DETROIT DIESEL

DDEC® VI Troubleshooting

NUMBER: 07 **DDEC VI**–16 **S.M. REF.:** 74 **ENGINE:** MBE 4000 **DATE:** September 2007

SUBJECT: SPN 723

PUBLICATION: 6SE568

There is a pin number change for SPN 723/FMI 3 and SPN 723/FMI 4. In both procedures, pin 44 has changed to pin 48.

SPN 723/FMI 3

The diagnostic condition is typically an open circuit.

Check as follows:

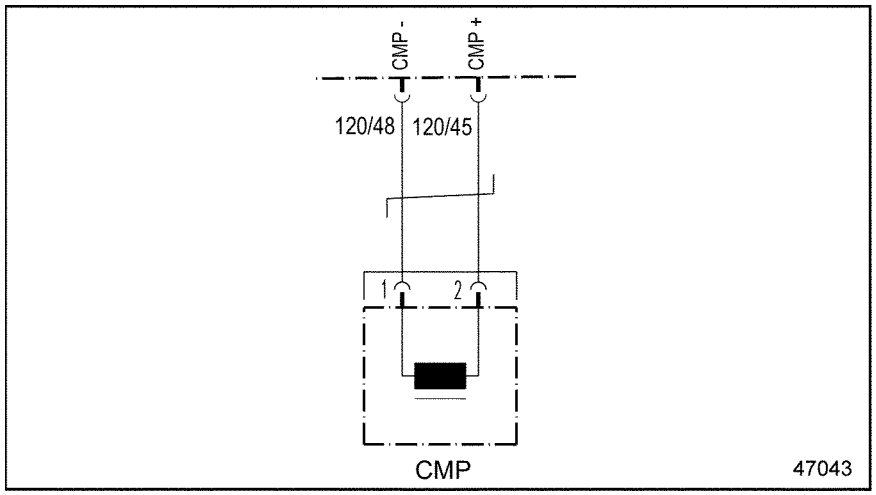

Figure 1 Camshaft Position Sensor

1. Disconnect CMP Sensor
2. Measure the resistance across pins 1 and 2 of the CMP Sensor.See Figure 1.
   [a] If the resistance is between 100 Ω and 140 Ω, go to step 3.
   [b] If the resistance is greater than 140 Ω or less than 100 Ω, replace the CMP Sensor. Verify repairs..
3. Disconnect the 120–pin MCM connector.

4. Measure the resistance across pins 1 and 2 of the CMP harness connector.

   [a] If the resistance is less than 5 Ω, repair short between pins 1 and 2 of the CMP harness connector and the pins 48 and 45 of the MCM 120 pin connector. Verify repairs.

   [b] If the resistance is greater than 5 Ω, go to step 5.

5. Measure the resistance between pin 1 of the CMP harness connector and pin 48 of the MCM 120 pin connector

   [a] If the resistance is greater then 5 Ω, repair open between pin 1 of the CMP harness connector and pin 48 of the MCM 120 pin connector. Verify repairs.

   [b] If the resistance is less than 5 Ω, go to step 6.

6. Measure the resistance between pin 2 of the CMP harness connector and pin 45 of the MCM 120 pin connector.

   [a] If the resistance is greater then 5 ohms, repair open between pin 2 of the CMP harness connector and pin 45 of the MCM 120–pin connector. Verify repairs.

   [b] If the resistance is less than 5 Ω, review steps 2 through 6. If the results are the same, contact the Detroit Diesel Customer Support Center (313–592–5800).

SPN 723/FMI 4

A typical diagnosis is a short to ground.

Check as follows:

1. Disconnect the CMP Sensor.
2. Measure the resistance between pin 1 of the CMP Sensor and ground. See Figure 2.

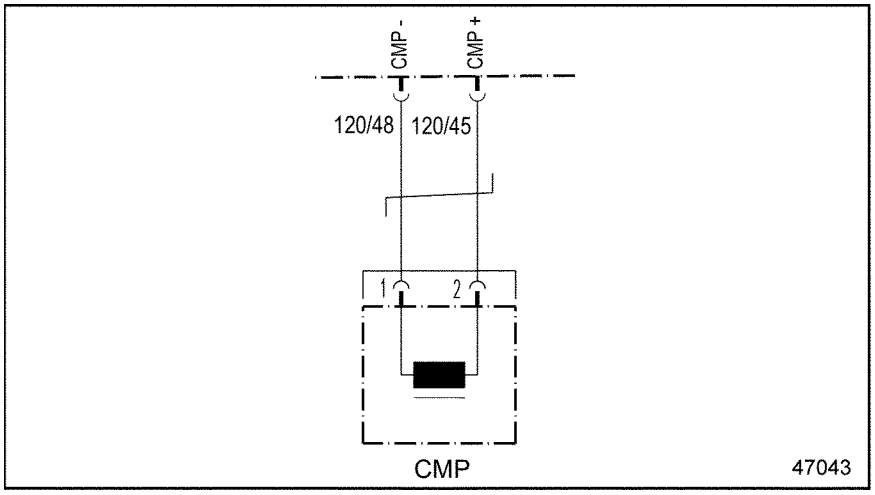

Figure 2 MCM — Camshaft Position Sensor Schematic

   [a] If the resistance is greater than 5 Ω, go to step 3.

   [b] If the resistance is less than 5 Ω, replace the CMP Sensor. Verify repairs.

3. Measure the resistance between pin 2 of the CMP Sensor and ground.

   [a] If the resistance is greater than 5 Ω, go to step 4.

   [b] If the resistance is less than 5 Ω, replace the CMP Sensor. Verify repairs.

4. Disconnect 120-pin MCM connector.
5. Measure the resistance across pins 1 and 2 of the CMP harness connector.

   [a] If the resistance is greater than 5 Ω, go to step 6.

   [b] If the resistance is less than 5 Ω, repair the short between pins 1 and 2 of the CMP harness connector and pins 48 and 45 of the 120–pin MCM connector. Verify repairs.

6. Measure the resistance between pin 1 of the CMP harness connector and ground.
   [a] If the resistance is greater than 5 Ω, go to step 7.
   [b] If the resistance is less than 5 Ω, repair the short to ground between pin 1 of the CMP harness connector and pin 48 of the 120–pin MCM connector. Verify repairs.
7. Measure the resistance between pin 2 of the CMP harness connector and pin 45 of the 120–pin MCM connector.
   [a] If the resistance is greater than 5 Ω, review steps 2 through 7. If the results are the same, contact Detroit Diesel Customer Support Center (313–592–5800).
   [b] If the resistance is less than 5 Ω, repair the short to ground between pin 2 of the CMP harness connector and pin 45 of the 120–pin MCM connector. Verify repairs.

ADDITIONAL SERVICE INFORMATION

Additional service information is available in one of the DDEC VI troubleshooting guides.

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