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Cooling System, Clean
D11F, D13F, D16F

Cooling System, Clean

This information covers the procedure for cleaning the engine cooling system.

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Note: Information is subject to change without notice.
Illustrations are used for reference only and can differ slightly from the actual vehicle being serviced. However, key components addressed in this information are represented as accurately as possible.

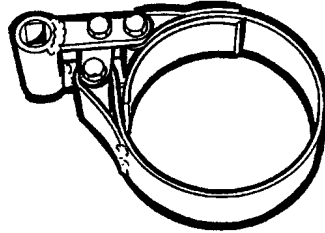
Tools

Special Tools

For special tools ordering information, refer to Tool Information, group 08.



9996049
Drain hose



9996671
Filter tool or equivalent

Service Procedures

2609-11-03-01

Cooling System, Clean

You must read and understand the precautions and guidelines in Service Information, group 20, "General Safety Practices, Engine" before performing these procedures. If you are not properly trained and certified in these procedures, ask your supervisor for training before you perform the procedures.

Special tools: 9996049, 9996671

Removal

1

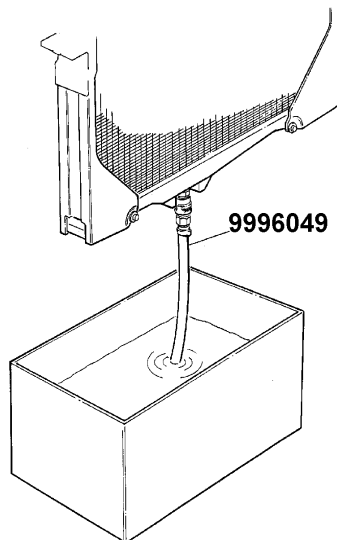
Remove all cables from the ground (negative) battery terminals to prevent personal injury from electrical shock.

2

Remove the dust cap and drain the coolant into a suitable container using the drain hose.

Note: When finished, remove the drain hose and install the dust cap on the fitting.

9996049

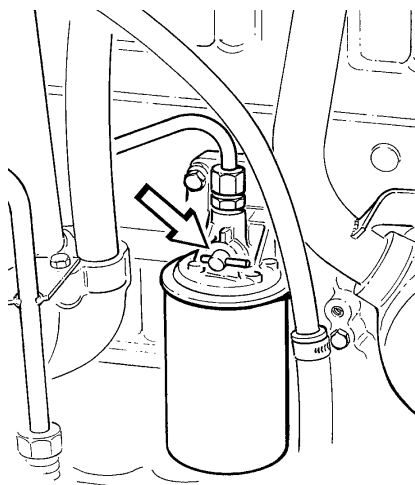


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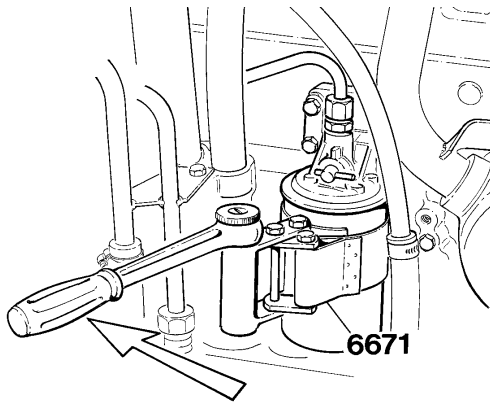
3

Close the shut-off on the coolant filter housing.

Note: In the closed position, the pin on the shut-off should be horizontal.



T2008351



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- 4**
Remove the coolant filter using the filter tool 9996671 or equivalent.

9996671 or equivalent

- 5**
Open the shut-off on the coolant filter housing and drain the coolant into a suitable container.

Note: In the open position, the pin on the shut-off should be vertical.

- 6**
Close the shut-off on the coolant filter housing.

- 7**
If necessary, remove the coolant drain plug from the transmission and drain the coolant into an approved container.

- 8**
If necessary, install the coolant drain plug in the transmission and tighten.

Note: Do not torque-tighten the drain plug.

Flush System

- 1**
Verify that the coolant filter shut-off valve is closed.

Note: In the closed position, the pin on the shut-off should be horizontal.

- 2**
Fill the cooling system with water.

- 3**
Start the engine and warm up to operating temperature.

4

Remove the dust cap and connect the drain hose 9996049 to the radiator fitting. Drain the water.

Note: When finished, remove the drain hose and install the dust cap on the fitting.

9996049

5

If necessary, remove the coolant drain plug in the transmission. Drain the water.

Installation

1

If necessary, install the drain plug with a new seal in the transmission. Tighten to specification.

2

Apply clean antifreeze to the new coolant filter seal.

Turn the filter until the seal contacts the sealing surface, and then, by hand, approximately another clockwise 1/2 turn.

1/2 turn

3

Open the shut-off on the coolant filter housing.

Note: In the open position, the pin on the shut-off should be vertical.

4

Fill the cooling system with the recommended coolant.

5

Install all previously removed cables to the ground (negative) battery terminals.

6

Start the engine, check for leaks and proper operation. After shutdown, replenish fluids as necessary.