DETROIT™

SB-10055461-1665

Service Information Bulletin

NUMBER: 3–**21**–14 **S.M. REF.:** Listed in Table **ENGINE:** EPA07 Series 60 **DATE:** March 2014

SUBJECT: SYMPTOM DIAGNOSTICS — REGENERATION

ADDITIONS, REVISIONS, OR UPDATES

Publication Number	Platform	Section Title	Change
DDC-SVC-MAN-0009	EPA07 Series 60	Unable to Start a Parked Regeneration	Added steps 1 through 5, changed step 8 and 12a, removed steps 4, 11 through 17.
DDC-SVC-MAN-0009	EPA07 Series 60	Unable to Complete a Parked Regeneration	Added steps 1 through 7, 12, 13, 14 through 21. Added note to step 14. Updated steps 8 through 11. Added graphics for steps 12, 16 and 20.

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

UNABLE TO START A PARKED REGENERATION

This diagnostic is typically Unable to Start a Parked Regeneration.

1. Turn the ignition ON (key ON, engine OFF).
2. Using DDDL/DDRS, go to the "Identification" tab and verify MCM software level is 63.210 or greater. Is MCM software level is 63.210 or greater?

WARNING:
HOT EXHAUST
During parked regeneration the exhaust gases will be extremely HOT and could cause a fire if directed at combustible materials. The vehicle must be parked outside.

NOTE:
If the unit is in zone zero, the system will not initiate a parked regeneration without using DDDL/DDRS.

[a] Yes; go to step 3.

[b] No; update MCM to latest software level and perform a parked regeneration to verify repairs.

3. Using DDDL/DDRS, go to Service Routines/DPF System/Perform Parked Regeneration/Start. Does the regeneration start successfully?

[a] Yes; let the regeneration complete. If any fault(s) becomes active during regeneration, follow troubleshooting for that fault(s).

[b] No; go to step 4.

4. Using DDDL/DDRS, monitor the Regen Inhibit Switch Status. Is the Regen Inhibit Switch Status On/Active/True?

[a] Yes; turn off the regen inhibit switch and perform a regen.

[b] No; go to step 5.

5. Using DDDL/DDRS, monitor vehicle speed. Is vehicle speed 0 mph?

[a] Yes; go to step 6.

[b] No; refer to OEM service information for diagnostic information. Repair as necessary.

6. Using DDDL/DDRS, monitor coolant temperature. Is coolant temperature at least 60 ºC (140 ºF)?

[a] Yes; go to step 7.

[b] No; verify thermostat is operating properly and coolant temperature sensor(s) is in operation. Repair as necessary.

7. Using DDDL/DDRS, monitor ASL004: Active Governor Type. Does governor type show Idle Speed Governor?

   [a] Yes; go to step 8.

   [b] No; disengage PTO.

8. Using DDDL/DDRS, monitor the clutch switch. Depress and release clutch, Does the clutch switch change state from ON to OFF to ON?

   [a] Yes; go to step 9.

   [b] No; check switch operation and configuration. Repair as necessary.

9. Using DDDL/DDRS, monitor the parking brake switch. Disengage and engage parking brakes, Does the parking brake switch change state from ON to OFF to ON?

   [a] Yes; go to step 10.

   [b] No; check switch operation and configuration. Repair as necessary.

10. Using DDDL/DDRS, monitor the neutral safety switch (if equipped). Shift automatic transmission into gear, and back to neutral. Does the neutral safety switch change state (N to R, N to D)?

    [a] Yes; go to step 11.

    [b] No; check neutral switch operation and configuration. Repair as necessary.

11. Using DDDL/DDRS, monitor the regeneration switch. Press and hold switch. Does it change state from OFF to ON?

    [a] Yes; retain a log file of an attempted regeneration and contact the Customer Support Center at 800-445-1980.

    [b] No; check switch operation and configuration. Repair as necessary.

UNABLE TO COMPLETE A PARKED REGENERATION

Check as follows:

Connect using DDDL/DDRS.

1. Turn the ignition ON (key ON, engine OFF).
2. Using DDDL/DDRS, go to the Identification tab and verify Motor Control Module (MCM) software level is 63.210 or greater. Is software level 63.210 or greater?

   [a] Yes; go to step 3.

   [b] No; update MCM to latest software level and perform a parked regeneration to verify repairs.

