

VOLVO 480

COOLING SYSTEM

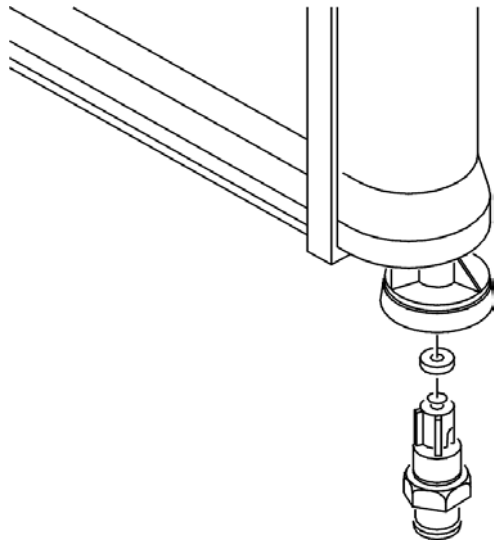
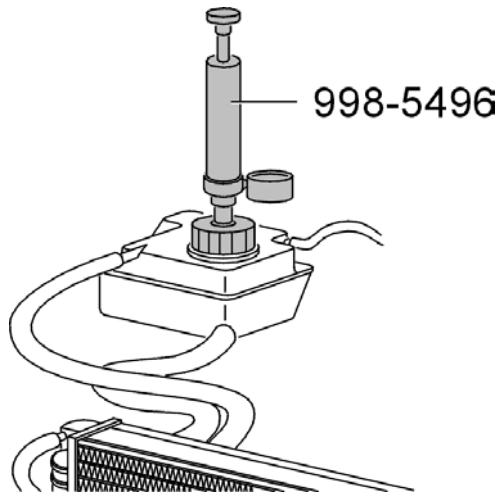
Pressure-testing the cooling system, topping-up/changing coolant

Special tools: [998 5496](#)

Connect the pressure gauge between the radiator and the expansion tank

Increase the pressure in the system with the manual pump (special tool [998 5496](#)) and check the opening pressure of the filler cap; also check the system for any leakage.

- The opening pressure should be between 90 and 110 kPa
- The pressure reading on the gauge should not drop noticeably for a period of at least 30 seconds.



Coolant change interval

The coolant should be changed every second autumn.

After this period the corrosion-protective additives will have lost some of their effect.

Drain the coolant

Remove the engine splash guard.

480: remove the self-tappers from the front bumper panel.

Press the front panel down and push a length of tubing over the drain tap.

Remove the filler cap.

Open the tap and drain the cooling system.

Remove the tubing and close the drain tap (3.5–4 Nm).

Fill the cooling system

Always fill the cooling system with genuine Volvo coolant diluted with clean water.

Mixing ratio: see the specifications.

Capacity: see the specifications.

To bleed the system, see Operation [Bleed the cooling system](#).

480: secure the front bumper panel.

Fit the engine splash guard.

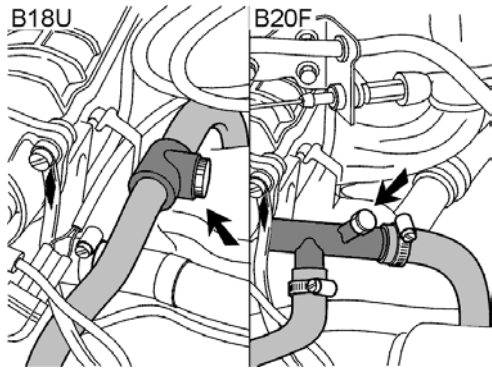
Bleed the cooling system

Open the bleedscrew.

- B18U: in the coolant hose near the thermostat housing;
- B18EP/FP, B20F: T-piece in the cylinder head.

Fill the cooling system.

Close the bleedscrew when coolant starts to



flow out.

Top-up with coolant, up to the edge of the expansion tank filler neck, and replace the filler cap.

Run the engine warm and check:

- the cooling system for leakage;
- the coolant level;
- the heater for correct operation.

