

## Dirty Mufflers Impair the Efficiency of the Engine

Muffler Is Frequently the Most Neglected Part of a Car—Carbon Deposits Eventually Clog It, Resulting in Back Pressure in the Exhaust Manifolds, and This Interfering With Efficient Scavenging.

The muffler, neglected by many automobile operators, neglected by almost every chauffeur and even "cut out" together when the traffic "cop" is around, is deserving of careful consideration if the operator cares for efficiency and economical operation. Out of sight is usually out of mind.

Even the wheels on a Ford car cost you 60 per cent less than on the average car priced around \$1000 and under

### FIGURE IT OUT FOR YOURSELF

\$12.87—cost of new wheel on average car priced around \$1000 or less.

\$ 5.00—cost of new wheel on a Ford car.

\$ 7.87—the 60% saving secured by the Ford owner.

And this merely indicates the general saving in every item of upkeep in which the Ford possesses a big advantage over any other make of car.

An assembly of Ford spare parts—enough to build the touring car complete—costs only \$40 more than the standard list price of the car, while on the average car priced around \$1000 and less a complete set of spare parts costs \$941 more than the car—over twenty times the Ford excess cost.

And yet tests conducted by one of the most authoritative Government laboratories in the world have shown that the quality of Ford constructive material is actually superior to that in most of the best cars made.

**Ford Motor Company**  
OF CANADA, LIMITED.  
LONDON, ONTARIO

Ford Runabout \$480  
Ford Touring - 520  
Ford Sedan - 530  
Ford Town Car - 590  
Ford V-8, Ford, Ontario

All cars completely equipped, including electric headlights. Equipment does not include speedometer.

and the muffler, therefore, is often neglected or misused. The muffler is placed on the end of the exhaust pipe and its sole purpose is to silence the exhaust of the engine so that the driver of an automobile, while taking pleasure himself, does not deprive others of it.

Consider the case of the muffler. The exhaust valve opens while the burned gas is still under pressure of from twenty-five to thirty pounds a square inch. If this were exhausted directly into the air the resulting noise would drown out conversation in the car, annoy everybody along the street and very quickly get the driver into difficulty with the police. The muffler prevents all this. It provides a chamber in which these exhausted gases may expand and cool somewhat, and at the same time breaks up the pressure by allowing it to leak out slowly through a number of very small holes. Instead of letting it loose in one "big noise."

In the early history of the automobile mufflers were not used and everybody for blocks around knew when an auto was coming. As the automobiles increased in number, this became a nuisance, and was stopped by law. They sought—indeed, had been seeking—a means of muffling the sound. In the early muffler there was trouble because the gas would back up in the cylinder and decrease the power of the motor. It was thought there was no way to decrease the sound without decreasing the power; therefore, the automobile manufacturers devised a valve to "cut out" the muffler on the car whenever extra power was desired. Sometimes the back pressure was so great as to interfere when driving through heavy roads or up hills. The "cut out" let the gas exhaust directly into the air, instead of going through the muffler. At the present time nearly every city has a law prohibiting the use of muffler "cut outs."

As a matter of fact, those well posted on automobile engines understand that the "cut out" is absolutely unnecessary if the muffler is kept in proper condition. Muffler manufacturers have been able to produce a design with which there is no back pressure at all. The average driver, however, does not know that his muffler needs as careful attention as any other part of the mechanism and so he neglects it. In these days of noiseless cars it requires a great number of very small openings inside the muffler, and these become clogged with soot or carbon from the exhaust. The deposit collects very rapidly, especially when the grade of oil is poor or too much oil is used. It collects also when the carburetor is adjusted to give a too rich mixture. When these small openings become clogged the exhaust cannot escape readily, and naturally the cylinder of the engine is not clean at the exhaust stroke. Result, it is impossible to bring in a full cylinder of new gas on the next intake stroke. There is not a full charge to explode and this means a loss of power to the engine.

There have been cases where the throttle was opened wide without any increase in the speed of the car. Trying to find out what was the matter, the driver opened the muffler "cut out" and this caused the machine to accelerate very rapidly. There have also been a number of other cases where, when the engine was cranked, there would be a few explosions, a sputter and a stop, and the reason was that the muffler was so clogged that it was impossible to exhaust the gas from these few explosions, the cylinder remained full of burnt gas and of course could not take in a further supply. These, of course, are extreme cases.

Or, of course, if the engine stopped or there was a decided decrease in power the operator would hunt around and find out what the trouble was. He might not notice the lesser cases where, while the muffler was somewhat clogged, it was not enough to decrease the power strikingly; but even when these extreme cases are met it will often be found that the power of the motor may be materially increased by having the muffler cleaned. Yet it is seldom done, even when the car is supposed to be overhauled completely.

