

Oil filter: Removal - Refitting

F4R

Special tooling required

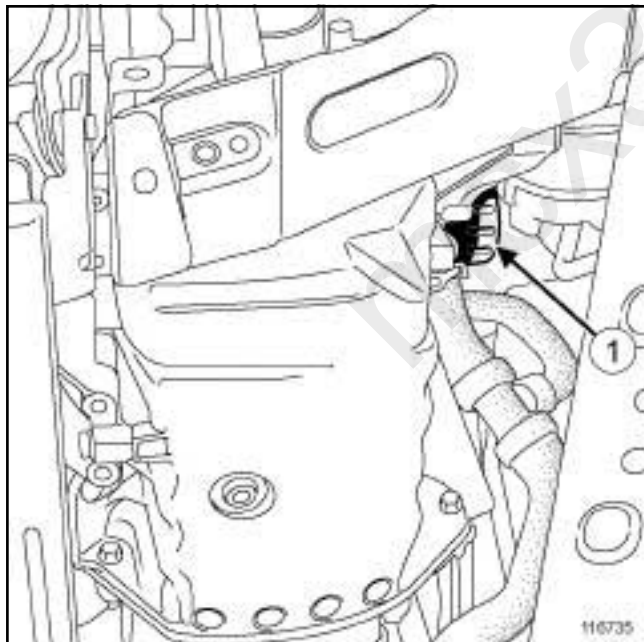
Mot. 1329	Oil filter removing tool (76 mm diameter)
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REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Remove:
 - the dipstick,
 - the engine undertray.
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**).

II - OPERATION FOR REMOVAL OF PART CONCERNED



116735

- ☐ Remove the oil filter using the (**Mot. 1329**) and a ratchet.

REFITTING

I - REFITTING PREPARATIONS OPERATION

- ☐ Lubricate the new oil filter seal.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Fit the new oil filter.
- ☐ Tighten the oil filter until it makes contact.
- ☐ Tighten the oil filter **3/4 of a turn** by hand.

III - FINAL OPERATION.

- ☐ Fill up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**).
- ☐ Start the vehicle in order to check that there are no oil leaks from the oil filter.
- ☐ Refit the engine undertray.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

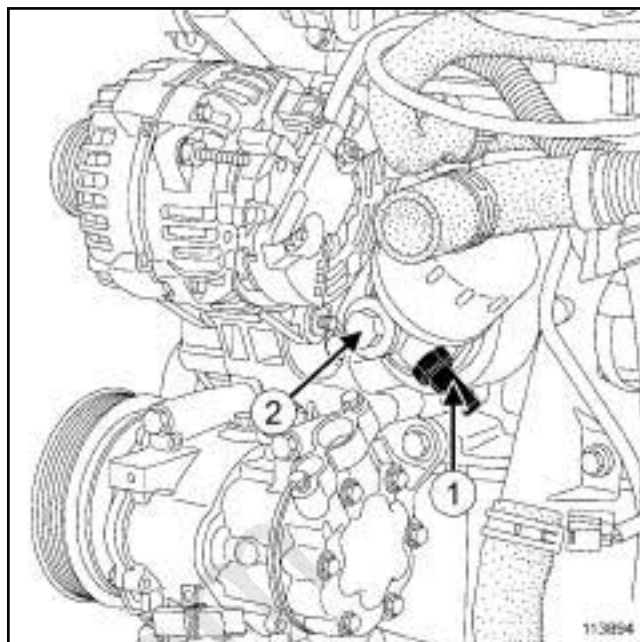
K9K, and 764 or 766 or 768

Tightening torques 		
oil-coolant heat exchanger nipple		39 N.m
oil filter holder bolt		28 N.m

