

Cooling System Draining, Filling and Bleeding



WARNING:

NEVER REMOVE THE COOLANT PRESSURE CAP UNDER ANY CIRCUMSTANCES WHILE THE ENGINE IS OPERATING. FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN PERSONAL INJURY.

TO AVOID HAVING SCALDING HOT COOLANT OR STEAM BLOW OUT OF THE COOLING SYSTEM, USE EXTREME CARE WHEN REMOVING THE COOLANT PRESSURE CAP FROM A HOT COOLING SYSTEM. WAIT UNTIL THE ENGINE HAS COOLED, THEN WRAP A THICK CLOTH AROUND THE COOLANT PRESSURE CAP AND TURN IT SLOWLY UNTIL THE PRESSURE BEGINS TO RELEASE. STEP BACK WHILE THE PRESSURE IS RELEASED FROM THE SYSTEM. WHEN CERTAIN ALL THE PRESSURE HAS BEEN RELEASED (STILL WITH A CLOTH) TURN AND REMOVE THE COOLANT PRESSURE CAP FROM THE COOLANT EXPANSION TANK. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.



WARNING:

TO AVOID THE POSSIBILITY OF PERSONAL INJURY, DO NOT OPERATE THE ENGINE WITH THE HOOD OPEN UNTIL THE FAN BLADES HAVE BEEN EXAMINED FOR CRACKS AND SEPARATION. FAILURE TO FOLLOW THIS INSTRUCTION MAY RESULT IN PERSONAL INJURY.



CAUTION:

Do not run the engine without first making sure the engine cooling fans operate. Start the engine, set air conditioning (A/C) to maximum cold, set the blower motor to maximum and observe that the engine cooling fan operates. Failure to follow this instruction may cause damage to the engine.



CAUTION:

The engine cooling system must be maintained with the correct concentration and type of anti-freeze solution to prevent corrosion and frost damage.



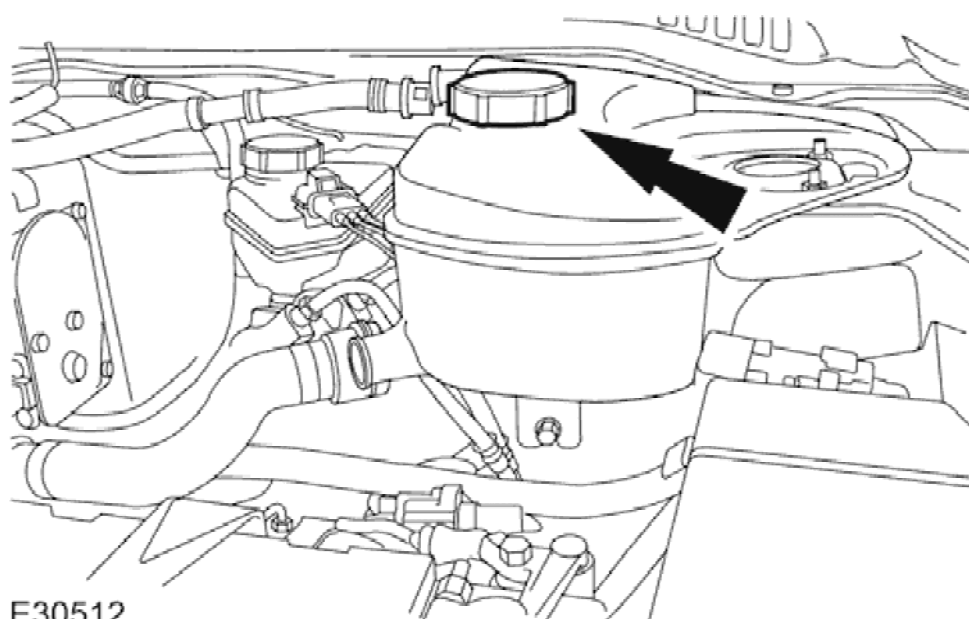
CAUTION:

Do not RUN the engine with the coolant pressure cap removed. Failure to follow this instruction may cause damage to the engine.




