

F0-4 I&T (Remastered Ver.1.2) 05-24-2015

bearing adjustment is completed, hold ball nut and rotate worm shaft until nut center tooth aligns with center of left sector shaft opening. See Fig. F010. Assemble left sector shaft (three large and four small teeth) and its housing to gear housing, with center tooth of three large sector teeth meshed with center space of teeth on ball nut as shown. The sector housing is installed with locating notch at bottom. Adjust left sector backlash as described in paragraph 8.

Assemble right sector, meshing center tooth of same with third tooth space on left sector gear, counting from solid section of gear located on bottom as shown in Fig. F010. Right sector center tooth is marked on end of tooth and left sector tooth space is similarly marked. Adjust backlash as described in paragraph 8. Fill gear housing with SAE 90 oil through filler hole in side of housing and reinstall assembly.

FIG. F011 — Disassembled worm shaft for steering gear used on 8N prior to tractor serial 216989. Nut (3539) and steering shaft (3524) are not sold separately.

Model 8N After 216988

12. **ADJUSTMENT.** Before making any adjustments, disconnect both drag links at sector shaft arms and back off right and left side sector adjusting screws FIG. F012A two full turns after loosening the lock nuts. Check adjustment of wormshaft bearings by pulling **up** and pushing **down** on steering wheel. If any **up** and **down** play is present, adjust to zero end play by varying the shims located at bottom of steering tube and cover. Adjustment is correct when the pull (measured at outer end of steering wheel spoke) required to keep the steering wheel in motion after it has crossed the mid or center point, is 1/2 to 1-1/2 pounds measured with a spring scale. Shims are available in thicknesses of .002, .005, .010, and .030.

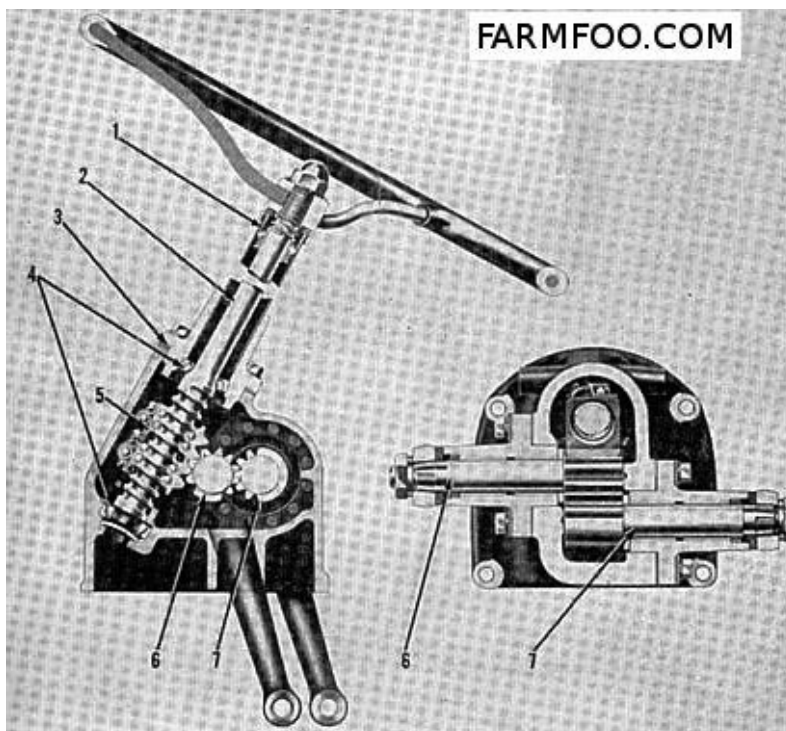


FIG. F010 — Cross section side and top views of steering gear unit used on model 8N prior to tractor serial 216989. Sectors (6&7) have straight teeth and left sector (6) is meshed with ball nut.

1.	Shaft upper bearing	5.	Ball nut
2.	Shaft and worm	6.	Left sector
3.	Shims	7.	Right sector
4.	Worm bearings		

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13. **SECTOR ARMS BACKLASH.** Before adjusting sector mesh, make sure that wormshaft bearings are correctly adjusted as outlined in paragraph 12. Make sure that drag links are disconnected at sector shaft arms and back off right and left side sector adjusting screws (Fig. F012A) two full turns. Turn steering wheel to mid or wheels-straight-ahead position. Now, using a screwdriver rotate the **right** hand sector adjusting screw (viewed from rear of tractor) until all backlash is removed from right sector arm. Correct adjustment is when 2 to 3 pounds of pull is required to maintain the steering wheel in motion through the straight ahead or mid-position, drag links disconnected and opposite sector adjustment backed off. After adjusting the right hand sector as just mentioned, repeat the procedure on the left sector. A pull of 2-1/2 to 6 pounds (measured at rim end of wheel spoke) should be required to maintain the steering wheel in motion through the mid or straight-ahead position after both of the sectors and the steering post bearings have been adjusted and drag links disconnected.