REMOVAL

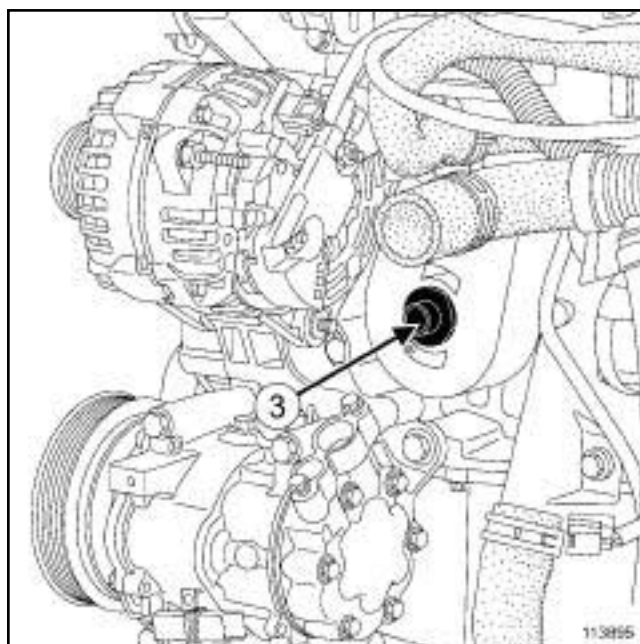
I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the engine protector,
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
 - the engine undertray,
 - the intercooler (see **12B, Turbocharging, Intercooler: Removal - Refitting**, page 12B-21) .
- ☐ Drain:
 - the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page 10A-13) ,
 - the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page 19A-16) .



- ☐ Disconnect the oil pressure sensor connector (1) .
- ☐ Remove:
 - the bolt (2) from the oil filter support,
 - the oil filter holder.

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Remove:
 - the nipple (3) from the oil-coolant heat exchanger,
 - the oil-coolant heat exchanger.

K9K, and 764 or 766 or 768

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ parts always to be replaced: coolant-engine oil heat exchanger seal on the cylinder block (10,05, 05,12).

II - REFITTING OPERATION FOR PART CONCERNED

☐ Refit:

- new seals on the oil-coolant heat exchanger, previously lubricated with soapy water,
- the oil-coolant heat exchanger on the coolant inlet pipe.

- ☐ Put two drops of **HIGH RESISTANCE THREAD LOCK** on the nipple of the oil-coolant heat exchanger.

- ☐ Torque tighten the **oil-coolant heat exchanger nipple (39 N.m)**.

III - FINAL OPERATION

- ☐ Refit the oil filter holder.

- ☐ Torque tighten the **oil filter holder bolt (28 N.m)**.

- ☐ Top up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .

- ☐ Wait **2 minutes**.

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

☐ Refit:

- the intercooler (see **12B, Turbocharging, Intercooler: Removal - Refitting**, page **12B-21**) ,
- the engine undertray,
- the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
- the engine protector.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

M4R

Special tooling required

Ms. 583	Pipe clamps.
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)

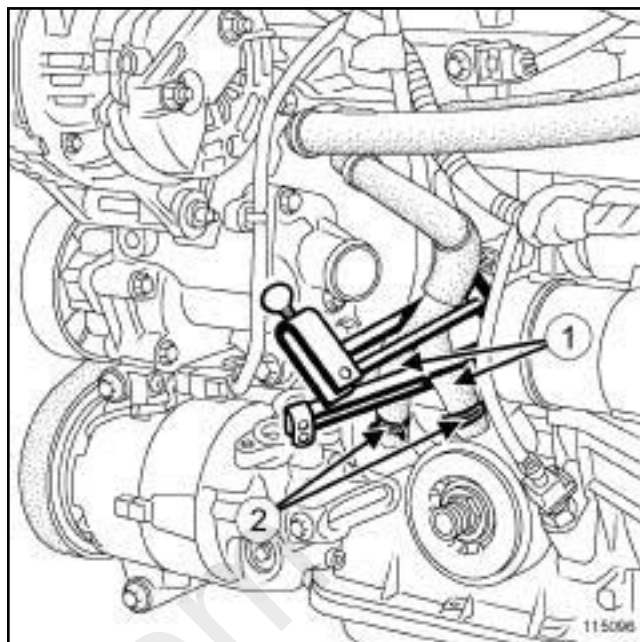
Tightening torques

oil-coolant exchanger bolt	49 N.m
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REMOVAL

