

The Chain

The camshaft and accessory shaft is driven by a chain which is provided with means of adjustment. At the expiration of from 500 to 1000 miles driving it is advisable to determine if the chain requires taking up. Subsequent inspections at intervals of 4000 miles are recommended. To inspect chain proceed as follows:

Grasp the rubber coupling on the generator drive shaft "C" and turn to and fro as far as possible. There should be approximately $\frac{1}{8}$ " movement on the circumference.

To adjust chain:

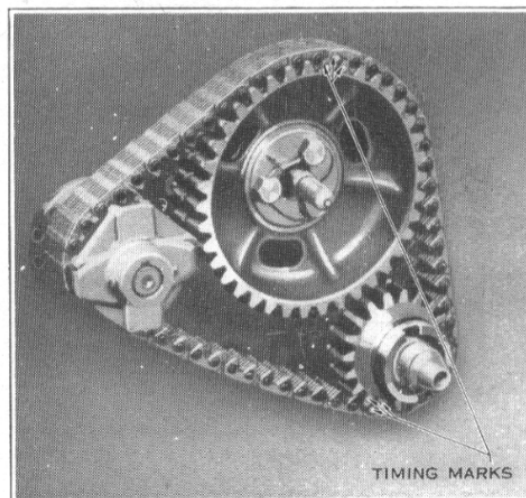
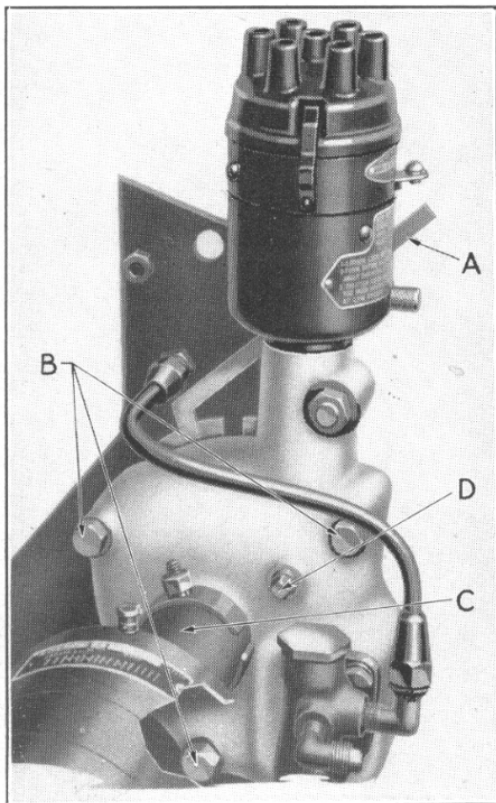
Loosen retaining bolts "B."

Note: At certain stages of adjustment, the inside top bolt and the bottom bolt, or both, may pass through notches in plate. It will then be necessary to remove these bolts entirely. Insert special tool in notch and turn flange toward you until only necessary play is present. If the two bolts referred to have been removed and cannot be returned, then back off adjustment slightly until they will enter through notch.

