



The Drip Pan – Wheels & Tires

Adjusting Front Wheels

Take off hub cap, remove cotter pin nut and spindle washer. Adjust bearing so that the wheel seems to bind; give the wheel a few turns to be sure that all the working parts are in perfect contact; then back off the bearing $\frac{1}{4}$ to $\frac{1}{2}$ turn, which will allow the wheel to revolve freely without end play.

To determine if there is end play, grasp the spokes and shake the wheel. Do not mistake loose spindle bushings for loose bearings. Insert a cold chisel between axle and spindle to take up any play while testing the bearings.

Next, put on spindle washer and nut, drawing the nut to a firm bearing. Make sure that the bearing has not been forced out of adjustment. This can be determined by giving the wheel a few turns. Insert the cotter pin which locks the nut on the spindle, fill the hub cap with grease and screw it in place on the hub.

Ford Instruction Book

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 mph. 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 problems 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 driving down the road. Now the annoying wobble and shimmy are GONE, the car drives smoother than it ever has.

Russ Furstenow T-Time in Canyon Country reprinted in LST News 2000

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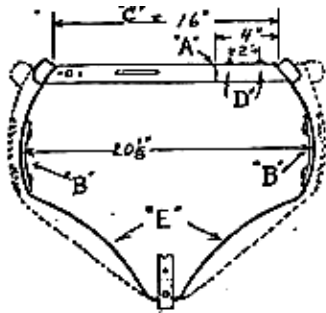
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Carrier for Balloon Tires

As balloon tires are mounted on a smaller diameter wheel it is necessary to either purchase a special tire carrier or to remodel the Ford spare tire carrier. Saw through the cross member (that is the part holding the license plate and tail lamp) at "A", which is a distance of 4 inches from the right-hand end.

With large monkey wrench, bend the carrier inward at the two sides, as at "B," until the outside width is 20 1/8 inches. Then overlap the two cut members of the cross bar until the distance "C," between the undersides of the supports is 16 inches.

Clamp the two parts of the overlapping cross bar together and drill through the top portion of cross member to holes 9-32 inch diameter as at "D", spaced two inches apart the first hole being one inch from right-hand end. Bolt through these holes with 1/4 X 3/4 inch bolts, using lock washers under nuts and then riveting them.



Drill a hole through slot in front side of cross member to suit license plate hole. Bend in both sides of lower portion of frame, as shown at "E", until rim fits perfectly.

H.B. Eggleston, Bloomington, IN

Easily Install New Clincher Rim Tires

Clinching is a Cinch

Don't pinch that tube! Mounting clincher tires doesn't have to be the misery some people make it. Follow a few simple rules and mounting a clincher is a cinch!

First get a bucket of soapy, sudsy, water. Do your mounting on grass or an old piece of carpet to reduce damage to the paint. Always mount the tire from the back or inside of wheel or rim. That way any paint to be touched won't be so apparent. Using a small sponge (or cloth), soap the clincher portion of the tire on the side to be mounted first. Using a tire iron, pry it over the rim being as careful as possible with the paint. It should be noted here that although it's more work, tires can be mounted by pounding them on with a hammer. Either way work your way around the rim until one side is on.

Next insert the tube; pulling the stem through the hole to full length. Then pump in just enough air to make the tube nice and round. This is the KEY to preventing pinched tubes (the rounded tube surface is difficult to pinch).

Next, sponge some suds on the other side of the tire and pry (or hammer) into place. At this point the rubber clinchers may not be fully seated into the rim. Seat them by striking into the tread of the tire with a large hammer.

Next, start airing up the tire, again striking the tread at any point around the rim where the clincher isn't seating well. Finish the job by touching up any chips or scratches to the paint and be sure and put in at least 40 to 50 pounds of air before driving (otherwise the rear tires may slip on the rim when you apply the brakes).

