SERVICE MANUAL INFORMATION

SB-18-033 COE DTC P2483 WORKSHOP MANUAL CORRECTION

GROUP: SERVICE MANUAL UPDATE
BULLETIN NO: SB-18-033
DATE: 12-18-2018
REF: SB-A-11-090

SUBJECT VEHICLES: 2018MY-2019MY Cab Over Engine (COE) Trucks equipped with an J05E.

The following is to inform you of the above caption. This service data should be attached to the relevant pages of the workshop manuals for maintenance and to use for servicing.

OVERVIEW:
Workshop manual correction of DTC P2483 inspection procedure and troubleshooting information.

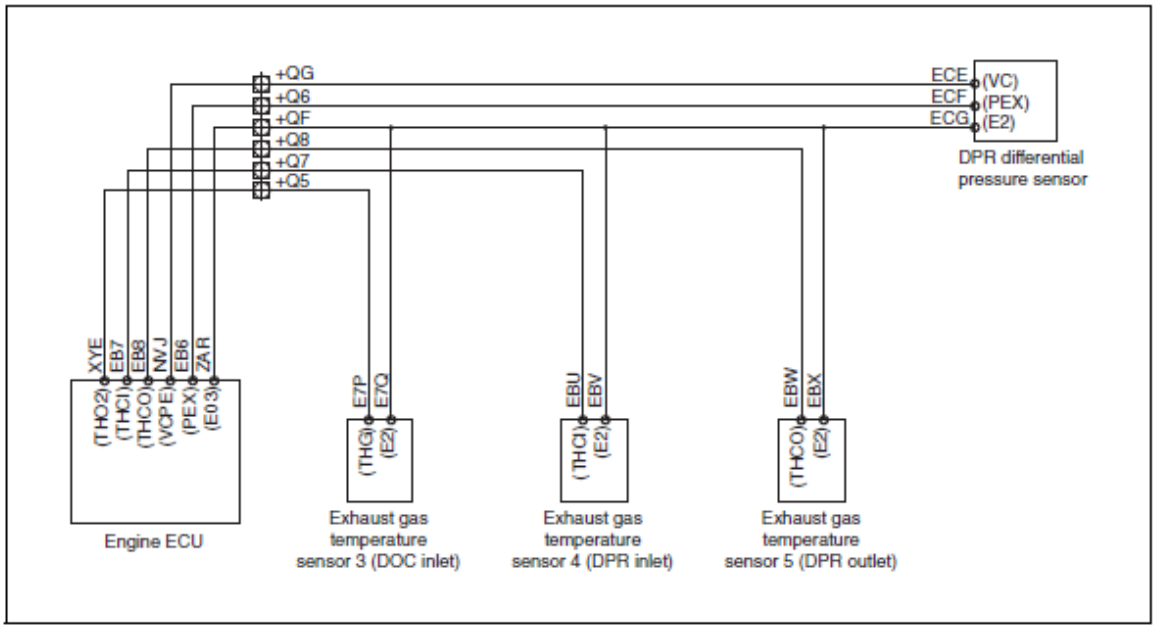
HINO TRUCKS
A Toyota Group Company

DTC: P2483

EN01H021270306020161197

P2483: Exhaust gas temperature sensor 5 (DPR outlet) - rationality

INFORMATION [Starter key on]



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1. Technical description

- The function of the DPR is to regenerate PM, which raises the exhaust gas temperature.
- The value of the exhaust gas temperature sensor 5 (DPR outlet) is used to control DPR regeneration.

<Description of malfunction>

- The exhaust gas temperature cannot be correctly recognized.

2. DTC set condition

(1) DTC detection condition

- Battery voltage is 11 V – 16 V.
- Starter key is "ON".
- Engine off
- The difference between the engine coolant temperature and intake air temperature is 8 °C {46.4 °F} or less within 10 seconds after the engine start.
- The difference between the engine coolant temperatures before the engine start and at present is 30 °C {86 °F} or more.
- Engine coolant temperature is at least -10 °C {-14 °F}.
- Intake air temperature is at least -10 °C {-14 °F}

(2) Judgment criteria

- Difference between exhaust gas temperature sensor 1 (ATC upstream) and exhaust gas temperature sensor 2 (ATC downstream) stays less than ±50°C {±90°F}.
- Difference between exhaust gas temperature sensor 2 (ATC downstream) and exhaust gas temperature sensor 3 (DOC inlet) stays less than ±50°C {±90°F}.
- Difference between exhaust gas temperature sensor 3 (DOC inlet) and exhaust gas temperature sensor 4 (DPR inlet) stays less than ±50°C {±90°F}.
- Difference between exhaust gas temperature sensor 4 (DPR inlet) and exhaust gas temperature sensor 5 (DPR outlet) stays more than ±50°C {±90°F}.
  The conditions described above remain for 1 seconds ore more.