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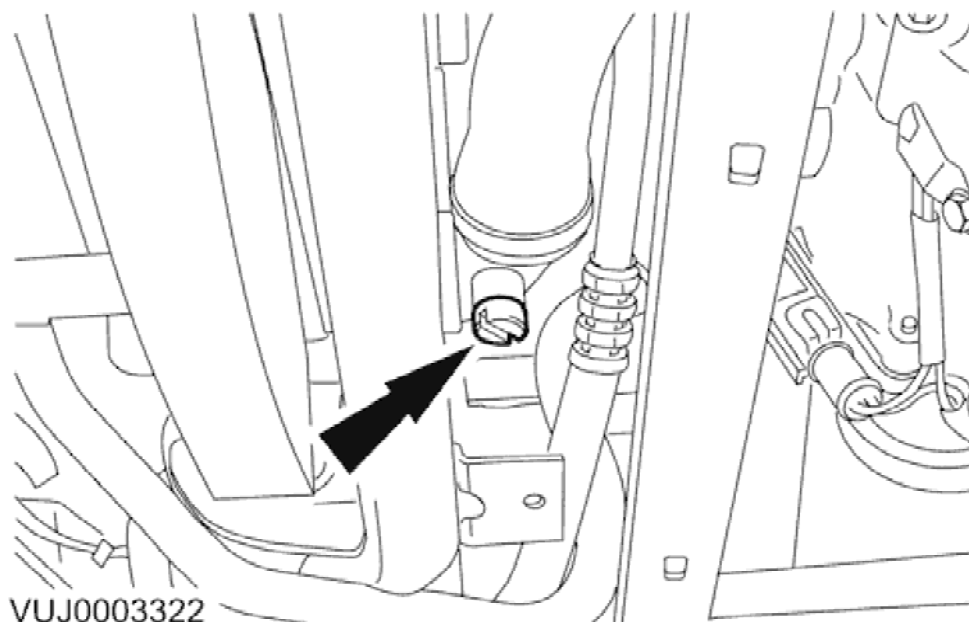
Do not RUN the engine without the correct level of coolant. Failure to follow this instruction may cause damage to the engine.



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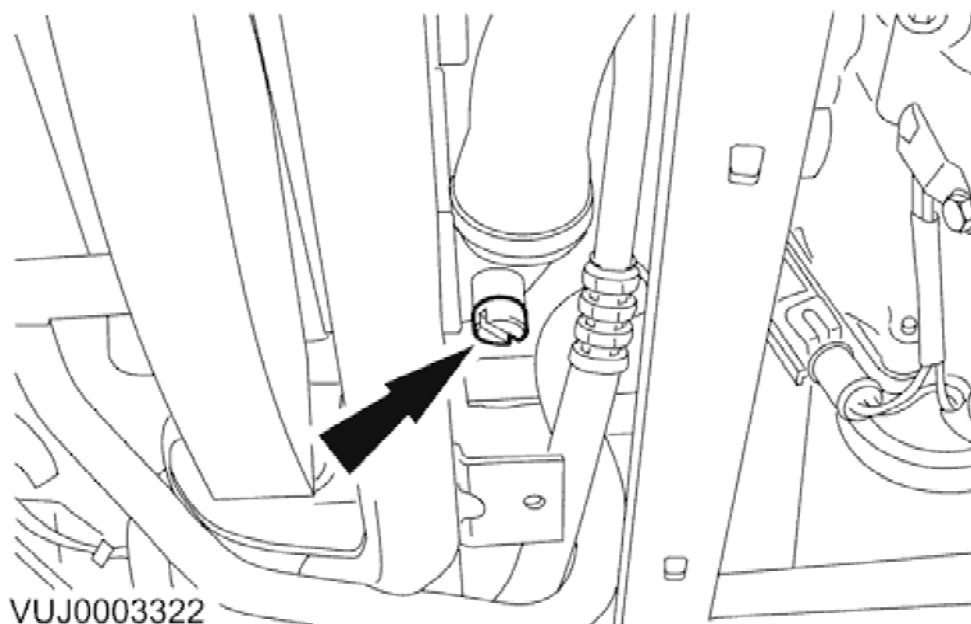
1.  **WARNING:**
RELIEVE THE COOLING SYSTEM PRESSURE BY UNSCREWING THE COOLANT PRESSURE CAP.
Remove the coolant expansion tank pressure cap.


