

Engine cooling fan assembly: Removal - Refitting

D4F, and 784

- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

Coolant pump inlet pipe: Removal - Refitting

D4F, and 740 or 742 or 764

Special tooling required

Mot. 1448 Remote operation pliers for hose clips.

Tightening torques

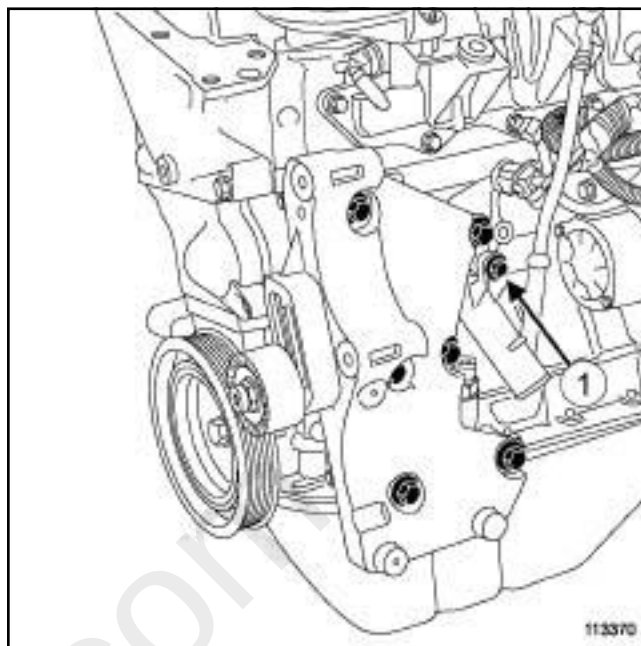
coolant pump inlet pipe bolt **12 N.m**

REMOVAL

I - REMOVAL PREPARATION OPERATION

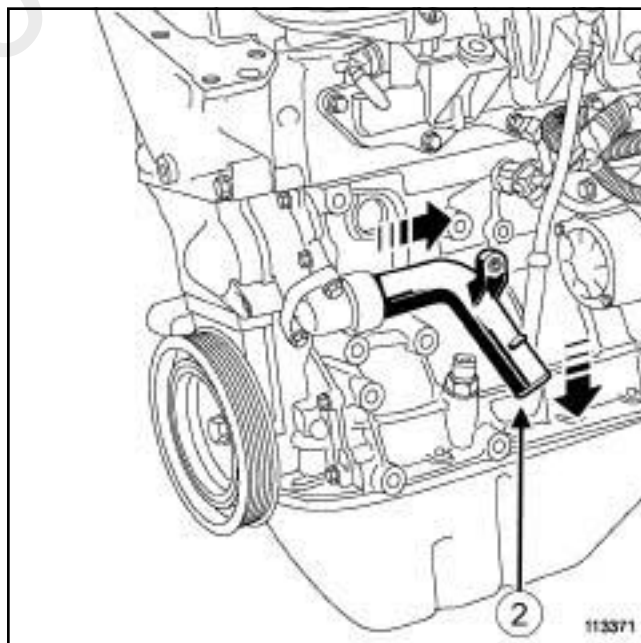
- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- ☐ Remove:
 - the engine undertray bolts,
 - the engine undertray.
- ☐ Drain the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Separate the clip on the cooling radiator bottom hose on the coolant pump inlet pipe side using the tool (**Mot. 1448**).
- ☐ Disconnect the cooling radiator bottom hose on the coolant pump inlet pipe side.

II - OPERATION FOR REMOVAL OF PART CONCERNED



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- ☐ Remove the bolt (1) from the coolant pump inlet pipe.



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- ☐ Remove:
 - the coolant pump inlet pipe (2) ,
 - the coolant pump inlet pipe seal.

Coolant pump inlet pipe: Removal - Refitting

D4F, and 740 or 742 or 764

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ **parts always to be replaced: seal between coolant pump inlet pipe and coolant pump inlet union (10,06,01,23).**
- ☐ Use **SURFACE CLEANER** (see **Vehicle: Parts and consumables for the repair**) (04B, Consumables - Products) to clean and degrease:
 - the housing of the seal on the coolant pump inlet pipe if it is to be reused,
 - the housing of the coolant pump inlet union seal.

