

## ENGINES FORECAST END OF CAR OF FUTURE

... and Oiling Systems Factors in Speed  
**CHRYSLER GIVES VIEWS**  
... Car of Future Will Be Capable of Developing 100 Horse Power

... and perfection of ... this far only in the finest ... of racing engines ... of the ... of the future, which ... Chrysler, president of ... Chrysler corporation, fore- ... will be capable of developing ... and spreads up to ... an hour.

... in a recent ... asserted that these re- ... would undoubtedly be ... of even greater and finer ... of cooling and oiling ... for engines in every day ... as much as the life of a ... depended so vitally on ... the functioning of these two ...

... in addition to remarkable ... developments in oiling ... cooling, we are also on ... of vital changes in crankshaft ... design and production ... which will play an important ... in the advent of the car of the ... Mr. Chrysler said.

**Paris Kept in Order**  
... machinery will be de- ... for their production and ... machinery will be de- ... new grinding equipment, ... test and inspect, a gauge ... which will automatically keep ... parts absolutely correct to ... most infinitesimal advances ... that will be in valve tappet ...

... that the greatest advance ... of the future, long ago ... that the mushroom tap- ... was most efficient, but the ... of existing designs ... to provide for durability ... of almost efficiency. So far ... they have been working to ... new types of material ... which will function with a mini- ... of wear.

... tion construction is also ... further exhaustive ... Engineers are not satisfied ... either cast iron or aluminum ... They tell us that designs ... being perfected which will per- ... use of alloys combining ... physical properties of ... light weight and rapid ... with the comparative ... of expansion of cast iron. Such ... material is bound to play a most ... part in the development of ... the motor of the future.

... But the car of the future will ... be the result of further ... in motor development, ... of the chassis must ... pace with it. Finer and ... transmission and differ- ... parts will be needed, with ... and another revolution ... to operation, so that the new ... development by the new ... may be transmitted to the ... wheel with minimum loss.

... Frames sturdy and rigid ... will be more sturdy ... more rigid. Spring mountings ... give greater riding comfort ... greater freedom from road ...

... We already have designed new ... types of axles to care for the ... twisting strain of four- ... brakes. Still better brak- ... which will make travel at 90 ... miles per hour even safer than 50 ... is an hour in today's ...

... immediate corresponding strength- ... of axles.

... Extensive study of wind re- ... will result in the develop- ... of new body lines, which will ... a large factor in increased speed ... greater fuel economy.

## Little Tips for Drivers

- Oil Windshield Wipers.
- Keep Rear Curtain Repaired.
- Engines Ruined by Racing.
- Ventilate a Closed Car.

Automatic windshield wipers should be oiled after a season's use. The leathers and working parts become dry, impairing the efficiency of the unit. See also that the rubber hose is not cracked as a small leak in the suction line will stop the wiper and affect the operation of the engine. It will also disturb the functioning of the vacuum tank.

During the summer months when auto curtains are not used, broken collared or glass in back curtain may go unnoticed. However, when winter weather makes curtains necessary, the rear curtain should be put in good condition to keep exhaust gases from coming in. Many cases of monoxide poisoning have been traced to defective curtains on the back of the car.

Never open the throttle suddenly or leave it open very far when the car is standing and the engine is running idle. This is known as racing the engine and is very injurious especially when the engine is cold. More engines have been ruined by racing while idle than have been worn out in actual driving under a load.

Use of oil on a squeaky fan belt will deteriorate it and make it slip. Try adjusting to take up slack, or if of the flat type reverse it, using the side which may have a better surface. Spin the fan with belt off to see if bearings are free and keep them well lubricated.

Ventilate a closed car to keep the windows from steaming or becoming fogged. The driver's window is usually open and if the rear or other window on same side is lowered a few inches, it will allow air to circulate without occupants of car being in a draught.

The average life of an inner tube is from twelve to eighteen months. Once it begins to harden, it is advisable to replace it with a new tube. It is false economy to use an old tube in a new tire.

Once a week, when adding water to the battery, inspect all the battery connections and make sure they are tight and clean. A loose or dirty connection may cause trouble when least expected.

