

P0214: COLD START INJECTOR 2 MALFUNCTION

OVERVIEW

Severity	:	High
DIY Difficulty Level	:	Advanced
Repair Cost	:	\$40-\$200
Can I Still Drive?	:	Yes (Short-term only)

What Does The P0214 Code Mean?

When a P0214 is stored in your OBD-II vehicle, it means that the powertrain control module (PCM) has detected an abnormality in the secondary (2) cold start injector.

These types of injectors are primarily used in vehicles with diesel engines but I have personally seen cases where they were used in gasoline engine applications as well.

Typically, the cold start injector/s are placed in a centrally located position so that all cylinders of the engine can benefit from a "shot" of fuel delivered during cold start conditions. Some vehicles utilize multiple (I have never seen more than two) cold start injectors placed in strategic locations in the engine intake.

Others use a single injector which is usually placed near the throttle plate opening or intake air inlet pipe.

By monitoring engine temperature and intake air temperature, the PCM is able to determine when the cold start injector must be initiated.

In most vehicles, the cold start injector circuit is evaluated by the PCM in order to ensure that it is operating as intended. If the PCM detects an abnormal level of resistance on the circuit (accompanied by decreased voltage as a result), a code P0214 will be stored and a malfunction indicator lamp (MIL) may be illuminated. Some vehicles may require multiple ignition cycles with a failure for a MIL to be illuminated.

What Are The Symptoms Of The P0214 Code?

Symptoms of a P0214 trouble code may include:

- Delayed engine start- up (especially when cold)
- No symptoms may be exhibited during warm weather
- Engine coolant temperature or intake air temperature codes may also be exhibited
- Lean exhaust codes
- Misfire codes may also be stored

What Are The Potential Causes Of The P0214 Code?

Possible causes for this code may include:

- Defective cold start injector
- Faulty engine coolant temperature sensor or circuit
- Bad intake air temperature sensor or circuit
- Shorted or open wiring in the cold start injector circuit

How Can You Fix The P0214 Code?

A diagnostic scanner, a digital volt/ohmmeter (DVOM), and a reliable vehicle information source are some of the tools which I will require to diagnose a code P0214.

If engine coolant temperature codes or intake air temperature codes are present, diagnose and repair those prior to diagnosing a code P0214.

Visual Inspection

A visual inspection of system related wiring and connectors should be performed as a starting point for your diagnosis. Rodent damaged wiring is not uncommon particularly in cold climates.

Next, I would connect the scanner to the vehicle diagnostic connector and retrieve all stored codes and freeze frame data. I like to write this information down as it has proven helpful as the diagnostic process unfolds.

Clear the codes, allow the vehicle to reach a "cold start" condition according to manufacturer's specifications, and test-drive the vehicle to see if the code P0214 is reset.

If the P0214 is not immediately reset, continue to operate the vehicle normally until the PCM enters readiness mode or the code is reset. If readiness mode is entered, the problem has been rectified. If the code is reset, a problem still exists.

Step-by-step Diagnosis

- If the code is immediately reset, you can begin by testing the cold start injector using the DVOM and following the recommendations found in your vehicle information source. Of course, you will need to replace any cold start injector which fails to conform to manufacturer's specifications.
- If the cold start injector in question checks out, test voltage at the injector connector (using the DVOM). Typically, there should be a constant supply of battery voltage that is joined by a ground pulse from the PCM, at the appropriate time. A "noid" light is possibly the best tool for simultaneously testing the injector pulse/voltage signal at the injector connector.
- If no voltage is discovered at the cold start injector connector, suspect a blown fuse, defective relay, or a burnt fusible link. Check system fuses with the circuit loaded to help prevent an incorrect diagnosis.
- If no ground pulse is detected at the cold start injector connector, suspect a defective PCM, PCM programming error, or a circuit malfunction between the PCM and injector connector. Use the DVOM to check the ground pulse at the appropriate pin in the PCM connector to pinpoint the exact condition and proceed from there.
- If no ground pulse is detected at the PCM connector, the PCM is likely defective or has experienced a programming error.
- If there is a ground pulse signal at the PCM connector, you have a circuit malfunction between the PCM and the cold start injector. After unplugging all related controllers (to prevent damage), use the DVOM to check individual circuit resistance and continuity. Repair or replace any circuits which do not comply with manufacturer's specs.

Additional Diagnostic Notes

- The PCM must recognize that conditions are appropriate for a cold start injection before diagnostic testing can be performed
- Use caution when testing high pressure fuel systems

Severity Description

Cold start injector failure can make starting the engine in adverse weather conditions more difficult than usual. A code P0214 should be addressed with some degree of urgency.

Reference Sources

[P0214: Cold Start Injector 2 Malfunction](#), OBD-Codes.