

OILING OF AUTO IS IMPORTANT FEATURE

TECHNIC IS EXPLAINED

Advisor of New York Y.M.C.A. Automobile School Tells How, When and Why It Is Necessary

A friend of mine whose sick wife in the hospital suddenly became worse, hastened in his motor car to her side. On a lonely stretch of country road late at night, only four miles from his destination, the automobile came to a standstill. It refused to go on. The machine, lacking sufficient oil, had "frozen" a cylinder. Thus delayed, he arrived at his wife's side too late to see her alive.

The automobile, like all machines that go on wheels, needs proper lubrication. Even a wheel-barrow with its single wheel goes better when well oiled. Fortunately the experience of my friend was exceptional. But it illustrates the importance of being sure there is enough oil in your automobile machine. Even when on a pleasure trip one does not want to be annoyed with "stuck" cylinders and all the expense and inconvenience involved.

In Three Parts

Like all Gaul in ancient times, the things that are important, when it comes to starting an engine in an auto, are divided into three parts. These are gas in the cylinder, compression and spark. To keep the engine going there must be at least two things—a cooling system and lubrication. Cooling is necessary to keep the cylinder walls at a temperature low enough so that the oil required can perform its lubricating function of the parts sliding over each other. A film of oil between the cylinder and the piston which travels up and down inside of it.

Eliminate such lubrication and the friction of the parts sliding over each other would be so great the engine could not develop sufficient power to drive itself to say nothing of adding the weight of passengers or freight.

To undertake to run an engine without lubrication is to put it out of business for all time.

Is No Exception

The auto engine is no exception to machinery where there are numerous places that have sliding contacts and consequently points which require lubrication. These include the cylinder walls, piston, piston-rings, bearings of crank shaft and crank pins, little bearings in the piston to support the piston pin, bearing on which the cam shaft revolves, the cams and the valve lifters which they operate, the guides for valve lifters, the gears and chains which operate cam shaft, possibly the pump shaft, the shaft for ignition timing and the generator. All these parts are usually contained inside of the engine and are lubricated from the common supply of oil that is placed in the crank case of the engine.

Different Types

A number of different types of engine lubricating systems are to be found. In one of these the oil is forced under pressure to practically every sliding part. Perhaps the most common system is that in which the oil is carried in a compartment called a sump or reservoir in the bottom of the crank case. On the top or side of the crank case provision is made for filling this sump and there is usually a float or some other device to indicate how much oil is on hand at any time. This crank case may carry a gallon or more of oil. As the indicator shows that the oil supply is getting low, fresh oil should be put in, or the entire supply should be renewed every 500 miles. In this system there is a pump that forces the oil to each of the crank shaft main bearings, thence through passages inside of the shaft, to the connecting rod bearings. From these bearings it is sometimes led under pressure to the wrist pin bearings in the pistons but usually it is allowed to leak out around the connecting rod bearings. Because of the rapid rotation of the crank shaft the oil is thrown off with force and lubricates the cylinder walls.

If too much oil is thrown off from the revolving crank shaft or if the pistons and rings do not fit the cylinder properly, the oil is likely to work past the piston in large quantities, get into the combustion chambers, be burned and exhausted in the form of smoke. This is one of the causes of carbon deposit in the cylinder which in turn causes knocking.

How Oil Operates

In addition to lubricating the cylinder wall, this oil, that is fed, lubricates practically all other working parts of the engine. For instance as the crank shaft revolves at high-speed, the oil is splashed and broken up into a very fine spray or fog. This is circulated by air inside the engine and is deposited on every part contained in it. Thus as practically every working part of the motor is contained in the crank case or in the compartments such as the cylinder and timing gear case which opens directly into the crank case, the lubrication of the engine entirely is cared for by this system. The possible exceptions are the fan bearings, generator, starter motor bearings, and water pump glands.

