

Warning Message "Coolant Temperature Too High": Checking Coolant Pump and Change-Over Valve (173/21)

Model Line: **Panamera (971)**

Model Year: **As of 2017**

Concerns: **Change-over valve for coolant pump**

Information: The customer complains about a warning message '**Coolant temperature too high**'. A faulty coolant pump is detected as the cause. Internal tests have shown that in some cases, the cause of a faulty coolant pump is due to a faulty change-over valve in the coolant pump.

Action required: If the coolant pump is faulty or leaking, also check the change-over valve for the coolant pump and replace it if necessary.

Required tools, parts and materials

- Tool:
- **9900 - PIWIS Tester 3**
 - Hand vacuum pump, e.g. **VAS 6213 - Hand vacuum pump**
 - Battery charger with a current rating of **at least 90 A** and - if required - **also with a current and voltage controlled charge map** for lithium starter batteries, e.g. **VAS 5908 90A battery charger**

For further information about the battery chargers to be used, see the corresponding Workshop Manual.
 ⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*

Parts Info: **Parts required for V6 engine**

Part No.	Designation – Location	Number
PAB906283	⇒ Change-over valve – Coolant pump	1 ea.
and/or		
9A712101304	⇒ Coolant pump	1 ea.
Parts required for replacing the coolant pump:		
9A712111903	⇒ Seal – Coolant pump	1 ea.
9A712117100	⇒ Sealing ring – Coolant pipe above coolant pump	1 ea.

9A700565200	⇒ O-ring (17 x 3) – Coolant pipe above coolant pump	1 ea.
9A712143713	⇒ Sealing ring (41.8 x 1.85) Disconnect coolant pipe for coolant pump	1 ea.
9A700792000	⇒ O-ring (31.34 x 3.53-N) Disconnect coolant pipe for coolant pump	1 ea.

Parts required for V8 engine

Part No.	Designation – Location	Number
06H906283B	⇒ Solenoid valve – Coolant pump	1 ea.
	and/or	
PAB121014C	⇒ Coolant pump	1 ea.
	Parts required for replacing the coolant pump:	
9A712168800	⇒ Sealing ring – Coolant regulator housing	1 ea.
97112113900	⇒ Sealing ring – Coolant regulator housing	2 ea.
9A700780900	⇒ O-ring (80 x 4) – Coolant regulator housing	1 ea.
9A700781400	⇒ O-ring (55 x 5.33) – Coolant regulator housing	1 ea.

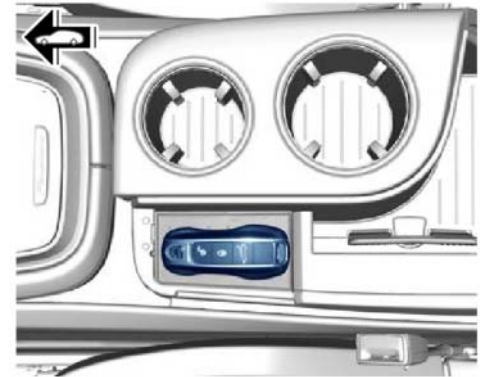
Materials: **Required materials** (usually already available at the Porsche dealer):

Part No.	Designation – Location	Quantity
00004330501	⇒ Lubricant – O-rings	5 grams/ 0.18 oz
00004330516	⇒ Coolant additive	0.5 liter/ 16.9 fl oz

Preparatory work

- Work Procedure: 1 Remove air guide . ⇒ *Workshop Manual '243619 Removing and installing air guide (V8 biturbo)'*
or
⇒ *Workshop Manual '243619 Removing and installing air guide (V6 turbo)'*
- 2 Remove belt pulley. ⇒ *Workshop Manual '195319 Removing and installing pulley (V6 turbo)'*

- 3 Connect a suitable battery charger with a current rating of **at least 90 A**, e.g. **battery charger 90A**, to the jump-start terminals in the luggage compartment and switch it on. ⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*
- 4 Place driver's key in emergency start tray
- 5 **9900 - Connect PIWIS Tester 3** to the vehicle communication module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.
- 6 Switch on ignition.
- 7 On the PIWIS Tester start screen, call up the '**Diagnos**tics' application.



