

Automobiles and Good Roads

A Department Designed to Help Farmers With Progressive Road Ideas.

HOW to get more power out of the car seems to be a general topic among many owners of small roadsters and not a few are at this late date willing to give up much of their time tuning up the car for speed.

The first step in increasing car speed is to decrease the weight of the vehicle as much as possible, removing all unnecessary, that is, non-essential, equipment. Since wind resistance is a great factor in reducing speed, it becomes evident that every effort should be made to streamline the car. A long tapering hood coming almost to a point, as in some racing cars, is good. Just enough space should be left in front to allow air currents to reach the radiator. The object of all this streamlining is to reduce the resistance to wind of the car to a minimum. Just as a piston going downward in a cylinder creates a vacuum so a car going along a road has a vacuum behind it. This condition retards the speed of the vehicle and any means adopted for reducing this vacuum or, better still, partial vacuum, will increase the car speed. It is considered more important to care for the rear of the car than it is to look after the front.

Speeding Up the Engine.

After the parts have been streamlined as much as possible the mechanical end should be considered. If possible, the valve seats should be increased in size and new and larger valves obtained. If only the intake valves can be made larger, it is a good idea to do so. Increasing the size of the valve seats may be done with a counterbore, or an over-size valve reseat tool. New valves may be purchased at a comparatively low price. The lift of the valves may be increased slightly by substituting larger cams. The magneto should be reset so that the advance occurs one-eighth or even one-fourth earlier than it does at present. Much will depend upon conditions as to just how the magneto shall be reset. Setting the magneto ahead in this way will cause the motor to stop if the throttle is set down too far. If it is possible to use a larger carburetor and intake header it is best to do so, for if the intake valves are made larger more mixture can be accommodated. The frictional loss in the motor is reduced somewhat by removing one of the piston rings, but if the pistons have but two rings this should not be done. Lighter pistons help matters materially. Some use magnesium, semi-steel or steel, while others take the old pistons and drill holes in them. Care should be taken in doing this work that each piston weights the same as any other piston. If possible use lighter connecting rods, but it would not do to remove metal from the old ones, for the strength may be impaired. New rods of stronger metal and thinner section, or hollow rods, are better.

Oiling System.

One of the first essentials for a speedy car is to have pressure oiling system with a hand control on the dash or other place within easy reach of the driver. This consists merely of a hand pump drawing oil from the tank and forcing it to the crank case. Ball check valves properly placed can control the direction of flow.

In nearly all racing cars the motors are equipped with magnetos of the double distributor type, so that they feed to two sets of spark plugs at the same time. This system is most helpful in a T-head motor, but is valuable as well in L-head or I-head motors. In the former the best results are obtained, for then the plugs are on opposite sides of the cylinder and hence flame propagation is more rapid. The L-head comes next. It is not always possible to place two plugs in an I-head cylinder; all depends upon the construction, but if possible the plugs should be threaded on opposite sides of the casting.

A reduction in gear ratio to not more than 2½ to 1 will show good results with almost any motor properly tuned up, but much depends on the ability of the engine. The springs should be bound with fishing cord; but before the cord is applied graphite should be placed between the spring leaves. The cord is wound tightly over the spring and about three layers used.

Careful Inspection Necessary.

One or more of the aforementioned suggestions may be put into practice and good results will be obtained. An-

other important point which must not be overlooked and one which is valuable to the touring car owner also, is that all the parts which are liable to loosen should be inspected and cared for. The ignition wires, for example, should not be left loose. If in a conduit, they should be held firmly together at a point midway between the conduit and the magneto. All nuts should have a plain washer and a lockwasher placed under them if possible. Always place a plain washer under a lock or spring washer.

See that the gasoline tank is firmly fastened and that the gasoline line has no possible chance of rubbing against the frame or other part of the car. Examine the steering post and see that it is securely attached. Motor Age will be glad to give special information on any particular type of vehicle of which greater speed is desired.

