

Hints for the Motorist

By Albert L. Clough
Editor Motor Service Bureau, Review of Reviews

LOOSE ENGINE PARTS

AND THEIR DANGERS

Heed The "Pound," Before The "Smash" Comes

Knocking or pounding upon the part of an engine is so intensely disagreeable to the trained motorist and indeed to any mechanically inclined operator that immediate steps are generally taken to have its cause removed, but there are some drivers who through indifference or lack of knowledge of the consequences, put off from day to day the repairs which such symptoms indicate are necessary and tolerate "pounds" until they become unmanageable or until the conditions which cause them have brought about very serious results.

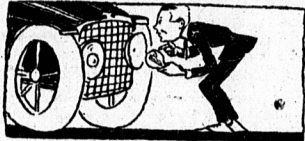
Pounding noises are the danger signals proclaiming that looseness exists in parts, which should be running in close continuous contact and they result from blows dealt by one part against another. The common examples are those of looseness in crankshaft and connecting rod bearings, the former permitting the crankshaft to play violently up and down in its bearings in the crank-case and the latter allowing the lower ends of the connecting rods to move relatively to their crank-pins, upon which they should run without slack or lost motion.

Looseness capable of causing a pound is sure to aggravate itself very rapidly

because the parts that strike together, under high velocity and pressure, act as hammers to batter one another's surfaces, deforming them rapidly into a state of even, more pronounced looseness. Whenever two parts, moved by certain forces, strike one another the stresses produced in them are immensely greater than when they merely push one another and this makes the effect of loose engine parts most destructive. The metal of the crank shaft thus subjected to blows, tends to become fatigued and premature breakage may be the result, while the bolts that secure bearing caps in place, are prone to break under long continued pounding.

When a bearing cap comes loose, especially a connecting rod cap, the engine may be almost completely wrecked, for the detached rod runs wild and is very likely to punch a hole through the crank-case or break the cylinder block casting and to get in the way of one of the cranks, thus springing the crank shaft, out of line—damage which is not easily repaired. The moral of all this is, that when a pound develops, it should be understood as a solemn warning, which should be acted upon at once and not put off. If this is not done, the looseness which gives rise to the noise will increase rapidly, damage already done to the parts will be greatly augmented but the most serious possibility is that parts may break loose and smash the engine.

LAMP BULB SIZES AND GEAR SHIFTING



car is equipped with a clutch-brake to prevent the clutch from spinning idly, be sure that it is properly adjusted and that it produces the effect intended. Use lubricant of the right consistency in the gearbox.

AMMETER READS INCORRECTLY

T. C. asks: What caused the ammeter on my car suddenly to begin to indicate incorrectly. When the engine is stopped it now reads several amperes "charge" and the amount of current shown, when the lamps are on, is much less than it should be. Can it be fixed?

Answer: The only thing we can think of is that the instrument has suddenly been thrown out of calibration or the pointer has become bent by some accident, so that it fails to indicate zero when no current is passing. The most common way in which this sort of thing happens is from the effect of a short-circuit in the wiring. This permits such an immense current to flow that it strikes the pointer violently against the stop on the "discharge" side of the instrument, permanently bending it. If the glass can be removed, you may be able to carefully bend the pointer back, so that it zeros correctly. If not, you better return the instrument for repairs.



KEEPING THE POWER PLANT CLEAN

Dirt Outside Is Unseemly, But Dirt On The Inside Is Ruinous.

J. K. H. asks: (1) Will it do any harm to use in my headlights, stronger bulbs than the factory recommends? (2) What can I do to prevent that grinding noise, which occurs when shifting gears?

Answer: (1) No. But, of course, they will increase the drain of current from your battery. (2) Be sure that you push your clutch away out, especially when changing from a lower to a higher gear. Try to have the car speed and the engine speed so proportioned one to the other that the gears to be meshed are running at about the same speed before trying to force them together. Take time and be gentle in shifting, feeling the gear edges to be sure conditions are correct, before using force on the lever. Don't try to engage low or reverse when the car is moving. In changing from high to second, go into neutral, let in the clutch, speed the engine slight, throw out clutch and then mesh the gears. If your

