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HINTS FOR THE MOTORIST

by **ALBERT L. CLOUGH**
 Editor Motor Service Bureau Review of Reviews
 Commonsense and Valve Grinding

Grinding Valves is Good For Just One Thing—Leaky Valves

WHEN THE SEATS AND STEM GUIDES of engine valves are so badly designed that they are not adequately cooled by the circulating water, the valves themselves, especially the exhausts, may become so hot as to warp, or to form scale or pits in their surfaces. If the valve material is poor this effect is intensified. An undue amount of oil vapor and gasoline soot in the mixture fouls the faces of the exhaust valves especially and the constant hammering of valves on their seats, with road dirt brought in with the mixture, modern engines are well cooled and of good material, and it is rarely that a set of them requires any attention for several thousand miles. Often times a mileage of five figures is made with no valve grinding being necessitated. Somehow or other, valve grinding has become the "favorite prescription" of the motor car doctor, supposed to cure the engine of "what ails it". It is recommended for all "skips", "knocks" and other infirmities of the ignition and carburation system and for almost everything else, short of broken crankshafts. This is all very foolish. Valves do require grinding at long intervals. They require grinding when they have become leaky and under no other conditions.



TO ADJUST ENGINE BEARINGS

F. R. B. asks: Will it do any injury to my car if I install a spark plug instead of those furnished by the manufacturer, and do you think they will give me any better results?
Answer: Your engine takes a spark plug with an extra long shell and any plug which is right to be used in your make of engine can safely be tried in it, but we have very little faith that the plug you propose trying will give any better results than the one used as a standard by the manufacturer, for the manufacturers of all cars make very careful tests of spark plugs, and are very anxious to adopt the plug which permits their engines to do its very best work.



CAR SAGS

W. A. W. asks: What can I do correct the following condition? The rear side of my car sags badly and is becoming more serious.
Answer: We suppose that this is simply a matter of the right spring having flattened out in service, and that when you have the spring reset and replaced your car will be plumb again. You can remove this rear spring and ship it back to the factory, after receiving a new spring from them, and they will give you credit for the old one, or, you can take your present spring to a good spring maker and

Why Carburetors Need Occasional "Tinkering"

Understand Your Carburetor Fully Before Attempting Adjustments
THE ADVICE IS FREQUENTLY GIVEN: Do not tamper with the carburetor, as it has been correctly adjusted at the factory, and doubtless this admonition is intended in the very best spirit, for it is a fact that, when once properly set, a carburetor will go on performing satisfactorily as long as conditions do not change, so that altering its adjustments unintelligently or needlessly, will do more harm than good. The reason why this advice should not be literally followed is that carburetor and carburation conditions are subject to change, and it is foolish to assert that a factory adjustment can be either infallibly perfect or prove permanently right. Among the factors that make carburetor adjustment occasionally necessary are the following: Changes of gasoline quality, involving differences in its viscosity or "body", that alter the rate of fuel flow through the fuel spraying nozzle. The "heavier" the gasoline used, the less will pass through a certain aperture, under a certain pressure. Changes in atmospheric conditions, as between low and high altitudes, less oxygen being contained in cubic foot of air at a high elevation than, for instance, at sea level. The same adjustment that is correct at Denver will not necessarily be so at New York. Change in the action of carburetor parts with time, due to the weakening of springs controlling the air supply and the alteration through wear, of links that inter-connect different portions of the mechanism. Changes in the operative temperature of the intake chamber and cylinder walls, as between the extremes of summer and of winter weather. When no means are taken to overcome the effects of such atmospheric differences, a more liberal gasoline adjustment must be maintained in cold weather, because so much of the fuel supplied fails to vaporize and burn properly. Differences in the carburation requirements sought. Some operators wish a mixture rich enough to produce maximum acceleration and power, even at some sacrifice in economy, while others, in order to save gasoline, are willing to use a slightly leaner mixture. In order to avoid changing his carburetor setting, unless it is known to require it, but should not hesitate to do so when it is advisable. Instructions, minutely explaining the correct method of adjustment, are obtainable from the manufacturer of every make of carburetor, and every motorist should familiarize himself with the directions applicable to his particular instrument.



VALVE TIMING

F. D. asks: Please explain in detail the proper way to time valves and ignition in the case of any engine. Is the timing the same for the greatest power and the greatest speed?
Answer: Almost every make of engine has its own method of timing, and the exact setting for the timing gears is given in the manual accompanying each make of engine. In general, the timing of all engines is somewhere near the same, but the different manufacturers have slight differences in practice. The timing used is somewhat a compromise between maximum speed and maximum pulling power, designed to give the best all-around results. Hand regulation of the spark enables extra speed to be obtained, but the valve timing, as we say above, is rather a compromise.



