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Service Information Bulletin

SUBJECT	DATE
SPN 4375/FMI 6 - EPA10	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	EPA10 DD Platform	SPN 4375/FMI 6 - EPA10	The procedures are updated in numerous locations.



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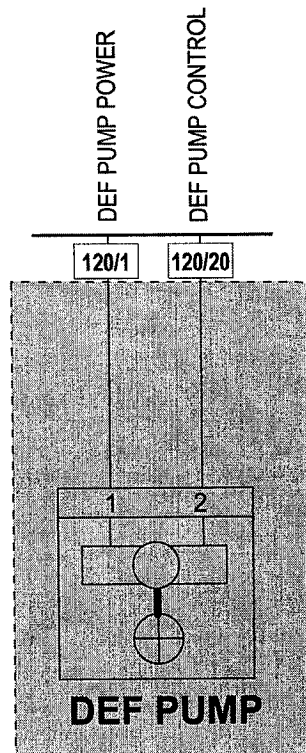
2 SPN 4375/FMI 6 - EPA10

This diagnostic is typically Diesel Exhaust Fluid (DEF) Pump Supply Current High.

This code sets when the electrical current to the pump is greater than 900 mA for 10 seconds for 10 consecutive times.

Table 1.

SPN 4375/FMI 6	
Description	DEF Pump Supply Current High
Monitored Parameter	DEF Pump Supply Current
Typical Enabling Conditions	Dosing Enabled, Ambient Temperature is Greater Than 0°C (32°F) or Dosing Enabled, Ambient Temperature is Less Than -5°C (23°F) and DEF Pump/Tank Heater is Commanded On
Monitor Sequence	None
Execution Frequency	Continuous when enabling conditions met
Typical Duration	10 Seconds
Dash Lamps	MIL, CEL
Engine Reaction	Derate 25%
Verification	SCR Air Pressure Test



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1. Connect DiagnosticLink™.
2. Turn the ignition ON (key ON, engine OFF).
3. Check for other fault codes. Are there any low air pressure or circuit codes for the DEF system?
 - a. Yes; diagnose and repair the other fault codes first. Verify repair.
 - b. No; Go to step 4.
4. Is the DEF tank temperature above 0°C (32°F)?

- a. Yes; Go to step 5.
- b. No; start and run the engine until DEF tank temperature is above 0°C (32°F), then turn ignition OFF and wait ten minutes for modules to fully power down. Go to step 5.



WARNING: ENGINE EXHAUST

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



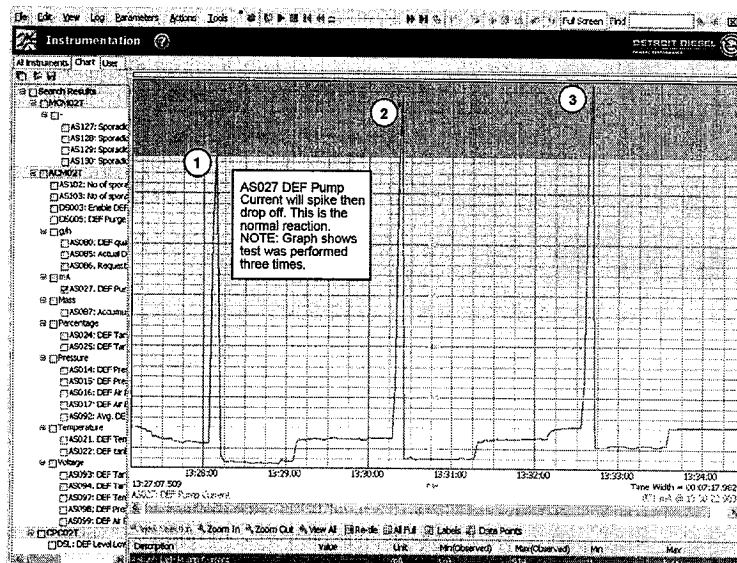
WARNING: PERSONAL INJURY

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.

5. Start and run the engine while monitoring the air pressure in the secondary system. Does the air pressure reach and maintain 690 kPa (100 psi)?
 - a. Yes; Go to step 6.
 - b. No; refer to air compressor diagnostic literature to correct the lack of air pressure. Verify repair.
6. Turn ignition OFF; wait five minutes for purge cycle to complete. Go to step 7.

