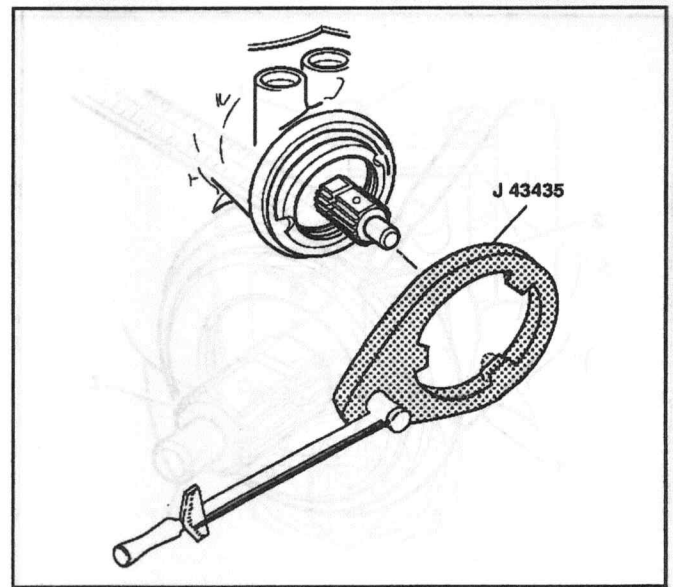


## Worm Thrust Bearing Preload Adjustment - Off Vehicle

### Tools Required

- J 42882 Adjuster Nut Socket
- J 43435 Adjuster Lock Nut Wrench

1. Rotate the stub shaft back and forth in order to drain the power steering fluid.
2. Remove the coupling shield retainer and the lock nut from the steering gear housing using J 43435 and a torque wrench.



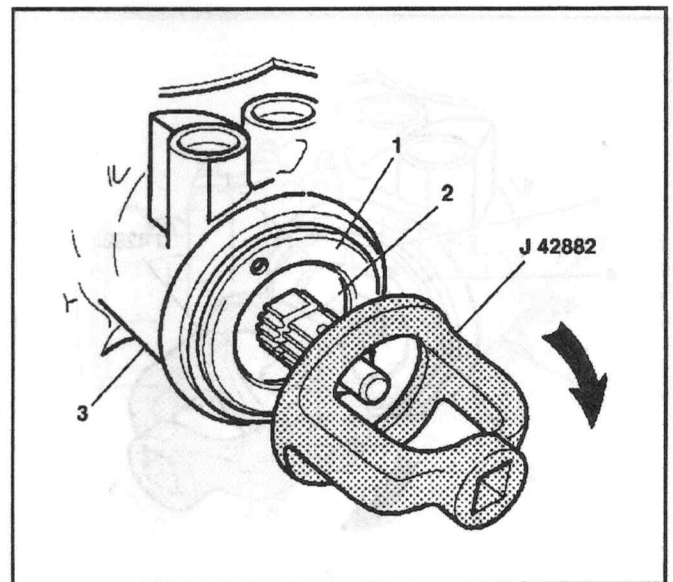
509348

**Notice:** Refer to *Fastener Notice* in Cautions and Notices.

3. Turn the adjuster nut assembly (1) clockwise using J 42882 until the adjuster nut assembly (1) and the thrust support assembly (2) are firmly bottomed in the steering gear housing (3).

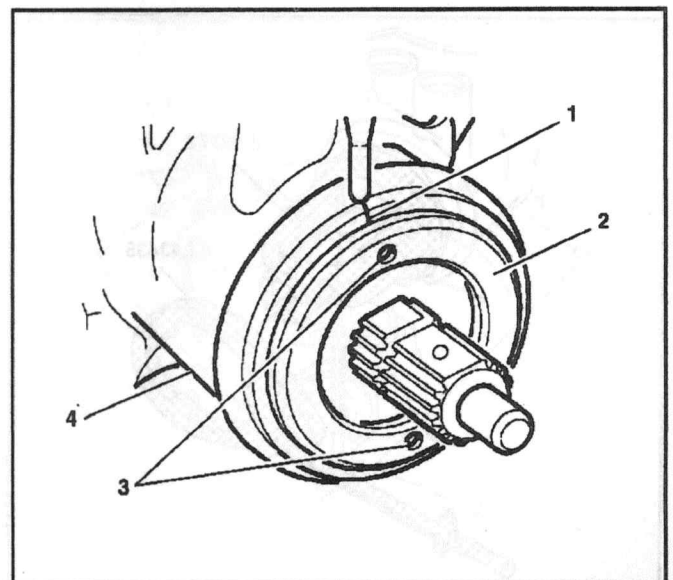
### Tighten

Tighten the adjuster nut assembly (1) to 28–31 N·m (20–23 lb ft).

