3870 lbs., 5-Pass. Custom Sedan 3755 lbs., 5-Pass. Standard Sedan 3620 lbs., Phaeton 3565 lbs.

Tires

Inflate front tires 35 lbs. Inflate rear tires 38 lbs.

Check pressures once a week.

Starting the Motor



To start the motor, pull out the choke button on the instrument board part way—in cold weather it may be necessary to pull it all the way out. The heat control lever located at the lower part of the instrument board should be adjusted to the "hot" position, as shown on the indicator just above the lever. Advance spark by pulling spark hand lever (left lever on top of steering wheel) down about halfway and move throttle hand lever (right lever on top of steering wheel) upward until accelerator pedal is depressed about ¼ of the full opening. Next insert the key in the ignition electrolock and turn it ¼ turn clockwise. This allows the plunger in the lock to move outward and make contact for the ignition. The starting operation is completed by pressing forward on the starter pedal located immediately in front of the gear shift lever.

As soon as the engine starts to fire, the choke button should be pushed in as far as possible consistent with smooth motor operation, and must be completely in when the motor becomes warmed up. This can generally be done in a few moments with the heat control in the "hot" position. When the motor has assumed a normal operating temperature as indicated by the motometer, the heat adjustment should be moved to the "warm" position for city driving, or driving in congested traffic. When driving across country at higher speeds than is possible in city driving, the heat control lever should be set to "medium" position, and left there as soon as the motor attains the normal operating temperature. To guard against the injurious effects of excessive quantities of gasoline entering the cylinders, the choke should be used lightly, especially after the motor has become warmed up.

To stop the motor, push the electrolock plunger in, then turn ¼ turn anti-clockwise and remove the key.

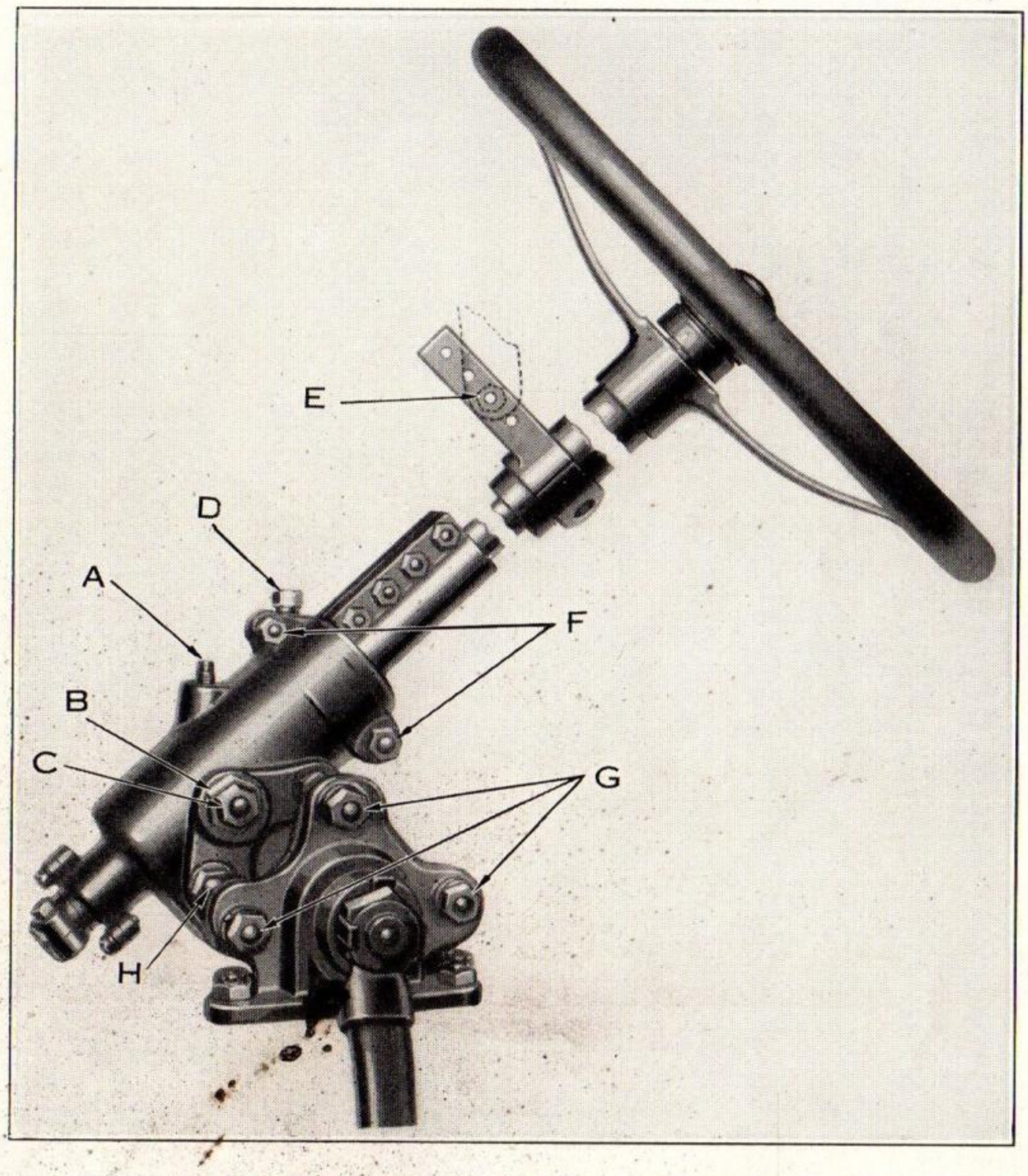
Operating Instructions

The care given to a motor car during its first 1000 miles governs, to a large extent, the length and satisfaction of its service.

All moving parts are closely fitted and adjusted. Higher speeds must be approached gradually to give these parts an opportunity to properly "run in" and insure perfect bearing surfaces. During the first few hundred miles, sustained high car speeds should not be indulged in; nor should the motor be raced or speeded up while the car is at rest.

Steering Gear

The steering gear requires little attention other than to see that lubrication is taken care of regularly. Every 5000 miles the filler plug "A" should be removed and the case filled with a high-grade heavy-bodied gear oil which will remain fluid in cold weather. Do not use grease. Any excessive play which might develop due to wear after extensive service can be eliminated by the following adjustments which should be made with both front wheels off the floor.

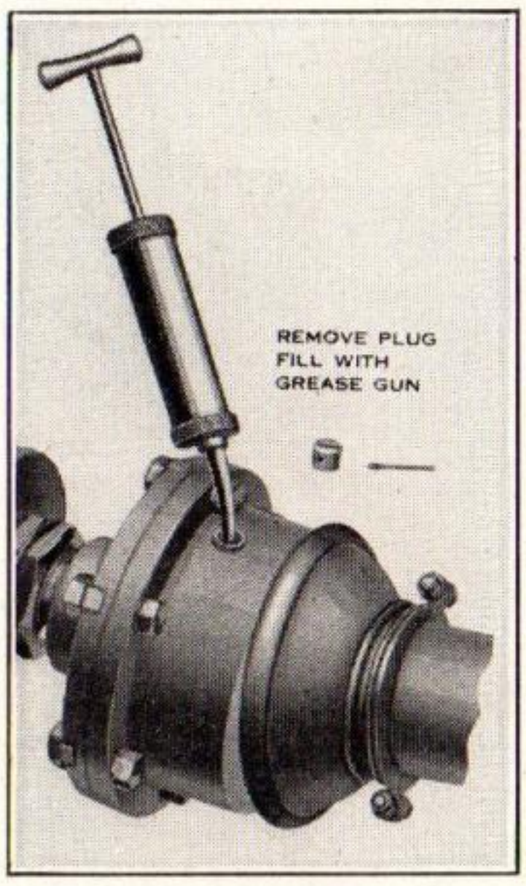


To remove end play from main column: Loosen clamp bolts "F" one half turn and turn adjusting screw "D" down as far as possible without stiffening the action of the steering wheel when turned through its entire movement. Use care when doing this to turn screw "D" downward only, as it must be in positive contact with the bushing sleeve when the adjustment is completed. The clamp bolts "F" should then be tightened securely.

To remove play in mesh of worm and cross shaft roller: 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 "H" (¼ turn only) and lock nut "C" (½ turn only). Turn eccentric sleeve "B" 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 lock nut "C" and cover stud nuts "H."