BRACING FOR CHASSIS

F. W. T. asks: Does the chassis of any automobile have diagonal bracing? If not, what is the reason?
Answer: Several makes of cars use a diagonal brace at each axle, at each end of the axle, and attaching at one of the frame members in the center of car. The most commonly used car of all makes uses this construction. It is not, however, a very common practice, and is not really necessary in making the chassis rigid. Diagonal bracing is somewhat in the way, and braces of any kind are likely to cause some rattling.
F. D. asks: Should both the gas and ignition levers be turned off when the engine is used as a brake?
Answer: Yes.

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.

"TOURING CAR" IS TO BE A "PHAETON"

Standard Names Are Now Being Adopted For The Types of Autos.

Slowly but surely the name "touring car" is going into the discard. To-day manufacturers are almost universally adopting the word "phaeton" in place of the former name. Manufacturers say that the reason for this is that "touring car" is as much of a misnomer as the term "pleasure car" and they predict that within the next two years the names of various automobile models will be so standardized that the average man will be able to understand just what a model looks like when he is told that it is a "coupe or sedan."

A recent canvass of the industry showed that there were several hundred names given models by the various companies so that it was next to impossible to know just what they designated. The Society of Automotive Engineers recently took this up and they with other automobile societies, are urging that the factories adopt standard model names.

The name "phaeton" has now been endorsed by all the leading factories and 1924 models will probably nearly all be known by this symbol. It is said that the words "touring car" as they were used ten years ago were perfectly correct, but to-day, with the automobile becoming more and more a factor in business life and transportation, the factories feel that their cars have ceased to be touring cars, so the name "phaeton" has been decided on to designate the five-passenger open models.

In the same way many of the leaders of the industry are now at work to insure that every manufacturer will agree on a set of names for the closed models and this will probably be done by the first of August, when next year's cars begin to make their appearance.

These names will probably range about as follows:
 The phaeton; the roadster; the sport roadster; the sport, four-passenger phaeton; the brougham or coach to designate a low-priced closed model; the two and three-passenger coupe; the sedan; the limousine; the landau sedan, to designate a car with a top which can be lowered for the occupants of the rear seats.

Other names, such as Victoria, Imperial limousine, dispatch, speedster, carry-all and several hundred others are due to go, it is said.

SPARK PLUGS SHOULD CLEAN THEMSELVES

If Engine is Functioning Properly the Plugs Need Never Come Out.

The only part of a spark-plug which it is essential to keep clean is the surface of the porcelain, lava or mica core that insulates the centre or live terminal from the shell or grounded portion. It is unnecessary to clean the sparking points themselves, despite the general belief to the contrary, although any deposits that bridge between the points should be removed. Plugs will not become dirty except in engines using over-rich mixtures or which allow loose oil to collect above the pistons. Even when these conditions exist for a short time and then cease, plugs will clean themselves automatically—the electrical discharges and the combustion disposing of soot and oil deposited on the insulation. In an engine that is run on a correct mixture and has a properly working oiling system it should never be necessary to remove the plugs to clean them, and they should run thousands of miles without attention. Plugs, the insulation of which around the live spark-point is exposed, can usually be cleaned sufficiently merely by brushing off the deposits from the end of the bushing, but to do a thorough job the plug may have to be taken apart. Plugs, the end insulation of which is not exposed, usually have to be taken apart to enable the porcelain to be wiped off.

Soaped as Joint Stop Leak.

A leaky gasoline point can frequently be made tight by rubbing soft soap into the threads before assembling. Soak a piece of soap in water for a few minutes before using. The gasoline does not dissolve the soap and the leak is plugged.

Use Best Gasoline.

A good grade of gasoline will burn practically clean, while poor gasoline will deposit carbon on the walls of the cylinders and a black, tarry substance will be left on the bottom.

WORN DOOR STOP IS LITTLE CAUSE

Closed car doors won't rattle if the striker plate or door stop where the door latches, is replaced when worn. Adding new door bumpers won't help a worn striker plate any and won't stop rattles for any great period if the striker plate is making the real trouble.

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CHILDREN TO BE TOLD HOW TO CROSS STREET
 Look to the left when you start across a street; when you reach the centre, look to the right; when you are in a critical position use common sense and do not lose control of yourself. If the danger is from an auto, stand still and do not confuse the driver by dodging. Never pass behind a street car or wagon without looking to see whether another car or auto is approaching from the other direction.
 The above common sense rules for safety in crossing streets have been broadcast by the O.S.L., especially among school children and parents, in an endeavor to cut down the number of traffic accidents.

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