1 5 12-14

Service Information Bulletin

SUBJECT	DATE
SPN 3246 /FMI 0 (MCM) (EPA07)	May 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	SPN 3246/FMI 0 - EPA07	The diagnostic procedure in this section has been updated.

13400 Outer Drive, West, Detroit, Michigan 48239-4001
Telephone: 313-592-5000
www.demanddetroit.com

2 SPN 3246/FMI 0 - EPA07

DPF Outlet Temperature Very High

Table 1.

SPN 3246/ FMI 0	
Description	This code sets when the DPF outlet temperature is greater than 760° C (1400° F) for more than 2 seconds.
Monitored Parameter	Diesel Particulate Filter Outlet Temperature Sensor
Typical Enabling Conditions	Always On
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions are met
Typical Duration	2 seconds
Dash Lamps	CEL, MIL
Engine Reaction	25% derate
Verification	Parked Regeneration

1. Connect DiagnosticLink™. Go to step 2.
2. Turn the ignition ON (Key ON, engine OFF). Go to step 3.
3. Check for any fuel system fault codes. Are there fuel system fault codes present?
   a. Yes; diagnose the fuel system codes first.
   b. No; Go to step 4.
4. Check for multiple DPF outlet temperature sensor fault codes. Are codes 3246/ FMI 2, 8, 10 or 20 present?
   a. Yes; diagnose fault codes SPN 3246/ FMI 2, 8, 10 and 20 first. Verify repair.
   b. No; Go to step 5.
5. Check for multiple high exhaust temperature fault codes. Is fault code 3250/ FMI 0 also present?
   a. Yes; Go to step 6.
   b. No; Go to step 8.
6. Remove and inspect the turbocharger exhaust outlet pipe. Are there signs of fluid in the exhaust?
   a. Yes; determine the cause of fluid in the exhaust. Repair as necessary. Inspect the DOC and DPF. Refer to section "Diesel Oxidation Catalyst (DOC) Inspection - All Years" and Refer to section "Diesel Particulate Filter (DPF) Inspection - All Years". Verify repair.
   b. No; Go to step 7.
7. Remove and inspect the Exhaust Gas Recirculation (EGR) outlet pipe. Refer to section "Removal of the Exhaust Gas Recirculation Hot Pipe". Is there fuel present in the EGR outlet pipe?
   a. Yes; for two-filter fuel systems, Refer to section "Test-E - Two-Filter Fuel System". Verify repair. For fuel systems with three filters, Refer to section "Test-E - Three-Filter Fuel System". Verify repair.
   b. No; Go to step 8.
8. Check for any air management system fault codes. Are there any air management system fault codes present?
   a. Yes; diagnose the air management system fault codes first. Verify repair.
   b. No; Go to step 9.
9. Remove and inspect the air filter; refer to OEM literature for removal and inspection procedures. Is the air filter restricted?
   a. Yes; replace the air filter. Verify repair.
   b. No; Go to step 10.

NOTE: A cold soak may take up to eight hours.

10. Allow the engine to cold soak so the temperature of the exhaust stabilizes with the ambient air temperature. Go to step 11.
11. Turn the ignition ON (Key ON, Engine OFF). Go to step 12.

12. Monitor the DPF outlet temperature sensor reading. Is the DPF outlet temperature sensor within 25 °C (45 °F) of the DOC outlet temperature sensor?
    a. Yes; Go to step 13.
    b. If no damage is found, replace the DPF outlet temperature sensor. Refer to section "Removal of the EPA07 Temperature Sensors". Verify repair.
13. Compare the Barometric sensor reading to the Intake Manifold Pressure sensor reading. Are the readings within 8.27 KPa (1.2 psi) of each other?
    a. Yes; Go to step 14.
    b. No; replace the Intake Manifold Pressure sensor. Refer to section "Removal of the Intake Pressure/Temperature Sensor". Verify repair.
14. Compare the Intake Manifold Temperature sensor reading to the Charge Air Cooler Temperature sensor reading. Are the readings within 5°C (9°F) of each other?
    a. Yes; Go to step 15.
    b. No; replace the Intake Manifold Temperature sensor. Refer to section "Removal of the Intake Manifold Air Temperature Sensor". Verify repair.
15. Monitor the EGR Delta P sensor voltage. Is the voltage between 0.55 and 0.83 volts?
    a. Yes; Go to step 22.
    b. No; Go to step 16.
16. Turn the ignition OFF. Go to step 17.
17. Remove the EGR Delta P sensor; Refer to section "Removal of the Delta P Sensor". Go to step 18.
18. Inspect the EGR Delta P sensor connectors. Is there any damage, corrosion or fretting present?
    a. Yes; replace the EGR Delta P Sensor and pigtail. Refer to section "Installation of the Delta P Sensor". Verify repair.
    b. No; Go to step 19.
19. Reconnect the EGR Delta P sensor connector while the EGR Delta P sensor is still removed. Go to step 20.
20. Turn the ignition ON (Key ON, Engine OFF). Go to step 21.
21. Monitor the EGR Delta P sensor voltage again. Is the voltage between 0.55 volts and 0.83 volts?
    a. Yes; clean the Venturi ports and reinstall the Delta P Sensor. Refer to Technical Service letter 14 TS-2 (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/14TS2.pdf) and Refer to section "Installation of the Delta P Sensor". Verify repair.
    b. No; replace the EGR Delta P sensor. Refer to section "Installation of the Delta P Sensor". Verify repair.
22. Inspect the EGR actuator pull arm for damage and binding. Is there any damage or binding present?
    a. Yes; replace the EGR valve actuator pull arm.
    For DD13 engines, Refer to section "Removal of the Exhaust Gas Recirculation Valve Actuator Pull Rod".
    For DD15 engines, Refer to section "Removal of the Exhaust Gas Recirculation Valve Actuator Pull Rod".
    Verify repair.
    b. No; Go to step 23.

WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

WARNING: ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

23. Start the engine. Go to step 24.
24. Perform the Idle Speed Balance (ISB) test. Refer to section "Checking the Idle Speed Balance". Do all of the injectors pass the ISB test?
    a. Yes; Go to step 25.
    b. No; replace the faulty injector. Verify repair.

25. Turn the engine OFF. Go to step 26.
26. Remove the exhaust pipe from the turbocharger. Go to step 27.

WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

WARNING: ENGINE EXHAUST

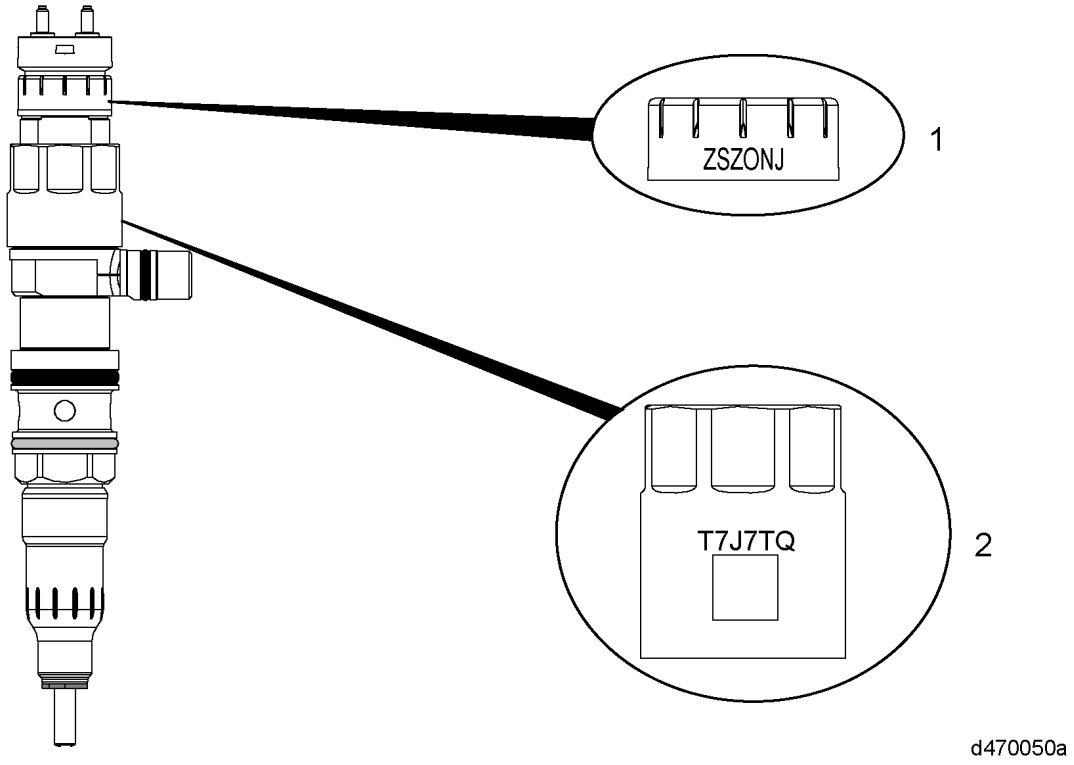
To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

27. Start the engine. Go to step 28.

NOTE: There will be a small amount of black smoke present when initially snapping the throttle. The black smoke should dissipate within a few seconds. Any black smoke continuing to come out after the initial throttle snap should be considered excessive.

NOTE: It is not EPA-compliant to permanently bypass the Aftertreatment System (ATS). The ATS should only be disconnected for diagnostic purposes.

28. Snap the throttle while watching the exhaust. Is there an excessive or continuous amount of black smoke present from the exhaust when the throttle snap is performed three consecutive times?
    a. Yes; Go to step 29.
    b. No; Go to step 30.
29. Using DiagnosticLink™, manually cut out one cylinder at a time while snapping the throttle pedal. Does the smoke stop when a single cylinder is cut out?
    a. Yes; replace the injector in that cylinder. Verify repair.
    b. No; Go to step 30.
30. Remove and inspect the EGR cooler outlet pipe. Is there fuel present in the EGR cooler outlet pipe?
    a. Yes; for two-filter fuel systems, Refer to section "Test-E - Two-Filter Fuel System". Verify repair.
    For fuel systems with three filters, Refer to section "Test-E - Three-Filter Fuel System". Verify repair.
    b. No; Go to step 31.
31. Perform an Automatic Fuel System Integrity Check (FSIC) routine and monitor Actual Fuel Mass at 600 rpm. Does Actual Fuel Mass exceed 50 mg/st at 600 rpm?
    a. Yes; stop FSIC routine and inspect for an engine brake that is stuck open. Refer to section "Checking for Poor Engine Brake Performance". Verify repair.
    b. No; Go to step 32.
32. Verify the fuel injector(s) part number is correct for engine application.
    For two-filter fuel systems, Refer to section "Removal of the Fuel Injector - Two-Filter System".
    For three-filter fuel systems, Refer to section "Removal of the Fuel Injector - Three-Filter System". Is the fuel injector(s) part number correct for the application?



a. Yes; verify the camshaft timing. Refer to section "Camshaft Timing Verification". Repair as necessary. Verify repair.
b. No; install the correct injectors.
   For two-filter fuel systems, Refer to section "Test-E - Two-Filter Fuel System". Verify repair.
   For fuel systems with three filters, Refer to section "Test-E - Three-Filter Fuel System". Verify repair.