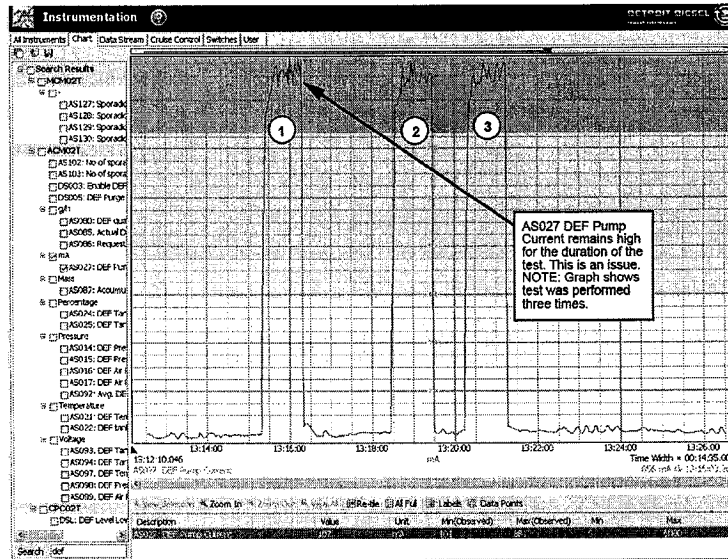
NOTE: When performing the SCR air pressure test, ensure that the vehicle air pressure is above 690 kPa (100 psi).

7. Perform the Selective Catalytic Reduction (SCR) air pressure test service routine (test duration is 60 seconds). After completion of test, graph ACM2 parameter AS027 DEF pump current. Does the DEF pump current rise and remain high for duration of the test?
 - a. Yes; Go to step 8.
 - b. No; repeat test two times if current does not rise and stay high. There may have been a restriction in the DEF supply to the pump. Perform the SCR air pressure test to verify the correct operation of the system. Release the vehicle.
 - c. This figure illustrates the normal reaction of a good pump.



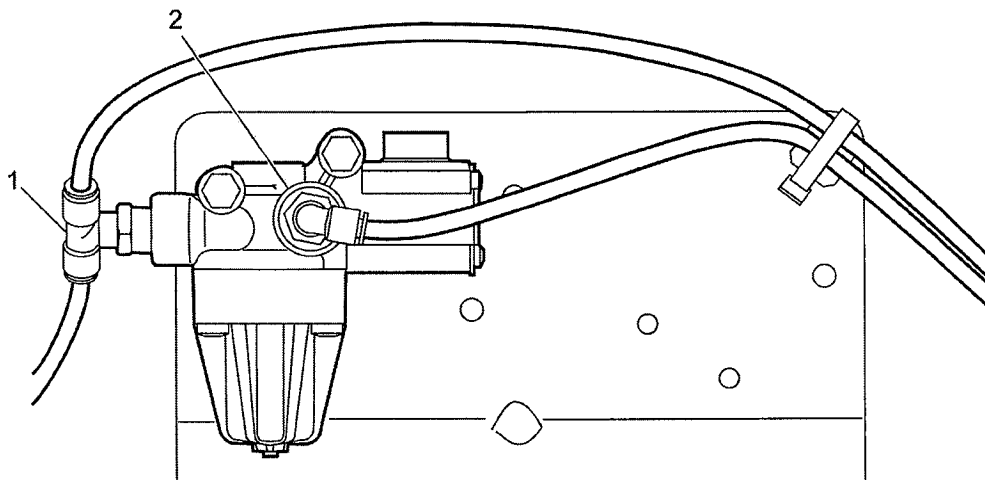
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- d. This figure illustrates an issue in the system.



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8. Compare DEF pressure to ambient air pressure (bar) and DEF air pressure. Is the DEF pressure within 27.5 kPa (4 psi) of the ambient air pressure 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". Verify repair.
9. Turn the ignition OFF. Go to step 10.
10. Inspect Pressure Limiting Unit (PLU) air line routing: air supply to the DEF pump and DEF metering unit, air supply from the air tank. Is the air line routing correct as per the diagram?



