Technical Service Bulletin

Transaction No.: **2074303/12**

19 Engine: cooling system - red coolant temperature/coolant level warning lamp on - 4.0 ltr. V8 TFSI

Release date: Apr 30, 2026

Condition

Model(s)	Year(s)	VIN Range	Vehicle Specific Equipment
A8	2019 – 2021	All	4.0 ltr. V8 TFSI
S8, SQ7, SQ8, and RS Q8	2020 – 2025		
RS6 Avant, and RS 7	2021 - 2025		

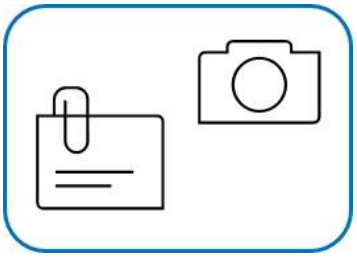
REVISION HISTORY		
Revision	**Date**	**Purpose**
12	-	Revised header (Updated model years) Revised *Condition* (Updated model table)
11	04/14/2026	Revised header (Updated model years) Revised *Condition* (Added model table) Revised *Production Solution* (Updated verbiage)
10	08/19/2025	Revised header (updated model years)

Customer states:

- The red coolant warning lamp lights up:
  - Switch off the engine and check the coolant level.
  - Coolant temperature: too high. Let engine run with the vehicle stationery.

Workshop findings:

- Coolant level in coolant expansion tank is too low
- Coolant loss at the front end of the engine.
- The engine is overheating.



Documentation required

Technical Background

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 can 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

Optimized coolant pumps from the following vehicle production date onwards:

- A8 from vehicle production date 02/11/2026
- S8 from vehicle production date 02/17/2026
- SQ7, SQ8 and RS Q8 from vehicle production date 02/12/2026

Service

Step 1

Check whether there is a visible external leak in the area surrounding the mechanical coolant pump.

NOTICE

Note: The mechanical coolant pump on the EA825 V8 TFSI engine is behind the coolant distributor. Please refer to the attachment “Overview of coolant distributors” and the following two images.

