

Lubricating Oils

By B. D. Stockwell, in Farm and Fire.

I HAD heard the admonition "The best is the cheapest in the end" as often as anyone. But experience had taught me that a good average grade of most articles was the most economical "buy." So shortly after I bought my car, gasoline being high, I decided to keep down my operating expenses by getting a medium grade of oil.

Accordingly, when I found oils to vary in price from 30 to 80 cents a gallon I decided to try a 45-cent oil, and bought five gallons of it. Nor did I rely entirely on my own judgment. I was informed by my dealer that he sold lots of it for my make of car and had never had any complaint. The car ran nicely, but I noticed that for every ten gallons of gasoline the car consumed I used over half a gallon of oil.

But my dealer said that was about the average experience, and so I dismissed the matter from my mind. Several months elapsed and I was getting good satisfaction from my car, except the occasional fouling of a spark plug when I made a longer trip than I had expected and found my oil was getting low. I accordingly stopped at the garage which from its appearance appeared first-class and got half a gallon of oil, paying 30 cents for it. This oil was added to the oil oil in the crank case and I started on my way.

Imagine my surprise when my car started off with a sputter I had never noticed before. On the return trip it took the hills like a bird, and with the throttle set back a notch it made my usual running speed on level ground. On one particular hill that is the terror of the touring public I made a better showing than I had ever been able to get from the car.

Cuts Oil Consumption in Half.
The next morning, on consulting my oil gauge, I found the car had used but half its usual consumption of oil, and the truth began to dawn. The small amount of good oil that had cost at the rate of 60 cents a gallon had been responsible for the good results observed the day before, and the oil wasn't "burning up" so fast.

A few days later I mentioned the incident to a local automobile dealer. "We pay a dollar a gallon wholesale for the oil we use in our demonstrating cars," he remarked, "and we get some wonderful performances. But it doesn't do any good to tell the average automobile owner to use high-grade oil. He'll pay good money for a nice-looking automobile and get the best tires because they add to the looks of the car, but you'd be surprised to know how stingy he is about lubricating oil."

"There are lots of cars running around that are using oil that doesn't cost over 25 cents a gallon. Those are the cars that are always fouling their spark plugs and filling up with carbon. When all oils look about the same, it's hard to convince a man that there's much difference in the lubricating qualities or lasting qualities. Personally I prefer a 65-cent oil" (he mentioned the trade name) "and a five-gallon can lasts me about six months."

Here is another incident: A hardware dealer had purchased a nice seven-passenger touring car and had learned to run it. So one beautiful day he invited his friends to take a ride. The oil in the car had been nearly used up during his lessons, so he poured in some ordinary gas-engine oil that he had at the store. He started out proudly, but had gone less than a quarter of a mile when the engine stopped. It failed to respond to priming and the usual methods of starting. Finally he phoned for a service car, which towed him to the garage. The spark plugs were found to be loaded with soot, but when the crank case

was drained and cleaned and new oil put in he was soon on his way.

What Good Oil Does.

A good automobile oil must answer the following requirements: Must not evaporate through the greater orifices. Must be thick enough to prevent dirt from "sizing," and thin enough to give the rated horsepower. Must leave behind the least amount of carbon. Must remain liquid in freezing weather. Must be durable and reduce friction to the lowest possible amount.

Some motors, especially of the splash type of lubrication, require the same oil to do its work at temperatures ranging from 1,000 degrees to the piston head down to 150 degrees in the crank bearings. Thus a good oil must be the result of many tests and experiments.

Most motor-car users buy oil in five or ten gallon lots, but if you have not been getting perfect satisfaction or have been using an excessive amount of oil, it is a good plan to try a gallon each of different kinds until you find a good one.

Low-grade oils turn black quickly, and show a heavy sediment. Some of those which show low resistance to heat contain sulphur compounds which are decomposed by the heat into a number of chemical substances one of which is sulphuric acid. It is so dilute that its effect on bearings may be considered negligible, but the pitting of exhaust valves and their seats is due largely to the hot sulphuric-acid fumes.

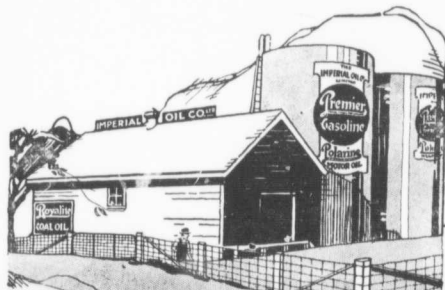
Carbon deposits on the cylinder walls and piston heads may be reduced to a large extent by taking care not to keep the oil level in the crank case any higher than is needed to secure good lubrication, also by using an oil of suitable body, not too light nor too heavy. Either one is objectionable. Carbon trouble and a dark exhaust when observed together indicate too light an oil. You are also likely to have loss of power due to too thin seal around the piston rings.

Some oil companies publish lists of the different makes of automobiles and the oils suitable for each, both winter and summer. But cars even of the same make differ somewhat in their oil requirements, and the best method is to try a gallon or two of the kinds recommended as most suitable. To do this, first drain off the old oil in the crank case. Flush out with kerosene, running the engine half a minute under its own power, put in the fresh oil, and watch the result on the hills, in speed and in gasoline consumption.

Meeting the Fuel Question

THE high cost of gasoline, which is still the only successful source of driving power for the automobile, is the chief obstacle in the way of a continued expansion in the motor market. The aim of the manufacturer now is to evolve an engine which will require less gasoline and at the same time develop an undiminished power. Mr. George Gray, of Gray & Sons, of Chatham, speaking to The Toronto Globe on this mentioned the trade name "and a point recently, said that he expected to see perfected within a short time an electric equipment which would enable a car to run half time on gasoline and half on electricity.

Both in engine development and electric systems great progress has been marked during the past year, and Mr. Gray is of the opinion that the next twelve months may see a greater forward stride than has been taken by the inventors in the past decade. The successful substitution of fuel alcohol for gasoline is also expected shortly as the result of the diligent work being done by chemists both in Canada and the United States. With the gasoline problem solved, a serious barrier in the way of motor industry will be withdrawn.



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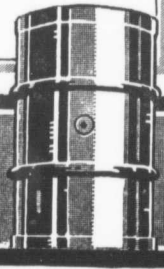
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