

P226A: WATER IN FUEL LAMP CONTROL CIRCUIT

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	\$100-\$170
Can I Still Drive?	:	Yes

What Does The P226A Code Mean?

The OBD-II trouble code P226A is associated with the water in fuel sensor circuit, also known as the fuel composition circuit. When the Power Control Module (PCM) detects improper signals within the water in fuel lamp control circuit, code P226A will be set and the check engine light will be illuminated. The water in fuel light may also be illuminated if the vehicle incorporates this warning indicator. Refer to a vehicle specific resource to find the sensor location for your particular year / make / model configuration.

The purpose of the water in fuel sensor is to monitor the fuel which passes through it to ensure that ethanol, water, and other contaminants do not exceed a certain percentage. Additionally, fuel temperature is measured by the water in fuel sensor and converted into a voltage pulse width monitored by the PCM. The PCM utilizes these readings to adjust the engine timing for optimum performance and fuel economy.

What Are The Symptoms Of The P226A Code?

Symptoms of a P226A trouble code may include:

- Engine may stall
- Severe misfiring
- Engine will not start
- Poor fuel economy

- Poor performance
- Check engine light illuminated
- Water in fuel light not illuminated when it should be

What Are The Potential Causes Of The P226A Code?

Causes for this P226A code may include:

- Contaminated fuel
- Blown fuse or fuse-able link (if applicable)
- Defective or worn fuel filter
- Corroded or damaged connector
- Faulty or damaged wiring
- Faulty ECU

How Can You Fix The P226A Code?

The first step in the troubleshooting process for any malfunction is to research the Technical Service Bulletins (TSB's) for the specific vehicle by year, model and power plant. In some circumstances this can save a lot of time in the long run by pointing you in the right direction.

The second step is to check the vehicle records to see when the fuel filter was replaced and visually inspect the condition of the filter. The most common causes for this code is a defective fuel filter or contaminated fuel.

A visual inspection of the fuel can be conducted using a glass jar. Once a sample is taken and allowed to settle the water and fuel will separate in a matter of minutes. The presence of water in the fuel is an indication of contaminated fuel, a defective fuel filter or both. Then you should locate all of the components within the water in fuel circuit and perform a thorough visual inspection to check the associated wiring for obvious defects such as scraping, rubbing, bare wires, or burn spots. Next is to check the connectors for security, corrosion and damaged pins. The sensor is normally mounted on the top of the fuel tank on most vehicles.

Advanced Steps

The advanced steps become very vehicle specific and require the appropriate advanced equipment to perform accurately. These procedures require a digital multi meter and the specific technical references for the vehicle. The ideal tool to use in this situation is an oscilloscope, if available. The O-scope will provide an accurate illustration of the signal pulses and the frequency levels that will be proportional to the fuel contamination level. The typical range of frequency is from 50 to 150 hertz; with 50 hertz representing clean fuel and 150 Hertz representing a high level of contamination. Voltage requirements and signal pulses will vary based on the specific year and model of the vehicle.

Most of the other water in fuel codes pertain to the water in fuel sensor and circuit. This code refers specifically to the water in fuel lamp control circuit. In other words, the problem is detected within the warning lamp, so it may not turn on, it may be on solid, or flashing, or some other status. Focus diagnostics more on the lamp control circuit than the water in fuel sensor and it's wiring.

Severity Description

The severity of this code can vary tremendously from just an illuminated check engine light or water in fuel light on/off a vehicle that starts and runs to an automobile that will stall, misfire or not start at all. Damage to fuel system and internal engine components may occur if this situation is not corrected in a timely manner.

Reference Sources

[P226A Water in Fuel Lamp Control Circuit](#), OBD-Codes.