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Availability: ISIS, FleetSIS

Major System: ENGINES

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Other Languages: NONE

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Coding Information

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Title: SPN 3055 FMI 0 FRP Exceeded Maximum Troubleshooting**Applies To:** EPA 2010 MaxxForce 11 / 13/ 15 and N13 Engines

CHANGE LOG

2015/03/26 - Fixed hyperlink for CPA (diag step 4)

2015/03/25 - Removed specific CPA information and added reference to IK1201252. Added info about WAC generated by the CPA HPFP test. Added two tools to the table.

2014/12/17 - Corrected tool number for CPA extension harness and added banana test leads to table.

2014/10/29 - Added clarification to tool banana PNL

DESCRIPTION

This document contains the steps to be taken to diagnose and correct a SPN 3055 FMI 0 Fuel Rail Pressure Exceeded Maximum. The fault code sets when signal from the Fuel Rail Pressure (FRP) sensor indicates FRP exceeds 34,000 psi (235,000 kPa). The MIL will illuminate when this fault is detected during two consecutive drive cycles.

Condition / Description	Setting Criteria	Enable Conditions / Values	Time Required
Fuel Rail Pressure (FRP) above maximum pressure.	FRP greater than 34,000 psi (235,000 kpa)	Key ON Closed loop fuel rail pressure control	0.25 seconds

SYMPTOMS

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
SPN 3055 FMI 0	FRP Above Maximum

Possible Causes

- Restricted high-pressure pump fuel return line
- Fuel Pressure Control Valve (FPCV) circuit fault
- Fuel Pressure Control Valve (FPCV) faulty (not likely)

SPECIAL TOOLS

Tool Description	Tool Number	Comments	Instructions
Fuel Priming Tool	12-922-01		
Clean Fuel Source Tool	15-637-01	Only if necessary	
Compucheck Fitting	ZTSE4526	For fuel restriction or fuel return pressure test, if necessary	
Fuel Pressure Gauge	ZTSE4681	For fuel return pressure test, if necessary	

Fuel Line Coupler	ZTSE4906		
Fuel Inlet Restriction/Aeration Tool	ZTSE4866	For fuel restriction test, aeration test, or fuel return pressure test, if necessary	
Fuel Line Disconnect Tool	ZTSE4773		

[Tools Resource Center](#)

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Hose assy, Fuel Drain (return Line HPFP to tank)	3005913C1	1	If required, Fuel Return Pressure test Step 3
High pressure fuel pump Kit 11L/13L/N13	3007641C95	1	If required after CPA HPFP Test, Step 4
High pressure fuel pump Kit 15L	3014489C91	1	If required after CPA HPFP Test, Step 4

DIAGNOSTIC STEPS

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 the fuel level sufficient and the tank is not leaking?	Yes. Go to Step 2 .
		No. Add fuel or repair leaks, and prime engine. Go to Step 2 .

Step	Action	Decision
2	Using Electronic Service Tool (EST) with ServiceMaxx™ software, check Diagnostic Trouble Code (DTC) list for SPN 157 FMI 3, 4, 20, and 21 (FRP); SPN 94 FMI 0 (FDP); and SPN 633 FMI 3, 4, and 5 (FPCV). Is the EST DTC list free of SPN 157 FMI 3, 4, 20, and 21; SPN 94 FMI 0; and SPN 633 FMI 3, 4, and 5?	Yes. Go to Step 3 .
		No. Repair other codes, first. See health report or Service Action Repair Plan site for links to diagnostics. Recheck for 3055-0. If present, go to Step 3 .

Step	Action	Decision
3	Check for restricted fuel return line. Perform HP Pump Fuel Return Pressure Test. Is the fuel return pressure 13 psi or less?	Yes. Go to step 4.

No. Repair restriction in fuel return line between high-pressure fuel pump and fuel tank. Recheck for codes.

Step	Action	Decision
4	Run the High Pressure Fuel Pump test using ServiceMaxx and Cylinder Performance Analyzer. See IK1201252	Yes. Replace the High Pressure Fuel Pump. Make sure to use fuel priming tool (12-922-01). Repair complete.
	Did the CPA issue a Warranty Authorization Code, indicating the high pressure pump needs to be replaced?	No. Open a Tech Service Case File and attach CPA file, if available.

NOTE: After performing all diagnostic steps, if SPN 3055 FMI 0 remains, verify each step was completed correctly and the proper decision was made. Open a Tech Services case file if assistance is required.

WARRANTY INFORMATION

Claim Requirements/Approvals:

In April or May 2015, the Warranty Center will be requiring WAC or case file for High Pressure Fuel Pump replacements. This will be announced in a future Warranty Policy Letter.

Warranty Claim Coding:

Group:	12000 - Engine
Noun:	454 - High Pressure Fuel Pump

Note: If 15L times are not available, use 13L standard repair times for the 15L as T-times.

Hrs	Code	Model	Engine	Description
0.5	A12-2158U	All	MAXXFORCE 11/13 2010 EPA	Cylinder Performance Analyzer Tool Diagnostics HP Fuel Pump
0.5	A12-2158US	All	N13	Cylinder Performance Analyzer Tool Diagnostics HP Fuel Pump
0.3	R12-2174U	ProStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
3.0	R12-7454U-20	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	R12-2192U	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	T12-2063U	PayStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
3.0	T12-7454U-20	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	T12-2081U	"	"	HP Pump Fuel Return Pressure Test, if required
3.0	S12-7454U-20	LoneStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	S12-2030U	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	Q12-2174U	TranStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
3.0	Q12-7454U-20	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	Q12-2192U	"	"	HP Pump Fuel Return Pressure Test, if required

0.3	N12-2174U	WorkStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
3.0	N12-7454U-20	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	N12-2192U	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	R12-2174US	ProStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
3.0	R12-7454US	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	R12-2192US	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	T12-2174US	PayStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
0.3	T12-2192US	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	Q12-2174US	TranStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
3.0	Q12-7454US	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	Q12-2192US	"	"	HP Pump Fuel Return Pressure Test, if required
0.3	N12-2174US	WorkStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
3.0	N12-7454US	"	"	High Pressure Fuel Pump & Drive Gear, Replace, if required
0.3	N12-2192US	"	"	HP Pump Fuel Return Pressure Test, if required

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OTHER RESOURCES

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