

1984 Corvette: Service Bulletin: Rack / Pinion Power Steering Valve Ring Service

Subject: RACK/PINION POWER STEERING VALVE RING SERVICE

Model and Year: 1981-84 CHEVETTE, 1982-84 CAVALIER, CELEBRITY, CITATION AND 1984 CORVETTE

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This bulletin supersedes the information given in Bulletin 81-T-47.

Orange color valve rings have been phased into 1984 production, replacing the green rings. The present green ring service kit, P/N 7840573, may be used to replace orange rings as they are interchangeable.

The design intent is that valve rings will remain stationary in the bore of a power rack and pinion assembly. If hard steering, lack of assist when started cold, etc., is encountered with normal pump pressure, inspect the rack and pinion housing valve bore (see illustration).

Ring contact marks in the valve bore is normal. If ring groove wear exists, replacement of the housing is necessary to assure that replacement rings will not eventually wear further into the housing and result in a recurrence of a lack of power assist symptom.

If only one (1) or two (2) of the four (4) ring contact marks in the housing have resulted in ring groove wear, the corresponding ring land of the valve is most likely causing excessive ring drag. Replacement of the valve as well as the housing would then be required.

In mid-1984, the rack and pinion housing valve bore will have a textured finish to further insure valve ring retention to the bore. The textured area in

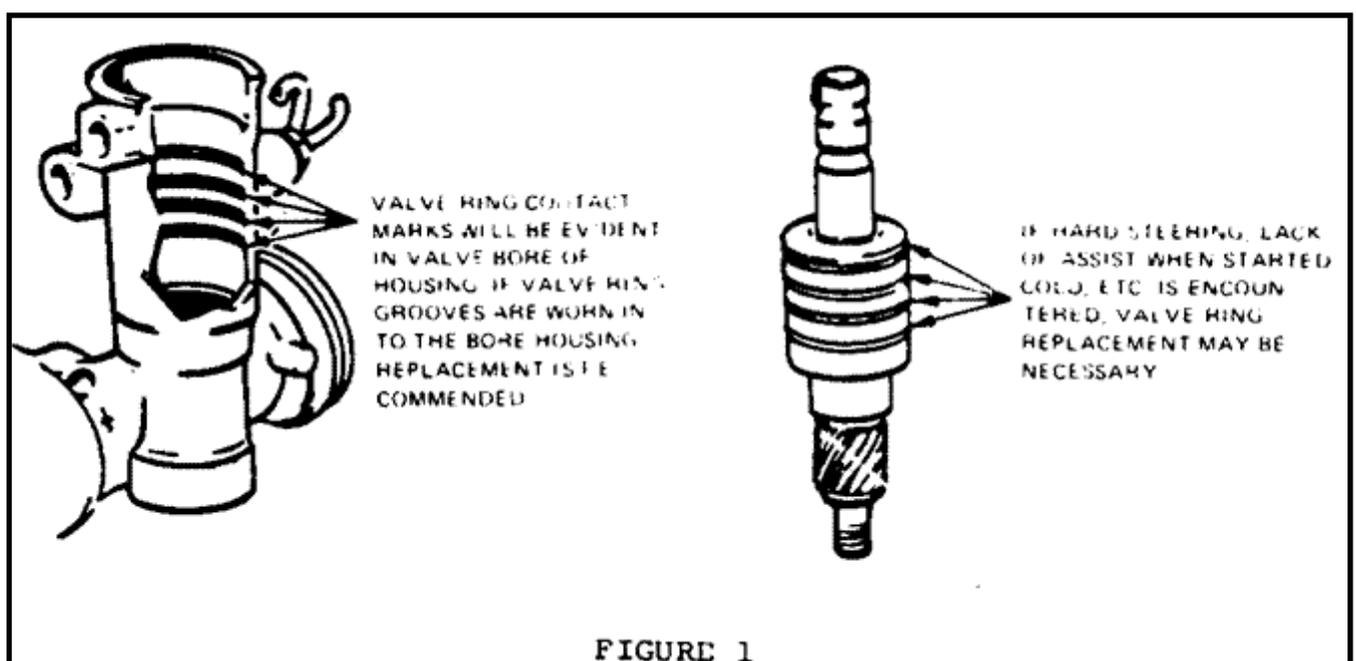
the bore will be the circular band sealing ring surface corresponding to the four (4) rings in the valve body.

NOTICE: 1980-81 Citations power rack and pinion assemblies are to be serviced as instructed in Dealer Technical Bulletin 81-T-83.

SERVICE PRECAUTION ON REMOVAL OF VALVE AND PINION ASSEMBLY

The valve and pinion assembly must be pressed out of the housing per Chassis Service Manual procedure. Excessive force or hammer use will likely damage the valve or valve pinion pin. After valve removal, inspect the valve pinion pin for being loose, bent, or protruding beyond the valve machined surface (see illustration). If any of these conditions exist, valve body replacement is required.