Fred H. (From the T-Bone Times, March 1980)

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SIMPLE METHOD OF STRETCHING NEW CLINCHER RIM TIRES

A rather simple method of stretching new clincher rim tires came to mind while reading the Model T Times. Since the biggest problem is that new tires seem to be manufactured "too small" for the rim, the solution would be to stretch the tire. Here is how to do the stretching without damaging the tire. Take the spare out of your car. If the inflated diameter is around 24", you're all set. Let the air out of the spare tire and put the new clincher tire round the outside tread of the deflated tire. Put air back into the spare tire and watch the clincher tire bead stretch. Finally put the tire(s) in the sun for a day. After sitting in the sun, the clincher tire will "fall" onto the clincher wheel and the new tire will not be damaged in the process of stretching.

Russ Furstenow, From T-Time in Canyon Country

INSTALLING A CLINCHER 30 X 3 1/2 TIRE WITHOUT TIRE IRONS

As we toured on the national tour this summer, it became apparent that the number one nemesis of the Model T's on the tour was flat tires. From what I could tell, pinched tubes were the cause of many tube failures.

In 1966, I was taught how to install a tire properly by using only a rubber mallet. The mallet is designed for tire use and has some weight in the head of the hammer and has a long handle.

Start with a clean rim and a good tube and tire. Inflate the tube until it just takes the shape of the tire (not too much air). Place the tube into the tire and then place the valve stem of the tube into the hole in the rim. Place the rim and tire onto the ground and push both inner and outer beads of the clincher tire onto the rim. Be careful so as not to have the valve stem become crooked in the hole by alternating where you hit the tire in relation to the valve stem (hit the tire on one side of the valve stem and then hit the other side). Once you have the tire mounted, inflate the tire to 2 pounds and let the air out of the tire. This is to "seat" the tube. Do this a couple of times. Finally, install the valve core and inflate to 55-60 pounds.

By using this method, you never have the possibility of pinching the tube with a tire iron, and a future flat. I have some tires that have the "original" 1966 air in them as proof.

Russ Furstenow , From T-Time in Canyon Country

Felt Seal for Front Wheels

Number 2809 felt seal is used in the front wheel inner grease retainer. Did you know this felt is also used as a rear wheel seal? It fits in a groove in the rear wheel hub and helps seal the outer wheel bearing. Also helps keep the steel cup from coming off the housing. Put a few drops of oil on it to keep it from scorching.

Contributor Unknown

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Full Floating Rear Hubs

An important factor in making an easy running and reliable highway car is a ball-bearing rear axle. In the regular Ford construction, the load is transmitted from the housings through the roller bearings to the shaft and to the wheel hub. This causes severe bending strains in the axle shaft. The ball-bearings replace the outer roller bearings, but with the radical difference that the ball-bearings transmit the weight of the car directly from the axle housing through the ball-bearings to the rear wheels.

In the ball-bearing construction, the axle shafts carry only the driving and braking effects and are only subjected to twisting strains. When using the standard Hyatt bearings, axle shafts have twisting strains and sever bending strains due to the loading and bouncing of the car. The bending strains are responsible for the grooves that develop on the axle with the regular Ford construction.

To modify the car for improvement, the outer roller bearing and the bearing sleeves are removed. Since about 1 inch of the steel tubing projects outwardly from the brake flange, it is necessary to cut off this portion of the tubing to allow the annular bearing to fit properly into place.

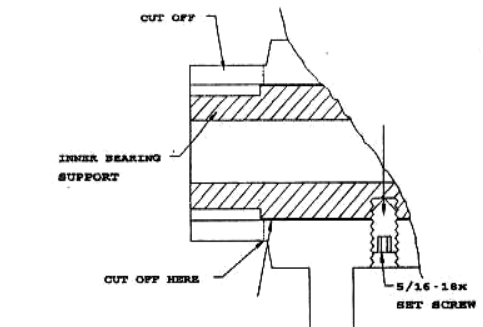
The ball-bearing assembly is bolted to the wheel hub and brake drum. The entire assembly is then placed in position by pushing the ball-bearing carrier into the axle housing until the wheel hub fits tightly on the tapered portion of the axle shaft.