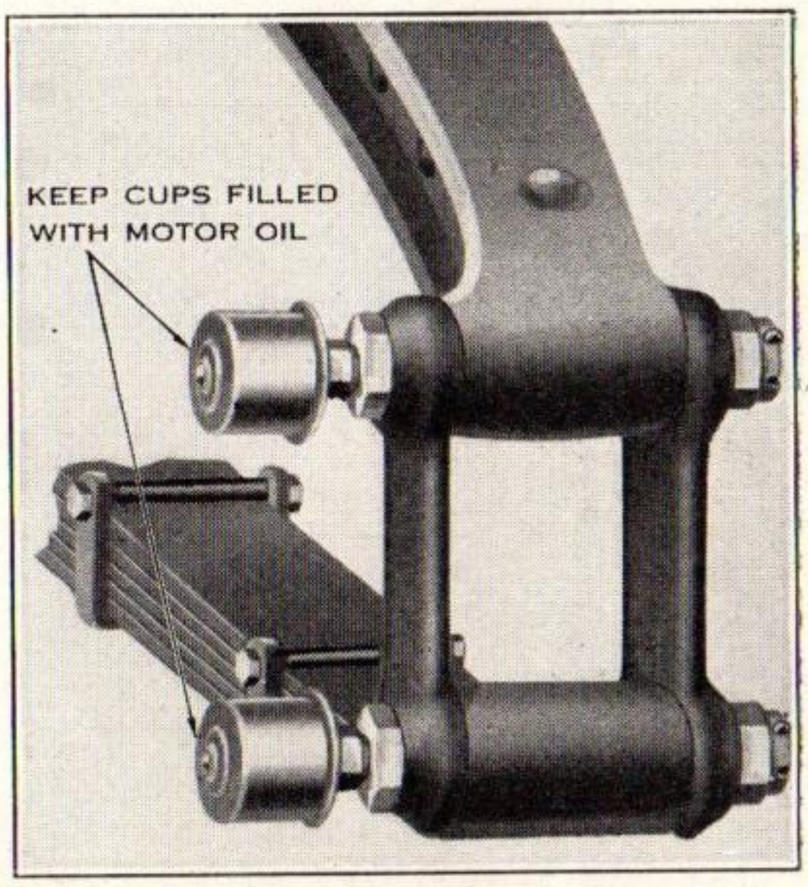
To change position of steering wheel to suit requirements of driver: Loosen frame bracket stud nuts "G" one half turn, and remove jacket tube bracket bolt "E." Move steering wheel up or down to desired position, replace bolt "E" in nearest hole and tighten securely, together with stud nuts "G."

Universal Joints



The universal joints, because of the severe service demanded from them, require adequate lubrication. They should be filled with fibre grease every 2000 miles, using grease gun.

Oil Cups

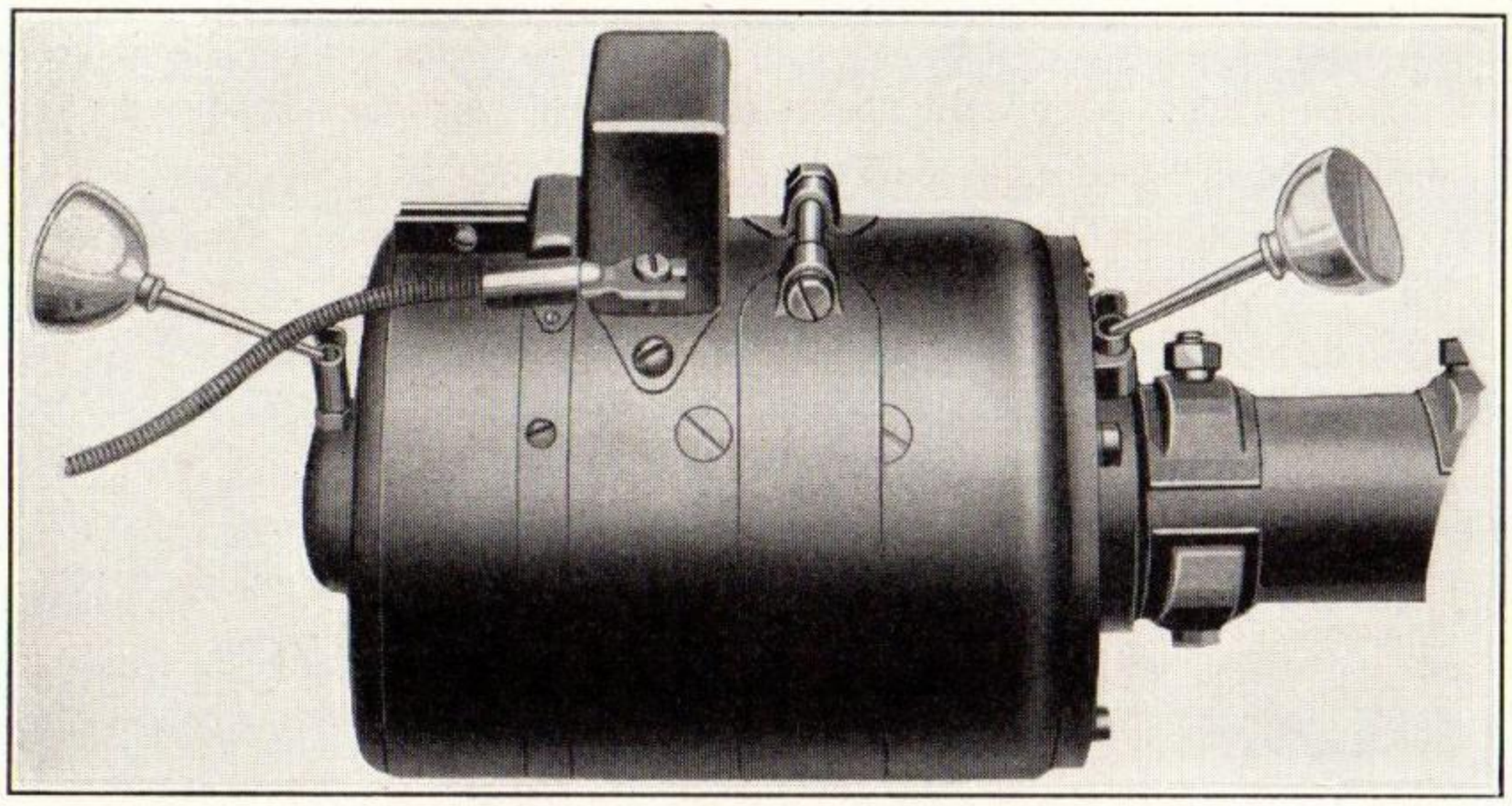


All chassis oil cups should be filled regularly by means of the pump oil can provided in the regular tool equipment.

Horn

The horn should be lubricated occasionally by removing the cover screw and cover and placing a few drops of light oil in the oil holes provided.

Generator

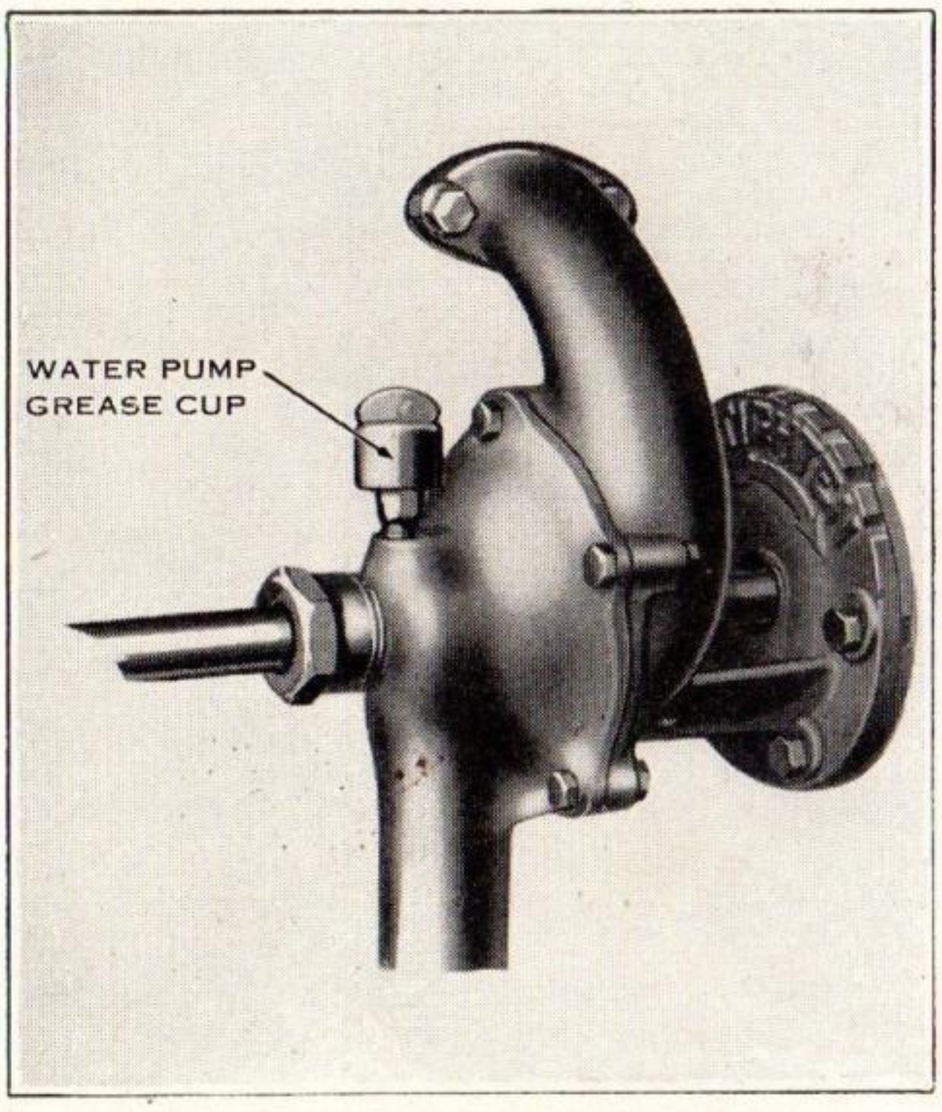


Three or four drops of light motor oil at points designated every 1000 miles.

