

# Technical Service Bulletin

<b>Topic</b>	Engine Overheating - Coolant Pump Leaking and Low Coolant Warning   W12
<b>Market area</b>	Bentley: worldwide (2WBE)
<b>Brand</b>	Bentley
<b>Transaction No.</b>	2071239/3
<b>Level</b>	EH
<b>Status</b>	Released for publishing
<b>Release date</b>	Jun 5, 2025

## New customer code

Object of complaint	Complaint type	Position
lighting, signaling -> acoustic signals -> coolant monitoring audio warning	functionality -> activates	
engine -> cooling system	leaks	
engine -> cooling system -> coolant	component, automotive fluids -> too little	

## Vehicle data

### W12 Engine Variants

#### Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
3S31AB	2018	E		*	*	*
3S31BB	2018	E		*	*	*
3S31BB	2019	E		*	*	*
3S31BB	2020	E		*	*	*
3S31BB	2021	E		*	*	*
3S31BB	2022	E		*	*	*
3S31EB	2021	E		*	*	*
3S31EB	2022	E		*	*	*
3S31EB	2023	E		*	*	*
3S41BB	2019	E		*	*	*
3S41BB	2020	E		*	*	*
3S41BB	2021	E		*	*	*
3S41BB	2022	E		*	*	*
3S41EB	2021	E		*	*	*
3S41EB	2022	E		*	*	*
3S41EB	2023	E		*	*	*
4V14A9	2017	E		*	*	*
4V14A9	2018	E		*	*	*
4V14A9	2019	E		*	*	*
4V14A9	2020	E		*	*	*
4V14A9	2021	E		*	*	*
4V14G9	2020	E		*	*	*
4V14G9	2021	E		*	*	*
4V14G9	2022	E		*	*	*
4V14G9	2023	E		*	*	*
ZG21BB	2020	E		*	*	*
ZG21BB	2021	E		*	*	*
ZG21BB	2022	E		*	*	*
ZG21BB	2023	E		*	*	*
ZG26BB	2023	E		*	*	*

## Documents

Document name
master.xml

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## Condition

One or a combination of the following is evident:

- Coolant leaking from the mechanical coolant pump
- Coolant witness marks on the mechanical coolant pump although coolant is not leaking/dripping from the pump
- Low coolant level warning displayed within the DIP

Or

- Engine overheating issues and/or DTC P218100: Cooling System Performance with symptom code 8113 or air in the coolant DTC's (various) is evident, in this scenario the operative should also refer to TPI 2051893/-

## Technical Background

### **CAUTION**

This TPI is applicable to vehicles which have a mechanical coolant pump with the part number 07P 121 008B or 07P 121 008C

HINT: A borescope may have to be used when checking the part number of the mechanical coolant pump

## Revision history

### **TPI 2071239/3**

A hydrocarbon (block) test has been added to the measure section.

Coolant residue information added to the measure section.

The 'B' level part 07P 121 008B has been introduced to this TPI and the 'B' level specific TPI (2071238/-) has been archived.

## Production Solution

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## Service

1) On receipt of the vehicle - Take a photograph of the coolant level within the coolant reservoir and inspect the engine bay for any coolant residue (figure 1).



Figure 1

### **NOTICE**

If coolant residue is found in the engine bay, please raise a full technical DISS query and attach a photograph of the coolant residue and a photograph of the coolant level.

2) Using ODIS check to confirm that no DTC's are evident relating to low coolant or overheating issues in particular

DTC P218100: Cooling System Performance with symptom code 8113

Or

Air in the coolant DTC's (See Customer statement/workshop findings section if DTC P218100: Cooling System Performance with symptom code 8113 or Air in the coolant DTC's are evident

- Save the current ODIS log online
- Take a photo of any coolant related warnings which are evident within the DIP
- Take a photo of any suspected coolant leaks

#### **WARNING**

The next part of the process requires the coolant system to be pressure tested, the operative must ensure the instructions within Rep.Gr 19 are followed. The engine **MUST BE cold** before conducting the pressure test

3) Referring to Rep.Gr 19 - Pressure test the coolant system to confirm if a coolant leak is evident from the mechanical coolant pump

#### **NOTICE**

**VERY IMPORTANT:** In the event that a leak is evident on a C level mechanical coolant pump and coolant is leaking/dripping as a result of conducting the coolant pressure test - Record a clear video of the leak (whilst carrying out the pressure test) the video must then be uploaded to a new or existing DISS query

Refer to the video located within the Bentley Hub reference TPI 2071238/-.

