



# THE MODEL T FORD ITS REPAIR, SERVICE, AND RESTORATION

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## Restoring the Tie Rod and Drag Link

The steering of the Model T is controlled at the front wheels by the tie rod (Ford Spindle Connection Rod, T-2717) and the drag link (Ford Steering Gear Connecting Rod, T-2725). As named, the tie rod connects the spindles of the wheels to each other, and the drag link connects the steering shaft ball arm (or pitman arm) to another ball arm at the opposite yoke of the tie rod.

These unions need to be in good shape, without excess wear of the parts. Be sure to use new ball arms, as most are worn into an egg shape and can cause wobble and loose steering. An example of a paltry repair is using a shim or cupped penny to fill the gap of a worn ball or cap, as a lock-up could occur. The spindle arm bushings and rod bolts may also be worn and should be replaced. Ball arm caps should be replaced, while some find the reproduction "APCO" spring-loaded accessory ball caps useful. \*\*

Rebuild the tie rod ball yoke by removing the ball from the yoke. This ball has a tapered shaft that fits into the split yoke body. Remove the cotter pin and nut that secure the ball and spread the yoke split with a chisel-like tool. By opening the yoke, the ball can be knocked away. Remove the clamp-like yoke by turning it off the rod. The threads of the yoke allow for precise adjustment of the tie rod length when adjusting the gather or toe-in of the wheels.

Check the tie rod and drag link to be sure they are straight; they can be cold bent to bring the shafts into alignment, if needed.



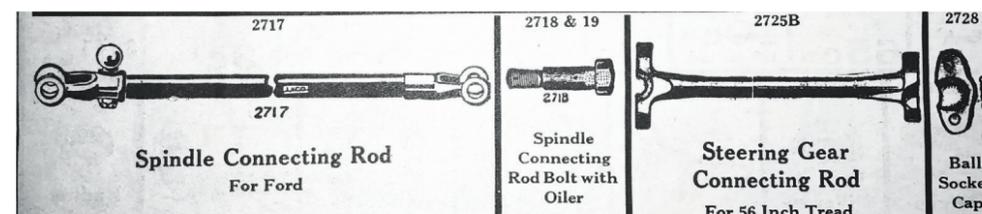
Removing nut from yoke ball



Spreading of yoke split with chisel



Twisting off yoke from threaded shaft of tie rod



| DRAG LINK LENGTHS                                 |                      |
|---|----------------------|
| Year  | Tolerance            |
| Early to 9/19/1914                                | 30-11/16"            |
| 9/19/1914 to 10/19/1914                           | 30-11/16" - 30-3/4"  |
| 10/19/1914 to 10/2/1917                           | 31-1/16" - 31-1/8"   |
| 10/2/1917 to 5/19/1919                            | 30-15/16" - 31-1/16" |
| 5/19/1919 to start of Improved Models August 1925 | 30-5/16" - 30-7/16"  |
| Start of Improved Models August 1925 to 10/7/1925 | 31-1/8" - 31-1/4"    |
| 10/7/1925 to end of production                    | 30-13/16" - 30-7/8"  |

Note: Tolerance ranges are shown for known manufacturing variances.

Install the new tie rod ball loosely at first when fitting, as you will adjust the yoke when setting toe-in. Next, secure the ball by the nut that clamps both the yoke ball and yoke to the rod. Fit the oiled spindle arm bolts into the spindle arm bushings and the tie rod yokes, then fasten the nuts and place a cotter pin in each.

Check the length of the drag link for the year of your T, as this rod was made in several lengths for the various lower steering bracket designs and chassis changes, like above and below wishbones and springs and tire sizes. Measure the drag link, overall, from outer edge to opposite outer edge.



Steering ball or pitman arm fitted on steering shaft and greased.



Drag link socket and ball arm cap filled with grease, and bolts fitted.



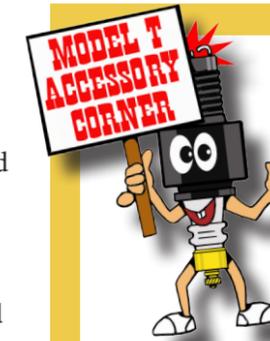
Nuts secured to bolts and cotter pins placed, and locked.

New parts now return to superb function in the steering of the Ford T.

Fit the drag link to the ball at the tie rod yoke, and the other end to the steering (pitman) ball arm. Fill the link socket and ball cap with grease, and fit the cap bolts.

\*\*Lang's catalog # 2728APCO

For detailed instructions on the front axle, refer to *Ford Service*, Chapter XIX, Front Axle Assembly Overhaul.



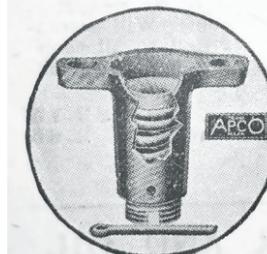
A showcase of aftermarket accessories from the past, often found on the Ford. Many thousands of inventive products were sold to dealers and owners to upgrade, customize, or improve over the factory parts...in most cases, not so much!

by Dan Treace  
Technical Editor

## APCO Spring-Loaded Steering Rod Ball Cap

Hollow steel cap with spring-loaded disc that contacts the ball arm to prevent lost motion. This was a popular accessory to take up wear of the steering rod (drag link) at the sockets or yoke ball and pitman arm ball ends of the rod.

## APCO ANTI-RATTLER RADIUS AND STEERING ROD



The wear and consequent rattle, at the crank case end of the radius rod and the two ends of the steering gear connecting rod, besides being annoying does not allow the car to steer well on account of lost motion. **The Apco Anti-Rattlers are guaranteed to overcome these annoyances, preventing rattles and wear with a minimum amount of attention.** The spring tension is adjustable by means of a slotted screw in the bottom of the casting. Material and workmanship the usual Apco high quality.

Installed in a few minutes with a wrench.



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