Your Ultimate Source for OEM Repair Manuals

FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

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

Go to manual page

MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR/INTAKE AIR TEMPERATURE (IAT) SENSOR NO.2 REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

SM2897833

id0140s390040

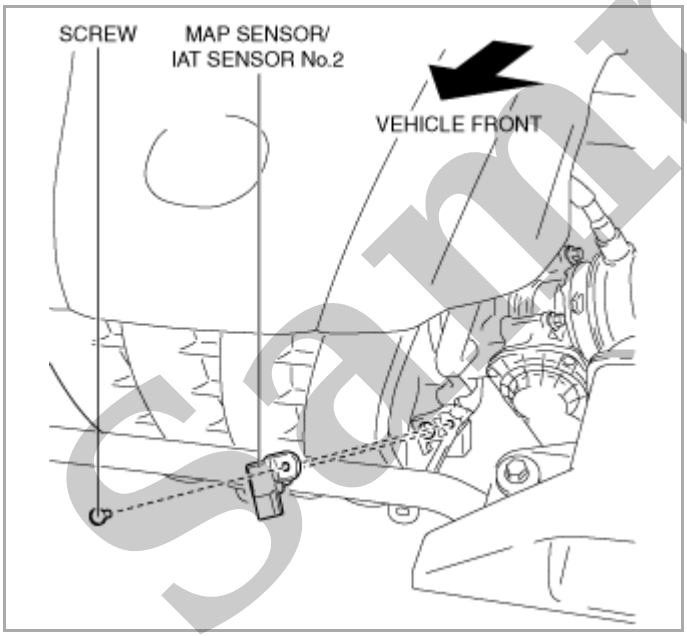
Note

• Because the IAT sensor No.2 is integrated in the MAP sensor, replacing the IAT sensor No.2 includes replacement of the MAP sensor/IAT sensor No.2.

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

2.Disconnect the MAP sensor/IAT sensor No.2 connector.

3.Remove the MAP sensor/IAT sensor No.2.



ac5uuw00007034

4.Install in the reverse order of removal.

ENGINE OIL TEMPERATURE SENSOR/ENGINE OIL PRESSURE SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

SM2897793

id0140s321670

Replacement Part

O-ring Quantity: 1 Location of use: Engine oil temperature sensor/engine oil pressure sensor

Note

•The engine oil temperature sensor and engine oil pressure sensor cannot be removed as a single unit. When replacing the engine oil temperature sensor or engine oil pressure sensor, replace the engine oil temperature sensor/engine oil pressure sensor.

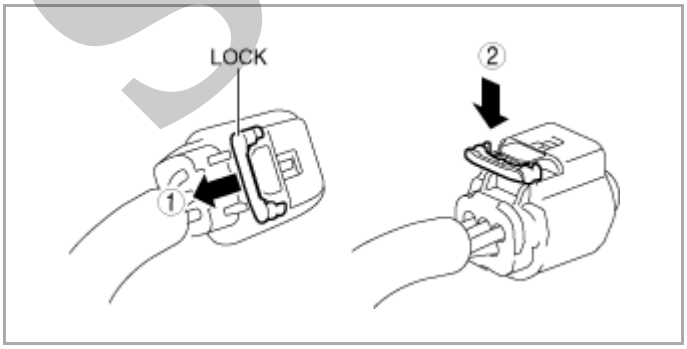
1.Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)

2.Lift up the vehicle.

3.Remove the front under cover No.2. (See FRONT UNDER COVER No.2 REMOVAL/INSTALLATION.)

4.Disconnect the connector for the engine oil temperature sensor/engine oil pressure sensor using the following procedure: (See Engine Oil Temperature Sensor/Engine Oil Pressure Sensor Connector Connection Note.)