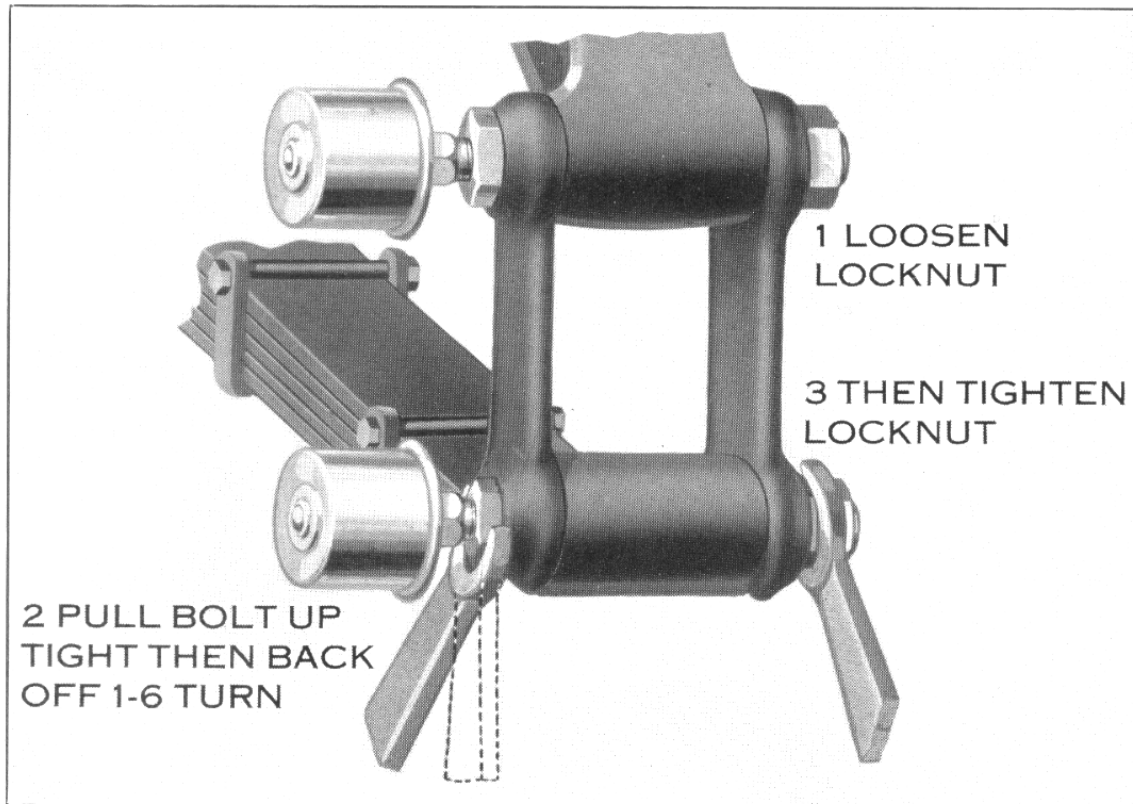
It is necessary when the distributor support housing has been removed, but not otherwise, to introduce $\frac{1}{2}$ pint of motor oil through pipe plug opening "D" before running motor.

To remove or replace chain, turn the adjusting eccentric to the point of minimum adjustment and then remove the camshaft sprocket.

The punch marks on the chain should coincide with those on the sprockets, as shown in the view, when properly assembled.

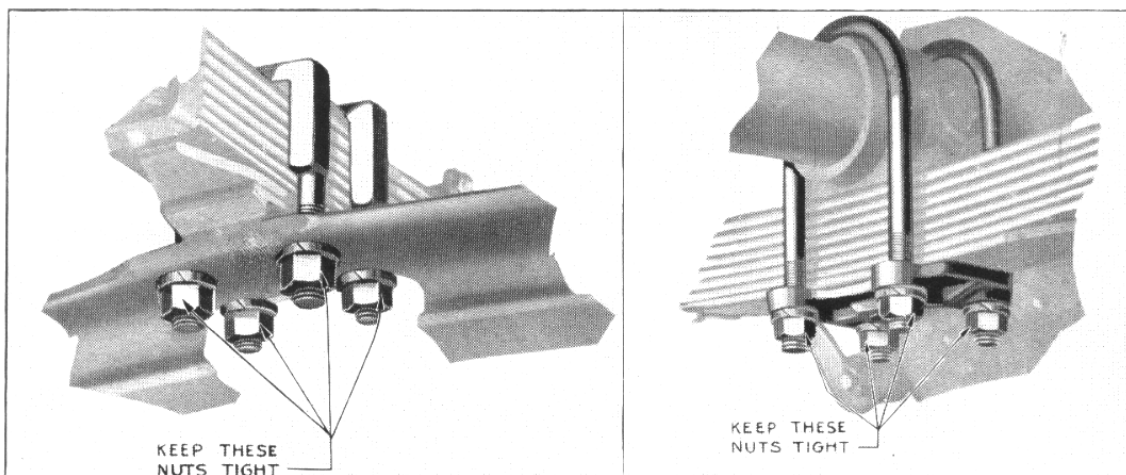


Spring Shackles



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.

