DETROIT DIESEL

Service Information Bulletin

NUMBER: 4 **11**–09 **S.M. REF.:** Listed in Table **ENGINE:** EPA07 MBE 4000 **DATE:** April 2009

SUBJECT: SPN 2631

ADDITIONS, REVISIONS, OR UPDATES

Publication Number	Platform	Section Title	Change	Page Number(s)
DDC-SVC-MAN-0010	EPA07 MBE 4000	98 SPN 2631/FMI 2	Update to troubleshooting information	98

NOTE: Page numbers are based on the most recent version of the individual publication and may be adjusted throughout the annual print cycle.

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This diagnosis is typically low air flow.

1. Does the vehicle have an automatic or an automated manual transmission?

   [a] Yes. Using the identification tab in DDDL, verify that the MCM software is version 11.4 or higher. If not, reprogram MCM to the latest level. Clear the fault code and verify repair. If fault code becomes active, go to step 2.

   [b] No, go to step 2.

2. Inspect the air filter and air inlet piping to turbocharger for blockage, or leaks.

   [a] If blockage or leakage is found, repair as necessary. Clear the fault code and verify repair. If fault code becomes active, go to step 3.

   [b] If no blockage or leakage is found, go to step 3.

3. Check VPOD for correct part number and proper air line supply installation, and configuration (PWM 10 in MCM Group PGR001_Prop Valve must be configured to turbo control). Is the VPOD installed and configured correctly?

   [a] Yes, go to step 4.

   [b] No, correct VPOD installation and/or configuration. Clear the fault code and verify repair. If fault code becomes active, go to step 5.

4. Perform CAC inspection and leak test. Refer to OEM literature for procedure.

NOTE:
Be sure to also inspect turbo inlet seal, intake manifold and EGR hoses and clamps.

   [a] If inspection and/or leak test fail, repair as necessary.

   [b] If CAC inspection passes, go to step 5.

5. Using the AMA service routine, select “Set fault” and perform an air mass adaptation.

6. Shut engine OFF, turn the ignition ON.

7. Check EGR valve operation. Using Activate Outputs Service Routine, command PWM1 to 50% while monitoring EGR actual position. Does EGR actual position read between 47-54%?

   [a] Yes, go to step 8.

   [b] No, go to step 9.

8. Command PWM1 to 90% while monitoring EGR actual position. Does EGR actual position read between 87-94%?
   [a] Yes, go to step 13.
   [b] No, go to step 9.
9. Turn ignition OFF.
10. Disconnect EGR valve harness connector.
11. Inspect the connector for damaged or corroded pins.
   [a] If damage is found, repair as necessary.
   [b] If no damaged pins are found, go to step 12.
12. Remove the EGR valve, inspect valve for heavy soot or coolant contamination or leakage.
   [a] If contamination is found, repair root cause as necessary, and replace the EGR valve.
   [b] If no contamination is found, replace the EGR valve.
13. With Ignition ON engine OFF, compare the intake manifold to compressor inlet pressure. Are the pressures within 0.6 psi of each other?
   [a] Yes, go to step 14.
   [b] No, replace suspect sensor.
14. Check inlet air Delta P sensor, with Ignition ON engine OFF. Does the inlet air Delta P pressure read 0?
   [a] Yes, go to step 15.
   [b] No, remove and inspect the inlet air Delta P sensor including the systek sensor; look for damaged O-rings or plugged orifices. If no damage is found, replace the inlet air Delta P sensor.
15. Start the engine.
16. Check VPOD (Wastegate) operation by performing the following:
   [a] Using Activate Outputs Service Routine, command PWM 10 to 30%. No movement of wastegate actuator rod should be seen.
   [b] Command PWM 10 to 70%, wastegate actuator rod should begin to move.
   [c] Command PWM 10 to 90%, wastegate actuator rod should be fully open. Go to step 17.

[d] If actuator fails to move, verify air supply pressure equals truck air pressure. If pressure is OK, replace VPOD.

17. Check Brakegate actuator by performing the following:

[a] Using Activate Outputs Service Routine, command SW 4 to ON then OFF.

[b] If the actuator is fully extended when ON and fully retracted when OFF, go to step 18.

[c] If actuator does not operate, verify air supply. If OK, inspect brakegate and actuator arm.

18. Perform a parked regeneration.

19. After regen completes, monitor DPF Inlet pressure while at 1500 rpm no load. Is the DPF inlet pressure greater than 2 psi?

[a] Yes, remove and inspect DOC and DPF for blockage/obstruction. If found, replace suspect component as necessary.

[b] No, obtain a DDDL log file showing the active code and contact the Detroit Diesel Customer Support Center (313–592–5800).

ADDITIONAL SERVICE INFORMATION

Additional service information is available in *Power Service Literature*.

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