



## Spring Change Installation Guide and Parts List

# TightSteer<sup>®</sup>

## Free play reducer for Ross<sup>®</sup> steering boxes

Patent Applied

Siminoff JeeParts. • [www.siminoffjeeparts.com](http://www.siminoffjeeparts.com)



### Description:

**TightSteer** is an aftermarket device that is designed to reduce the freeplay in steering systems that use Ross<sup>®</sup> steering boxes commonly found on Willys, Ford GPW, Studebaker, and similar early vehicles.

A standard pressure spring (blue) is provided with **TightSteer**. This spring provides the required pressure and offers a normal steering wheel return for light vehicles (MB, GPW, CJ, etc.).

A medium (red) spring is available if a tighter feel with less free return of the steering wheel is desired, or on those vehicles where the steering system still feels sloppy after a complete steering rebuild.

A heavy (bronze) spring is available for minimal free return of the wheel and a truck-like feel. The bronze spring is ideal for severe off-road use where a stiff steering box is preferred. **Note:** The bronze spring may cause wear and should not be used for normal long-term on-road driving.

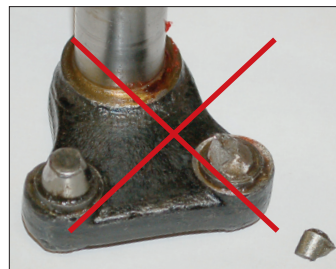
### CAUTION:

**1. Follow installation instructions carefully. Improper spring change can lead to greater freeplay and possible steering system failure.**

**2. TightSteer spring adjustments cannot compensate for worn wheel bearings, worn kingpins or kingpin bearings, worn Pitman arms or Pitman arm bearings, improperly set camber, improperly set caster, improperly set toe-in, or worn tie rod ends. Ensure that these components and settings are correct before installing TightSteer.**

**3. TightSteer will not compensate for missing bearings or cracked races that secure the steering tube and worm gear in the steering box.**

**4. Replace the sector shaft if it is badly worn or has broken steering pins. Do not use a sector shaft that has only one good pin. Do not try to repair or weld broken pins.**



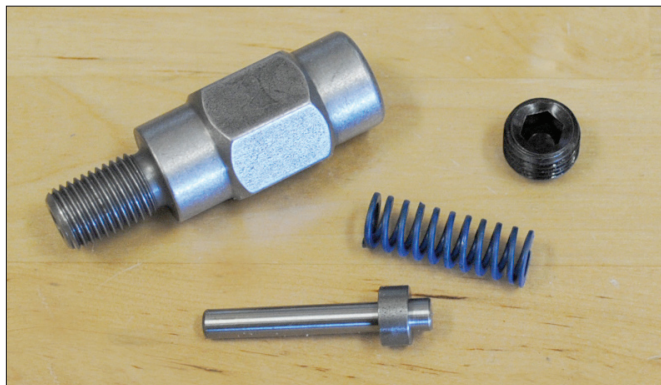
**5. For proper installation of TightSteer, consult the TightSteer Installation document that came with you TightSteer unit.**

### Spring change:

1. Remove the **TightSteer** module from the steering box. Place a rag under the steering box to catch oil.

2. Wear eye protection.

3. Place the **TightSteer** module in a vise and use a 1/4" Allen hex key to loosen the set screw in the back of the **TightSteer** module. The set screw will come free in about three full turns. The standard spring that we install in the TightSteer module is under moderate pressure and the set screw and spring may jump out. However, it can be held in place with minimal effort - it is just important for you to know that the set screw will pop up a bit once it is loosened.



4. You may notice some grey residue around the threads of the set screw. This is conventional plumber's pipe dope that we install on initial assembly to

over...

### Spring change, continued:

help seal the threads of the set screw and prevent oil leakage from the set screw's threads.

5. Remove the spring, replace it with the spring you are changing.

6. Apply a very thin bead of plumber's pipe dope to the female threads in the **TightSteer** module. **Note:** do not apply the pipe dope to the set screw. Do not use plumber's tape (teflon tape).

