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Service Information Bulletin

SUBJECT	DATE
Symptom Diagnostics: Noisy One-Box Aftertreatment	February 2015

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DD Platform	Symptom Diagnostics: Noisy One-Box Aftertreatment	This is a new section.



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2 Symptom Diagnostics: Noisy One-Box Aftertreatment

This diagnostic is used to identify the cause of a loud 1-Box Aftertreatment.

Check as follows:

1. Visually inspect the entire exhaust system for signs of leaks or damage.
 - a. If damage is found, repair as necessary.
 - b. If no damage is found, Go to step 2.
2. Inspect that the aftertreatment inlet heat shields are not broken loose and rattling. Is there a loose or damaged heat shield?
 - a. Yes; repair the heat shield. If the inlet heat shield has tabs, refer to **11 TS-6** (<http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/11TS6.pdf>).
 - b. No; Go to step 3.
3. Inspect the inboard and outboard Diesel Particulate Filter (DPF) covers and verify nothing is loose or rattling. Is there a loose DPF cover?
 - a. Yes; repair the loose cover.
 - b. No; Go to step 4.



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.

4. Disconnect the aftertreatment inlet pipe and start the engine to verify the noise is coming from the aftertreatment. Did the noise go away once the aftertreatment inlet was disconnected?
 - a. Yes; reconnect the aftertreatment inlet and Go to step 5.
 - b. No; inspect other truck components to identify the noise.
5. Connect DiagnosticLink[®].



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WARNING: PERSONAL INJURY

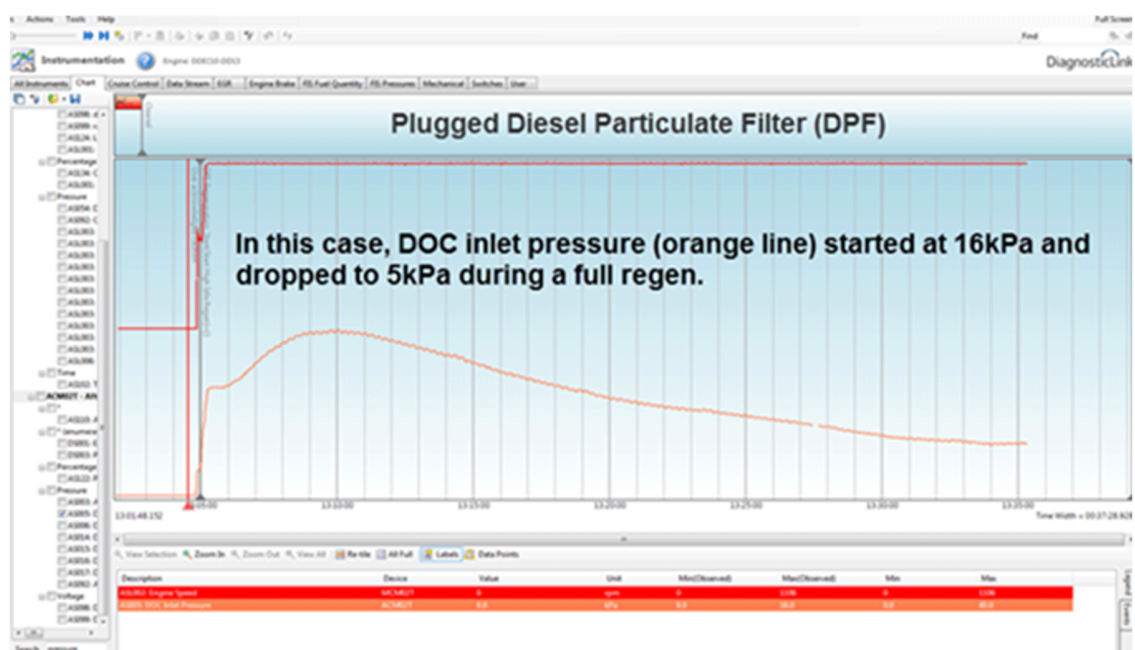
To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



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.

6. Start the engine and run a Parked Regen. Monitor Diesel Oxidation Catalyst (DOC) inlet pressure and engine speed during the regen.
7. During the last 10% of the parked regen, is the Selective Catalyst Reduction (SCR) inlet temperature more than 38°C (68.4°F) lower than SCR outlet temperature?
 - a. Yes; Go to step 8.
 - b. No; Go to step 9. for log file review.
8. Perform a low temperature Aftertreatment Device (ATD) check using DiagnosticLink to check for a drifted temperature sensor. Are the SCR inlet and SCR outlet temperatures within 25°C (45°F) during the last five minutes of this test?
 - a. Yes; replace the DOC/SCR module. The module has failed internally.
 - b. No; replace the drifted SCR temperature sensor and Go to step 9.
9. Review the parked regen log file. Compare your DOC inlet pressure reading to the screen shots below to identify a possible cause of the aftertreatment noise and go to the next step.
 - a. If the DOC Inlet Pressure starts out high above 10 kPa (1.45 psi) and decreases during a parked regen, this indicates that the DPFs were plugged and the parked regen has cleared them. Go to step 10.