Road dirt is largely composed of fine sand and sand is largely ground up quartz rock. Quartz powder is what is commonly used to grind valves with and, especially when mixed with oil, has the very strongest effect in wearing away metal surfaces, for it is extremely hard and can cut almost anything, even glass. Motor cars are commonly operated either in a shower of liquid road dirt (mud) or in an atmosphere of dust; their running gears and bodies being subjected to one or the other almost constantly while the power plant so far from being protected from dust, is at all times subjected to it by the radiator fan, that constantly plays upon it a current of dust laden air. There is always more or less oil vapor around an engine and this mixes with the dust and forms an actively abrasive paste that settles upon all exposed parts and works into all bearings, that it can reach, where it acts to grind them out. Mud reaching the spring joints steer-

ing gear connections and even the wheel bearings, dries out and enters their bearings.

The following suggestions relate to overcoming the wearing effects of dirt: Cleaning the outsides of the housings, the cylinders and similar parts, upon which the dirt can do no direct harm, while important in preserving a neat appearance, is a secondary matter and important only as it gets rid of dust that may go to other more vulnerable points. Exposed valve-gear parts should frequently be scrupulously wiped clean of all dust and the same is true of the bearings of generators, magnetos and other moving auxiliaries, all parts of the timer-distributor and exposed wiring and all joints through which auxiliaries are driven. Oil-retainer covers should always be kept closed and be wiped clean, before oil is supplied, and all joints in control rods should be cleaned often. Excess oil or grease should not be allowed to ooze out of joints or bearings, as it collects dust so, after screwing down grease cups, see that the squeezed out lubricant is removed. In general, attention should be paid to keeping dirt from entering mechanical parts. If additional time is then available, it is all right to clean up the parts upon which dust can do no actual harm, but the main thing is to keep it away from vulnerable points.

ENGINE IS INCLINED TO KNOCK

H. & J. writes: We have a 1914 engine of which has recently acquired a knock, when pulling a grade slowly or when being accelerated quickly. The best mechanics tells us that it amounts to nothing, but we lose power on account of having to retard the spark so much in trying to keep down the knock. Can you give us any helpful suggestion?



ing and yours may be a case of this kind. We suggest that you install a set of "low compression" valve-caps, which the manufacturer can furnish and, if this change does not stop the knocking, that you shim up the cylinders by the use of a liner between the crank-case and the cylinder flanges.

PRESSURE FUEL FEED SYSTEM LEAKS

A. W. S. writes: The car that I am driving has a pressure fuel feed system and gives me endless trouble because the pressure is not retained. Even after a short stop, I have to work the hand pump before I can get gasoline to the carburetor and when the tank is nearly empty, this is quite a tiresome job. What can you suggest?

Answer: Doubtless you can in time discover and stop the leaks which reduce your pressure so rapidly, but we believe that it would pay you in the end to tear out this pressure system and install in its place a modern vacuum feed system. The expense incurred would not be great and we fear that you will experience frequent trouble with your present system, so long as you keep it. If, however, you decide to "tighten up" your old system, first locate the leaks

Answer: We assume that this engine is in perfect mechanical condition, that it is free from carbon, that the fuel mixture is correct, that the cooling system is operating normally and that the ignition is properly timed. It is a well known fact that, in order to increase their power, these engines were given a compression ratio which was very near the practical limit at that time and which in many instances has proved somewhat higher than can be successfully utilized with present-day gasoline. We have known of several instances in which compression has had to be reduced to prevent knocking by taking a brush and soap solution and brushing over all joints of every description in connection with the hand and power pump, the air line and the fuel tank. Keep the pressure up, meanwhile, and whenever soap bubbles form, stop the escape by soldering, by the provision of new fitting or packings or in some such manner. Be sure that the check valves in the pumps work properly and do not permit air to blow back.



Questions of general interest to motorists will be answered in this column, space permitting. Address Albert L. Clough, care of this office.

