MAS002969 (BOL 22-05)

Diagnostic Sheet

From: After Sales - TSO
To: Maserati Network

Maserati
PERSONAL SERVICE LAB
MASTERS OF CARE

TECHNICAL SERVICE OPERATIONS

MAS002969 - Blow-by pressure sensor faults

DATE: February 17, 2022

NOTE: The below in depth diagnostic procedures are to be used along with the procedures listed in the Workshop Manuals if a more comprehensive diagnosis is required.

The purpose of this diagnostic sheet is to provide diagnostic guidance for DTCs related to the blow-by pressure sensor (also named the "crankcase pressure sensor").

MODELS: M156, M157, M161

ENGINE TYPES: F160 (V6), F154 (V8)

MODEL YEAR: from MY21

SECTION: 01.90 – 2 (V6)/5 (V8) - BLOW-BY PRESSURE SENSOR

ISSUE: MIL warning light on.

CONDITIONS: No specific driving conditions. Cold ambient temperatures could have an influence.

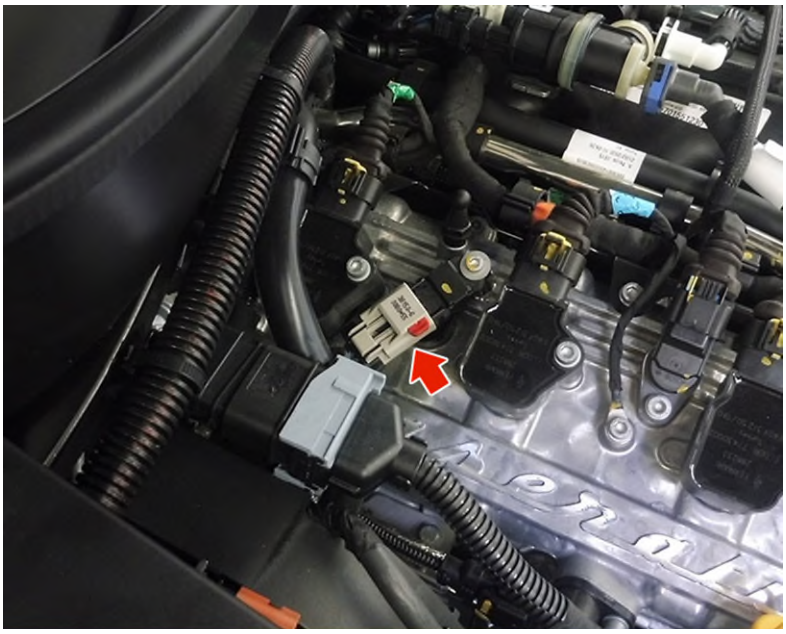
DTC in ECU: Possible DTCs in the ECM:

- P2C33 - Crankcase Pressure Sensor "B" Circuit Range/Performance
- P2C34 - Crankcase Pressure Sensor "B" Circuit Low
- P2C35 - Crankcase Pressure Sensor "B" Circuit High
- P051B - Crankcase Pressure Sensor Circuit Range/Performance
- P051C - Crankcase Pressure Sensor Circuit Low
- P051D - Crankcase Pressure Sensor Circuit High

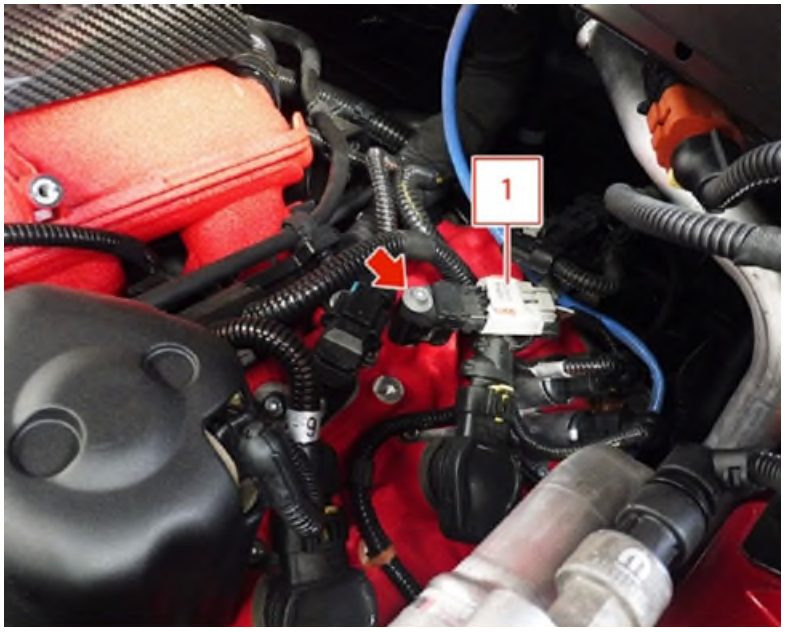
TROUBLESHOOTING: The DTCs listed above are set when the ECM reads unexpected values of the crankcase pressure through the pressure sensor.
This issue can be due to one or more of the following causes:

- Blow-by pressure sensor faulty
- Harness damaged/poor electrical connections
- Blow-by valve faulty
- ECM SW out of date
- ECM corrupted

Please refer to the images below to locate the blow-by pressure sensor on F160 (V6) and F154 (V8) engines.



Picture 1 – The blow-by pressure sensor is located on bank 1 on F160 (V6) engines



Picture 2 - The blow-by pressure sensor is located on bank 2 on F154 (V8) engines

It is required to open a BOL as a "Support Request", reporting the outcome of the checks listed below.