3. Are any of the following fault codes present?
   - □ SPN 3246/FMI 0 DPF Outlet Temp Very High
   - □ SPN 3250/FMI 0 DOC Outlet Temp Very High
   - □ SPN 3480/FMI ALL Doser Fuel Line Pressure
   - □ SPN 3556/ FMI ALL Regen Temperature Out of Range
   - □ SPN 51/FMI 2 Intake Throttle Position Deviation Error
   - □ SPN 3711/FMI 14 High Idle Regen (aborted) – Low Exhaust Temp
   - □ SPN 3713/FMI 14 High Idle Regen (aborted) – Low Regen Temp
   - □ SPN 4077/FMI ALL Doser Fuel Line Pressure

   [a] Yes; perform the troubleshooting for the fault code.

   [b] No; go to step 4.

4. Using DDDL/DDRS with the ignition ON (key ON, engine OFF), is the barometric pressure reading above 69 kPa (10 psi) and below 110 kPa (16 psi)?

   [a] Yes; go to step 5.

   [b] No; connect a test MCM and verify repair.

5. Compare Inlet Manifold Pressure (IMP) and Barometric Pressure reading. Are both sensors reading within 4.2 kPa (0.6 psi)?

   [a] Yes; go to step 6.

   [b] No; the Inlet Manifold Pressure sensor.

6. Using DDDL/DDRS, perform a Turbo Hysteresis Test. Did the Turbo Hysteresis Test pass?

   [a] Yes; go to step 7.

   [b] No; perform the troubleshooting for code SPN 641/FMI 11.

7. Inspect complete exhaust system for leaks. Are there exhaust leaks before the Aftertreatment Device (ATD)?

   [a] Yes; repair as needed.

   [b] No; go to step 8.

8. Inspect entire air intake system, including the Charge Air Cooler (CAC) for loose clamps, leaks and/or restrictions.

   [a] If air intake system leaks or restrictions are found, repair as necessary.

   [b] If no air intake system leaks are found, go to step 9.

WARNING:
ENGINE EXHAUST

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

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.

9. Measure fuel pressure at idle and rated rpm. Is it within specifications? Refer to section .

   [a] Yes; go to step 10.

   [b] No; locate and repair cause of fuel pressure concern.

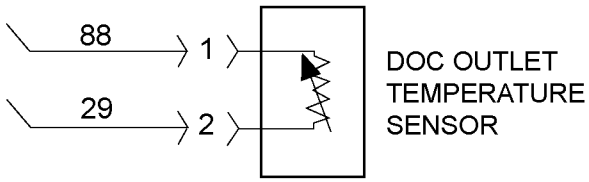
10. Run engine at 1200 rpm for 10 minutes.

11. Monitor Diesel Oxidation Catalyst (DOC) Inlet and Outlet temperatures. Are the temperatures within 25°C (45°F) of each other?

    [a] Yes; go to step 13.

    [b] No; go to step 12.

12. Disconnect DOC Outlet Temperature Sensor and inspect connector for damaged, bent, spread, or corroded pins. If Temperature Sensor connector is OK, check connections upstream of the MCM (ATD harness 10–pin connector pin 7, VIH 31-pin connector pin 19, and MCM 120-pin connector pin 115). See Figure 1.



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Figure 1 DOC Outlet Temperature Sensor

[a] If damage is found, repair connector as necessary.

[b] If no damage is found, replace the DOC Outlet Temperature Sensor.

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NOTE:
If the unit is in zone zero, the system will not initiate a parked regeneration without using DDDL/DDRS.

13. Using DDDL/DDRS, go to Service Routines/DPF System/Perform Parked Regeneration/Start. Does the engine speed reach 1600 rpm?

    [a] Yes; go to step 14.

    [b] No; refer to section .

14. Using DDDL/DDRS, monitor DOC inlet temperature. Does the DOC inlet temperature reach 280°C (536°F)?

    [a] Yes; go to step 15.

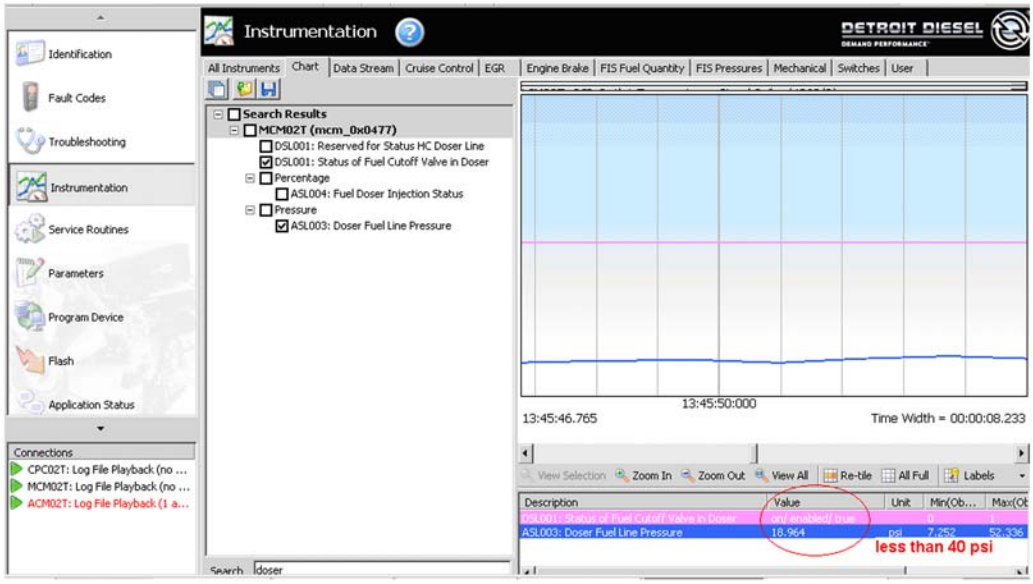
    [b] No; check valve lash and engine brake rocker lash. If either is out of adjustment, readjust lash and retest.

