

SHIMMY / WOBBLE / DEATH WOBBLE or whatever you want to call it

by Bill Robinson

**Most of us has had it happen to our Model T. If not, just wait 'cause it's 'acoming!
So, how do we stop it?**

Most of us go to the Model T Ford Service Manual, and follow the suggestions, by replacing the spindle bushings, setting the caster and camber, and the following the other procedures listed under "axle". And sometimes, we get lucky and the cause for the shimmy is cured without getting into making repairs to the steering column.

For me, that's the way I've done it on my cars, friends that I have helped, and performing the axle repairs and adjustments have worked. But, on my 1927 Tudor the shimmy started by surprize one day when I let a friend drive it, I know that he didn't believe me when I said, "David, it's not been doing that before today". But really, it hadn't had the shimmy since I rebuilt the front axle with the kit that I had bought from Dan Hatch.

The next day, I rolled under the front end of the car and Suzi helped by moving the steering wheel back and forth. I looked at the drag link, tie-rod, spindles, wishbone, and everything looked good-as-new with no "play". But when I inspected the steering bracket, which had not been rebuilt, I could see a small amount of movement, or play, between the internal brass bushing and the steering shaft.



STEERING BRACKET on a '26/27 Tudor. There are slight differences on older cars, and Fordors.

The STEERING BRACKET BUSHING is a press-fit into the bracket.

THINGS you need to know:

1. These bushings are available at our normal Model T parts vendors. They are not made to fit, due to wear on the steering shaft. Each bushing must be adjusted to fit each car according to wear.
2. On my latest installation the O.D. was a good snug fit. No metal removal was required to achieve the required press fit.
3. The I.D. of the of the bushing was made so the steering shaft will insert through the bushing with no excess clearance. **Excess removal creates SHIMMY.**
4. Achieving a good fit is a tedious process for the average Model T owner. It's a tedious job, but not difficult. Be patient, be persistant, and go slow. **If you remove too much material, you'll have to get another bushing and start all over.**

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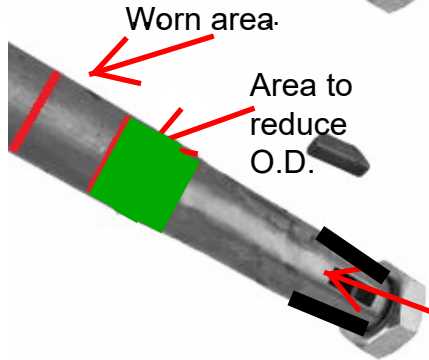
This can be performed by either removing the entire steering column from the car, or my choice was to remove the pitman arm, leave the column in the car, loosen the nuts that attach to the cowl/firewall. After removing the pin from the Spark Rod Lever/Arm, then remove the lever/arm itself and slide the steering bracket from the shaft & 2 rods.

I left the column in the car.



PREPARE the steering shaft

- Start by determining how much metal has been removed due to wear on the steering shaft. If there is a shoulder, metal must be removed so that the O.D. of the shaft is reduced to the O.D. of the worn portion where the original bushing fit.



- Using a strip 220 grit emery cloth, sand the GREEN portion of the shaft, between the taper and the worn portion (green), so that the unworn portion of the shaft matches the size of the worn portion. Be careful and DO NOT sand the tapered area where the drag link is attached.

Tapered area- don't reduce-
This is where the pitman arm fits!

It's now time to press the bushing into the front end of the steering bracket (on a '26/27 other year models will be different- some older cars have 2 bushings). Once the bushing is installed over the "tapered portion", start fitting the bushing to the shaft so that once it is riding in the "wear portion", and the fit is such that there is no excess removed from the inside of the bushing. Be careful and don't remove too much material. This is important!

First, let me say this, the ideal tool for fitting the I.D. of the bushing to the steering shaft is a Sunnen Honing Tool, which most machine shops own. The Sunnen tool would be simple, fast, and easy to make the parts fit- for an experienced machinist. But, if you prefer to perform the fitting yourself- this is how I did-it-myself.