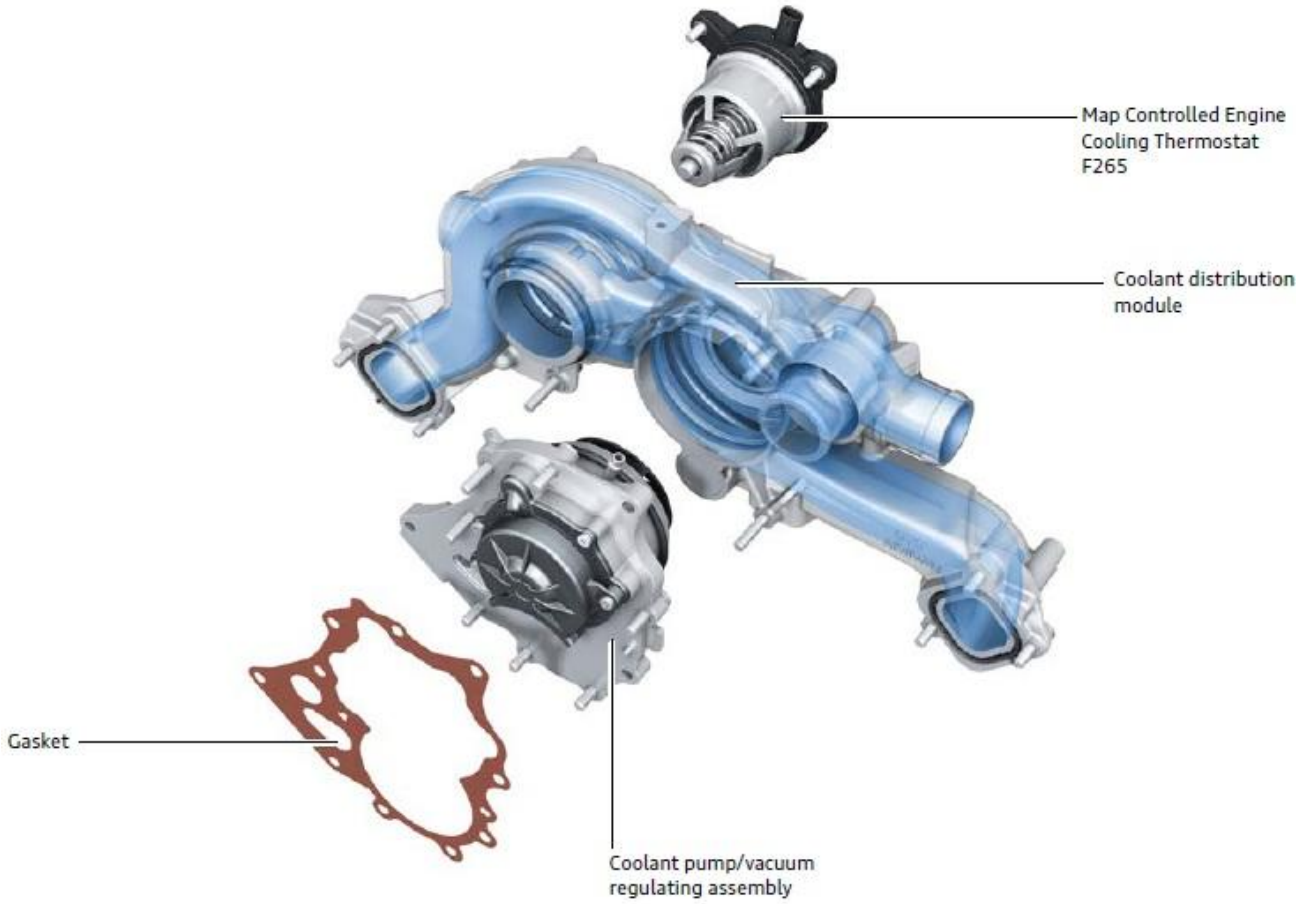


Figure 1. *Coolant distribution*

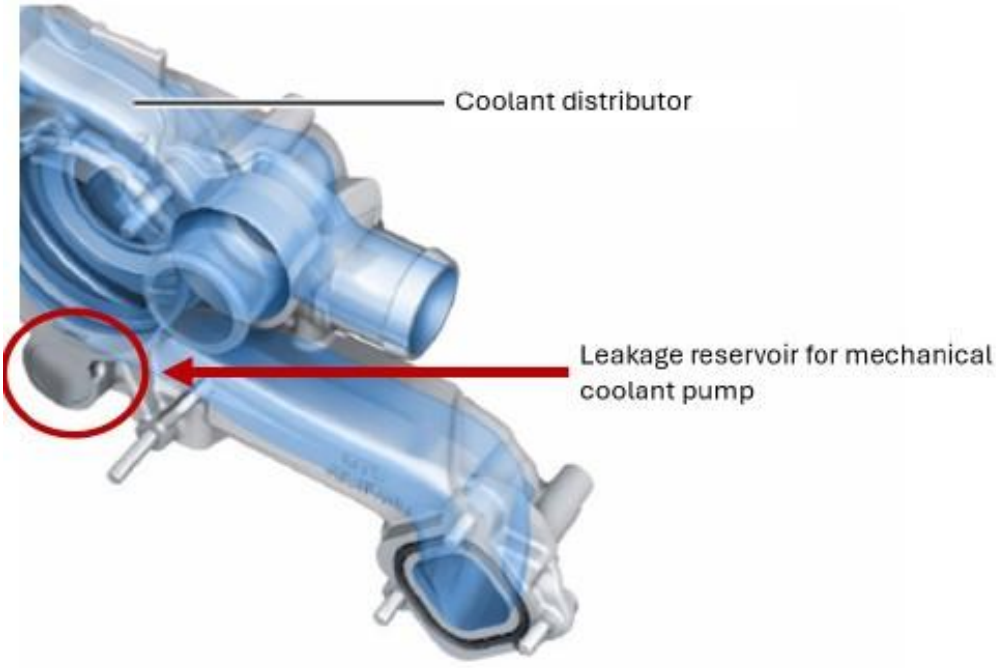


Figure 2. *Coolant distributor and leakage reservoir*

A fresh coolant leak around the mechanical coolant pump can take the form of fresh drops on the underside of the coolant distributor or the leakage reservoir (See figures 1 and 2 or attachment “Overview of coolant distributors”). If necessary, perform a pressure test of the cooling system according to ELSA.