Testing/renewing the coolant thermostat

Preliminary operations

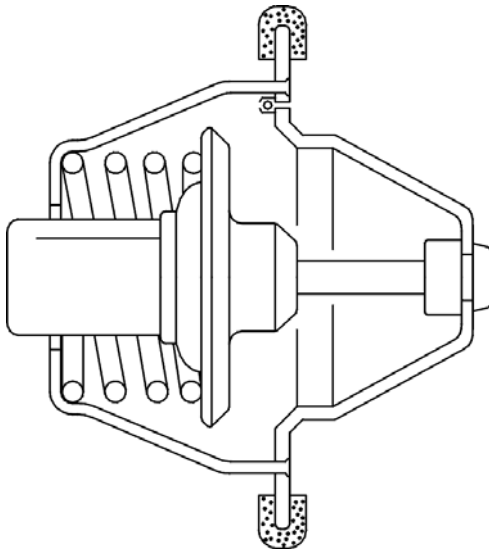
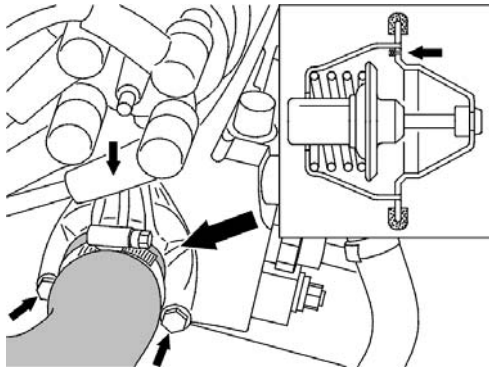
Drain the cooling system. Close the tap immediately after draining the system; see Operation "**Pressure-testing the cooling system, topping-up/changing coolant**".

Remove the thermostat housing

Remove the coolant hose.

Remove the three bolts and take out the housing together with the thermostat.

Clean and check the mating surfaces.



Test the thermostat

If necessary, test the thermostat in coolant. For the test values, see the specifications,

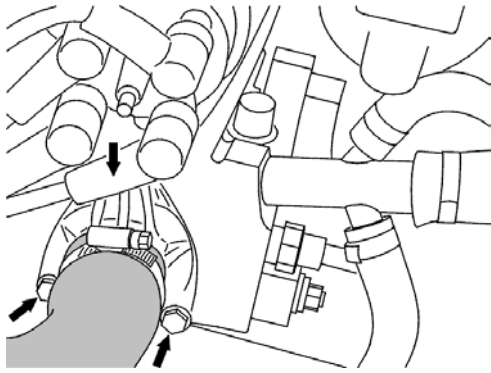
Fit the thermostat housing

Fit a new sealing washer on the thermostat. Locate the thermostat with the ventilation opening at the top.

Fit and tighten the three bolts.

Fit the coolant hose.

Tightening torque: see the specifications.



Fill the cooling system; see Operations ["Pressure-testing the cooling system, topping-up/changing coolant"](#) .

Removing/fitting the water pump and auxiliary water pump

Special tools: [999 5434](#) , [999 5436](#)

Preliminary operations

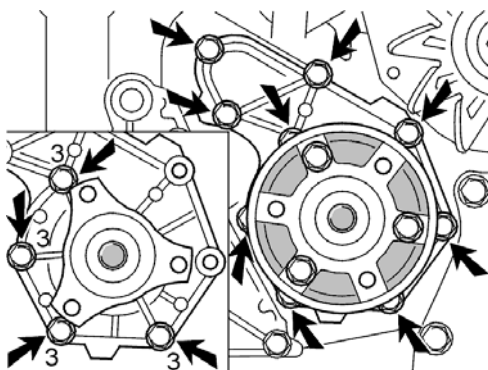
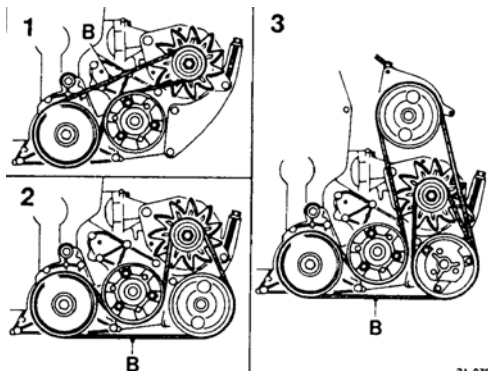
Remove the engine splash guard and the timing case cover.

Drain the cooling system. Close the tap immediately after draining the system; see Operation ["Pressure-testing the cooling system, topping-up/changing coolant"](#) .

Remove the water pump Poly V-belt

Slacken the adjusting nut (1) and the retaining bolts (2).

Note! Various sorts of V-belts may be fitted depending upon whether the vehicle is equipped with power steering and air-conditioning. See the Repairs and Maintenance Service Manual, Function Area 2 (Function Groups 20–22), and the specifications.



Remove/fit the water pump

Removal:

Release the bolts (9x) (four of the bolts cannot be removed) and remove the water pump from under the engine compartment.

Remove the water pump drive gear.

Remove the remaining four bolts.

Fitting:

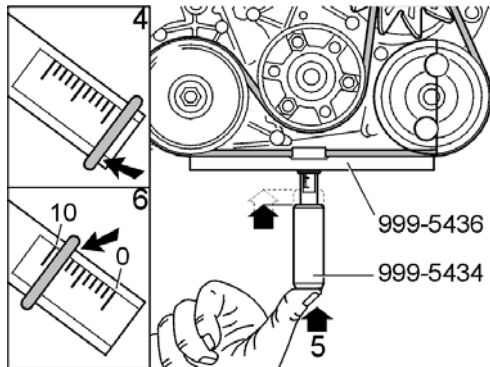
Locate the four bolts (1).

Fit the water pump drive gear; tightening torque: see the specifications.

Clean the engine joint face.

Use a new gasket (dry: use no adhesives or sealants).

Fit the water pump; tightening torque: see the specifications.



Fill the cooling system; see Operations **"Pressure-testing the cooling system, topping-up/changing coolant"** .

Fit the engine splash guard.

Check the tension of the Poly V-belt

Fit special tools [999 5434](#) and [999 5436](#) on the belt.

Slide the O-ring of the measuring tool down so it is under the graduated scale (1).

Locate the measuring tool on the belt and push it in as indicated in the drawing (2).

This position can also be felt (with the thumb) because the measuring pin is then flush with the top of the measuring tool.

Remove the measuring tool carefully and read off the belt tension (in mm) (3).

Specified value when checking and adjusting: see the specifications.

Remove the auxiliary water pump

Unplug the connector.

Pinch off the hoses with clamping tongs.

Release the hose clips.

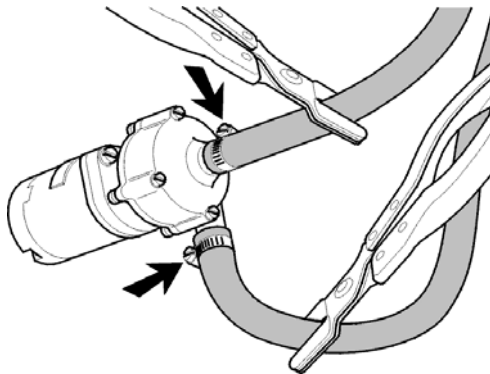
Remove the hoses and the pump.

Remove the pump mounting bracket.

Fitting is in reverse order to removal.

Fill the cooling system; see Operations **"Pressure-testing the cooling system, topping-up/changing coolant"** .

Tightening torque of bracket retaining bolts: see the specifications.



