

Low Coolant Warning, Potential Misfire, and Absence of External Coolant Leaks

Topic number	LI09.41-N-079165
Version	1
Function group	09.41 - Charge air pipe/charge air cooling
Date	4/21/25
Validity	OM654
Reason for change	

Complaint

Low Coolant warning with possible engine misfire caused by a leaking Charge Air Cooler (Intercooler), accompanied by one or more of the following possible fault codes related to the coolant system:

P30040B: Component 'Temperature sensor downstream of charge air cooler' has an open circuit or short circuit to positive.

P25567B: Sensor 'Coolant level' has a malfunction. The fluid level is too low.

Cause

The potential causes for this topic are:

- A. A leak in the Coolant System, other than the Charge Air Cooler.
- B. An Internal leak of the Charge Air Cooler.
- C. An unapproved/aftermarket upfit or modification to the coolant system.

Remedy

A. A leak in the Coolant System, other than the Charge Air Cooler

1. Complete a coolant system pressure test:

- Refer to WIS Doc AR20.00-D-1011TS - Check engine cooling system for leak tightness.
- Use Tester Cap 210 589 00 91 and Pressure Pump 124 589 24 21 00.
- Apply test pressure to the engine cooling system. Do not exceed the specified test pressure of 1.5 Bar to prevent damage to the engine cooling system.
- Perform a visual check on the top and bottom of the engine compartment and in the vehicle interior.
- If coolant loss or pressure loss is present, perform suitable repair measures depending on the vehicle equipment.
- If NO signs of coolant loss are found but pressure loss is present, proceed to Step B.

B. An Internal leak of the Charge Air Cooler

1. Inspect the Charge Air Cooler for an internal leak:

- Remove either the Throttle Valve or Charge Air Temperature Sensor to inspect for coolant loss. See attachments for the failed Charge Air Cooler.
- If coolant is found inside the Charge Air Cooler:
- Perform a manual compression test to confirm the absence of internal engine failures per WIS Doc AR01.00-D-1201TSM - Check compression pressure.
- Remove and clean any coolant present in the Charge Air System, Intake System, and Cylinders.

- Replace the Charge Air Cooler, the glow plugs, and then conduct an oil and filter change. Refer to AR09.41-D-6817TSM - Remove/install charge air cooler.
- Note: Ensure the new Charge Air Cooler is dated post clean point 05/10/2023. See the attachment for the date code.
- Note: If the installed Charge Air Cooler is found to be leaking after the clean point on 05/10/2023, please open a TIPS case directed to the Powertrain inbox.
- If coolant is not found inside the Charge Air Cooler, proceed to Step C.

C. An unapproved/aftermarket upfit or modification to the coolant system

1. Inspect the Coolant system for any unapproved/aftermarket upfits or modifications:
- See the Attachments for examples of non-approved upfits or modifications.
 - Note: The OM654 cannot have any aftermarket modifications made to the coolant system per the Body and Equipment Guidelines (BEG) under 4.4.3 Engine Cooling, "Do not make modifications to the cooling system (cooler components, air ducting, hose, and other detachable parts that are part of the cooling system)".
 - If there are modifications made to the coolant system that violate the BEG, do not complete any repairs on the system under warranty until either your Vans Aftersales Business Development Manager (VABDM) or facing Field Service Engineer (FSE) reviews the vehicle.

Attachments	
File	Description
Charge Air Cooler 1.jpg	Coolant found in the Charge Air Cooler
	
Charge Air Cooler 2.jpg	Coolant found in the Charge Air Cooler



Coolant on Glow Plugs.jpg

Dried coolant on tips of the Glow Plugs



Charge Air Cooler Date Code.png

Location of the date codes on the Charge Air Cooler



Aftermarket Coolant Heater.jpg

Non-approved Aftermarket Coolant Heater



[Aftermarket Coolant Circuit.jpg](#)

Non-approved Aftermarket Coolant Circuit



WIS-References

Document number	Title	Note
AR01.00- D-1201TSM	Check compression pressure	
AR20.00-D-1011TS	Check engine cooling system for leak tightness.	
AR09.41- D-6817TSM	Remove/install charge air cooler	

Disclaimer

NOTE: The information contained in this document is intended for use by trained, professional technicians with the knowledge to properly and safely perform diagnosis and repairs on Mercedes-Benz vehicles, using Mercedes-Benz approved tools and equipment. It informs service technicians about conditions that could occur in certain vehicles and provides information that could assist in proper vehicle diagnosis, service, or repair. It does not indicate that a defect is present in any vehicle referenced in this document nor does it imply warranty coverage. DO NOT assume that a symptom or condition, or a described cause of a symptom or condition, affects any particular vehicle or groups of vehicles, or that a described repair applies to any particular vehicle or groups of vehicles. There can be multiple causes resulting in the same or similar symptoms or conditions described in this document, and trained professional service technicians must use their diagnostic skills to make evaluations on a case-by-case basis. The information contained in this document does not guarantee warranty coverage nor does it extend the vehicle's warranty in any way.

Symptoms
Power generation > Engine management > Engine running > Surges
Power generation > Engine cooling system > Indicator lamp > Illuminates yellow
Power generation > Engine cooling system > Leakage > Has coolant loss

Control unit/fault code	
Control unit	Fault text
N10 - Signal acquisition and actuation module (SAM) (BCMFA2)	P25567B - Sensor 'Coolant level' has a malfunction. The fluid level is too low.
N3/40 - Motor electronics 'MRD1' for combustion engine 'OM654' (CDI) (MRD1NFZ)	P30040B - Component 'Temperature sensor downstream of charge air cooler' has an open circuit or short circuit to positive.

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