If a fresh leak is detected, please note that it is not necessary to replace the coolant distributor. Replacing the mechanical coolant pump as per the Workshop Manual is sufficient in this case.

If no fresh coolant is visible from the mechanical coolant pump or the coolant distributor, it may be what is known as a “cosmetic leak” from the mechanical coolant pump. Replacing the mechanical coolant pump is therefore not intended for this reason.

In either case, proceed with step 2.

Step 2

Check whether a coolant leak has occurred at the vacuum connection of the mechanical coolant pump in the direction of N649. If there is any coolant in the vacuum connection of the valve or in the vacuum hose between the mechanical coolant pump and N649, replace N649, the mechanical coolant pump, and the vacuum connection.

Note:

A slight coating (brown/red) on the inside of the vacuum lines Is not a clear indication that coolant has entered. Also compare with the following example:

If it cannot be determined that coolant has entered, it is important to always perform a function check on the switch valve for mechanical coolant pump N649 using ODIS.

Step 3

This step is only necessary if no issues are identified in step 1 and step 2, and the customer complained about a **red coolant TEMPERATURE warning.**

First ensure no other TSB applies. If another TSB applies, please work through it first then reassess the customer complaint.

If no other TSB applies, or the customer complaint (red coolant temperature warning appears) is still present, remove the coolant distributor and check the switching function of the mechanical coolant pump.

To do so, connect a vacuum pump to the vacuum connection of the mechanical coolant pump.

Please note:

- If there is no vacuum applied to the vacuum connection of the mechanical coolant pump, the modulating piston (orifice panel) must be fully retracted into the pump housing.

Figure 3. *Modulating piston moved back correctly (starting position, not actuated)*

- The modulating piston (orifice panel) must completely cover the pump impeller when a vacuum (maximum: ~600mbar) is applied at the vacuum connection of the mechanical coolant pump. The vacuum must be maintained throughout the functional test.

Figure 4. *Modulating piston correctly deployed (end position, actuated)*

NOTICE

<u>Note:</u> The modulating piston tilting while it is moving out is not a reason for complaint if the end positions (as pictured above) are reached correctly.

If the end positions are not reached correctly, replace the mechanical coolant pump.