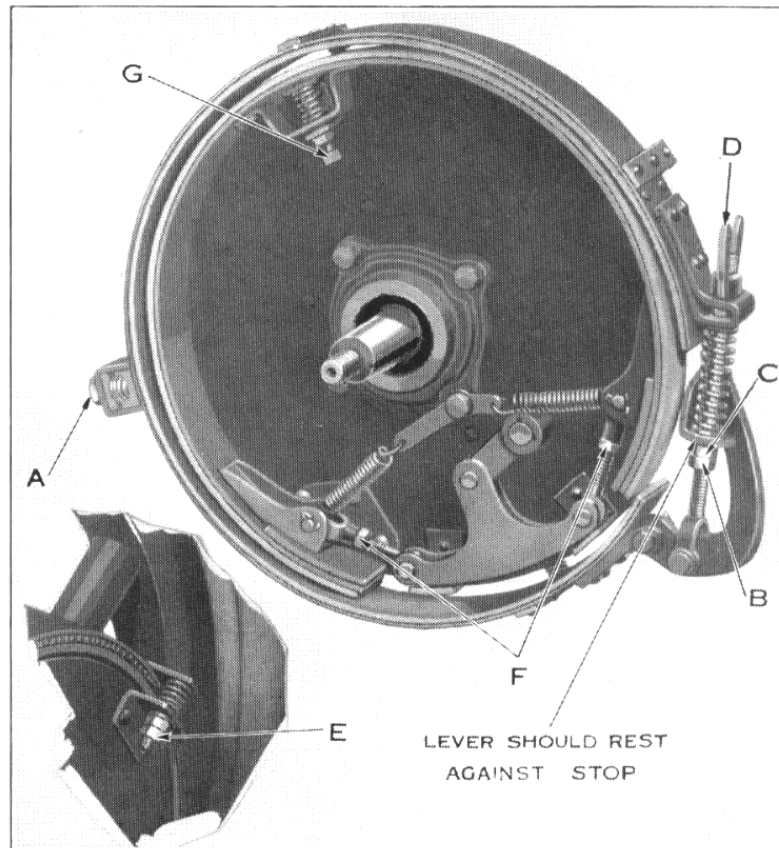
Do not tighten too much or you will interfere with the action of the springs. Follow the instructions given closely.



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.

Brake Adjustments



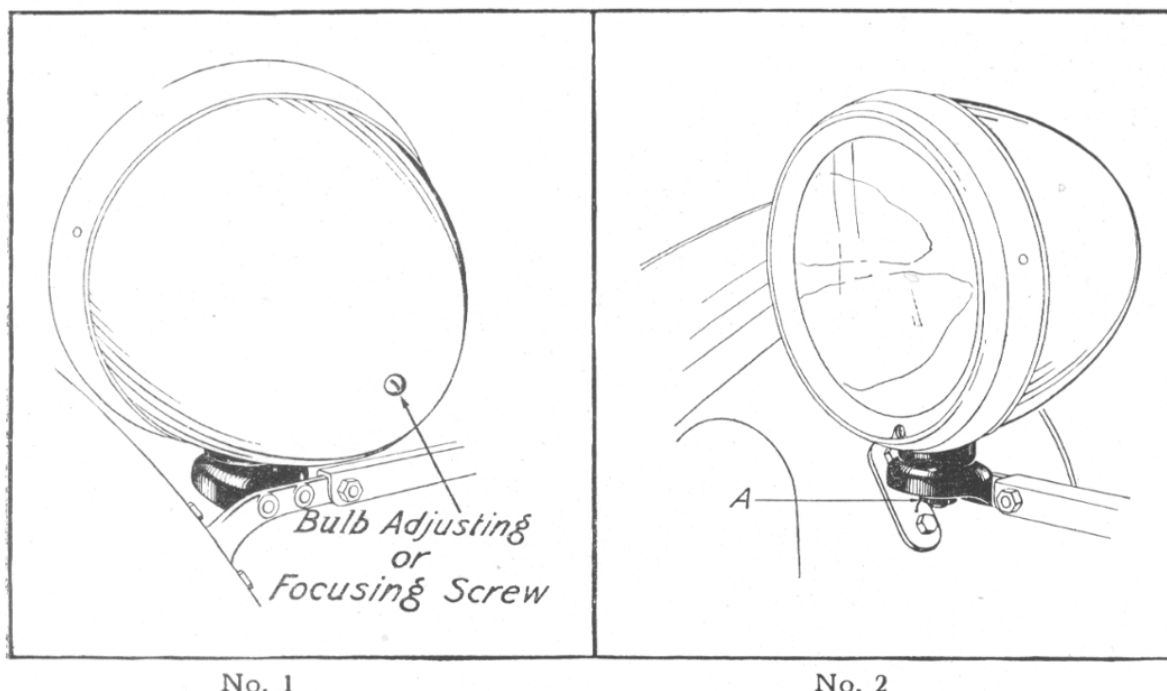
We suggest that you have your service station make all brake inspections for you.

In an emergency, to adjust the foot or external contracting brake, proceed as follows: First, see that the brake pull rods are adjusted so that the lever rests against the stop. Second, adjust "A" until the band just clears the drum at this point. Third, loosen lock nut "B" and turn the adjusting nut "C" down, thereby raising the lower half of the band until it just clears the drum. Fourth, by turning the wing nut "D" the upper half of the band can then be brought down so that it just clears the drum.

