



## **THOUGHTS FROM THE MODEL T GARAGE...**

**By Ed Moran**

Hi fellow Model T'ers!

Let's spend a little time talking about one of the most neglected areas of our Model T. The front axle and wheel bearings... As long as the front wheels turn and the steering isn't too bad, many of us tend to just assume all is well up front. Maybe so, but do you realize that you expend more energy steering your T than in doing anything else while driving? Murray Fahnestock used to say that you might as well run your tires flat if you didn't have the front end in alignment because you'd certainly grind off more rubber with incorrect toe-in!

The three settings we want set correctly are Toe-in (called "gather" in the Model T days), Caster (called rake) and Camber. Ford recommended 3/16 inch toe-in. As mentioned above, incorrect toe-in can wear out a brand new tire in a couple of hundred miles!

Caster is the backward slant (bottom being further forward than top) of the axle and, in the T, was controlled by a built-in slant in the spring perches. This brings up an important point□ It's not uncommon for spring perches to be installed on the wrong ends of the axle thus giving a negative caster! Early spring perches (with the radius rod ABOVE the axle) had the rear of the perch rounded facing the rear. This was to give clearance and eliminate the need for a sharp angle on the radius rod that could fracture. The later spring perches (radius rod below the axle) had the boss or lathe center facing the rear. The correct caster is 5 1/2 degrees. Reversing the perches will cause a negative caster and make the car very unpredictable. Remember how a bicycle acts when you try to back up?

Camber is what gives our T's the "bow-legged" look. It is designed to get the contact point, where the tire touches the road, as close as possible to directly under the pivot point of the axle and spindle. This makes turning much easier. The correct camber is 3 degrees. Measure between the two front wheels at the top of the wheel and again at the bottom and there should be a difference of about 3 inches. Camber is controlled by the angle of the front wheel spindles.

One quick note□ a loose front radius rod ball joint can cause front wheel shimmy! Front radius rod joints should always be safety wired and the ball should be a good fit with very little play in the socket.



Front wheel bearings should be inspected and greased at regular intervals. Ford suggested every 500 miles but once a year should be fine for most of us. If you're going to tour the US, you will want to do it more often. When replacing the outer bearing, screw it up SNUG and then back off 1/4 to 1/2 turn. A correctly tightened bearing will allow the valve stem to turn the wheel to the bottom but there will be no play in the bearing when you press in and out on the top of the wheel. Be careful that any play you see is actually bearing play and NOT king pin play. You can eliminate king pin play by driving a chisel between the axle and spindle to take up any king pin movement. Folks with balanced wheels may not see the valve stem move the wheel but the bearing should be loose enough to allow that kind of free turning. It's better to have a bearing a little too loose than to have it too tight!

Worn out king pins and bushings can also contribute to front wheel shimmy. To check for king pin play, jack up a front wheel and then see how much in/out movement you have when alternately pressing in and out at the top and bottom of the wheel. Be careful that you are not seeing play in the wheel bearings! Frequent oiling of king pins, tie rods and drag link balls will help to extend the life of these joints. Since they are lubricated with oil, they need to be lubricated much more frequently that joints which have grease.

We've covered the high spots of the front-end. Until our next column, I'll

See you down the road....