Steering Assembly & Disassembly

Disassembly

As with any steering gear assembly, the steering gear parts must be kept free of dirt. Clean paper or rags should be spread on the bench before starting disassembly of the steering gear.

1. Place assembly in bench vise, remove nut and lockwasher from end of sector shaft and remove pitman arm using pitman arm puller J-1025.

2. Loosen the lock nut on the sector shaft (fig. 1), then turn the lash adjuster a few turns counterclockwise. This will remove the load from the bearings caused by the close meshing of the worm and the sector teeth.

3. Loosen the lock nut (fig. 2), on the worm bearing adjuster cup and turn the adjuster cup counterclockwise a few turns.

4. Place a pan under the assembly to catch the lubricant and remove the bolts attaching the side cover to the housing.

5. Pull the side cover with the sector and shaft from the housing.

NOTE: If sector does not clear the opening in the housing easily, turn the worm shaft by hand until the sector will pass through the opening in the housing.

6. Remove the worm bearing adjuster cup and lower worm bearing.

7. Draw the worm and shaft assembly from the housing. Lay this assembly flat on the bench so that the worm will not become damaged.

8. Remove the lock nut from the lash adjuster and screw the lash adjuster through the side cover. Slide the lash adjuster out of slot in the end of the sector shaft (Fig. 1).

Inspection

With the steering gear completely disassembled (Fig. 4) wash all parts in cleaning solvent. Dry them thoroughly with clean rags.

1. With a magnifying glass inspect the roller bearings, cups, worm and the sector roller.

2. Check sector roller for any tightness or roughness of bearings.

3. Inspect the sector shaft for wear and inspect needle bearings.

NOTE: Any parts that show signs of wear or damage should be replaced.

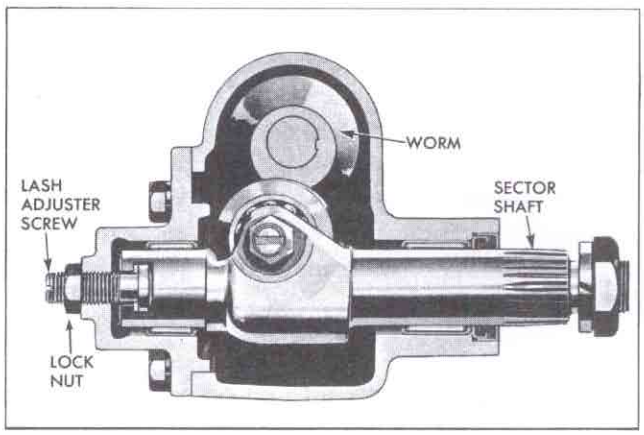


Figure 1

Assembly

1. Place the upper roller bearing over the worm shaft. Making sure the end of the horn wire is through its opening in the housing, thread the worm shaft into the housing. Install the lower roller bearing and assemble the worm bearing adjuster cup to the housing.

2. Assemble the lash adjuster with shim in the slot in the end of sector shaft. Check the end clearance which should not be greater than .002". For the purpose of adjusting this end clearance, a steering gear lash adjuster shim unit Part Number 605142 is available. It contains four shims— .063", .067" and .069" thick.

3. After the lash adjuster end clearance has been adjusted start the sector shaft pilot into the side cover. Then, using a screwdriver through the hole

in the cover, turn the lash adjuster in a counter-clockwise direction to pull the sector shaft pilot into the side cover as far as it will go.

4. Place a new gasket on side cover; then push the side cover assembly including sector shaft into place. After making sure there is some lash between the worm and sector roller, assemble and tighten the side cover bolts.

Adjustment—On Bench

1. Tighten the worm bearing adjuster cup until all worm shaft end play has been removed. Then tighten the lock nut.

2. Install the steering wheel on the worm shaft temporarily. Carefully turn the steering wheel all the way in one direction and then turn back about one turn.

3. Using a J-544-A steering gear checking scale, at right angles to one spoke at wheel rim, measure the pull required to keep the wheel in motion. This should be between ⅜ and ⅝ pounds. If necessary, adjust the worm adjuster cup until a proper pull is obtained.

4. Turn the steering wheel from one stop all the way to the other, counting the number of turns. Then turn the wheel back exactly half the number of turns to the center of high point position. High point of gear is indicated by mark on end of worm shaft. This mark should be at the top of the shaft. Mark the wheel at the top or bottom with a piece of tape.

Notice chip in worn gear which will cause a dead or hard spot in steering. The cause is usually from hitting the shaft with a hammer to remove the steering wheel.

5. Turn sector lash adjuster clockwise to take out all lash in gear teeth, and tighten lock nut to 10-15 ft. lbs. torque.

6. Turn steering wheel off the high spot, then check pull at wheel rim with checking scale as before, taking the highest reading of checking scale as the wheel is turned through center position. This should be between ⅞ and 1⅞ pounds.

7. If the reading is not within the above limits, turn the wheel a half turn off the high spot and either tighten or loosen the adjuster as necessary. Then recheck the adjustment by again pulling through the high spot with the checking scale.

CAUTION: The final adjustment must be between ⅞ and 1⅞ pounds.

8. Fill the assembly with steering gear lubricant to the level of the filler plug hole and replace filler plug.

9. Install pitman arm, lockwasher and nut and tighten to 100-125 ft. lbs. torque.

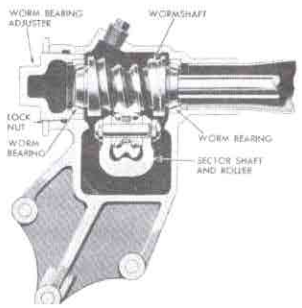
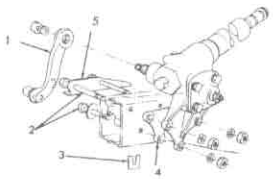


Figure 2



1. Pitman Arm
2. Gear Retaining Bolts
3. Shim
4. Spacer
5. Pitman Arm Stop

Figure 3

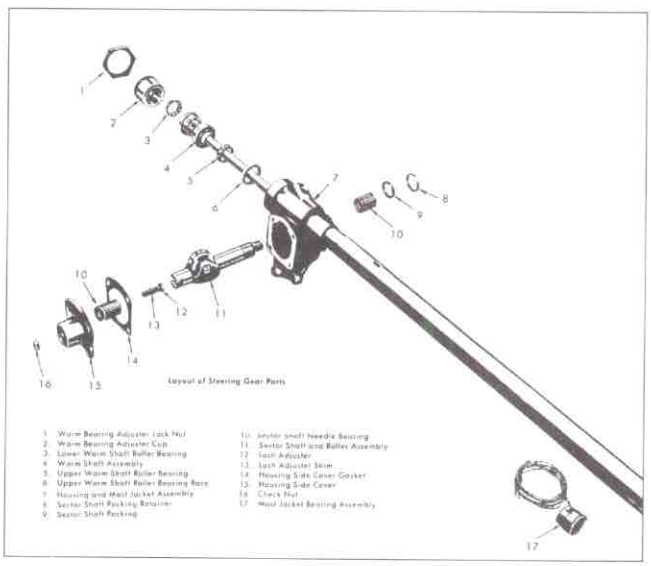


Figure 4