## WHAT'S IN AN AUTO TIRE?

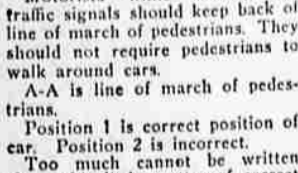
WELL, AIR FOR ONE THING—THERE ARE OTHERS

What's in a tire? Well, air for one thing. The man with a flat tire is likely to assume that air is the most important ingredient for pneumatic comfort. But that is not the whole story.

In a typical tire, and in its making, such strange ingredients as triplex, silbrite, lead litharge, carbonate of magnesium, talc, anti-oxidant, alum pigments, mica and resin are used.

In addition, one also finds asbestos fiber, carbon black, lime, zinc, carbon bisulphide, clay, sulphur, stear, paraffin, barytes and asbestine.

WALTER P. CHRYSLER'S TRAFFIC TALKS



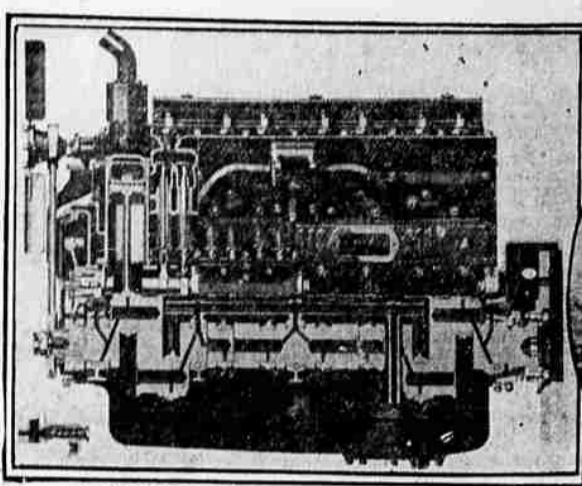
Motorists while waiting for traffic signals should keep back of line of march of pedestrians. They should not require pedestrians to walk around cars.

A-A is line of march of pedestrians. Position 1 is correct position of car. Position 2 is incorrect.

Too much cannot be written about this little matter of correct stopping.

Drivers lose permits. Licenses held up in New York State.

## When and Why Valves of Your Motor Must Be Ground Answered in This Article



A MODERN STRAIGHT EIGHT SHOWING VALVE MECHANISM.

Did you ever ask yourself: Why should a valve leak? Grinding that the valve is tight to begin with, why should it become leaky? And the answer is that it would not leak if conditions were ideal. In other words if valve and seat were tight in the beginning, if no wear occurred on valve face or valve seat, valve stem or valve stem guide, and further, if no dirt lodged on these faces, and if the valve or seat did not warp as it sometimes does when heated, the valve would last forever, and be perfectly tight forever.

The foregoing requirements are ideal and therefore impossible of complete attainment, but the closer we approach them the less frequently we shall have valves to grind. Valve and seat warpage are avoided by the selection of the right valve material and the proper cooling of the seat. These are engineering problems. But valve warpage may also be caused by running with retarded spark or possibly with too rich a mixture, while seat warpage may occur when the engine is allowed to overheat.

The valve must be perfectly tight in the first place which means that it must be properly ground with perhaps refacing of valve and seat. In addition there must be sufficient clearance between valve stem and pushrod to permit valve to close completely. Finally sticking of valve or pushrod must be avoided.

Having met all these requirements one important thing remains. Dirt and carbon particles must be kept from the valve face and seat insofar as possible. Just remember that these surfaces are made of metal and not of rubber. In other words if a particle of solid matter comes to rest on these surfaces it will hold them apart and leakage begins. This infinitesimal leakage is serious on exhaust



SHOWING HOW VALVES WITH REMOVABLE CAGES ARE GROUND



EXHAUST VALVES BEFORE (A) AND AFTER (B) GRINDING.

away from the valves and incidentally the air cleaner will have an equally beneficial effect on piston rings and cylinders and other engine parts. Note that the way of valve grinding is understood it is time to discuss when valve grinding is required. An approximate answer to this question is that valve grinding is usually required when carbon must be removed but this does not follow if the engine is very sensitive to carbon. If valves are tight but much loss of power due to carbon knock is noted it may pay to have the carbon burned out without touching the valves.

Valves should be ground when the compression in one or more cylinders is poor. If the engine pulls evenly on all cylinders with throttle wide open at 10 miles per hour the valves are okay.