I - REMOVAL PREPARATION OPERATION

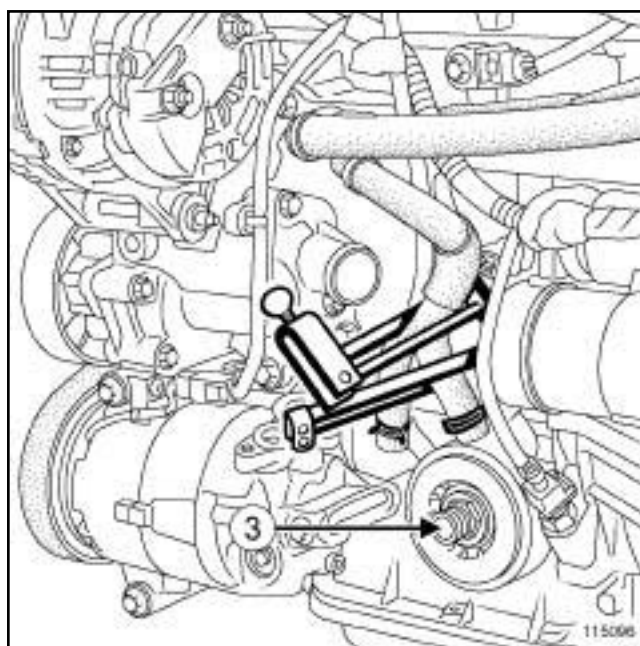
- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the engine undertray,
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
 - the front impact cross member (see **Front impact cross member: Removal - Refitting**) (41A, Front lower structure),
 - the front end panel air resonator (see **12A, Fuel mixture, Air resonator: Removal - Refitting**, page 12A-10) .
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page 10A-13) .
- ☐ Remove the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page 10A-20) .



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- ☐ Fit hose clamps (**Ms. 583**) onto the oil-coolant heat exchanger hoses (1) .
- ☐ Separate the clips (2) on the oil-coolant heat exchanger inlet and outlet hoses, using the tool (**Mot. 1448**) or (**Mot. 1202-01**) or (**Mot. 1202-02**).
- ☐ Connect the oil-coolant heat exchanger hoses.

II - OPERATION FOR REMOVAL OF PART CONCERNED



115096

- ☐ Remove:
 - the bolt (3) from the oil-coolant heat exchanger,

M4R

- the oil-coolant heat exchanger,
- the oil-coolant heat exchanger O-ring.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ **parts always to be replaced: coolant-engine oil heat exchanger seal on the cylinder block (10,05,05,12).**

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the oil-coolant heat exchanger equipped with a new seal.
- ☐ Torque tighten the **oil-coolant exchanger bolt (49 N.m)**.

III - FINAL OPERATION

- ☐ Connect the oil-coolant heat exchanger inlet and outlet hoses.
- ☐ Fit the oil-coolant heat exchanger inlet and outlet hose clips using the tool **(Mot. 1448)** or **(Mot. 1202-01)** or **(Mot. 1202-02)**.
- ☐ Remove the hose clamps **(Ms. 583)** on the oil-coolant heat exchanger inlet and outlet hoses.
- ☐ Refit the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting, page 10A-20**).
- ☐ Top up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling, page 10A-13**).
- ☐ Refit:
 - the front end panel air resonator (see **12A, Fuel mixture, Air resonator: Removal - Refitting, page 12A-10**),
 - the front impact cross member (see **Front impact cross member: Removal - Refitting**) (41A, Front lower structure),
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
 - the engine undertray.
- ☐ Fill and bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling, page 19A-16**).

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

F4R

Special tooling required

Ms. 583	Pipe clamps.
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

oil filter nipple	55 N.m
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If there is an internal leak in the coolant-oil exchanger resulting in a coolant-oil mixture, you will need to:

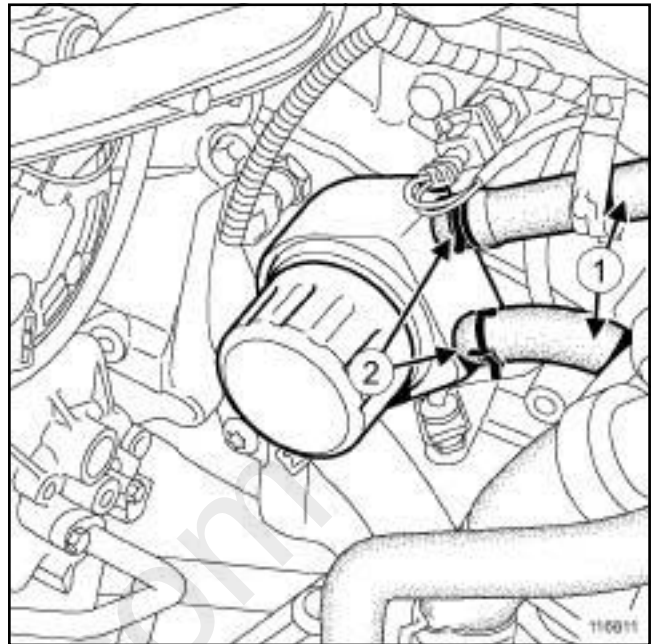
- drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) ,
- drain the coolant (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**) ,
- replace the oil filter.

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the engine undertray,
 - the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page **10A-20**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



116811

- ☐ Fit a hose clamp (**Ms. 583**) on the coolant hoses (**1**) .
- ☐ Separate the hose clips (**2**) using the tool (**Mot. 1448**) or (**Mot. 1202-01**) or (**Mot. 1202-02**).
- ☐ Disconnect the oil-water heat exchanger cooling hoses.

Note:

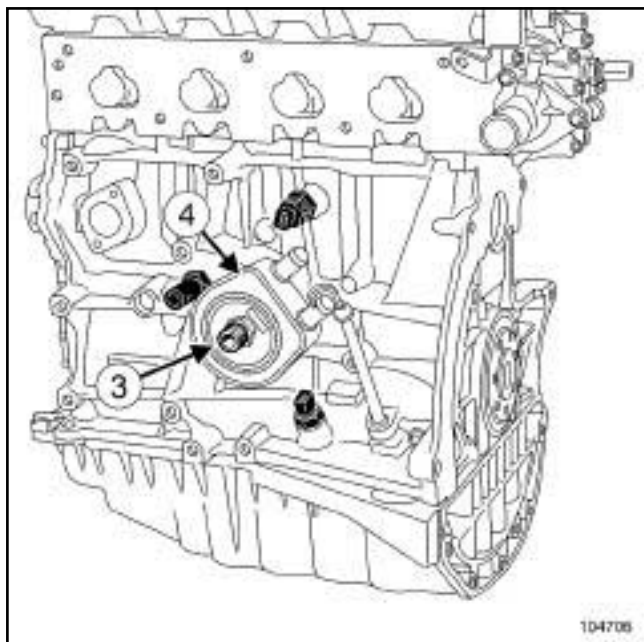
Watch out for coolant outflow.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

F4R



- ☐ It is essential to mark the position of the coolant-oil heat exchanger.
- ☐ Remove:
 - the oil filter nipple (3) ,
 - the coolant-oil heat exchanger (4) ,
 - the coolant-oil exchanger seal.

Note:

Watch out for the outflow of engine oil.

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ parts always to be replaced: coolant-engine oil heat exchanger seal on the cylinder block (10,05, 05,12).
- ☐ Clean the sealing surfaces.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit:
 - a new seal on the oil-coolant heat exchanger,
 - the oil-coolant heat exchanger with its new seal, observing its fitting position,
 - the oil filter nipple, taking care not to alter the oil-coolant heat exchanger fitting position.
- ☐ Torque tighten the **oil filter nipple (55 N.m)**.

