

Technical Service Bulletin

Topic	19 Engine: cooling system - engine overheats, red coolant temperature warning, MIL on - 4.0 ltr. V8 TFSI; P029900
Market area	United States 444 Volkswagen of America, Inc. (6444)
Brand	Audi
Transaction No.	2074303/7
Level	EH
Status	Released for publishing
Release date	Mar 18, 2025

Diagnostic trouble codes

Diagnostic address	Diagnostic trouble code	Fault symptom	Storage state
0001 - Engine electronics	P029900: Turbo/Super Charger Underboost		Intermittent
0001 - Engine electronics	P029900: Turbo/Super Charger Underboost		static

New customer code

Object of complaint	Complaint type	Position
engine -> cooling, lubrication -> engine coolant temperature regulation	functionality -> faulty	
information, navigation, communication, entertainment -> instrument displays -> display of coolant temperature	functionality -> increasing	
information, navigation, communication, entertainment -> warning display symbols -> low coolant\coolant temperature warning display	functionality -> activates	
information, navigation, communication, entertainment -> malfunction display symbols -> windshield washer system malfunction display	functionality -> activates	

New workshop code

Object of complaint	Complaint type	Position
engine -> cooling system -> switchable coolant pump valve	functionality -> does not switch off/disconnect	
engine -> cooling system -> switchable coolant pump valve	leaks -> not watertight	

Vehicle data

4.0 ltr. V8 TFSI

Sales types

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
*	2019	A		CXYA	*	*
*	2020	A		CXYA	*	*

Type	MY	Brand	Designation	Engine code	Gearbox code	Final drive code
*	2020	A		DCUE	*	*
*	2020	A		CWWB	*	*
*	2020	A		DHUB	*	*
*	2021	A		CWWB	*	*
*	2021	A		CXYA	*	*
*	2021	A		DCUE	*	*
*	2021	A		DHUB	*	*
*	2021	A		DJPB	*	*
*	2022	A		CWWB	*	*
*	2022	A		DJPB	*	*
*	2022	A		DHUB	*	*
*	2022	A		DCUE	*	*
*	2023	A		DWKA	*	*
*	2023	A		DWLA	*	*
*	2023	A		DWNB	*	*
*	2023	A		DWRB	*	*
*	2024	A		DYGA	*	*
*	2024	A		DWRB	*	*
*	2024	A		DWKA	*	*
*	2025	A		DWRB	*	*

Documents

Document name
master.xml

Technical Service Bulletin

Transaction No.: **2074303/7**

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

Release date: Mar 18, 2025

Condition

REVISION HISTORY		
Revision	Date	Purpose
7	-	Revised <i>Service</i> (Updated documenting instructions)
6	12/04/2024	Revised <i>Warranty</i> (Updated accounting instructions)
5	11/06/2024	Revised <i>Warranty</i> (Updated accounting instructions)

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.

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 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.

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

- Include the VIN and date.
- Must not be edited.
- Should be in focus and taken with sufficient light. A high resolution is not necessary.

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 persons and/or face, license plates, or customer data.