Checklist:

1) Take notes about driving times and conditions in which the customer has experienced this issue. Additional information about the frequency and/or the mileage of the latest occurrence might help with the diagnosis.

2) Perform a scan of all the ECUs with MD Evo and save the complete report (DTC + parameters) in pdf format.

3) Clear all DTCs inside the ECUs and then verify if the issue can be reproduced. Take notes of driving times and conditions in which the issue is possibly duplicated (e.g. while driving at constant speed, warm engine, ambient temperature -10°C, etc.)

4) If the involved vehicle is a MY21, proceed with the checks reported starting at step 5. For MY22 vehicles (or newer) start at step 6.

5) Check whether the ECM is already updated to one of the SW versions shown in the table below. If not, flash the ECM to the indicated SW (or newer) and check if the problem is solved. If the problem persists, proceed with the next diagnosis steps.
NOTE: In case the message "Error. Contact Technical Service" is shown on "ECU programming" button, please open a BOL requesting support to solve this problem before proceeding with the next steps.

MY	Models	Markets	SW Part Number	SW version
21	M15X 430HP RWD	North America	670215837	12.18.00 21.30.00 21.30.00
21	M161 350HP	North America	670216104	12.18.00 21.30.00 21.30.00
21	M15X 350HP	North America	673012371	12.18.00 21.30.00 21.30.00
21	M161 430HP	North America	673012370	12.18.00 21.30.00 21.30.00
21	M15X 430HP AWD	North America	673012372	12.18.00 21.30.00 21.30.00
21	M161 530HP	North America	673013162	12.18.00 21.44.00 21.44.00
21	M161 580HP	North America	673012373	12.18.00 21.44.00 21.44.00
21	M15X 580HP	North America	673012374	12.18.00 21.44.00 21.44.00

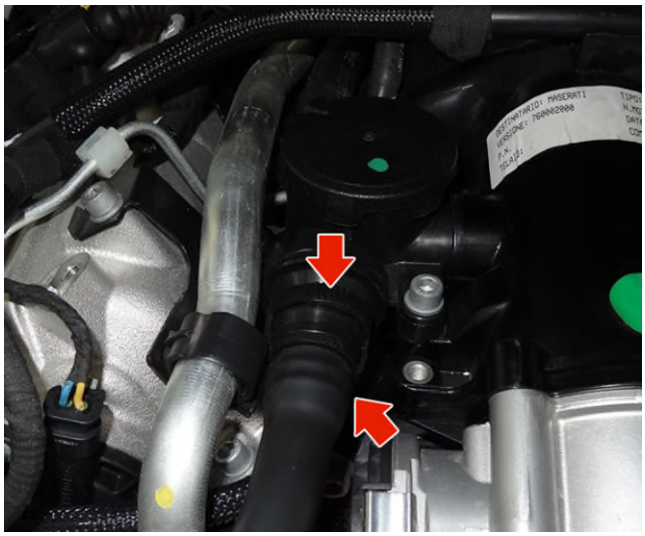
6) Disconnect the 12V battery and both connectors of blow-by pressure sensor and ECM. Referring to Modis wiring diagram FE0802, check the continuity of the harness between the blow-by pressure sensor and the ECM. Verify the insulation of each wire (either to chassis ground and to each other). Check the intermediate connection of the signal line (D021) for any loose or corroded pins. Check the pins on blow by pressure sensor and ECM for any bent/corroded pins.

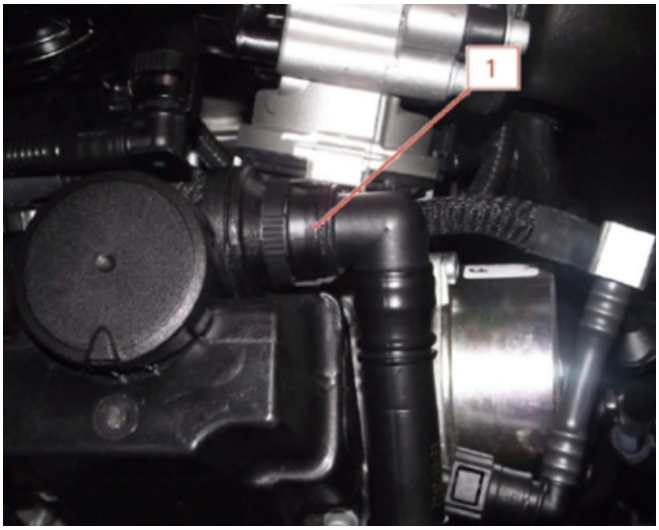
7) Connect the blow-by pressure sensor and ECM connectors. Connect the 12V battery. With ignition on, measure the voltage between pin 1 and pin 2 of the blow-by pressure sensor connector (it should be 5V).

8) If there are no issues found with the above checks, remove the blow-by pressure sensor and take two pictures of both the front and rear sides of the sensors (see Picture 3 below).

Picture 3 – Blow-by pressure sensor (F160)

9) Disconnect the pipe between the blow-by valve and the RH turbocharger at the area's highlighted in Pictures 4 (V6) and 5 (V8) below. Take pictures of the blow-by valve (see example shown in Picture 6 as comparison).





Picture 4 (left) and Picture 5 (right) – V6 and V8 blow-by valve location

Picture 6 – Blow-by valve contamination check

10) Please open a BOL as a "support request" attaching/reporting all the information collected through the above checks.

If you have any questions, contact the Technical Support Helpdesk.