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Title: SPN 3055 FMI 17 FRP above maximum with minimum command Troubleshooting

Applies To: EPA 2010 MaxxForce 11 / 13 / 15 and N13

CHANGE LOG

If this iKNow Article is being revised, please type in the text box what has changed in the article. The change log is meant for Dealers to be able to see what has updated/changed in the article.

4/4/14 Added specific SRT codes for each model with this engine.
5/21/14 Improved diagnostics for FPCV step 4.
6/10/14 Adding the 15L MaxxForce information.

SPN 3055 FMI 17 - FRP Above Maximum with Minimum Command

Condition / Description	Setting Criteria	Enable Conditions / Values	Time Required
FRP governor deviation below minimum limit	FRP governor error less than 725 PSI at 600-750 RPM	Key ON ECM Not in limp-home mode Metering unit flow < 327670 mm3/sec Engine speed > 0 rpm OR Fuel Rail Pressure > 90000 kpa for more than 20 engine revolutions Fuel injector quantity command > 5 mg/stroke ECT1 > -40°F (-40°C) Engine not overrunning	10 seconds

Fault Overview

Fault code sets when the Engine Control Module

(ECM) detects Fuel Rail Pressure (FRP) exceeds

13053 psi (90000 kPa) when the Fuel Pressure

Control Valve is commanded to minimum pressure.

Malfunction Indicator Lamp (MIL) Reaction

MIL will illuminate when this fault is detected during two consecutive drive cycles.

Associated Faults

SPN 94 FMI 0 (FDP); SPN 157 FMI 3, 4, 20, 21 (FRP);

and SPN 633 FMI 3, 4, and 5 (FPCV)

Drive Cycle to Determine Fault Status

Drive Cycle 2 in 2013 HD-OBD Diagnostic Reference

Manual.

Possible Causes

• Restricted high-pressure pump fuel return line

• Fuel Pressure Control Valve (FPCV) or circuit fault

Engine Manual links

- 2010 11/13L non SCR
- 2010 N13 SCR
- MaxxForce® 15

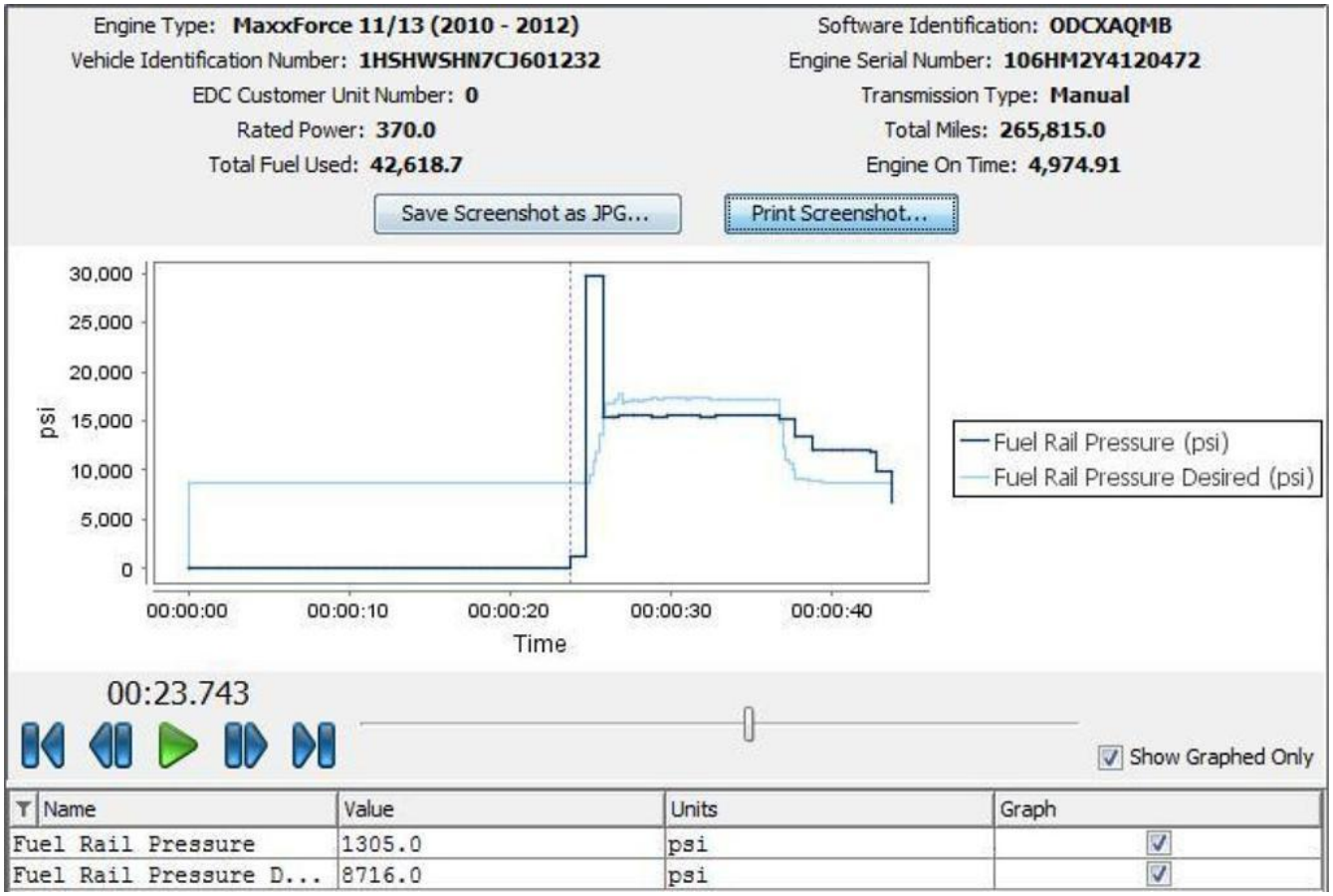
Step	Action	Decision
1	Check fuel level. Read fuel level using the vehicle instrument panel gauge and perform a visual inspection of fluid level in the fuel tank. Is sufficient fuel in the fuel tank and not leaking?	Yes: Go to step 2. No: Add fuel or repair leaks, and prime engine.

