

Layout, activation and operation of coolant circulation pump -V50- (coolant pump -V36-) - vehicles with 4-cyl. or 6-cyl. engine

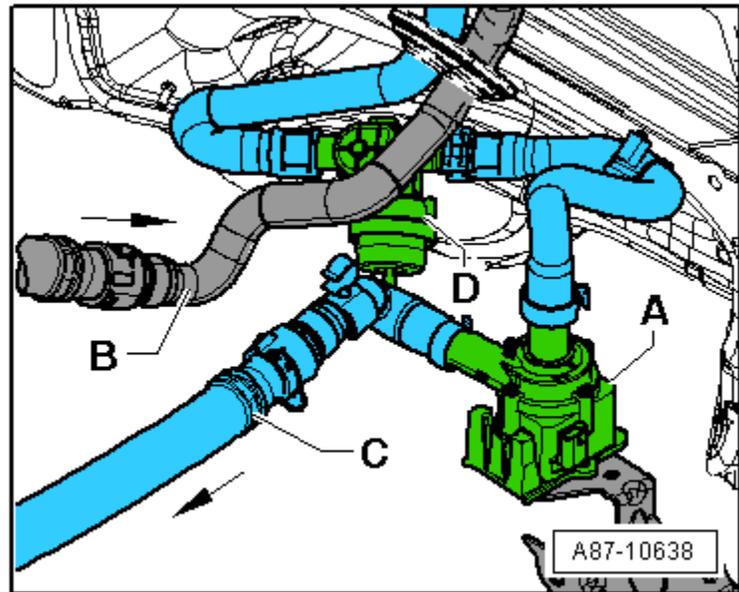
Layout on vehicles with a 4-cyl. engine and on certain vehicles with a 6-cyl. engine



Note

- ◆ -V50- can be fitted in different locations. On most vehicles with a 4-cyl. engine and certain vehicles with a 6-cyl. engine, it is located between the plenum chamber partition panel and the engine. Different fitting location in vehicles with a 6-cyl. engine → [Chapter](#)
- ◆ Depending on the version of the air conditioner operating and display unit (Climatronic control unit -J255-), the coolant circulation pump -V50- may also be referred to as coolant pump -V36- in the Guided Fault Finding routine → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\)](#).
- ◆ The version of the coolant circulation pump -V50- (coolant pump -V36-) and the activation of the pump(s) differ depending on the vehicle version and production period. From model year 2012 onwards and depending on the engine, the pumps fitted from the start of production onwards and activated via a 500 hertz signal (500 pulses per second) are gradually being replaced by pumps activated via a variable signal (100 ... 500 hertz). The pumps activated via a variable signal are equipped additionally with a diagnostic function and are generally activated via the corresponding engine control unit. Therefore it is important to observe the correct assignment (only the assigned pump can be activated) → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\)](#), → [Current flow diagrams, Electrical fault finding and Fitting locations](#) and → [Electronic parts catalogue](#).
- ◆ -V50- can be fitted in different locations. On vehicles with a high-voltage system (hybrid vehicles) it is located between the plenum chamber partition panel and the engine.
- ◆ The activation of -V50- differs. On vehicles with a high-voltage system (hybrid vehicles), activation occurs after a request from -J255- via the corresponding engine control unit → [Current flow diagrams, Electrical fault finding and Fitting locations](#).
- ◆ Vehicles with a 4-cyl. engine and with the start/stop system (optional extra), but without an auxiliary heater (optional extra), are fitted with -V50- (-V36-) → [Rep. gr.19; Coolant pump/thermostat assembly](#). Activation of -V50- (-V36-) depends on vehicle equipment and production period → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\)](#) and → [Current flow diagrams, Electrical fault finding and Fitting locations](#).

- ◆ Vehicles with a 4-cyl. engine and with the start/stop system (optional extra), but without an auxiliary heater (optional extra), are fitted with a coolant circulation pump -V50- (-V36-) -A- e.g. in the area between the engine and the plenum chamber partition panel → [Rep. gr.19; Coolant pump/thermostat assembly.](#)
- ◆ This illustration shows the layout on an Audi A4 with a 4-cyl. TFSI engine (model year 2010). Depending on the engine, vehicle model and production period, the coolant circulation pump -V50- (coolant pump -V36-) -A- may also be installed at a different location (e.g. in the plenum chamber) → [Rep. gr.19; Coolant pump/thermostat assembly.](#)
- ◆ When -V50- (-V36-) is running, coolant is drawn in through coolant hose -B- (from the engine through the heat exchanger of the air conditioning unit and the coolant shut-off valve -D-) and conveyed through coolant hose -C- back to the engine (note direction of flow -arrows-).
- ◆ Depending on the coolant temperature and the setting on the air conditioner operating and display unit (Climatronic control unit -J255-), -V50- (-V36-) is activated directly by the operating and display unit when the ignition is on → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\)](#) and → [Current flow diagrams, Electrical fault finding and Fitting locations.](#)
- ◆ Depending on the vehicle model, -V50- (-V36-) is not only activated when the "stop function" is active, but also when the engine is running, e.g. when the temperature is preset to "warm" on the air conditioner operating and display unit (Climatronic control unit -J255-) ("HI" displayed on air conditioner operating and display unit and Multi Media Interface). The coolant circulation pump -V50- is then activated to support the engine's coolant pump → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\).](#)
- ◆ On vehicles with a start/stop system, -V50- (-V36-) and the Climatronic coolant shut-off valve -N422-/coolant shut-off valve -N82- are activated directly by the air conditioner operating and display unit (Climatronic control unit -J255-) or by the corresponding engine control unit. If



faults are detected at these components in the air conditioner operating and display unit (Climatronic control unit - J255-), you must therefore observe the correct version, coding and adaption of the -J255- → [Vehicle diagnostic, testing and information system VAS 5051](#) ("Guided Fault Finding").

- ◆ Vehicles with auxiliary heater (optional equipment) are not fitted with -N422-/-N82- or -V50- (-V36-). On these vehicles the components of the auxiliary heater (heater coolant shut-off valve -N279- and circulation pump -V55-) assume this function → [Auxiliary/supplementary heater; Rep. gr.82; Overview of fitting locations - auxiliary/supplementary heater; Overview of fitting locations - components not located in passenger compartment.](#)