

FORDS DEMAND TOUGHER TIRES

Manufacturer Determines Requirement of Car by Many Tests

One of the problems which demanded most careful study and exhaustive experimenting in the building and equipping of the new Model A Ford car was that of tires.

The new Ford was an entirely new car in its class, with power, speed and acceleration that were also new to the field of light, moderate priced cars. The very first test models of the car proved that tires which could be counted upon to "stand the gaff" with the Model A Ford must be larger, tougher and better able in every way to withstand wear, heat from road friction and ordinarily damaging action of bumps, ruts and other uneven road surfaces upon the tread and the sidewall of the tire.

Give Bigger Effect

To begin with, these tires with which all Model A Fords are equipped, while designated as 30 x 4.50 in size, actually give an effect equal to that of tires measuring 30 x 4.75, when fitted to the special drop center steel spoke wheels of the car.

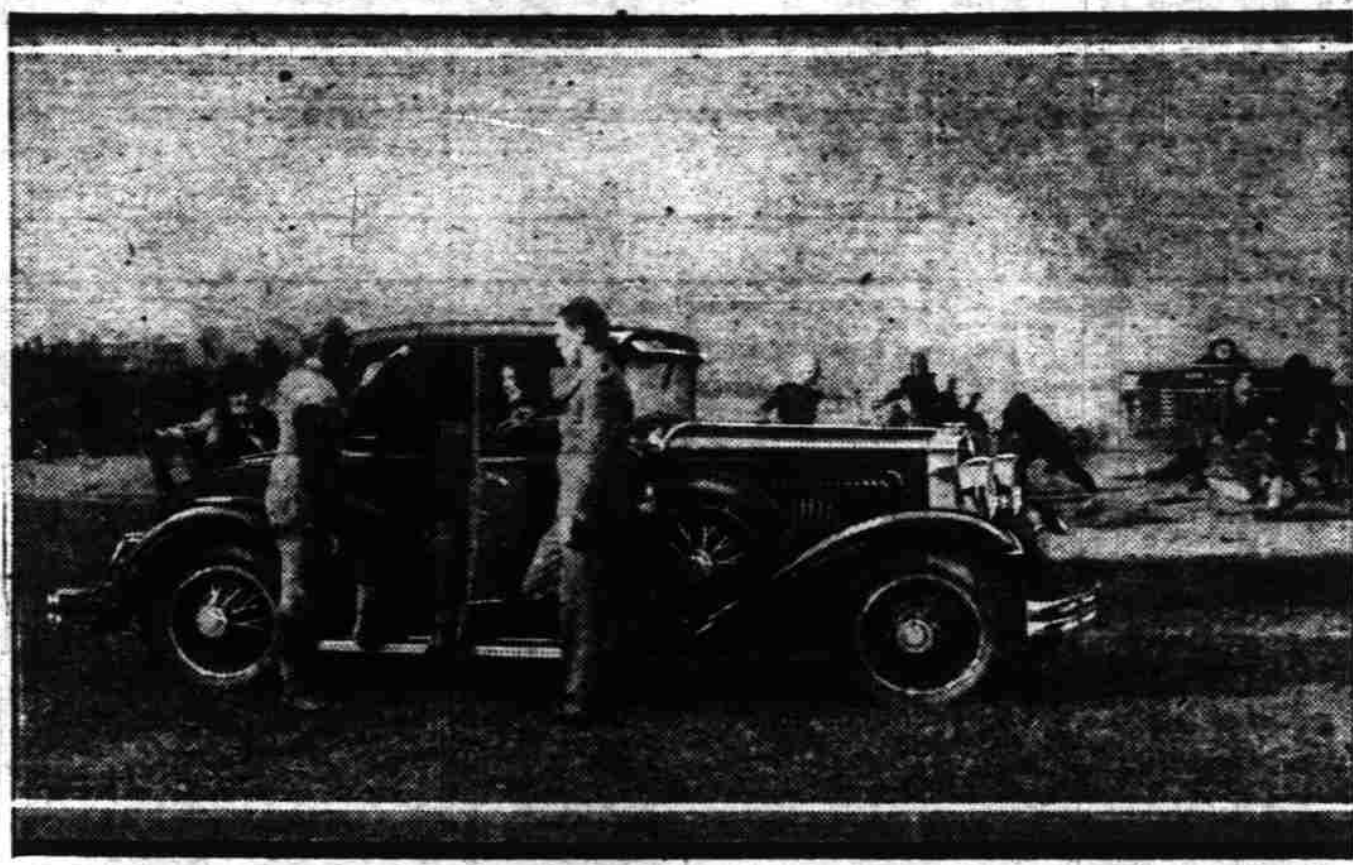
The designers of the Model A Ford realized that this car would go into many parts of the world and find many varied road conditions. So the tires with which the first few test models of the new car were equipped were subjected to every possible type of service and from these tests Ford engineers were able to determine specifications that would produce a truly modern balloon tire with all the excellence of design, workmanship and material to insure its giving a service on a par with that of the Model A car itself.

