| | | | |
|---|---|---|---|
| **Countries:** | RUSSIA, AUSTRALIA, CANADA, COLOMBIA, UNITED STATES, PUERTO RICO, KOREA, NEW ZEALAND | **Document ID:** | IK1200739 |
| **Availability:** | ISIS, FleetISIS | **Revision:** | 13 |
| **Major System:** | ENGINES | **Created:** | 3/16/2012 |
| **Current Language:** | English | **Last Modified:** | 8/27/2014 |
| **Other Languages:** | NONE | **Author:** | Amber Chapman |
| **Viewed:** | 11153 | | |

Less Info

Hide Details Coding Information

| Copy Link | Copy Relative Link | Bookmark | Add to Favorites | Print | Provide Feedback | Helpful | Not Helpful |
|---|---|---|---|---|---|---|---|
| | | View My Bookmarks | | | | 333 | 89 |

**Title: EGR Valve Diagnostics**

**Applies To: 2010 Emissions MaxxForce 11 & 13 Liter Engines, N13 SCR Engine, MaxxForce 15**

## CHANGE LOG:

2014/08/25: Added step and SRT to check ECM calibration level. Changed part number for EGR Valve pigtail and step for checking if the harness needs to be replaced or not. Added note about EGR Valve serial number starting with 3. Reformatted diagnostic steps, new 27-7 step 2 question added.
2014/06/06: Added MaxxForce 15L information.
2014/05/16 - Changed EGR Valve Pigtail Part Number

## DESCRIPTION:

This document provides users with Exhaust Gas Recirculation (EGR) Valve diagnostics and repair information for the two most likely fault codes. It covers all 2010 and newer MaxxForce 11, 13 and 15, as well as 2013 and newer N13 engines.

## SYMPTOMS

**Diagnostic Trouble Codes & Dashboard Indicator Lights:**

| DTC/Light | Description |
|---|---|
| SPN 27 FMI 4 | EGRP Signal Out of Range Low |
| SPN 27 FMI 7 | EGRP Does Not Agree With Commanded Position |
|  | Malfunction Indicator Light (MIL) |

## PARTS:

| Kit Description | Part Number | Quantity Required | Notes |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| Kit, EGR Valve | 7092735C94 | 1 | **2010-2013 MaxxForce 11/13 ONLY** |
| Kit, Harness Repair* | 2513174C91 | 1 | ONLY if necessary, discard ECT1 connector if unnecessary |
| Tape | 7096462C1 | 1 | ONLY if necessary |
| Kit, EGR Valve | 2512163C92 | 1 | **2013-2014 N13 ONLY** |
| EGR Valve | 3008008C92 | 1 | **2011-2012 MaxxForce 15** |
| Gasket, EGR Valve | 3006736C2 | 2 | MaxxForce 15 EGRV Gaskets |

*Harness Installation Kit Instructions Click Here

## DIAGNOSTICS:

NOTE:

- If faults 27-4 and 27-7 are both present, **diagnose the 27-4 fault first.**
- If **NO EGR Valve Faults are present** DO NOT replace the EGR Valve no repairs are required for the EGR system.

### Diagnostic Steps when Fault 27-4 is present:

| Step | Action | Decision |
|---|---|---|
| **1** | Check the vehicle build date.<br><br>Was the vehicle built BEFORE 07/01/2012? | **Yes:** Continue to Step 2<br><br>**No:** Continue to Step 3 |

| Step | Action | Decision |
|---|---|---|
| **2** | Check the warranty history to determine if an updated pigtail has already been installed.<br><br>Does vehicle history show that the EGRV pigtail part number 3017846C91 or 2513174C91 (gold terminals) have been previously installed? | **Yes:** Continue to Step 3<br><br>**No:** Replace the EGR Valve wiring pigtail with PN : 2513174C91 which has gold terminals . Apply dielectric grease on the new terminals. Continue to Step 3. |

| Step | Action | Decision |
|---|---|---|
| **3** | Clear all faults with EST.<br>Run EGR Valve Actuator Test in ServiceMaxx.<br><br>Did the Actuator test pass? | **Yes:** Release the vehicle to the customer.<br><br>**No:** Replace EGR Valve. |

