

Making Ready the Automobile

Common adjustments that the car owner can make himself

By A. C. Emmett

The thoughts of the motorist are now beginning to turn toward the time when the car can again be put into service, and a few words of advice regarding the care and attention to be given to a car in order to have it in the best possible condition will be of benefit at the present time. Where the car was simply put in storage for the winter months, either in the owner's own garage or any other building, without having received an overhauling of any sort, it is essential that this should be done before it is again used in order to ensure all the mechanical parts being in good order, all nuts and bolts tight, grease cups filled, the old oil and grease removed from crank case, transmission gear case and differential washed out with coal oil and entirely new grease and oil put in.

In refilling the oiling system and transmission the motorist must be prepared to use only the best quality oils and greases if the best results are to be obtained and the life of the engine prolonged. The instructions of the makers of the particular car used should be followed implicitly, as they have tested out the best oils and greases for this purpose and in their own interests give the advice to owners as to the quality and make of lubricants best suited for their cars. Most makers issue a lubrication chart showing all points on the car to be oiled or greased, the proper time to do it and the quantity to be used. This chart should be carefully studied until the owner becomes familiar with the system, when it becomes mere routine duty but a duty that should never be neglected.

Overhauling the Engine

In the preliminary overhauling of the engine, particular care should be taken to see that the valves are in perfect order, and if they need grinding to have this done by an expert unless the owner is familiar with this class of work, when he can do it himself with very little trouble. Most farmers have a working knowledge of machinery, and the following hints will enable them to take care of the valve work. In order to remove the valves from the conventional type of cylinder it is first necessary to unscrew the valve chamber cap at the top of the cylinder casting and also to remove the valve spring enclosing plates if the valves are in enclosed cages. The valve is kept seated by coil springs which expand against a key of some type, fitted thru a slot in the valve stem and held in place by a metal washer that takes the thrust of the valve spring. To remove the valve it is first necessary to compress the spring far enough to allow the withdrawal of the retaining key from the valve stem. When this is done the valve may be easily removed thru the top of the valve chamber. An easily operated device which will facilitate the removal of the valve spring and key is shown. This consists of a frame bar having a screw at the top and a fork at the bottom. By turning the screw the valve spring may be compressed with little trouble and the key removed. The same method would, of course, be followed in replacing when the valves have been ground in.

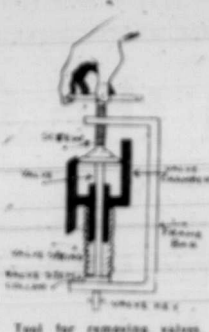
Grinding Valves

Grinding valves is really a simple process if care is taken in carrying out the work. Most valve heads are provided with either two small holes or with a screwdriver slot. An ordinary carpenter's bit stock with screwdriver or tool for holes makes an effective tool. Grinding consists of putting a coating of one of the many good valve grinding compounds, obtainable from any accessories supply house, placing a coil spring under the valve head inside valve chamber, and then turning the valve with screwdriver or other tool, a half turn round and back again, adding new grinding compound to the face of the valve from time to time. The valve must be removed occasionally during the process and both head and seat of valve washed in gasoline in order that

the condition of the surface may be clearly seen. When both valve head and seat are bright and without scores, ridges, pits or other depressions it can be safely assumed that the valve is properly ground in. Before commencing the work of grinding in, it will be necessary to put a plug of cotton waste in the passage between the valve chamber and the cylinder in order to prevent any of the grinding compound getting into the cylinder. The proper fit of the valves after grinding can be tested by coating the valve head with Prussian blue pigment and pressing it in place against the seat. Then turn valve about one-quarter revolution and remove. If it is seating properly the entire seat will show blue, but if the valve head does not fit properly only the high spots or ridges on the valve seat will show the coating of Prussian blue.

Removal of Carbon

In some types of engines, such as the Ford, it is possible to remove the entire cylinder head and expose the tops of the pistons and valves as well



Tool for removing valves

as the interior of the combustion chambers. The carbon may then be easily removed by softening with coal oil, wood alcohol or similar solvents. The deposit after softening can then be removed by means of tools made for this purpose, which are inexpensive and should form part of the equipment of the motorist's tool box if he intends taking care of his own car. A simple means of preventing carbon deposits is to put in a tablespoonful of coal oil in each cylinder thru the compression relief taps at the end of a day's work and whilst the engine is still hot. This softens up the carbon during the night and the greater proportion will be blown out thru the exhaust when the car is put into use again the next day.

Where the car is equipped with storage batteries and self starting and lighting systems, the owner should carefully inspect all wiring connections in order to ensure that they are in good condition and all connections properly tightened up. The storage battery should be tested to see that the plates are properly covered with distilled water. It is important that only distilled water should be used for this purpose, as the use of any other water will have the effect of rapidly deteriorating the battery. There is no trouble in obtaining distilled water today as, if the owner cannot secure it from local sources, it can be easily procured at a very low rate from supply houses in Winnipeg and other large cities.

Repairing Tires

The tires should receive careful inspection and all surface cuts should be cleaned out with gasoline and filled with tire dough. This will materially prolong the life of the tires, as if the cuts are not treated, sand and moisture will work in and rapidly destroy the inner fabric, causing a bad blowout at an early date and the consequent destruction of the casing. Inner tubes should also be pumped up and tested for leaks before being placed in the tool box of the car for emergency service, as there is nothing more annoying than to take out an inner tube to replace one that is punctured only to find that it has a small leak in it.

(Concluded next week.)

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