Many cars have the electric horn button on the steering wheel and the wires from the button wind around the steering post and extend through the dash or cowl to the horn under the hood. At some point a metal clip is used to hold the wires in place. The turning of the steering wheel may, in time, cut the wires, because the end attached to the steering wheel remains stationary while the others must give slightly. If sufficient slack is not allowed the wires soon become cut, an open circuit results and the horn will not operate.

Battery Troubles.

In an extreme case which came up a few days ago, an owner complained that neither his horn nor his lights would operate and only the day previously the battery was taken from the charging table and the posts thoroughly cleaned. The repairman handling the job made one move—he lifted the cover of the battery box—and the cause was evident immediately. A pair of pliers was lying across the top of the battery and the accumulator was short-circuited. One end of the pliers touched the positive terminal and the other end touched the battery box. The pliers were used to tighten the nuts holding the cables.

The importance of using clean gasoline in the tank cannot be emphasized too strongly. Water and dirt in the fuel will not only cause poor motor operation, but on a recent trip the motor stopped completely. In the case in question there was about 1 inch of fuel in the tank and by looking through the filler cap one could see dirt all over the bottom of the tank.

Instead of attempting to crank the motor and thus have the remaining dirt flow to the carburetor, 10 gallons of gasoline was procured and put into the tank. The added gasoline caused the dirt to mix thoroughly. After draining the gasoline line the motor could be started, but it misfired. When the car was brought to the garage all the fuel was drained, the tank flushed out three or four times, the fuel line cleaned by forcing air through it and the gasoline was then strained twice before it was placed into the tank.

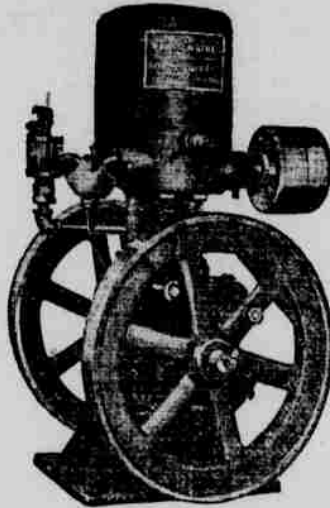
Watch the Wheels.

Misalignment of the wheels is an expensive ailment of the car and one not always noticed until considerable damage is done to the tires. In a recent case in which an owner had driven a new car less than 1,000 miles he noticed that his front tires were wearing much more rapidly than the rear ones. At 1,000 miles the tread had worn down to the fabric, and it was a case of retreading if the tires were to be preserved.

A visit to the service station of the car maker brought out the announcement that the wheels were out of line, and when this was corrected the abnormal wear stopped. Frequent inspection of the wheel alignment often will save tire wear.

THE PROPER INFLATION OF AUTOMOBILE TIRES.

A PRESSURE in pounds equivalent to 17 or 18 times the cross-sectional diameter of the tube measured in inches is the proper inflation for the front tires of an automobile, while the rear tires should be inflated to a pressure 20 times this diameter, according to the rule given out by the manager of one of the tire companies. In a 4-inch tire, for example, the pressure should be about 70 lbs. for the front tires, and about 80 lbs. for the rear tires.



THE NOVO GASOLINE ENGINE Will Do the Work Quicker and Cheaper For You.

The most compact and simplest engine made. No separate gasoline tank, no separate water tank, no piping, no careful adjustments. Absolutely guaranteed against damage by freezing. Made in all sizes from 1 h. p. to 15 h. p., and furnished in combination with force pumps, centrifugal pumps, deep well pumps, wood saws, spraying outfits, etc. Lower prices than formerly. For full particulars address

The Beebe Company

Department C.
182-4-6 Morrison St. Portland, Oregon.

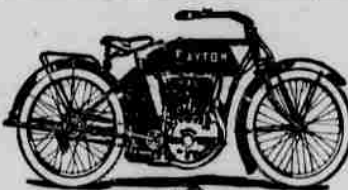


The King of all Exterminators

For Rats, Mice,
Squirrels, Etc.

SWATS 'EM IN A NIGHT.