WARNING

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

- ☐ Refit a new coolant pump inlet pipe seal on the coolant pump inlet pipe.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the coolant pump inlet pipe.
- ☐ Torque tighten the **coolant pump inlet pipe bolt (12 N.m)**.

III - FINAL OPERATION

- ☐ Connect the cooling radiator bottom hose to the coolant pump inlet pipe.
- ☐ Fit the cooling radiator bottom hose clip to the coolant pump inlet pipe using the tool (**Mot. 1448**).
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- ☐ Fill and bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**).
- ☐ Refit the engine undertray.

Coolant pump inlet pipe: Removal - Refitting

K4J or K4M

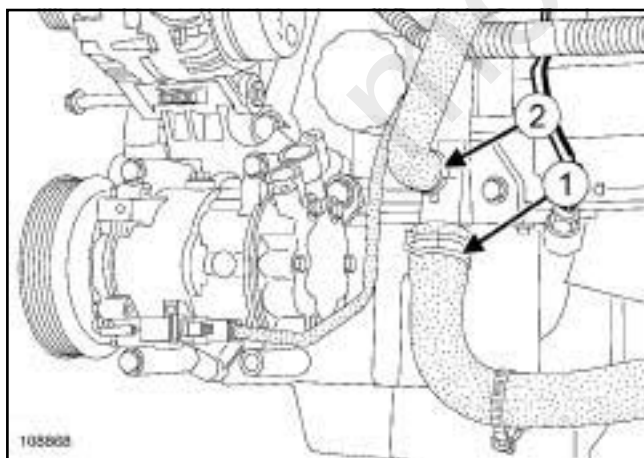
Special tooling required	
Mot. 1202-01	Clip pliers for hose clips (large size).
Mot. 1202-02	Clip pliers for hose clips (small size)
Mot. 1448	Remote operation pliers for hose clips.

Tightening torques 	
coolant pump inlet pipe mounting bolts	25 N.m

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Drain the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Flush the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .



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- ☐ Disconnect the cooling radiator bottom hose (1) and the heater hose (2) using the (**Mot. 1202-01**) or (**Mot. 1202-02**) or (**Mot. 1448**).

II - OPERATION FOR REMOVAL OF PART CONCERNED

- ☐ Remove:
 - the mounting bolts of the water pump inlet pipe,
 - the coolant pump inlet pipe.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the pump inlet pipe.
- ☐ Torque tighten the **coolant pump inlet pipe mounting bolts (25 N.m)**.

II - FINAL OPERATION

- ☐ Connect the cooling radiator bottom hose and the heater hose using the (**Mot. 1202-01**) or (**Mot. 1202-02**) or (**Mot. 1448**).
- ☐ Fill the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

Coolant pump inlet pipe: Removal - Refitting

K9K

Special tooling required

Mot. 1448	Remote operation pliers for hose clips.
Mot. 1202-01	Clip pliers for hose clips (large size).
Mot. 1202-02	Clip pliers for hose clips (small size)