15. Using the chart tab in DDDL/DDRS, monitor DOC outlet temp and DOC Model Delay. Is there a difference greater than +/- 55.5°C (100°F) in the last 2/3 of the regen?

[a] Yes; go to step 16.

[b] No; retain the log file and contact the Customer Support Center at 800-445-1980.

16. During the above high idle regen, monitor doser fuel line pressure when Fuel Cutoff Valve is 100%. Is the doser fuel line pressure above 276 kPa (40 psi)?



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[a] Yes; go to step 17.

[b] No; replace the HC doser block assembly. Refer to section "Removal of the Hydrocarbon Doser Block" and then go to step 19.

17. Inspect fuel line from the doser block assembly to the doser injection valve for kinks. Are there any kinks?

[a] Yes; replace the lines. Go to step 20.

[b] No; replace the doser injection valve. Go to step 20.

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ENGINE EXHAUST

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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.

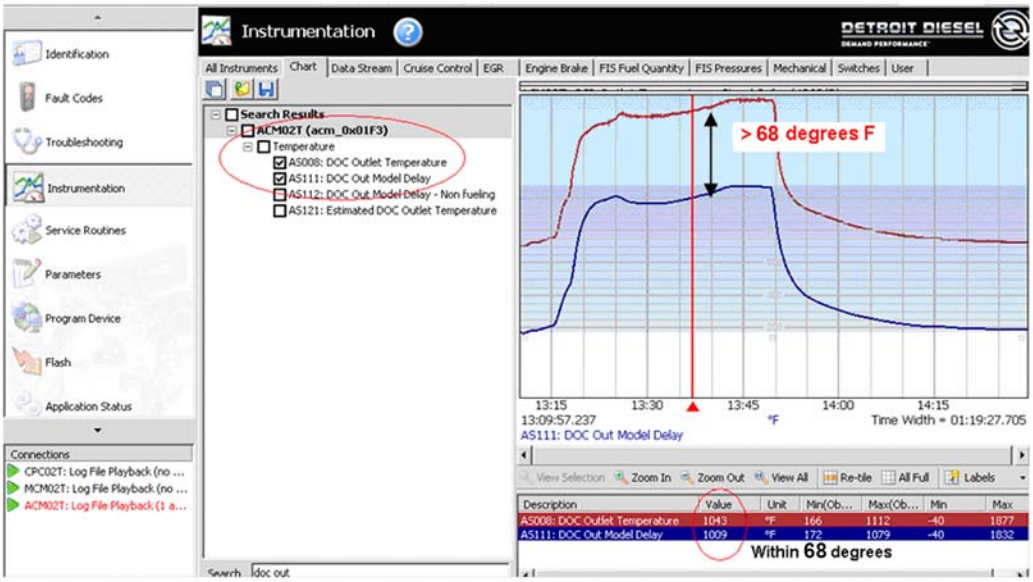
18. Start the engine.
19. Using DDDL/DDRS, perform a purge hydrocarbon doser service routine.

WARNING:

HOT EXHAUST

During parked regeneration the exhaust gases will be extremely HOT and could cause a fire if directed at combustible materials. The vehicle must be parked outside.

20. Initialize a high idle regen. Using the chart tab in DDDL/DDRS, monitor DOC outlet temp and DOC Model Delay. Is there a difference of +/- 55.5 ºC (100 ºF) in the last 2/3 of the regen?



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[a] Yes; remove ATD and inspect for a pushed out Diesel Oxidation Catalyst (DOC).

[b] No; verify operation is satisfactory and no warning lamps illuminate. If warning lamps illuminate, troubleshoot the codes. If assistance is required, contact the Customer Support Center at 800-445-1980. Release the truck.

ADDITIONAL SERVICE INFORMATION

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

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