## Impossible To Get So Much Motor Car Value For The Money

WE FIND this is the attitude of many people who come into our showroom—before they know anything about the Maxwell.

Not until the Maxwell is shown and demonstrated to them—until they sit in it and examine the finish—until they ride in it—or perhaps not until they drive it themselves, do they realize what a tremendous value is offered in the Maxwell car.

It is not unusual that Maxwell value should not be known to everyone, because it is uncommon to find such a car for a good margin more than the Maxwell price.

The Maxwell stands absolutely alone in a highly competitive field, for the amount of value it offers for the price.

Appearance—The lines of the Maxwell are decidedly attractive. There is no break in the contour from the radiator to the back of the car. The fenders are gracefully shaped. All metal parts are enameled or nickel-plated. The upholstery is deep and well-finished. From any angle it is a car that the owner can be proud of.

Motor—The engine in the Maxwell car is not equalled by any other four-cylinder engine of its size. And we know of larger and more expensive cars that have less able power plants. The Maxwell engine carries its load through mud and sand or over the steepest grades without a falter.

Quality—The materials in the Maxwell car are the best that can be bought and the workmanship that turns them into finished parts is no less excellent. It is only the large production of the Maxwell factories that makes it possible to put such quality of materials and workmanship into a car selling at the Maxwell price.

Economy—With its other attractive features, the Maxwell is a most economical car to own. Owners get 22 to 25 miles per Imperial gallon of gasoline and 8,000 to 12,000 miles per set of tires. And the car is so durably built that repair expense is negligible.

We are sure you want a car such as we have described the Maxwell to be. If you will give us a few minutes of your time we are sure we can convince you that the Maxwell Car is an exceptional value. Come in today.

Touring Car \$850 Roadster \$830  
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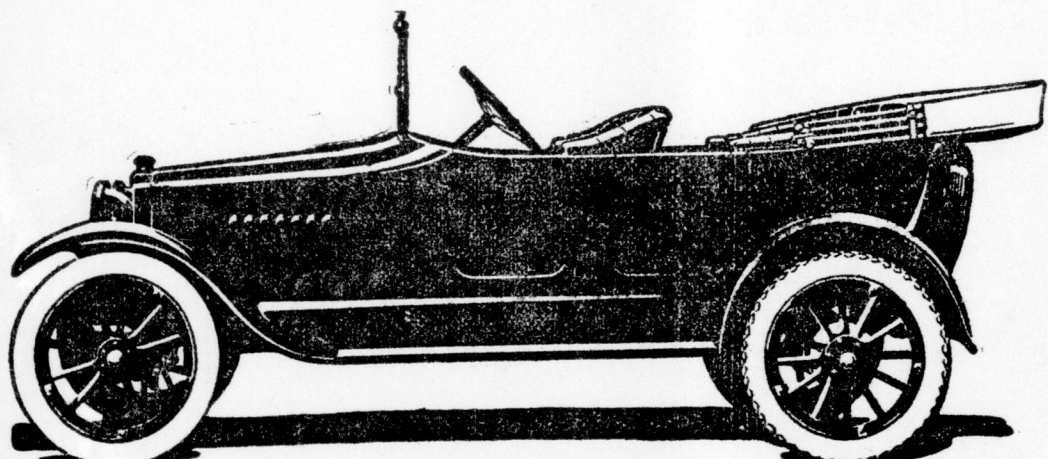
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## SAXON "SIX"

A big touring car for five people



### Four New Ideas

Today there are four new ideas in motor car design:

Light Weight  
High-Speed Motor  
Yacht-Line Body  
Increased Riding Comfort for all Passengers.

All four of these modern ideas you find incorporated in the new Saxon "Six."

Light weight comes from right design and right materials. Nickel steel in axles, steering gear and other vital parts is lighter and stronger than ordinary carbon steel. Vanadium steel not only makes better springs but reduces their weight.

Saxon high-speed motor design gets more power with less gas out of a small motor than men used to get out of big heavy motors. Besides, this is a six-cylinder motor—with the even pull and marvelous flexibility that only a "Six" can give. Except for starting the car, gear shifting is practically unknown to Saxon "Six" owners.

The yacht-line body of Saxon "Six" exemplifies the latest motor car fashion. Body finish is highest quality and floor boards and running boards are linoleum covered. Riding comfort for all five passengers is found in the exceptional roominess of tonneau and driving compartment. Long resilient cantilever springs make rough roads easy. If you seek speed—Saxon "Six" has it. This car ran 490 miles, from Los Angeles to San Francisco in 13½ hours—15 minutes faster than the "Lark," the Southern Pacific's fastest train.

