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Major System: ENGINES **Created:** 1/29/2014
Current Language: English **Last Modified:** 10/29/2014
Other Languages: NONE **Author:** Amber Chapman
Viewed: 3833

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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

CHANGE LOG

- 10/15/14 Added step to collect CPA data. Removed diagnostics for FPCV.
- 6/1/14 Adding the 15L MaxxForce information.
- 5/21/14 Improved diagnostics for FPCV step 4.
- 10/29/14 Added clarification to tool harness PN
- 11/14 Added new SPT code for each model with this engine

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	
Compuchek 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		
EZ-Tech with CPA software version 5.0.0.1 or higher			
CPA Tool			

	OE-11178 or 12-999-01-01 (with blue rubber sides)	Tool Letter TL2900079	4328032R2
CPA Extension Harness	0000062361	4 required	
CPA banana jack breakout	12-999-01-06	4 required	

[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	3007641C93	1	If required after CPA Tool Test, Step 4
High pressure fuel pump Kit 15L	3014489C91	1	If required after CPA Tool Test, Step 4

DIAGNOSTIC STEPS

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

Step	Action	Decision
2	<p>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).</p> <p>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?</p>	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.	Yes. Go to step 4.

Is pressure < 13 psi?	No. Repair restriction in fuel return line between high-pressure fuel pump and fuel tank. Recheck for codes.
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Step	Action	Decision
4	Using ServiceMaxx and the Cylinder Performance Analyzer (CPA) Tool Activate the CPA recorder (link to instructions Activate CPA Recorder) Record data with CPA Tool (link to instructions CPA Tool & Test Instructions) Open a Tech Services case file, - Attach CPA zip file - Attach ServiceMaxx snapshot of High pressure fuel pump test - List the tests and corresponding results of any other diagnostic tests already performed - Submit the case referencing "Request CPA data review per IK1201061 3055/0"	Yes. Replace the High Pressure Fuel Pump. Make sure to use fuel priming tool (12-922-01). Repair complete.
	Does the high pressure pump need to be replaced?	No. Proceed with repair recommended by Tech Services.

NOTE: After performing all diagnostic steps, if SPN 3055 FMI 0 remains, verify each step was completed correctly and the proper decision was made. Notify supervisor for further action.

Step	Hrs	Code	Model	Engine	Description
1 and 2	0.3	N12-2174U	WorkStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
1 and 2	0.3	Q12-2174U	TranStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
1 and 2	0.3	R12-2174U	ProStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
1 and 2	0.3	T12-2063U	PayStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose Step 4 EST Connection and Data Recording
1 and 2	0.3	N12-2174US	WorkStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
1 and 2	0.3	Q12-2174US	TranStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
1 and 2	0.3	R12-2174US	ProStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
1 and 2	0.3	T12-2174US	PayStar	N13	Electronic Engine Performance, Diagnose Step 5 EST Data List
3	0.3	N12-2192U	7600	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	Q12-2192U	8600	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	R12-2192U	ProStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	S12-2030U	LoneStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	T12-2081U	PayStar	MAXXFORCE 11/13 2010 EPA	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	N12-2192US	WorkStar	N13	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	Q12-2192US	TranStar	N13	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	R12-2192US	ProStar	N13	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
3	0.3	T12-2192US	PayStar	N13	Electronic Engine Performance, Diagnose (HP Pump Fuel Return Pressure Test)
4	0.5	T-Time	All	All	Cylinder Performance Analyzer (CPA) Tool Data Collection
4	3	N12-7454U-20	WorkStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3	Q12-7454U-20	TranStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3	R12-7454U-20	ProStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
		S12-7454U-20			

4	3		LoneStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3	T12-7454U-20	PayStar	MAXXFORCE 11/13 2010 EPA	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	4	Q12-7454US	TranStar	N13	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3	R12-7454US	ProStar	N13	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3.9	FA12-7454Q	9900i	MAXXFORCE 15	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3.9	R12-7454Q	ProStar	MAXXFORCE 15	High Pressure Fuel Pump & Drive Gear, Replace, if required
4	3.9	T12-7454Q	PayStar	MAXXFORCE 15	High Pressure Fuel Pump & Drive Gear, Replace, if required

WARRANTY INFORMATION

Claim Requirements/Approvals:

There are no special requirements for this repair.

Warranty Claim Coding:

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


Note: Step 4 Cylinder Performance Analyzer (CPA) Tool Data Collection will be published by November 15, 2014.

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

[SRT Manual](#)

OTHER RESOURCES

[Master Service Information Site](#)

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