

# IN THE AUTOMOBILE WORLD

## HINTS FOR THE MOTORIST

By ALBERT L. CLOUGH.

### Squeaks

It is Often Harder To Locate Than To Stop Them

WHENEVER UNLUBRICATED SURFACES rub together, especially under heavy pressure, annoying squeaking and grating sounds are likely to be produced, particularly if the materials in contact are sonorous, as are metal and wood. The worst squeaks often occur between parts which are supposed to have no relative motion, but which are rigidly fastened together. There is, however, a slight slippage of one on the other equal to the "give" of the fastening device, which while it may be imperceptible to the eye, is enough to produce the noise of a flock of assorted birds. Irregular road surfaces give rise to such twisting stresses in the frame that the body and other parts which it supports, in conforming to its bending and weaving movements, more slightly upon it and produce these irritating noises. The rubbing together of dry spring leaves as they deflect under road shocks is the commonest cause of squeaks and lubricant inserted between the leaves is the remedy for it, but there are other parts that are given to squeaking, such as the body on the frame, the hood on the radiator-shell and cowledge, the parts of the windshield, the splash guards on their supports or on the running board, the floor boards on one another or on the body framing, the spokes of artillery wheels and demountable rims on the wheels. There are three ways of stopping squeaks: Tightening the rubbing parts together so that they have no relative motion at all; placing between the rubbing surfaces some sound deadening material such as felt, rubber or leather and, finally, lubrication of the rubbing surfaces. When motion cannot be entirely prevented it is a matter either of using felt or fabric inserts or of greasing or graphiting the surfaces. Really, there are very few "squeak points" where the small amount of oil or graphite grease required to secure silence, proves objectionably dirty if all surplus is wiped off and where other methods fail, this may be resorted to.

### INCREASING CHARGING RATE

W. L. asks: If I separate the contacts on the cut-out of my electrical system a little wider than they are at present, will it make the generator charge at a higher rate and what will be the effect of a stronger charging current on the battery?

Answer: This will not increase the charging rate and, in fact, it will tend to reduce the current which your battery receives, as its effect will be to prevent charging from taking place at all in fact, it does now. You better keep the contact points the prescribed distance apart. To increase the charging rate, the third brush of the generator should be adjusted slightly in the direction of rotation. Increasing the charging rate enough to keep the battery charged should not be sufficient to produce any injurious effects.

Questions of general interest to the motorist will be answered by Mr. Clough in this column, space permitting. If an immediate answer is desired, enclose self-addressed, stamped envelope.

### HEATING THE GASOLINE PIPE

W. L. asks: Will there be any danger involved if I loop the gasoline pipe of my car into a coil of about five turns, around the exhaust pipe, for the purpose of preheating the fuel and what effect will this have?

Answer: No special danger will thus be involved, but we think you will find the result unsatisfactory, as there will be a tendency for gasoline to volatilize in the coil and create a back pressure that may prevent gasoline from flowing from the tank to the carburetor. The gasoline which reaches the carburetor is likely to be so hot that it will volatilize in the float chamber and prevent the fuel from being delivered in liquid form at the spray jet, which will "starve" the engine. With certain grades of gasoline, in hot weather, we are quite sure that you would meet with these difficulties. Heating the carburetor air or the mixture after it reaches the carburetor is more satisfactory than heating the gasoline itself.

vanced all the way as long as possible in climbing a hill. Under these conditions, when a change is finally to be made, it may be necessary to go down into low gear, because of the slow speed, whereas second would have sufficed with a little more momentum. Not only this, however, for, with the engine laboring, there is a great strain on all the parts, the bearings are undergoing great pressure while only being poorly oiled; and with the spark too far advanced, the combustion of the gas is partially exerted in a reverse direction, actually slowing down the engine, and partly on dead centre, subjecting the whole engine to a shock at every explosion. Naturally, too, much fuel is being wasted in this destructive effort.

Most drivers who do this think they are economizing because, they reason, their engines are turning over least time per given distance of car travel, and hence less gas is being passed through the engine and burned. This is not so, for if a change were made to second speed, actually less fuel would be consumed.

### ROAD DUST MORE COSTLY THAN GOLD DUST

Frequent Cleaning of Crank-Case Helps to Keep Down Motoring Costs.

Manufacturers of motor cars have long recognized the necessity of frequent crank case cleaning. The importance of renewing the oil in the crank case every 500 or 1,000 miles is emphasized in most of the instruction books issued by motor car manufacturers.

Through the work of motor manufacturing companies and the work of dealers, who have equipped themselves to take care of the job, a number of motorists have been induced to have their crank cases cleaned regularly, but there are still far too many motorists who neglect to do so.

Road-dust and sand work their way into the crank case to mingle with the oil and small metal particles to grind away moving parts and reduce the efficiency of the motor. Then, too, the oil in the crank case will, in time, wear out or become diluted by fuel mixtures and thus lose a great deal of its lubricating value. This dilution is, in some cases, due to faulty carburetor adjustment or mechanical defects.