A lack of power assist symptom may also be caused by leakage past the rack piston ring in the housing tube bore. Inspect the rack piston ring for damage or distortion. The piston ring to ring land side clearance should not exceed .008". Also inspect the housing tube bore for any nicks, scoring or other imperfection in the rack piston travel area.





Pinion pin must not be bent, loose, or protrude beyond machined surface of valve.

FIGURE 2

REMOVE AND INSTALL INNER RACK SEAL, RACK AND PISTON RING

REMOVE

- 1 Remove rack from housing
- 2 Remove piston ring and dispose
- 3 Fit tool J-29738 into housing. Using rod approx 12" long, gently tap on rod until seal is removed
- 4 Dispose of old seal

INSTALL

- 1 Install new piston ring on rack
- 2 Care should be taken not to cut ring at installation
- 3 Wrap card stock around end of rack and rack teeth
- 4 Coat seal lip with power steering fluid, slide seal with seal lip facing piston on to card stock, slide card and seal over rack teeth
- 5 Remove card stock and bottom seal on rack piston
- 6 Coat lip of seal insert with power steering fluid and slide on rack with lip facing seal. Be sure insert is fully engaged with seal before installing rack in housing
- 7 Coat seal completely with power steering fluid, slide rack and seal in housing, tap on rack with rubber mallet to seat seal

Mid 1984 production will have an "O" ring under piston ring.

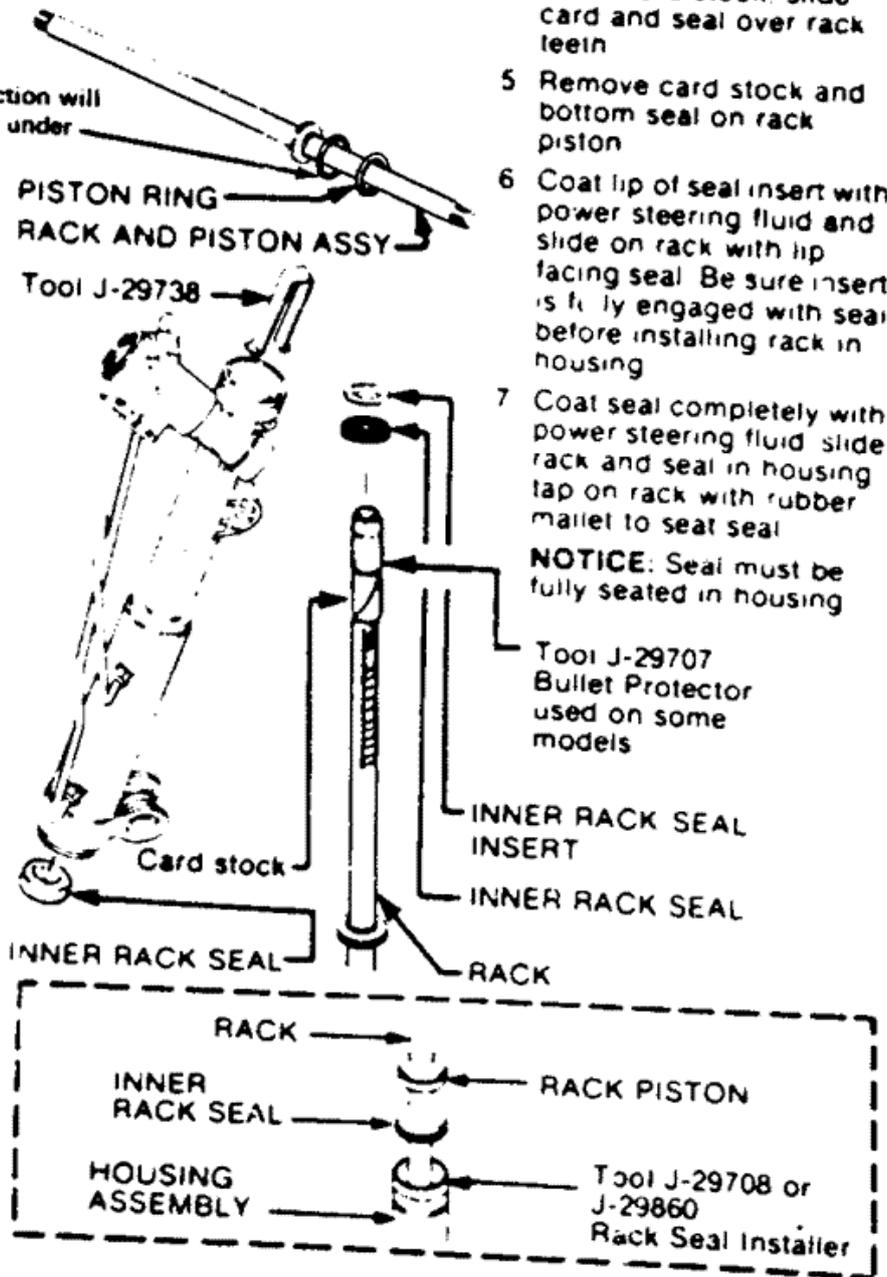


FIGURE 3

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