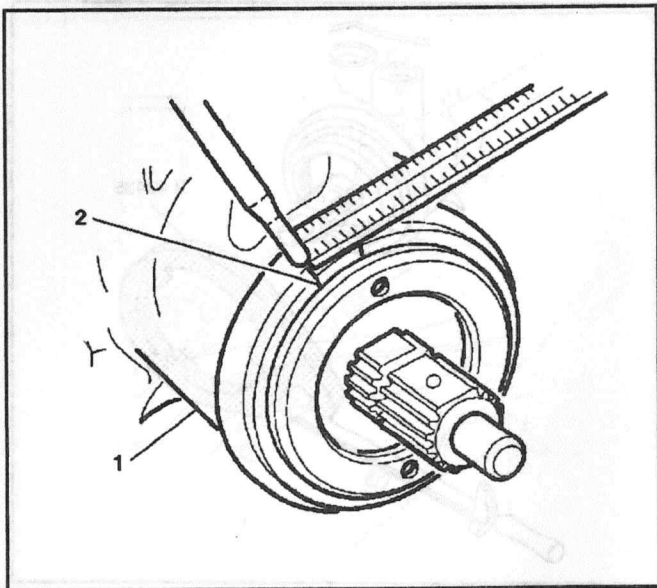


321992

4. Place an index mark (1) on the steering gear housing (4) parallel with one of the holes (3) in the adjuster nut assembly (2).

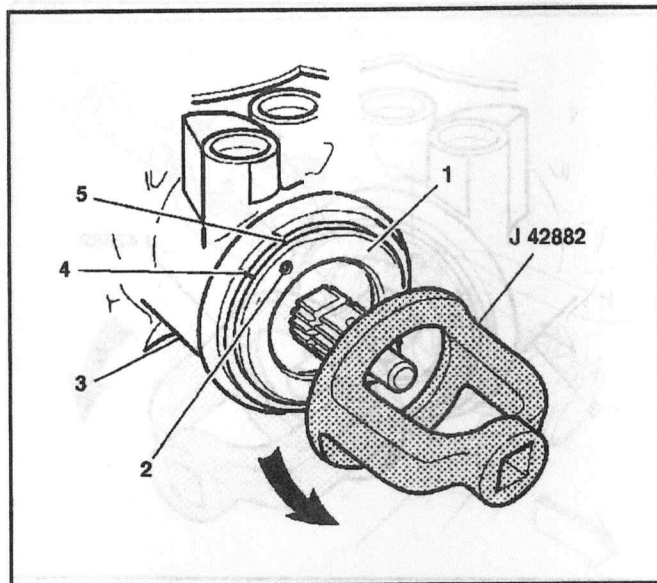


321996



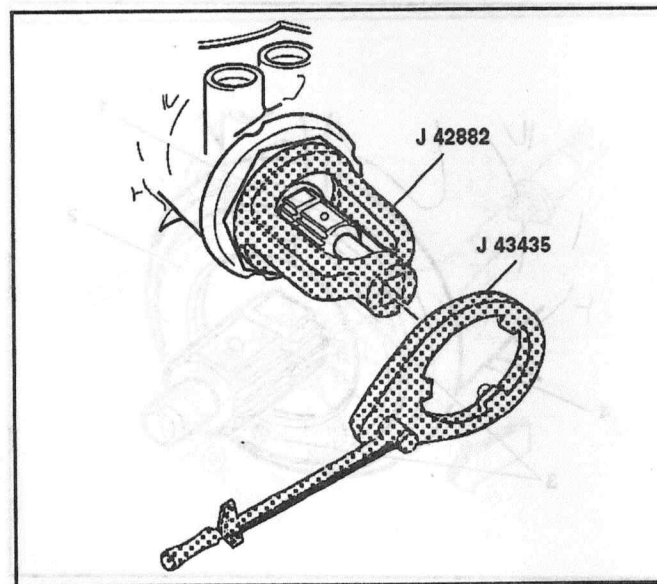
321997

5. Measure back counterclockwise 13 mm (1/2 inch).
6. Place a second mark (2) on the steering gear housing (1).



322000

7. Using *J 42882* and a torque wrench, turn the adjuster nut assembly (1) counterclockwise 15–25 degrees to align the hole (2) in the adjuster nut assembly (1) with the second mark (4) on the steering gear housing (3).