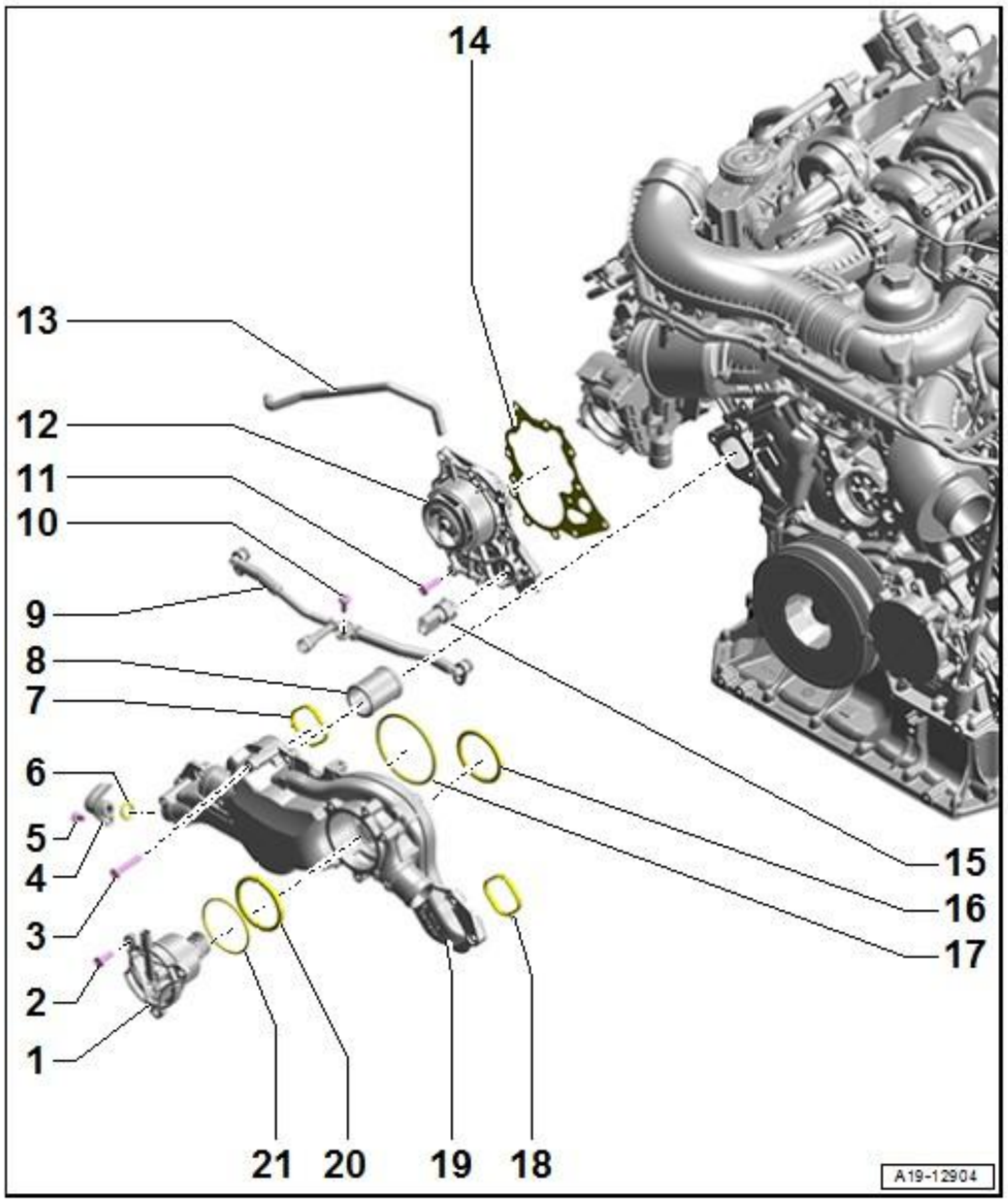


Figure 5. *Assembly overview – coolant pump/thermostat incl. switchable mechanical coolant pump, number 12.*

When billing, please always attach a photo that clearly shows the complaint to DOC-IT. To ensure a reference to the vehicle, the photo must:

- Include the VIN and date.
- Must not be edited.
- Should be in focus and taken with sufficient light.

If appropriate, please mark the location of the problem so that parts analysis has a clear reference to the complaint. Please ensure that the photo documentation does not show any people and/or face, license plates, or customer data.

Warranty

Claim Type:	• If the vehicle is outside of any warranty, this Technical Service Bulletin is informational only.		
Service Number:	Case 1: If a coolant leak was detected at the mechanical coolant pump (to outside or into vacuum chamber). Use service number: 1950 Case 2: If a deviation was detected in the switching function of the mechanical coolant pump. Use service number 1950. Case 3: If only the switch valve for mechanical coolant pump N649 has been replaced (and not the mechanical coolant pump). Use service number 1985		
Damage Code:	Case 1: 050 Case 2: 017 Case 3: 010		
Labor Operations:	Remove and install noise insulation	1082 1900	See SRT with associated operations
	Check and top off coolant	1938 3599	10 TU
	Check cooling system – pressure test	1901 0150	See SRT with associated operations
	Check coolant pump	1950 0299	20 TU
	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
	Charge battery	2706 8950	See SRT with associated operations
Claim Comment:	As per TSB 2074303/12		

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.

Please note the information on predecessors and items that are included and excluded in the repair operations, as well as any associated tasks.

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.