



The Drip Pan - Safety

Aligning Cotter Pins, Cotter Pins (Size/Qty)

I mark the heads of the front and center main bearing bolts with a line that corresponds with the cotter pin hole. This make it easier to position the cotter pin holes when tightening the nuts.

This is especially helpful on the center main because the nuts are harder to reach. I use a hacksaw to make the marks, or you could file them.

Nolan Renfro, Lone Star T Newsletter, March 1993

Did you know?

A Model T uses a total of ninety-five cotter pins to help keep it together, and a cotter pin 3/32" in diameter will fit sixty-nine of the places!

From the Flivver Flash

Battery Disconnect

Those of you in attendance at our January meeting heard that Gerald had experienced a "sudden, unexplained fire" in his dirt-track T Speedster. The car had been sitting, unattended, for several weeks. Gerald went to the garage to retrieve something form a cabinet in front of the T. Needing to move it only a few inches, he grabbed the rear wheel and turned it to move the car. After moving the car, he suddenly noticed smoke billowing from beneath the car and out of the cowl area. Upon disconnecting the battery, the smoke and fire subsided.

Looking at the car we found the "battery" wire from the starter switch to the terminal block on the cowl badly burnt. Further inspection found the same wire from the terminal block to the ammeter also burnt, but the wires on the other side of the meter looked perfect. The cause of the problem was an unexplained internal short in the ammeter (which looked "as new"). I might also mention that all of the wiring was in perfect condition and routed properly to avoid chaffing or shorts.

The above incident can and does occasionally occur due to frayed or un-insulated wiring, pinched or misrouted wires, defective or shorted cut-outs, headlight switches, ignition switches, top light switches, etc., when your battery is not disconnected by either a battery disconnect switch or manually removing a battery post when leaving the car unattended. This makes 5 cars that I have personally seen burning or burnt. Don't let yours be #6.

Prestley Morris, Lone Star T's Newsletter, February 1993.

Cranking Safety

To avoid accidents from back-firing, when cranking, place the thumb against the index finger and take the handle between the four fingers and the palm of the hand. The hand thus opens readily should a back-kick occur. Always crank up, never down.

Gas Power Magazine, October 1913.

A Warning From Mike Foote.

Mike Foote called me the other day to place an ad in this issue of the Magneto News. He then proceeded to tell me about his "bout" with his Model T. He was cranking the "T" had his thumb under the crank handle, but was pushing down on the crank. And then it happened - the "T" backfired and broke his wrist. He said that the spark lever was in the "UP" position, but for some reason it "kicked" anyway. Now Mike is wondering if you should ever push down on the crank or spin the engine to get it started. Let this be a warning to the rest of our members.

From the Magneto News

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Cure for Shimmy

Does your Model T still shimmy after a complete rebuilt job on the front end and steering gear? This has happened to many Model T owners and is probably caused by the transverse spring set up used by Ford for over 40 years. Auto supply houses in the Model A and Model T days made lots of money selling Ford owners gadgets to stop their car from shimmying. Most of these gadgets worked but none of them were necessary as I have seen Fords with completely worn out front axles that didn't shimmy. Also, these devices contributed to hard steering and the Model T steers hard enough as it is.

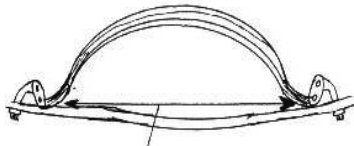
The purpose of this article is to cure a shimmy in a car that is completely restored so we won't go into steering gear overhaul or rebuilding the front axle. If you have installed new shackles and bushings your front spring should not be riding on the axle but a bent spring perch could cause it to touch the axle.

First of all, have someone bounce the front end of the car up and down while you watch your spring shackles. They should swing in and out about the same amount and the spring should not touch the axle. If one shackle seems to stand still and let the opposite side do all the swinging, that shackle may be too tight. A bushing may be too long or not pressed completely into the spring or the spring perch. The hole in the bushing may be too tight a fit on the shackle. Many times just loosening the nuts a half turn and reinstalling the cotter keys will free up a shackle. It goes without saying that these parts should be well lubricated.

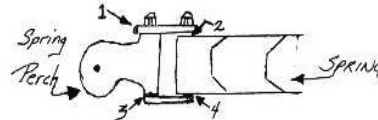
A shimmy usually starts when the car hits a bump, this straightens out the spring and if one shackle resists swinging more than the other then the whole front end of the car moves to one side. The steering wheel is held stationary so something has to give so the front wheels turn a little and this starts the shimmy.

Rear spring shackles should also be checked. While they cannot cause shimmy, they can cause a stiff ride until they are worn in (or worn out).

