

Technical Tip

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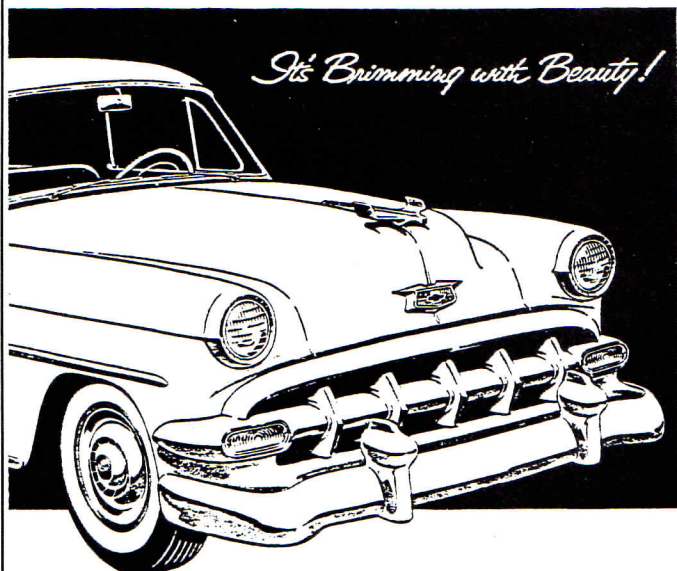
Simplified Replacement of Bushing, Seal and Retainer 1949-54 Chevrolet Steering Gear Sector Shaft

It was over a period of a few years that I tolerated "sloppy" steering and "road wander" in my 1950 Chevrolet. The center point idler arm, tie rod end joints, and steering connecting rod ball joints were inspected and found to be in satisfactory operating condition, showing no looseness or wear. Then, by turning the steering wheel and observing the wobble on the inside end of the steering box sector (cross) shaft where it attached to the pitman arm, the source of the loose steering became obvious. The sector shaft bushing was excessively worn and needed to be replaced.

I began to search for a means of replacing it without having to remove the entire steering column as the GM Shop Manual described. Fortunately, I found a way to replace the sector shaft bushing, packing, and retainer with the steering box in its installed position, saving many hours of labor.

I used the following procedure:

- Jack up left front corner of car and remove tire and rim.
- Remove six sheet metal screws and inner fender steering box cover plate (this step is optional).



- Remove sector shaft/pitman arm hex nut and lock washer using a 1 1/4 inch hex socket, marking position of arm on shaft.
- Pry pitman arm from splines on end of sector shaft using a forked pitman arm removal tool. This tool looks like a ball-joint separator tool and must have 1 1/8 inch minimum inside clearance between the forks.
- Remove four cap screws from cover plate on outboard side of steering box, then remove plate and sector shaft as a unit.
- Insert 7/8 inch standard hex socket and rod in outboard side of steering box and drive out old bushing, seal and retainer.
- Drive in new bushing, seal and retainer from inboard side of steering box using 7/8 inch standard hex socket again, then press in seal and retainer.
- Slide sector shaft and cover plate into steering box and secure with four cap screws. Cover plate gasket should be replaced before installing, if required.
- Reinstall pitman arm on sector shaft splines in exact position from which it was removed. Install lock washer and nut using 1 1/4 inch hex socket.
- Reinstall inner fender steering box cover plate (if removed) using six sheet metal screws.
- Reinstall left front tire and rim.
- Fill steering box with lube through filler plug hole in top of box. Even with excellent gaskets and seals I have found that the recommended SAE 80-90 weight gear lube can leak out of the steering box. Living in an area with mild winter temperatures, I have found that chassis grease does an excellent job of lubricating the worm, sector and bearings and does not leak out of the steering box. I understand this same practice was used by auto mechanics in days gone by.
- Note: This procedure should apply also to 1953-54 power steering.