# Service Information Bulletin

## Additions, Revisions, or Updates

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2 SPN 4335/FMI 2 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) air pressure sensor - Drift.

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1. Connect DDDL 7.04SP2 or higher.
2. Turn ignition ON (key ON, engine OFF).
3. Compare DEF air pressure to barometric air pressure (Baro) and DEF pressure.
4. Is the DEF air pressure within 28 kPa (4 psi) of the barometric air pressure (Baro) and the DEF pressure?
   a. Yes; clear codes and road test to see if code resets. If the code resets, continue with test. If the code does not reset, release unit.
   b. No; Go to step 5.
5. Remove the DEF air pressure sensor, and re-connect harness to connector. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor".
6. Compare the DEF air pressure to the barometric air pressure (Baro) and the DEF pressure.
7. Is the DEF air pressure within 28 kPa (4 psi) of the barometric air pressure (Baro) and the DEF pressure?
   a. Yes; replace the metering unit. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor".
   b. No; replace the DEF metering unit air pressure sensor. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor".
3 SPN 4335/FMI 7 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) metering unit air pressure - low.

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**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.

1. Start engine and ensure vehicle air pressure is above 689 kPa (100 psi).
2. Does the vehicle air pressure reach and maintain 689 kPa (100 psi)?
   a. Yes; Go to step 3.
   b. No; refer to OEM literature for air compressor diagnostic and leak checks.

**NOTE:** Wait five minutes for DEF purge routine to complete before proceeding.

3. Connect DDDL/DDRS 7.06SP3 or higher.
4. Turn ignition ON (key ON, engine OFF).
5. Compare the barometric air pressure (Baro) to the DEF air pressure and the DEF pressure.
6. Is the DEF air pressure within 28 kPa (4 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; Go to step 10.
   b. No; Go to step 7.
7. Remove the DEF metering unit air pressure sensor, and re-connect the electrical harness to the connector. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor".
8. Compare the DEF air pressure to barometric air pressure (Baro) and DEF pressure.
9. Is the DEF air pressure within 28 kPa (4 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; replace DEF metering unit. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor". Go to step 21.
   b. No; replace the DEF metering unit air pressure sensor. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor". Go to step 22.
10. Turn ignition OFF (key OFF, engine OFF).
11. Visually inspect air supply lines from air tank to pressure limiting unit, DEF pump module and DEF metering unit for leaks, kinks or damage.
    a. If damage is found, repair as necessary. Go to step 22.
b. If no damage is found, Go to step 12.

12. Disconnect both the air outlet supply lines from tee (3) on the Pressure Limiting Unit (1).

13. Plug off one side of the tee connector (3) and connect an appropriate air pressure gauge 0-1,379 kPa (0-200 psi) to the other side.

14. Turn the ignition ON (key ON, engine OFF).

15. While monitoring the air pressure gauge, perform Selective Catalytic Reduction (SCR) Air Pressure Test (60 seconds).

16. Is the air pressure between 537-586 kPa (78-85 psi)?
   a. Yes, Go to step 17.
   b. No, replace the pressure limiting unit and Go to step 23.

17. Remove fitting (1) and (2) from the pressure limiting unit.

18. Inspect the pressure limiting unit orifices (1) and (2) for signs of oil/sludge or rust contamination.
   a. If any oil/sludge or rust contamination is found, replace the pressure limiting unit. Go to step 22.
   b. If no contamination is found, Go to step 19.

19. Visually inspect all of the DEF delivery lines from the DEF pump module to the DEF nozzle for signs of leakage (white crystal build-up).
   a. If leakage is found, repair as necessary. Go to step 22.
b. If no leakage is found, Go to step 20.

20. Remove the DEF nozzle and supply hose. Refer to section "Removal of the Diesel Exhaust Fluid Nozzle".

21. Inspect the DEF nozzle and supply hose for damage.
   a. If damage is found, replace the DEF nozzle and/or supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 22.
   b. If no damage is found, install the DEF nozzle and supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 22.

22. Inspect the air inlet screen for contamination (sludge, oil). Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Compressed Air Supply Screen".
   a. If inlet screen contamination is found, replace screen. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Compressed Air Supply Screen". Go to step 23.
   b. If no screen contamination is found, Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Compressed Air Supply Screen". Go to step 23.

23. Install any removed components.

24. Turn the ignition ON (key ON, engine OFF).

25. Using the Identification screen, check the ACM software level. Is the ACM software 8.6.0.104 or higher?
   a. If yes, replace the DEF Metering Unit. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit". Go to step 26.
   b. If no, program the ACM to software 8.6.0.104 (or higher), the MCM to software 7.6.0.46 (or higher), and the CPC to software 22.00 (or higher). Go to step 26.

26. Perform the SCR air pressure test (60 second duration).

27. Does the DEF metering unit air pressure sensor read between 131–200 kPa (19–29 psi) (1.3–2.0 bar)?
   a. Yes, testing complete, clear faults and release vehicle.
   b. No, retain log file of all pressure tests and contact the Customer Support Center (800-445-1980) for further instruction.
4 SPN 4334/FMI 17 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) purge pressure high.

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**NOTE:** After repair is complete, fault must be cleared using DDDL/DDRS 7.05 SP2 or higher.

1. Connect DDDL/DDRS 7.05 SP2 or higher.
2. Turn the ignition ON (key ON, engine OFF).

**NOTE:** Test can only be run once per key cycle.

3. Under the Selective Catalyst Reduction (SCR) service routine panel, perform the output component test. Do any additional faults become active during the procedure?
   a. Yes; repair those faults.
   b. No; Go to step 4.
4. Compare DEF pressure to barometric air pressure (Baro) and DEF air pressure.
5. Is DEF pressure within 28 kPa (4.0 psi) of barometric air pressure (Baro) and DEF air pressure?
   a. Yes; Go to step 9.
   b. No; Go to step 6.
6. Remove DEF pressure sensor. Refer to section "Removal of the Diesel Exhaust Fluid Pressure Sensor" and reconnect harness to connector.
7. Compare DEF pressure to barometric air pressure (Baro) and DEF air pressure.
8. Is DEF pressure within 28 kPa (4 psi) of barometric air pressure (Baro) and DEF air pressure?
   a. Yes; Go to step 9.
   b. No; replace the DEF pressure sensor. Refer to section "Removal of the Diesel Exhaust Fluid Pressure Sensor". Go to step 13.
9. Check Pressure Limiting Unit (PLU), DEF pump and metering unit air line routing (1 and 2). Are the air lines routed properly?
a. Yes; Go to step 10.
b. No; correct the air line routing. Go to step 13.

10. Check the DEF return line from the DEF pump to the DEF tank for kinks or obstructions. If found, repair as necessary.

11. Remove DEF nozzle and DEF nozzle supply line.

12. Inspect DEF nozzle and supply hose for damage.
   a. If damage is found, replace nozzle and/or supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle" . Go to step 13.
   b. If no damage is found, re-install nozzle. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle" . Go to step 13.

13. Install removed components.

14. Perform SCR air pressure test (60-second duration).

15. Does the DEF air pressure and DEF pressure return to barometric air pressure (Baro) at the completion of the test?
   a. Yes; testing is completed. Clear faults and release vehicle.
   b. No; retain log file of all pressure tests and contact the Customer Support Center (800-445-1980) for further instruction.
5 SPN 3361/FMI 7 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) metering unit - Unable to clear restriction.

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1. Connect DDDL 7.04SP2 or higher.
2. Turn ignition ON (key ON, engine OFF).
3. Compare DEF air pressure to barometric air pressure (Baro) and DEF pressure.
4. Is DEF air pressure within 28 kPa (4.0 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; Go to step 8.
   b. No; Go to step 5.
5. Remove DEF air pressure sensor, Refer to section "Removal of the Diesel Exhaust Fluid Pressure Sensor" and re-connect harness to connector.
6. Compare DEF air pressure to barometric air pressure (Baro) and DEF pressure.
7. Is DEF air pressure within 28 kPa (4.0 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; replace DEF metering unit. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit". Go to step 8.
   b. No; replace the DEF air pressure sensor. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor". Go to step 10.
8. Remove the DEF nozzle and DEF nozzle supply hose. Refer to section "Removal of the Diesel Exhaust Fluid Nozzle".
9. Inspect DEF nozzle and supply hose for damage.
   a. If damage is found, replace nozzle and/or supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 10.
   b. If no damage is found, install nozzle and supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 10.
10. Install removed components.
11. Perform SCR air pressure test (60-second duration).
12. Does the DEF air pressure read between 131–200 kPa (19–29 psi)?
   a. If yes, testing is completed. Clear faults and release vehicle.
   b. If no, obtain log file of SCR air pressure system check and contact Detroit Diesel Customer Support Center (800-445-1980) for further instruction.
6  SPN 3361/FMI 8 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) metering unit - exceeding unclog attempts.

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1. Connect DDDL 7.04SP2 or higher.
2. Turn ignition ON (key ON, engine OFF).
3. Compare DEF air pressure to barometric air pressure (Baro) and DEF pressure.
4. Is DEF air pressure within 28 kPa (4.0 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; Go to step 8.
   b. No; Go to step 5.
5. Remove DEF air pressure sensor, Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor" and re-connect harness to connector.
6. Compare DEF air pressure to barometric air pressure (Baro) and DEF pressure.
7. Is DEF air pressure within 28 kPa (4.0 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; replace metering unit. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit". Go to step 8.
   b. No, replace the DEF air pressure sensor. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor". Go to step 8.
8. Remove the DEF nozzle and DEF nozzle supply hose. Refer to section "Removal of the Diesel Exhaust Fluid Nozzle".
9. Inspect DEF nozzle tip and supply hose for damage.
   a. If damage is found, replace DEF nozzle and/or supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 10.
   b. If no damage is found, install nozzle and supply hose. Refer to section "Installation of the Diesel Exhaust Fluid Nozzle". Go to step 10.
10. Install removed components.
11. Perform SCR air pressure test (60-second duration).
12. Does the DEF air pressure read between 131 – 200 kPa (19 and 29 psi)?
   a. Yes; testing is completed. Clear faults and release vehicle.
   b. No; obtain log file of SCR Air Pressure System Check and contact Detroit Diesel Customer Support Center (800-445-1980) for further instruction.