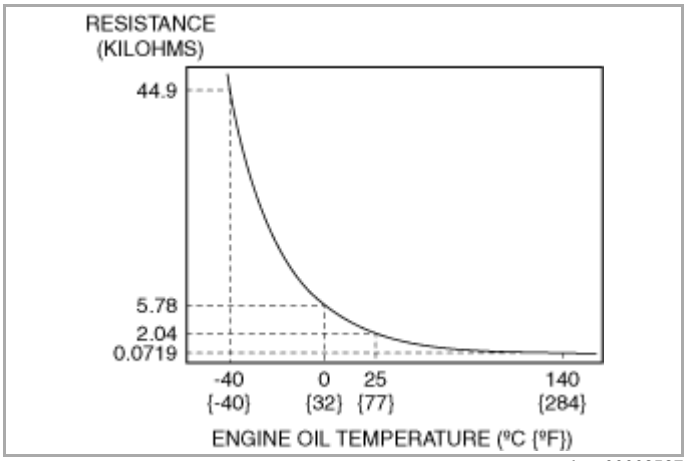
(1)Pull out the connector lock in the direction of the arrow.



ac5wzw00006376

(2)Press the lock down in the direction of the arrow and disconnect the connector.

5.Remove the engine oil temperature sensor/engine oil pressure sensor.



am6zzw00008587

ENGINE OIL DATA RESET [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

SM2897796

id0140s344470

Note

• If the engine oil was replaced with the engine oil maintenance monitor function ON, perform the engine oil data reset to reset the engine oil replacement period calculation data recorded in the PCM regardless of whether or not the wrench mark is illuminated.
• The ON/OFF condition of the engine oil maintenance function can be verified using the M-MDS.

Engine Oil Data Reset Procedure (Without Center Display)

Step	Inspection	Results	Action	Note
1	• Using the M-MDS, verify the engine oil maintenance monitor function ON/OFF condition. • Is the engine oil maintenance monitor function on?	Yes	Go to the next step.	If the engine oil maintenance monitor function is on, it is necessary to perform the engine oil data reset.
		No	The engine oil data reset is unnecessary.	
2	• Switch the ignition OFF (LOCK). • Press and hold the tripmeter switch with the ignition switched off, then switch the ignition ON (engine off). — Keep pressing the tripmeter switch for more than 5 s. • Does the master warning light flash for a few seconds?	Yes	Engine oil data reset is completed.	The master warning light flashes for a few seconds when the engine oil data reset procedure is completed.
		No	Perform Step 2 again.	

Engine Oil Data Reset Procedure (With Center Display)

Note

• If the engine oil maintenance monitor function is on, it is necessary to perform the engine oil data reset.

1.Using the M-MDS, verify the engine oil maintenance monitor function ON/OFF condition. Is the engine oil maintenance monitor function on?

• Yes

— Go to the next step.

• No

— The engine oil data reset is unnecessary.

2.Switch the ignition ON (engine off or on).

3.Select [Applications] on the center display.

COOLANT CONTROL VALVE POSITION SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

SM2897798

id0140s349850

Note

• The coolant control valve position sensor is built into the coolant control valve. When replacing the coolant control valve position sensor, replace the coolant control valve.

1.Remove the coolant control valve. (See COOLANT CONTROL VALVE REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].)

ENGINE OIL LEVEL SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)]

SM2897800

id0140s353810

Replacement Part

Engine oil level sensor
Quantity: 1
Location of use: Engine oil level sensor

Caution

• If the engine oil level sensor is removed, it is necessary to replace it with a new one.