Starter

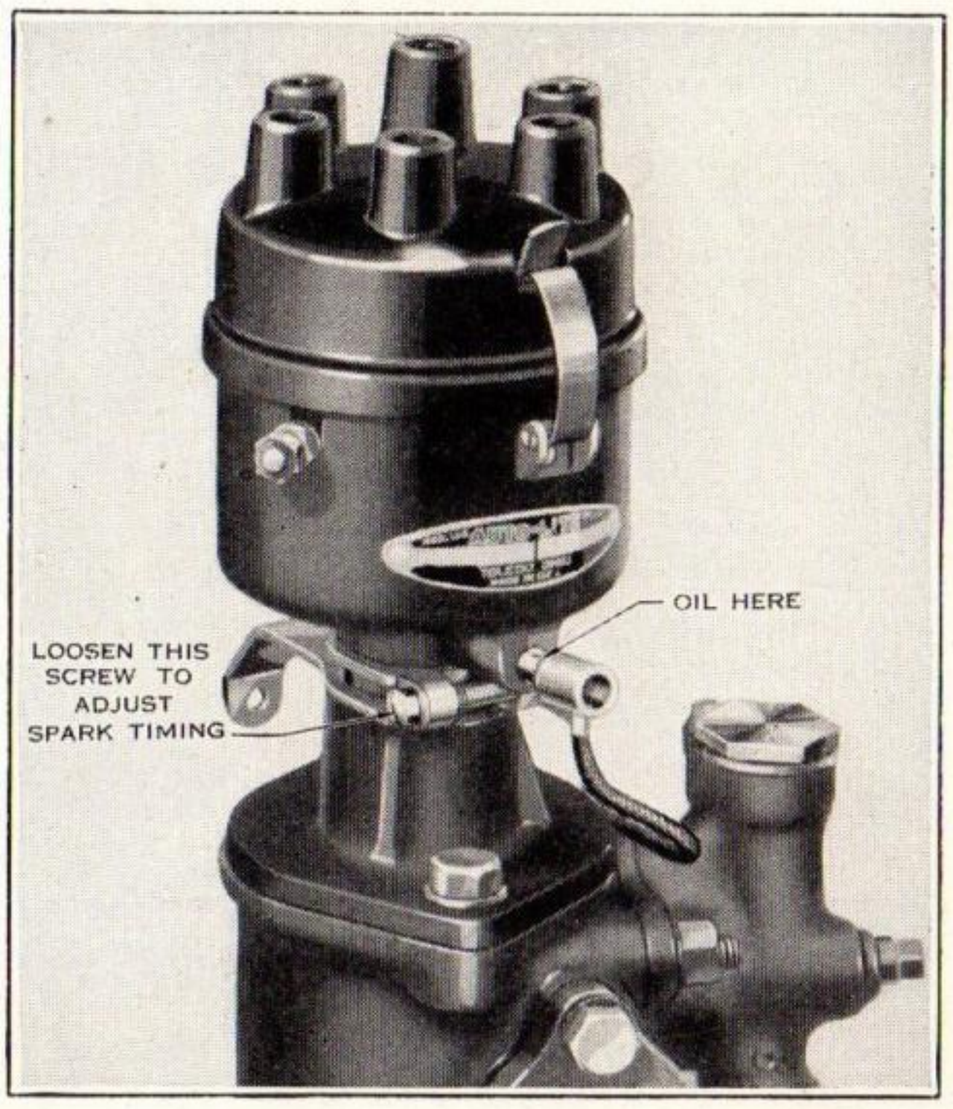
The starting motor is equipped with oilless bearings, and requires no lubrication.

Water Pump



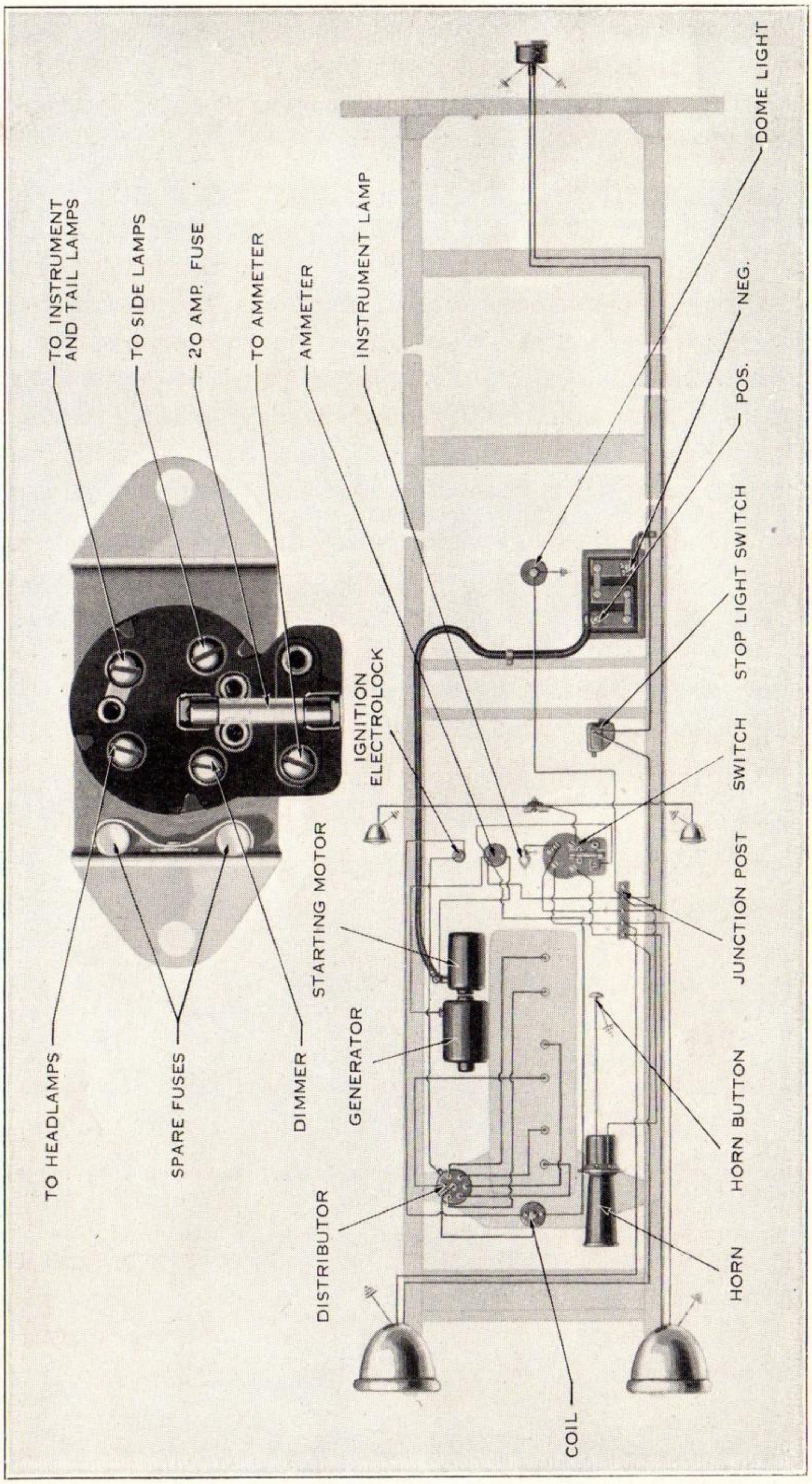
Keep water pump grease cup filled with hard grease. Turn down frequently.