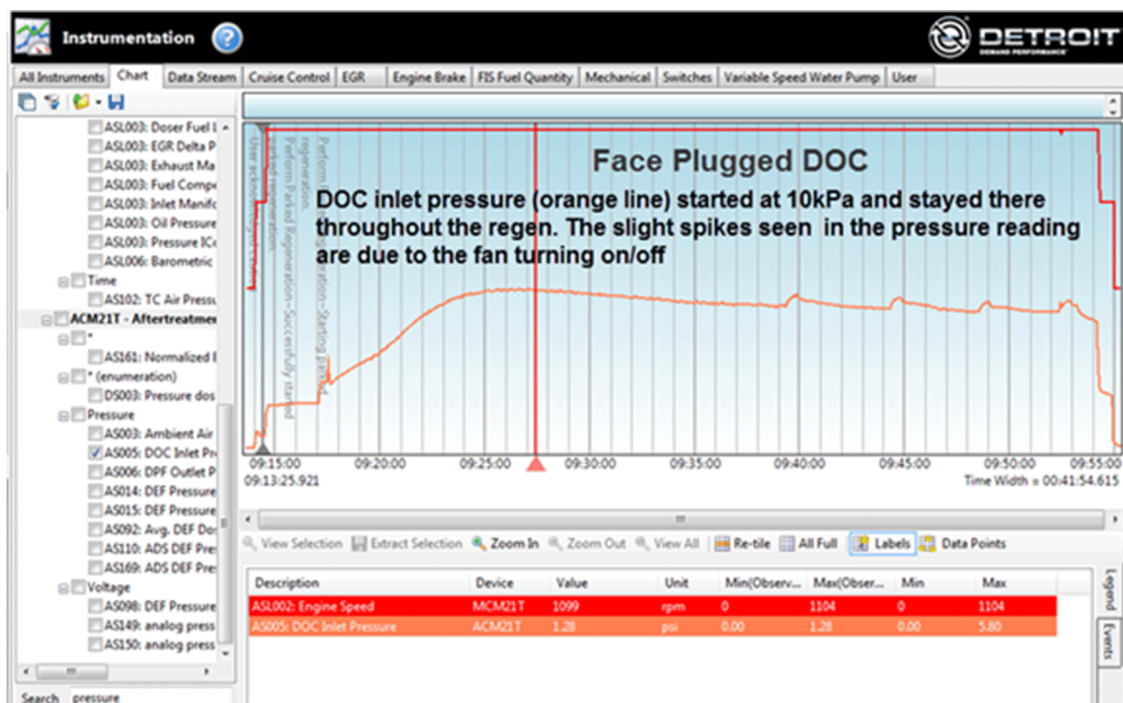


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- b. If the DOC inlet pressure starts above the pressure specified below and stays high, the DOC is considered plugged. Go to step 11.

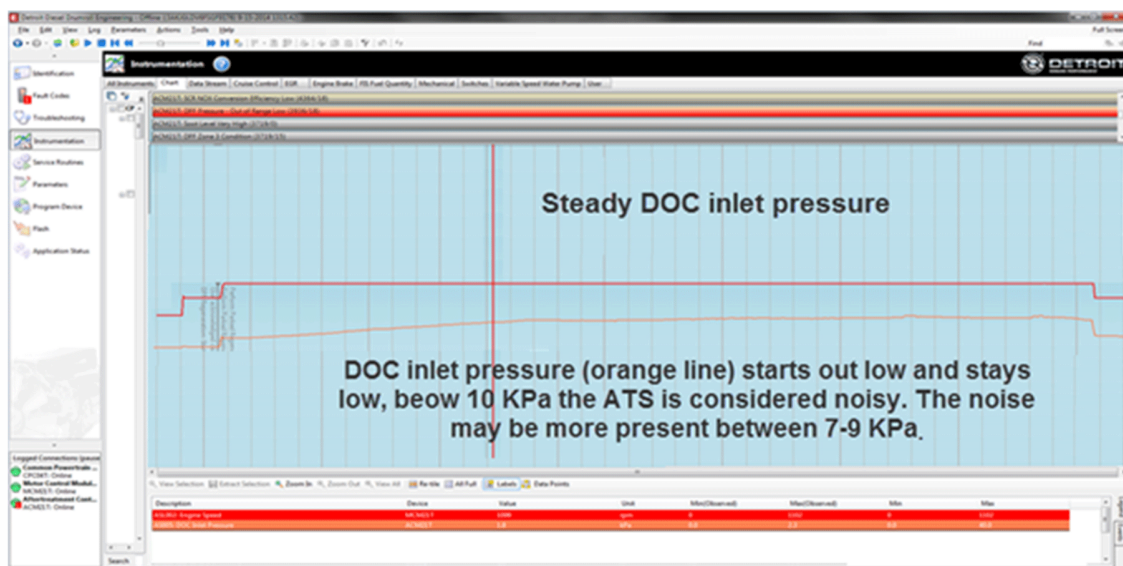
Table 1.

EPA10	10 KPa (1.45 psi)
GHG14	6 KPa (.89 psi)
GHG14 DD15 AT Only	7 KPa (1.01 psi)



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- c. If DOC inlet pressure starts out **low** and stays **low**, below 6 kPa (.87 psi), the Aftertreatment System (ATS) is considered noisy. Replace the DOC/SCR module, the module has failed internally.



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10. Verify the noise is gone and complete the ATD check list to possibly identify why the unit was plugged.
For EPA10: Refer to section "EPA10 Perform Performance Check - Low Temperature ATD"
For GHG14: Refer to section "GHG14 Perform Performance Check - Low Temperature ATD"
11. DiagnosticLink 8.0 with Service Pack 1 contains a new service routine for trying to unplug the front face of the Diesel Oxidation Catalysts for both EPA10 and GHG14 units. Refer to section "EPA10 and GHG14 Diesel Oxidation Catalyst Face Cleaning"

12. Since the DOC inlet pressure stayed steady and there is still a noise, run the DOC Face Unplugging procedure in DiagnosticLink under Actions-Aftertreatment. After completing the service routine, verify the noise is gone and release the vehicle.
13. If the aftertreatment is still noisy after running the DOC Face Unplugging procedure, replace the DOC/SCR module assembly.