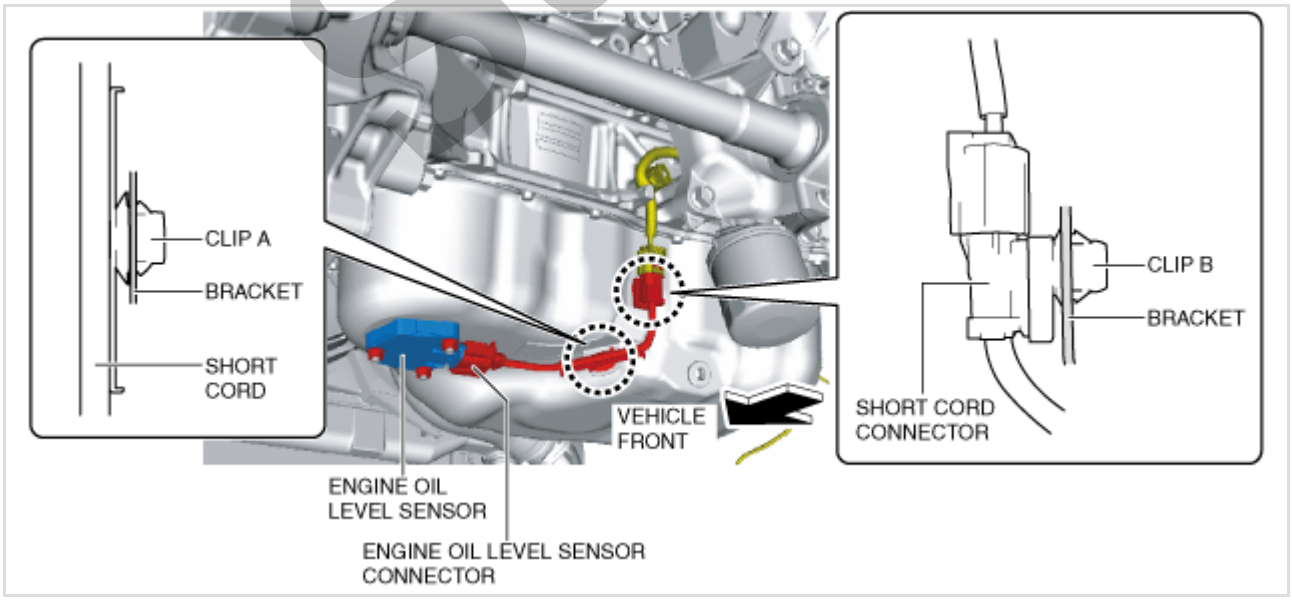
1.Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)

2.Lift up the vehicle.

3.Remove the front under cover No.2. (See FRONT UNDER COVER No.2 REMOVAL/INSTALLATION.)

4.Drain the engine oil. (See ENGINE OIL REPLACEMENT [SKYACTIV-G 2.5 (WITHOUT CYLINDER DEACTIVATION)].)

5.Disconnect the engine oil level sensor connector.



ac9uuw00006004

6.Remove the clip A and clip B from the bracket.

CRANKSHAFT POSITION (CKP) SENSOR INSPECTION [SKYACTIV-D 2.2]

SM2897862

id0140z780050

Visual Inspection

Caution

• When foreign material such as an iron chip is on the CKP sensor, it can cause abnormal output from the sensor because of flux turbulence and adversely affect the engine control. Be sure there is no foreign material on the CKP sensor when replacing.

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

2.Remove the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

3.Verify that there are no metal shavings on the CKP sensor.

• If there is a malfunction, remove any metal shavings that are adhering.

Voltage Inspection

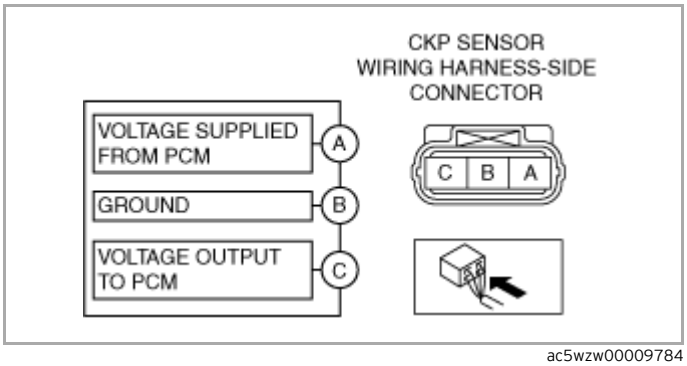
Caution

• When foreign material such as an iron chip is on the CKP sensor, it can cause abnormal output from the sensor because of flux turbulence and adversely affect the engine control. Be sure there is no foreign material on the CKP sensor when replacing.
• If the wiring harnesses or waterproof connectors are damaged, water penetrating the connector will cause a sensor malfunction. To prevent this, be careful not to damage wiring harnesses or waterproof connectors.