The pump which circulates the oil delivers much more oil than used. This is done so that an ample supply may be assured under all circum-

SCOT IS FATHER OF MODERN HARD ROADS

J. L. McAdam, Born in Ayr, Scotland in 1756, Pioneer in This Direction

John L. McAdam, born in Ayr, Scotland, in 1756, is the father of the modern hard road, according to the American Research Foundation in a recent bulletin. McAdam, it is observed, played so large a part in improving the roads of England and Scotland that the British government in 1827 rewarded him with a gift of 10,000 pounds.

"The macadamized road, so common until the advent of the more permanent concrete road, was named after the canny old Scot who saw the enormous cost of bad roads to this empire," says the bulletin. "And as we look back we must realize the mark he made on the world and how his efforts brought progress."

"It has been largely the hard surfaced highway that has made possible the development of the great motor plants like Ford and General Motors; the great oil companies like Standard, Sinclair and Gulf, that has speeded up the industries of America."

"It is possible had the internal combustion motor and the concrete highway come first that there would have been far fewer railroads today. Hard roads and motors have resulted in many short lines of railroad, and quite a few interurbans, going into receivership and being junked."

stances. To take care of the surplus a by-pass is provided. This is equipped with a valve having a spring that will permit it to open when the pressure reaches approximately 30 pounds. This pressure is thus maintained; the surplus oil returning to the crank case through the by-pass. It is a good idea to inspect the oil quantity indicator each time before driving the car to be sure that there is an adequate supply and to see that the pressure gauge on the instrument board registers when the engine is running.

Change Oil Often

After this oil is used over and over again it becomes filled with particles of metal. Also while the engine is going the vaporized gasoline in the combustion chamber will be forced past the piston into the crank case when there is pressure in the combustion chamber. This vapor condenses into gasoline and drops down into the oil sump, thinning the oil. This situation makes it desirable to change the oil about every five hundred miles.

Be sure to keep sufficient oil in the engine. Also clean out the crank case and the strainer at the oil pump and there should be practically no trouble with the modern engine lubricating system. And the motorist will have at least one important detail in automobile ownership satisfactorily cared for. There are numerous parts of the machine which need one sort of attention or another. But none of the duties of the modern motorist are really more important than seeing to it that the engine is well lubricated.

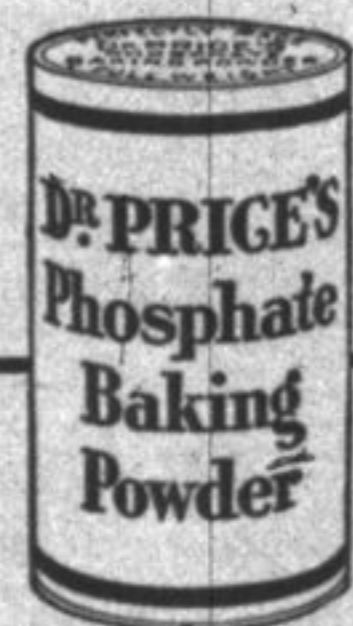
WATCH REPAIRING
CLOCKS AND JEWELRY
Agency in New
HIGHLAND DRUG STORE

Telephone Kildare 3499

PROGRESS TILE CO.
(Not Inc.)

CERAMIC MOSAICS
FLOOR and WALL TILE
MANTELS and GAS LOGS

5111 Waveland Ave. Chicago



The famous
DR. PRICE'S
is a baking powder that combines quality with economy.

It will perfectly leaven your food

INDIAN RELICS IN THE FIELD MUSEUM

IS RESULT OF RESEARCH

Collection of Tribal Heirlooms and Ceremonial Relics of Aborigines of Chicago District

Collection of tribal relics and sacred ceremonial heir looms of the Indians who figured in the stirring pioneer history of Chicago and the middle west, recently completed by the Field Museum of Natural History, disclosed additional interesting material in connection with the study of the Redmen's life and beliefs.

The relics and heirlooms, some of which are very rare, were obtained during two ethnological research trips into the Indian reservations and settlements of Wisconsin, Kansas and Iowa by M. G. Chandler, Indian collector and descendant of John Elliott, the "Indian Apostle."