The use of inferior motor lubricants and poor motor fuels, may aggravate the difficulty, but no lubricating oil can maintain a piston-to-cylinder seal over a piston clearance which has been made excessive through wear. Neither can any lubricating oil withstand the cutting of a "too wet" or too rich fuel mixture. The remedy lies in changing the oil frequently, after thoroughly cleaning the crank case.

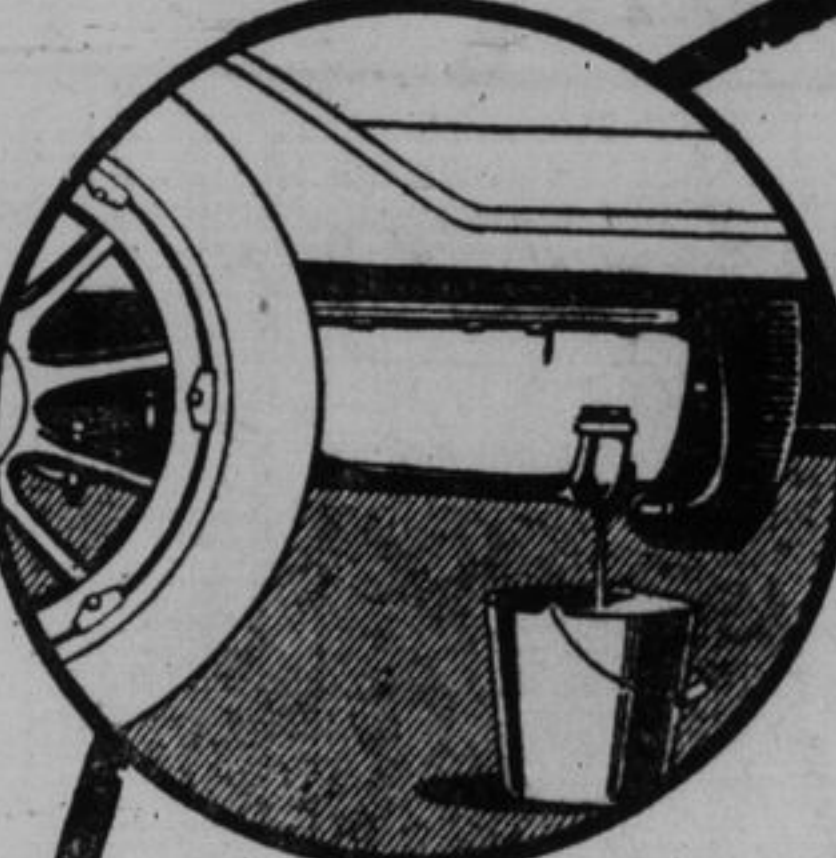
It is not enough to merely drain the oil out of the crank case and refill with fresh oil. Dust, grit and metallic particles may lodge in the crevices and the congealed oil which adheres to the side of the crankcase. The foreign matter thus retained will seriously interfere with the lubricating qualities of the fresh oil. Before refilling the crank-case, it should, therefore, be thoroughly cleaned.

One of the best ways to clean the crank case is to flush it out with a light grade of oil. There are many objections to the use of coal oil or gasoline for flushing. After cleaning with any one of these fuel oils, it is impossible to drain it entirely, a small portion of the coal oil or gasoline is almost certain to remain at the bottom of the crank case. This will dilute the fresh supply of oil and destroy its lubricating value.

Many dealers have prepared themselves to deliver expert crank case service. Cleaning the crank case is, at best, a dirty job and motorists will be usually better satisfied to go to a reliable dealer to have the work done. Motorists should, however, make sure that who ever does the job, does it thoroughly and uses the proper flushing agent.

A drive which is being put on simultaneously in many cities and towns throughout the Dominion by retailers handling lubricating oils, and garages who are specially equipped to handle crank case cleaning jobs, and which is to be backed by a rather extensive educational campaign, is significant. Through this drive it is hoped that more motorists can be induced to adopt the practice of frequent crank case cleaning. Beyond doubt, all motorists who do adopt the plan will benefit by securing more satisfaction and very agreeable reductions in operating expenses.

# Ask Your Dealer For Crank Case Service



You probably realize the importance of having your crank case cleaned every 750 to 1000 miles. But it is dirty work. You dislike to do it yourself. Why not have it done for you?

