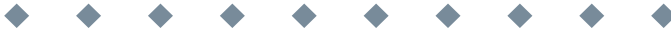




The ! Voice

Automatic Nozzle Shutoff

Doug Harty, Sr. Application Engineer { harty@vsthose.com }



I recently helped a customer diagnose nozzle shutoff issues, so I thought it would be a suitable time to explain the fundamentals of how a nozzle shutoff works.

Nozzle shutoff works using a vacuum created by the flow of fuel through the nozzle with a venturi. The vacuum created by the flow of fuel draws air in through the sensing tube at the end of the nozzle spout. When the tank is full and the sensing tube encounters liquid instead of air, the vacuum level will increase. The increase in vacuum causes a diaphragm to move, disengaging the trigger and stopping fuel flow.

Nozzle shutoff is a simple process but requires a good flow rate and fuel that is free from air bubbles. Six GPM or higher ensures proper shut-off.

- Slow fuel flow rates can be caused by:
- A malfunctioning mechanical line leak detector will restrict fuel flow well below 6 GPM. Replacement of failed leak detector and installation of automatic STP re-pressurization can eliminate further issues.
- Dirty fuel filters, failing STP motors/relays, and rags or debris clogging the STP inlet will also restrict fuel flow and cause shutoff issues.

Aerated fuel can be caused by:

- Failed air eliminators in the turbine head or a bad load of fuel can allow air bubbles into the fuel, preventing the venturi from creating enough vacuum to shut off the nozzle.
- A bad load of gasoline with high butane/propane content will create bubbles in the fuel.

Dispensing some fuel into a clear container is a quick way to check for air bubbles. I once found fuel so bad, it made fizz like it was soda.

If slow fuel flow and aerated fuel are not present, check the nozzle spout and confirm its tight and secure, loose spouts can create shutoff issues, but usually in the form of nuisance shut-offs.

- Here is a link to a video that explains the shutoff process <https://www.youtube.com/watch?v=FRYITF02A7g>



VST Mission

To design and manufacture innovative products for retail refueling systems that are specifically engineered to protect the environment and consumers with safety and reliability.



VST Values

R: Respect
Employees,
Customers, Vendors,
and Environment

O: Operational
Excellence, Quality,
Delivery, Safety &
Cost

I: Innovative Passion,
Unique, Industry
Leader, and
Committed to
Excellence



VST Vision

VST strives to become the most trusted company in the global gasoline dispensing industry by manufacturing environmentally sustainable products and solutions that reduce harmful vapor emissions to create a future that protects the communities in which people live and work every day.