Severe Tests Given

Tires for the model A Ford are made by several of the best manufacturers of the country, but every tire must meet those specifications. The rubber which goes into each of these tires must be of the finest grade, new, live rubber that has been properly cured. Just so much of this rubber, to within a fraction of an ounce—and no less—must be used. The cotton from which the cord is manufactured must be of the fine, long-fibre variety, tough and durable. And each lot of tires received at the Ford assembly lines must first be carefully inspected and tested to see that they meet these specifications and that there are no flaws or defects in tread, sidewall or shoulder.

In testing sample tires from lots delivered to the assembly lines, the Ford Motor company subjects them in many instances to treatment they will never re-

Senior Class Surprises Varsity



TRAFFIC stops when the gridiron signal is "Let's Go" in hundreds of football camps over the country. Helmeted warriors fight on while the sideline visitor, a Dodge Brothers Senior Six sport coupe, rolls up as a counter attraction to the thrilling spectacle of end runs and off tackle smashes.

ceive at the hands of the average owner. One of the testing devices drops the tire down from a height of several feet, under a weight equivalent to that of a fully loaded car, upon a section of steel rail similar to those at a railroad crossing. Tires are also placed on test cars and operated over rough roads at below normal pressures, over gravel, crushed stone and through sand and mud. For Ford engineers there shall be no "let-up" troubles in the tires of the Model A Ford.

Radiators To Get 30 Million Gallons Of Wood Alcohol

Thirty million gallons of alcohol or more than one-third the entire output of the United States will be used by water-cooled automobiles during the coming winter, it was declared this week at the annual meeting of the Industrial Alcohol Institute at Chicago. The report of the institute did not take into consideration that glycerine and other compounds used by water-cooled cars during cold weather reach an additional volume from 25 per cent to 50 per cent of the alcohol used.

With alcohol averaging one dollar a gallon, it is readily seen that owner of water-cooled motor car will spend \$30,000.00. Assuming that users of other antifreezing compounds spend an equal amount, the total expenditure for radiator solutions will total approximately \$60,000,000.

Cleansing Cooling System Protects Against Freezes

Rust, scale and leaks are the triple-threat against which every car owner in a cold climate must guard. If he would adequately protect his radiator and engine block from the expansion stresses and bursting which a "freeze-up" may engender.

That an anti-freeze is an economic necessity is now admitted. Comparatively few, however, of the many million of car owners have yet come to realize that even the best of the modern anti-freezes can do little to protect their cars against freezing if the car cooling system has not been properly cared for previous to pouring in the anti-freeze.

To coin a phrase, "an anti-freeze is effective only to the degree that the cooling system is clean and tight."

Washing Soda Helps Proper servicing of the cooling system requires that before using make sure that the entire cooling system of his car is free from rust, scale and leaks. Any well-ordered garage or service station can attend to this, or it can be done by the car owner at home.

