

TRUE UP WHEELS TO GET TIRE MILEAGE

Misalignment Costs Owners Many a Good Dollar.

MANY MILES GO TO WASTE

Goodyear Expert Emphasizes Evils of Wobbling and Out-of-Line Wheels and the Remedy.

BY G. E. BRUNNER.
Service Manager Goodyear Tire & Rubber Company.
Pumping into curbs, hitting bumps in the road, turning out into gutters and similar strains, shocks and jolts are

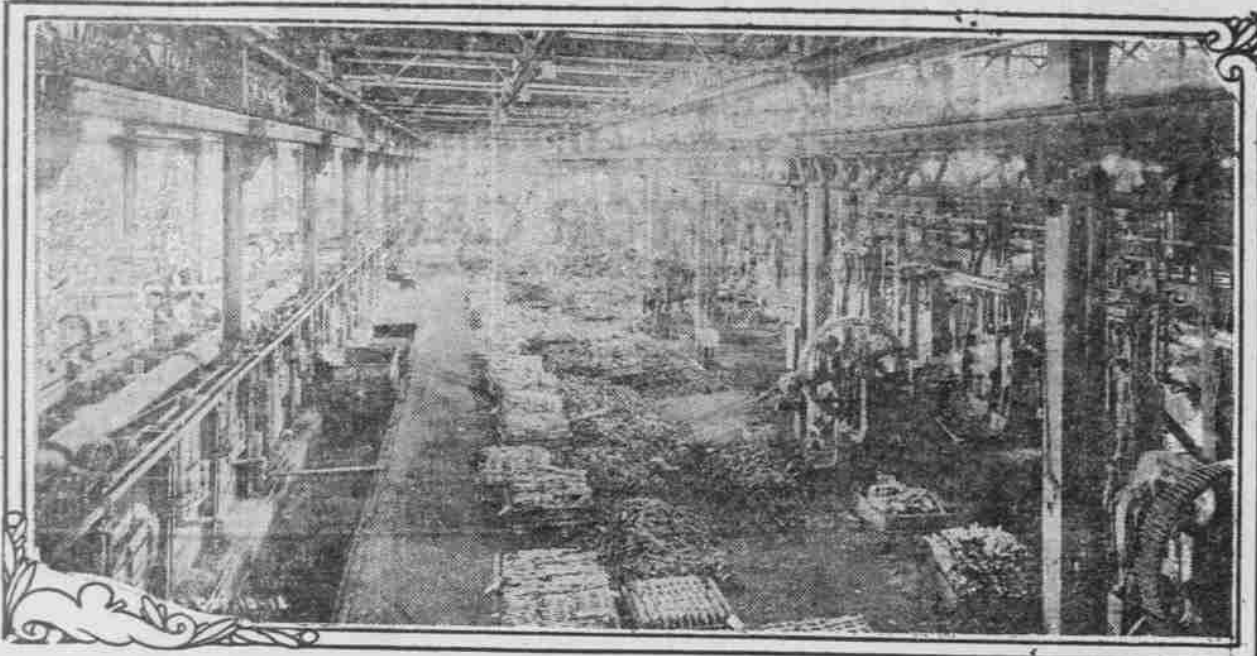
1. Use French talc in the casing, but avoid using too much.
2. Avoid ruts and save the side walls.
3. Keep out of car tracks.
4. Apply chains properly (if they must be used).
5. Avoid sharp obstructions.
6. Remove grease, oil and acids from your tires at once by using a cloth moistened in gasoline.
7. Examine rims occasionally for irregularities and rust.
8. Prevent damage from rust by using rim paint.
9. Carry spare tubes in a bag.
10. Keep spare tires covered.
11. Be sure that nothing on the machine scrapes the tires as they revolve.
12. Avoid the use of any substitute for air.

Here's New One—Autograph Name on Your Tires.

Comedian Stone Starts Something With Vacuum Cup Tires That May Pull the Tire Thief.

THE happy originality of Fred Stone, the famous comedian, is carried even beyond his work on the stage. Some time ago, during a visit at the plant of the Pennsylvania Rubber company, at Jeannette, makers of the famous Vacuum Cup tires, he conceived the idea of having a set of these

WHAT INTERIOR OF AN AUTOMOBILE FACTORY LOOKS LIKE.



THIS VIEW SHOWS INSIDE OF FORGE SHOP, A SMALL PART OF THE BIG NEW STUDEBAKER FACTORY AT SOUTH BEND, IND.

very likely to cause misalignment or wobbling of wheels or both. When this happens the wheels travel with a skidding action which wears down treads very rapidly, even if the irregularity is so slight that the eye can hardly detect it. You should, therefore, test wheels frequently to make sure that they run true.