In conjunction with the above adjustments, each band is equipped with an adjustment at three points to assist in making the band conform to the circle of the brake drum itself. These adjustments are shown in detail at "E" and each is provided with a lock nut and adjusting nut to vary the position of the band.

The hand brake will require no attention for an indefinite period. Reference to the illustration above will show that the position of the expanding band is controlled by double adjustments indicated at "F." When it becomes necessary to adjust the hand brake, first adjust at "G" in order to have band just clear drum. Then expand the band by means of adjustments "F" so that it just clears the drum when the wheel is returned to position.

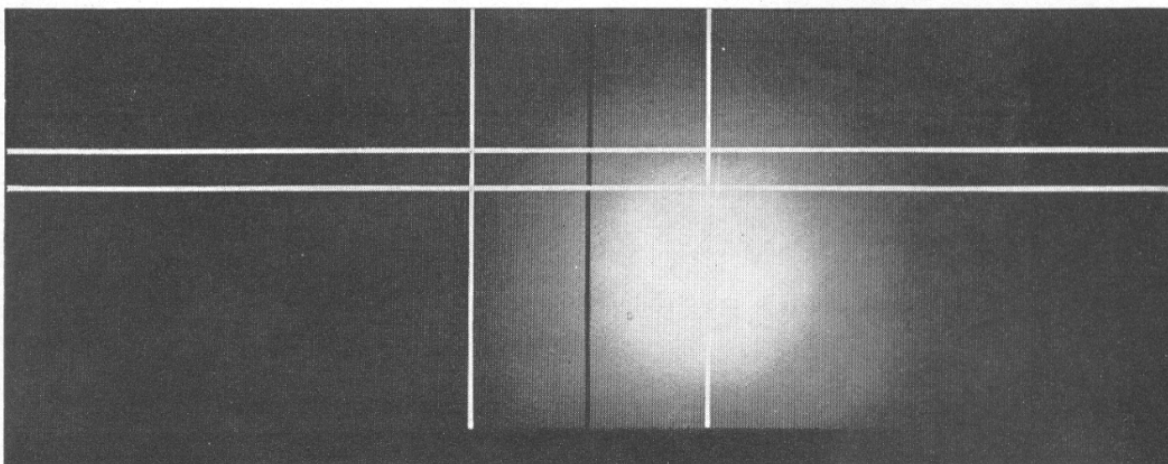
Headlamp Adjustments



No. 1

No. 2

1. Place car on level floor with the front of the headlamps twenty-five feet from a light colored vertical surface.
2. Draw a horizontal line across this surface the same height from the floor as the center of the lamps. Draw a second horizontal line parallel with and 8 inches lower than the first.
3. Cover up the front of one lamp and focus the other one so the smallest spot of light obtainable will be shown on the vertical surface. This is done by turning the bulb adjusting screw on the back of the lamp, shown in Figure 1, to the right or left as necessary until the proper result is obtained. As it is essential that the head of the screw be in close contact with the back of the lamp at all times, the screwdriver should be firmly pressed against the screw when turning it. If the screw has a tendency to come out of the lamp when turning to the left, strike the head a sharp blow, which will move it forward. Follow the same procedure when adjusting the other lamp.
4. Loosen headlamp stud nuts shown at "A," Figure 2, just sufficiently to allow the lamps to be tilted up or down as required, so the top edges of the beams of light will be even with the upper horizontal line shown in Figure 3, if the car has full passenger load. If the car is empty, the headlamps should be tilted so the top of the light beams will meet the lower horizontal line.