AMERICAN DISTRIBUTING CO.
1004 Broadway Building,
Portland, Oregon.



Before You Buy Investigate

DAYTON MOTORCYCLES

Single and Two Speed Models, With Many Exclusive Features.

Write for Catalogue and Details.
Bargains in Used Machines.

DAYTON CYCLE CO.

Oregon Distributors.

210 Broadway. Portland, Oregon.

SACKS! SACKS!

All Kinds of Second Hand Sacks
We Give You Better Sacks for Less Money.

GIVE US A TRIAL.

PORTLAND BAG COMPANY

313-315 Front St., Portland, Oregon.
Phones: Main 4184, A-4184

PREMIER

"Non-Puncture" Auto Tires

Guaranteed 7,500 Miles Service

These tires bear the greatest known mileage guarantee, yet are sold at a price even less than tires of ordinary guarantee. This guarantee covers punctures, blow-outs and general wear. Guarantee covers 7,500 miles' service against everything except abuse. These tires are intended to most severe service.

Orders have been received for these tires for use in United States Government Service.

As a SPECIAL INTRODUCTORY offer, we will allow the following prices for the next ten days.

TIRES—TUBES

	Tire	Tube
28x3	\$ 9.20	\$2.00
30x3	10.25	2.30
30x3½	13.50	2.80
32x3½	14.05	3.00
34x3½	15.25	3.20
31x4	17.00	3.25
32x4	18.00	3.30
33x4	19.50	3.40
34x4	20.40	3.60
35x4	21.00	3.80
36x4	22.00	3.90
35x4½	26.00	5.00
36x4½	27.00	5.10
37x4½	27.50	5.15
37x5	32.60	5.40

All other sizes. Non-Skids 20 per cent extra. 5 per cent discount if payment in full accompanies order and if two are so ordered, shipping charges will be paid by us. C. O. D. on 15 per cent of amount of order. Our output is limited, so we suggest early ordering. We sell direct only, giving purchaser the advantage of all middlemen's profits.

NON-PUNCTURE RELINERS

Use our famous reliners, they eliminate blow outs and 90 per cent of punctures besides giving many thousand more miles' service to each tire. When in your tires you ride without worry or tire troubles.

For all 3 inch tires	\$1.95
For all 3½ inch tires	\$2.20
For all 4 inch tires	\$2.60
For all 4½ inch tires	\$2.75
For all 5 inch tires	\$2.90
For all 5½ inch tires	\$3.00

NON-PUNCTURE TIRE

FACTORY

Dayton, Ohio.

Automobile Tires

AT FACTORY PRICES

SAVE FROM 30 to 60 PER CENT

	Tire	Tube
28x3	\$ 7.20	\$1.65
30x3	7.80	1.95
30x3½	10.80	2.80
32x3½	11.90	2.95
34x3½	12.40	3.00
32x4	13.70	3.35
33x4	14.80	3.50
34x4	16.80	3.60
36x4	17.85	3.90
35x4½	19.75	4.85
36x4½	19.85	4.90
37x4½	21.50	5.10
37x5	24.90	5.90

All other sizes in stock. Non-Skid tires 15 per cent additional, red tubes ten per cent above gray. All new, clean, fresh, guaranteed tires. Best standard and independent makes. Buy direct from us and save money. 5 per cent discount if payment in full accompanies each order. C. O. D. on 10 per cent deposit. Allowing examination.

TIRE FACTORIES SALES CO.,
Dept. A Dayton, Ohio.

\$82 WEEK EARNING CAPACITY

"KING OF THE WOODS" DRAG SAW

With or Without Buzz Saw Attachment

Will saw 20 to 40 cords of wood per day at a cost of \$1.00. PULLS ITSELF up the steepest HILL and over the roughest ground. Costs less than other makes.

One man writes he sawed 56 ricks in 10 hours. Another sawed 40 cords in 9 hours. There's more you ought to know. Write for FREE catalog containing full description with testimonials from enthusiastic users. WRITE TODAY.

Reiersen Machinery Co.

Sole Manufacturers PORTLAND, OREGON