Step	Action	Decision
2	Using Electronic Service Tool (EST) with ServiceMaxx™ software, check Diagnostic Trouble Code (DTC) list for SPN 94 FMI 0 (FDP); SPN 157 FMI 3, 4, 20; and 21 (FRP) or SPN 633 FMI 3, 4, and 5 (FPCV). Is the EST DTC list free of SPN 94 FMI 0; SPN 157 FMI 3, 4, 20, and 21; and SPN 633 FMI 3, 4, and 5?	Yes: Go to step 3. No: Repair SPN 94 FMI 0; SPN 157 FMI 3, 4, 20, and 21; and SPN 633 FMI 3, 4, and 5. See health report for link to diagnostics.

Step	Action	Decision
3	Check for restricted fuel return line. Perform HP Pump Fuel Return Pressure Test (page 174). Is pressure < 13 psi?	Yes: Go to step 4. No: Repair restriction in fuel return line between high-pressure fuel pump and fuel tank.

Step	Action	Decision
4	Check for a failed FPCV. Using EST, record a performance session snap shot of the vehicle idling for one minute. Open recorded signal and graph FRP and FRP desired data. Check graph for FRP over shoots. Does the recorder plot look like Figure A? (Viewing ServiceMaxx™ SnapShots)	Yes: Replace Fuel Pressure Control Valve. No: Verify each step was completed correctly. Save snap shot and notify supervisor.

Figure A. FRP, AND FRPD.



NOTE: After performing all diagnostic steps, if SPN 3055 FMI 17 remains, verify each step was completed correctly and the proper decision was made. Notify supervisor for further action.

Qty	Part Description	Part Number	Step	SRT Description	SRT link	Model	HRs	Group	Noun
1	Fuel Pressure Control Valve (FPCV)	7092109C91	4	Electronic Engine Control Sensors / Valves (MaxxForce 11/13), Replace	A12-5034	All Models	1.5	12000-Engine	454

Diagnostics Description	SRT Description	SRT Link	Model	SRT (hr)
High pressure fuel return pressure test	Electronic Engine Performance, Diagnose	N12-2192U Q12-2192U R12-2192U	WorkStar TranStar ProStar	0.3
Connection and Data Recording	Electronic Engine Perfomance, Diagnose	N12-2174U Q12-2174U R12-2174U	WorkStar TranStar ProStar	0.3

Note: Use 13L standard repair times for the 15L as t-times. The new standard repair times will be published 7/7/14.

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