DJ: Air Conditioning Evaporator Temperature (ACET) Sensor

DJ: Introduction

DJ1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

Are DTCs P0537, P0538, P1436, or P1437 present?

Yes	No
For KOEO and KOER DTCs P0538 or P1437, GO to DJ2. For KOEO and KOER DTCs P0537 or P1436, GO to DJ6. For continuous memory DTCs P0537, P0538, P1436 or P1437, GO to DJ9.	For all others, GO to Section 4, Diagnostic Trouble Code (DTC) Charts and Descriptions.

DJ2 KOEO AND KOER DTCS P0538 OR P1437: SIMULATE AN OPPOSITE SIGNAL TO THE PCM

- ACET Sensor connector disconnected.
- Connect a 5 amp fused jumper wire between the following:

Point A ACET Sensor Connector, Harness Side	Point B ACET Sensor Connector, Harness Side
ACET - Pin 2	SIGRTN - Pin 1

- Check for self-test DTCs.

Are DTCs P0537 or P1436 present?

Yes	No
INSTALL a new ACET sensor. CLEAR the DTCs. REPEAT the self-test.	GO to DJ3.

DJ3 CHECK THE ACET AND SIGRTN CIRCUIT FOR AN OPEN CIRCUIT IN THE HARNESS

- Ignition OFF.
- Remove the jumper wire(s).
- PCM connector disconnected.
- Measure the resistance between:

(+) ACET Sensor Connector, Harness Side	(-) PCM Connector, Harness Side
ACET - Pin 2	ACET - Pin B53
SIGRTN - Pin 1	SIGRTN - Pin E58

Are the resistances less than 5 ohms?

Yes	No
GO to DJ4 .	REPAIR the open circuit. CLEAR the DTCs. REPEAT the self-test.

DJ4 CHECK THE ACET CIRCUIT FOR A SHORT TO VOLTAGE IN THE HARNESS

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

(+) ACET Sensor Connector, Harness Side	(-)
ACET - Pin 2	Ground

Is the voltage less than 1 V?

Yes	No
GO to DJ5 .	REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

DJ5 CHECK THE ACET CIRCUIT FOR A SHORT TO VREF IN THE HARNESS

- Ignition OFF.
- Measure the resistance between:

(+) PCM Connector, Harness Side	(-) PCM Connector, Harness Side
ACET - Pin B53	VREF - Pin E57

Is the resistance greater than 10K ohms?

Yes	No
GO to DJ10 .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

DJ6 KOEO AND KOER DTCS P0537 OR P1436: SIMULATE AN OPPOSITE SIGNAL TO THE PCM

- ACET Sensor connector disconnected.
- Carry out the KOEO self-test.

Are DTCs P0538 or P1437 present?

Yes	No
INSTALL a new ACET sensor. CLEAR the DTCs. REPEAT the self-test.	GO to DJ7 .

DJ7 CHECK THE ACET CIRCUIT(S) FOR A SHORT TO SIGRTN IN THE HARNESS

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

(+) ACET Sensor Connector, Harness Side	(-) ACET Sensor Connector, Harness Side
ACET - Pin 2	SIGRTN - Pin 1

Is the resistance greater than 10K ohms?

Yes	No
GO to DJ8 .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

DJ8 CHECK THE ACET CIRCUIT(S) FOR A SHORT TO GROUND IN THE HARNESS

- Measure the resistance between:

(+) ACET Sensor Connector, Harness Side	(-)
ACET - Pin 2	Ground

Is the resistance greater than 10K ohms?

Yes	No
GO to DJ10 .	REPAIR the short circuit. CLEAR the DTCs. REPEAT the self-test.

DJ9 CONTINUOUS MEMORY DTCS P0537, P0538, P1436 OR P1437: CHECK THE ACET AND SIGRTN CIRCUIT FOR AN INTERMITTENT CONCERN

Note: The voltage should be between 4.5 and 5.5 volts. The voltage reading changes suddenly when a concern is detected. For P0537/P1436, a sudden change could indicate a short to ground. For P0538/P1436, a sudden change could indicate an open ACET or SIGRTN circuit.

- ACET Sensor connector disconnected.
- Inspect the connectors for signs of damage, water intrusion, or corrosion.
- Measure the voltage between:

(+) ACET Sensor Connector, Harness Side	(-) ACET Sensor Connector, Harness Side
ACET - Pin 2	SIGRTN - Pin 1

- Ignition ON, engine OFF.
- While monitoring the voltage reading on the digital multimeter (DMM), wiggle, shake, and bend small sections of the wiring harness while working from the sensor to the PCM.
- Ignition OFF.

Is there any change in the voltage reading, or is a concern found?

Yes	No
ISOLATE the concern. REPAIR as necessary. CLEAR the DTCs. REPEAT the self-test.	Unable to duplicate or identify the concern at this time. GO to Pinpoint Test Z .

DJ10 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, Flash Electrically Erasable Programmable Read Only Memory (EEPROM) , 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.