

Engine diagnosis warning lamp active, malfunction at exhaust back pressure sensor

Topic number	LI07.04-N-066219
Version	3
Design group	07.04 Sender, Feeler, Sensors
Date	07-13-2017
Validity	906 with Engine 642 and 651
Reason for change	Added DTCs and example of incorrect reading
Reason for block	

Complaint:

Engine diagnosis warning lamp is active; engine power output is reduced. A fault relating to the exhaust back pressure sensor (B60) is stored in the engine control unit.

CDI6 (OM642)

118900 Component B60/4 (Exhaust back pressure sensor) has a plausibility error.

CDI60 / CR60NFZ (OM642)

P159300 | There is an internal fault in component 'B60/4 (Exhaust back pressure sensor)'. | CR60NFZ047162,

P159400 | There is an internal fault in component 'B60/4 (Exhaust back pressure sensor)' | CR60NFZ

P159600 | The signal line of component 'B60/4 (Exhaust back pressure sensor)' has a short circuit to ground | CR60NFZ

CR43NFZ (OM651)

P047162 Exhaust back pressure sensor 1 has a malfunction. The signal comparison is faulty.

Cause:

An incorrect exhaust back pressure sensor may have been installed during previous repairs.

There are two types of back pressure sensors used, absolute pressure sensor and relative pressure sensor.

Although the sensors look the same and will fit in the same locations they are different and the vehicle may have the incorrect sensor installed.

The actual value of the exhaust back pressure sensor (B60) with engine OFF is implausible.

The exhaust back pressure is approx. 2 bar or the exhaust back pressure deviates with engine OFF by approx. 300 - 400 mbar from the other pressure sensor

XENTRY TIPS

Example:

Check component "B60/4 (Exhaust back pressure)" by means of actual value

Status of associated actual values

Name

Exhaust temperature upstream of turbocharger - 38°C

Exhaust back pressure (raw value) - 0.50v

Exhaust back pressure - 504hPa

Atmospheric pressure - 979hPa

Intake air pressure - 977hPa

Attachments	
File	Description
vents.JPG	Relative pressure sensor with vent hole shown

Remedy:

As of model year 2013 (SA code 803), an absolute exhaust back pressure sensor is used.

Relative pressure sensor Engine 642:

A006 153 60 28 - (replaced by)

A007 153 43 28 - (replaced by)

A009 153 50 28 - (with vent hole next to contact springs at sensor) *

Relative pressure sensor Engine 651:

A651 905 02 00 - (replaced by)

A009 153 51 28 - (with vent hole next to contact springs at sensor) *

Absolute pressure sensor Engine 642/651:

A009 153 52 28 - (replaced by)

A000 905 27 06 - (without vent hole) *

Note: Engine wiring harness - A642 150 90 89 may be required, check EPC

* As of this posting the part numbers listed are for reference purposes, always verify the current part number in EPC by Vehicle Identification Number (VIN) to ensure the correct sensor is used.

Attachments	
File	Description
harness.JPG	Engine Wiring harness

XENTRY TIPS

Symptoms

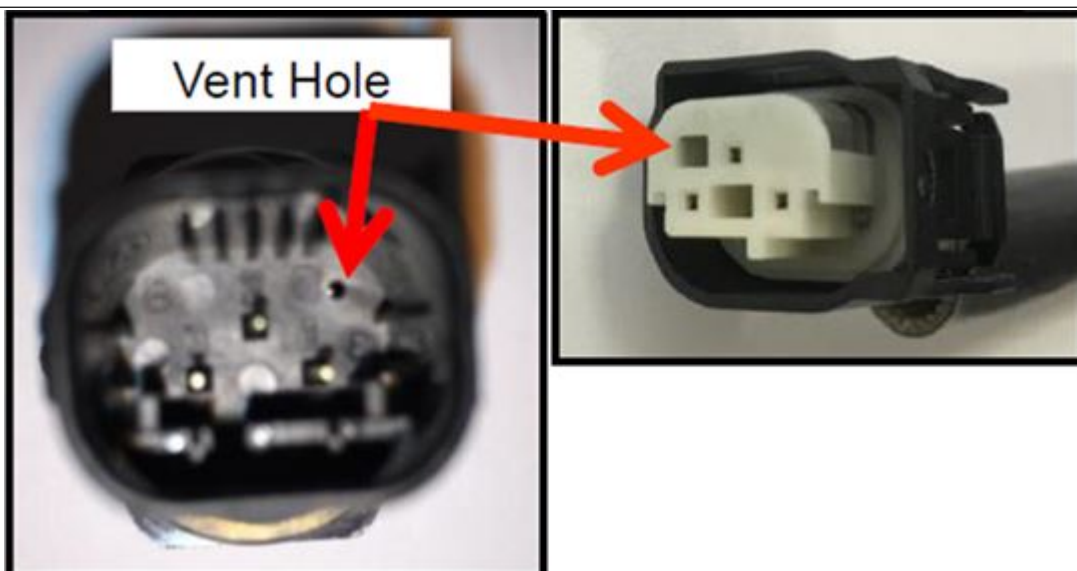
Power generation / Engine management / Engine performance / Goes into limp-home mode

Parts

Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 009 153 50 28			Pressure Sensor *	1	Relative (OM642)	X
A 009 153 51 28			Pressure Sensor *	1	Relative (OM651)	X
A 000 905 27 06			Pressure Sensor *	1	Absolute (OM642/651)	X
A 642 150 90 89			Engine Wiring Harness	1	As required by EPC	X

Attachments

vents.JPG:



harness.JPG:

