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2010 MAZDA 3 / Axela Sedan OEM Service and Repair Workshop Manual

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FUEL PRESSURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2]

SM2897866

id0140z780120

Note

- The fuel pressure sensor cannot be removed as a single unit. When replacing the fuel pressure sensor, replace it together with the fuel injector as a single unit.

1.Remove the fuel injector. (See [FUEL INJECTOR REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\]](#).)

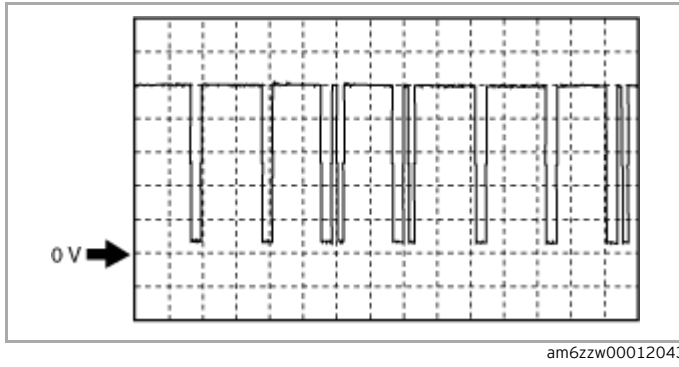
Sample

- Specification

4.5 V or more (Maximum value of wave pattern)

1.0 V or less (Minimum value of wave pattern)

Wave pattern (reference)



Oscilloscope setting

- 1 V/DIV (Y), 20 ms/DIV (X), DC range

Vehicle condition

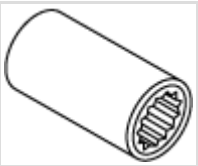
- Idle (after warm up)

ENGINE COOLANT TEMPERATURE (ECT) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2]

SM2897870

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Special Service Tool (SST)

49 D015 001	
Box wrench	

Replacement Part

O-ring	Packing
Quantity: 1	Quantity: 1
Location of use: ECT sensor No.1	Location of use: ECT sensor No.2

