167 with M177 and 48V System - CEL or Yellow "Coolant" message in IC - DTC P2B2A7A The speed of the 'Coolant pump' component part is too high. A leak or defective seal was detected stored in PTCU

Topic number	LI20.00-P-080222
Version	2
Function group	20.00 - General
Date	10/19/26
Validity	Model series 167 with M177.98 prior to model year 2027
Reason for change	updated validity

Complaint

Customer states that the yellow "Coolant" message is populated in the instrument cluster.

The following DTC is found stored in the PTCU:

P2B2A7A - The speed of the 'Coolant pump' component part is too high. A leak or defective seal was detected

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Notes on fault code:

The fault code concerns the right rear 15 W pump on the side of the transmission (M43/6, Figure 1, position C).

The fault code concerning the speed that is too high is set because of air in the system (emergency dry run function)

IMPORTANT: For model year 2024 and newer vehicles pump PN's A0005009100 and A0005008900 are the correct pumps

Cause

Air in the low-temperature coolant circuit

Remedy

PLEASE READ ALL THE BELOW STEPS AND FOLLOW THEM IN ORDER.

Step 1:

With the engine cold, use XENTRY Diagnosis to activate the two pumps at the passenger front. As they are running, remove

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the cap from the low temp cooling circuit reservoir and observe the coolant.

- If it overflows the reservoir, or blows out upon removal of the cap there is a restriction somewhere in the coolant lines.
- This can take the form of a physical restriction inside of one of the lines or pumps or a damaged or kinked hardline or rubber hose.
- Activate each pump in succession and listen to it using a stethoscope or by placing an ear to a screwdriver or other implement placed on the pump
- Compare the sound and feel of each pump. An improperly functioning, bled, or faulty pump will make a very distinct churning noise. The pumps should be near silent and should not vibrate or heat up.
- If you find a pump that is making more noise than the others it is most likely pulling in air from somewhere or is encountering a restriction (refer to the first point in this section)
- If nothing of note is found, proceed to step 2.

Step 2:

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Disassemble underfloor paneling and wheel well interior trim at front right to gain access to the two low temperature pumps. Take note of or photograph the part number of the pump holder, along with the production date.

Step 3:

For model year 2020-2023 only, check the installation position of the pumps at the front right of the low-temperature circuit (Fig. 1). Below are the correct specified part numbers at each location for these model years:

- Outer: A 000 500 5500 (Fig. 1, position A)
- Inner: A 000 500 3800 (Fig. 1; position B)
- If installation position is NOK, continue to step 4
- If installation position is OK, skip to step 7

Step 4:

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Photograph the pump part numbers at the front right so that the QR-code/DMC code and the part number are visible and legible save the pictures and label them appropriately if a TIPS case is required in the future.

Step 5:

For model year 2020-2023 only, replace the affected pump(s) if the installed part number differs from the specified part number (see specified part number in step 3).

Step 6:

Use a vacuum bleeder to fill the cooling system of the low-temperature circuit.

Step 7:

Vent the cooling system of the low-temperature circuit using XENTRY.

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- NOTE: The cooling system of the low-temperature circuit is vented in various stages. To start with, the pumps at front right are actuated at approx. 30%, then 50% and finally at 100%. At 100% actuation, the valve of the coolant circulating the pump at the side of the transmission is opened (Fig. 1; position C).

Please **ALWAYS** observe the following points during the venting procedure:

- The front right pumps always run simultaneously. These pumps must NEVER be operated separately of each other for actuation or for test purposes.
- The pump at the rear of the transmission must run permanently after being actuated. If the pump only briefly starts-up and then stops again, it is in a so-called emergency dry run mode because there is too much air in the system. Please repeat the venting routine. If the rear pump at the side of the transmission remains in the emergency dry run mode, create a TIPS case, add the previously discovered findings to it and send it to the technical support team.

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- If venting is successful, you will hear hardly any flow noise at all, if necessary, the venting routine may need to be repeated several times over. If after 3 venting attempts the system still has air in it, create a TIPS case, add the previously discovered findings to it and send it to the technical support team.

WIS-References

Document number	Title	Note
AR20.00-P-1142MNP	Drain/pour in coolant	Drain/pour in coolant

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Symptoms

Power generation > Engine cooling system > Indicator lamp > Illuminates yellow

Power generation > Engine cooling system > Display message > Coolant - Serviced Required

Parts

Part number	ES1	ES2	Designation	Quantity	Note	EPC
A0005005500			Front right outer coolant pump, low temperature circuit	1		
A0005003800			Front right inner coolant pump, low temperature circuit	1		

Attachments

File	Description
Coolant pump locations on low temperature circuit.jpg	Figure 1

Control unit/fault code

Control unit	Fault text
N127 - Control unit "Drivetrain" (PTCU) / (CPC_NG)	**P2B2A7A** - The rpm of component 'Coolant pump' is too high. Leakage or a defective seal was detected.

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