3. Reset condition

- Immediately after normal operation is restored.

4. Indication, warning or system control regulation when the DTC is set.

- MIL: ON
- SVS light: OFF
- Engine output is restricted.

5. Symptoms on the vehicle when the DTC is set

<Symptoms on the vehicle due to backup control (fail safe function)>

- –

<Symptoms on the vehicle due to malfunction>

- –

6. Pre-inspection work

- Check that the battery voltage is in the normal range.

7. After-inspection work

- Clear all past DTCs.
- Check that no DTC is stored after test drive.

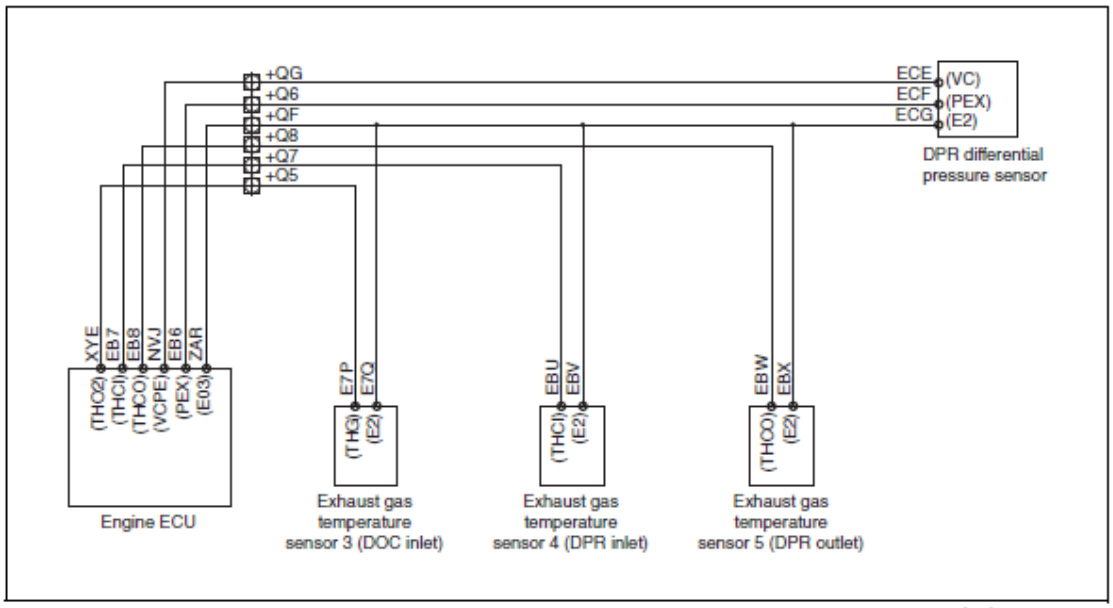
8. Estimated failure factors

Exhaust gas temperature sensor 5 (DPR outlet):

- Disconnected sensor or sensing unit failure (due to dirt, clogging, damage, etc.)
- Abnormal sensor resistance
- Malfunction of engine ECU sensor power supply

P2483: Exhaust gas temperature sensor 5 (DPR outlet) - rationality

INFORMATION [at engine running]



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1. **Technical description**
   - The function of the DPR is to regenerate PM, which raises the exhaust gas temperature.
   - The value of the exhaust gas temperature sensor 5 (DPR outlet) is used to control DPR regeneration.

   <Description of malfunction>
   - The exhaust gas temperature cannot be correctly recognized.

2. **DTC set condition**

   (1) DTC detection condition
   - At least 10 seconds has elapsed since engine was started.
   - The exhaust gas flow rate is 120 kg/h or more and the accumulation is 2 kg or more.
   - Cumulative exhaust gas flow amount of 20 kg or more with after regeneration.

   After the above:
   - Battery voltage is in the range of 11 V – 16 V.
   - The engine speed remains at 500 r/min or more for 5 seconds or more.
   - The difference between the engine coolant temperature and intake air temperature is more than 8 °C {46.4 °F}.
   - Exhaust gas flow rate ≥ 120 kg/h.
   - Engine speed ≥ 1,750 r/min.
   - Fuel injection amount ≥ 15 mm^3/st.cyl.

