



# Technical Service Bulletin

## 19 Engine: cooling system - engine overheats, red coolant temperature warning, MIL on - 4.0 ltr. V8 TFSI; P029900

19 24 70 2074303/5 November 6, 2024. Supersedes Technical Service Bulletin Group 19 number 24-68 dated September 23, 2024 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
RS 6 Avant, and RS 7	2021 – 2025	All	4.0l V8 TFSI
A8	2019 – 2021		
S8	2020 – 2024		
SQ7, and SQ8	2020 – 2022		
RS Q8	2020 - 2023		

### Condition

REVISION HISTORY		
Revision	Date	Purpose
5	-	Revised <i>Warranty</i> (Revised accounting instructions)
4	09/23/2024	Revised <i>Service</i> (Measure description changed)
3	07/31/2024	Revised <i>Condition</i> (Added DTC description) Revised <i>Technical Background</i> (Added DTC description) Revised header (Added DTC)

### Customer statement:

- The engine is overheating.
- The coolant temperature gauge is in the red.
- The red coolant temperature warning light appears in the instrument cluster.

### and/or

- Exhaust emissions warning lamp is on.

### Workshop findings:

- The customer complaint can be reproduced, and the engine temperature is in the red. In addition, the event memory entry P0299 (Turbo/Super Charger Underboost) may be logged in some cases.

### or

- Event memory entry P0299 (Turbo/Super Charger Underboost) logged.



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## Technical Background 1

EA825 V8 TFSI engines across all power classes are currently equipped with a switchable mechanical coolant pump.

It is activated via the electric changeover valve N649.

When N649 is activated, it switches a vacuum to the mechanical coolant pump. This pushes a locking sleeve over the pump impeller, which can cause coolant to stagnate.

When N649 is not activated, no vacuum is switched to the mechanical coolant pump, and the coolant pump is not covered. In this case, the coolant is pumped through the coolant pump impeller.

The charge pressure control for the EA825 V8 TFSI turbochargers is electropneumatic.

This means that charge pressure positioners V465 and V546 are electropneumatic pressure converters.

Depending on activation (PWM) by the engine control unit, they are able to induce a calculated negative pressure (characteristic curve). This determines the opening path of the wastegate. They are open when they are not activated.

SSP 676 contains more information on the EA825 V8 TFSI engine cooling system.

## Production Solution

Not applicable.

## Service

### **If the coolant temperature in the vehicle is too high:**

Remove the vacuum hose on the mechanical coolant pump (number 13 in Figure 1).

Check whether this results in lower engine coolant temperatures.

If the coolant temperature drops, replace the electric changeover valve for the switchable mechanical coolant pump N649 according to the Workshop Manual.

Also check whether there are traces of coolant in the vacuum hose between the mechanical coolant pump and N649, or in the vacuum connection of N649. If there are traces of coolant, please also replace the switchable mechanical coolant pump and the vacuum hose between the mechanical coolant pump and N649 according to the Workshop Manual and provide images.

### **If the coolant temperature in the vehicle is not too high, but the exhaust emissions warning lamp is on and event memory entry P0299 (Turbo/Super Charger Underboost) is logged:**

Check the vacuum system for leaks. If a leak is detected on N649, replace N649 according to the Workshop Manual.

Also check whether there are traces of coolant in the vacuum hose between the mechanical coolant pump N649, or in the vacuum connection of N649. If there are traces of coolant, please also replace the switchable mechanical coolant pump and the vacuum hose between the mechanical coolant pump and N649 according to the Workshop Manual and provide images.



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## NOTICE

When billing, a video that clearly documents the complaint should be uploaded to DOC-IT.

- To ensure a reference to the vehicle, the video must include the VIN number and the date.
- Please ensure that the video documentation does not show any persons and/or faces, license plates, or customer data.

