

HINTS FOR THE MOTORIST

ALBERT L. CLOUGH

THE AVERAGE MOTORIST thinks but seldom of the lubrication conditions prevailing in his car's gearbox, but nevertheless it is of importance. There should always be enough lubricant in the housing, so that some of the gears dip into it continuously and distribute it by splashing. It should never be so thin and watery as to fail to cushion the gear faces, so that they may run quietly and with a minimum of wear. Too thin lubricant moreover tends to leak excessively. It should never be so stiff or become so thickened by cold that it will not flow, for this will result in the gears cutting permanent channels in it or pushing it away from them, so that they do not touch it. Under these conditions there might as well be no lubricant in the housing, so far as its reaching gear teeth and bearings is concerned. Cuprous and transmission compounds, not proof against winter temperatures, have the above mentioned failing.

Gear Meshing Difficulties

Countershaft gears running in very sticky, heavy lubricant not only waste a lot of power but they meet so great resistance in "churning" it, that they come to rest almost instantly when the clutch is thrown out, thus making it difficult to mesh them with the sliding shaft gears, which turn so long as the car is moving. Much gear-clashing, especially in cold weather, arises from this excessive "clutch brake" action of over viscous transmission lubricants.

Difficulty in Sliding Gears

In a transmission so full of non-fluid or frozen lubricant that the sliding gears and the shifter forks are immersed in it, changing speeds is sometimes well nigh impossible and usually involves so much brute force, applied to the gearshift lever, that it or the forks may be bent or even broken.

Regulating Lubricant Consistency

The ideal condition is to keep the transmission lubricant just thin enough to flow freely at the lowest temperatures met with, and this is best accomplished by using a normally fluid heavy oil or transmission compound further thinned, if necessary, by admixture of engine oil or of a small proportion of kerosene.

TAKES HOURS TO START IT



F. P. writes: Ever since it was new, the engine of my 1920 car has been almost impossible to start and occasionally stops without apparent cause. While it is running, it operates normally and pulls well, but I sometimes work for hours at a time to get it going and even when I am successful, it may stop after running a few miles. There seems to be plenty of gas furnished the cylinders. A new battery, coil and distributor have been put in. Can you help me?

Answer: Its satisfactory running when once started, seems to exclude the possibility of faulty valve action, and improper ignition timing, and as you have replaced most of the ignition apparatus, it would seem that this must now be O. K. This leaves carburetion as the most probable seat of the trouble. If there is positively a good starting spark, your starting difficulty may be due to air-leaks into the intake or to the failure of the choke to give a rich enough starting mixture. An air-leak would make the engine stall easily and resist starting. If it will start after the cylinders are primed with gasoline, you can be pretty sure that one of the above mentioned defects is present, but if it does not so start, there is not an adequate spark. After assuring yourself that all intake connections are tight and that

the choke fully closed, please write us again, if you still have trouble.

ELECTROLYTE WEAK IN ACID



H. J. W. writes: My storage battery will charge only half full, even though I leave my rectifier furnishing it current at the rate of three amperes for days at a time. Would it help in securing a full charge if I should put acid in the cells? If so, what kind of acid and how much should I use?

Answer: If you conclude that this battery is only half charged, simply because the electrolyte gravity tests only what it normally should in a half charged battery, your conclusion may be incorrect, as the cells may actually be fully charged, but the electrolyte may be weak enough in acid to make the gravity readings misleading. If the positive plates are brown and the negatives gray in color, and the cells are up to voltage and if gas escapes from them while charging, your battery is probably at full charge and only needs to have the electrolyte strength readjusted. It is rather a fussy job to do this, and we suggest that you have it done at the service station. The acid used is chemically pure sulphuric, but this is never added to the cells as such. The electrolyte is drawn off and usually replaced with new.

Frost In The Gas Line

Negligence In Excluding Water Invites Fuel Feed Troubles

WATER IN THE FUEL SYSTEM causes enough annoyance in warm weather, but it seldom absolutely prevents an engine from running without plenty of warming. In winter, however, its freezing may absolutely cut off the gasoline supply and do so without any warning indications. When an engine that has been standing idle in severe cold, fails to start or stops after running for a very short time and examination shows that the carburetor is empty, although there is gasoline in the tank, a very plausible conclusion is that the fuel line is somewhere obstructed by ice.