If you seek power—Saxon "Six" has demonstrated it on every famous testing hill in the country. At Uniontown, Pa., it climbed the twisting three-mile mountain road in four minutes and four seconds, defeating all cars in its price class.

If you seek economy—Saxon "Six" has it. 105 "Sixes" driven home from the factory by dealers covered 26,360 miles and averaged 21 miles to the gallon. Today in your touring car of course you want a "Six." Don't try to be content with less, when you can enjoy "Six" luxury in a well-proved Saxon for \$1,115.

Two unit electric starting and lighting; demountable rims; Timken axles; 112-inch wheelbase; 32x3½-inch tires, non-skid in rear.



"Four" Roadster, with electric lights and starter

"Six" Touring Car \$1,115  
"Six" Roadster \$1,115

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Many drivers seem to think that the muffler will take care of itself.

There is still another cause of the clogging of the muffler with carbon, and that is the practice of putting kerosene in the cylinders to clean them. The kerosene cleans the carbon from the cylinder walls and that is what makes the trouble, for it is exhausted right into the muffler. Some drivers understand this and when using kerosene for this purpose open the muffler "cut out," this allows the greater part of the carbon to discharge into the air, but even then some of it finds its way into the muffler and in time makes trouble.

A muffler of modern design, if kept clean, needs no "cut out" arrangement, but if it is allowed to become clogged it is necessary to use a "cut out" where the full power of the engine is needed. The consequence is usually a trip to the police station and then to the court and then a fine to be paid. It is therefore evident that if one wishes to get power out of one's car on an economical basis and wishes to economize in his fines, he should look after the muffler.

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Ford Runabout, nearly new, \$350.

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### Grady Predicts Big Automobile Year on Return From Western Trip

After a successful trip of two months through Western Canada, J. E. Grady, Canadian sales manager of the Studebaker Corporation, just returned to the Walkerville factories with a story of wonderful prosperity and prospects of unprecedented crops in the west. On his trip, Mr. Grady covered the country west of Walkerville, starting in Vancouver and working eastward.

"From every indication, this fall will find the farmers' bins literally bulging," says Mr. Grady. "There has been a great awakening in activity all through the western part of the country, due largely to the fact that the wheat fields and other acreage are being worked more scientifically than in years gone by. It is doubtful if any previous year will be proved to have shown as big a yield of crops as this year."

"Of course, on my trip I was most interested in the automobile situation. Quite naturally, the outlook for the motor car business looks brighter than ever before. There are signs of prosperity everywhere, and this, coupled

with the fact that people now look upon automobiles as a utility rather than a luxury, accounts for the demand which, I predict, will be hard for the motor car manufacturers to fill this year."

"It is my opinion, backed by figures, that the surface has scarcely been scratched when you consider the number of automobiles which are in use in Canada, compared with the number which Canada can assimilate. Today there are not more than one-third as many cars in this country as the population and wealth of Canada indicate will be here within a few years."

"The Studebaker factories are far ahead of last year's production schedule. We are doubling our daily output over what it was last year. If we had tripled or quadrupled the output, our dealers would have no trouble selling as many cars as we could build."

### WORTH THE CAREFUL DRIVER'S EYE

Hot water should never be used for washing a car. It has a deteriorating effect on the varnish of a well-finished body. A single application of hot water and soap will remove the lustre. Lukewarm water will not harm.

Wood alcohol applied with a sponge or cloth is one of the best methods of cleaning either cloth or leather upholstery. A mixture of linseed oil and turpentine is sometimes recommended for cleaning leather.

Among the necessities when touring should be a supply of tire valves and caps. A slight leak in a valve will cause as much delay as a blowout. A good valve is often hard to obtain when on the road and considerable annoyance can be avoided by carrying these accessories. A valve tap and die should also be added.

The difference between the tire mileage of different drivers depends quite largely upon the care used to avoid sharp substances in the road. A small, sharp-cornered stone will sometimes cut a large hole. Tire wear also increases in a fourfold ratio compared with speed. Almost any good make of tire will run 6,000 miles if used carefully.

### Cars Bought, Sold and Exchanged

One Tudhope-Fisher, electric lights and starter, 6-cylinder, 48 h.p. \$1,000  
Practically new ..... \$1,000  
One Chalmers' 5-Passenger Runabout, 4,000 miles, with starter and electric lights. Quick sale ..... \$650.00  
One Tudhope, 4-36, in first-class shape ..... \$550.00  
One Regal, Quick sale ..... \$275.00  
One Ford Car, in first-class shape, 6-passenger ..... \$225.00

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Distributors for Paige, Detroit; Brisco, Lozier and Winton Motor Cars.

### Willard

### No Bait Necessary



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