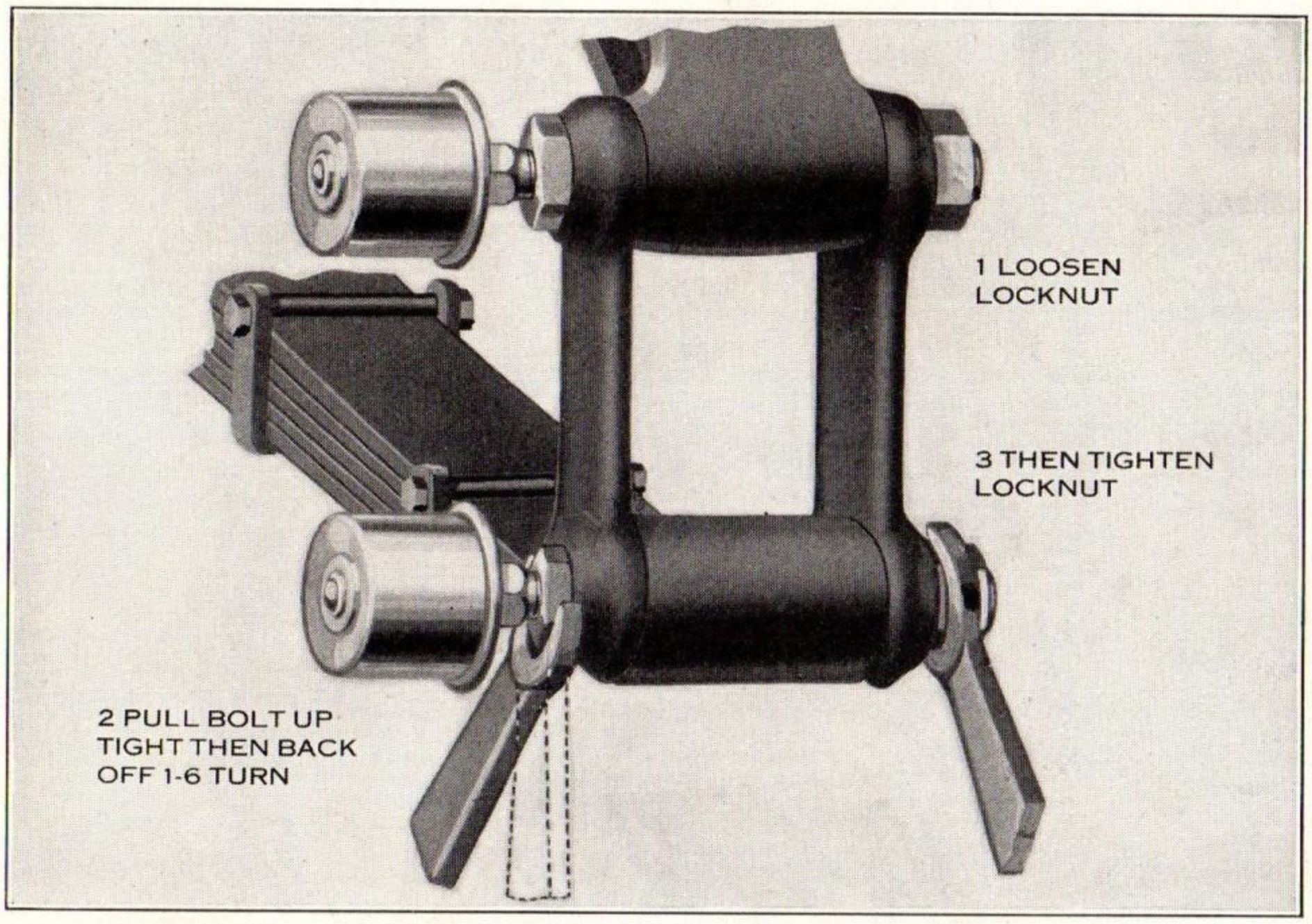
Distributor



Fill distributor base with motor oil once a month or every 500 miles to the level of the oil cup.

Wiring Diagram





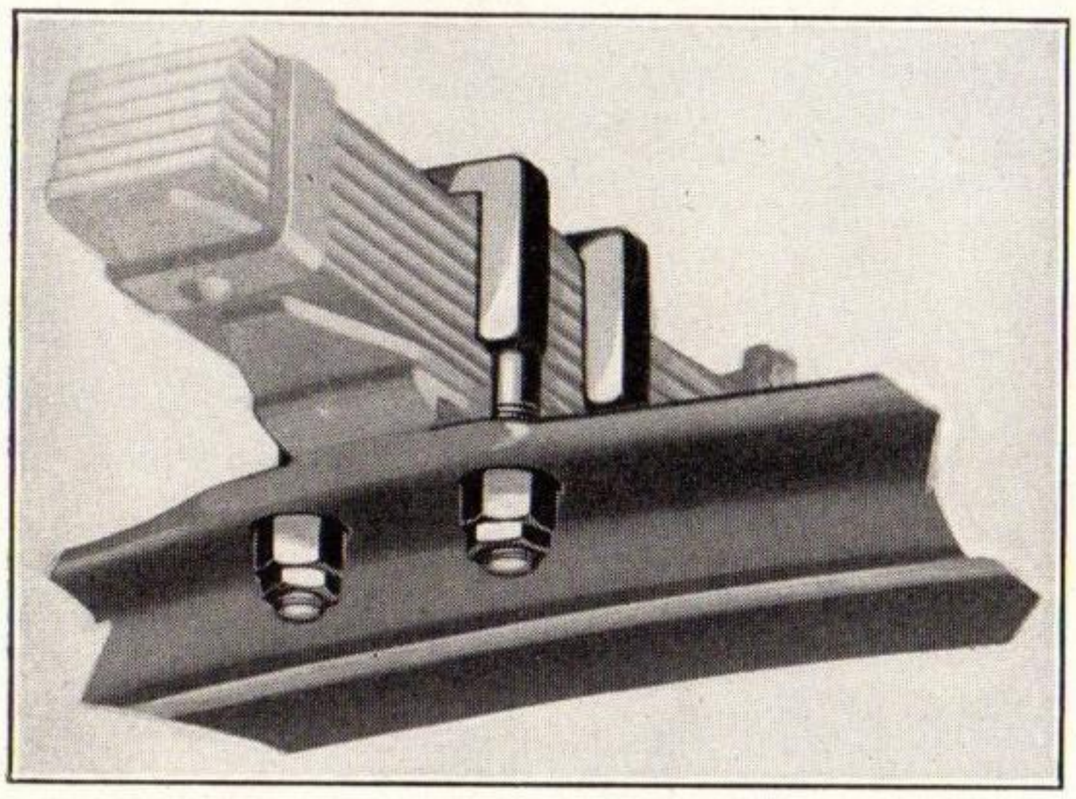
Spring Shackles

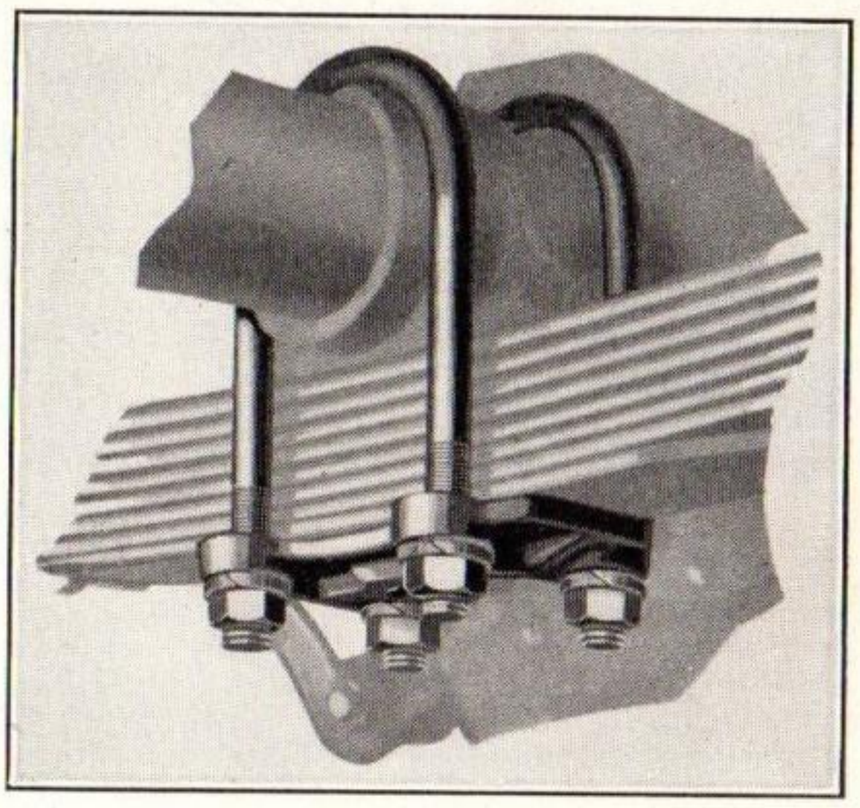
The spring shackles are provided with an adjustment by means of which all play can be taken up in a few minutes and rattles at these points eliminated.

Do not tighten too much or you will interfere with the action of the springs. Follow the instructions given closely.

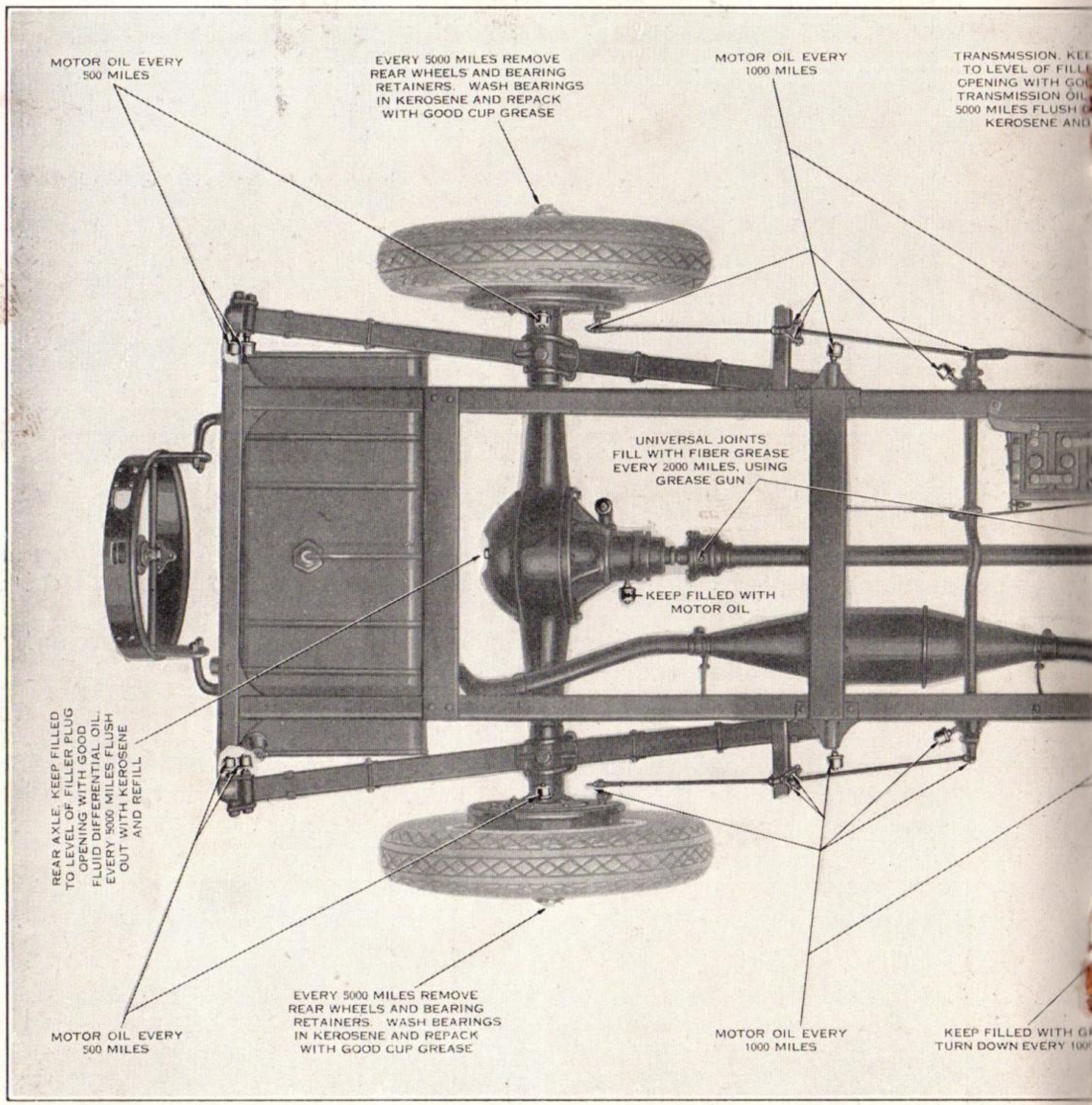
Spring Clips

Spring breakage can usually be attributed to looseness in the spring clips which secure the springs to the axles. It is recommended that these clips be inspected occasionally for tightness.