Royce Peterson



Be sure spring is not riding on axle due to worn bushings or shackles at these points.



Be sure that shackle does not bind in bushings and that there is clearance at these four points. Shackles should turn freely in both spring and spring perch when nuts are drawn down tight.

Fix That Sediment Bulb Fuel Leak

One of the aggravating problems one has with a Model T is a fuel leak. One of the most common fuel leaks can be found where the sediment bulb is screwed into the gas tank. I have found that Teflon tape can be used successfully, but this is not a guaranteed repair. A permanent repair can be accomplished by filling the threads on the sediment bulb with solder. First, remove the sediment bulb and thoroughly clean the threads on the bulb which screws into the tank. Next, once the threads are clean, "tin" the threads with solder. While the sediment bulb is hot, fill the threads with solder and then quench the bulb with warm water. If you have a power wire brush wheel, remove the excess solder so the top of the threads can be seen. Now screw the bulb back into the gas tank and any leaks should be a thing of the past.

Author unknown, From T-Time in Canyon Land ~2000.

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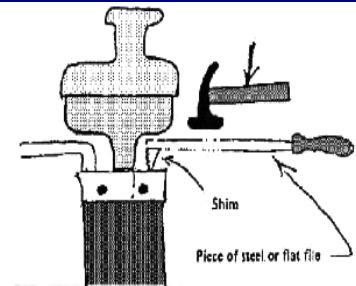
Fuel Shut Off

One thing that all Model T's should have is a fuel shut off that is easy to get to. If your carburetor should develop a leak, you could dump as much as nine gallons of gasoline on your garage floor. Install the valve right at the carburetor. This applies to 1926-27 models as well as the older models. The original fuel shut off does not always work.

Royce Peterson, Lone Star T Newsletter, 1990.

Loose Steering Gear

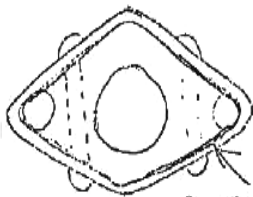
Driving a Model T 35-40 mph with a loose steering system can give you a pretty insecure feeling. It can be just flat dangerous. The solution, of course, is to eliminate the looseness at each linkage point all the way from the steering wheel to the front wheels, including the planetary gear box just beneath the steering wheel. Our tip presumes you've already done all this, and concerns a source of steering slop that's often overlooked – and that is the movement between the brass lower gear housing and the outer steel steering tube, just below the steering wheel.



Rock your steering wheel back and forth to see the movement here. Although the proper way to eliminate this movement would be to tighten the rivets, this might require the removal of the steering shaft assembly, and also might damage that shiny finish you worked so hard on some time back. There is an easier way. And that is to make some shims and tap them into place between the gear case and the steering tube.

An old hack saw blade is perfect shim material for this. Using a vise and a hammer, break the blade into several dagger shaped shims that have teeth along the edge. Start the point of the shim into the gap with your fingers, then tap it into place with a piece of steel and a hammer, as shown. (Fred suggests a flat file for the piece of steel.) It may take two or three shims to get it nice and tight. The hack saw teeth will hold the shims in place. Now you are all set. Old Liz feels so good you may be tempted to drive at 55!

Fred Houston, Tulsa Chapter, T Bone Times



Cross section showing looseness between steering gear lower case housing and steel steering tube.

Running Engine with Generator Disconnected From Battery

If for any reason the engine is run with the generator disconnected from the battery, as when battery has been removed for repair or recharging, be sure that the generator is grounded by running a wire from the terminal on generator nearest dash to one of the dust cover screws in the yoke. Two strands of shipping tag wire may be used for this purpose. Be sure the connections at both ends of the wire are tight. Failure to do this when running the engine with the generator disconnected from the battery will result in serious damage to the generator. NEVER GROUND THE GENERATOR THROUGH THE CUT-OUT.

Ford Instruction Manual

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Safety Checklist

Remember To Check Your Car Before Strolls & Tours

MODEL T SAFETY CHECKLIST

Steering

- Steering wheel has minimal to no play
- Acceptable wear and minimal to no play in:
 - Radius rod (wish bone) to crankcase
 - Ball arm (pitman arm) to steering gear connecting rod (drag link)
 - Steering gear connecting rod (tie rod) to yoke ball
 - Spindle bolts (king pins)
 - Spindle connecting rod bolts

Cotter keys (or lock washers, if holes not drilled) installed:

- Radius rod (wish bone) to front axle [2 required]
- Steering gear bracket to frame [3 required]
- Ball arm (pitman arm) to steering post [1 required]
- Steering gear connecting rod (tie rod) to yoke ball [2 required]
- Steering gear connecting rod (tie rod) to steering gear ball [2 required]
- Spindle connecting rod to spindles [2 (1 per spindle)]
- Spindle bolts (king pins) [2 (1 per spindle)]
- Spindle arms [2 (1 per spindle)]
- Spindle arms [2 (1 per spindle)]
- Front spring hangers (shackles) [4 (2 per side)]
- Front spring to frame [2 or 4 required, depending on year]
- Yoke ball [1 required]

- Safety-wire crankcase studs holding radius rod ball cap
- Grease in steering gear case and steering gear bracket (also check gear post and pinion gears for wear)
- Check for play in steering gear case to steering column (check rivets/taper pins)

Brakes

- Brake pedal (and, reverse pedal) should bottom out before reaching floorboards
- Both rear wheels should lock up under hard braking
- Auxiliary brakes are highly recommended for stock cars and should be installed if car has an auxiliary transmission

Emergency Brakes

- Hand brake sets securely before limit of its travel (check pawl and spring)
- Both rear wheels should lock

Cotter keys (or lock washers, if holes not drilled) installed:

- Control shaft assembly to frame [4 required]
- Brake shoe bolt [2 (1 per side)]
- Brake rods [4 (1 per end)]

Engine/Power Train

- Oil leaks - within acceptable limits
- Gasoline leaks - none, when parked (in-line shutoff valve recommended)
- Cotter pins installed:
 - Carburetor rod [2 (1 per end)]
 - Choke/carburetor adjustment rod [1 at carburetor]
 - Commutator rod [2 (1 per end)]
 - Crankcase arm to frame [4 (2 per side)]
 - Low speed connector [2 (1 per end)]
 - Universal ball cap [2 (top bolts) - bottom two cap screws safety-wired together]
 - Fan bolt (on earlier cars)

Wheels

- Spokes (and felcos on earlier cars) should be tight
- Front wheel bearings - no play, good condition and greased
- All wheels tight and axle/spindle nuts cotter-keyed
- Lug nuts tight on demountable rims
- Check tires for wear, weather cracks, rim cuts, etc

Rear Axle

- No oil leaks at outer seals
- Differential gearcase oil level

Cotter keys (or lock washers, if holes not drilled) installed:

- Rear spring to frame [4 required]
- Rear spring hangers (shackles) [4 (2 per side)]
- Rear spring perches to wheel flanges (backing plates) [2 (1 per side)]

Other

- Lights function, no shorts in electrical system
- Brake light (may not be original equipment, but recommended)
- Safety glass
- Rear view mirror(s)
- Fire extinguisher
- First Aid kit
- Insurance Papers

Vehicle Data

- Year _____ Body Style _____ Identification # _____
- Date of Inspection _____ Signed _____
- This checklist has been designed by the Model T Ford Club of America to assist owners in inspecting their Model T Fords for possible safety-related problem.
- This checklist is a guide only and should not be interpreted as a guarantee of a vehicle's safety or roadworthiness.

Steering System Safety

I firmly believe in tight bolts, nuts and cotter pins in the Model T steering system. There are either 21 or 22 castellated nuts which should be safetied with cotter pins in this system. Twenty-two were used in cars built after March 1922. If you are not sure about the security of the steering system on your car, check the following: Steering bracket to frame, 3 places; steering shaft to pitman arm, 1 place; steering connecting rod, 4 places; also eliminate any looseness in the ball joints; ball to tie rod attachment, 1 place (1922 and later); tie rod ends, 2 places, steering arm to spindle attachment, 2 places; king pin ends, 2 places, radius rod to axle connection, 2 places; spring shackles, 4 places. There is also the radius rod ball cap, where the nuts should be secured in place with safety wire arranged so that neither the nuts nor the studs will turn to loosen. Cotter pins are a no no in this situation.

Hugo Richter



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Stopping Those Pesky Fuel Leaks

It seems that just about every Model T has a small leak in the carburetor or the sediment bulb. While I addressed a leak around the threads of the sediment bulb in an earlier issue of a T-Time, the problem of the needle and seat in the carburetor and the "tapered" shut-off on the sediment bulb was not addressed. These two areas have a tendency to leak because of wear and dirt. I've found that "lapping" the needle and seat and the shut-off valve and the sediment bulb body with a mixture of oil and baking soda (YES, baking soda!) stopped even the slightest leaks. I also tried thinning down toothpaste with water, yet found this compound was TOO harsh and the leaks continued.

If you have an early brass carburetor, lap the metal needle into the seat and then replace the metal needle with a neoprene needle. It will never leak again!!!

Author unknown, From T-Time in Canyon Land ~2000.

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