Two Tooth Steering Basics

Simple once known Printable Version

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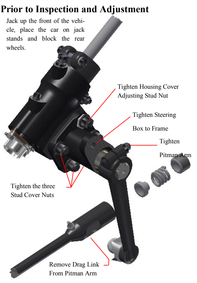
The Ford Model A two tooth steering system is designed to be adjustable to compensate for wear. There are three adjustments to the two tooth steering system that can be made with the steering column in the car. They are: **1. End play in the two tooth sector**, **2. end play in the steering shaft**, and **3. proper mesh of the two tooth sector in the worm gear**. The Model A Ford Service Manual recommends "When it is necessary to make any one of these adjustments, the other two adjustments should also be checked." Make all adjustments in the order listed above.

Tools:

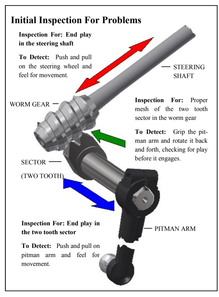
- Standard Screw Driver
- Offset Screw Driver
- Needle Nose Pliers
- 5/8 Wrench

Prior to Inspection and Adjustment

Jack up the front of the vehicle, place the car on jack stands and block the rear wheels.



Initial Inspection For Problems



Inspection For: End play in the steering shaft

To Detect: Push and pull on the steering wheel and feel for movement.

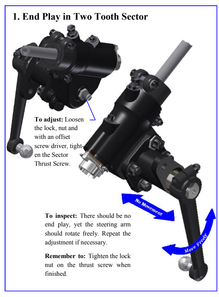
Inspection For: Proper mesh of the two tooth sector in the worm gear

To Detect: Grip the pitman arm and rotate it back and forth, checking for play before it engages.

Inspection For: End play in the two tooth sector

To Detect: Push and pull on pitman arm and feel for movement.

1. End Play in Two Tooth Sector

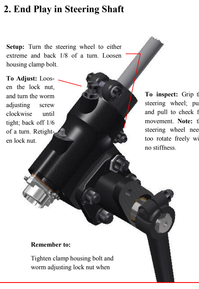


To adjust: Loosen the lock, nut and with an offset screw driver, tighten the Sector Thrust Screw.

To inspect: There should be no end play, yet the steering arm should rotate freely. Repeat the adjustment if necessary.

Remember to: Tighten the lock nut on the thrust screw when finished.

2. End Play in Steering Shaft



Setup: Turn the steering wheel to either extreme and back 1/8 of a turn. Loosen housing clamp bolt.

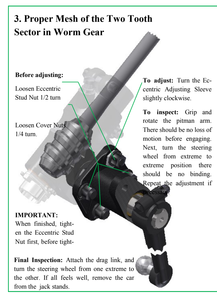
To Adjust: Loosen the lock nut, and turn the worm adjusting screw clockwise until tight, back off 1/6 of a turn. Retighten lock nut.

To inspect: Grip the steering wheel; push and pull to check for movement. **Note:** the steering wheel needs too rotate freely with no stiffness.

Remember to:

Tighten clamp housing bolt and worm adjusting lock nut when

3. Proper Mesh of the Two Tooth Sector in Worm Gear



Before adjusting:

Loosen Eccentric Stud Nut 1/2 turn

Loosen Cover Nuts 1/4 turn.

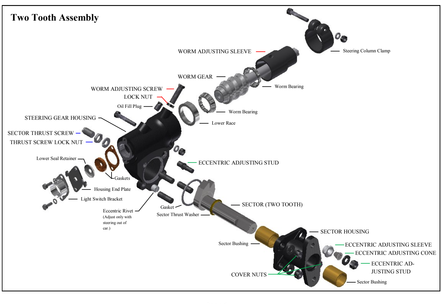
To adjust: Turn the Eccentric Adjusting Sleeve slightly clockwise.

To inspect: Grip and rotate the pitman arm. There should be no loss of motion before engaging. Next, turn the steering wheel from extreme to extreme position there should be no binding. Repeat the adjustment if

IMPORTANT: When finished, tighten the Eccentric Stud Nut first, then tighten cover nuts. Do one last check to make

Final Inspection: Attach the drag link, and turn the steering wheel from one extreme to the other. If all feels well, remove the car from the jack stands.

Two Tooth Assembly

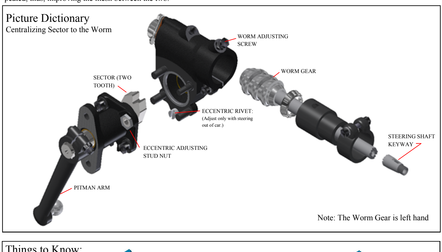


4. Centralizing the Sector to the Worm

In most cases the above adjusting procedure will remove the slop in the steering system. If not, it may be necessary to pull the steering column and do a fourth adjustment. The fourth adjustment is usually preformed after a rebuild of the steering box. The fourth adjustment centralizes the contact of the **Two Tooth Sector** with the **Worm Gear.** Once centralized the third adjustment can be repeated, thus, improving the mesh between the two.

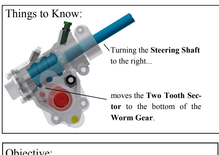
Picture Dictionary

Centralizing Sector to the Worm



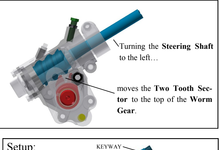
Note: The Worm Gear is left hand

Things to Know:



Turning the **Steering Shaft** to the right...

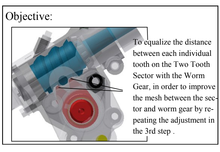
moves the **Two Tooth Sector** to the bottom of the **Worm Gear**.



Turning the **Steering Shaft** to the left...

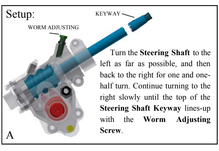
moves the **Two Tooth Sector** to the top of the **Worm Gear**.

Objective:



To equalize the distance between each individual tooth on the Two Tooth Sector with the Worm Gear, in order to improve the mesh between the sector and worm gear by repeating the adjustment in the 3rd step .

Setup:



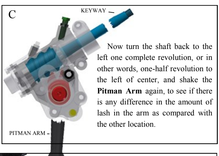
Turn the **Steering Shaft** to the left as far as possible, and then back to the right for one and one-half turn. Continue turning to the right slowly until the top of the **Steering Shaft Keyway** lines-up with the **Worm Adjusting Screw**.

A

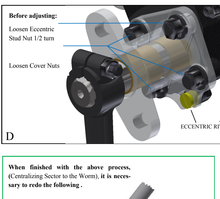
B

Next turn the **Steering Shaft** 1/2 revolution to the right (using the **Steering Shaft Keyway** as a marker), and shake the **Pitman Arm** to note the amount of play or lash at this point.

C



Now turn the shaft back to the left one complete revolution, or in other words, one-half revolution to the left of center, and shake the **Pitman Arm** again, to see if there is any difference in the amount of lash in the arm as compared with the other location.



D

If there is less lash when the steering shaft is turned to the left, slightly move eccentric rivet in a clockwise direction.

If the lash is less when the steering shaft is turned to the right, slightly move eccentric rivet in an anticlockwise direction.

Repeat steps A-D in this process until the amount of lash on both sides feel equal.

When finished with the above process, (Centralizing Sector to the Worm**), it is necessary to redo the following .**