The Ice-Bound Carburetor Screen

The point of freezing is most likely to be the strainer at the carburetor inlet and if, when the supply pipe is disconnected at the carburetor, gasoline flows freely from it, ice has probably formed in the strainer gauze. It should be removed and thawed and all traces of water drained out of the carburetor, after warming it with hot cloths or hot water poured over it.

The Ice-Plugged Carburetor Pipe

If gasoline does not escape from the detached carburetor supply pipe, it is possible that water, accumulated in its lowest portion, has frozen, this being indicated, if gasoline escapes from vacuum-tank when the pipe is disconnected therefrom. Warming the pipe and blowing all water out of it is required.

Other Vulnerable Points

A car which has long set idle, with much water in its fuel system, in an intensely cold garage, may have its gasoline line frozen at several points at once. There may be ice in the bottom of the vacuum-tank around the outlet and if no liquid escapes from its drain when opened and a wire cannot be forced up through it, this condition is indicated. It is conceivable too that ice may form in the main tank, around the draft tube or in a "dip" in the pipe to the vacuum tank.

Such Troubles Are Preventable

The frozen gas line can absolutely be forestalled by keeping water out of it by frequent drainings of the carburetor, the vacuum tank and the main tank. If a gasoline filter is provided, as a separate unit, this requires draining.

PASTEBOARD RADIATOR SHIELD



S. L. K. writes: I notice a great many cars this winter with their radiators partly covered with pasteboard shields. Is this idea worth adopting on my car and, if so, to what part of the radiator should the pasteboard be applied?

Answer: Anything that helps to keep the jacket-water properly warm in cold weather is helpful, but the pasteboard shield is a rather crude makeshift, now that adjustable shutter-fronts for most makes of cars (including yours) are on the market at reasonable prices. The impression is that if the pasteboard shield is to be used, it should be applied to a vertical section of the radiator on the carburetor side, so as to tend to protect the carburetor from the cold (w-blast) rather than to a horizontal strip along the bottom of the radiator, but such makeshift forms of radiator shield sometimes prove nuisances on warm days and on long hard runs. Wouldn't it be worth your while to install an adjustable shutter front and a radiator thermometer, which combination would give you full control of water temperature?

INSUFFICIENT CARBURETOR HEAT

P. L. S. writes: The engine of my car has never been much affected by cold weather until this winter, but lately it has been troubled me by missing and back-firing at slow speeds and is using too much gasoline. It takes it a long time to get to running at all as it should and even then it does not perform as it used to. The gas line is clear and no change has been made in the carburetor or elsewhere. What do you think is wrong?

Answer: With this engine, satisfactory carburetion is dependent upon a free flow of exhaust gas through the carburetor and intake jacket to furnish heat for vaporization purposes and you may find that you have not made the necessary changes to secure the cold weather heat setting or that, even if this has been done, the exhaust passages have become so clogged with oil residue and soot that the exhaust gases do not flow through them freely enough to give the required heat. The escape pipe from the jackets should be hot after the engine has run a while and if it does not become so, the exhaust passages should be cleaned out and the action of the exhaust controlling valves checked up.



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.



PRICE CHANGE

Introduction of the improved Ford closed models in colors has substantially increased the demand for these popular cars. In line with the policy to give its customers the benefit of all reductions in production costs, the Ford Motor Company of Canada, Limited announces substantial reductions in all closed models except the coupe. These reductions effective as of February 11th.

Fordor
Tudor
*Chassis

New Price	Old Price	Reduction
\$755	\$895	\$140
695	755	60
325	335	10

Added refinements in the new model runabout, touring car and light delivery have necessitated a slight price increase. These prices are now as follows:

	New Price
*Runabout	\$410
*Touring	440
*Light Delivery	435

The truck chassis and coupe remain unchanged.

Coupe	\$665
*Truck	485

* Equipped with starter \$85.00 extra

All prices f. o. b. Ford, Ontario

Ford Motor Company of Canada, Limited
Ford, Ontario

PRINCESSES ON CHARITY BENT



Princess Xenia of Greece, now Mrs. William B. Leeds, at the right, and Princess Obolensky, the former Muriel Astor, talk over plans for a dance for the benefit of poor Russians in New York.

FUNERAL OF THE LATE QUEEN MOTHER OF ITALY



Great pomp marked the funeral of the late Queen Mother Margherita of Italy. The draped casket, mounted on a caisson, started on its way surrounded by royal guards. The body was interred at the Pantheon beside King Humbert, Margherita's husband.