7. Use the Allen hex key to hold the set screw in place and push the set screw into the **TightSteer** module as you turn the Allen hex key. Continue pushing and tightening until the set screw's threads catch. Then, snug up the set screw about three or four full turns until resistance is met. Further tighten the set screw to 8-10 foot pounds (a snug pull on the Allen key):

Spring replacement is complete.

### Re-installing TightSteer:

8. Thread the **TightSteer** module into the steering box until you feel some resistance as the spring loaded plunger (A) begins to put pressure against

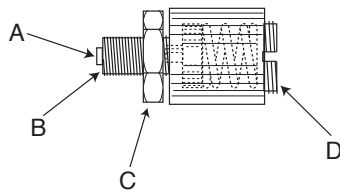
the sector shaft. Hand tighten the **TightSteer** module until it is snug. (At this point, the housing of the **TightSteer** module (B) is loading the sector arm in the steering system's least worn position, just as the original set screw did.)

9. Back off the **TightSteer** housing one half turn. Hold it securely in place and tighten the lock nut against the steering box's housing to approximately 35 foot pounds (the equivalent of a very firm pull).

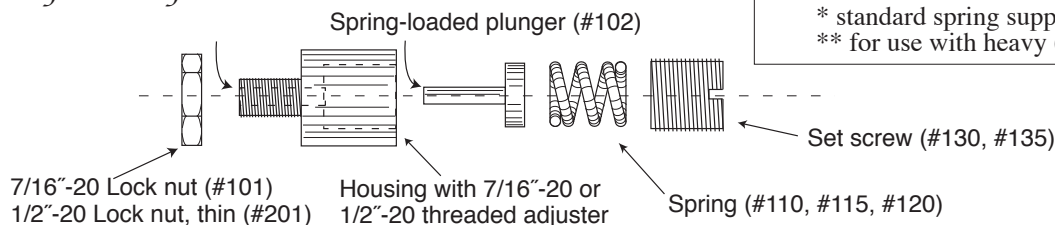
10. Turn the steering through the entire range and ensure that it does not bind anywhere. If you do experience a tight point, loosen the **TightSteer** module another 1/4 of a turn. If uneven binding still occurs through the range of turning, it suggests other problems with your steering box that may not be corrected with **TightSteer**. Your steering box should be disassembled and examined for other damage.

11. Fill the steering box with 80w140 oil. Do not use grease. It is essential that oil - not grease - is used in the steering box for proper lubrication of sector shaft bushings, steering shaft bearings, and worm gear. If your steering box had a zerk fitting (the fitting that is used for grease) on top, replace it with a 1/8" NPT plug fitting (cap).

*Assembled*



*Exploded "parts" view*



### Replacement parts:

#101 7/16"-20 Lock nut: \$0.55  
#201 1/2"-20 Lock nut, special "thin nut": \$3.00  
#102 Plunger: \$24.50  
#110 Spring, standard, "regular return," blue\*: \$6.60  
#115 Spring, medium, "medium return," red: \$6.95  
#120 Spring, heavy, "truck return," bronze, with special short #135 set screw: \$12.50  
#130 Set screw, standard: \$0.70  
#135 Set screw, special short\*\*: \$5.00  
#xxx Housing: (not available separately)

\* standard spring supplied with **TightSteer**  
\*\* for use with heavy (bronze) spring

Rev: 1/13

**TightSteer module: \$79.95\***

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\*Add \$7.50 for Postage and Handling in the United States.

\*Add \$12.00 for Postage and Handling to Canada

\*Add \$16.00 for Postage and Handling other International locations

### Warranty:

We will replace the **TightSteer** unit for any manufacturing defects and/or failure of parts to the original owner for one year from date of purchase. Proof of purchase document is required for replacement. Damaged, broken, or worn parts due to faulty use, improper lubrication, or improper installation are not covered. No other warranty is suggested or implied.

### Patent applied

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