   In addition, the following conditions continue for at least 10 seconds:
   - Engine speed variation is within 625 r/min.
   - Fuel injection rate variation is within 625 mm^3/st. sec
   - Vehicle speed ≥ 18.8 mile/h.

(2) Judgment criteria
- Difference between the calculated exhaust gas temperature sensor 5 (DPR outlet) and actual exhaust gas temperature sensor 5 (DPR outlet) stays more than 80 °C {176 °F}.
  The conditions described above remain for 3 seconds or more.

3. Reset condition
- Immediately after normal operation is restored.

4. Indication, warning or system control regulation when the DTC is set.
- MIL: ON
- SVS light: OFF
- Engine output is restricted.

5. Symptoms on the vehicle when the DTC is set

<Symptoms on the vehicle due to backup control (fail safe function)>
- –

<Symptoms on the vehicle due to malfunction>
- –

6. Pre-inspection work
- Check that the battery voltage is in the normal range.

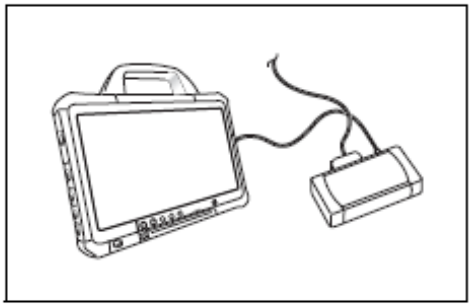
7. After-inspection work
- Clear all past DTCs.
- Check that no DTC is stored after test drive.

8. Estimated failure factors

Exhaust gas temperature sensor 5 (DPR outlet):
- Disconnected sensor or sensing unit failure (due to dirt, clogging, damage, etc.)
- Abnormal sensor resistance
- Malfunction of engine ECU sensor power supply

INSPECTION PROCEDURE: P2483

1	Check the DTC detected (Engine ECU) 1



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1. Set the starter key to the "LOCK" position.
2. Connect the vehicle to HINO DX II .
3. Set the starter key to the "ON" position.
4. Select [Engine] and check if any DTC other than P2483 has been detected.

Has a DTC other than P2483 been detected?

YES	NO
Go to diagnosis procedure of a related DTC.	Go to step 2.

2	Inspect the exhaust gas temperature sensor 5 (DPR outlet) connector

1. Check the connection of the exhaust gas temperature sensor 5 (DPR outlet) connector (looseness and poor contact).

Was any failure found?

YES	NO
Connect securely, repair if needed. Perform "After-inspection work" of INFORMATION section.	Go to step 3.

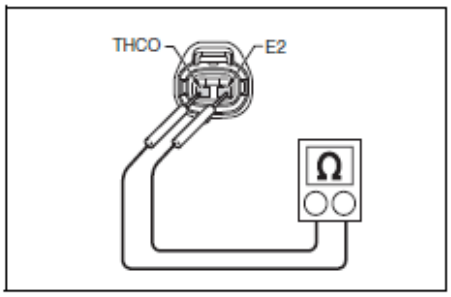
3	Inspect the exhaust gas temperature sensor 5 (DPR outlet)

1. Check the installation of the exhaust gas temperature sensor 5 (DPR outlet).
2. Make sure there is no dirt, damage or clogging in the sensing unit of the exhaust gas temperature sensor 5 (DPR outlet).

Was any failure found?

YES	NO
Clean the sensing unit and install it properly. If damaged, replace the exhaust gas temperature sensor 5 (DPR outlet). Perform "After-inspection work" of INFORMATION section.	**Go to step 4.**

4	Inspect the exhaust gas temperature sensor 5 (DPR outlet) unit



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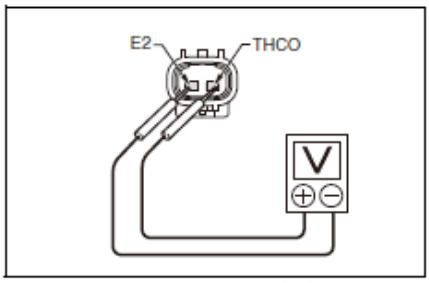
1. Set the starter key to the "LOCK" position.
2. Disconnect the exhaust gas temperature sensor 5 (DPR outlet) connector.
3. Use the electrical tester to measure the resistance between the terminals of the exhaust gas temperature sensor 5 (DPR outlet).