The grease cup is removed and a mark is made for drilling a hole for the retaining bolt. The assembly is removed and a hole is drilled through the steel brake drum housing and the steel stubbing as shown.

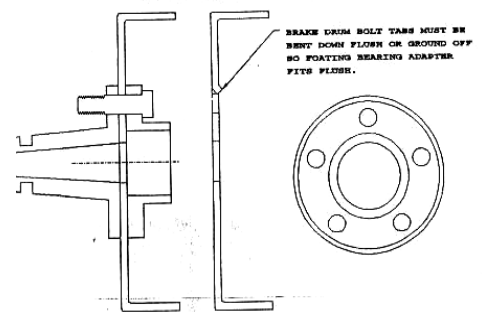
A bolt and lock nut are used to keep the sleeve locked in place. The bolt must not be tightened against the sleeve as this will prohibit the sleeve from finding its alignment position. However, the bolt must penetrate enough to keep the inner sleeve in place. This also keeps the wheel from coming off, even if the driving member or axle shaft breaks.

The steel inner sleeve or bearing support has a hole of sufficient diameter to clear the axle by 1/8 inch. The outer diameter of the bearing support has very close tolerance to the inside diameter of the steel bearing retainer and a ridge on the inner sleeve, as shown in sketch.

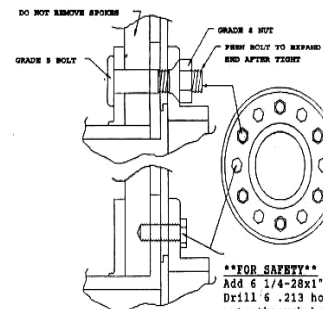
This makes a very safe axle construction and performs still another function in that, when the assembly is put in position, the axle shaft nut and key are secured in their relative positions.



NOTE: TORQUE NUTS BEFORE PUTTING ON AXLE TO INSURE PROPER SEATING OF COMPONENTS.



Assemble parts with 6 grade 5 carriage bolts and grade 8 nuts.

