

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

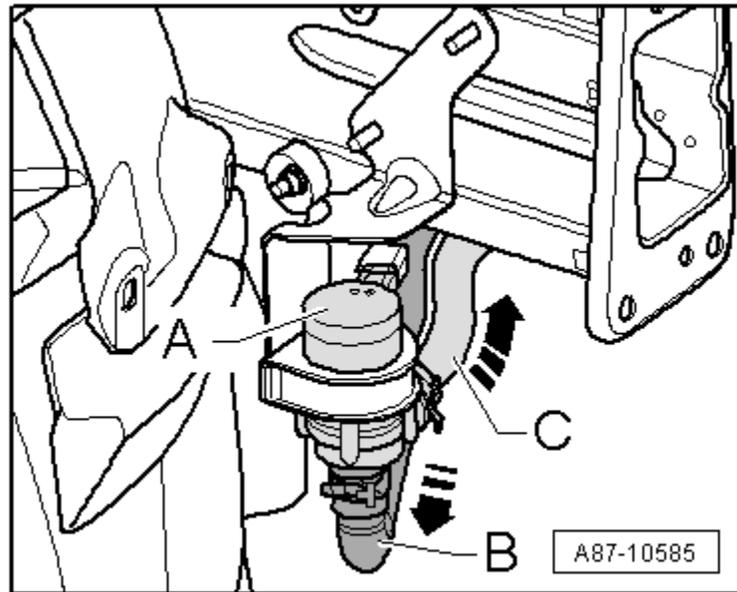
Layout on certain vehicles with a 6-cyl. engine



Note

- ◆ -V50- can be fitted in different locations; on most vehicles with a 6-cyl. engine, it can be located on the longitudinal member (or between the plenum chamber partition panel and the 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](#).
- ◆ Vehicles with a 6-cyl. FSI engine (currently not planned for 6-cyl. TFSI engine) or with other engines in combination with certain optional extras (e.g. vehicles with a start/stop system) 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](#).

- ◆ On vehicles with 6-cyl. FSI engine without an auxiliary heater (optional extra), -V50- (-V36-) -A- is fitted e.g. in the area between the engine and the right longitudinal member beneath the right headlight. This illustration shows the layout on an Audi A5 Coupé with a 6-cyl. FSI engine; on the Audi A5 Sportback, Audi A4, Audi Q5 etc. or on vehicles with a different engine the layout of the components may differ → [Rep. gr.19; Coolant pump/thermostat assembly.](#)
- ◆ When -V50- (-V36-) is running, coolant is drawn in through coolant hose -B- (from engine) and conveyed through coolant hose -C- to heat exchanger in air conditioning unit (note direction of flow - arrows-).
- ◆ Depending on production period, -V50- (-V36-) is activated via circulation pump relay -J160- (via same output as Climatronic coolant shut-off valve -N422-) or - with gradual introduction from 2009 onwards - directly by air conditioner operating and display unit (Climatronic control unit -J255-) → [Current flow diagrams, Electrical fault finding and Fitting locations](#) and → [Vehicle diagnostic, testing and information system VAS 5051 \("Guided Fault Finding"\)](#).
- ◆ On vehicles with a circulation pump relay -J160- (e.g. vehicles from model year 2008), -V50- (-V36-) is always activated when the ignition is switched on and the Climatronic coolant shut-off valve -N422- is not being activated (e.g. in the "warm" temperature setting on the air conditioner operating and display unit, Climatronic control unit -J255-) → [Current flow diagrams, Electrical fault finding and Fitting locations](#) and → [Chapter](#).
- ◆ On vehicles without a circulation pump relay -J160- (gradual introduction from model year 2009 onwards), -V50- (-V36-) is activated directly by the air conditioner operating and display unit (Climatronic control unit -J255-) when the ignition is switched on (depending on the coolant temperature and the setting on the operating and display unit) → [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 version, -V50- (-V36-) is not only activated when the “stop function” is active (gradual introduction as optional equipment from model year 2010 onwards), 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 on which -V50- (-V36-) and -N422-/-N82- are activated directly by the air conditioner operating and display unit (Climatronic control unit -J255-), faults in these components are stored in the air conditioner operating and display unit (Climatronic control unit -J255-). Therefore it is important to observe the correct version, encoding and adaption of -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](#).