509352

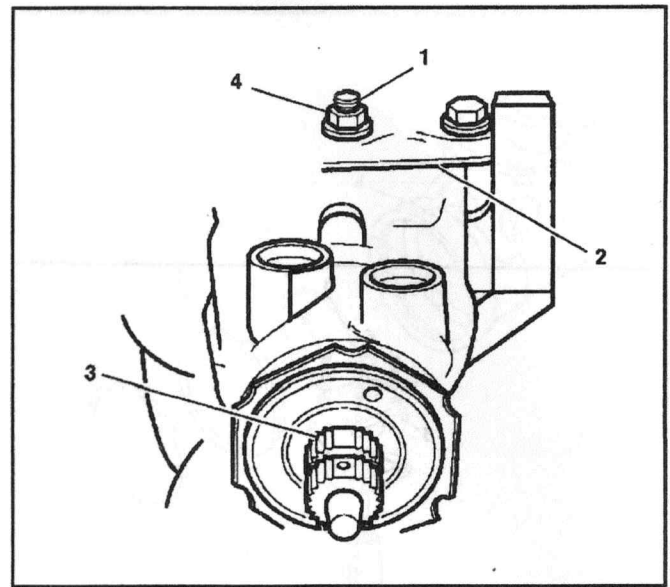
8. Install the coupling shield retainer and the lock nut.
9. Hold the adjuster nut assembly in position to maintain alignment of the marks.
10. Tighten the coupling shield retainer and the lock nut using *J 43435* and a torque wrench.

**Tighten**

Tighten the coupling shield retainer and the lock nut (2) to 109 N·m (80 lb ft).

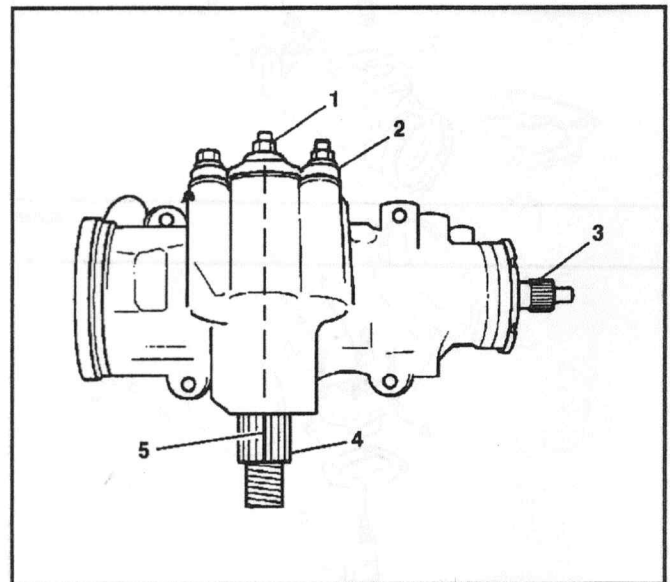
### Pitman Shaft Over-Center Preload Adjustment - Off Vehicle

1. Rotate the stub shaft (3) back and forth to drain the power steering fluid.
2. Loosen the adjuster lock nut (4).
3. Turn the pitman shaft adjuster screw (1) counterclockwise until the screw is fully extended.
4. Turn the pitman shaft adjuster screw (1) clockwise 1 full turn.
5. Rotate the stub shaft (3) from stop to stop using a 12-point socket while counting the number of turns.
6. Starting at either stop, turn the stub shaft (3) back half of the total number of turns. This is the center of the gear.



322005

7. Make sure that the gear is centered by checking the following items:
  - The flat on the stub shaft (3) faces upward.
  - The flat on the stub shaft (3) is parallel with the side cover (2).
8. Align the master spline (5) on the pitman shaft (4) with the adjuster screw (1).