Rust and scale are best removed by pouring washing soda solution into the radiator, and then running the motor for ten minutes, idling it as the solution is distributed thoroughly. Then flush out the entire system with clear water in order to remove the last vestige of washing soda. To facilitate drainage, remove the hose connection while flushing. After flushing, all parts of the

cooling system should be tightened up, as the loosening and ejection of rust and scale may have tended to loosen them up also, or to have revealed small, hitherto obstructed apertures through which the non-freeze liquid can penetrate. Parts to be tightened include naturally hose and pump connections, gaskets, expansion plates, drain cocks—which a surprisingly large number of owners neglect to turn off after draining—pump glands and grease cups on the water pump.

Fall Is Time for Fixing Periodic examination of the cooling system thereafter, even after the introduction of the anti-freeze, is recommended.

To be fore-handed in this matter is really a vital matter for the car owner. Either he or his service man must remove the rust and scale, or if they are present in the cooling system, the freeze-proof new anti-freezes will remove them later for him. That, of course, means leakage of the anti-freeze through small openings which might easily have been tightened up previously, after a washing soda solution had peeled off the rust or scale barnacles from apparently tight connections.

Now is the time to obliterate the threat of rust, scale and leak-

age from your winter driving and your peace-of-mind. An ounce of prevention will save a gallon of anti-freeze, and, perhaps, costly damages as well as time and patience.

With a clean, tight cooling system, the right anti-freeze for your car will insure perfect freedom from the coldest weather.

GOVERNMENT HELP INCREASE SOUGHT

WASHINGTON, Nov. 10—Increased appropriations for federal aid are necessary if highway construction is to keep abreast of automobile registrations, in the opinion of 35 of the 48 states, according to an analysis of questionnaires sent to state highway commissioners by the legislative department of the American Motorists' association.

An affirmative answer was received to the following question from 35 states: "Do you favor an increase in the present amount of federal aid appropriation, the annual appropriation at the present time being \$75,000,000?" Replies from 13 states indicated that the state highway officials of those states do not favor increased federal aid.

In the opinion of those favoring additional federal aid, the consensus was that \$100,000,000 annually should be appropriated for this purpose. Replies from five states, however, placed the minimum at \$150,000,000 annually or twice the present authorization for 1929, 1930 and 1931 of \$75,000,000 annually.

But seven states were of the opinion that the federal government should contribute funds towards improvement of the secondary highway systems of the states, although practically all of the western states voiced their favor of the Oddie-Colton bill which provides special funds for certain states having large tracts of public domain.