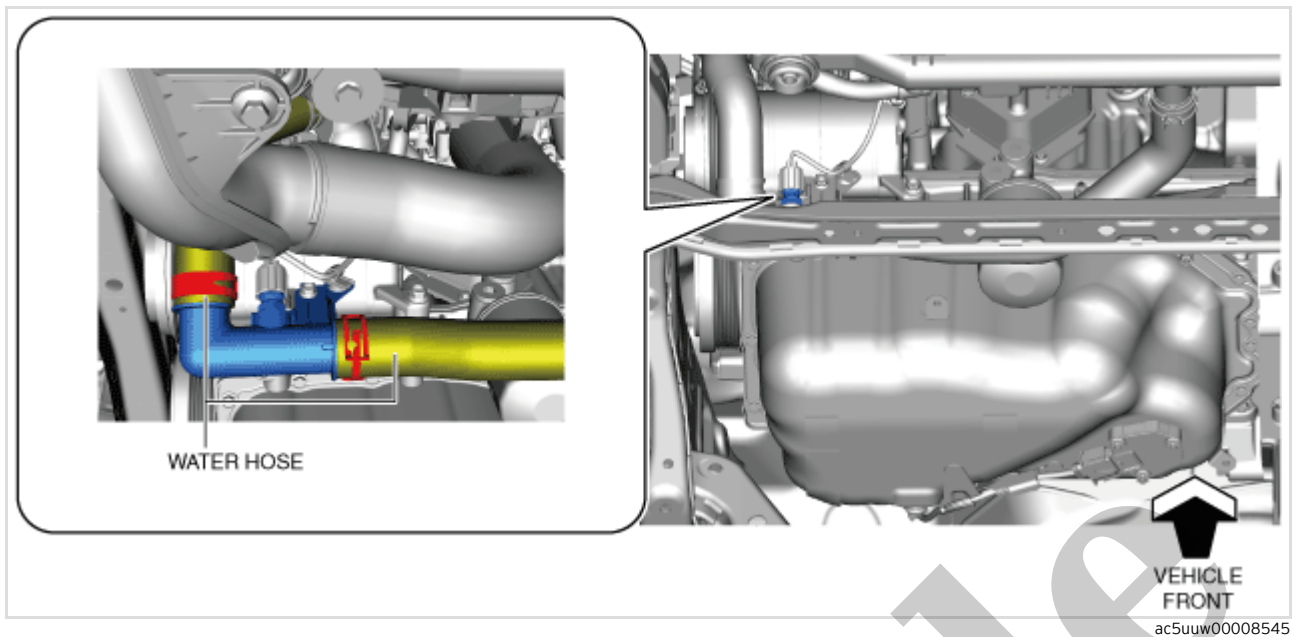
ECT sensor No.1

Warning

- A hot engine can cause severe burns. Turn off the engine and wait until it is cool before removing the ECT sensor.

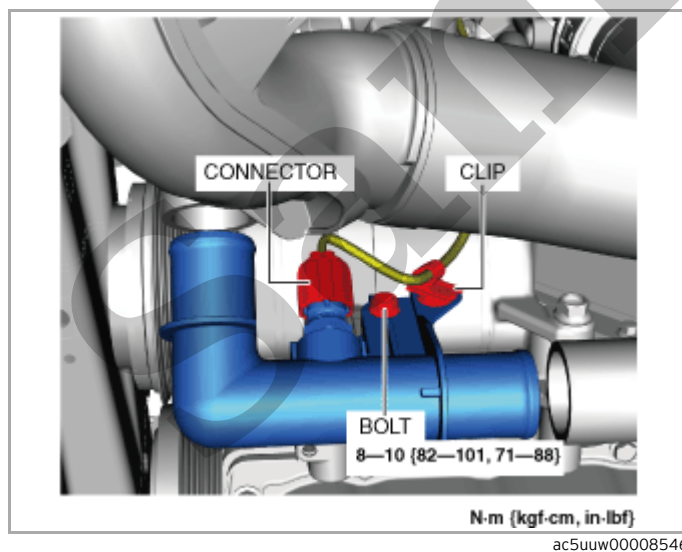
- 1.Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
- 2.Remove the engine cover. (See [ENGINE COVER REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))
- 3.Remove the drive belt. (See [DRIVE BELT REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))
- 4.Remove the drive belt auto tensioner. (See [TIMING CHAIN REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))
- 5.Remove the bolt, nuts and adapter.

4. Disconnect the water hose.



5. Disconnect the charge air cooler outlet hose (intake shutter valve side). (See [INTAKE-AIR SYSTEM REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))

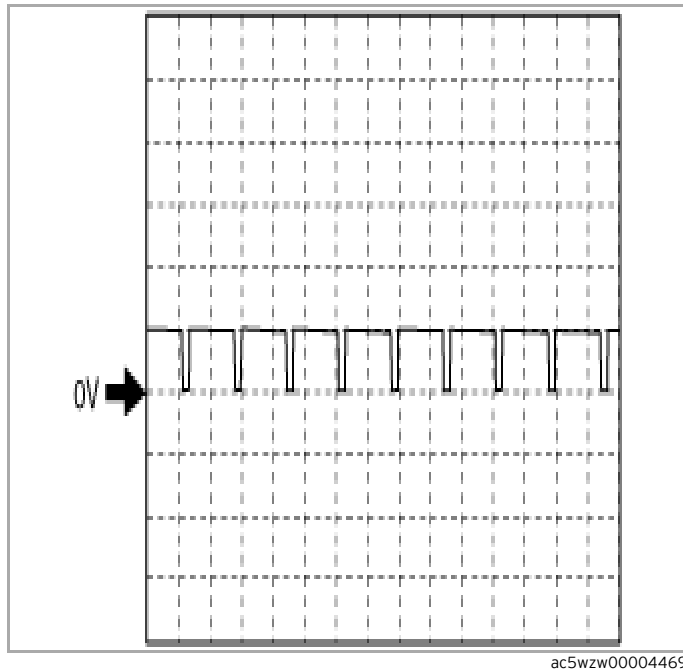
6. Disconnect the ECT sensor No.2 connector.



