| | | | |
|---|---|---|---|
| **Countries:** | AUSTRALIA, BAHAMAS, BOLIVIA, BELIZE, CANADA, CHILE, COLOMBIA, COSTA RICA, DOMINICAN REPUBLIC, ECUADOR, EL SALVADOR, TRINIDAD AND TOBAGO, UNITED STATES, URUGUAY, VENEZUELA, MEXICO, ARUBA, NICARAGUA, PERU, PUERTO RICO, Curaçao, GUATEMALA, GUYANA, HAITI, HONDURAS, JAMAICA, PANAMA | **Document ID:** | IK1201064 |
| **Availability:** | ISIS, FleetISIS | **Revision:** | 6 |
| **Major System:** | ENGINES | **Created:** | 1/29/2014 |
| **Current Language:** | English | **Last Modified:** | 5/27/2015 |
| **Other Languages:** | NONE | **Author:** | Amber Chapman |
| **Viewed:** | 3042 | | |

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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

2015/05/27 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 step to check fuel for contamination. Added Tooling table.
2014/06/10 Adding the 15L MaxxForce information.
2014/05/21 Improved diagnostics for FPCV step 4

## 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<br>• ECM Not in limp-home mode<br>• Metering unit flow < 327670 mm3/sec<br>• Engine speed > 0 rpm OR Fuel Rail Pressure > 90000 kpa for more than 20 engine revolutions<br>• Fuel injector quantity command > 5mg/stroke<br>• 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 | |
| | | | |

| | | | |
|---|---|---|---|
| Compucheck 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.<br>Check fuel level. Read fuel level using the vehicle instrument panel gauge and perform a visual inspection of fluid level in the fuel tank.<br><br>Is sufficient fuel in the fuel tank and not leaking?<br><br>Has the vehicle run issue free since the last fuel system service? | **Yes**. Go to **Step 2**.<br><br>**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).<br><br>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**.<br><br>**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.<br>Perform HP Pump Fuel Return Pressure Test.<br><br>Is fuel return pressure < 13 psi? | **Yes**. Go to **Step 4**.<br><br>**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.<br><br>See HPFP CPA Test<br><br>Did the CPA issue a Warranty Authorization Code, indicating the high pressure pump needs to be replaced? | **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).<br><br>**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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