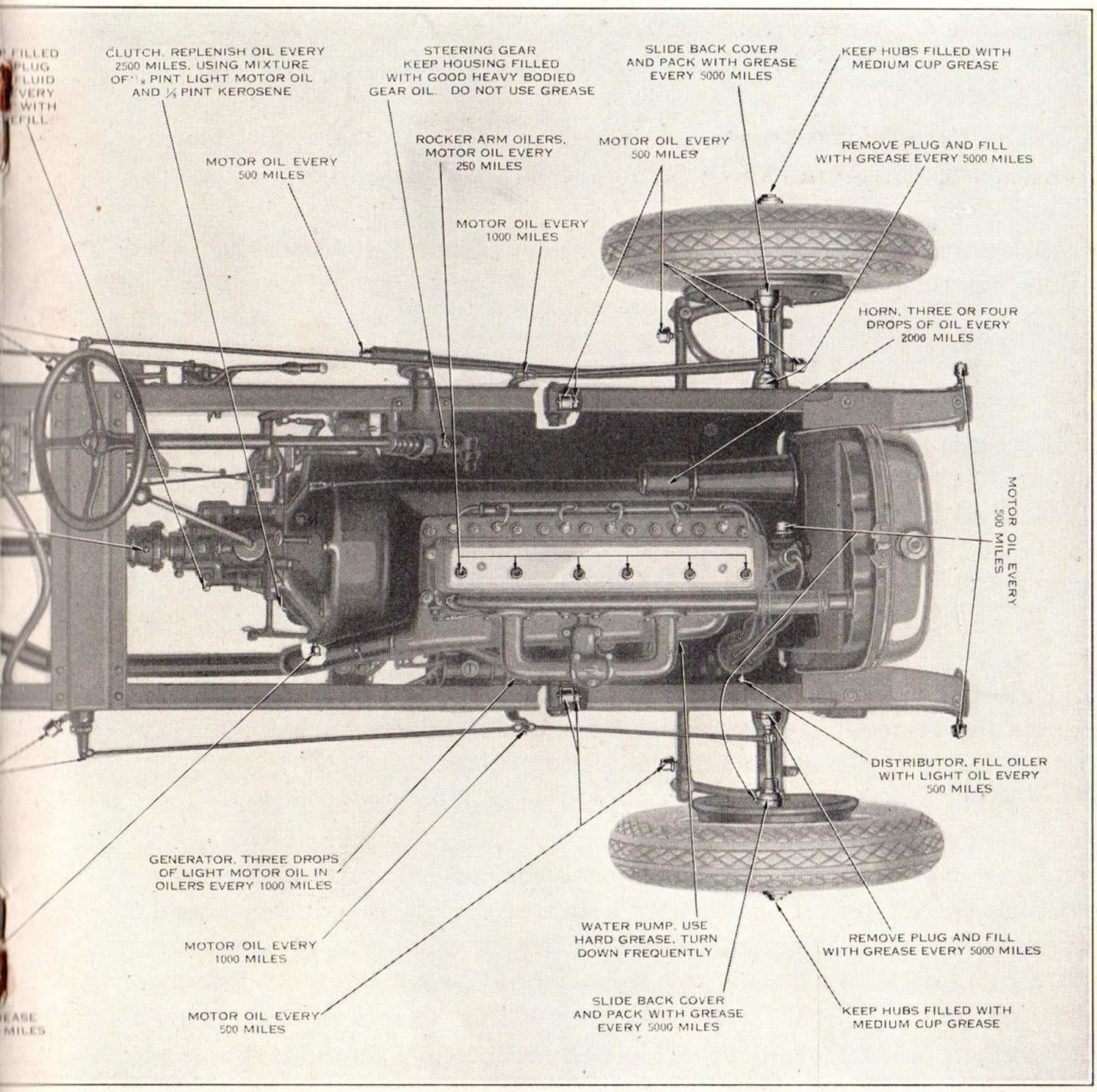




Lubricat


MOTOR OIL EVERY 500 MILES
EVERY 5000 MILES REMOVE REAR WHEELS AND BEARING RETAINERS. WASH BEARINGS IN KEROSENE AND REPACK WITH GOOD CUP GREASE
MOTOR OIL EVERY 1000 MILES
TRANSMISSION. KEE
TO LEVEL OF FILL
OPENING WITH GO
TRANSMISSION OIL
5000 MILES FLUSH
KEROSENE AND
UNIVERSAL JOINTS FILL WITH FIBER GREASE EVERY 2000 MILES, USING GREASE GUN
KEEP FILLED WITH MOTOR OIL
REAR AXLE. KEEP FILLED TO LEVEL OF FILLER PLUG OPENING WITH GOOD FLUID DIFFERENTIAL OIL. EVERY 5000 MILES FLUSH OUT WITH KEROSENE AND REFILL
MOTOR OIL EVERY 500 MILES
EVERY 5000 MILES REMOVE REAR WHEELS AND BEARING RETAINERS. WASH BEARINGS IN KEROSENE AND REPACK WITH GOOD CUP GREASE
MOTOR OIL EVERY 1000 MILES
KEEP FILLED WITH G
TURN DOWN EVERY 100

ion Chart


FILLED
PLUG
FLUID
VERY
WITH
EFILL
CLUTCH, REPLENISH OIL EVERY 2500 MILES, USING MIXTURE OF ⅞ PINT LIGHT MOTOR OIL AND ⅛ PINT KEROSENE
STEERING GEAR KEEP HOUSING FILLED WITH GOOD HEAVY BODIED GEAR OIL. DO NOT USE GREASE
SLIDE BACK COVER AND PACK WITH GREASE EVERY 5000 MILES
KEEP HUBS FILLED WITH MEDIUM CUP GREASE
MOTOR OIL EVERY 500 MILES
ROCKER ARM OILERS, MOTOR OIL EVERY 250 MILES
MOTOR OIL EVERY 500 MILES
REMOVE PLUG AND FILL WITH GREASE EVERY 5000 MILES
MOTOR OIL EVERY 1000 MILES
HORN, THREE OR FOUR DROPS OF OIL EVERY 2000 MILES
MOTOR OIL EVERY 500 MILES
DISTRIBUTOR, FILL OILER WITH LIGHT OIL EVERY 500 MILES
GENERATOR, THREE DROPS OF LIGHT MOTOR OIL IN OILERS EVERY 1000 MILES
MOTOR OIL EVERY 1000 MILES
MOTOR OIL EVERY 500 MILES
WATER PUMP, USE HARD GREASE, TURN DOWN FREQUENTLY
SLIDE BACK COVER AND PACK WITH GREASE EVERY 5000 MILES
REMOVE PLUG AND FILL WITH GREASE EVERY 5000 MILES
KEEP HUBS FILLED WITH MEDIUM CUP GREASE
EASE
MILES

Cooling System

The cooling system should be kept full of pure water at all times. If the water in your locality is known to contain alkali or lime, avoid its use if possible and use rain water.

It is important that the cooling system be drained and thoroughly flushed out with clear water at frequent intervals to prevent the formation of deposits which would tend to obstruct the water passages in the radiator.

Keep the radiator shutters adjusted so as to maintain an efficient operating temperature as indicated by the directions on the motometer dial.

See that the fan belt does not slip. An adjustment is provided for taking up slack.