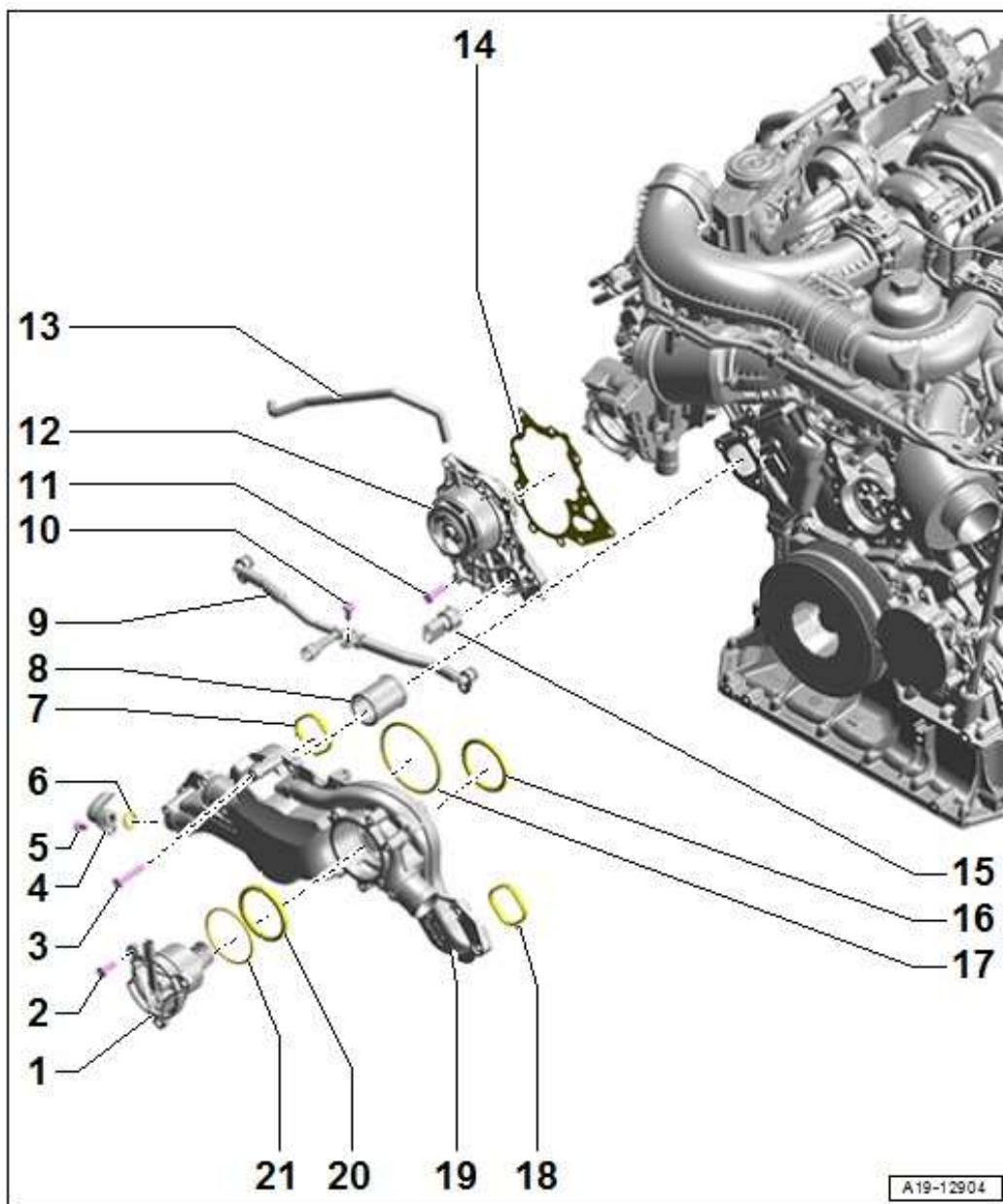


Figure 1. Assembly overview – coolant pump/thermostat incl. switchable mechanical coolant pump, number 12.

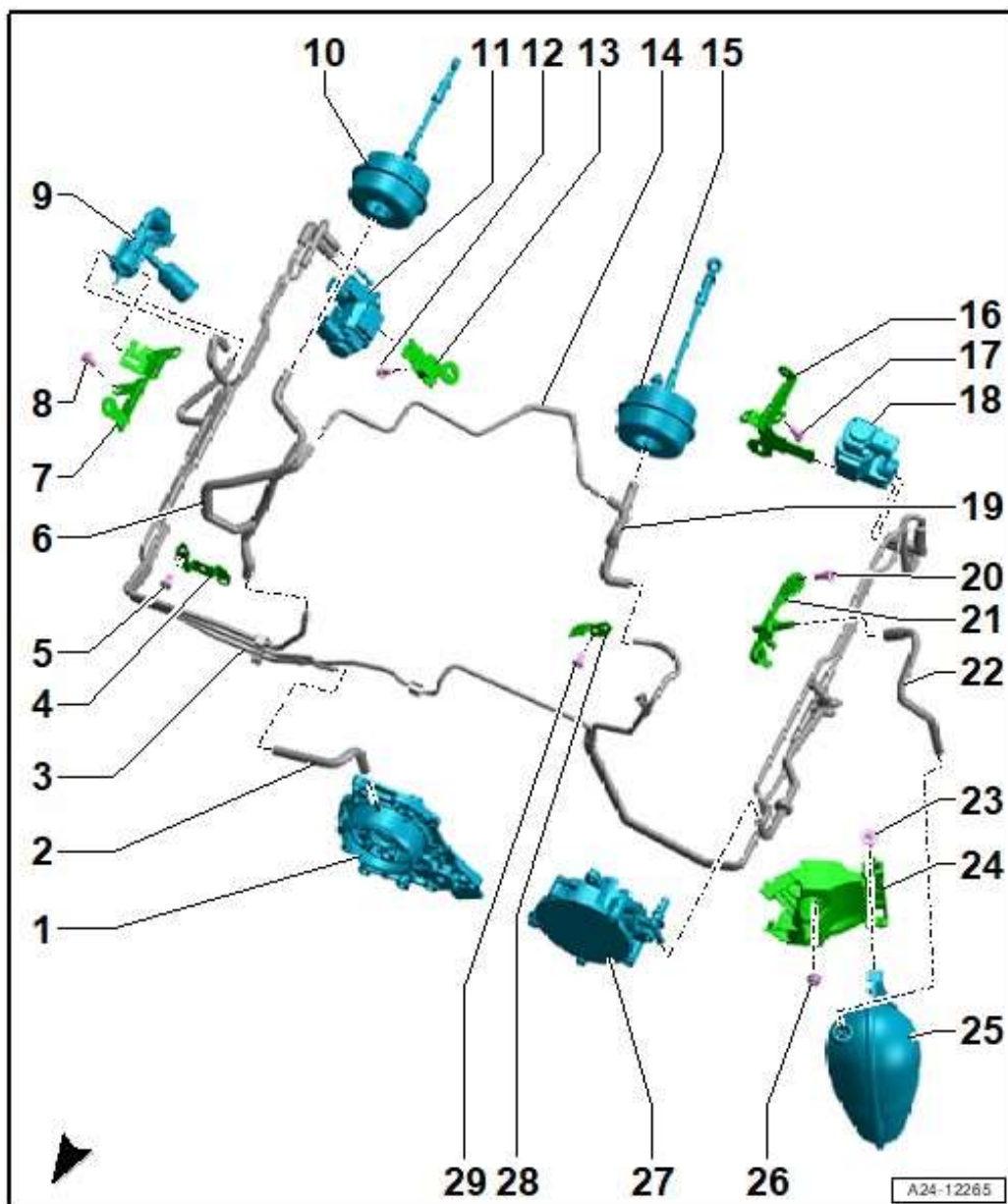


Figure 2. Assembly overview – vacuum system incl. N649, number 9.

Warranty

Claim Type:	<ul style="list-style-type: none"> If the vehicle is outside of any warranty, this Technical Service Bulletin is informational only. 		
Service Number:	<p>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</p> <p>Case 2: Only N649 replaced due to no traces of coolant in the vacuum line or in N649. Use service number 1985.</p>		
Damage Code:	<p>Case 1: 050</p> <p>Case 2: 010</p>		
Labor Operations:	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
Claim Comment:	As per TSB 2074303/7		

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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