2. Remove the undertray. For additional information, refer to <<501-02>>.



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3. Remove the coolant drain plug.
 - Drain the coolant into a suitable container.



4.  **CAUTION:**
Do not over tighten the drain plug. Failure to follow this instruction may cause damage to the vehicle.

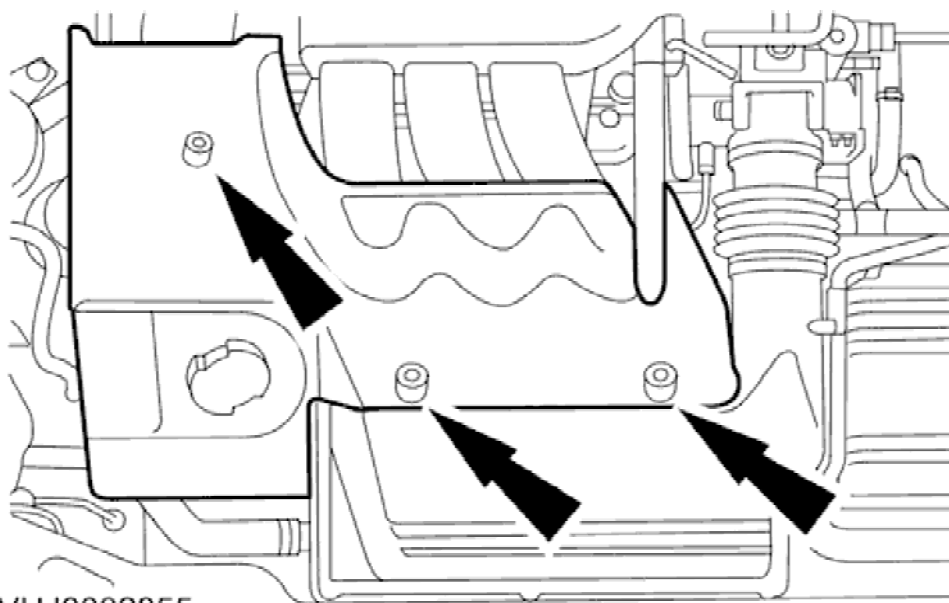
Install the drain plug when all coolant has drained.

- Tighten to 1 Nm.
- Remove the drain tray.

5. Install the undertray. For additional information, refer to <<501-02>>.

6. Lower the vehicle.

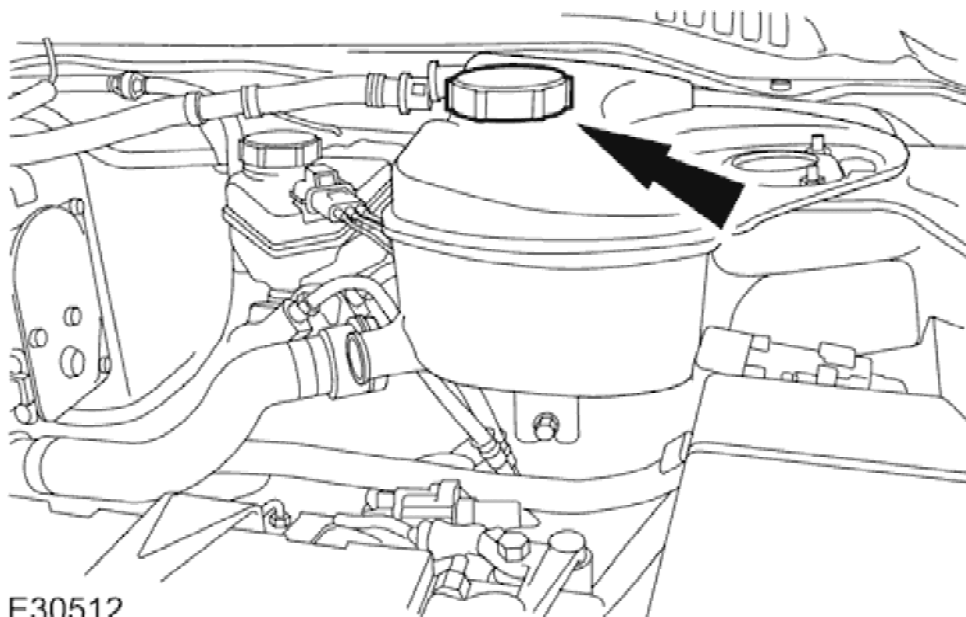
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7. Remove the engine cover.