7. Remove the bolt.

8. Remove the clip.

9. Remove the water pipe and ECT sensor No.2 as a single unit.



ECT Sensor No.2

Resistance inspection

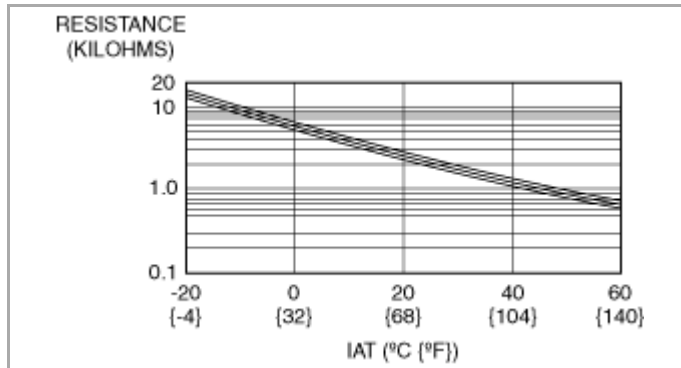
Warning

- When the engine is hot, it can badly burn. Turn off the engine and wait until it is cool before removing the ECT sensor No.2.

1.Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))

2.Remove the ECT sensor No.2. (See [ENGINE COOLANT TEMPERATRE \(E CT\) SENSOR REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))

3.Place the detection part of the ECT sensor No.2 in the water and while gradually increasing the water temperature, measure the resistance between ECT sensor No.2 terminals A and B.

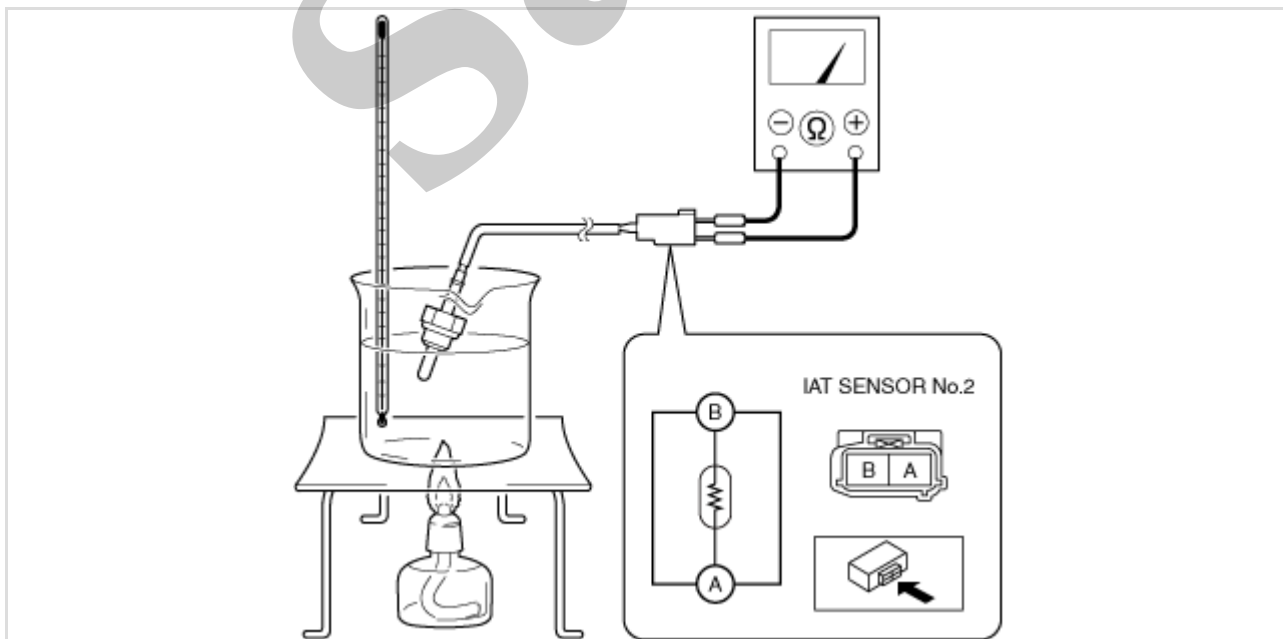


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IAT Sensor No.2

Resistance inspection

1. Disconnect the negative battery terminal. (See [NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.](#))
2. Remove the front bumper. (See [FRONT BUMPER REMOVAL/INSTALLATION.](#))
3. Disconnect the IAT sensor No.2 connector.
4. Remove the IAT sensor No.2. (See [INTAKE AIR TEMPERATURE \(IAT\) SENSOR NO.2 REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))
5. Place the detection part of the IAT sensor No.2 in the water and while gradually increasing the water temperature, measure the resistance between IAT sensor No.2 terminals A and B.