III - FINAL OPERATION

- ☐ Connect the cooling hoses to the oil-coolant heat exchanger.
- ☐ Fit the clips on the hoses using the tool **(Mot. 1448)** or **(Mot. 1202-01)** or **(Mot. 1202-02)**.
- ☐ Remove the hose clamp **(Ms. 583)**.
- ☐ Refit the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page **10A-20**) with a new seal.
- ☐ Perform the following operations:
 - top up the engine oil level using the dipstick,
 - fill and bleed the coolant circuit (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**) .
- ☐ Check that there are no leaks from the oil filter and the coolant-oil heat exchanger.
- ☐ Refit the engine undertray.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

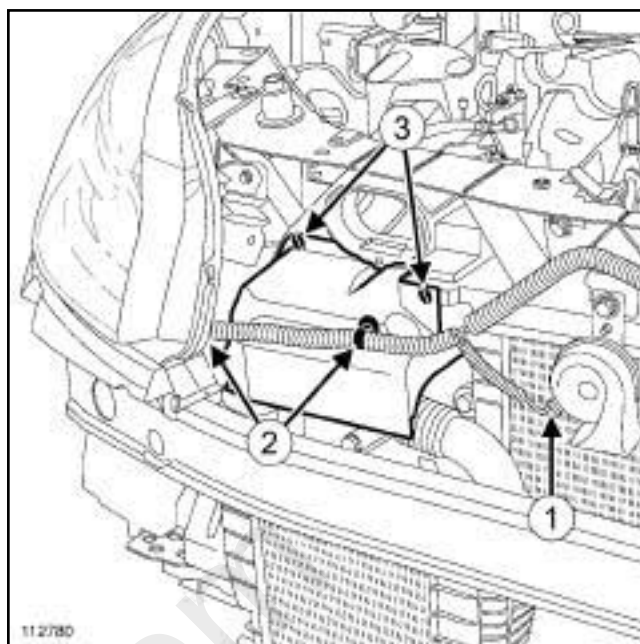
K9K, and 772

Tightening torques 	
oil-coolant heat exchanger nipple	39 N.m
oil filter holder hollow bolt	28 N.m
alternator bolts	21 N.m
air duct clips between the intercooler and the damper valve	5.5 N.m
exchanger inlet air pipe nut on the alternator	8 N.m

REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the engine cover,
 - the engine undertray.
- ☐ Drain the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**) .
- ☐ Remove:
 - the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page **10A-20**) ,
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection).



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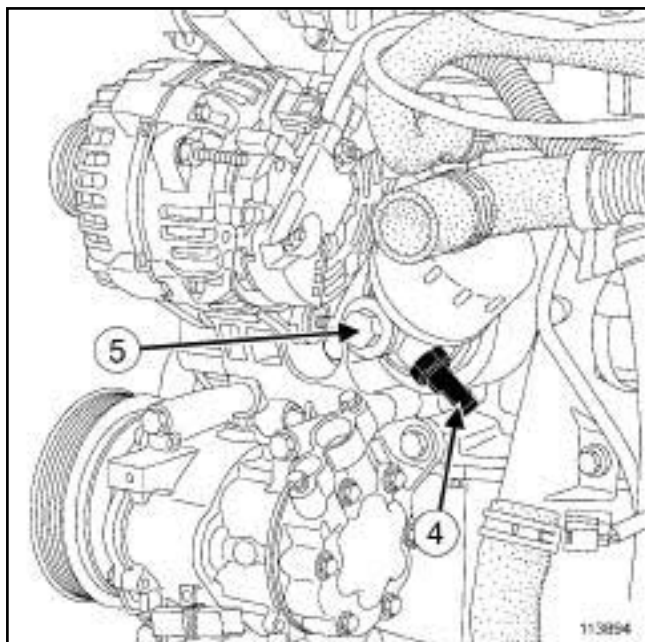
- ☐ Disconnect the horn connector (1) .
- ☐ Unclip the electrical wiring from the air deflector at (2) .
- ☐ Remove:
 - the air deflector clips (3) ,
 - the air deflector.