Measurement conditions	Tester connections	Standard values
Starter key: LOCK	Exhaust gas temperature sensor 5 (DPR outlet) THCO – E2	20 °C {68 °F}: 13.7 – 29.8 kΩ 50 °C {122 °F}: 7.13 – 13.7 kΩ 80 °C {176 °F}: 4.1 – 7.13 kΩ

Do the measurements meet the standard value?

YES	NO
Go to step 5.	**Replace the exhaust gas temperature sensor 5 (DPR outlet). Perform "After-inspection work" of INFORMATION section.**

5	Inspect the sensor power supply



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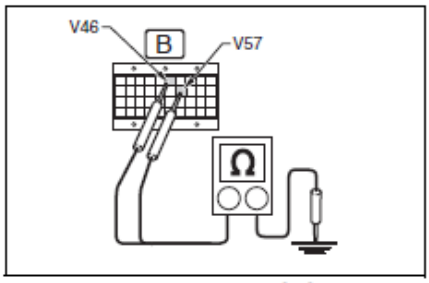
1. Set the starter key to the "ON" position.
2. Use the electrical tester to measure the voltage between the terminals of the exhaust gas temperature sensor 5 (DPR outlet) vehicle side connector.

Measurement conditions	Tester connections	Standard values
Starter key: ON	Exhaust gas temperature sensor 5 (DPR outlet) vehicle side connector THCO – E2	4.5 – 5.5 V

Do the measurements meet the standard value?

YES	NO
Go to step 8.	Go to step 6.

6	Inspect for short-circuit of the exhaust gas temperature sensor 5 (DPR outlet) harness



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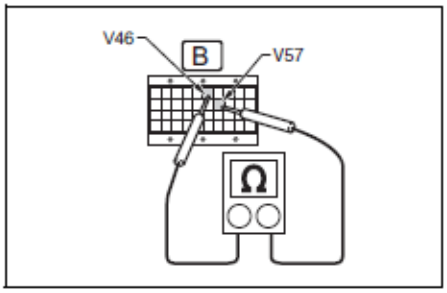
1. Set the starter key to the "LOCK" position.
2. Connect the signal check harness to the engine ECU.
   (Do not connect harness to the ECU)
3. Use the electrical tester to measure the resistance between the terminals of the engine ECU (signal check harness) and ground.

Measurement conditions	Tester connections	Standard values
Starter key: LOCK	Engine ECU (signal check harness) E03 (V46) – Ground THCO (V57) – Ground	∞ Ω

Do the measurements meet the standard value?

YES	NO
Go to step 7.	Repair or replace the harness. Perform "After-inspection work" of INFORMATION section.

7	Inspect disconnection of the exhaust gas temperature sensor 5 (DPR outlet) harness



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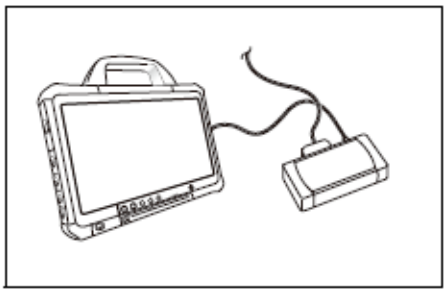
1. Connect the exhaust gas temperature sensor 5 (DPR outlet) connector.
2. Use the electrical tester to measure the resistance between the terminals of the engine ECU (signal check harness).

Measurement conditions	Tester connections	Standard values
Starter key: LOCK	Engine ECU (signal check harness) E03 (V46) – THCO (V57)	20 °C {68 °F}: 13.7 – 29.8 kΩ 50 °C {122 °F}: 7.13 – 13.7 kΩ 80 °C {176 °F}: 4.1 – 7.13 kΩ

Do the measurements meet the standard value?

YES	NO
Go to step 8.	Repair or replace the harness. Perform "After-inspection work" of INFORMATION section.

8	Check the DTC detected (Engine ECU) 2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1. Perform engine warm up. (engine coolant temperature: 80 °C {176 °F} or more)
2. Stop the engine and set the starter key to the "LOCK" position.
3. Connect the vehicle to HINO DX II .
4. Set the starter key to the "ON" position.
5. Select [Engine] and check if P2483 has been detected.

Has DTC P2483 been detected?

YES	NO
Replace the engine ECU. Perform "After-inspection work" of INFORMATION section.	Procedure completed. Perform "After-inspection work" of INFORMATION section.