

# CARDONE ProTech

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## Erratic Steering Assist on GM Variable Effort Steering (VES) Vehicles

### Application:

1997-1998 GM/GMC Sport Utilities (Astro, Express, Safari, Savanna)  
1997-2001 GM/GMC Pickups (Silverado, Sierra)

### Problem:

Steering that unexpectedly twitches or jerks in a turn, at highway speeds, or has no assist.

### Cause:

Vehicles equipped with VES rely on the steering wheel position sensor, the Electronic Variable Orifice (EVO) valve, and a control module (a Suspension Control Module, Body Control Module, ECM or EVO Control Module depending on the application) to control steering assist. Failure of any of these components will affect the steering assist.

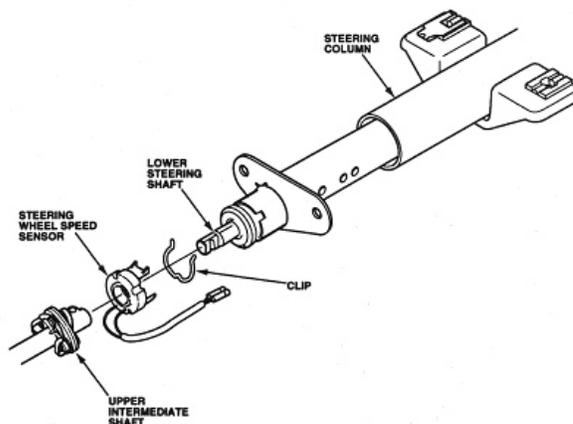
### Solution:

**Sensor Test:** If the steering wheel position sensor is bad, the vehicle ECM, in most cases, will detect this and set a Diagnostic Trouble Code (DTC). If no code is set, temporarily disconnect the sensor then see if erratic assist stops or assist returns. If operation returns to normal, perform tests on the sensor, wiring to ECM and the ECM. Please refer to the vehicle service manual for detailed sensor testing and repair procedures. The graphic below shows the typical sensor location on the steering column.

**EVO Test:** The EVO valve controls the power assist provided by the power steering pump. Even if this component fails, no DTC's are set in the ECM. Please refer to Pro Tech PT 20-0024 for EVO information and test tips.

**ECM:** The ECM (or on some applications, a special EVO module) directly controls the EVO. Failure of the ECM (or the vehicle speed sensor), the steering wheel sensor or the EVO can cause assist problems. Repair or replace as necessary.

Verification of proper function of all these components should be performed before replacing any of these components.



### Note:

Please refer to your vehicle's service manual for specific diagnostic instructions. This ProTech bulletin is supplied as technical information only and is not an authorization for repair.

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