

## KC: Fuel Pump Control Module

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### KC1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

Are DTCS P025A, P025B, P0627, U0109, or U210B present?

Yes	No
For continuous memory DTCS P025A, P025B, P0627, U0109 or U210B, GO to <a href="#">KC2</a> .  For KOEO and KOER DTCS P025A or P025B, GO to <a href="#">KC3</a> .  For KOEO and KOER DTC P0627, GO to <a href="#">KC8</a> .  For KOEO and KOER DTC U0109, GO to <a href="#">KC14</a> .  For KOEO and KOER DTC U210B, GO to <a href="#">KC28</a> .	For all others, GO to Section 4, <a href="#">Diagnostic Trouble Code (DTC) Charts and Descriptions</a> .

### KC2 CONTINUOUS MEMORY DTCS P025A, P025B, P0627, U0109 AND U210B: CHECK FOR KEY ON, ENGINE OFF (KOEO) DTCS

- Ignition ON, engine OFF.
- Clear the DTCS.
- Carry out the KOEO self-test.

Are DTCS P025A, P025B, P0627, U0109 or U210B present?

Yes	No
For DTCS P025A or P025B, GO to <a href="#">KC3</a> .  For DTC P0627, GO to <a href="#">KC8</a> .  For DTC U0109, GO to <a href="#">KC14</a> .  For DTC U210B, GO to <a href="#">KC28</a> .	Unable to duplicate or identify the concern at this time.  GO to Pinpoint Test <a href="#">Z</a> .

### KC3 DTC P025A, P025B: CHECK THE FPC CIRCUIT FOR AN OPEN

- Ignition OFF.
- Fuel Pump Control Module connector disconnected.
- PCM connector disconnected.
- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) PCM Connector, Harness Side
FPC	FPC

Is the resistance less than 5 ohms?

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Yes	No
GO to <a href="#">KC4</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

#### KC4 CHECK THE FPC CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPC	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to <a href="#">KC5</a> .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

#### KC5 CHECK THE FPC CIRCUIT FOR A SHORT TO VOLTAGE

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPC	Ground

Is any voltage present?

Yes	No
REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC6</a> .

#### KC6 CHECK THE FPC CIRCUIT FOR CORRECT RESPONSE

- Ignition OFF.
- Fuel Pump Control Module connector connected.
- Ignition ON, engine OFF.
- Measure the voltage between:

( + ) PCM Connector, Harness Side	( - )
FPC	Ground

Is the voltage greater than 10 V?

Yes	No
For DTC P025B, GO to <a href="#">KC7</a> .  For all others, GO to <a href="#">KC34</a> .	INSTALL a new Fuel Pump Control Module. REFER to the Workshop Manual Section 303-04, Fuel Charging and Controls.  CLEAR the DTCs. REPEAT the self-test.

## KC7 CHECK THE HARNESS FOR ROUTING, ALTERATIONS, INCORRECT SHIELDING, OR ELECTRICAL INTERFERENCE FROM OTHER SYSTEMS

- Ignition OFF.
- Check the harness for the following:
  - damaged insulation
  - corrosion
  - correct routing

Is a concern present?

Yes	No
REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC34</a> .

## KC8 DTC P0627: CHECK THE FPPWR, FPRTN AND INTERNAL FUEL PUMP CIRCUIT RESISTANCE

- Ignition OFF.
- Fuel Pump Control Module connector disconnected.
- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) Fuel Pump Control Module Connector, Harness Side
FPPWR	FPRTN

Is the resistance less than 10 ohms?

Yes	No
GO to <a href="#">KC11</a> .	GO to <a href="#">KC9</a> .

## KC9 CHECK THE FPPWR AND FPRTN CIRCUITS FOR AN OPEN

- FP connector disconnected. Refer to the Wiring Diagrams Manual for schematic and connector information.
- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) FP Connector, Harness Side
FPPWR	FPPWR
FPRTN	FPRTN

Are the resistances less than 5 ohms?

Yes	No
GO to <a href="#">KC10</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC10 CHECK THE FP FOR AN OPEN

- Measure the resistance between:

( + ) FP Connector, Component Side	( - ) FP Connector, Component Side
FPPWR	FPRTN

Is the resistance less than 10 ohms?

Yes	No
GO to <a href="#">KC11</a> .	INSTALL a new FP. REFER to the Workshop Manual Section 310-01, Fuel Tank and Lines.  CLEAR the DTCs. REPEAT the self-test.

