

## Balancing the Front Wheels on a Model T

When Model T's were originally produced, roads were poor at best and highway speeds seldom exceeded 40 miles per hour. With today's roads and the modern technology used in today's restorations, it is not uncommon to have a Model T capable of speeding down the highway at speeds in excess of 50 mph.

Once past the speed of 35 mph, the front wheels can begin to bounce and wander, which can be a direct result of being out of balance. This condition will wear out a set of tires extremely fast and will make the car very uncomfortable and unsafe to drive. The solution to the problem is very simple. Go to your local tire shop and purchase a flat weight used in balancing "mag" or aluminum wheels. This type of weight has an adhesive tape on one side so no holes need to be drilled. Jack up the front end and loosen the front wheel bearings so the wheel turns VERY easily. Now, spin the wheel/tire and note where the wheel/tire stops. Usually, the valve stem will rotate to the bottom, closest to the ground, every time. This is especially true if you have metal valve stems and caps. Spin the wheel/tire again. If the wheel stops in the same place as in the first spin, you have a heavy spot and an out-of-balance wheel. You will need to place weight on the opposite side, or 180 degrees away from the heavy spot on the wheel. Spin the wheel again and note where the wheel stops. If the wheel stops in various locations after it has been spun, you have just "balanced" your wheel. If it stops in the same location as before, add more weight until there is no pattern when the wheel stops.

This sounds like a "backyard" fix, yet I did this to my '13 touring and found it to work extremely well. From the day I finished the restoration on the car, the front wheels "wobbled". I wore out tires and didn't feel comfortable trying to keep with other drivers. Now the annoying wobble and shimmy are GONE and the car drives smoother than it ever has.

## Tightening Wood Fellow/Non-Demountable Wheels

When restoring early non-demountable wooden wheels, one of the problems normally encountered is that the wood fellow is loose in the metal rim causing the entire wheel to become loose and unusable. With the price of a re-wooded wheel bearing it is desirable to look for an alternative to re-wooding, and an inexpensive repair is available. The only criteria are to start with a wheel that has sound wood in both the fellow and the spokes, and begin with a rim that is not bent.

Once the criteria are met, the wood must be removed from the metal rim. First, remove the hub from the wheel; then the rivets holding the fellow to the metal rim need to be drilled out so the fellow and spokes can be removed. When the rivets are removed, push the wood from the rim, keeping the spokes in the fellow. At this point, check to see if the spokes are tight in the fellow. If the spokes are VERY loose in the fellow, the wheel may not be salvageable, yet if there is a small amount of play you can drill a small hole in the end of the spoke where it enters the fellow and pound a slightly larger nail in the end of the spoke. The nail will act as a wedge and tighten the spoke. This nail needs to be no longer than one inch.

Next go to your local sheet metal shop and have some galvanized sheet steel (20 gauge) cut into strips measuring  $1\frac{1}{4}$  x 37 inches. This metal will act as a shim to be used between the fellow and the metal rim. You may use one, two or three strips on each fellow, depending how loose the fellow is to the wheel. The sheet metal shim(s) is/are tacked to the fellow using small nails. Using nails allows you to pound the fellow back into the rim without the sheet metal shims moving.

Once the shim(s) is/are in place, align the fellow onto the metal rim using the same rivet holes as before. It will be necessary to pound the fellow into the steel rim because the shims make the fit VERY tight!! Use a wood block and a large hammer to accomplish this. DO NOT pound on the fellow with a metal hammer; use a wood block. Next, place the hub into the wheel. The hub will be tight, and the easiest way to install the hub is to tap each spoke down into the hub. Again, use a wood block to accomplish this task. The spokes are "walked" around the hub by tapping them down until the spokes bottom out on the hub. Using the six carriage bolts, bolt the hub

plate onto the wheel and tighten the nuts on the hub.

To align the front wheels, place a front spindle with its bearings in a vice, and place the wheel on the spindle. Tighten the outer bearing and then spin the wheel to determine the alignment. Once the wheel runs true, rivet the fellow to the wheel. Shovel rivets, which can be purchased at your local hardware store, are the closest to the original. The rear wheels can be installed on the rear axle of a Model T and then can be aligned as the Model T is running. Once straight, the fellow can be riveted to the rim.

This procedure can save you a great deal of money and still produce straight, sound wheels.

### **Repair of a “Wobbly” Wheel**

As I was refinishing the wheels on my 1913 touring, I took the hubs from the wheels to thoroughly clean the paint from the wheels. I recalled that my wheels, although re-wooded by a fine wheelwright, had a small amount of “wobble” as they rolled down the highway. A wobbly wheel not only takes away from that “perfect” restoration, yet can also be dangerous, as the wobble has a tendency to put loads and stresses in areas where they were not intended.

As I reassembled the hub to the wheel and tested the wheel for wobble, I found that the wheel appeared to have more (!) wobble than before the restoration. At this point, I decided to turn the hub in the wheel to see if the wobble could be reduced. I unbolted the carriage bolts and left the front face plate in the original position, yet I pushed the bolts out far enough to turn the hub clockwise one bolt hole from its original position. The hub was tight in the wheel and I did have to take a hammer and punch to rotate the hub. When I aligned the bolt hole, I pushed the bolts through the hub and tightened the nuts. I put the wheel on the axle, spun the wheel, and noticed a significant improvement; yet there was still a little wobble. I repeated the process one more time and the wobble in the wheel was gone!!!! I then tried this process on another wheel and again noted a great deal of success. When I finished with the wheels, ALL wheels ran as true as any I have ever seen on a Model T. I did note the location of the wheels and marked them so they would be replaced in the same relative location on the car.