

## KG: Fuel Injector

← [KG: Introduction](#)

### KG1 DTCS P0201 THROUGH P0210 OR SYMPTOMS WITHOUT DTCS: CHECK THE VPWR CIRCUIT FOR AN OPEN IN THE HARNESS

**Note:** Disconnect the suspect fuel injector harness connector. Only the suspect injector needs to be diagnosed.

**Note:** On some vehicles, the injector voltage is only present when the fuel pump relay is energized. Measure the injector voltage within 2 seconds of the ignition ON.

- Ignition OFF.
- INJ connector disconnected.
- Ignition ON, engine OFF.
- Measure the voltage between:

<b>( + ) INJ Connector, Harness Side</b>	<b>( - )</b>
VPWR	Ground

Is the voltage greater than 10 V?

Yes	No
GO to <a href="#">KG2</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

### KG2 CHECK THE INJ CIRCUIT FOR AN OPEN IN THE HARNESS

- Ignition OFF.
- PCM connector disconnected.
- Measure the resistance between:

<b>( + ) PCM Connector, Harness Side</b>	<b>( - ) INJ Connector, Harness Side</b>
Suspect INJ	INJ

Is the resistance less than 5 ohms?

Yes	No
GO to <a href="#">KG3</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

### KG3 CHECK THE INJ CIRCUIT FOR A SHORT TO GROUND IN THE HARNESS

- Measure the resistance between:

<b>( + ) INJ Connector, Harness Side</b>	<b>( - )</b>
INJ	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to <a href="#">KG4</a> .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

## KG4 CHECK THE INJ CIRCUIT FOR A SHORT TO VOLTAGE IN THE HARNESS

- Ignition ON, engine OFF.
- Measure the voltage between:

( + ) INJ Connector, Harness Side	( - )
INJ	Ground

Is any voltage present?

Yes	No
REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KG5</a> .

## KG5 CHECK THE RESISTANCE OF THE FUEL INJECTOR

- Ignition OFF.
- Measure the resistance between:

( + ) INJ Connector, Component Side	( - ) INJ Connector, Component Side
VPWR	INJ

Is the resistance between 11 - 18 ohms?

Yes	No
GO to <a href="#">KG6</a> .	INSTALL a new fuel injector. REFER to the Workshop Manual Section 303-04, Fuel Charging and Controls. RESET the keep alive memory (KAM). REFER to Section 2, <a href="#">Resetting The Keep Alive Memory (KAM)</a> . REPEAT the self-test.

## KG6 CHECK THE FUNCTIONALITY OF THE INJ CIRCUIT

- PCM connector connected.
- Ignition ON, engine OFF.
- Connect a non-powered test lamp between:

Point A INJ Connector, Harness Side	Point B INJ Connector, Harness Side
VPWR	INJ

- Ignition ON, engine running.

Is the test lamp blinking?

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Yes	No
GO to <a href="#">KG7</a> .	GO to <a href="#">KG8</a> .

## KG7 CARRY OUT A THOROUGH WIGGLE TEST ON THE FUEL INJECTOR HARNESS

- Ignition OFF.
- INJ connector connected.
- Ignition ON, engine running.
- Engine at normal operating temperature.
- Access the PCM and monitor the INJ\_F PID.
- Wiggle, shake, and bend small sections of the wiring harness while working from the fuel injector to the PCM.

Are any injector values fluctuating in and out of range?

Yes	No
ISOLATE the concern and REPAIR as necessary.  CLEAR the DTCs. REPEAT the self-test.	Unable to duplicate or identify the concern at this time.  GO to Pinpoint Test <a href="#">Z</a> .

## KG8 CHECK FOR CORRECT PCM OPERATION

- Disconnect all the PCM connectors.
- Visually inspect for:
  - pushed out pins
  - corrosion
- Connect all the PCM connectors and make sure they seat correctly.
- Carry out the PCM self-test and verify the concern is still present.

Is the concern still present?

Yes	No
INSTALL a new PCM. REFER to Section 2, <a href="#">Flash Electrically Erasable Programmable Read Only Memory (EEPROM)</a> , Programming the VID Block for a Replacement PCM.	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

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