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- If not as specified, replace the IAT sensor No.2. (See [INTAKE AIR TEMPERATURE \(IAT\) SENSOR NO.2 REMOVAL/INSTALLATION \[SKYACTIV-D 2.2\].](#))

PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2]

SM2897873

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Note

- If the PCM is replaced, perform the “PCM Replacement” procedure. (See **PCM Replacement**.)

PCM Replacement

Note

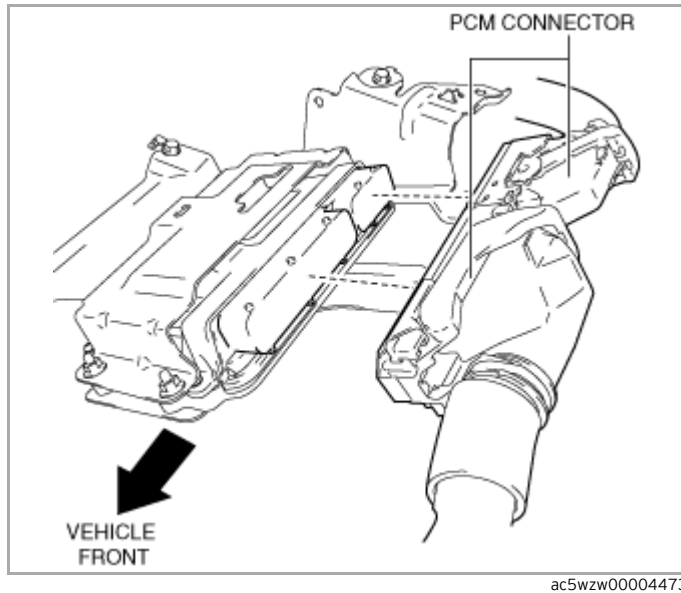
- The PCM replacement differs depending on whether As-built data is used or not during the PCM configuration.

Replacement procedure determination

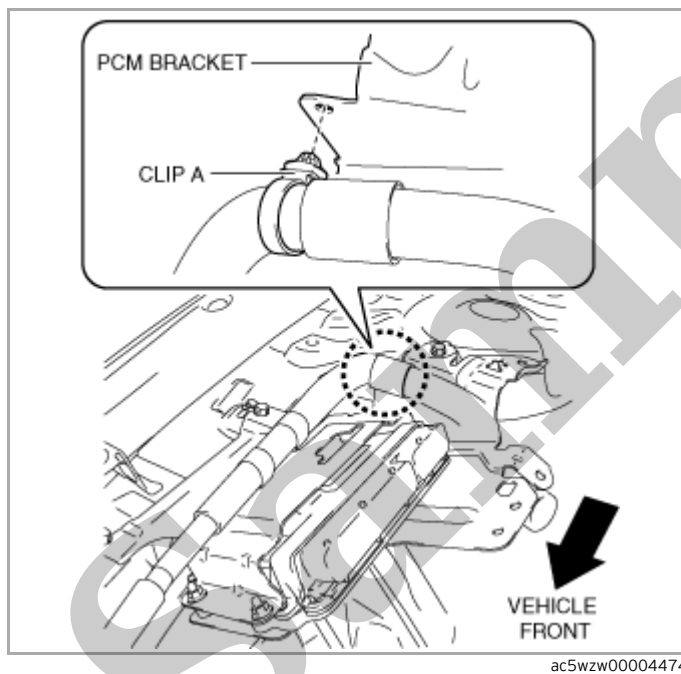
Step	Action	Results	Action
1	Perform the PCM configuration and verify if the As-Built data input screen is displayed or not. (See PCM CONFIGURATION (USING READ/WRITE FUNCTION) [SKYACTIV-D 2.2] .)	Not displayed	Go to “Procedure for PCM replacement (pattern 1)”. (See Procedure for PCM replacement (pattern 1) .)
		Displayed	Go to “Procedure for PCM replacement (pattern 2)”. (See Procedure for PCM replacement (pattern 2) .)