Probably as many as one car in three has one or more misaligned or wobbly wheels, robbing their tires of thousands of miles of service.

Because of the turn-to-the-right rule of the road, the right front wheel is often forced into the rough going at the side of the road and is likely to receive severe jolting blows which may produce misalignment, springing or dishing.

Also because the driver is usually on the left side of the car and unable to gauge accurately the distance between the right front tire and the curb when driving up to it from a stop, he often jams the wheel against the curb and frequently the result is misalignment.

Frequent Tests Advised.
The other type of irregularity, wobbling wheels, is caused by bearings in the hubs that are worn or broken by axles or spindles that are bent; by demountable rims carelessly applied.

When demountable rim clamps or ring fasteners are unevenly adjusted the tire cannot take its proper position on the wheel and consequently it runs with a wobbly motion.

Now if your tires are running true, if there is no irregularity, there is only one source of wearing friction, the natural grip of the tread on the road. But when tires do not run true there is an additional source of wear, the grinding of the road at an angle to the wheel. This increases friction greatly and wears down the tread precisely as if it were being held against a grindstone.

Test your wheels frequently for irregularities. Do it especially whenever any one of your tires seems to show undue wear. Since the testing of wheels for alignment or wobbling motion is very simple, many car owners are protecting themselves by having it done by their service station or by doing it themselves every two weeks.

The use of an adjustable aligner is best, such as is used in service stations. If you do not have an aligner and find it inconvenient to go immediately to a service station, the following "stick" method will give accurate results, although not quite as accurate.

Stick Method Explained.
Take a straight stick of wood at least five feet long. At the back of the front wheels place the stick between the spokes as nearly as possible on a level with the hub. Shove the stick through underneath the car until it touches the inside of the felloe of the opposite wheel at a similar height from the ground. Mark with a pencil the point at which the stick touches the inside of the felloe of the first wheel. Then repeat the operation for the front half of the wheel and again mark the point where the inside of the felloe touches the stick. The difference between the marks shows how much the wheel is out of alignment.

If the difference shown by either aligner or stick method is more than three-eighths of an inch, take your car to your service station and have it find out the cause and correct it.

Those irregularities that cause the wheels to wobble may be detected by jacking up the suspected wheel and shaking it to see if there is any play or looseness. If any looseness is found it may indicate worn or broken bearings.

Then spin the wheel while holding a pencil rigidly with the point close to the top of the side ring of the rim. If, as the wheel revolves, the space varies between the pencil point and the rim, the wheel is not running true. This indicates that axle or spindle may be bent or the demountable rim may have been incorrectly applied.

The savings effected by detecting in time misaligned wheels or wobbly wheels amount to as much as \$400 or \$500 more for the tires affected—some time more.

Code for Tire Users.
Here is a good code for tire users to bear in mind at all times:

1. Keep tires properly inflated.
2. Be sure to repair all tread cuts regularly.
3. Prevent blowouts by avoiding severe jolts and by maintaining full air pressure.
4. Have mud boils cleaned out and repaired at once.
5. Be careful in applying tubes.
6. Avoid sudden stops, quick starts and skidding.
7. Keep wheels in alignment.

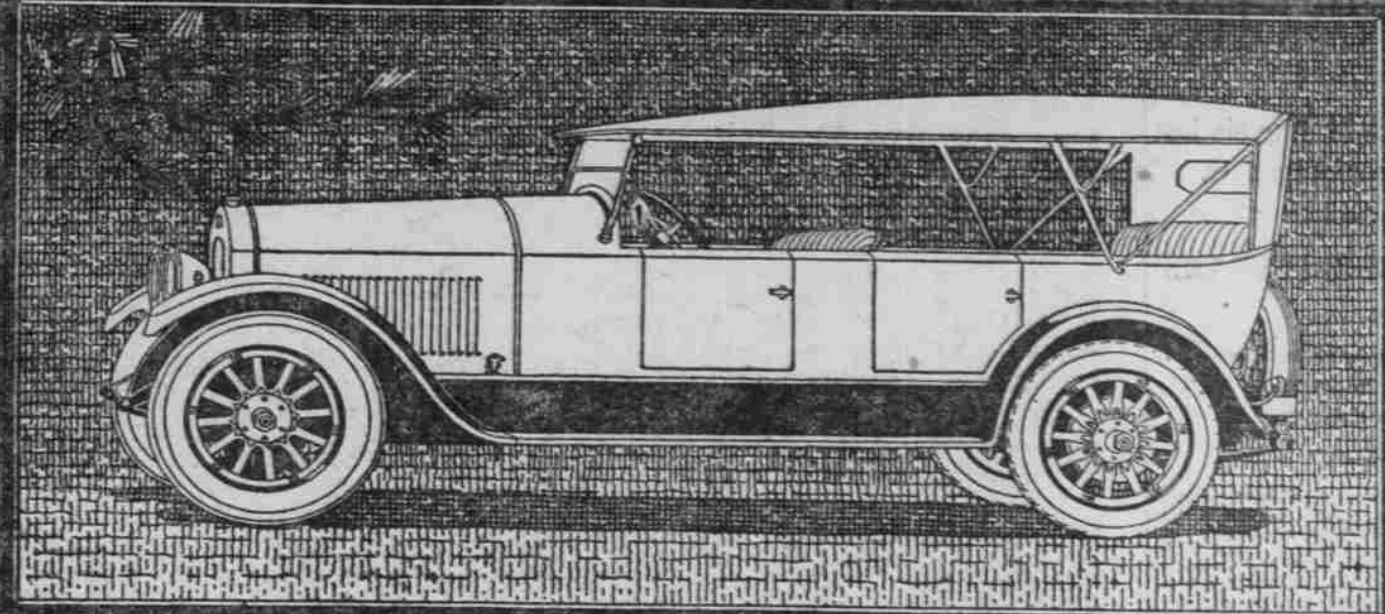
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NASH QUAD WINS GLORY

