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Availability: ISIS, FleetSIS

Major System: ENGINES

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Other Languages: [Español](#), [Français](#)

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Coding Information

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Title: Big Bore EGR Valve Diagnostics
Applies To: 2010 Emissions MaxxForce 15

CHANGE LOG

2015/08/28 - Added French translations and updated Spanish.
 2015/08/17: Added SRT for actuator test
 2015/07/30: Removed broken links
 2015/07/27: Corrected link to service manual
 2015/07/06 - Corrected diagnostic procedure for code 2 when 27.7 with 427.4 is present

DESCRIPTION

This document provides users with Exhaust Gas Recirculation (EGR) Valve diagnostics and repair information for the three most likely fault codes. It covers all 2010 and newer MaxxForce 15 engines.

SYMPTOMS

Diagnostic Trouble Codes & Dashboard Indicator Lights:

Fault	Description
SPN 27 FMI 4	EGRP Signal Out of Range Low
SPN 27 FMI 7	EGRP Does Not Agree With Commanded Position
SPN 2659 FMI20	EGR High Flow Rate Detected

PARTS

Kit Description	Part Number	Qty	Notes
Kit, EGR Valve	3016004C92	1	2011-2012 MaxxForce 15
Gasket, EGR Valve	3006736C2	2	MaxxForce 15 EGRV Gaskets

DIAGNOSTICS

NOTE:

- If faults 27-4 and 27-7 are both present, **diagnose the 27-4 fault first.**
- There are two diagnostic sections--proceed to the section respective to fault code.
- 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. Was the vehicle built BEFORE 07/01/2012?	Yes: Continue to Step 2.
		No: Continue to Step 3.
Step	Action	Decision
2	Check the warranty history to determine if an updated pigtail, 3017846C91 or 2513174C91, has already been installed. Does vehicle history show previous installation?	Yes: Continue to Step 3.
		No: Replace the EGR Valve wiring pigtail with PN : 2513174C91. Apply dielectric grease on the new terminals. Continue to Step 3.
Step	Action	Decision
3	Clear all faults with EST. Run EGR Valve Actuator Test in ServiceMaxx. Did the Actuator test pass?	Yes: Release the vehicle to the customer.
		No: Replace EGR Valve.

Diagnostic Steps when Fault 27-7 is present without 27-4:

Step	Action	Decision
1	Check for active fault codes • Using EST (Electronic Service Tool), Check the EST DTC list for fault codes. Does the Vehicle have a 2659-20 Present?	Yes: Continue to Step 2.
		No: Continue to Step 3.
Step	Action	Decision
2	Perform Visual inspection of the EGR Valve. • Remove Exhaust Manifold Bellows tubes to view EGR Valve. • Remove EGR valve. Is the EGR Valve damaged (i.e. broken shaft and/ or butterfly plate) ?	Yes: Replace EGR Valve. After repairs are complete, retest for SPN 27 FMI 7 and(or) SPN 2659 FMI 20.
		No: Continue to Step 3.
Step	Action	Decision
3	Verify ECM Calibration.	

	Check the Scorecard on Service Portal. If the scorecard shows current, then the vehicle has the latest version of the calibration. Is the ECM calibration current?	Yes: Replace the EGR Valve. After repairs are complete, retest for SPN 27 FMI 7 and(or) SPN 2659 FMI 20. No: Update ECM calibration, then continue to Step 4.
Step	Action	Decision
4	Perform EGR Valve Actuator Test. Does EGR Valve Actuator test pass?	Yes: Reinstall EGR Valve if necessary. Retest for SPN 27 FMI 7 and(or) SPN 2659 FMI 20. After performing all tests, if no problem is found, verify that each step was completed correctly and the proper decision was made. Open Tech Services case file if needed. No: Replace EGR Valve. After repairs are complete, retest for SPN 27 FMI 7 and(or) SPN 2659 FMI 20.

REPAIR PROCEDURE

See Exhaust Gas Recirculation (EGR) System Removal section in the MaxxForce 15 Engine Service Manual.

[Master Service Information Site](#)

WARRANTY INFORMATION

Special Requirements:

- PocketMaxx or EZ-Tech Health Report with Fault Codes is required for warranty reimbursement, per [WPL13-009G](#).

EGR VALVE REPLACEMENT:

Warranty Claim Coding:

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

Standard Repair Times:

Time	SRT	Chassis Model	Engine Model

2.5	R12-6893O	ProStar	MaxxForce 15
2.5	S12-6893O	LoneStar	MaxxForce 15
2.5	TC12-6893	CAT CT660	MaxxForce 15

ECM CALIBRATION:**Warranty Claim Coding:**

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

Standard Repair Times:

For MaxxForce 15, if no SRT is available, use MaxxForce 13 SRTs as T-time.

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

EGR Valve Actuator Test :

<u>Time</u>	<u>SRT</u>	<u>Chassis Model</u>	<u>Engine Model</u>
<u>0.2</u>	A12-2053U	<u>All</u>	<u>MaxxForce 11/13</u>

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

[Master Service Information Site](#)

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