ENGINE AND CYLINDER BLOCK ASSEMBLY

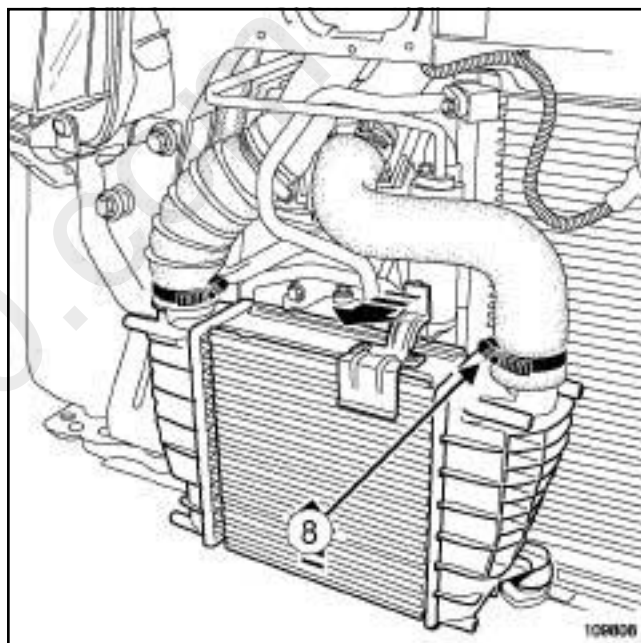
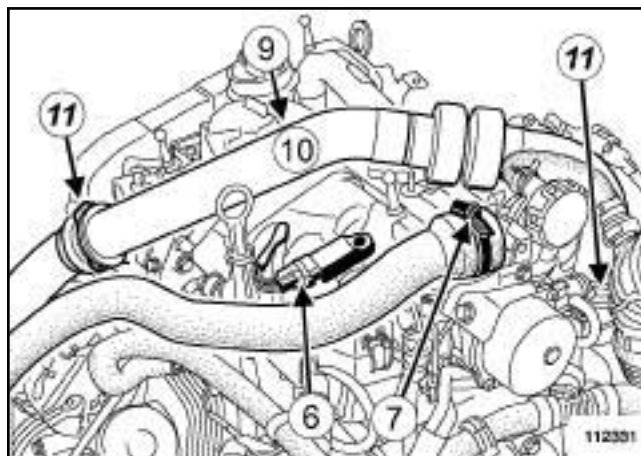
Oil-coolant heat exchanger: Removal - Refitting

10A

K9K, and 772



- ❑ Disconnect the oil pressure sensor connector (4) .
- ❑ Mark the position of the oil filter holder on the cool-ant-oil heat exchanger.
- ❑ Remove:
 - the oil filter holder hollow bolt (5) ,
 - the oil filter holder.



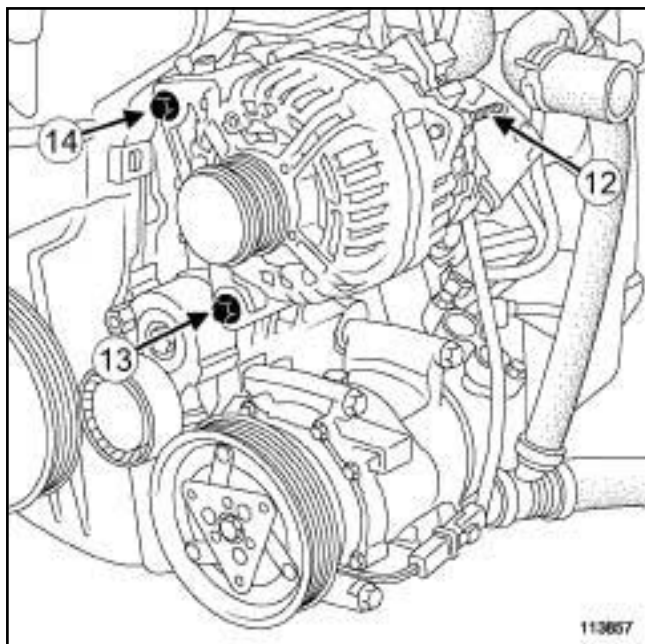
- ❑ Disconnect the inlet pressure sensor connector (6) .
- ❑ Undo:
 - the air duct clip (7) between the intercooler and the damper valve on the damper valve,
 - the air duct clip (8) between the intercooler and the damper valve on the intercooler,
 - the bolt (9) of the upper air duct between the turbo-charger and the intercooler,
 - the upper section of the air duct (10) between the turbocharger and the intercooler by moving aside the clips (11) .

