



If the purge valve breaks or becomes stuck in the open or closed position, the EVAP system will cease to function and there are no default measures available. The ECM will store the fault in memory and illuminate the MIL warning lamp if the correct monitoring conditions have been achieved (i.e. valve status unchanged for 45 seconds after engine has been running for 15 minutes). If the purge valve is stuck in the open position, a rich air:fuel mixture is likely to result at the intake manifold, this could cause the engine to misfire and the fuelling adaptations will change.

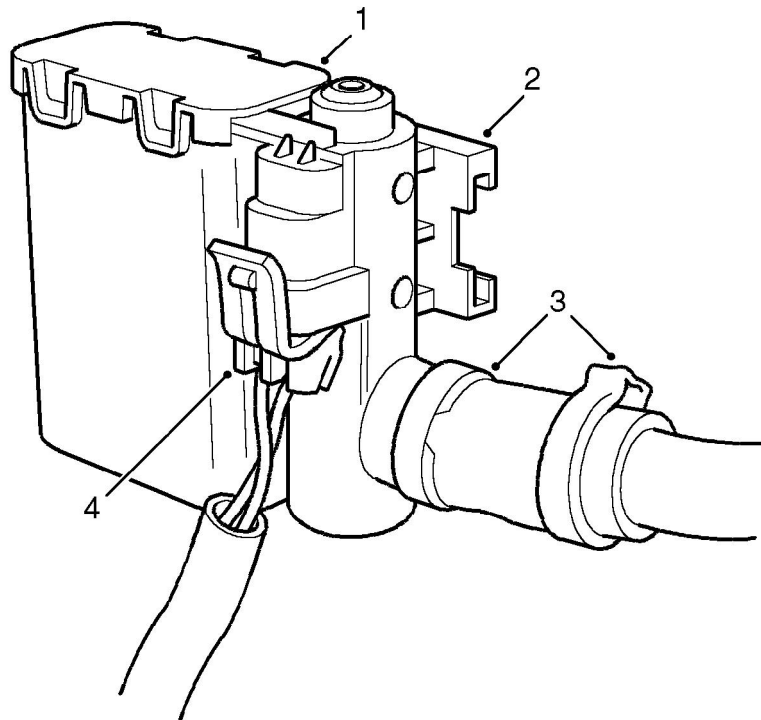
The following failure modes are possible:

- Sticking valve
- Valve blocked
- Connector or harness wiring fault (open or short circuit)
- Valve stuck open

If the purge valve malfunctions, the following fault codes may be stored in the ECM diagnostic memory, which can be retrieved using TestBook/T4:

P-code	Description
P0440	Purge valve not sealing
P0444	Purge valve open circuit
P0445	Purge valve short circuit to ground
P0443	Purge valve short circuit to battery voltage

**Canister Vent Solenoid (CVS) Unit – (NAS with vacuum type, fuel evaporation leak detection system only)**



M17 0165

- 1 CVS unit  
2 Mounting bracket

- 3 Spring clips to pipe from EVAP canister  
4 Harness connector

The canister vent solenoid (CVS) valve is mounted on a slide-on bracket which is riveted to the cruise control bracket at the right hand side of the engine compartment. The vent pipe from the EVAP canister is connected to a stub pipe on the CVS unit via a hose and plastic pipe combination. A two-pin connector links to the engine management ECM via the engine harness for solenoid control; one of the wires is the supply feed from fuse No.2 in the engine compartment fusebox, the other wire is the valve drive line to the ECM. The solenoid is operated when the ECM grounds the circuit.

## EMISSION CONTROL - V8

The valve is normally open, allowing any build up of air pressure within the evaporation system to escape, whilst retaining the environmentally harmful hydrocarbons in the EVAP canister. When the ECM is required to run a fuel system test, the CVS valve is closed to seal the system. The ECM is then able to measure the pressure in the fuel evaporative system using the fuel tank pressure sensor.

The ECM performs electrical integrity checks on the CVS valve to determine wiring or power supply faults. The ECM can also detect a valve blockage if the signal from the fuel tank pressure sensor indicates a depressurising fuel tank while the CVS valve should be open to atmosphere.

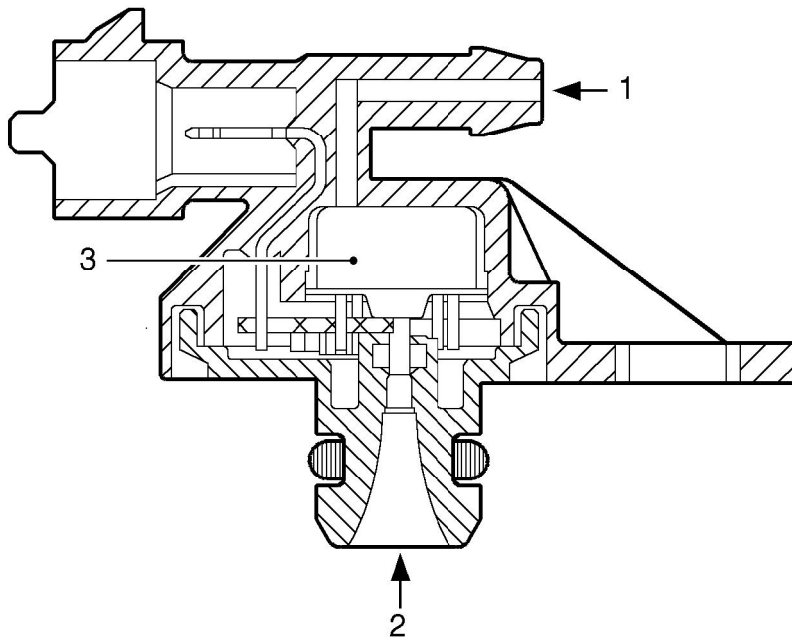
The following failure modes are possible:

- Connector or harness wiring fault (open or short circuit)
- Valve stuck open or shut
- Valve blocked

If the CVS valve malfunctions, the following fault codes may be stored in the ECM diagnostic memory, which can be retrieved using TestBook/T4:

P-code	Description
P0446	CVS valve / pipe blocked
P0447	CVS valve open circuit
P0448	CVS valve short circuit to ground
P0449	CVS valve short circuit to battery voltage

### *Fuel Tank Pressure Sensor (NAS vehicles with vacuum type leak detection system only)*



M17 0167

- 1 Ambient pressure
- 2 Tank pressure

3 Sensor cell

The fuel tank pressure sensor is located in the top flange of the fuel tank sender / fuel pump module and is a non-serviceable item (i.e. if the sensor becomes defective, the complete fuel tank sender unit must be replaced). The fuel tank pressure sensor connector is accessible through the fuel pump access hatch in the boot area floor of the vehicle.

The pressure sensor is a piezo-resistive sensor element with associated circuitry for signal amplification and temperature compensation. The active surface is exposed to ambient pressure by an opening in the cap and by the reference port. It is protected from humidity by a silicon gel. The tank pressure is fed up to a pressure port at the back side of the diaphragm.