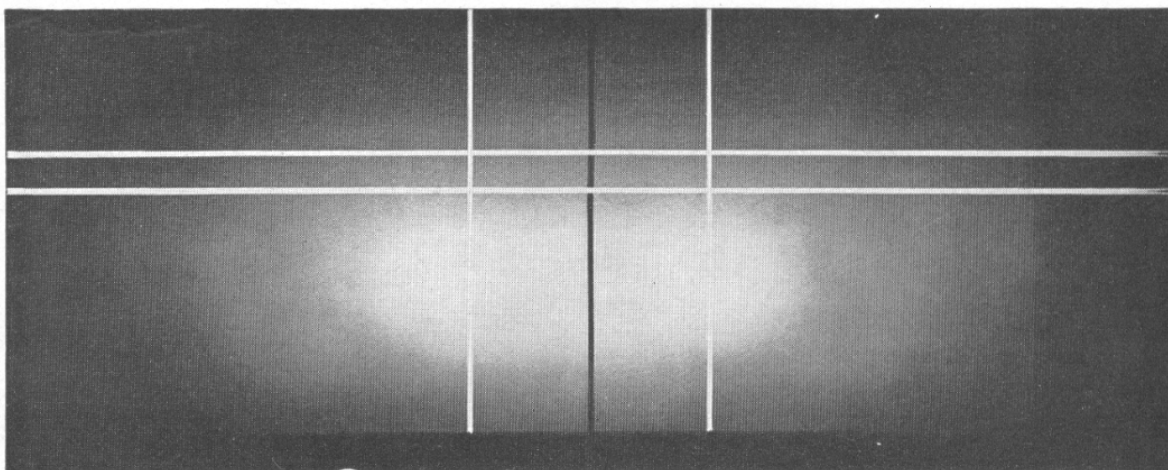


No. 3

Headlamp Adjustments—*Continued*

5. Line up the lamps by placing the straight edge of a board across the center of the lamp doors, and turning the lamps until both faces of each door touch the edge of the board. Inspect adjustment to make sure that the tilt has not been disturbed, then tighten stud nuts "A" securely.

When the lamps are properly adjusted and focused, as outlined above, the light beams will appear as shown in Figure 4, and 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.



No. 4

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 $4\frac{3}{4}$ 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 drain is located in the lower radiator tank.

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.

Careful washing of the car, followed by the use of a polish especially prepared for lacquer or enamel 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 23.

