



Certified Engine
Troubleshooting

Types of Fuel Systems

- 3.0L, 4.3L, and 5.7L Use a dual fuel trim valve (dither valve) feedback fuel system
- 8.1L Uses a Woodward L-series trim valve feedback system

Duel Fuel Trim Components

- Maxitrol 600s regulator
- Fuel trim valves
- Throttle Body
- 225 mixer
- Vacuum wye

Maxitrol 600s regulator

Inlet fuel pressure 8
to 12 inH₂O

Outlet fuel pressure
3.5 inH₂O

Regulator pressure is
controlled by
vacuum introduced
to a tee screwed
into the top.

This is not field
adjustable



Fuel trim valves

These control the amount of vacuum being supplied to the regulator. If you hold when the engine is running you would feel it clicking rapidly. This is providing a vacuum bias to the Maxitrol regulator



Throttle Body

The throttle
body
provides
control of
engine
speed



2 varieties of Woodward 225 mixers

The Non-Adjustable

It will have either a locked power valve or no power valve at all.



The adjustable

It will have a functioning power valve and idle adjusting screw.



Vacuum Wyes

The Black
wye will free
flow

The Blue wye
will have a
fixed orifice
in it



L-series trim valve fuel control primary components

- L-Series trim valve.
- 68mm trim valve
- Maxitrol 210DZ regulator

L-Series Trim Valve

The L-Series trim valve has a flapper that opens and closes to control the amount of fuel under load. This control uses the same type of program as the L-Series governor.



68mm Venturi

The 68mm venturi has no moving parts inside of it.



Maxitrol 210DZ regulator

Inlet pressure 10 inH2O

Outlet pressure .3 inH2O

This regulator is considered a zero pressure. You will not feel any pressure when the lock off is opened. It is not field adjustable. Fuel is trimmed at idle by a vacuum line going to the top of the regulator



Common items to all fuel systems

- MAP sensor
- O2 Sensors
- Temperature sensor
- Oil pressure sensor

Map Sensor

The map sensor measures both engine vacuum and barometric pressure. It also measures inlet air temperature.



02 Sensor

The 02 sensors are located in the exhaust system before and after the catalyst. These are both heated sensors. The precat sensor is always on and the post cat comes on up to 3 mins after the engine starts

