

Coolant level in expansion tank

E53, E38, E39 / M62, M62 LEV

Complaint:

- Check control message "Check coolant water level" (permanent display), coolant level in expansion tank too low
- Check control message "Check coolant water level" (intermittent display)
- Coolant traces on expansion tank cap and on expansion tank

Cause:

Experience has shown that in the event of the above complaints, there are no leaks or component faults on the cooling system, including the coolant level switch.

- Check control message "Check coolant water level" (permanent display), coolant level in expansion tank too low:

On new vehicles, or if the coolant has just been replaced, the bleeding process is not yet complete. Residual air remaining in the cooling system is bled off from the expansion tank gradually, depending on the driving profile.

Consequently, the coolant level in the expansion tank will drop, in some cases below the cold fill level.

Note:

The coolant level will naturally drop below the cold fill level more often in the wintertime (less coolant expansion).

- Check control message "Check coolant water level" (intermittent display)

The lower the engine temperature/ambient temperature, the lower the coolant level in the expansion tank.

This can cause the coolant level switch to correctly activate the check control message "Check coolant level" after a cold start due to the coolant level being detected as "on the lower limit" in the expansion tank.

As the engine warms up, the coolant will expand and the coolant level in the expansion tank will rise.

The check control message "Check coolant level" will no longer appear when the engine is restarted.

This intermittent check control message is often cited as a reason for **incorrectly** replacing the coolant level switch, even though it is not faulty.

The angle of the vehicle also has an effect on intermittent check control messages (especially on X5 off-road vehicles)

- Coolant traces on expansion tank cap and on expansion tank:

If the cooling system is overfilled, the pressure relief valve in the expansion tank cap will **as a matter of function** release pressure.

Affected vehicles:

E38, E39, E53/M62, M62 LEV
Manufacturing period: throughout series production

Remedy:

Optimisation of charging and bleeding of the cooling system in series production from February 2001.

Procedure:

Check control message "Check coolant water level" (permanent display), coolant level in expansion tank too low:

- Check cooling system for coolant leakage - please refer to Repair Instructions, job item 17 00 009 .
- Check coolant level on cold engine - please refer to Repair Instructions, job item

The coolant temperature must not exceed 30 °C. If the ambient temperature is greater than 30 °C, allow the engine to cool down to the ambient temperature.

- Black expansion tank:

Top up the coolant until the upper end of the red float rod is at the same level as the upper edge of the expansion tank filler neck (see logo on expansion tank: Max. level = reference level).

Check control message "Check coolant water level" (intermittent display)

- Examinations have shown that coolant level switches exchanged in this situation work without faults.

- **The coolant level must be checked with the engine cold.**

If the coolant level is too low:

Check the cooling system for coolant leakage and top up with coolant.

Coolant traces on expansion tank cap and on expansion tank:

- As a rule, the pressure relief valve in the expansion tank cap will **as a matter of function** have released pressure due to the cooling system being overfilled.

- **The expansion tank cap must not be replaced without being checked!**

A new special tool (adapter for handpump, no. 17 0 008) has been developed and a new procedure specified for checking the pressure release valve in the expansion tank cap - please refer to Repair Instructions, job item 17 00 009 .

Note:

The adapter was revised in July 1997 (new adapter = no. 17 0 007).

The old adapter, no. 17 0 006 must no longer be used and should be scrapped.

Only replace the expansion tank cap if it can be shown to be defective.

- **It is imperative that the traces of coolant on the expansion tank cap and on the expansion tank itself are removed!**