Tightening torques

water pump inlet pipe bolt	22 N.m
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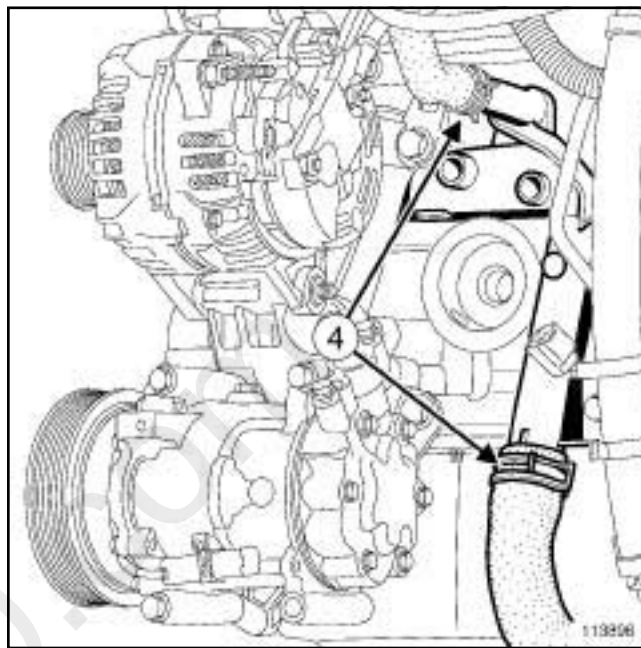
REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Remove:
 - the engine cover,
 - the engine undertray,
 - the front sections of the front wheel arch liners (see **Front wheel arch liner: Removal - Refitting**) (MR 393, 55A, Exterior protection),
 - the front bumper (see **Front bumper: Removal - Refitting**) (MR 393, 55A, Exterior protection),
 - the intercooler (see **12B, Turbocharging, Intercooler: Removal - Refitting**, page 12B-21) .
- ☐ Drain the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Clean the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Remove:
 - the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page 11A-5) ,
 - the alternator (see **16A, Starting - Charging, Alternator: Removal - Refitting**, page 16A-5) ,
 - the multifunction support (see **10A, Engine and cylinder block assembly, Multifunction support: Removal - Refitting**, page 10A-97) .

- ☐ Remove the oil-water heat exchanger (see **10A, Engine and cylinder block assembly, Oil-coolant heat exchanger: Removal - Refitting**, page 10A-26) .

II - REMOVAL OF THE PART CONCERNED

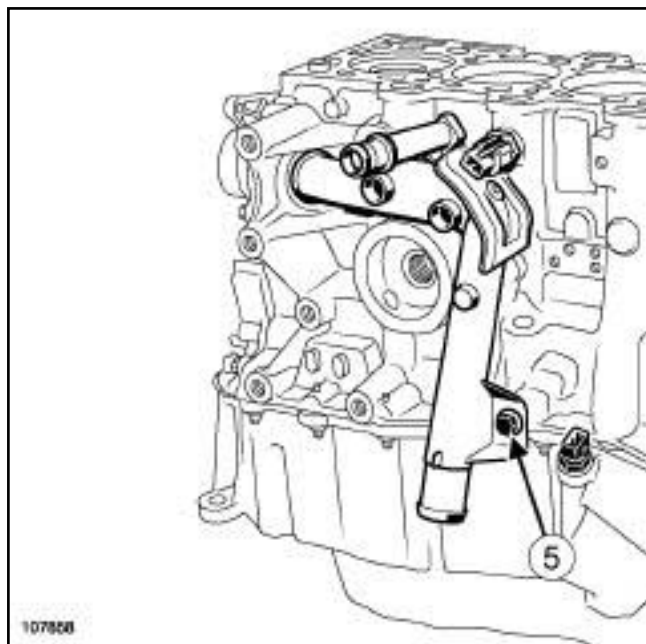


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- ☐ Remove the clips (4) from the water pump inlet pipe hoses using the (**Mot. 1448**) or (**Mot. 1202-01**) or (**Mot. 1202-02**).
- ☐ Disconnect the water hoses of the water pump inlet pipes.

Coolant pump inlet pipe: Removal - Refitting

K9K



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☐ Remove:

- the coolant pump inlet pipe bolt (5) ,
- the water pump inlet pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ Always replace the water pump inlet pipe seals.
- ☐ Clean the bearing faces on the coolant-oil heat exchanger and the cylinder block.
- ☐ Always replace the coolant-oil heat exchanger seals.

II - REFITTING PART CONCERNED

- ☐ Refit the water inlet pipe on the water pump.
- ☐ Torque tighten the **water pump inlet pipe bolt (22 N.m)**.
- ☐ Connect the water hoses on the water pump inlet pipes.
- ☐ Fit the water pump inlet pipe hose clips using the **(Mot. 1448)** or **(Mot. 1202-01)** or **(Mot. 1202-02)**.

III - FINAL OPERATION

- ☐ Refit the oil-water heat exchanger (see **10A, Engine and cylinder block assembly, Oil-coolant heat exchanger: Removal - Refitting**, page 10A-26) .
- ☐ Connect the oil pressure sensor connector.