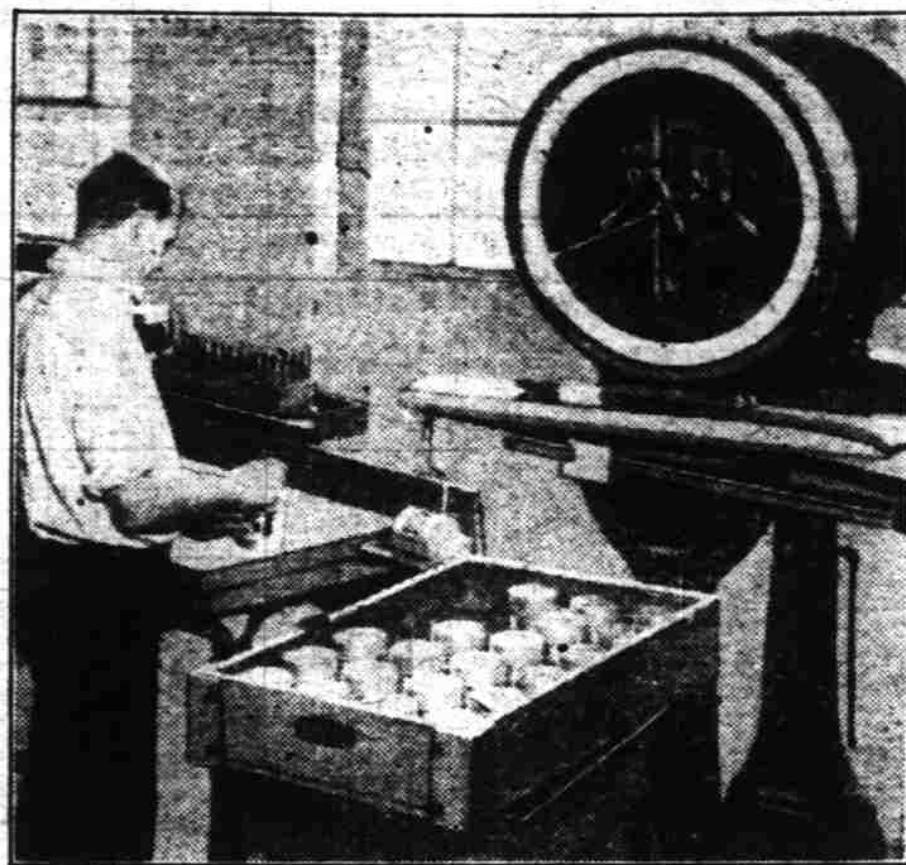
A total of \$733,200,000 has been appropriated to date by the federal government, under the federal aid program inaugurated in 1916. The following tabulation shows the amounts for each year, expressed in terms of millions:

1917, 5; 1918, 10; 1919, 65; 1920, 95; 1921, 100; 1922, 75; 1923, 50; 1924, 65; 1925, 75; 1926, 75; 1927, 75; 1928, 75.

Support of increased appropriations for federal aid was voted by the legislative committee of the association at its November meeting.

If the art of conversation has been lost we would hate to play bridge with a survivor of the day when it flourished.—Lynchburg

Where Fractions of an Ounce Count



SMOOTH engine performance results from rigid standards in assembling parts for a motor car. Here are pistons used in the Dodge Brothers Victory Six engine being weighed on highly sensitive scales. Pistons, assembled in sets of six, must weigh within one-third of an ounce of each other, or they are rejected.

DE SOTO RESPONSE SAFETY MEASURE

The spirited and instant response of the new Chrysler-built DeSoto Six to both throttle and brake has brought an entirely new driving sensation into the field of moderate priced sixes. It is asserted by Mr. Fitzgerald, local DeSoto Six dealer.

"This new ease of driving in the DeSoto Six has found immediate favor with motorists," Mr. Fitzgerald continues. "With traffic congestion and high speed the rule rather than the exception, drivers are demanding cars which leap smoothly into action and which can be stopped immediately without shock or vibration. The secret of DeSoto Six per-

formance lies in the design and engineering of the car. Chrysler-built cars have always been noted for their spirited performance and Chrysler engineers have provided the DeSoto Six with a responsiveness fully in keeping with this tradition.

"For example the DeSoto Six is equipped with the Chrysler-designed 'Silver Dome' high compression cylinder head, which utilizes any grade of gasoline and extracts efficiently the maximum in speed and power from each type of fuel. The famous 'Red Head' obtains even greater speed and power from high compression fuels.

"The motor has the new type Iso-Therm, Invar-strut aluminum alloy pistons. They are extremely light in weight and are fitted with rings of the new tongue and groove construction. Inlet valves are of chrome nickel steel, while

exhaust valves are of aluminum steel. "The DeSoto Six crankshaft is very short, heavy and rigid to the size of the engine. It is provided with counterweights which neutralize centrifugal forces thus reducing bearing pressures. The strength of this crankshaft is but one explanation for the smooth flow of power at all speeds which the driver of the DeSoto Six experiences.