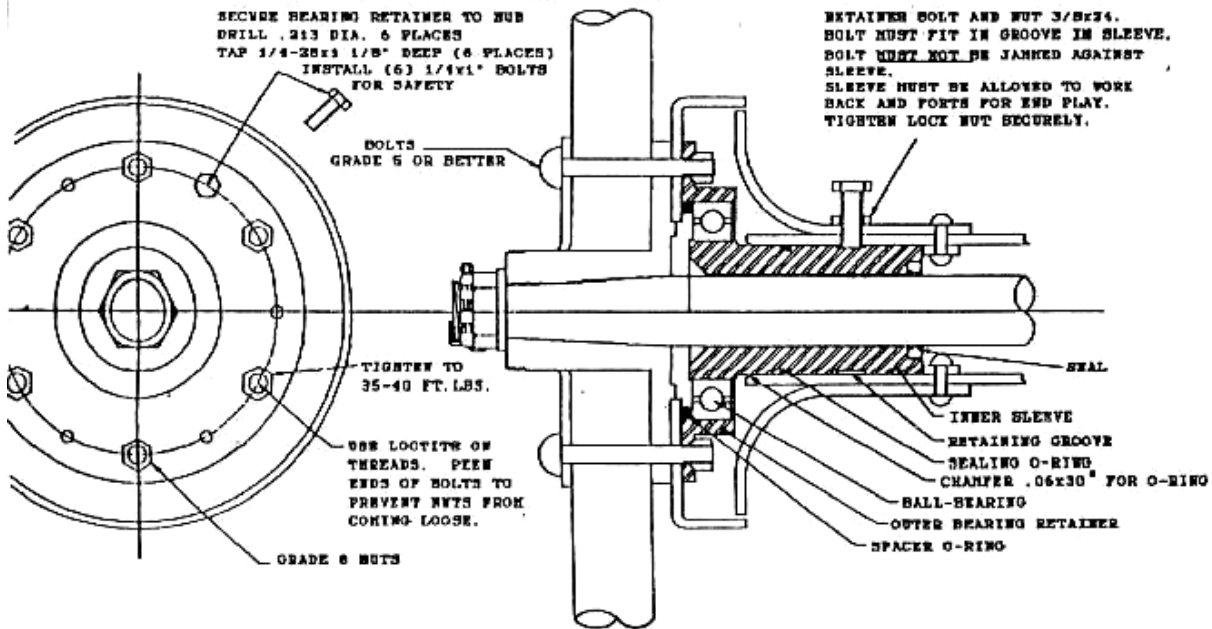


****FOR SAFETY****
Add 6 1/4-28x1" bolts.
Drill 6 .213 holes between 3/8" nuts through bearing retainer, brake drum, hub and into wooden spoke about 1-1/4" deep.
Tap 1/4-28 and install bolts.

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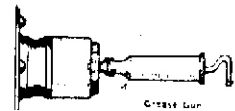
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JWS 1-11-2000

Greasing Front Wheel Bearing

On later Model T Fords, it is necessary to remove the front wheels in order to grease them, as there are not enough treads on the hub caps to force the grease into the bearings. If greasing is neglected, the bearings will soon be ruined. To make the greasing easier, procure an old hub cap, and punch a hole through the outside end of sufficient size to admit a small grease cup, the closed end of which has been sawed off. Solder the threaded shell of the grease cup securely to the hub cap.



When greasing the front hubs this extra hub cap is substituted for the regular cap, and a loaded grease gun is screwed into the grease cup. Then the plunger of the grease cup is pushed in, completing the work.

Author Unknown, From the Magneto News



The Drip Pan – Wheels & Tires

How to Care for Tires and Proper Tire Inflation

How to Care for Tires

When laying up your car for a period, jack it up clear of the floor, allowing the wheels to rest on supports. Allow all air to escape from the tires, except enough to shape them and then examine tires and rims carefully.

If tires are practically new or in good repair, and rims in good shape, it will be sufficient to leave them on the car, taking pains to remove all oil and grease from the tires. Wash them with good strong soap and water. If the rubber is cut to the fabric, be sure to have the injury repaired before using the car again.

Whether or not the tires remain on the car during a prolonged period of idleness, they should be wrapped to exclude the light and should be kept in a room that is not too warm.

Gas Power Magazine, October 1913

Proper Tire Inflation

Heat generation is the sign of tire flexing, one of the hardest things on your tires.

A 30 X 3 ½ tire which reads 45 pounds cold will read about 58 pounds when run awhile. The same tire, if inflated to 60 pounds will read about 63 pounds after running.

Quite a difference in the amount of heat generated and in the amount of flexing that the tire did to generate the heat.

Bill Warren, April 1979

Pete's Spoke Tightener

First, you buy a can of Pepsi (get a 6 pack if you are going to do all four wheels) (or any other brand of soft drink that comes in steel cans). Next, drink the Pepsi and cut the steel can(s) into 10-12 shims (about 3/4" x 1-1/2" each) per wheel.

Now carefully remove the 6 hub nuts and bolts and the inner hub plate. Carefully lay the wheel on a sturdy horizontal surface (table or bench), outer hub down and supported.

Gently tap in as many of the 12 shims as possible (alternating across and around the wheel as you go) at the hub end of the spoke. The shims go between the spokes in the area to be covered by the reassembly of the inner hub plate. The first few tap in easy but then it gets harder as the spokes get tighter. When you can't get any more shims (usually eight or ten) tapped in you are ready to reassemble the hub and plate.

Wallah! Kazam!! You have just saved a bundle of money and have the tightest spokes in town.