Wheel Alignment

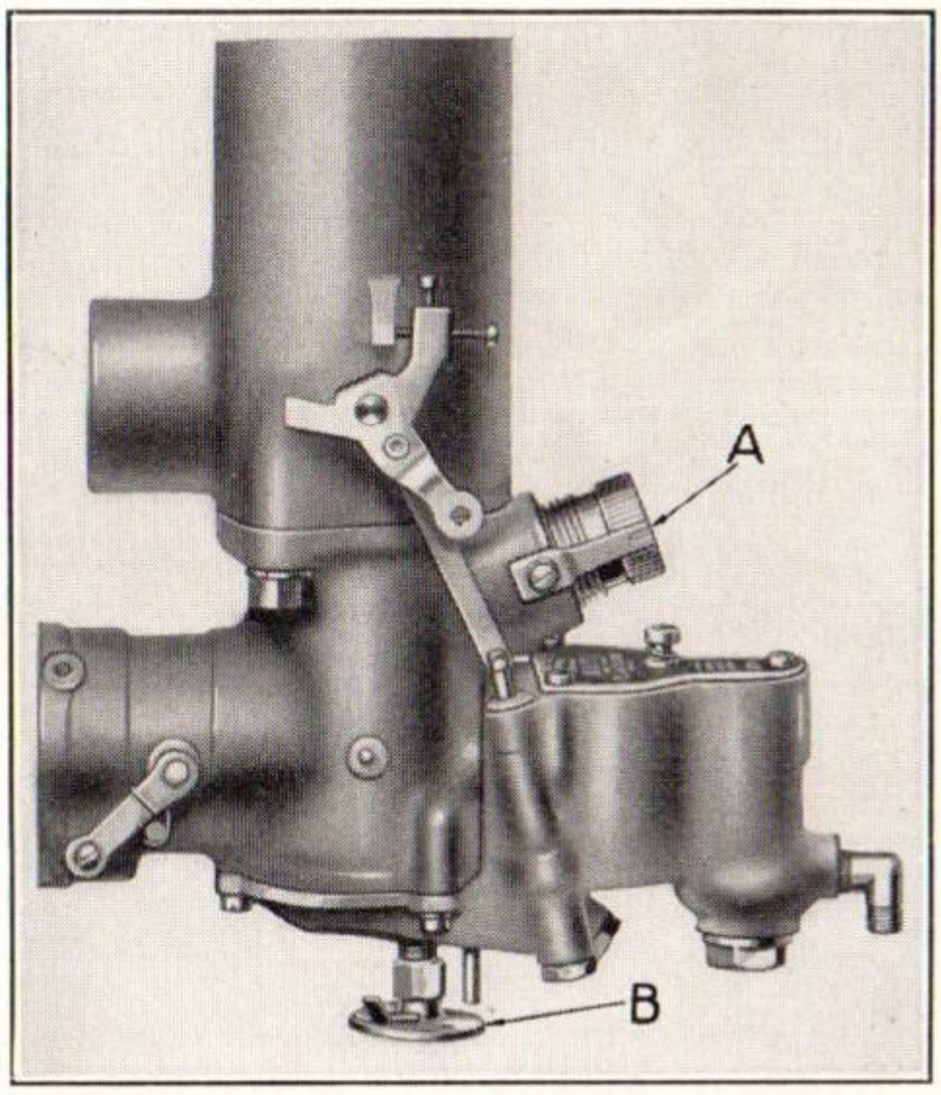
The alignment of the front wheels has a very important bearing on the life of the front tires and on the ease of steering. The alignment can be checked by measuring the distance between the inside of the rims at the front and rear. The distance at the front should be the same as the distance at the rear or range from that to one-eighth inch less.

To adjust the front wheels, remove the cotter pin at the end of the front axle tie rod and unscrew the large adjusting plug. Remove the ball joint dust covers from the tie rod by taking off the clamp screw. This will permit the removal of the tie rod from the steering arm ball joint as well as the spring, ball seats and adjusting shims.

Should adjustment be necessary to compensate for excessive toe-in as indicated by the front wheels being too close together at the front, remove one or more shims from behind the inner ball seat and add them to those placed next to the outer ball seat. Replace parts removed, screwing the adjusting plug tightly against the spring but leave out cotter pin. If toe-in is still too great, it will be necessary to transfer additional shims to the outer end.

In event of insufficient toe-in, the above procedure should be followed except that the shims should be removed from the outer group and added to the inner ones. After the proper adjustment has been obtained the slotted adjusting plug should be tightly screwed in place without, however, entirely closing up the coils of the spring. Replace and spread cotter pin in end of tie rod.

The Carburetor



The carburetor has been carefully calibrated and adjusted at the factory and it is recommended that no change in the adjustment be made until an inspection has definitely determined that the trouble is not in some other unit. It should be borne in mind that the proper functioning of the carburetor is largely dependent upon the heat control feature, the correct operation of which is covered on page 4.

In event the setting has been disturbed and readjustment is necessary, proceed as follows:

Turn gasoline needle valve "B" at bottom of carburetor to right very carefully until the valve just seats. Then turn adjustment to the left approximately one turn. This should bring the notch at the outer edge of the disc directly underneath the guide pin which indicates the correct setting for best performance and fuel economy. The air adjustment screw "A" should next be turned until the end is flush with the end of the flat lock spring.

After the motor has attained the normal operating temperature as indicated by the motometer, the choke button should be pushed entirely in and the heat control lever placed in the "warm" position. With the throttle set so the motor runs at idling speed, turn the air adjusting screw "A" to the right or left as necessary until smooth and even operation is obtained. Turning the air screw to the right enriches the mixture and to the left leans it.

Headlamp Adjustments

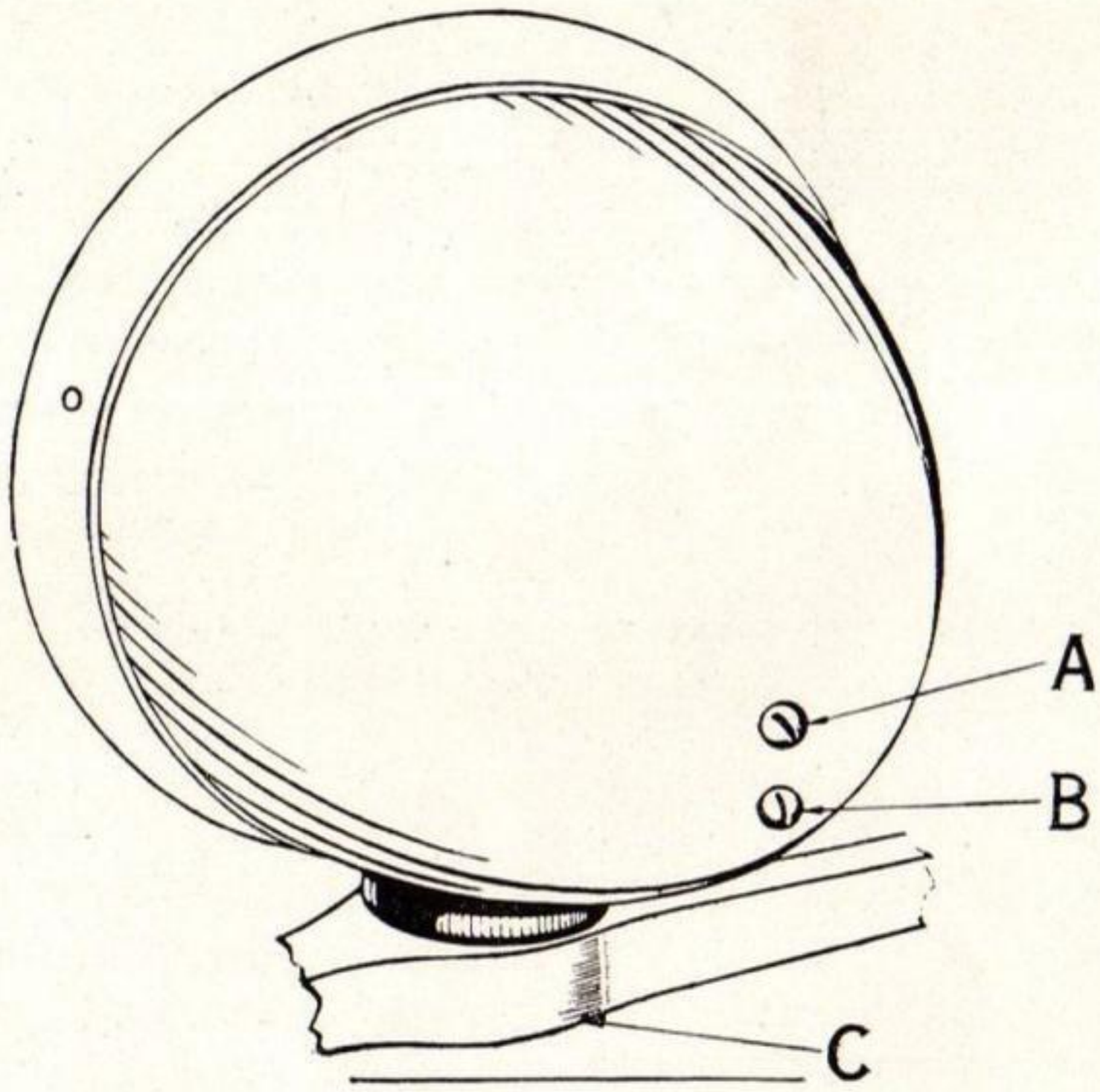


Fig. 1

DESCRIPTION—The Parabeam Headlamp is a complete lighting unit of the type which uses a double filament bulb of 21 c.p. for each filament. The two filaments are spaced $\frac{1}{8}$-inch apart, above and below the central axis of the bulb. Lighting the lower filament gives the upper or "driving" beam. (Fig. 2.) The upper filament produces the lower or "passing" beam (Fig. 3) for city driving or whenever the upper beam might cause annoyance to others. The lower beam is tilted downward about $2\frac{1}{2}$ degrees from the upper position, or about 1 foot on a wall 25 feet from the lamp. The two lower white lines in Fig. 3 indicate the maximum and minimum tilt for the top of lower beam.

The headlamp consists of a carefully made outer housing and door, a special variable axis parabolic reflector to tilt and spread the light, and a ribbed or fluted lens designed solely for use with this reflector. In addition to the upper screw "A" (Fig. 1) at the rear for focusing the bulb, an adjustment is provided for raising or lowering the bulb in the reflector, to secure best results from different bulbs. This is done by the lower screw "B" (Fig. 1) at back of lamp, which turns a small eccentric, tilting the socket and bulb up or down in the slotted guide tube attached to the reflector.

