Cooling system, draining and filling

Note:

♦ To prevent frost and corrosion damage and to raise the boiling point of the coolant, the specified coolant additive must be used in the cooling system at all times of the year.

♦ Recommended mixture ratio: 50:50

♦ Capacity of cooling system: approx. 9.0 liters (approx. 3.5 gal)

♦ Do not use any other coolant than "G12"

CAUTION!

♦ Only use coolant "G12" according to TL VW774D, color red.

♦ NEVER mix "G12" with other coolants.

♦ If the fluid in the expansion tank is brown, "G12" was mixed with another coolant. In this case drain cooling system immediately. Fill system with clean water and run engine for 2 minutes, then fill with fresh "G12" coolant mixture.

Identifying coolant additive

<table>
<thead>
<tr>
<th>-G11-</th>
<th>color</th>
<th>green</th>
</tr>
</thead>
<tbody>
<tr>
<td>-G12-</td>
<td>color</td>
<td>red</td>
</tr>
<tr>
<td>Different additives mixed</td>
<td>color</td>
<td>brown1)</td>
</tr>
</tbody>
</table>

1) Change coolant immediately

Draining

WARNING!

The cooling system is pressurized when the engine is warm. When opening the expansion tank, wear gloves and other appropriate protection, cover the cap with a rag and open carefully to relieve pressure slowly.
- Remove noise insulation.
- Remove grille on left side of bumper.
- Install hose -1- to hose connection.
- Place drip tray VAG1306 under engine.

- Drain coolant from radiator (bottom left) -arrow-.

**CAUTION!**

Always dispose of old coolant properly.
Open drain plugs -arrows- and drain coolant.

Filling

Note:

The cooling system is filled all year round with a mixture of water and coolant additive (combined anti-freeze and corrosion protection agent).

CAUTION!

♦ Only use coolant "G12" according to TL VW 774D, color red.

♦ NEVER mix "G12" with other coolants.

♦ If the fluid in the expansion tank is brown, "G12" was mixed with another coolant. In this case drain cooling system immediately. Fill system with clean water and run engine for 2 minutes, then fill with fresh "G12" coolant mixture.

Note:

♦ "G12" and coolant additives according to specification TL VW 774 D prevent frost and corrosion damage, stop scaling and raise the boiling point of the coolant. For these reasons the cooling system must be filled all year round with the correct anti-freeze and anti-corrosion additive.

♦ Because of its high boiling point, the coolant improves engine reliability under heavy loads, particularly in countries with tropical climates.

♦ Protection against frost must be assured to about -25 °C (-13 °F), in arctic climatic countries to about -35 °C (-31 °F).

♦ The coolant concentration must not be reduced by adding water even in warmer seasons and in warmer countries. The anti-freeze ratio must be at least 40%.

♦ If greater frost protection is required in very cold climates, the amount of G12 can be
increased, but only up to 60% (this gives frost protection to about -40 ° C or -40 ° F).

- Always replace coolant after replacing radiator, heater core, cylinder head or cylinder head gasket. Do not reuse old coolant.

- Use special tool T40007 to check frost protection of coolant additive "G12" in cooling system.

**CAUTION!**

Always dispose of old coolant properly.

- Close radiator drain plug and disconnect drain hose from hose connection.

- Replace seals and install coolant drain plugs on engine block (left and right sides) - tightening torque 20 Nm.

- Switch ignition on.

- Set air conditioner to high setting.

- Switch ignition off.

- Open bleed screw on heater core by about two full turns.

- Fill with coolant. Squeezing top hose several times will help to force out air.

- Start engine with air conditioner set at HI until coolant temperature gauge indicates just under 100 ° C (212 ° F). To warm up engine, run it at 2000 to 3000 rpm and accelerate briefly several times to 4000 to 5000 rpm.

**WARNING!**

The cooling system is pressurized when the engine is warm. When opening the expansion tank, wear gloves and other appropriate protection. Cover cap with a rag and open carefully to relieve pressure slowly.
- Switch off engine, wait for about 5 to 10 minutes and then carefully open filler cap on expansion tank (system will be under pressure).
- Top up coolant to Max. mark.
- Close filler cap on expansion tank.
- Run engine and repeat topping up procedure as necessary.