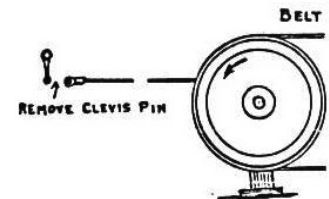
Pete Cobb, Lone Star T Newsletter, September 1996

Power Take Off

In order to take off power from one of the rear wheels of either the Ford car or the Ford Ton-Truck, it is necessary to jack up and to free one of the rear wheels, while the other rear wheel is forcibly held from revolving. In addition, it is usually advisable to block the front wheels, as an extra measure of precaution.

By removing the clevis pin from the brake rod connection on the side from which the power drive is to be taken, the emergency brake lever can be used to pull up the rear hub brake tightly on the other side. This leaves the driving wheel free.

In order to prevent pulling the high-speed clutch into neutral, when the brake lever is pulled back, the clutch pedal adjusting screw is removed, so that the moving of the brake lever does not disengage the clutch.



George B. Gould, Rochester, NY

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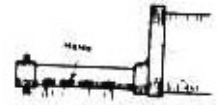
Preventing Grease From Working Into the Brake Drums of the Ford Rear Axle

A good many Ford owners are having difficulty in keeping the grease in the differential housing of the Ford rear axle from working out into the brake drums and impairing the efficiency of the brakes. This difficulty can be eliminated by boring a 3/16 -inch hole half way between the differential housing and the brake, found at the loose part of the axle. When the grease reaches the holes, it will run out here rather than continue on through the axle housing and the brake drums.

"Stewart Lever", October 1916 - From T-Time in Canyon Country

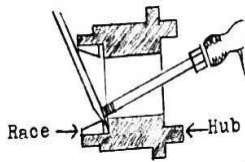
Protecting (Spare) Tires From Gases

When the spare tire is carried on a holder at the back of the car, the vapors and oils, coming from the tail pipe of the muffler, will soon scorch the rubber of the tire casing. This can be prevented by making a cap to fit over the end of the tail pipe, and fastening this cap in place by a cotter pin, passing through both cap and pipe. Then drill eight or ten holes through the lower side of the tail pipe, so that the exhaust gases will be deflected downward, and away from the tire and the body of the car.



Contributor Unknown

Removing Bearing Races



The newer type front wheel bearing races are sometimes rather difficult to remove from the hub. They can be removed by driving a chisel between the race and the hub, then placing an old bolt or a short rod through the hub with the end near the point of the chisel. Tap the bolt or rod with a hammer. By moving the chisel around the race as you tap the bolt or rod you will work the race out.

Jim Mullen

Removing the Rear Wheels

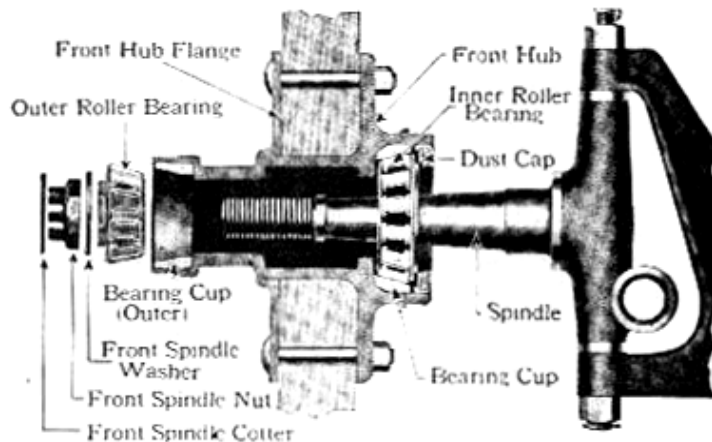
A properly tightened rear wheel hub is difficult to remove from the axle. The so-called knock off wheel puller, now sold in parts stores is practically useless. It may even cause serious damage. The Model T wheel puller, furnished by Ford in the tool kit with all new cars, is one of the best tools for the job. If you do not have one, try to buy one at a swap meet, if at all possible. The type used for the wood spoke wheel models is screwed onto the hub in place of the hub cap, then clamped tight on the threads. The wire wheel type engages a groove in the hub. Either type has a screw which is tightened against the end of the axle. Usually, several sharp blows from a heavy hammer on the end of the screw will loosen the most stubborn case. It is helpful to jack up the wheel opposite the one being removed. To prevent damaging the axle end and threads, the axle nut should be flush with the end of the axle. If the correct puller is not available, a gear puller which can be bolted to the hub with the lug nuts will work on the wire wheel models. For wood wheel models, try loosening the axle nut about 1/2 turn, and drive around the block.