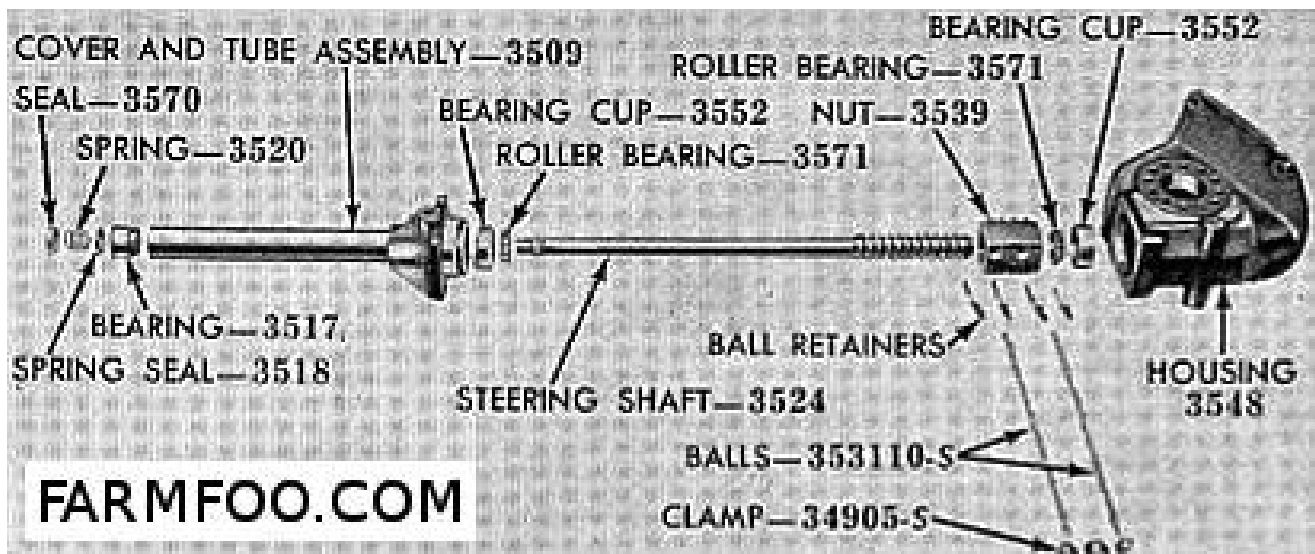


Fig. F011 - Disassembled worm shaft for steering gear used on 8N prior to tractor serial 216989. Nut (3539) and steering shaft (3524) are not sold separately.

14. **OVERHAUL.** Major overhaul of gear unit necessitates the removal of the unit from the tractor as per paragraph 11. Procedure for disassembly is self-evident. Any derangement or wear in any of the components shaft and ball nut assembly (5 — Fig. F012) is corrected by renewal of the assembly as the individual parts are not catalogued.

Select and insert shims (9 — Fig. F012) between underside of inner head of lash adjuster screws (2) and slot in sectors to provide zero to .002 end play of adjuster screws in sectors. Shims (9) are available in thicknesses of .063, .065, .067 and .069.

TOE-IN ADJUSTMENT

15. Toe-in is adjusted by varying the length of the drag links. Models 2N — 9N drag link is adjusted by disconnecting link front end, loosening lock clamp and screwing link end in or out as required. Model 8N drag links are provided with turn-buckle type adjustment and do not require disconnection. The wheels may be aligned approximately by adjusting drag links until spindle arms are centered over the radius rod to axle member bolts or the reference marks. Correct toe-in is 0 to 1/4 inch.

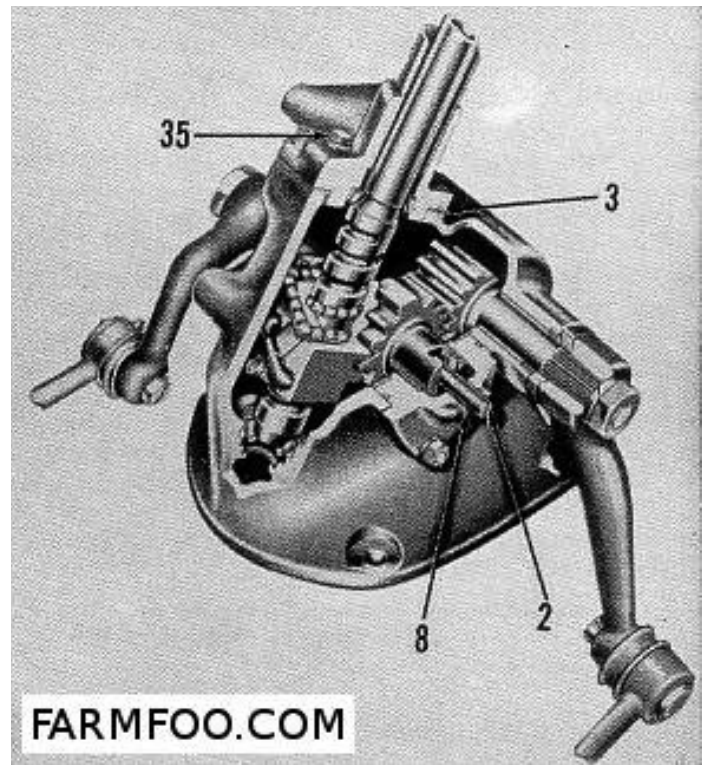


FIG. F012A — Cutaway of latest version of ball nut steering gear used on 8N tractors after serial 216988. The filler plug may be differently located on some 8N tractors in this serial range.