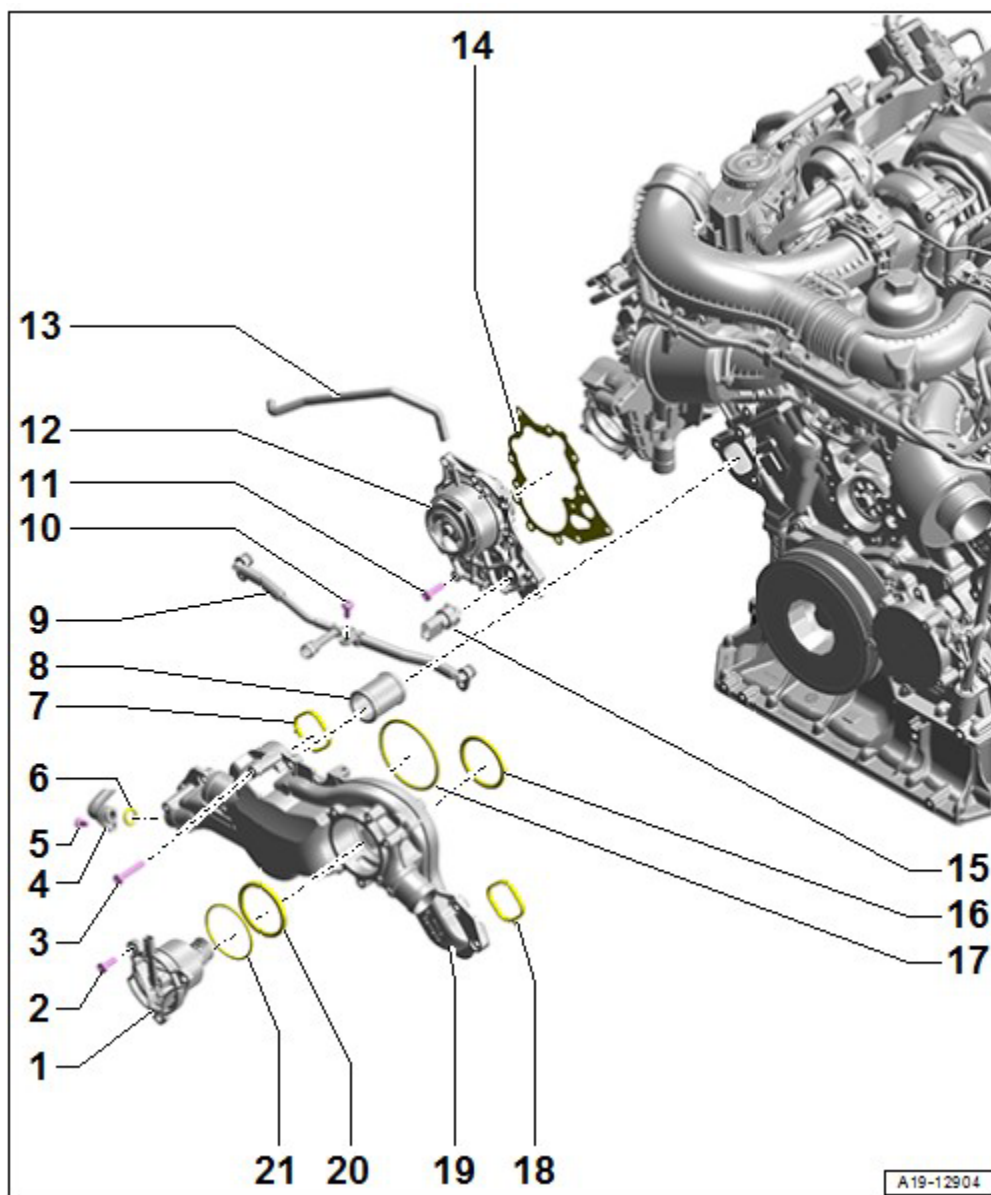


Figure 1. Assembly overview – coolant pump/thermostat incl. switchable mechanical coolant pump, number 12.