Step 1- Take some measurements with calipers to get an idea how much material must be taken off of the bushing- both O.D and I.D. On the one I just did, nothing had to be removed from the OD. It would slide into the steering bracket with only slight pressure. I applied some Permatex Sleeve Retainer to the parts and allowed the recommended set-up time. Seems to have done its job,

Step 2- Once you have gotten the green in pic area of the column reduced in size to match the worn portion of the column, then it's time to fit the I.D. of the bushing to the O.D. of the shaft. The goal is to fit the bushing to the shaft so that the bushing will slide on, but with no excess play. Some may call this a "sliding fit". It is snug sliding and rotating, yet with a little lube and it will rotate freely.

Step 3- It's now time to re-assemble what was taken apart from the beginning. Install the bracket on the steering column. Don't forget to put the throttle & timing rods in the correct holes that are in the bracket. Re-mount the steering column in the car if you removed it.

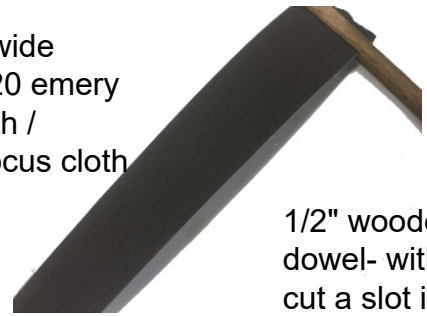


This is the old bushing. I used a punch. From the side nearest the driver I was able to have the punch grab the inner edge of the bushing and tap it out towards the front.



Start by cutting the new bushing to the length of the old bushing. Then measure O.D & I.D. and compare to the shaft sizes after any adjustments were made to the shaft.

2" wide
#220 emery
cloth /
Crocus cloth



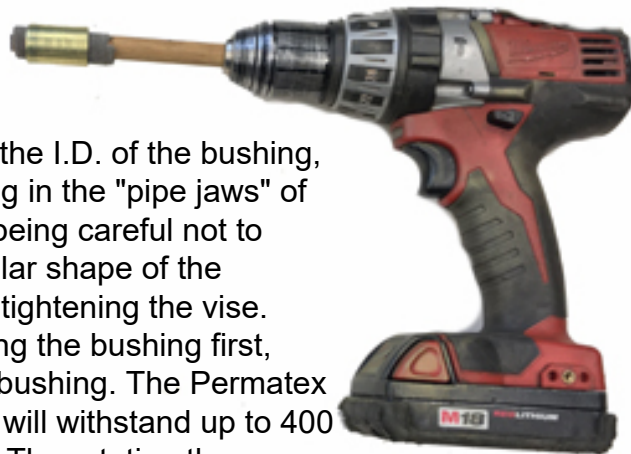
1/2" wooden
dowel- with a saw
cut a slot into the
end, insert the
emery,



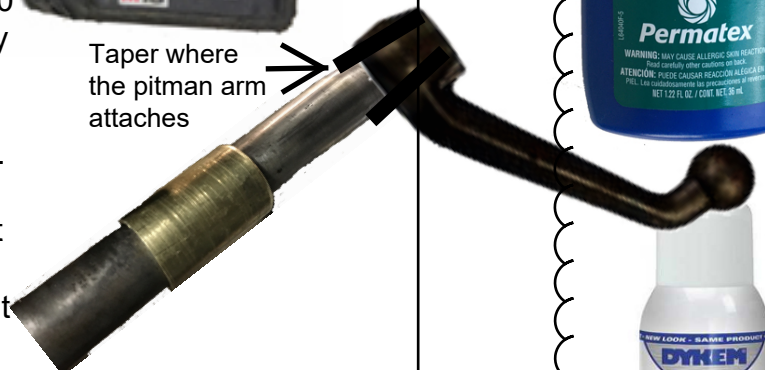
and manually
wind onto the
dowel. Get it
tight.



When I re-sized the I.D. of the bushing, I held the bushing in the "pipe jaws" of my bench vise- being careful not to change the circular shape of the bushing by over tightening the vise. Consider installing the bushing first, then re-size the bushing. The Permatex Sleeve Retainer will withstand up to 400 degrees of heat. The rotating the emery cloth will get the bushing 'hot' but now I know the heat is not excessive to anything except the mechanic's fingers. Again, do not remove too much material from the bushing. Remove just enough that the bushing will rotate on the steering shaft by hand with lubricant applied to the shaft.



Taper where
the pitman arm
attaches



Two products that I found to be helpful were Permatex Sleeve Retainer- the top image, and the bottom image is Dykem Steel Blue Layout Fluid- which is a blue dye that helps in locating high spots in the bushing.

Have Fun!