TO FOCUS: *First*—Place car on level ground or floor, and squarely facing a smooth wall 25 feet from the headlamps.

Second—Mark a horizontal line "A" (Fig. 4) on the wall at the height of headlight bulbs from ground. Next mark two vertical lines from line "A" to the ground, exactly in front of each headlamp center. The distance between these vertical lines should be the same as the distance between the headlight bulbs.

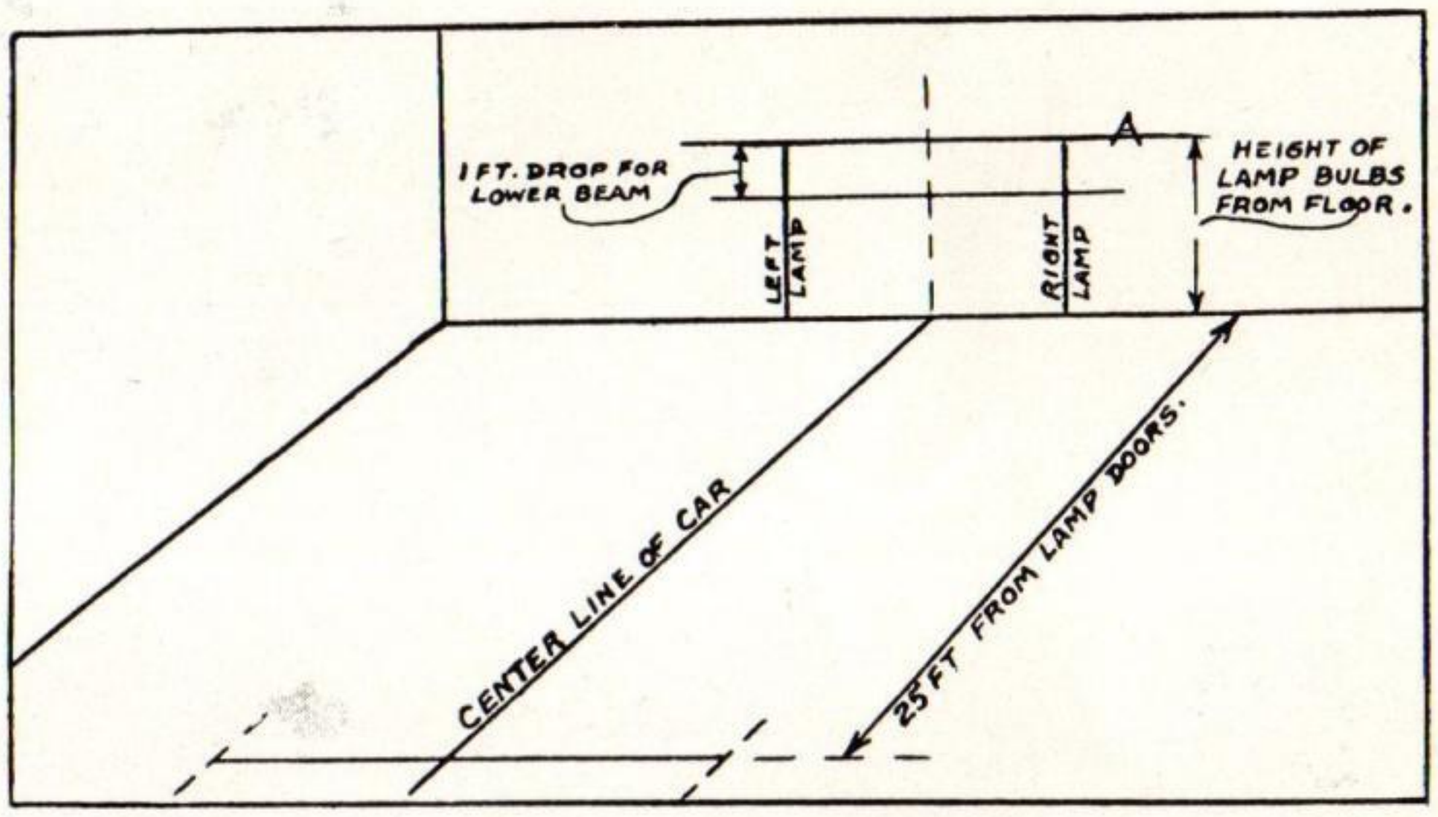


Fig. 4. Car Position

The top of the triangular light spot should be almost flat or slightly peaked in the center. Now replace the door and lens and fasten firmly.

Fifth—Aim or point the lamp by loosening the nut at "C" (Fig. 1) on lower side of lamp mounting. The center of the beam should strike the vertical line on wall in front of this lamp, and the top of beam should touch line "A" when car is fully loaded. If car is empty, allow at least 4 inches between line "A" and top of light beam. Under no circumstances should any part of the bright beam rise above line "A."

Sixth—Make sure that the lamp is firmly fastened in position when it is aimed correctly. Then repeat the foregoing operations with the other lamp. The two upper beams should be similar in shape and should strike the wall at the same height from the ground. Now turn the control switch to the lower or "passing" beam position and note whether the cut-off or top of the bright area on wall has dropped about 1 foot. If the amount of drop is considerably less than 1 foot, turn lower screw "B" (Fig. 1) (vertical adjustment) to left very slightly and try both upper and lower beams on the wall. When the upper beam from one lamp looks like Fig. 2 it is correctly adjusted and the lower beam will have the proper amount of drop or tilt.

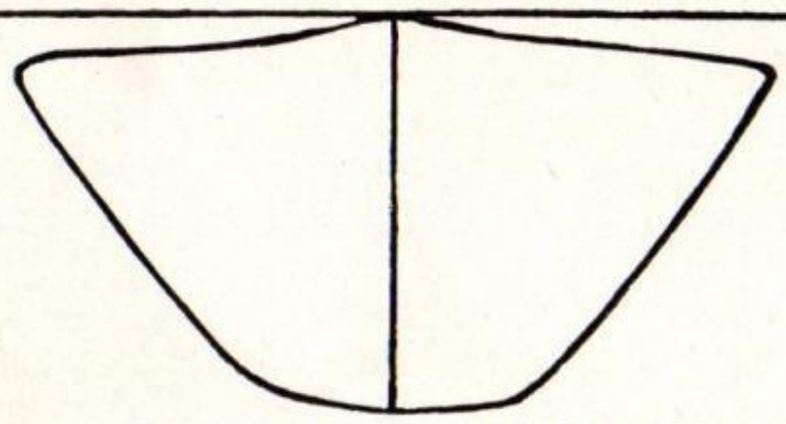
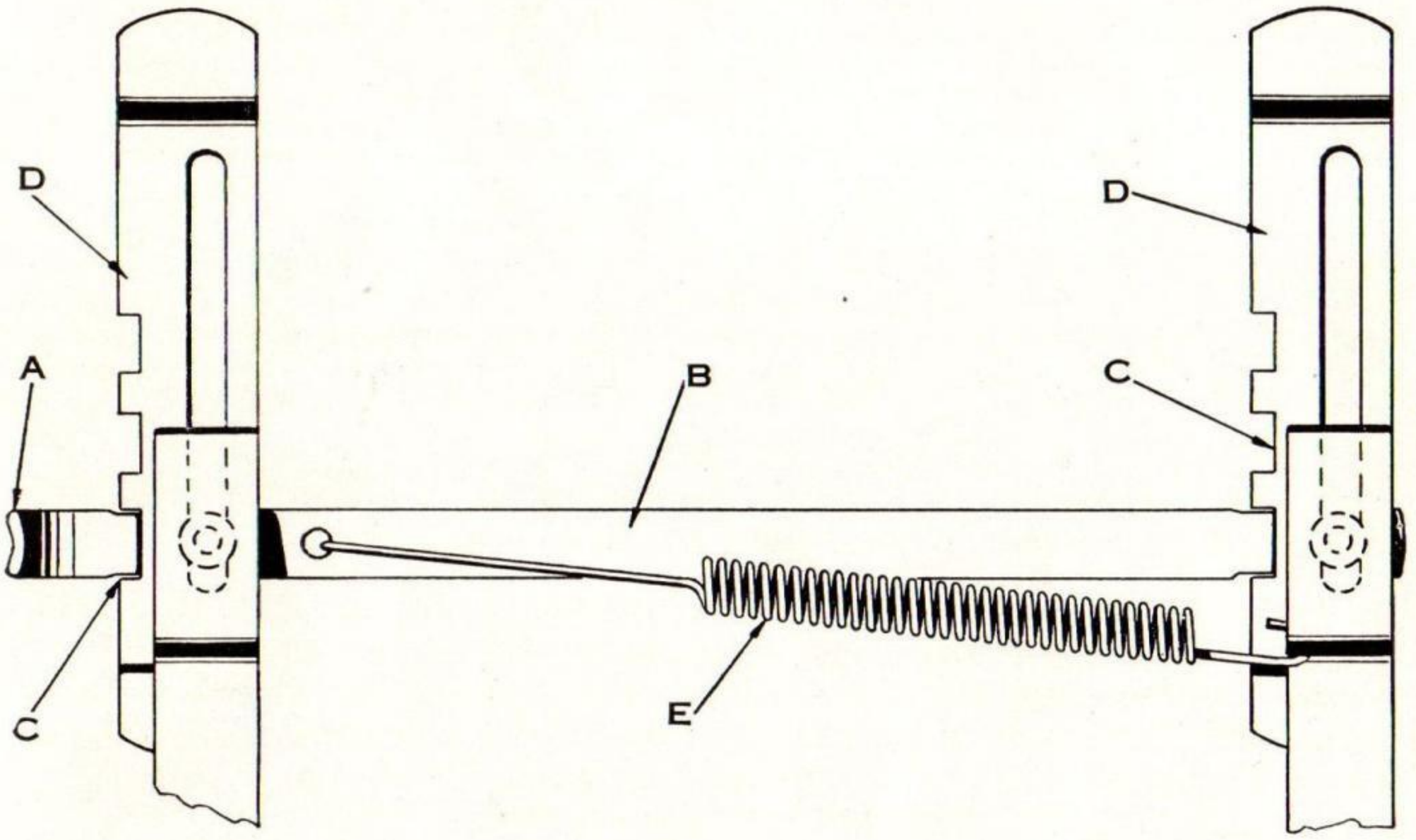


Fig. 5. Upper Beam with Lens Removed

The lower beams project a powerful light close to the car and are of great comfort when meeting another car with glaring lights, since the roadside and ditch are brightly illuminated.