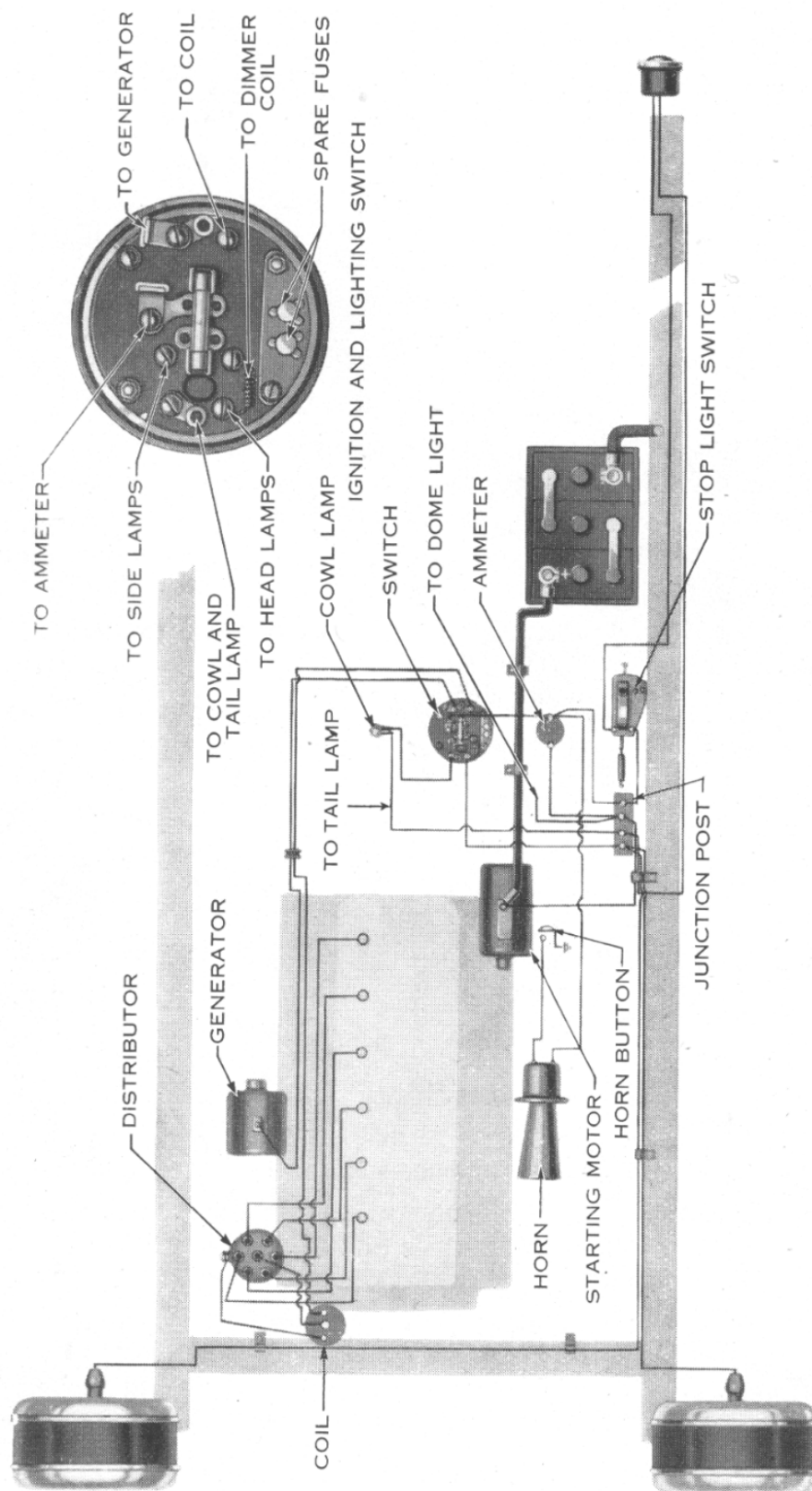
Reasons for Overheating

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 7. Clutch grabbing. Insufficient oil—re-oil according to instructions on page 7.
2. Rear axle noise. See that differential has sufficient lubricant. Remove housing cover plug and add oil if necessary.

Wiring Diagram



ESSEX INFORMATION

Wheelbase

110 $\frac{1}{2}$ inches.

Turning Radius

20 feet.

Road Clearance

9 inches.

Rear Axle

Gear ratio 5.6 to 1.

Firing Order of Cylinders

1, 5, 3, 6, 2, 4.

Spark Plugs

Metric, gap .028 inch.

Ignition Contact Points

Opening .020 inch.

Exhaust Pipe

1 $\frac{3}{4}$ inches diameter.

Valve Tappet Clearance

Intake .003 to .005 inch, exhaust .005 to .007 inch, with hot motor.

Valve Timing

Intake opens 7° after upper dead center, closes 50° after lower dead center; exhaust opens 55° before lower dead center, closes 8° after upper dead center.

Oil Reservoir and Troughs

Capacity 6 quarts; reservoir only, 5 quarts.

Clutch

Oil capacity—One-quarter pint, equal portions light motor oil and kerosene. Clearance between pedal and toe board $\frac{3}{8}$ of an inch.

Transmission

Fill to level of test plug on right side of case.

Rear Axle

Fill to level of filler plug in housing cover.

Cooling System

Capacity 4 $\frac{3}{4}$ gallons.

Gasoline Tank

Capacity 11 $\frac{1}{2}$ gallons.

Springs

Front, 36 inches long, 2 inches wide; rear, 54 $\frac{7}{8}$ inches long, 2 inches wide.

Spring Bolts

$\frac{5}{8}$ inch diameter.

Brakes

Drums 14 inches inside diameter, internal brakes 1 $\frac{1}{2}$ inches wide, external brakes 1 $\frac{3}{4}$ inches wide.

Storage Battery

6-volt, 13-plate, 105-ampere hour rating.

Lamp Bulbs

Headlamp, 6-volt, 21-candlepower nitrogen, single contact; dome, tail and instrument lights, 6-volt, 2-candlepower, single contact; stoplight, 6-volt, 15-candlepower, single contact.

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 easily 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.

The steering cross rod has an adjustable clevis. To adjust front wheels to proper "toe-in," the cross rod clevis pin should be removed, the clamp bolt loosened and the clevis turned in or out as necessary until the proper result is obtained.

Accessories

The following is a list of manufacturers of accessories used on Essex cars, with whom all matters pertaining to repairs or replacements should be taken up:

SPEEDOMETER

Stewart-Warner Speedometer Corp., Chicago, Ill.

BATTERY

The Prest-O-Lite Co., Indianapolis, Ind.

GASOLINE GAUGE

King-Seeley Corp., Ann Arbor, Michigan.

HORN

E. A. Laboratories, Inc., Brooklyn, N. Y.

STARTING MOTOR, GENERATOR, DISTRIBUTOR, IGNITION COIL AND SWITCH

The Electric Auto-Lite Company, Toledo, Ohio.

VACUUM TANK

Stewart-Warner Speedometer Corp., Chicago, Ill.

MOTOMETER

Motometer Company, Long Island, N. Y.

WINDSHIELD CLEANER

Trico Products Corp., Buffalo, N. Y.

TIRES

Goodyear Tire and Rubber Co., Akron, Ohio.
United States Rubber Co., New York, N. Y.