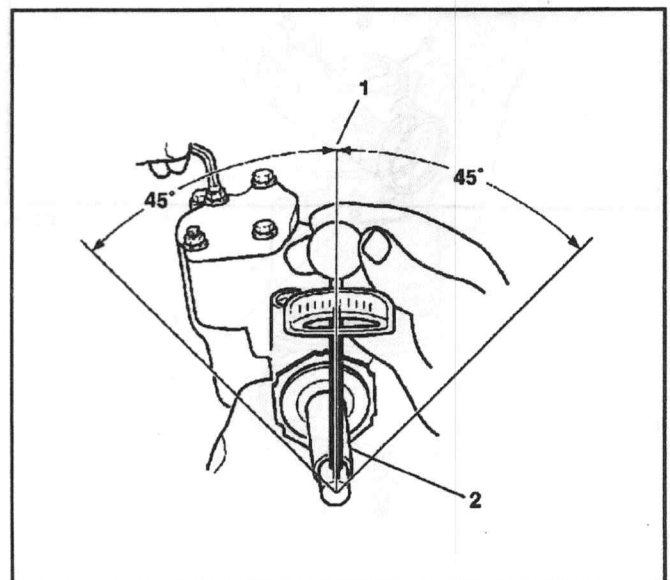


322006

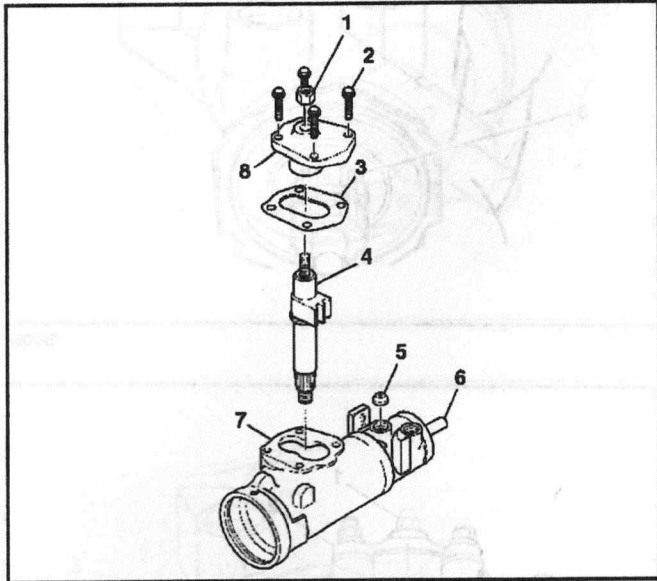
9. Place a torque wrench on the stub shaft (2) with the handle in the vertical position.
10. Rotate the stub shaft (2) 45 degrees from each side of the center of the stub shaft. The stub shaft (2) must rotate smoothly.
11. Record the worm bearing preload measured on or near the center (1). The recorded bearing preload must be 0.7–1.7 N·m (6–15 lb in) with the worm and the ball nut installed. If the torque is outside of this range, readjust or repair the steering gear assembly as required.

**Notice:** Refer to *Fastener Notice* in Cautions and Notices.

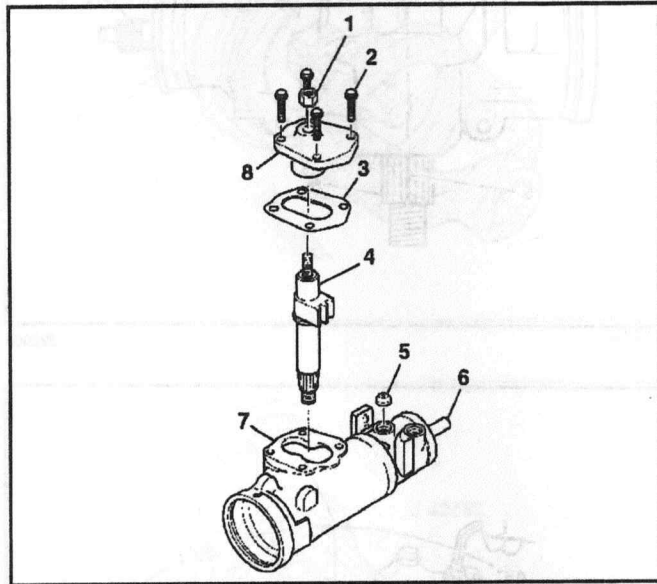
12. To obtain the correct preload torque, adjust the over-center torque by turning the pitman shaft adjuster screw clockwise.



322007



322009



322009

13. Add 0.7–1.1 N·m (6–10 lb in) torque to the previously measured worm bearing preload torque.

#### Tighten

Tighten the adjuster lock nut to 49 N·m (36 lb ft). Prevent the adjuster screw from turning while tightening the adjuster lock nut.

### Steering Gear Pitman Shaft and Housing Cover Replacement - Off Vehicle (700 Gear)

#### Disassembly Procedure

1. Loosen and remove the adjuster lock nut (1).
2. Remove the bolts (2).
3. Rotate the stub shaft (6) using a 12-point socket to center the steering gear (7).
4. Remove the following items as an assembly:
  - The side cover (8)
  - The gasket (3)
  - The pitman shaft (4)
5. Remove the pitman shaft (4) from the side cover (8).

#### Assembly Procedure

1. Screw the pitman shaft (4) to the side cover (8) until it fully seats to the side cover (8).
2. Install the adjuster lock nut (1). Do not tighten the adjuster lock nut (1) until the pitman shaft adjustment is completed.
3. Install the gasket (3) to the side cover (8).
4. Bend the gasket tabs around the edges of the side cover (8).
5. Install the pitman shaft assembly (4) and the side cover (8) to the steering gear housing (7).

**Notice:** Refer to *Fastener Notice* in Cautions and Notices.

6. Install the bolts (2).

#### Tighten

Tighten the bolts (2) to 60 N·m (45 lb ft).

7. Refer to *Pitman Shaft Over-Center Preload Adjustment - Off Vehicle* to adjust the pitman shaft (4).