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Major System: ENGINES

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Other Languages: NONE

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Author: Mujtaba Aidroos

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Coding Information

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

Applies To: EPA 2010 MaxxForce 11 / 13 / 15L Engines

CHANGE LOG

2015/07/07 - Author updated for feedback purposes, fixed SRT hyperlink
 2015/06/25 - Updated coding to include New Zealand, Russia
 2015/05/27 - Removed references to N13 because it is linked through FCAP now. Revised link to CPA test instructions.
 2015/04/13 - Revised step 4 to run HPFP CPA test. Added N13 SRTs.
 2014/11/20 - Added steps to check fuel for contamination. Added Fueling table.

DESCRIPTION

This document contains the steps to be taken to diagnose and correct a SPN 3055 FMI 17 FRP Above Maximum with Minimum Command. This fault code sets when the Engine Control Module (ECM) detects Fuel Rail Pressure (FRP) is above maximum when the minimum is commanded.

SYMPTOMS

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
SPN 3055 FMI 17	FRP Above Maximum with Minimum Command

Fault Code Entry Conditions:

Condition / Description	Setting Criteria	Enable Conditions / Values	Time Required
FRP Governor deviation below minimum limit	FRP governor error < 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 > 5mg/stroke - ECT1>-40°F (-40°C) Engine not overrunning	10 seconds

Malfunction Indicator Lamp (MIL) Reaction

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

Possible Causes

- Restricted high-pressure pump fuel return line
- Fuel Pressure Control Valve (FPCV) or circuit fault

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	
Pressure Test Kit	ZTSE4409	For fuel restriction test, if necessary	
Fuel Inlet Restriction/Aeration Tool	ZTSE4886	For fuel restriction test, aeration test, or fuel return pressure test, if necessary	
Fuel Pressure Gauge	ZTSE4681	For fuel return pressure test, if necessary	
Fuel Block Off Tool	ZTSE4905	For fuel restriction test and aeration test, if necessary	
Fuel Line Coupler	ZTSE4906		

Link to [Tools Resource Center](#)

SERVICE PARTS INFORMATION

Kit Description	Part Number	Quantity Required	Notes
Fuel Pressure Control Valve	7092109C91	1	If required
High Pressure Fuel Pump Kit 11L/13L	3007641C95	1	If required
High Pressure Fuel Pump Kit 15L	3014489C91	1	If required

DIAGNOSTIC STEPS

Step	Action	Decision
1	Check recent vehicle history noting fuel system repairs. 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 .
	Has the vehicle run issue free since the last fuel system service?	No. Add fuel or repair leaks and properly prime the fuel system. Go to Step 2 .

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).	Yes. Go to Step 3 .
	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?	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. 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 fuel return pressure < 13 psi?	No. Repair restriction in fuel return line between high-pressure fuel

		pump and fuel tank. Recheck for Fault Codes.
Step	Action	Decision
4	Run the High Pressure Fuel Pump test using ServiceMaxx and Cylinder Performance Analyzer. See HPFP CPA Test	Yes. Replace the High Pressure Fuel Pump if a WAC was generated by the CPA tool. Make sure to use fuel priming tool (12-922-01).
	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.

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

Hrs	Code	Model	Engine	Description
0.5	A12-2158U	All	2010+ EPA MAXXFORCE 11/13	Cylinder Performance Analyzer Tool Diagnostics HP Fuel Pump
0.3	N12-2192U	WorkStar	2010+ EPA MAXXFORCE 11/13	HP Pump Fuel Return Pressure Test
0.3	Q12-2192U	TranStar	2010+ EPA MAXXFORCE 11/13	HP Pump Fuel Return Pressure Test
0.3	R12-2192U	ProStar	2010+ EPA MAXXFORCE 11/13	HP Pump Fuel Return Pressure Test
1.5	A12-5034	All	2010+ EPA MAXXFORCE 11/13	Electronic Engine Control Sensors / Valves (MaxxForce 11/13), Replace FPCV

[SRT Manual](#)

OTHER RESOURCES

[Master Service Information Site](#)

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