1.Idle the engine.

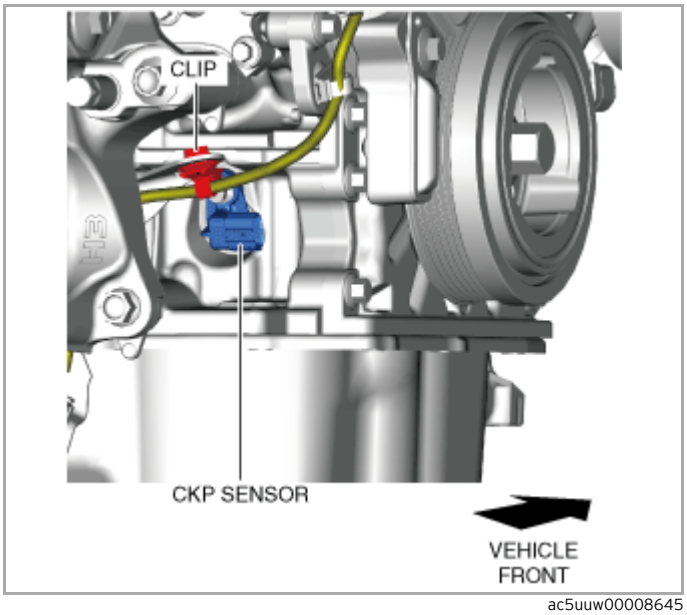
2.Measure the output voltage wave pattern between CKP sensor terminals C and B using an oscilloscope.

• If not as specified, replace the CKP sensor. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)



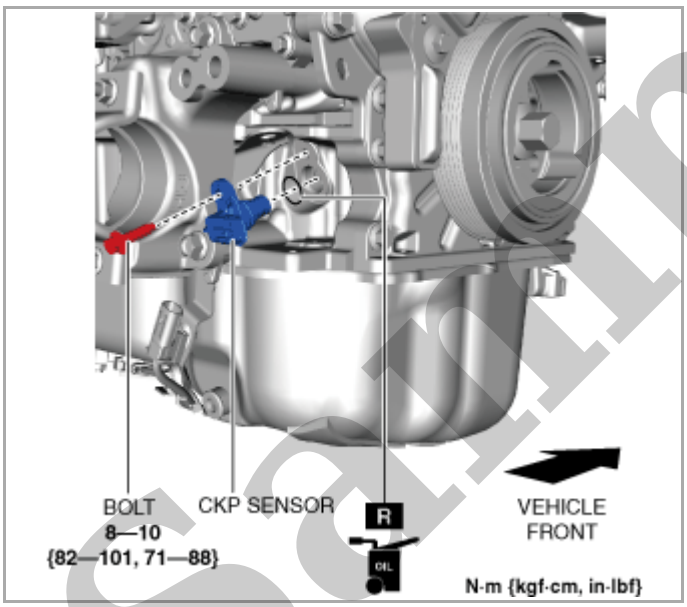
ac5wzw00009784

• Specification



ac5uuw00008645

7.Remove the CKP sensor.



ac5uuw00008646

8.Install in the reverse order of removal.

MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR INSPECTION [SKYACTIV-D 2.2]

SM2897865

id0140z780090

MAP Sensor No.1

Visual inspection

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

2.Remove the MAP sensor No.1. (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

3.Visually inspect the MAP sensor No.1 for the following malfunction:

- Damage, cracks, soiling

  — If there is any malfunction, repair or replace the MAP sensor No.1. (See MANIFOLD ABSOLUTE PRESSURE (MAP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

4.Visually inspect the vacuum hose for the following malfunction:

- Air hose for improper routing, kinks or leakage (See INTAKE-AIR SYSTEM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)

  — If there is any malfunction, repair or replace the malfunctioning part according to the inspection results.

Voltage inspection

1.Switch the ignition ON (engine off).

2.Measure the voltage at the MAP sensor No.1 terminal C.