Procedure for PCM replacement (pattern 1)

Step	Action	Page
1	Switch the ignition ON (engine off).	–
2	Wait for 40 s or more.	–
3	Continue to perform the configuration.	–
4	Perform the PCM data reset procedure.	(See PCM DATA RESET [SKYACTIV-D 2.2] .)
5	Perform A/F sensor data reset procedure.	(See AIR FUEL RATIO (A/F) SENSOR DATA RESET [SKYACTIV-D 2.2] .)
6	Switch the ignition off.	–
7	Perform the immobilizer system-related part programming.	(See IMMOBILIZER SYSTEM-RELATED PARTS PROGRAMMING .)
8	Switch the ignition off.	–
9	Clear the DTCs.	(See CLEARING DTC [PCM (SKYACTIV-D 2.2)] .)
10	Switch the ignition off.	–
11	Wait for 20 s or more.	–
12	Switch the ignition ON (engine off).	–



3.Remove clip A from the PCM bracket.

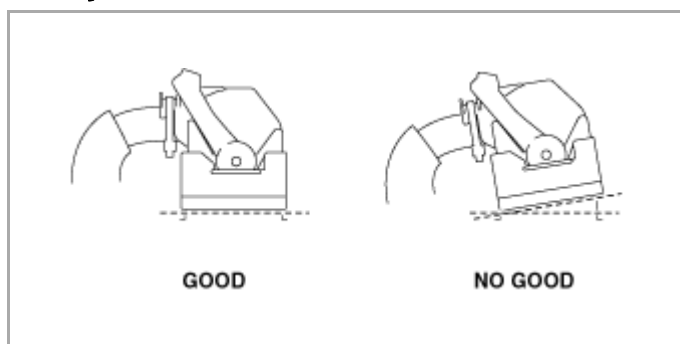


4.Remove clip B from the PCM bracket.

PCM connector connection note

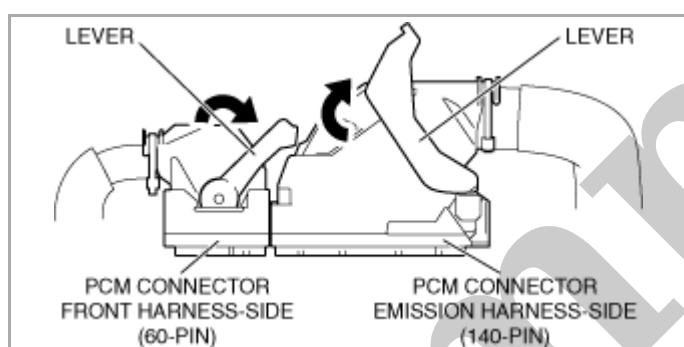
Caution

- Do not touch the PCM connector terminal. The terminal is extremely thin and can be damaged by touching it.
- If the PCM connector is inserted at an angle and the lever is moved, the connector could be damaged. Verify that the PCM connector is inserted straight.



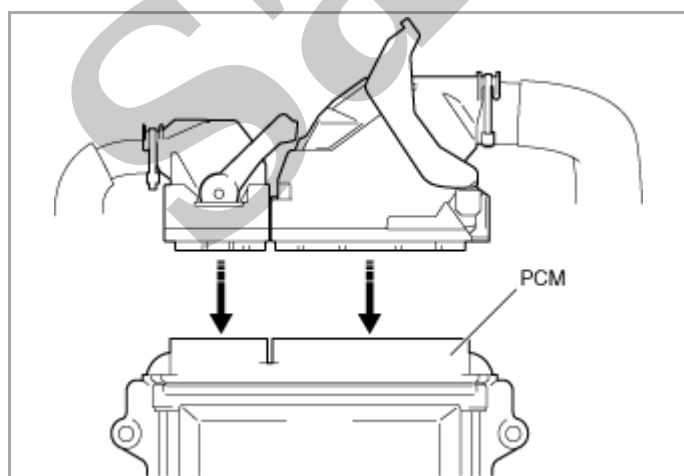
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1. Set the PCM connector to the position shown in the figure.



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2. Align the PCM connector straight against the connection surface.



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3. Insert the PCM connector straight and press it in until the lever moves up naturally. (Front harness-side connector)