### KC11 CHECK THE FPPWR CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPPWR	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to <a href="#">KC12</a> .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

### KC12 CHECK THE FPPWR AND FPRTN CIRCUITS FOR A SHORT TO VOLTAGE

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPPWR	Ground
FPRTN	Ground

Is any voltage present?

Yes	No
REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC13</a> .

### KC13 CHECK THE FUEL PUMP CONTROL MODULE FOR CORRECT OPERATION

- Ignition OFF.
- Fuel Pump Control Module connector connected.
- Ignition ON, engine OFF.
- Measure the voltage between:

( + ) FP Connector, Harness Side	( - ) FP Connector, Harness Side
FPPWR	FPRTN

- Access the PCM and control the FP PID.
- Command the FP PID ON.

Is the voltage greater than 10 V with the PID commanded ON?

Yes	No
INSTALL a new FP. REFER to the Workshop Manual Section 310-01, Fuel Tank and Lines.  CLEAR the DTCs. REPEAT the self-test.	INSTALL a new Fuel Pump Control Module. REFER to the Workshop Manual Section 303-04, Fuel Charging and Controls.  CLEAR the DTCs. REPEAT the self-test.

## KC14 DTC U0109: CHECK THE VOLTAGE AND GROUND CIRCUITS TO THE FUEL PUMP CONTROL MODULE

**Note:** Verify the IFS switch is set (button pressed) (if equipped).

- Ignition OFF.
- Fuel Pump Control Module connector disconnected.
- Ignition ON, engine OFF.
- Measure the voltage between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) Fuel Pump Control Module Connector, Harness Side
VPWR Fuel	PWRGND

Is the voltage greater than 10 V?

Yes	No
GO to <a href="#">KC24</a> .	GO to <a href="#">KC15</a> .

## KC15 CHECK THE VOLTAGE TO FUEL PUMP CONTROL MODULE

- Measure the voltage between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
VPWR Fuel	Ground

Is the voltage greater than 10 V?

Yes	No
GO to <a href="#">KC16</a> .	GO to <a href="#">KC17</a> .

## KC16 CHECK THE PWRGND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
PWRGND	Ground

Is the resistance less than 5 ohms?

Yes	No
Unable to duplicate or identify the concern at this time.	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC17 CHECK THE FUEL PUMP CONTROL MODULE RELAY FOR CORRECT OPERATION

- Ignition OFF.
- Fuel Pump Control Module Relay connector disconnected.
- Carry out the fuel pump control module relay component test. Refer to the Wiring Diagrams Cell 149 Component Testing.

Is a concern present?

Yes	No
INSTALL a new Fuel Pump Control Module relay. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC18</a> .

## KC18 CHECK THE B+ CIRCUIT FOR AN OPEN

- Measure the voltage between:

( + ) Fuel Pump Control Module Relay Connector, Harness Side	( - )
B+	Ground

Is the voltage greater than 10 V?

Yes	No
GO to <a href="#">KC19</a> .	A B+ circuit concern is present. CHECK the condition of the related fuse/fuse links. If OK, REPAIR the open circuit. If the fuse/fuse link is damaged, CHECK the circuit for a short to ground before installing a new fuse/fuse link.

## KC19 CHECK THE VPWR VOLTAGE TO THE FUEL PUMP CONTROL MODULE RELAY

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

( + ) Fuel Pump Control Module Relay Connector, Harness Side	( - )
VPWR	Ground

Is the voltage greater than 10 V?

Yes	No
GO to <a href="#">KC20</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC20 CHECK THE FUEL PUMP CONTROL MODULE GROUND CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure the resistance between:

( + ) Fuel Pump Control Module Relay Connector, Harness Side	( - )
GND	Ground

Is the resistance less than 5 ohms?

Yes	No
GO to <a href="#">KC21</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC21 CHECK THE VPWR FUEL CIRCUIT FOR AN OPEN

- Measure the resistance between:

( + ) Fuel Pump Control Module Relay Connector, Harness Side	( - ) Fuel Pump Control Module Connector, Harness Side
VPWR Fuel	VPWR Fuel

Is the resistance less than 5 ohms?