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

K9K, and 772



113857

❑ Remove:

- the nut (12) from the air inlet ducts on the alternator,
- the air duct between the intercooler and the damper valve,
- the bolt from the upper air duct between the turbocharger and the intercooler,
- the upper section of the air duct between the turbocharger and the intercooler by separating the clips.

❑ Move the lower section of the duct between the turbocharger and the intercooler away from the alternator.

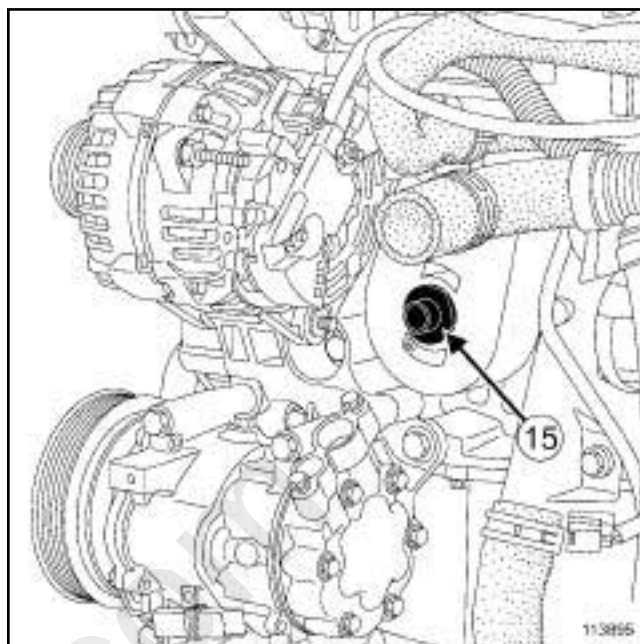
❑ Remove the accessories belt (see 11A, Top and front of engine, Accessories belt: Removal - Refitting, page 11A-5) .

❑ Loosen the alternator lower bolt (13) .

❑ Remove the alternator upper bolt (14) .

❑ Tip the alternator towards the front of the vehicle.

II - OPERATION FOR REMOVAL OF PART CONCERNED



113895

❑ Remove:

- the nipple (15) from the oil-coolant heat exchanger,
- the coolant-oil heat exchanger by releasing it from the coolant pump inlet pipe.

REFITTING

I - REFITTING PREPARATION OPERATION

❑ parts always to be replaced: coolant-engine oil heat exchanger seal on the cylinder block (10,05, 05,12).

❑ Clean the bearing faces on the coolant-oil heat exchanger and the cylinder block.

❑ Refit new seals on the oil-coolant heat exchanger, previously lubricated with soapy water.

II - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- the oil-coolant heat exchanger by connecting it to the coolant pump inlet pipe.
- the oil-coolant heat exchanger nipple.

❑ Put two drops of **HIGH RESISTANCE THREAD LOCK** on the nipple of the oil-coolant heat exchanger.

❑ Torque tighten the **oil-coolant heat exchanger nipple (39 N.m)**.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

K9K, and 772

III - FINAL OPERATION

☐ Refit:

- the oil filter holder,
- the hollow bolt to the oil filter holder with new seals.

☐ Tighten to torque the **oil filter holder hollow bolt (28 N.m)**.

☐ Refit the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page **10A-20**).

☐ Fit the alternator in place.

☐ Refit the alternator upper bolt.

☐ Torque tighten the **alternator bolts (21 N.m)**.

☐ Position the lower section of the air duct between the turbocharger and the intercooler on the alternator.

☐ Refit:

- the air duct between the intercooler and the damper valve,
- the air duct nut on the alternator.

☐ Tighten to torque the **air duct clips between the intercooler and the damper valve (5.5 N.m)**.

☐ Connect the inlet pressure sensor connector.

☐ Fit:

- the clip to the inlet of the lower section of the air duct between the turbocharger and the intercooler,
- the clip to the inlet of the upper section of the air duct between the turbocharger and the intercooler.

☐ Loosen the intercooler inlet air pipe nut on the alternator.

☐ Fit the air duct between the turbocharger and the intercooler air inlet pipe.

☐ Snap the air duct to the turbocharger and to the air pipe at the intercooler inlet.

☐ Tighten the bolt of the air duct on the rocker cover.