TWO QUADS GET PRIZES IN ARMY SHOW.

News From Across the Rhine Tells of Award of Honors for Dependability of Vehicle.

From "across the Rhine" comes testimony by the American army of occupation of further distinction accorded the famous Nash Quad. Word that two Quads have been awarded first and third prizes, respectively, in the divisional motor show of the 32d division has just been received by the Nash Motors company.

Requirements under which the prizes were awarded were based upon military standards and were very rigid. That the two Quads secured top honors is another tribute to the dependability, durability and performance of the Quad.

Information concerning the outcome of the divisional show came in the form of a letter from Captain Howard Dayton. The show was held at Sayn, Germany, near Coblenz, and was looked upon by army officers as one of the most important events to be held during the period of occupation.

The winning Quad, Captain Dayton states, had to its credit a record of 5000 miles, the awards he says having been based on the following points: Number of miles driven, mechanical condition and general appearance.

"The Quads had seen considerable usage," relates Captain Dayton, "and the men in this organization were especially interested in the outcome."

During the war period the Nash Motors company built more than 12,500 Nash Quads for military purposes. This is believed to be a larger number of trucks than were furnished by any other maker.

Free Oil Holes.

The car owner who intends to do any repainting work will do well to see that all exposed oil holes are stuffed with felt or waste to prevent their being painted over and so choked. The latter condition will result in failure of oil to reach the bearings when the car is again being run.

"Some Body"

—with the accent on "body"! I!

That's what customers say about the special Automobile Bodies we build —with the real FACTORY FINISH.

For Hotel, Ambulance, Hearse or anything.

G. G. Gerber
the Radiator Man
"Golden Rule Service"
Eleventh and Davis

Electric Auto-Lite corporation of Toledo, O.

The new system will be known as Willys light. It will be marketed by the Willys light division of the Electric Auto-Lite corporation through distributors and dealers. Formation of the sales organization is under way. It will extend throughout the United States and eventually throughout the world.

The new system is said to be the most complete yet placed on the market. It is operated by a Willys-Knight sleeve-valve motor, a motor known for its simplicity of operation and quietness. The engine has been developed to such an extent that it requires practically no attention and is so simple a child can operate it, according to those who have observed it.

The complete plant consists of a Willys-Knight engine, a directly connected generator, a simple control box and a storage battery. The Knight engine burns kerosene at approximately one-half the cost of gasoline.

It is air cooled, self-cranking, self-running and self-stopping. The control is semi-automatic.

The extensive sales and service organization of the Electric Auto-Lite corporation and its great factory facilities make it obvious that purchasers will not lack for service attention.

Willys light generator is shunt wound for 32 volts. It delivers 750 watts. The armature of the generator, the engine flywheel and crank shaft are constructed in practically one piece, thus eliminating separate generator bearings and reducing friction.

The battery consists of 18 cells with nine plates to the cell. These are in-

closed in sealed glass jars. They have a capacity of 160 ampere hours. The quality and dependability of the new system is assured by the very fact that John N. Willys has permitted it to take his name.

The new lighting system is adapted to an increasing number of uses. In addition to its general utility on the farm, it is available for cotton gins, lumber and construction camps, oil and gas pumping stations, mines, stores, garages, dairies, telephone exchanges in smaller towns, warehouses and stations. It also may be utilized for hospitals, fishing and hunting clubs, country homes, street, car and home lighting in small towns, theaters, military camps and in summer resorts and cottages.



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