Symbolic of Canadian Ideals

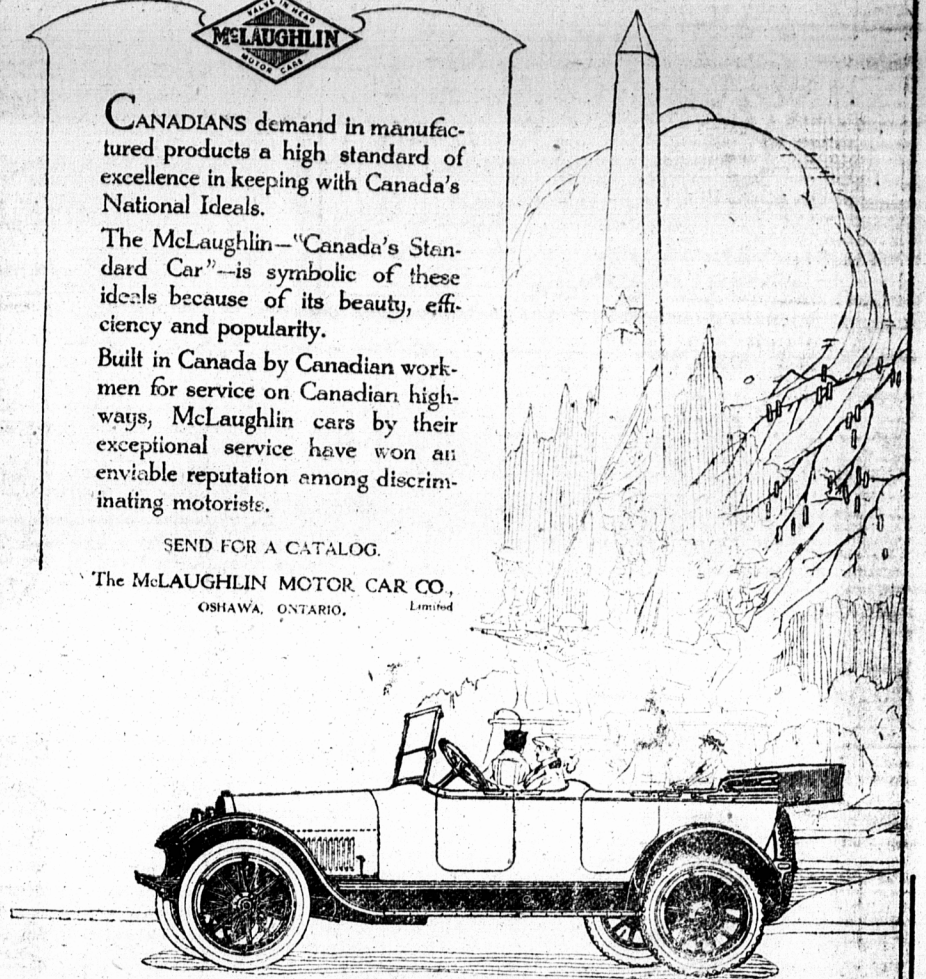
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AVOID COUGHS and COUGHERS!

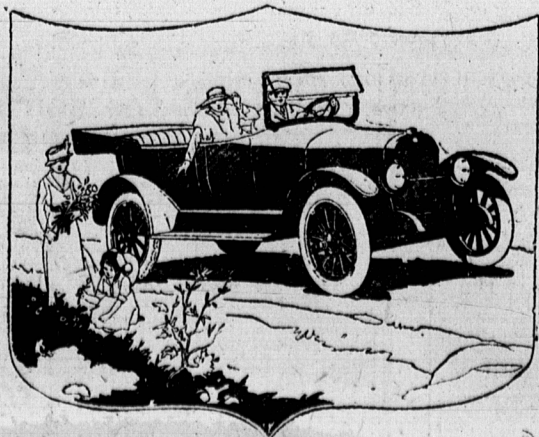
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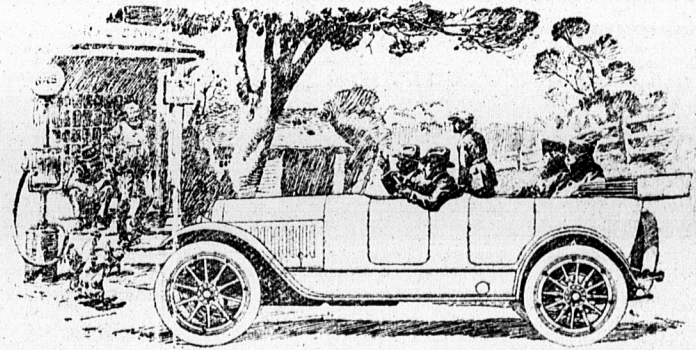
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