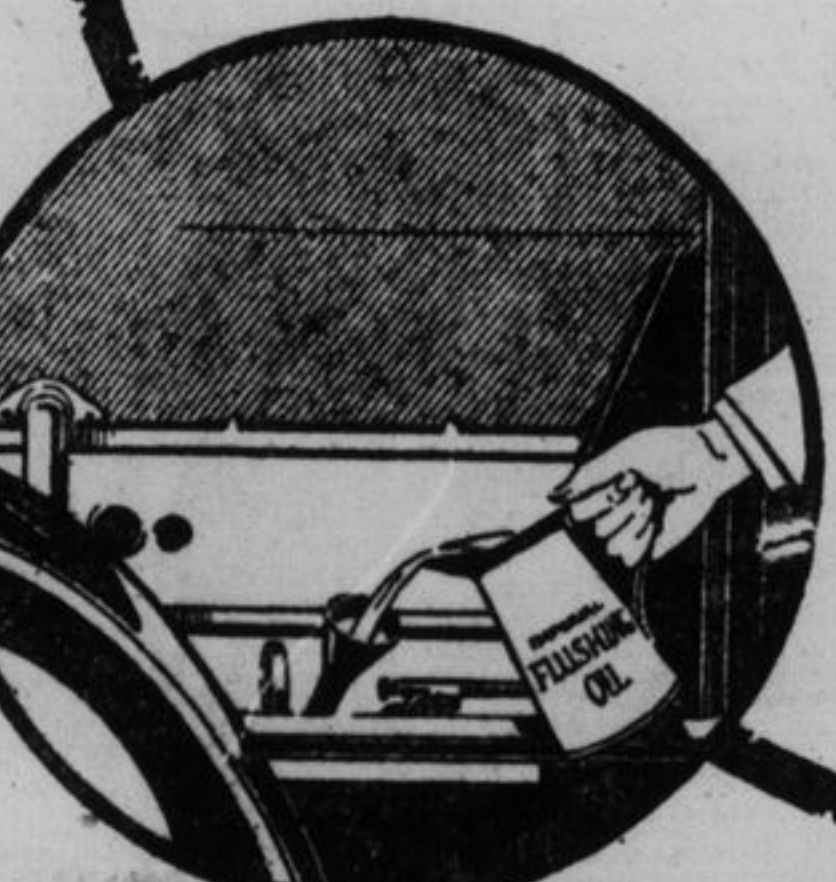
There is an Imperial Crank Case Service dealer near you who maintains a modern crank case cleaning department and he will gladly have an expert do the job properly.

And what is most important--he will use Imperial Flushing Oil for cleaning your crank case. No danger then of diluting the fresh oil which is added later as might be the case if coal oil (kerosene) were used for flushing purposes.

Make it a special point to drive round to the Imperial Crank Case dealer's sometime during the next week. Let him tell you more about this service that saves your car and saves you money.

### Dead Oil Removed

Even the best oil you can buy wears out in time and loses much of its lubricating efficiency. It then fails to maintain the proper piston seal. Power goes to waste. Wearing surfaces no longer receive proper protection. It is of the utmost importance that you have the old oil drained out of your crank case frequently.



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### All Parts Thoroughly Cleaned

Merely draining the crank case is not sufficient. Metal particles, road dust, dirt, grit and carbon have a tendency to adhere to the metal parts of your engine when the oil is drawn off. Imperial Crank Case Service dealers use Imperial Flushing Oil, a scientific cleansing agent, which removes all foreign matter and thoroughly flushes out your engine and crank case.

### Refilled with Fresh Oil

No one grade of oil could properly lubricate all different makes and models of automobiles and trucks. Different types require a special grade of oil, suited to their construction and operating conditions. The Imperial Crank Case Service dealer who refills your crank case, will use the grade of Imperial Polarine recommended for your car on the Imperial Chart--an infallible guide to proper lubrication.

### RETARD THE SPARK WHEN GOING SLOWLY

Wasteful Practice to Force Car Up Hill When Motor is Laboring.

The summer motoring season is here, and the call of the open road is in your blood. Naturally you are more eager than usual to have your car at its maximum efficiency. You should bear in mind that the heat of summer, combined with the harder and more constant use to which you put your car at this season of the year, causes more evaporation than at other times. This applies not only to water in the radiator, but also oil.

During the coming hot months you should see that the radiator is continuously flushed out and filled with clean water. In connection with this, efficient fan belt adjustment should be made, for the fan is needed more than ever in summer. The position of the spark lever should be watched to see that it is kept in an advanced position, for thus it insures better cooling of the engine.

Generally speaking, a car operates at least expense per mile when it runs in high gear with the spark advanced, but not always. This condition is a most extravagant one when the car is running slowly, first, because the spark is then too early, producing a spark knock, and, second, because the power impulses are farther apart, and the action is, therefore, less even, power being consumed in overcoming the inertia of the flywheel, which is very great at an uneven torque. Many drivers try to stay in high gear and keep their spark levers ad-

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Cunningham Lincoln Standard  
Dorris Locomobile Stevens Duryea  
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In fact, 84% of all the manufacturers of pleasure cars use engines with ground cylinder bores, and 91% of the commercial motor are ground. Heald Machines are used exclusively.  
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