

COOLING SYSTEM: DRAINING - REFILLING



Note, one or more warnings are present in this procedure



Special tooling required

Remote operation pliers for hose clips.

Mot. 1448

Instrument for testing the cooling circuit and the expansion bottle valve. Contains caps 554-01, 554-04, 554-06

Ms. 554-07

Fault finding and filling - bleeding the cooling circuit.

Mot. 1700

Equipment required

compressed air nozzle

coolant recovery tray



WARNING

■ To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair:

- [Vehicle: Precautions for the repair](#).



WARNING

When working in the engine compartment, take care as the radiator fan(s) may start up unexpectedly (risk of being cut).

■ To avoid any risk of serious burns when the engine is hot:

- do not open the expansion bottle cap,
- do not drain the cooling system,
- do not open the bleed screw(s).



CAUTION

The coolant helps to keep the engine running properly (heat exchange).
The system does not operate using pure water.



CAUTION

If the coolant is leaking from the expansion bottle cap, replace the valve.



CAUTION

Before the operation, protect the electrical accessories to prevent any risk of short circuiting and protect the belts to avoid damaging them.

Location and specifications (tightening torques, parts always to be replaced, etc.) ([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) .

DRAINING

❑ Position the vehicle on a two-post lift [Vehicle: Towing and lifting](#) .

WARNING

DANGER: HIGH VOLTAGE VEHICLE.



Risks of serious burns or electric shocks that may prove fatal.

Before carrying out any work on the vehicle, it is essential that you follow the instructions regarding vehicle lockout. This work must be carried out by an employee who is qualified and authorised to work on a high-voltage onboard network [Vehicle: Precautions for the repair](#) .

❑ Lockout the vehicle [Vehicle: Lockout - Removal of lockout](#) .

5AQ(5AQ)

❑ Remove the front bumper [Front bumper assembly: Exploded view](#) .

- ❑ Remove :
- the expansion bottle cap,
 - the engine undertray.

❑ Position the coolant recovery tray under the vehicle.

5AQ(5AQ)

- ❑ Move aside using the tool Remote operation pliers for hose clips. (Mot. 1448) the clip of the cooling radiator outlet pipe on the electric coolant pump side. [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) .
- ❑ Disconnect the cooling radiator outlet pipe from the electric coolant pump [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) .
- ❑ Use a compressed air nozzle to blow air into the system through the cooling radiator outlet pipe opening to remove as much coolant as possible.

CLEANING

- ❑ Fill the cooling system with water through the expansion bottle.
- ❑ Let the water run until the water collected from the cooling radiator bottom hose becomes clear.
- ❑ Use a compressed air nozzle to blow air into the system through the expansion bottle opening to remove as much as coolant as possible.

5AQ(5AQ)

- ❑ Connect the cooling radiator outlet pipe from the electric coolant pump [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) .
- ❑ Refit using the tool Remote operation pliers for hose clips. (Mot. 1448) the clip of the cooling radiator outlet pipe on the electric coolant pump side [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) .

Note:



- There are two procedures for filling the cooling system:
- the procedure using the tool Fault finding and filling - bleeding the cooling circuit. (Mot. 1700) recommended by Renault. It saves a considerable amount of time because it does not require the cooling system bleed screws to be opened,
 - the procedure without a special tool.

1.

