Bulletin No. 148 — CLOGGED COOLING SYSTEM CAUSES WAVY CYLINDER WALLS AND OIL PUMPING

Thorough cleaning of water passages in block should be part of every Ramco Motor Overhaul. On page one of the Ramco Service Manual we pointed out how a cooling system clogged with rust and sludge will cause cylinder distortion, blowby and oil pumping. Small cored passageways are likely to be clogged forming hot-spots. Hot-spots will cause uneven cylinder block expansion and cylinder distortion. High spots in the cylinder will prevent the piston rings from maintaining contact with the cylinder wall and allow oil pumping and blowby.

Bulletin 145 on page 48 of the Service Manual explains a method of honing which removes the high spots. However, if no attempt is made to remove the cause of irregular condition of the cylinders, nothing will be gained.

Cylinder blocks should be cleaned of all rust, lime, sludge and other accumulations to allow free passage of water and uniform cooling. In the past, repairmen found it very difficult to clean the block thoroughly without removing the cylinder block and immersing it in a solution.

Methods have been developed, however, by which cylinder blocks can be satisfactorily cleaned without removing the block from the frame. This service can be given at a relatively small cost to the car owner with a legitimate profit for the repairman.

In some cases cylinder distortion is caused by the improper design of the block. Cleaning will then only improve the condition.

Distortion that is due to a block that was not aged long enough can be corrected by light honing, as per Bulletin 146. Car manufacturers have improved cylinder block design during the last few years, but on the other hand the weight of the blocks have been lightened considerably. It is partly for this reason that some of the 1934 and 1935 cars pump oil even though the earlier models did not.

Do not overlook the effect that thorough cleaning of the block and radiator will have on cooling. After a motor has been driven 20,000 miles or more the cooling system is not as efficient because of accumulations of slime and rust. This is balanced by increased clearances which decrease heat due to friction. The piston rings lose tension and produce less friction. Consequently, the motor does not run hot even though the cooling system is less efficient.

However, when new parts are put in, the increased friction, especially during the "running in" period, is likely to cause the motor to run hot if the cooling system is not clean.

We come to the following conclusions. That a clean cooling system will help in preventing cylinder distortion and oil pumping. A clean cooling system will prevent any possibility of overheating due to new piston rings and other parts. A cooling system cleaning job will provide customer satisfaction at a low cost with a legitimate profit to the repairman.

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