8. Fill the cooling system up to the MAX mark on the coolant expansion tank using a 50% mixture of Jaguar Premium Cooling System Fluid or equivalent, meeting Jaguar specification ESE-M97B44-A and 50% distilled water.



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9. Install the coolant expansion tank pressure cap.

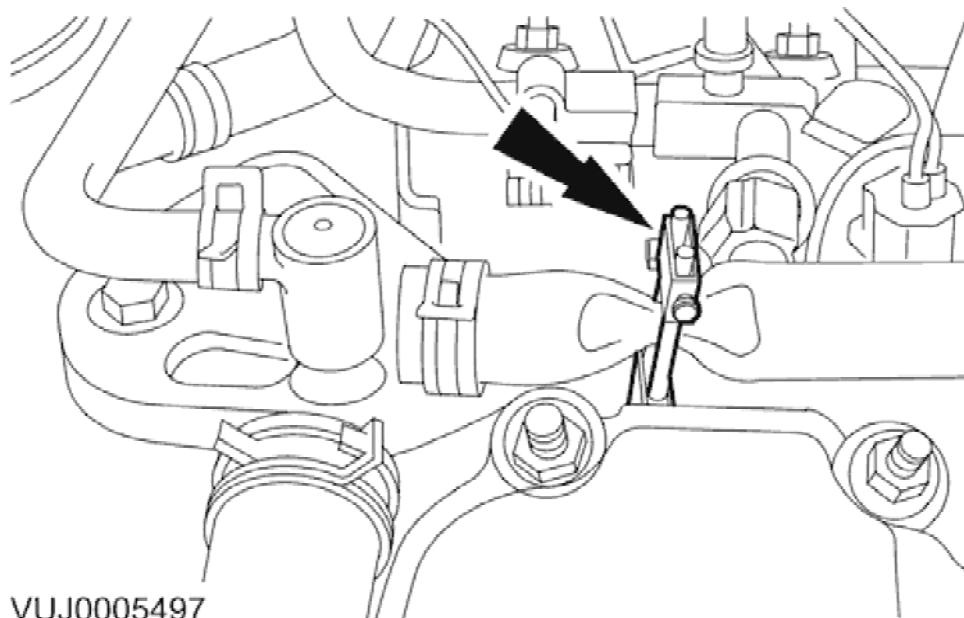
10. **NOTE:**

During this procedure the thermostat should open.

START and RUN the engine at 2000 rpm until the cooling fan operates.