When the lamps are properly adjusted and focused, as outlined above, they will meet the legal requirements of most states. However, the range of tilting movement, together with the other adjustments provided, is sufficiently great to permit any necessary deviation from this setting to conform with your local legislation.

Coach Adjustable Front Seats



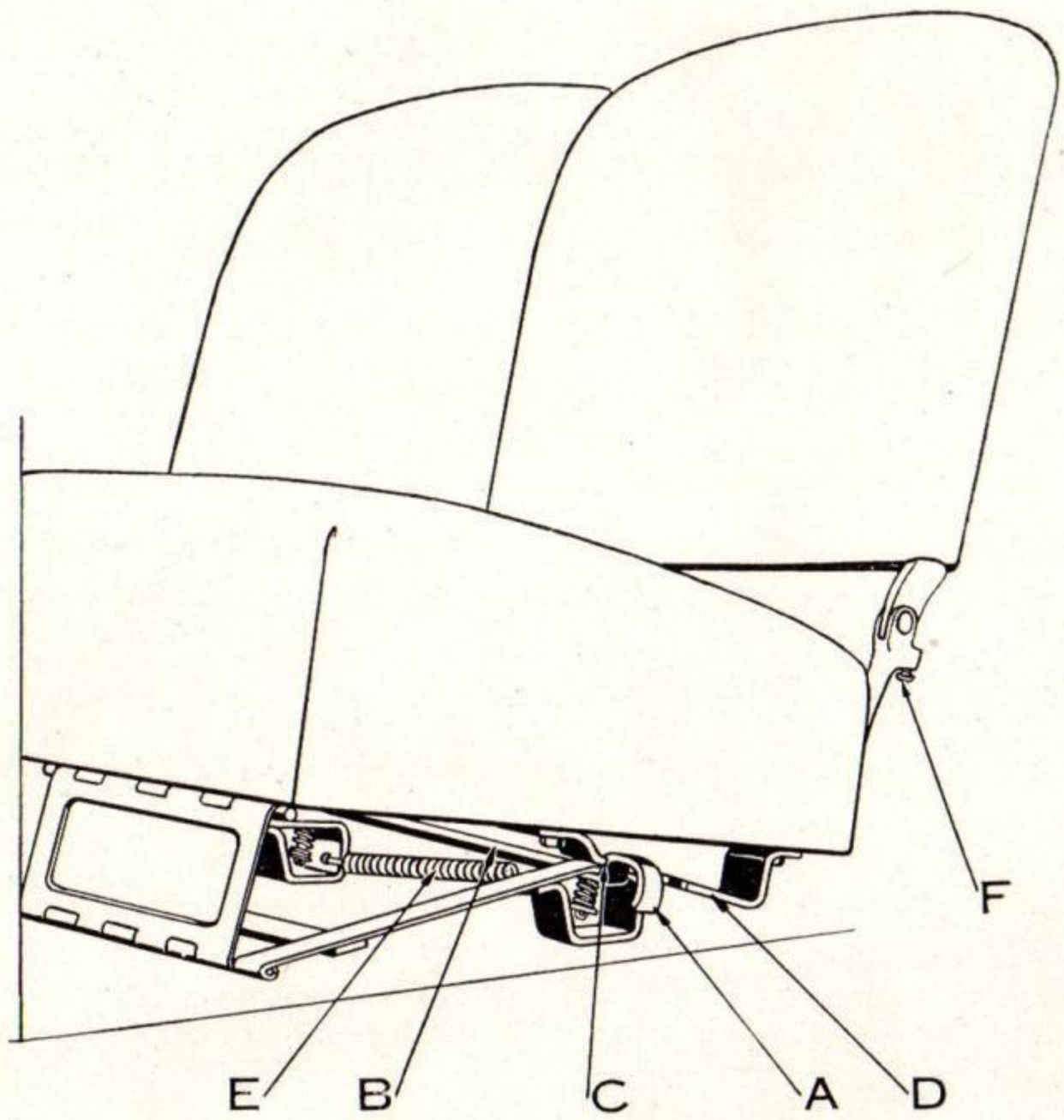
Description

The front seats in the coach are provided with a mechanism by means of which they may be slid backward or forward by the occupant. The driver's seat may thus be set in any one of three positions, giving varying amounts of leg room, while the passenger seat next to the driver may be slid to the forward position which allows ample room for passengers to enter or leave the rear of the car. All of these operations may be readily performed while the seats are occupied.

To Operate the Driver's Seat

1. Pull the finger grip "A" outwards. This releases the cross bar "B" from the slots "C" in the runner "D."

2. Slide the seat backward or forward until the cross bar "B" is opposite the front, middle or rear slot as may be desired and release the finger grip. A strong spring "E" pulls the cross bar into the slots and holds it securely in place.



3. These operations may very easily be made when the seat is occupied by first pulling the body towards the steering wheel with the right hand. This tends to slide the seat forward and enables the finger grip to be pulled outward with the left hand. The seat may then be slid backward or forward and the cross bar dropped into the desired slot.

To Operate the Passenger's Seat

Normally this seat is in the extreme backward position which allows ample room for the occupant while riding. When other passengers desire to enter or leave the rear of the car, the occupant of the front seat should grasp the ledge above the instrument board and pull towards him. This will cause the seat to slide forward until there is ample room between the back of the seat and the door hinge pillar for entrance or exit. To return the seat to the normal riding position, it is only necessary to push back with the feet against the toe boards and the seat will slide easily to the extreme back position. When this seat is not occupied, it may be folded entirely forward out of the way.

To Adjust the Tilt of Seat Backs

The backs of both front seats are hinged at the bottom, and adjusting screws "F" are provided to enable the seat back to be inclined forward or backward as may be desired.

Winter Driving

There are two things to take into consideration when operating your car in freezing weather. They are the Lubrication and Cooling Systems.

Lubrication

Oils are affected by temperature. Many oils thicken and the pump will not handle them. Use only an oil that will stand a low cold test in freezing weather. It is recommended that the oil be changed every 500 miles.

Cooling System

When the car is operated in freezing weather, use the anti-freeze mixture we recommend.

For zero temperature		Below zero	
Alcohol	30%	Alcohol	35 to 50%
Water	70%	Water	50 to 65%

Do not use kerosene or any patent compound as an anti-freeze.

Capacity of cooling system is 5½ gallons.

If anti-freeze mixture is not used, the water in the system must be completely drained off to avoid damage due to freezing whenever the car is not being operated. The water is drained by opening the drain cocks in the water pump inlet elbow and in the lower part of the cylinder block on the left side.

Care of the Finish

The same care should be exercised in washing and cleaning cars finished in lacquer 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.

Careful washing of the car, followed by the use of a polish especially prepared for lacquer finishes, will maintain a high luster and preserve the finish. The use of polishes containing strong abrasives should be avoided, as they are particularly destructive to the striping employed. 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.

Corrective Data

Starter Does Not Work

1. Loose battery connections. The terminal clamps on the battery should be kept tight and coated with vaseline to prevent corrosion.
2. Storage battery run down. Let your battery station advise.

Failure of Motor to Start

1. Ignition contact points dirty. See page 10. Clean by pulling a piece of fine (00) sandpaper between them.
2. Motor flooded with gasoline caused by excessive choking. Crank motor with choke button all the way in until motor fires.

Reasons for Motor Missing

1. Driving with cold motor. Close radiator shutter until it warms up.
2. Too rich a mixture. See that choke button is not pulled out.
3. Fouled spark plugs. Clean them and set points at .028 of an inch clearance.
4. Tappets set too close together so that valves will not close. See page 27.

Reasons for Overheating

1. Water supply low.
2. Cooling system dirty. Dissolve about two pounds of sal soda (washing soda) in hot water and pour in radiator. Run car for about one-half hour, then drain and flush twice with pure water.
3. Hose connections in bad shape. Remedy is to replace.
4. Lack of motor oil. See that oil gauge on dash is working and that oil reservoir contains sufficient oil.
5. Loose or broken fan belt.
6. Late ignition timing. See page 11.

In General

1. Clutch slipping. Too much oil in clutch—drain to proper level. See page 6. Clutch grabbing. Insufficient oil—re-oil according to instructions on page 6.
2. Rear axle noise. See that differential has sufficient lubricant. Remove housing cover plug and add oil if necessary.