



## CAUTION

To ensure proper sealing, the gasket surfaces must be clean, dry and not greasy (avoid any finger marks).

### 1- IF REPLACING THE WATER CHAMBER



Refit the coolant temperature sensor([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) .

### 2. REFITTING OPERATION



Refit ([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) :



the water chamber fitted with a new seal,



the water chamber bolts.



Torque tighten in order the water chamber bolts([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) .

### 3. FINAL OPERATION



Proceed in the reverse order to removal.



Fill and bleed the cooling system([see 19A, Cooling, Cooling system: Draining - Refilling](#)) .



# COOLING UNIT : REMOVAL - REFITTING



Note, one or more warnings are present in this procedure



## Special tooling required

Remote operation pliers for hose clips.

Mot. 1448



parts always to be replaced:



Cylinder head coolant outlet unit seal

## 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

When carrying out a repair that requires a complete change, it is essential to flush the circuit with clean water, blast compressed air through the circuit to drive out the water, fill and bleed the circuit and then measure the effective protection.



The criteria to be met are:



protection down to  $-25^{\circ}\text{C}$  2for cold and temperate countries,



protection down to  $-40^{\circ}\text{C}$  2for very cold countries.



## CAUTION

Prepare for the flow of fluid, and protect the surrounding components.

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

## REMOVAL

### 1. REMOVAL PREPARATION OPERATION



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



Remove:



the battery(see **Battery: Removal - Refitting**) ,



the battery tray([Battery tray: Removal - Refitting](#) .



Disconnect the air filter unit air inlet pipe from([see 12A, Fuel mixture, Air inlet assembly: Exploded view](#)) :



the front end panel,



the air filter unit.



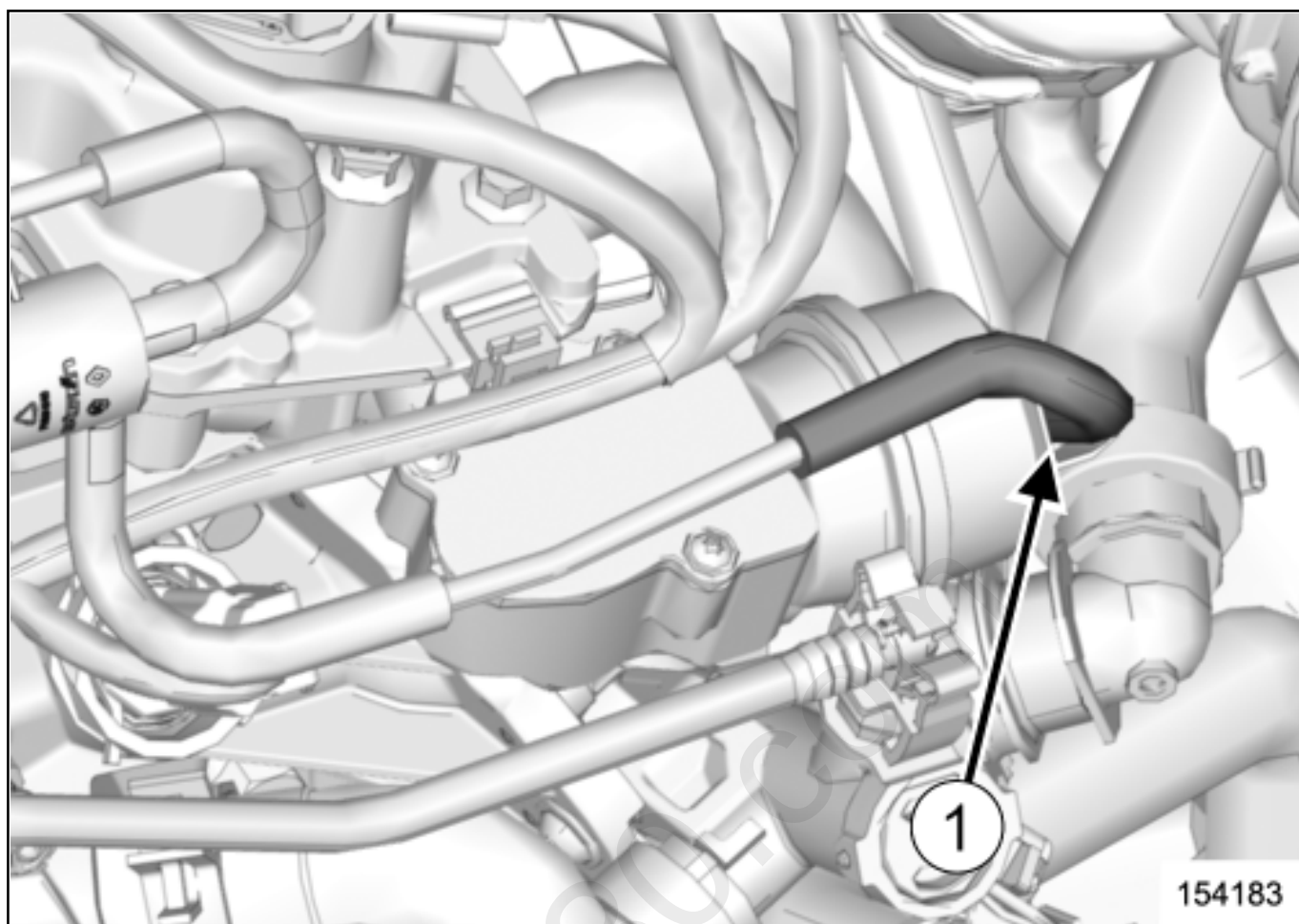
Remove the air filter unit air inlet pipe([see 12A, Fuel mixture, Air inlet assembly: Exploded view](#)) .



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



Drain the cooling system([see 19A, Cooling, Cooling system: Draining - Refilling](#)) .



Disconnect the vacuum hose(**1**) from the water chamber.

Disconnect ([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) :

- 
- the coolant temperature sensor connector,
- the degassing hose from the water chamber,
- the heater matrix hose.

Move using the Remote operation pliers for hose clips.([Mot. 1448](#)) from the water chamber([see 19A, Cooling,](#)

### Coolant circuit assembly: Exploded view :



the upper coolant hose clip,



the clip from the hose between the water chamber and the electric coolant pump,



the clip from the hose between the water chamber and the water inlet housing,



the clip from the hose between the turbocharger coolant pipe and the water chamber.



Disconnect [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) :



the upper coolant hose clip,



the hose between the water chamber and the electric coolant pump,



the hose between the water chamber and the water inlet housing,



the hose between the turbocharger coolant pipe and the water chamber.



## 2. REMOVAL OPERATION



Remove [\(see 19A, Cooling, Coolant circuit assembly: Exploded view\)](#) :



the water chamber bolts,



the water chamber,



the water chamber seal.



### 1- IF REPLACING THE WATER CHAMBER



Remove the coolant temperature sensor([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) .

## REFITTING

### 1. REFITTING PREPARATION OPERATION



parts always to be replaced:

[Cylinder head coolant outlet unit seal](#) .



Use SURFACE CLEANER([Vehicle: Parts and consumables for the repair](#)) to clean and degrease:



the cylinder head joint face,



the coolant outlet unit housing if it is being reused.



#### CAUTION

Do not scrape the joint faces of the aluminium, any damage caused to the joint face will result in a risk of leaks.



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### 1- IF REPLACING THE WATER CHAMBER



Refit the coolant temperature sensor([see 19A, Cooling, Coolant circuit assembly: Exploded view](#)) .

### 2. REFITTING OPERATION