"Camshaft, crankshaft, connecting rod bearings are lubricated. Crankcase ventilation, oil feed, Crankcase ventilation, oil filter, air-cleaner and extraordinary large valves are additional reasons why the DeSoto Six finds his car responsive to his slightest touch. All these fea-



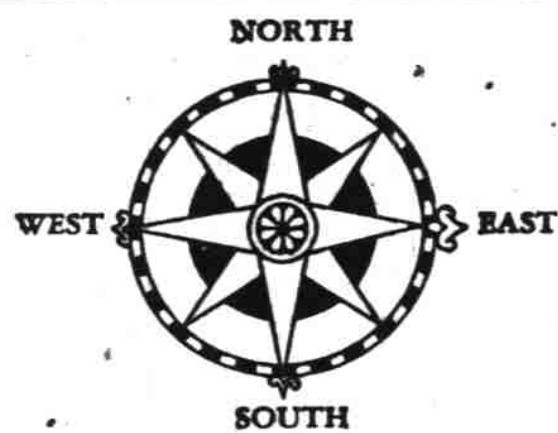
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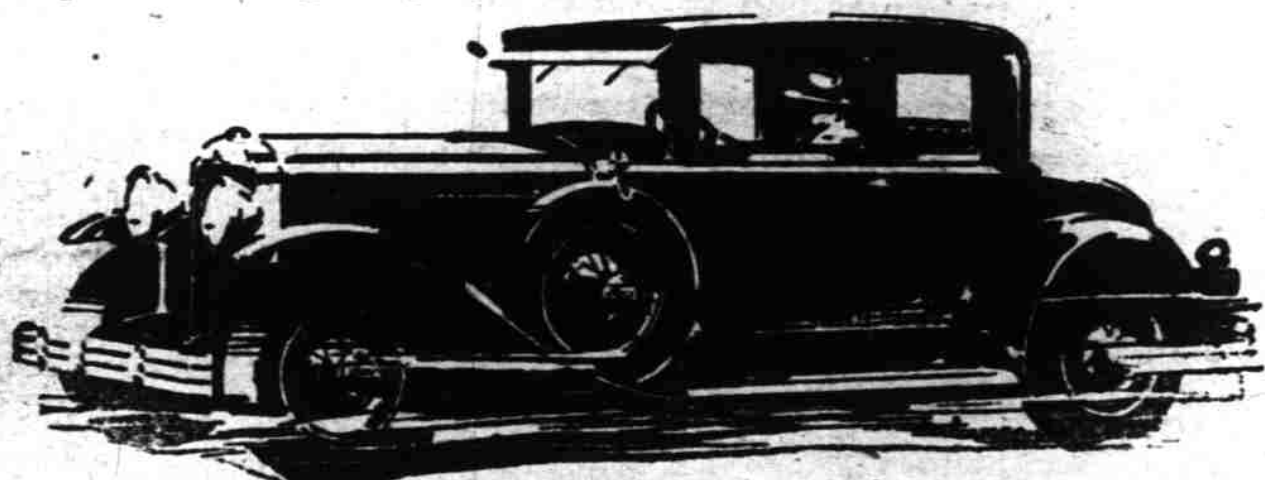