Hugo Richter



The Drip Pan – Wheels & Tires

Sectional View of Hub Showing Roller Bearings



Sectional view of Hub showing Roller Bearings. (Cut No. 7)

From Ford Instruction Manual

Tubes, Rim, Flaps, and Wheels

After all the flat tires I had on the tour, I decided to replace the existing tubes with new tubes. The dilemma I had was how to take off and replace the tires without badly scratching and nicking the newly painted rims. The solution was simple.

I put black friction tape over the tire iron where the iron would/could come in contact with the rim and also put friction tape around the rim itself. The result was no nicking or chipping of any paint!

Another problem I noted was the tire flaps placed in the tire to protect the tubes had folded in some places, making heavy spots and creating possible pinches in the tube. Flaps are not cheap (around \$10); they are a bear to install and I wasn't satisfied with the folding I noticed. What to do? A cheap and easy solution was to make "new" rim liners by taking an old 15" tube and cutting the tube into strips. Here is what to do:

Cut a hole in the tube about 1" away from the valve stem. Now take a pair of scissors and make a cut the entire circumference around the tube. Now cut another hole 1" away from the valve stem on the other side of the valve stem. This allows the rim liner to be about 2" wide. Now make a cut around the circumference, which parallels the first cut. Cut the valve stem out of the tire, make a round hole where the valve stem was, and stretch the "flap" over the rim placing the hole where the stem was on the rim where the tube valve stem will go.

The rim liner has virtually no weight and the tube will never come in contact with the steel rim. This is far superior to using duct tape on a rim, which I have seen done on many occasions. Using one old tube, you can usually get at least 5 to 6 rim liners.

Canyon Country Model T Club's Newsletter

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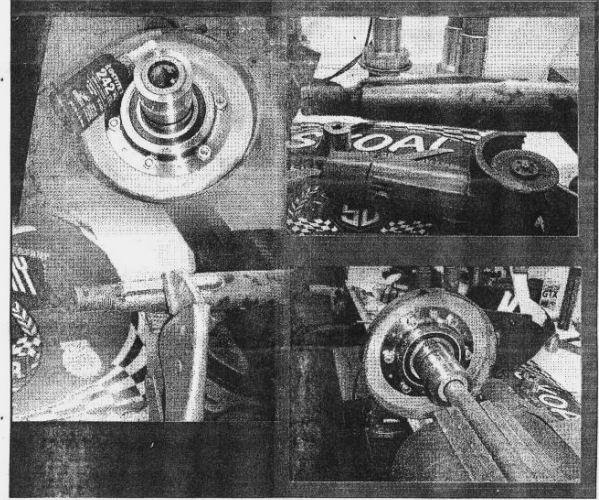
The Drip Pan – Wheels & Tires

Wood Wheel Installation Tips

- 1) Use Locktight on nuts.
- 2) Tack weld key as shown in picture.
- 3) Grind angle on key so grease seal will not be damaged.
- 4) Install safety bolts.

It is very important that these be installed because there is no flange on the Model T hub for veering assembly to ride on. Otherwise, the carriage bolts and nuts will work loose.

Tips Included with Refurbished Wood Wheels



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