From Many Tribes

During the research trips, Chandler secured several hundred articles bearing on the culture, customs and ceremonials of the Menominees, Winnebagoes, Pottawatomi and Sac and

Slip Covers, New Taps, Curtains
Bevel Plate or Celluloid
Windows, Floor Rugs,
Auto Trimmings

J. M. BILHARZ

North Room Larson's Garage
32 S. First Street

Telephone 493

Fox tribes, and won the distinction of being the first white man to ever witness a Pottawatomi Medicine Lodge ceremony from the inside.

The "medicine lodge" which is a very primitive pagan rite, was carried out with Chandler as a witness in Forest county, Wis., between the towns of Laona and Wauseno, in an isolated spot, while Chandler was a guest of Tecumseh, namesake of the famous Shawnee chief.

The "Medicine Lodge" is held for the purpose of initiating new members into the tribe, and is carried out, jealously guarded, today much as in primitive times, Chandler said. It is credited by the Indians with bringing long life, happiness and other blessings to the new members, as well as to the tribe.

FOR DRY CLEANING & DYEING RUG CLEANING & CURTAIN STRETCHING THE RELIABLE LAUNDRY PHONES 178-179

Ceremonial Articles While with the Pottawatomi in Wisconsin, Chandler obtained several ceremonial articles of the Medicine Lodge, including a Wabano drum, a medicine lodge drum, quilled otter for the medicine lodge and medicine bags and slabs.

Chandler obtained considerable interesting Indian data and lore on pioneer events in Chicago. In Wittenberg, Wis., remnants of the once mighty Winnebago tribe, settled in a community there as farmers, furnished him with their version of the Fort Dearborn massacre in which their forefathers took part.

FOR DRY CLEANING & DYEING RUG CLEANING & CURTAIN STRETCHING THE RELIABLE LAUNDRY PHONES 178-179

Dr. IRVING C. SCHUR
Dentist

16-18 N. Sheridan Rd. Tel. 2190

The Highland Park Hospital

Bright, airy rooms, up-to-date equipment.

Painstaking nurses and attendants—Moderate charges.

The Highland Park Hospital is essentially a Highland Park Institution. The funds for its erection and maintenance have been supplied almost entirely by our own citizens. It is your hospital and well worthy of your support.

Visiting Hours Daily

2 p. m. to 4 p. m. — 7 p. m. to 8 p. m.

The Highland Park Hospital

Main Entrance—Homewood Avenue, two blocks west of Green Bay Road

Telephone

Highland Park 102-103

Let the
"Little by Little"
plan help brighten your home
and lighten your tasks

Decide now to get that table lamp, waffle iron, electric heater or new washer you've been wanting to make your home brighter and cosier—to turn household tasks into fun.

There's no need to postpone getting these modern conveniences a single day if you buy them one or two at a time and pay for them the easy "Little by Little" way.

You simply call in, make a small down payment on any appliance desired and say, "I'll pay for it Little by Little." You'll never miss the small payments made each month with your regular lighting service statement.

Table Lamp Special!

Sketched at the right is the handsome table lamp being offered for a limited time at \$12.50.

This is a regular \$15.50 value. Has metal base finished in either gold or silver; two-toned shade with old gold lined with gold, or tan lined with tangerine.

We will deliver this lamp for inspection. When you see it and decide to keep it simply make a first payment of fifty cents and say, "I'll buy it Little by Little."

Small appliances as well as large may be purchased Little by Little

PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS

51 S. St. Johns Ave., Highland Park
Tel. Highland Park 568
Wm. Guyot, District Superintendent



Ice by Wire



Sew by Motor



Daylight Kitchen Unit



Quick Heat when Needed



Iron by Hand



For the Boucior



In the Kitchenette



Cook by Wire



Sweep by Motor



Coffee the Electric Way



Waffles, too



Iron by Motor



Comfort in Sickness



Easier Washing