

# Cooling System

## COOLANT CHECK AND TOP-UP

### WARNING



Never remove the filler cap when the engine is hot - escaping steam or scalding water could cause serious personal injury.



Unscrew the filler cap slowly, allowing the pressure to escape before removing completely.



Avoid spilling antifreeze onto a hot engine - a fire may result.

**Caution:** Never run the engine without coolant.

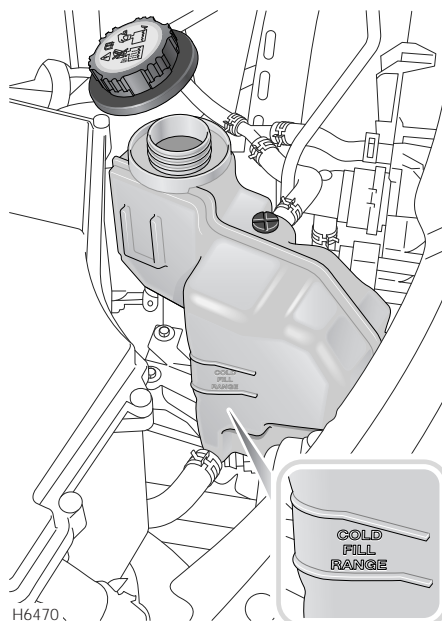
Antifreeze will damage painted surfaces; soak up any spillage with an absorbent cloth immediately and wash the area with a mixture of car shampoo and water.

Never top-up with salt water. When travelling in territories where the water supply contains salt, always ensure you carry a supply of fresh (rain or distilled) water.

The coolant level in the expansion tank should only be checked when the **CHECK COOLANT LEVEL** message is displayed on the message centre. Always check the level when the system is cold.

**Note:** *Coolant expands when hot. This may cause the level to rise above the upper level mark on the side of the expansion tank.*

If it is necessary to remove the filler cap before the system has fully cooled, loosen the cap slowly, allowing the air pressure to escape gradually.



Top-up with a 50% mixture of antifreeze and water. See **LUBRICANTS AND FLUIDS, 272**. Top-up to the upper level indicator mark located above the COLD FILL LEVEL text, on the side of the expansion tank. This should be viewed from standing in front of the vehicle. Ignore any coolant visible in the top section of the tank.

Ensure the cap is tightened fully after top-up is completed.

If the level has fallen appreciably, suspect leakage or overheating and arrange for your Land Rover Dealer/Authorised Repairer to examine the vehicle.

**Caution:** An over-filled expansion tank may cause a build-up of pressure and excess fluid could be expelled through the filler cap.

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## ANTIFREEZE

### WARNING



Antifreeze is poisonous and can be fatal if swallowed - keep containers sealed and out of the reach of children. If accidental consumption is suspected, seek medical attention immediately.



Prevent antifreeze coming in contact with the skin or eyes. If this occurs, rinse immediately with plenty of water.

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Antifreeze contains important corrosion inhibitors. The antifreeze content of the coolant must be maintained at 50%  $\pm$  5% all year round (not just in cold conditions). To ensure that the anti-corrosion properties of the coolant are retained, the antifreeze content should be checked once a year.

The specific gravity of a 50% antifreeze solution at 20°C (68°F) is 1.068 and protects against frost down to -40°C (-40°F).

Antifreeze must be renewed at regular intervals, regardless of distance travelled (refer to your **Service Portfolio** book). Failure to do so may cause corrosion of the radiator and engine components.

## Coolant specification

Use only a 50% mix of water and an approved antifreeze. See **Engine cooling system, 272**.

In an emergency - and only if this type of antifreeze is unavailable - top-up the cooling system with clean water, but be aware of the resultant reduction in frost protection. Do not top-up or refill with conventional antifreeze formulations. If in doubt consult a Land Rover Dealer/Authorised Repairer.

***Note:** When clean water is added in the event of an emergency, the low coolant indicator will illuminate if the water/antifreeze mix ratio is over-diluted. This indicator will extinguish when the ratio of water/antifreeze is returned to a 50% mix. This should be done at the earliest opportunity.*