

It is also important to make certain that the service mechanic has forced a sufficient quantity of new grease into the Alemite fixtures to expel the grease which is already there.

In considering how to operate the car under the most favourable circumstances by far the most important factor is the question of speed. While the speed at which a car may be safely operated depends largely upon local conditions, and to some extent upon intelligence in driving, it is nevertheless, a fact that other things being equal the higher the speed the greater the cost per mile. And this point is rendered more acute by the development of the modern high speed car. Even in the lowest-priced field, speeds in excess of seventy-five miles per hour are claimed by the manufacturers.

No manufacturer will claim, however, that his product can be operated as economically at seventy miles an hour as at forty; on the contrary, at least one has paid for advertising which bluntly states that if the public demand speed, the public must pay for it, and that sustained high speed increases the cost of every item in the make-up of car expenditure.

Excessive speed increases the wear on pistons, piston-rings and cylinder walls, due to the greater lateral thrust on power and compression strokes; it increases the war on all moving parts of the engine because of the heavier blow that is delivered at some point in the cycle of the engine; it increases the tendency to slip, on the part of the clutch, with consequent wear on the facing; because of the greater torque, it increases the strain on the transmission, driveshaft, universal joint and differential; it increases the force of the blows to which every part of the car is subject when driven over rough or uneven roads; it increases the wear and shortens the life of tires; it increases the wear on brakes through the necessity for more frequent and forceful application.

It is, of course, appreciated that the exigencies of police service frequently demand the utmost of its mechanical transport, and that on such occasions the care of the car cannot be the foremost consideration. There is a danger, however, that by this very fact the driver will unconsciously develop the habit of high speed and automatically practise it when a more leisurely schedule would suffice.

It is also admitted that, aside from improper lubrication and high speed, a great many other crimes are committed against the motor car, but the majority of these are the result of inexperience and gradually disappear as the driver masters his car.

There are some habits, however, which seem to persist even in the expert driver, and for this reason it may be permissible to close this article with a list of "Don't for Drivers" which are particularly applicable to the more common abuses of this class.

- (1) Don't use your choke too freely. It wastes gasoline and adds to the danger of crankcase dilution.
- (2) Don't race your engine while it is extremely cold. The resistance of the oil at low temperature provides unnecessary wear and strain on the engine.
- (3) Don't endeavour to jump from a standing start to high speed in the shortest possible time.