You can put the brakes on, if necessary, to make this test. But if the engine misfires on one or more cylinders, is lame or bucks, get out the crank handle and crank the engine slowly by hand. Each cylinder should offer a more

or less powerful, springy resistance to cranking and if no resistance is felt on one or more cylinder it is time to grind valve. To delay may cause burning of valves. On the other hand, if compression in all cylinders is fair or better, the cause of missing, bucking or lameness must be elsewhere and grinding valves will certainly not cure it.

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## Rhyme of the Road

Memories of That Old-Time Car Today I found a photograph which brought back memories dear—A horseless carriage! On its seat, a young man's engineer! Well, how do I remember how I steered it on its course While various neighbors climbed a tree and heathered: "Get a horse!"

There are the goggles which I wore, the rubber horn I tooted; The steering handle which I pushed, a wide small boys' loud-ly hooded.

That car was more than human; Its department was satanic. To drive it seven blocks and back called for a real mechanic. For every yard upon the road, two hours I gave to toll.

Below the darn thing, eating dust well mixed with engine oil. How I would study diagrams, and read its wiring system. And check the pieces shaken off, although I hadn't missed 'em. And if by chance that car came home, unaided, on its power, I'd hunt the fellows up next day and brag for half-an-hour.

Today my wife drives her own car, but just what makes it buzz she doesn't know, nor care it hang. She simply knows it does. I never touch a tool these days, for cars are built to run; It saves a lot of trouble—but we do miss lots of fun.

Advantages: nation wide service; general Motors acceptance corporation's time payment plan and permanence by virtue of its wide-reaching scope.

Fisher Body Plant Erected. Chevrolet popularity on the Pacific coast occasioned the erection of a Fisher body plant along side of the huge Chevrolet factory in Oakland. This close coordination of the assembly of Fisher bodies and the Chevrolet chassis, has made it possible to specialize in the building of bodies, thus assuring Chevrolet's high quality workmanship in its closed bodies.

"Honk" and "Choo" New War Whoops in Rockies

First it's "choo! choo!"; then, "honk! honk!" Out in the palette-spined Rockies of Colorado a certain Denver's gas-going fives is engaging in a contest with the twin-ralled "Iron Steel" for supremacy in the travel business, a marathon in which the transcontinental highways and trunk line railroads are aggressive contenders.

The result of the 1925 race seems to favor the railroads, judging from attendance totals. Rocky mountain national park, where, with visits of nearly a quarter million, the approximate increases of 10,000 people over last year is claimed in a 12 1/2 per cent rail business by the Rocky mountain park transportation company, the official park carrier.

About 17,500 vacationists took advantage of this service, from Denver and other points to the national park. The Denver tourist bureau's travel barometer.

Buy Alcohol Carefully. Refiners have warned repeatedly against the practice of going to a garage or filling station and asking merely for a quart of oil. This warning could be extended to include alcohol. The department of commerce has found that alcohol still is the most satisfactory anti-freeze solution, but any kind of alcohol will not do. Frequently, wood alcohol is dispensed, and while such alcohol may be used if pure, it is often of acid reaction with the result that its use for an entire winter will corrode the radiator and other metallic parts touched by the anti-freeze solution.

Worth Remembering. Always throw away rags used in process of cleaning spark plugs. Should these rags carry a bit of carbon and be used for polishing, the body would be badly scratched.



GRINDING A VALVE.



GRINDING A VALVE.

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(Continued on page 2 column 1)

## AJAX SIX



\$995  
F. O. B. factory  
Touring, \$865

In the \$1000 field you have a right to ALL these Ajax features—

- 4-Door Sedan
- Six-Cylinder Motor
- Force-Feed Lubrication—To all main bearings, connecting rod bearings and camshaft bearings
- 7-Bearing Crankshaft
- 6-Bearing Camshaft
- Four-Wheel Brakes
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- Five Disc Wheels
- Duco Finish
- Cowl Ventilator
- Cowl Lights
- Rear-vision Mirror
- Silked Curtains
- Transmission Lock
- Automatic Windshield Wiper

YOU GET ALL OF THESE IN THE AJAX AND IT'S NASH-BUILT!

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