

Engine diagnosis warning lamp (CEL) is active due to fault codes - P2237 & P2626.

Topic number	LI07.04-P-059726
Version	5
Design group	07.04 Senders, sensors
Date	07-15-2016
Validity	Model 451.331 or 451.431
Reason for change	Remedy revised.
Reason for block	

Complaint:

Engine diagnosis warning lamp is active with no drivability complaint. A fault relating to the oxygen sensor (G3/2) is stored in the engine control unit. Fault Code P2237 "The pump current connection of oxygen sensor 1 (cylinder bank 1) has an electrical fault or open circuit. Fault Code P2626 "The trimming resistor connection of oxygen sensor 1 (cylinder bank 1) has an electrical fault or open circuit. Possibly fault P0410 could be encountered as well.

Cause:

Cause can be attributed to transitional - or contact resistance - at O2 sensors connector pins.

Remedy:

If P0410 is encountered, please process fault code following Xentry/DAS guided tests first.

1. Perform guided tests-->exhaust system-->"test of secondary air injection"
2. If step 1 fails, please perform repair to secondary air system.
3. Validate repair with two test drives letting the vehicle to return to ambient temperature (engine cold) between test drives.
4. If no DTC P0410 is present, release the vehicle
5. If DTC P0410 reappears:
 - a. Start engine and verify vacuum is present to/from changeover valve Y32 before and after actuating valve Y32 with Xentry/DAS.
 - b. Shut off engine
 - c. Disconnect metal pipe between exhaust manifold and secondary air valve (see AR14.30-P-7150MCU)
 - d. Turn the key ON
 - e. Actuate M33 electric air pump
 - f. Verify no air exits secondary air valve
 - g. Using a hand held vacuum pump, apply vacuum to secondary air valve and verify with M33 (electric air pump) actuated air flows freely from valve

XENTRY TIPS

- h. If any of the above steps fail, replace faulty component.
- i. If no faulty component is found, proceed as indicated below.

If vehicle does not exhibit P0410, but has either P2237 or P2626, please perform the following:

- Follow Xentry guided test to determine possible root cause related to P2237 or P2626
- If guided test in the step above does not reveal root cause, disconnect the ME and O2 sensor connectors and visually inspect pins (no drag test) for any damage, corrosion or pin spreading. If nothing obvious observed, re-connect connector plugs and follow with the step below
- Inspect wiring harness for possible damages (refer to illustration in attachments), if visible damage noticed, replace the engine harness (follow the QEC return rule). If no damages observed follow with step below
- If nothing found on either of the fault codes P2237 or P2626 follow with the replacement of O2 sensor pins on the engine harness (refer to parts information for pin number and seal). Use the crimping tool 220 589 04 99 11 and refer to WIS documents relating to repairing wiring harness / disconnecting pins (listed in WIS references table).

The PTSS case should only be open in a situation when fault code(s) and the CEL come back and above steps were already performed.

Attachments	
File	Description
M132-smart 451 engine harness damage.pdf	Harness damage illustration

Symptoms
Power generation / Engine management / Indicator lamp / Engine diagnosis / lit

Control unit/fault code		
Control unit	Fault code	Fault text
N3/10 (ME-SFI [ME] control unit) (ME7_451)	P2237	The pump current connection of oxygen sensor 1 (cylinder bank 1) has an electrical fault or open circuit. ((CODECO@494) or(CODECO@460))
N3/10 (ME-SFI [ME] control unit) (ME7_451)	P2626	The trimming resistor connection of oxygen sensor 1 (cylinder bank 1) has an electrical fault or open circuit. ((CODECO@494) or(CODECO@460))
N3/10 (ME-SFI [ME] control unit) (ME7_451)	P0410	The secondary air system is faulty. ((CODECO@494) or(CODECO@460))

Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 021 545 13 26			MCP1.2 female contact pin	1		X
A 000 545 69 80			wire seal	1		X

Operation numbers/damage codes				
Op. no.	Operation text	Time	Damage code	Note

XENTRY TIPS

			54575 52	Control unit, gasoline engine
			14212 73	Oxygen sensor upstream of catalytic convertor

WIS-References			
Document number	Title	Note	Allocation
AR07.08-P-7008MCU	Remove/install injection system contr unit		Remedy
AR07.04-P-0080MCV	Remove/install O2 sensor	If applicable	Remedy
AR54.21-P-0012MCU	Control unit flashing		Remedy
AR14.30-P-7150MCU	Remove/Install pipework for secondary air system	if applicable	Remedy
AR00.19-P-0100A	General repair methods for wiring harness		Remedy
AR00.19-P-0120A	Removing contacts from plugs and connectors		Remedy

Validity		
Vehicle	Engine	Transmission
fortwo 451 - 451.331	*	*
fortwo 451 - 451.431	*	*