### Additions, Revisions, or Updates

<table>
<thead>
<tr>
<th>Publication Number / Title</th>
<th>Platform</th>
<th>Section Title</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>DDC-SVC-MAN-0084</td>
<td>DD Platform</td>
<td>SPN 4335/FMI 7 - EPA10</td>
<td>Updated diagnostics with new picture and diffuser flushing process.</td>
</tr>
</tbody>
</table>
2 SPN 4335/FMI 7 - EPA10

This diagnostic is typically DEF Metering Unit Air Pressure - Low.

Table 1.

<table>
<thead>
<tr>
<th>Description</th>
<th>SPN 4335/FMI 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel Exhaust Fluid (DEF) Metering Unit Air Pressure Low</td>
<td>Diesel Exhaust Fluid (DEF) Metering Unit Air Pressure Low</td>
</tr>
<tr>
<td>Monitored Parameter</td>
<td>Engine rpm greater than 500, Dosing Enabled</td>
</tr>
<tr>
<td>Typical Enabling Conditions</td>
<td>None</td>
</tr>
<tr>
<td>Monitor Sequence</td>
<td>Continuous when enabling conditions met</td>
</tr>
<tr>
<td>Execution Frequency</td>
<td>6 seconds</td>
</tr>
<tr>
<td>Typical Duration</td>
<td>MIL</td>
</tr>
<tr>
<td>Dash Lamps</td>
<td>SCR Air Pressure Test</td>
</tr>
<tr>
<td>Engine Reaction</td>
<td></td>
</tr>
<tr>
<td>Verification</td>
<td></td>
</tr>
</tbody>
</table>

**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 newer.
4. Turn ignition ON (key ON, engine OFF).
5. Compare DEF metering unit air pressure to barometric air pressure (Baro) and DEF pressure.
6. Is the DEF metering unit 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; Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor" and reconnect the electrical harness to the sensor.
8. Compare the DEF metering unit air pressure to barometric air pressure (Baro) and DEF pressure.
9. Is the DEF metering unit air pressure within 28 kPa (4 psi) of barometric air pressure (Baro) and DEF pressure?
   a. Yes; Go to step 10.
   b. No; replace the DEF metering unit air pressure sensor. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Air Pressure Sensor". Go to step 26.
10. Turn ignition 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 27.
b. If no damage is found, Go to step 12.

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

13. 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, repair cause of contamination (Refer to OEM for air system
diagnostics) and replace the pressure limiting unit. Go to step 27.
   b. If no contamination is found, install removed fittings. Go to step 14.

14. Disconnect the metering unit air supply lines from the tee fitting (3) on the Pressure Limiting Unit (1).

15. Connect an appropriate air pressure gauge 0 to 1,379 kPa (0 to 200 psi) on the metering unit air supply line.

   ![Diagram](image1.png)

   **WARNING: EYE INJURY**
   To avoid injury from flying debris when using compressed air, wear adequate eye protection (face
   shield or safety goggles) and do not exceed 276 kPa (40 psi) air pressure.

16. Turn the ignition ON (key ON, engine OFF).
17. While monitoring the air pressure gauge, perform Selective Catalytic Reduction (SCR) Air Pressure Test for 60 seconds.
18. Is the air pressure between 537 to 586 kPa (78 to 85 psi)?
   a. Yes; Go to step 19.
   b. No; replace the pressure limiting valve. Go to step 27.
19. Remove the DEF metering unit air supply line and the DEF metering unit compressed air supply screen (2). Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Compressed Air Supply Screen".

**NOTE:** Oil contamination can be easily identified by dabbing the air channel inlet elbow (1) on paper towel. If an oil ring (2) is noticed, the air inlet screen will be contaminated as well. If inlet screen is contaminated, continue diagnostics before installation of new inlet screen.
20. Inspect the DEF metering unit compressed air supply screen for debris. Is there oil or rust on the air inlet screen?
   a. Yes; discard the air inlet screen and repair cause of contamination. Refer to OEM for air system diagnostics. Go to step 21.
   b. No; Go to step 21.

21. Remove the metering unit. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit".

22. Remove the three screws (1) from the bottom of the metering unit; remove the diffuser heater. Refer to section "Removal of the Diesel Exhaust Fluid Metering Unit Diffuser Heater".

23. Inspect the diffuser heater. See the following figure for an example of plugged and clear diffusers. Is the Diffuser plugged or restricted by DEF crystals?
   a. Yes; Go to step 24.
   b. No; Go to step 26.
### Table 2.

<table>
<thead>
<tr>
<th>Diffuser Outlet – Plugged</th>
<th>Diffuser Outlet – Restricted</th>
<th>Diffuser Outlet – 100% Clear</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="d140442" alt="Diffuser Outlet - Plugged" /></td>
<td><img src="d140443" alt="Diffuser Outlet - Restricted" /></td>
<td><img src="d140444" alt="Diffuser Outlet - 100% Clear" /></td>
</tr>
<tr>
<td>Diffuser Inlet – Plugged</td>
<td>Diffuser Inlet – Partial Restriction</td>
<td>Diffuser Inlet – 100% Clear</td>
</tr>
<tr>
<td><img src="d140445" alt="Diffuser Inlet - Plugged" /></td>
<td><img src="d140446" alt="Diffuser Inlet - Partial Restriction" /></td>
<td><img src="d140447" alt="Diffuser Inlet - 100% Clear" /></td>
</tr>
</tbody>
</table>

24. Flush the diffuser heater (1) under warm running water for several minutes to dissolve the DEF crystals.
WARNING: EYE INJURY

To avoid injury from flying debris when using compressed air, wear adequate eye protection (face shield or safety goggles) and do not exceed 276 kPa (40 psi) air pressure.

25. After the blockage is cleared, blow out any remaining water in the sensor connection.
26. Install all removed components. Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit Diffuser Heater" and Refer to section "Installation of the Diesel Exhaust Fluid Metering Unit".
27. Perform the SCR air pressure test (60-second duration).
28. Does the DEF metering unit air pressure sensor read between 131 to 200 kPa (19 to 29 psi) (1.3 to 2.0 bar)?
   a. Yes; testing is completed. Clear faults and release vehicle.
   b. No; Go to step 29.
29. Were you sent to step 27 from step 18?
   a. Yes; Continue diagnostics from step 19.