☐ Refit:

- the multifunction support (see **10A, Engine and cylinder block assembly, Multifunction support: Removal - Refitting**, page 10A-97) ,
- the alternator (see **16A, Starting - Charging, Alternator: Removal - Refitting**, page 16A-5) ,
- the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page 11A-5) ,
- the intercooler (see **12B, Turbocharging, Intercooler: Removal - Refitting**, page 12B-21) ,
- the front bumper (see **Front bumper: Removal - Refitting**) (MR 393, 55A, Exterior protection),
- the front sections of the front wheel arch liners (see **Front wheel arch liner: Removal - Refitting**) (MR 393, 55A, Exterior protection).

☐ Top up the engine (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .

☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

☐ Bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .

☐ Refit:

- the engine undertray,
- the engine cover,

F4R

Special tooling required

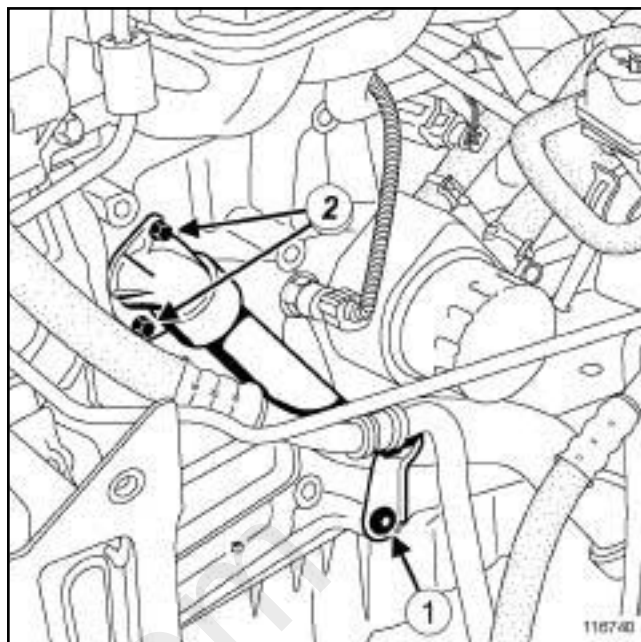
Mot. 1448	Remote operation pliers for hose clips.
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REMOVAL**I - REMOVAL PREPARATION OPERATION**

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Remove the engine undertray.
- ☐ Perform the following operations:
 - drain the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) ,
 - flush the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .
- ☐ Remove:
 - the alternator (see **16A, Starting - Charging, Alternator: Removal - Refitting**, page 16A-5) ,
 - the multifunction support (see **10A, Engine and cylinder block assembly, Multifunction support: Removal - Refitting**, page 10A-97) .

II - OPERATION FOR REMOVAL OF PART CONCERNED

- ☐ Remove the clip from the hose using the (**Mot. 1448**).



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- ☐ Remove:
 - the coolant pump inlet pipe mounting bolt (1) ,
 - the coolant pump inlet pipe elbow mounting bolts (2) ,
 - the coolant pump inlet pipe.

REFITTING**I - REFITTING OPERATION FOR PART CONCERNED**

- ☐ Refit:
 - the coolant pump inlet pipe fitted with a new seal,
 - the coolant pump inlet pipe elbow mounting bolts,
 - the coolant pump inlet pipe mounting bolt.
- ☐ Connect the hose on the coolant pump inlet pipe.
- ☐ Fit the clip using the (**Mot. 1448**).

II - FINAL OPERATION

- ☐ Refit:
 - the multifunction support (see **10A, Engine and cylinder block assembly, Multifunction support: Removal - Refitting**, page 10A-97) ,
 - the alternator (see **16A, Starting - Charging, Alternator: Removal - Refitting**, page 16A-5) .
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

Coolant pump inlet pipe: Removal - Refitting

F4R

- ☐ Perform the following operations:
 - fill the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**) ,
 - bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**) .
- ☐ Check that there are no coolant leaks.
- ☐ Refit the engine undertray.