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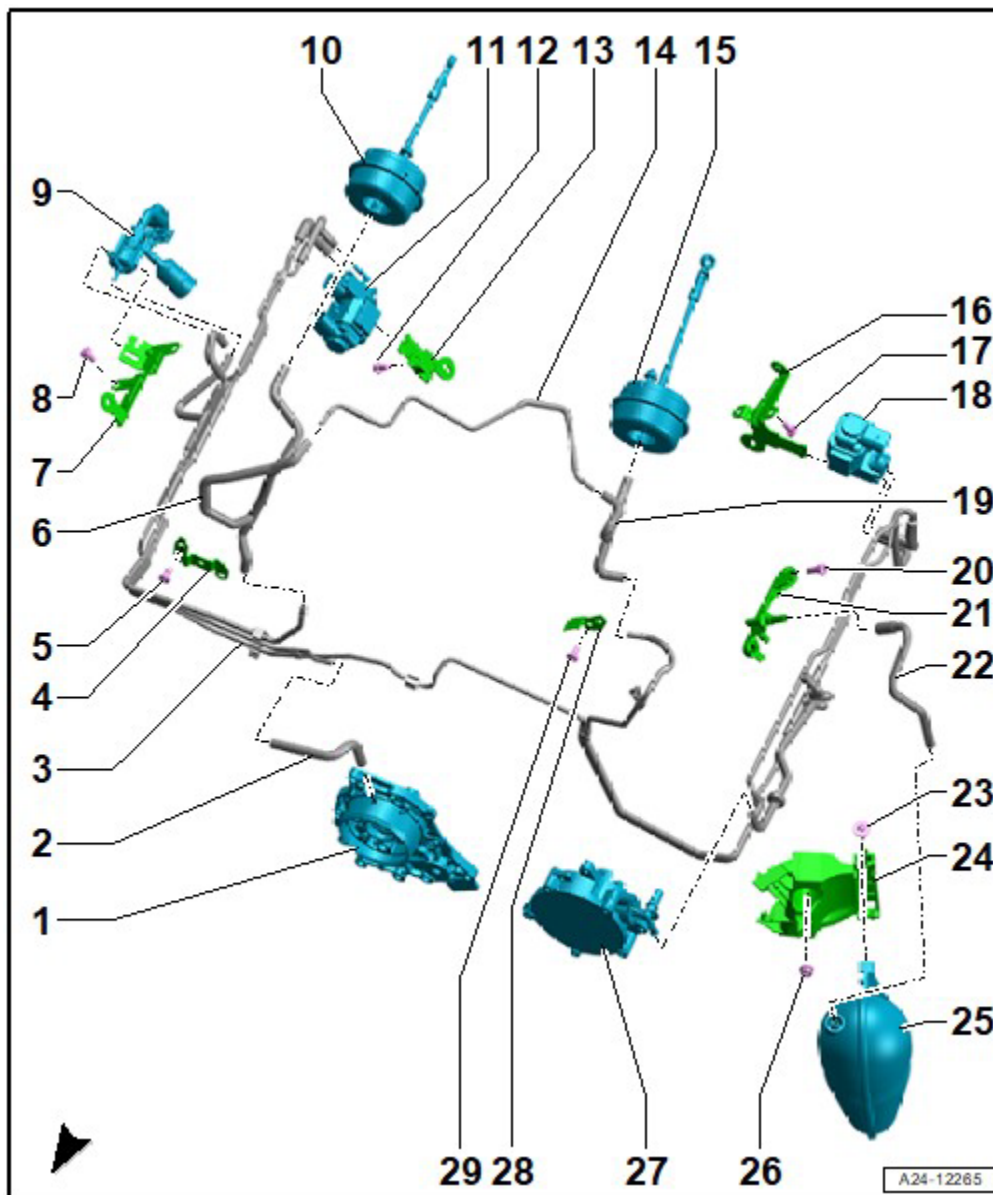


Figure 2. Assembly overview – vacuum system incl. N649, number 9.

## Warranty

<b>Claim Type:</b>	<ul style="list-style-type: none"><li>If the vehicle is outside of any warranty, this Technical Service Bulletin is informational only.</li></ul>
<b>Service Number:</b>	Case 1: Both N649 and the coolant pump have been replaced due to traces of coolant in the vacuum line or in N649. Use service number: 1950



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	Case 2: Only N649 replaced due to <b>no</b> traces of coolant in the vacuum line or in N649. Use service number 1958		
<b>Damage Code:</b>	Case 1: 050 Case 2: 010		
<b>Labor Operations:</b>	Remove and install valve N649	1984 19xx	See SRT with associated operations
	Remove and install coolant pump (if necessary)	1950 19xx	See SRT with associated operations
	GFF	0150 0060	Labor according to the diagnostic log
<b>Claim Comment:</b>	As per TSB 2074303/5		

All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

## Additional Information

All part and service references provided in this TSB (**2074303**) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

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