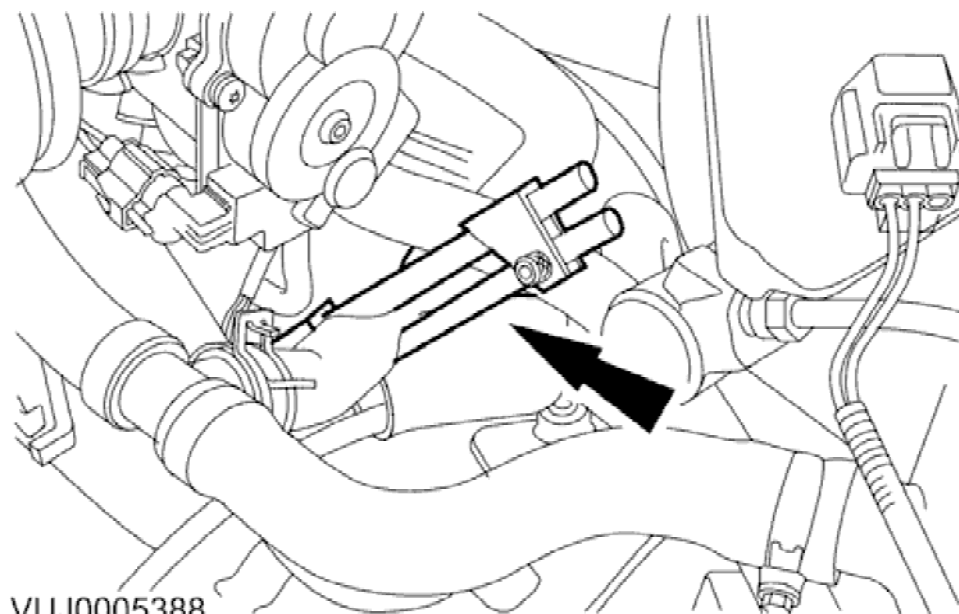
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11. Stop the engine and allow to cool for two minutes.



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12. Loosely install a pipe clamp to the heater inlet hose.



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13. Loosely install a pipe clamp to the heater return hose.

14. START and RUN the engine at 2000 rpm.

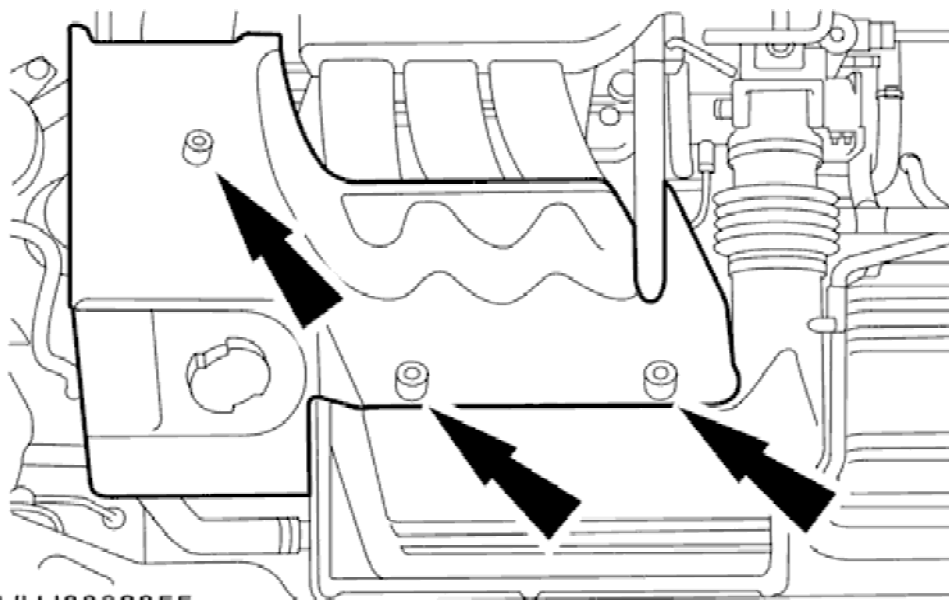
15. With the engine at 2000 rpm, fully clamp the heater outlet hose and then fully clamp the heater inlet hose.

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16. Continue to run the engine for a further two minutes.