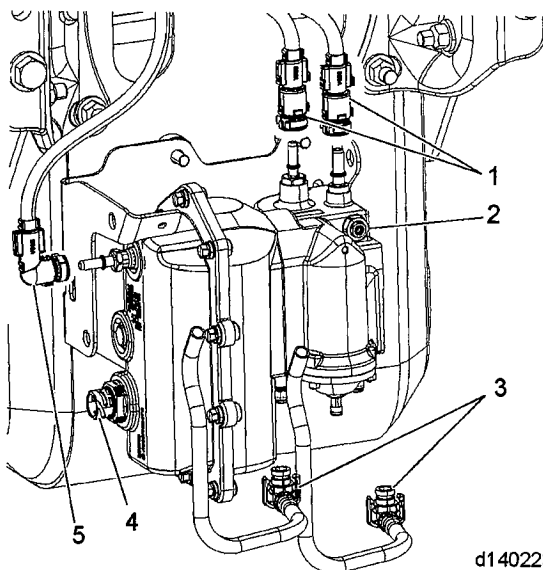
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- a. Yes; Go to step 11.
- b. No; correct the air line routing. Verify repair.

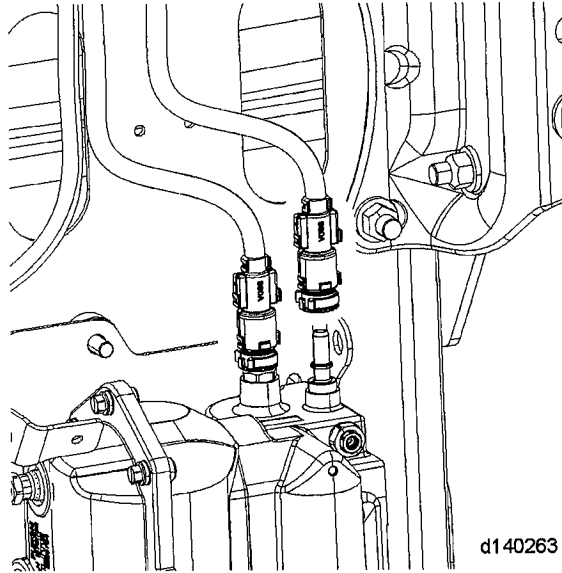
**WARNING: PERSONAL INJURY**

To avoid injury from the sudden release of a high-pressure hose connection, wear a face shield or goggles.

11. Visually/audibly inspect air feed lines from air tank to the Pressure Limiting Unit, and from unit to DEF pump and metering unit for leaks, kinks, cracks, melting or other damage. Is there any damaged, kinked, melted or cracked lines?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; Go to step 12.
12. Disconnect the air supply line at the DEF pump (1). Go to step 13.