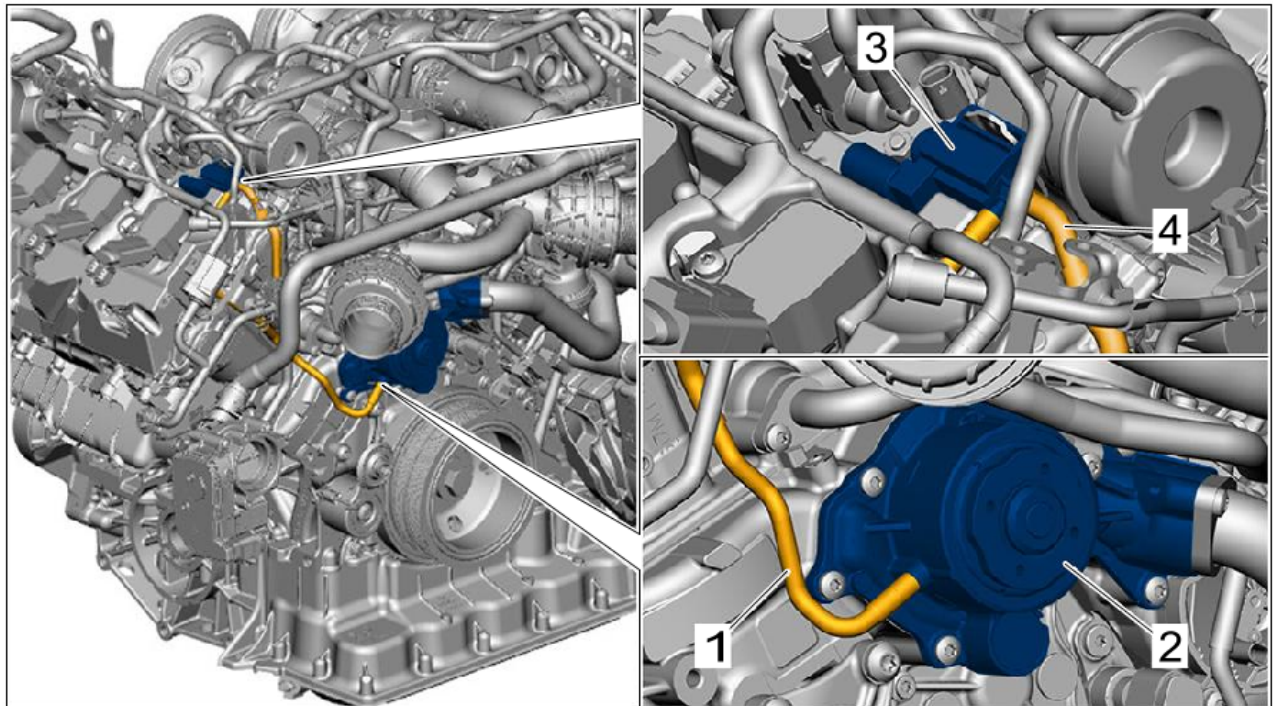
Emergency start tray

The vehicle type is then read out, the diagnostic application is started and the control unit selection screen is populated.

Checking change-over valve for coolant pump and replacing it if necessary

Work

Procedure:



Position of change-over valve and coolant pump

- 1 Pull vacuum hose ⇒ *Position of change-over valve and coolant pump -1-* off the coolant pump ⇒ *Position of change-over valve and coolant pump -2-*.
- 2 Pull off vacuum hose ⇒ *Position of change-over valve and coolant pump -4-* from the control valve ⇒ *Position of change-over valve and coolant pump -3-*.
- 3 **VAS 6213 - Hand vacuum pump** must be ⇒ *Position of change-over valve and coolant pump -3-* connected to the change-over valve ⇒ *Position of change-over valve and coolant pump -4-* on the vacuum hose connection. Then build up vacuum.



Information

Stop the test procedure if a vacuum cannot be built up. In this case, the change-over valve is faulty and must be replaced. Continue with Step 5. If a vacuum can be built up, continue with Step 4.

- 4 Perform drive link test:
 - 4.1 Select **Engine electronics (DME)** control unit.

- 4.2 Select the **Drive links/checks** menu.
- 4.3 Select **Drive links** and press •F12" Next to confirm.
- 4.4 Select '**Activation of vacuum switchover valve for main coolant pump**' and press •F8" to start.
 - If the vacuum in the vacuum pump display changes, the change-over valve ⇒ **-3-** is intact. Continue with Step 4. In this case, only ⇒ **-2-** replace the coolant pump if it is faulty.
 - If the vacuum in the vacuum pump display does not change, the change-over valve ⇒ **-3-** and the coolant pump, if necessary, must be ⇒ **-2-** replaced if the coolant pump is ⇒ **-2-** also faulty.

⇒ *Workshop Manual '195019 Removing and installing coolant pump (V8 biturbo)'*

or

⇒ *Workshop Manual '195019 Removing and installing coolant pump (V6 biturbo)'*

- 5 **VAS 6213 - Hand vacuum pump** must now be disconnected from the vacuum hose ⇒ **-1-**.
- 6 Install vacuum hose ⇒ **-1-** on coolant pump ⇒ **-2-**.

Concluding work

- Work Procedure:
- 1 Switch off ignition.
 - 2 **9900 - PIWIS Tester 3** must now be disconnected from the vehicle.
 - 3 Remove the driver's key from the emergency start tray.
 - 4 Switch off and disconnect the battery charger.
 - 5 Install belt pulley ⇒ *Workshop Manual '195319 Removing and installing pulley (V6 turbo)'*
 - 6 Install air guide. ⇒ *Workshop Manual '243619 Removing and installing air guide (V8 biturbo)'*
or
 ⇒ *Workshop Manual '243619 Removing and installing air guide (V6 turbo)'*

Invoicing

Invoicing: For documentation and invoicing in the event of a guarantee, state the work items required depending on the scope of work required and the specified PCSS encryption in the warranty claim:

APOS	Labor operation	I No.
19505520	Check change-over valve and replace coolant pump (V6 engine)	
19505521	Check change-over valve, replace change —over valve and coolant pump (V6 engine)	
19505530	Check change-over valve and replace coolant pump (V8 engine)	
19505531	Check change-over valve, replace change —over valve and coolant pump (V8 engine)	

PCSS encryption:

Location (FES5)	19500	Coolant pump
Damage type (SA4)	5000	Leakages

References: ⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*
 ⇒ *Workshop Manual '243619 Removing and installing air guide (V6 turbo)'*
 ⇒ *Workshop Manual '243619 Removing and installing air guide (V8 biturbo)'*
 ⇒ *Workshop Manual '195319 Removing and installing pulley (V6 turbo)'*
 ⇒ *Workshop Manual '195019 Removing and installing coolant pump (V6 biturbo)'*
 ⇒ *Workshop Manual '195019 Removing and installing coolant pump (V8 biturbo)'*

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