Diagnostic Steps when Fault 27-7 is present:

| Step | Action | Decision |
|---|---|---|
| **1** | Verify ECM Calibration.<br><br>For 2010 MaxxForce 11/13 Emissions engines : Check the Scorecard on Service Portal. If the scorecard shows current, then vehicle has the latest version of the calibration.<br><br>For N13 SCR Engine, Check the Scorecard on Service Portal, but please note that the scorecard may not be turned on. To determine the calibration status, check the vehicle's calibration ID. If it has "DE" as the 5th and 6th digits (i.e. :OKPX**DE**DB), then the calibration is current. If the 5th and 6th digits are DA/DB/DC or DD, then the calibration is not current.<br><br>Is the ECM calibration current? | Yes: Continue to Step 2<br><br>No: Update ECM calibration, then continue to Step 2 |

| Step | Action | Decision |
|---|---|---|
| **2** | Clear all faults with EST.<br><br>Using Electronic Service Tool (EST) with ServiceMaxx™ software, go to Tests > KOEO Tests > Actuator Test. Select EGR Position from the drop-down menu (95% command).<br><br>Does EGRP (EGR position) follow EGRC (commanded) on EST, staying within +/-10% of each other? | Yes: Release the vehicle<br><br>No: Replace the EGR Valve<br><br>• If the vehicle was built BEFORE 07/01/2012 **(Disregard this information for N13 SCR Engine, and MaxxForce 15)** you will also need to replace the EGR Valve wiring pigtail with splice kit PN : 2513174C91. Apply dielectric grease on the new terminals. Release the vehicle to the customer. |

**Serial Number Identification Process shown below:**




**The generation of the valve can be identified by the serial number (the 6 digit code highlighted in the red box in the picture above) if it starts with 1 it is considered to be an old valve (On 2010 Emissions MF11/13 only. NOT SCR equipped vehicles). If the serial number starts with a 2, it is a newer generation valve. If the serial number starts with a 3, it is a newer generation valve with a modified gasket.**

**Note : If it starts with a 0 and has part number 5010697R1 stamped on it the EGR Valve is a New Generation. If it starts with a 0 and has part number 3008449C1 as illustrated above then it is an Old Generation EGR Valve.**

---

## REPAIR PROCEDURE

See the Service Manual (direct link to EGRV) for EGR Valve installation and removal.

---

## WARRANTY INFORMATION

- **Requirement :** Include the Serial Number of the failed and new EGR Valve in the subsequent warranty claim "CCC" and the "Failed Serial #" fields (See Photo Below).
- **Requirement :** Be sure the replacement EGR Valve Serial # starts with a 2 or 3 (Serial Number location shown below. **Disregard for N13 SCR Engine, and MaxxForce 15**
- **Requirement :** Use PocketMaxx or an EZ-Tech to generate a Health Report which is now required for warranty reimbursement per WPL13-009G. The Health Report will include DTC's and will link you to the Fault Code Action Plan.




**EGR VALVE REPLACEMENT:**

**Warranty Claim Coding:**

| | |
|---|---|
| **Group:** | 12000 - Engine |
| **Noun:** | 893 - Valve, EGR |

**Standard Repair Times:**

| Time | SRT | Chassis Model | Engine Model |
|---|---|---|---|
| 2.8 | N12-6893U | 7600 | MaxxForce 11/13 |
| 2.8 | Q12-6893U | 8600 | MaxxForce 11/13 |
| 2.9 | R12-6893U | ProStar | MaxxForce 11/13 |
| 2.5 | R12-6893O | ProStar | MaxxForce 15 |
| 2.8 | T12-6893U | 5000 | MaxxForce 11/13 |
| 2.5 | S12-6893O | LoneStar | MaxxForce 15 |
| 2.5 | TC12-6893 | CAT CT660 | MaxxForce 15 |
| 3.8 | TC12-6893U | CAT CT660 | MaxxForce 11/13 |

**ECM CALIBRATION:**

**Warranty Claim Coding:**

| | |
|---|---|
| **Group:** | 12000 - Engine |
| **Noun:** | 716 - Reprogram Engine Calibration |

**Standard Repair Times:**

| Time | SRT | Chassis Model | Engine Model |
|---|---|---|---|
| 0.5 | A12-3510U | All | MaxxForce 11/13 |
| 0.5 | A12-3510US | All | N13 |

**EGR Valve Actuator Test :**

| Time | SRT | Chassis Model | Engine Model |
|---|---|---|---|
| **0.3** | **T-Time** | **All** | **All** |

**EGR Valve Pigtail Replacement :**

| Time | SRT | Chassis Model | Engine Model |
|---|---|---|---|
| 0.2 | A08-2001A | All | All |

**Engine Cover Removal and Installation**
**(Use only if EGR Valve Pigtail is repaired, not for use on EGR Valve Replacement)**

| Time | SRT | Chassis Model | Engine Model |
|---|---|---|---|
| 0.8 | A16-7555A | ProStar | MaxxForce 11/13 |
| 0.8 | T- Time | All | MaxxForce 11/13 |

## OTHER RESOURCES

2010 MaxxForce 11/13 Resource Center (IK1200548)
2010 MaxxForce 11/13 Diagnostic Manual
2010 MaxxForce 11/13 Service Manual

Hide Details

Feedback Information

Viewed: 11152
Helpful: 333
Not Helpful: 89

No Feedback Found

Copyright © 2014 Navistar, Inc.