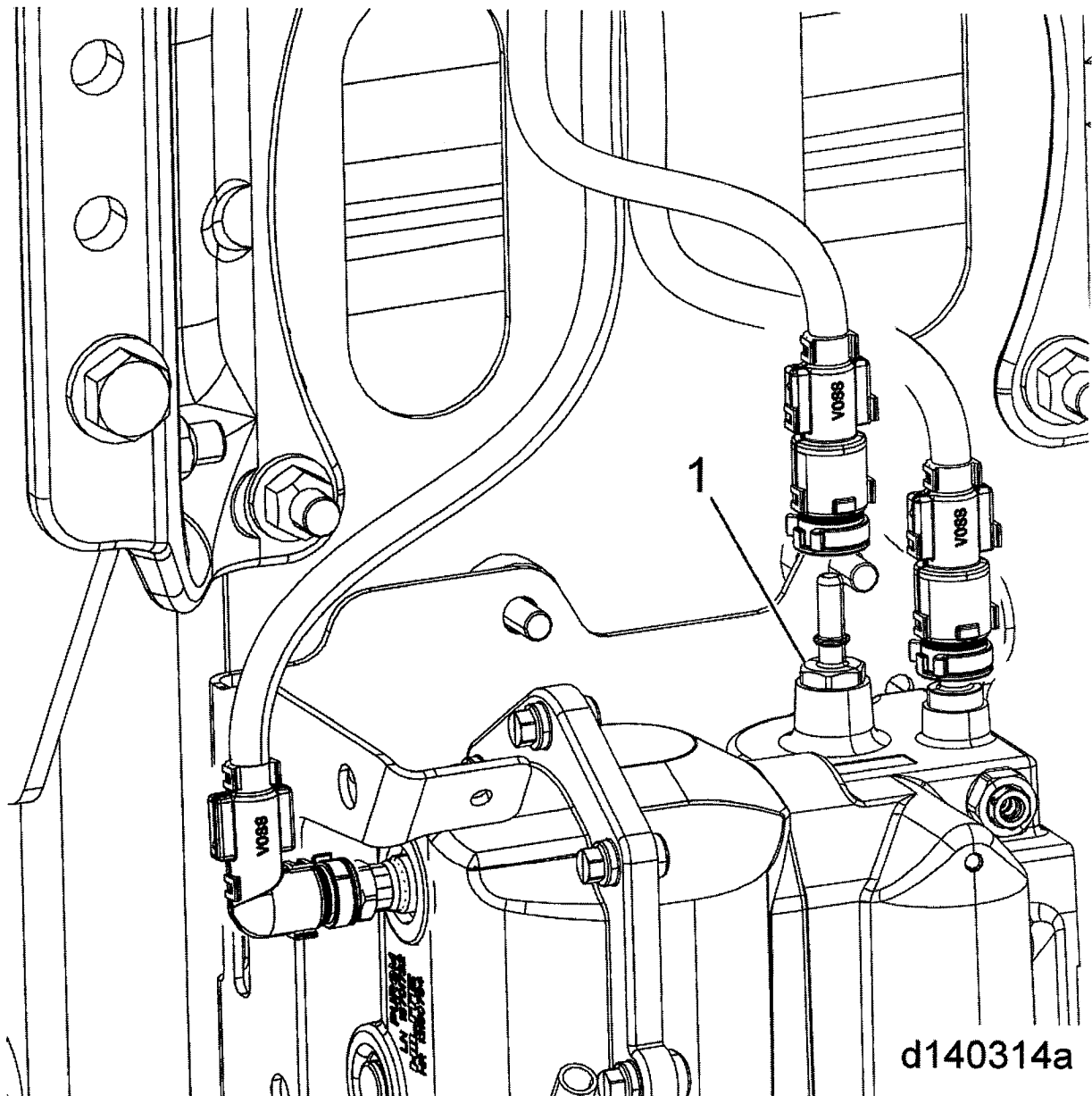


13. Connect a suitable air gauge to the DEF pump air pressure supply line. Go to step 14.
14. Turn the ignition ON (key ON, engine OFF).
15. Perform the SCR air pressure test while monitoring the air pressure gauge installed on the DEF pump supply line. Is the air pressure between 517 to 586 kPa (75 to 85 psi)?
 - a. Yes; remove the air pressure gauge and reinstall the DEF pump air pressure line. Go to step 16.
 - b. No; repair the restriction between the Pressure Limiting Unit (PLU) and the DEF pump.
16. Turn the ignition OFF. Go to step 17.
17. Disconnect the DEF pump harness connector. Go to step 18.
18. Measure the resistance across the DEF pump pins 1 and 2. Is the resistance greater than 400 ohms?
 - a. Yes; replace the DEF pump. Verify repair.
 - b. No; reconnect the DEF connector. Go to step 19.
19. Disconnect the DEF tank return line from the DEF pump.



NOTE: It is normal to have some DEF leak from the outlet fitting after the SCR air pressure test has been performed.

20. Visually watch the DEF tank return outlet fitting on the pump while running the SCR air pressure test (60 second duration). Does DEF fluid discharge from the pump return outlet during the SCR air pressure test?
 - a. Yes; replace the DEF pump pneumatic switching valve. Refer to section "Removal of the Diesel Exhaust Fluid Pump Module Pneumatic Switching Valve". Verify repair.
 - b. No; reconnect the DEF pump return line. Go to step 21.
21. Remove inlet line (1) from the DEF Pump



22. Inspect the DEF pump inlet line and fitting (1) for damage or a restriction. Is there any damage or a restriction present?
 - a. Yes; repair as necessary. Verify repair.
 - b. No; reinstall the DEF pump inlet line. Go to step 23.
23. Perform DEF quantity test service routine and record amount of DEF fluid level dispensed. Is the correct amount of DEF dispensed?
 - a. Yes; replace the DEF pressure sensor. Refer to section "Removal of the Diesel Exhaust Fluid Pressure Sensor". Verify repair.
 - b. No; replace the DEF pump. Refer to section "Removal of the Diesel Exhaust Fluid Pump Module". Verify repair.