Yes	No
Unable to duplicate or identify the concern at this time. GO to Pinpoint Test <a href="#">Z</a> .	For Escape/Mariner, Expedition, and Navigator, GO to <a href="#">KC22</a> . For all others, REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC22 ISOLATE THE OPEN IN THE VPWR FUEL CIRCUIT

- Measure the resistance between:

( + ) Fuel Pump Control Module Relay Connector, Harness Side	( - ) IFS Switch Connector, Harness Side
VPWR Fuel	VPWR Fuel - A

Is the resistance less than 5 ohms?

Yes	No
GO to <a href="#">KC23</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC23 CHECK THE VPWR FUEL CIRCUIT FOR AN OPEN BETWEEN THE IFS SWITCH AND FUEL PUMP CONTROL MODULE

- Measure the resistance between:

( + ) IFS Switch Connector, Harness Side	( - ) Fuel Pump Control Module Connector, Harness Side
VPWR Fuel - B	VPWR Fuel

Is the resistance less than 5 ohms?

Yes	No
INSTALL a new IFS switch. REFER to the Workshop Manual Section 310-01, Fuel Tank and Lines.  CLEAR the DTCs. REPEAT the self-test.	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC24 CHECK THE FPM CIRCUIT FOR AN OPEN

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) PCM Connector, Harness Side
FPM	FPM

Is the resistance less than 5 ohms?

Yes	No
GO to <a href="#">KC25</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC25 CHECK THE FPM CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPM	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to <a href="#">KC26</a> .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

## KC26 CHECK THE FPM CIRCUIT FOR VOLTAGE

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPM	Ground



**Is any voltage present?**

Yes	No
REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC27</a> .

**KC27 CHECK THE FPM CIRCUIT FOR CORRECT RESPONSE**

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
FPM	Ground

**Is the voltage greater than 10 V?**

Yes	No
INSTALL a new Fuel Pump Control Module. REFER to the Workshop Manual Section 303-04, Fuel Charging and Controls.  CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC34</a> .

**KC28 CHECK FOR RESTRAINTS CONTROL MODULE (RCM) DTCS**

- Carry out the RCM self-test.

**Are any RCM DTCS present?**

Yes	No
DIAGNOSE the Supplemental Restraint System concern. REFER to the Workshop Manual Section 501-20B, Supplemental Restraint System.  CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC29</a> .

**KC29 DTC U210B: INSPECT THE HARNESS BETWEEN THE FUEL PUMP CONTROL MODULE AND RESTRAINTS CONTROL MODULE (RCM)**

- Ignition OFF.
- Check the harness for the following:
  - damaged insulation
  - corrosion
  - correct routing

**Is a concern present?**

Yes	No
REPAIR as necessary.  CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC30</a> .

## KC30 CHECK THE ENS CIRCUIT FOR AN OPEN

**Note:** Refer to the warnings in Workshop Manual Section 501-20B, Supplemental Restraint System.

- Fuel Pump Control Module connector disconnected.
- Depower the supplemental restraint system (SRS). Refer to the Workshop Manual Section 501-20B, Supplemental Restraint System for the Supplemental Restraint System (SRS) Depowering and Repowering procedure.
- RCM connector disconnected. Refer to the Wiring Diagrams Manual for schematic and connector information.
- Connect the battery ground cable.
- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - ) RCM Connector, Harness Side
ENS	ENS

Is the resistance less than 5 ohms?

Yes	No
GO to <a href="#">KC31</a> .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

## KC31 CHECK THE ENS CIRCUIT FOR A SHORT TO GROUND

- Measure the resistance between:

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
ENS	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to <a href="#">KC32</a> .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

## KC32 CHECK THE ENS CIRCUIT FOR VOLTAGE

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

( + ) Fuel Pump Control Module Connector, Harness Side	( - )
ENS	Ground

Is any voltage present?

Yes	No
REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.	GO to <a href="#">KC33</a> .

## KC33 CHECK THE ENS CIRCUIT FOR CORRECT RESPONSE

- Ignition OFF.
- Fuel Pump Control Module connector connected.
- Ignition ON, engine OFF.
- Measure the voltage between:

( + ) RCM Connector, Harness Side	( - )
ENS	Ground

Is the voltage greater than 10 V?

Yes	No
INSTALL a new RCM. REFER to the Workshop Manual Section 501-20B, Supplemental Restraint System.  CLEAR the DTCs. REPEAT the self-test.	INSTALL a new Fuel Pump Control Module. REFER to the Workshop Manual Section 303-04, Fuel Charging and Controls.  CLEAR the DTCs. REPEAT the self-test.

## KC34 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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