The video shows an example of a coolant pump with no leak, although a small coolant witness mark is evident (Figure 2). In this scenario the coolant witness mark should be cleaned off (using a suitable cleaning agent) to the condition shown in Figure 3



Figure 2



Figure 3

4) Perform a block (hydrocarbon) test

**CAUTION**

Before performing the block test ensure the test liquid is within its expiry date and is deep blue in colour

**Note:** Take photos or record a video both before and after the block test.



If the test liquid changes colour the block test has failed, please raise a full technical DISS query with the photos or videos attached.

**NOTICE**

If a B level coolant pump is fitted to the vehicle, proceed to step 9



In the event that coolant is not leaking from the mechanical coolant pump whilst conducting the pressure test AND the engine has passed the hydrocarbon test, the operative must conduct Step 5 (road test) to confirm if a coolant leak is evident or not.

However, if a coolant leak is evident whilst conducting the pressure test the operative must go directly to Step 6

5) Conduct a road test

On return, conduct a visual check to confirm if the leak is evident or not.

**NOTICE**

Should a leak NOT be evident, no further action is required.

**NOTE:** In the event there are no visible coolant leaks from the mechanical coolant pump and the coolant level is to specification as per Rep.Gr 10 - DO NOT replace the mechanical coolant pump (No further action is required)

However, if a visible coolant leak is evident the operative should continue with the remaining instructions from Step 6

6) Referring to Figure 4 - Disconnect each vacuum hose with care from the Solenoid for coolant circuit N492 - visually monitor for any traces of coolant



Figure 4

HINT: Refer to the video on the Bentley Hub referencing TPI 2071239/-

**NOTICE**

**VERY IMPORTANT: If traces of coolant are evident during disconnection, take clear photos or record a clear video of any coolant within the vacuum hoses or N492 and attach to a new or existing technical DISS query**

*Please note the quoted video should be used for reference purposes only as it may not show the same part which is fitted to the applicable vehicle (although the symptom is the same regardless of the type shown)*

7) Use a Mityvac or similar vacuum tool to check and confirm there are no vacuum related issues/leaks present within the system to check and confirm if N492 is sticking open and supplying a constant vacuum

8) Raise a technical DISS query or respond via an already open DISS query to request permission to replace the mechanical coolant pump ensuring the following is attached to the DISS query:

- Clear photo of the coolant level
- Clear photo of the original mechanical coolant pump part number **07P 121 008C** (Figure 5)
- Video of the coolant leak whilst carrying out the pressure test
- Current ODIS log
- Await feedback via DISS before replacing any parts

*NOTE: The photo shown in Figure 5 is a C level coolant pump (shown removed from the vehicle for photographic purposes) a borescope may have to be used for photographs of the coolant pump when fitted*



Figure 5

**NOTICE**

If a C level coolant pump is fitted to the vehicle, permission **MUST** be granted before proceeding with step 9

9) Replace the following

- Mechanical coolant pump - Rep.Gr 19
- Solenoid for coolant circuit N492 assembly - Rep.Gr 19

**NOTICE**

**IMPORTANT:** Ensure the vacuum hoses are free from moisture **DO NOT** use compressed air to attempt to remove moisture from the vacuum hoses (allow the moisture to naturally evaporate from the vacuum lines) as damage to other components and unintentional disconnection of vacuum hoses can occur if compressed air is used

In the event that 07P 121 008B was originally fitted and replaced with 07P 121 008C a non-technical DISS query is required (see NOTICE below)

**NOTICE**

**IMPORTANT:** When raising the non-technical DISS query, a clear photograph **MUST** be attached, confirming that the B level coolant pump was originally fitted prior to replacing it with a C level coolant pump



Ensure all procedures within the Repair manual are followed including any alignments/calibrations which are required (Depending on vehicle specification)

10) Conduct a road test to confirm the issue is no longer evident

**Warranty**

Warranty Type 110 or 910

Damage Service Number 19 50

Damage Code 00 50

**Coolant pressure test**

Labour Operation Code 19 01 01 00

Time 10 TU

**Diagnosis time**

Labour Operation Code 01 50 00 00

Time As per ODIS log (Must not exceed 30 TU)

**Road test**

Labour Operation Code 01 21 00 00

Time 50 TU

**Bentayga**

**Time to replace the mechanical coolant pump and N492 assembly**

Labour Operation Code 19 50 19 51

Time 70 TU

**Time to remove and refit the front end module**

Labour Operation Code 50 38 19 00

Time 760 TU

**Continental GT/GTC**

**Time to replace the mechanical coolant pump and N492 assembly**

Labour Operation Code 19 50 19 01

Time 250 TU

**Flying Spur**

**Time to replace the mechanical coolant pump and N492 assembly**

Labour Operation Code 19 50 19 01

Time 210 TU

**Required Parts and Tools**

Refer to the ETKA parts catalogue