Removing/fitting the thermoelectric fan and thermal switch

Special tools: [999 5537](#)

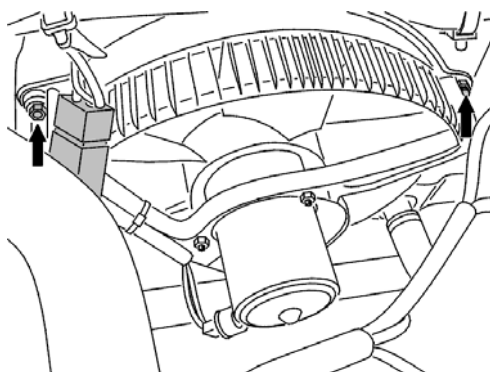
Remove the fan

Disconnect the air inlet hose.

Remove the two top bolts from the fan bracket.

Unplug the connectors.

Lift the fan and bracket out of the engine compartment.



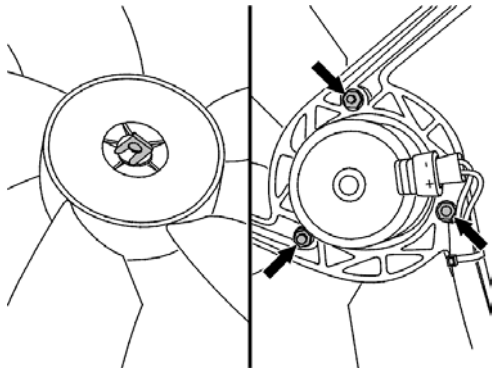
Remove the fan blade assembly

Remove the circlip and washer and take the fan blade assembly off the shaft.

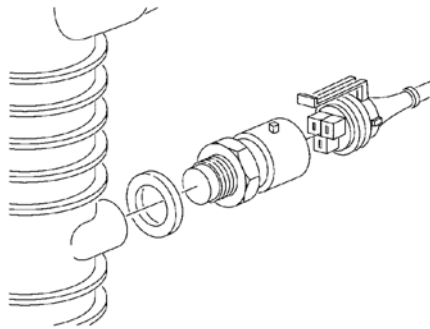
Remove the fan motor from the bracket.

Disconnect the wiring at the connector.

Remove the three nuts and take the motor out



of the bracket.



Remove/fit the thermal switch

Disconnect the wiring at the connector.

Note! Before removing the old thermal switch fit a new sealing washer on the new switch.

Fit the new thermal switch quickly in order to limit the loss of coolant.

For this purpose use special tool [999 5537](#) .

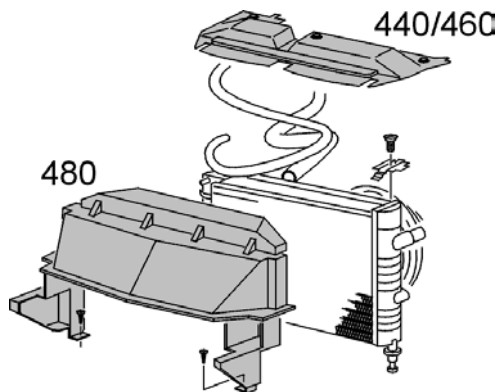
Tighten the thermal switch to 20 Nm.

Reconnect the wiring at the connector.

If necessary, top-up the coolant level.

Fitting is in reverse order to removal.

Removing/fitting the radiator



Remove the radiator

Drain the coolant; see Operation ["Pressure-testing the cooling system, topping-up/changing coolant"](#) .

480: Remove the nose assembly complete with headlights and direction indicators; see the Repairs & Maintenance Service manual. Function Area 8.

Remove the air scoop.

440/460 Remove the air scoop (if fitted).

Disconnect all the hoses from the radiator.

Release the connector from the thermal switch.

Remove the upper bolt together with the bracket.

Lift out the radiator towards the front of the car.

Note! If fitted, remove:

- Power steering oil cooler
- CVT oil cooler
- Air-conditioning condenser

Fit the radiator

Fitting is in reverse order to removal.

Note! Smear the lower surface of the rubber pads With industrial grade vaseline.

Fill the cooling system; see Operation

["Pressure-testing the cooling system, topping-up/changing coolant"](#) .