17. Switch the engine off.

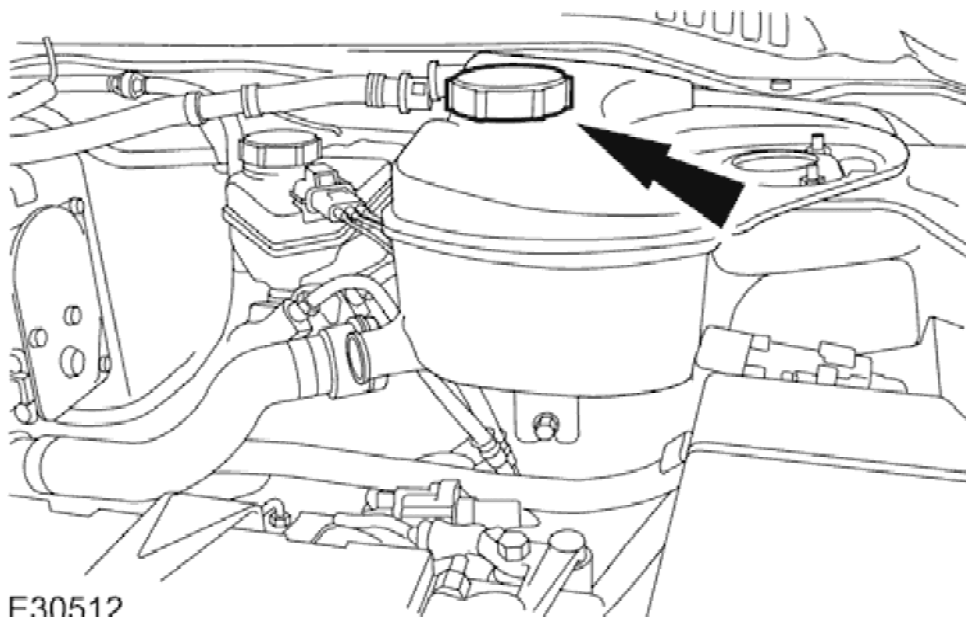
18. Remove the heater hose clamps.



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19. Fit the engine cover.

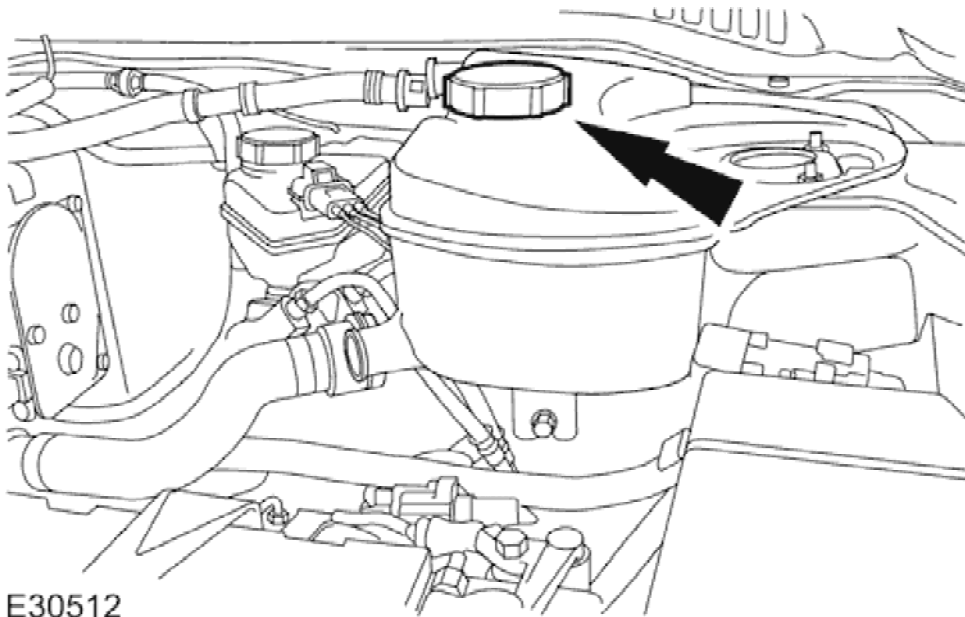
20. Allow the vehicle to cool to room temperature.



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21. Remove the coolant expansion tank pressure cap, top up the coolant level to the MAX mark on the coolant expansion tank.



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22. Install the coolant expansion tank pressure cap.