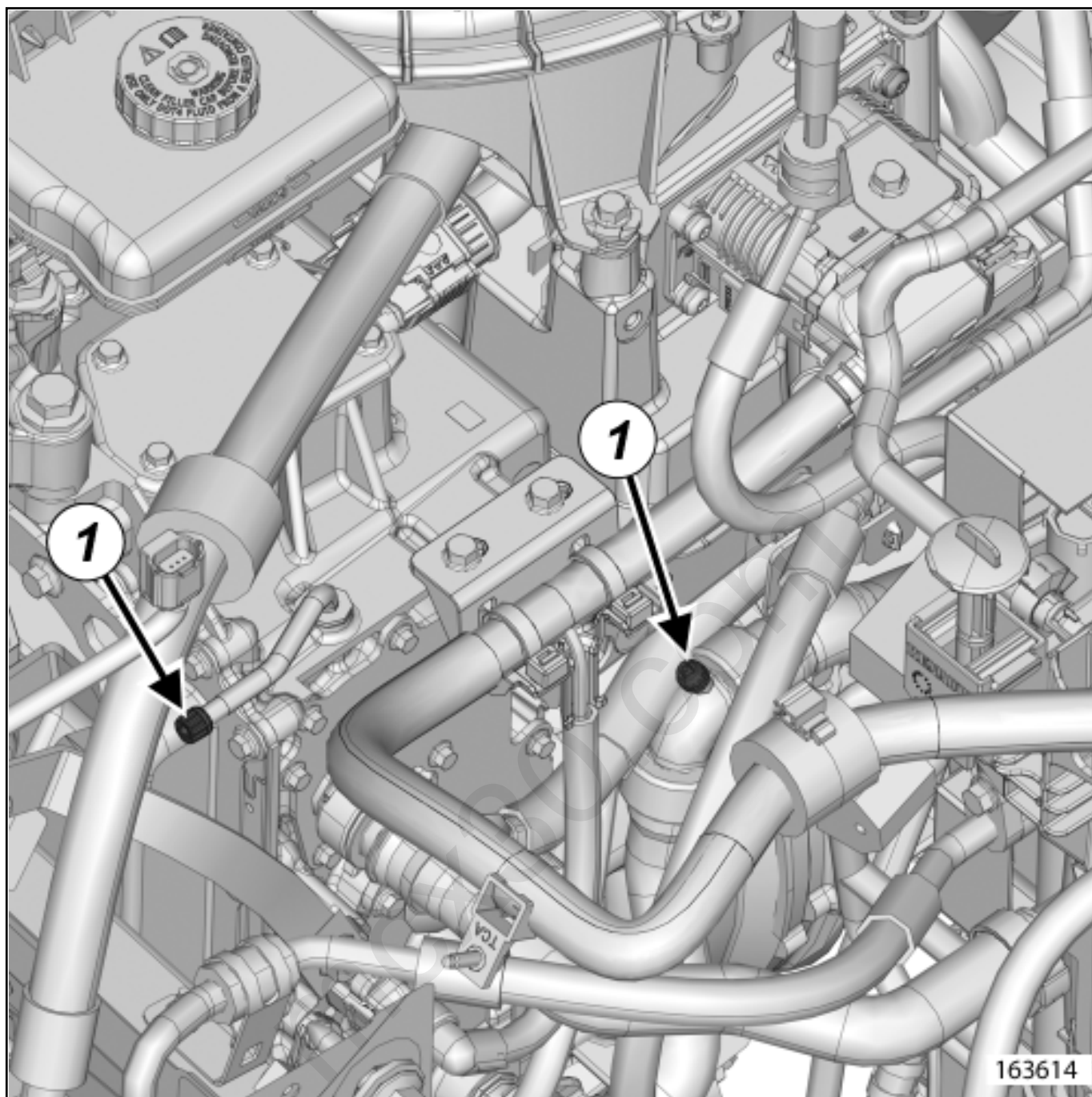
1- FILLING PROCEDURE USING THE TOOL (MOT. 1700)

- Fill the cooling system with engine coolant recommended by the manufacturer Vehicle: Parts and consumables for the repair using the tool Fault finding and filling - bleeding the cooling circuit. (Mot. 1700) (see Cooling system: Filling) (Technical Note 3857A, 19A, Cooling).

2- FILLING METHOD WITHOUT SPECIAL TOOLS

**CAUTION**

It is essential to open all of the bleed screws to remove as much as air as possible in the cooling system. Failure to perform this procedure may prevent the cooling system from filling properly and may damage the engine.



- Open the bleed screws(1) .
- Fill the cooling system with engine coolant recommended by the manufacturer [Vehicle: Parts and consumables for the repair](#) via the expansion bottle until it overflows.
- Close the bleed screws as soon as the coolant starts to flow in a continuous stream.
- Pressurise the system using the tool [Instrument for testing the cooling circuit and the expansion bottle valve](#). Contains caps 554-01, 554-04, 554-06 (Ms. 554-07) to check that there are no leaks (see [19A, Cooling, Engine cooling system: Check](#)) .

- ▣ Refit the expansion bottle cap.
- ▣ Clean any surfaces soiled by the coolant.

BLEEDING



CAUTION

Do not open the bleed screw whilst the engine is running; this would damage the engine.

- ▣ Remove the lockout of the vehicle [Vehicle: Lockout - Removal of lockout](#) .
- ▣ Deactivate the air conditioning system so that the engine cooling fan is not operating from the start of the operation.
- ▣ Start the engine.
- ▣ Run the engine at full power and at idling speed, until the engine cooling fan has started to operate two times (time required for automatic degassing).
- ▣ Check that the heating is operating correctly.
- ▣ Allow the engine to cool until the coolant temperature is less than 50°C.
- ▣ Make sure the coolant fluid level is at the "Maximum" mark.
- ▣ Refit the expansion bottle cap.
- ▣ Remove the coolant recovery tray.
- ▣ Proceed in the reverse order to removal.



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