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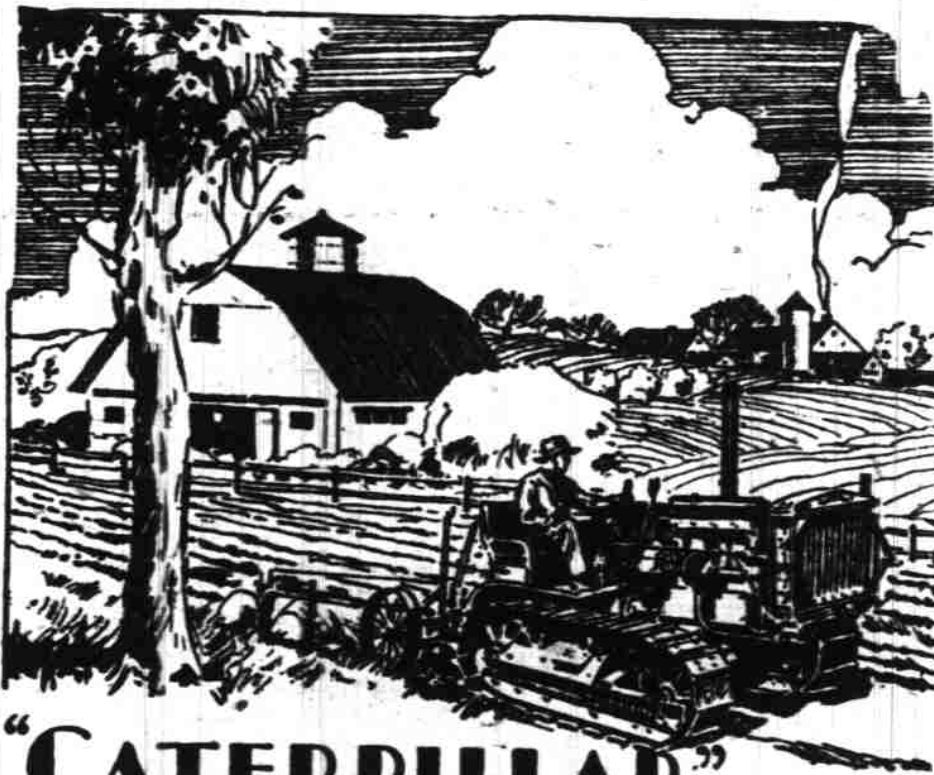


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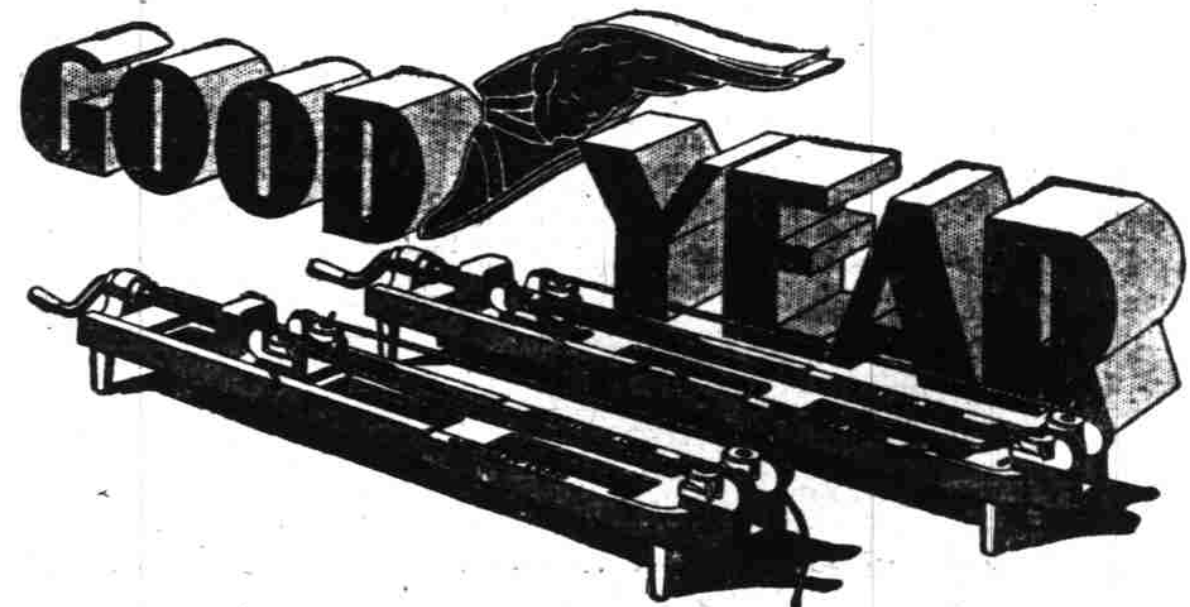
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