☐ Torque tighten the **exchanger inlet air pipe nut on the alternator (8 N.m)**.

☐ Refit:

- the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page **11A-5**),
- the deflector above the intercooler,
- the deflector clips.

☐ Connect the horn connector.

☐ Clip the electrical wiring onto the deflector.

☐ Refit the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection).

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

☐ Refit:

- the engine undertray,
- the engine cover.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

K9K, and 750 or 752

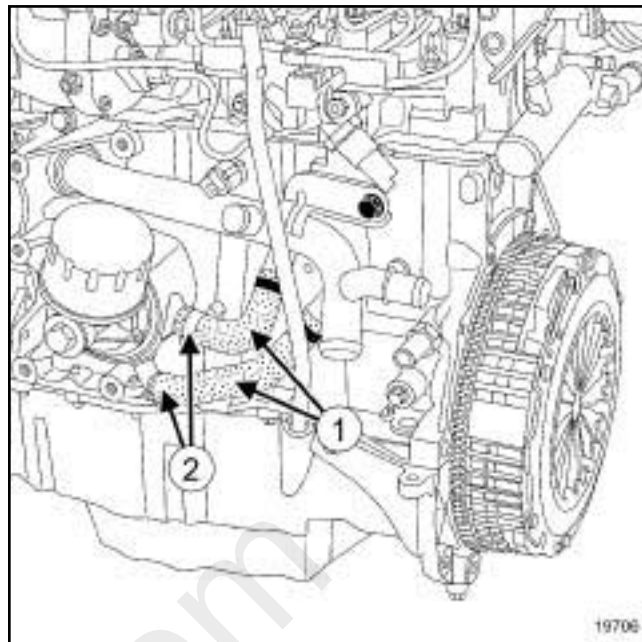
Special tooling required	
Ms. 583	Pipe clamps.
Mot. 1448	Remote operation pliers for hose clips.
Mot. 1202-01	Clip pliers for hose clips (large size).
Mot. 1202-02	Clip pliers for hose clips (small size)

Tightening torques 	
oil-coolant heat exchanger nipple	45 N.m
oil filter holder bolt	45 N.m

REMOVAL

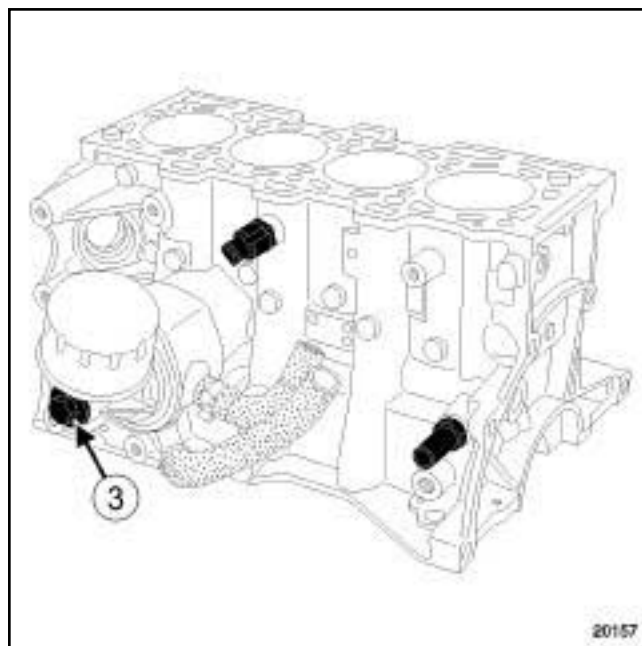
I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove the engine undertray.



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- ☐ Fit the hose clamps (**Ms. 583**) on the oil-coolant heat exchanger inlet and outlet hoses (1) .
- ☐ Separate the clips (2) on the oil-coolant heat exchanger inlet and outlet hoses, using the tool (**Mot. 1448**) or (**Mot. 1202-01**) or (**Mot. 1202-02**).
- ☐ Disconnect the oil-coolant heat exchanger inlet and outlet hoses.



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- ☐ Remove:
 - the bolt (3) from the oil filter support,
 - the oil filter holder.

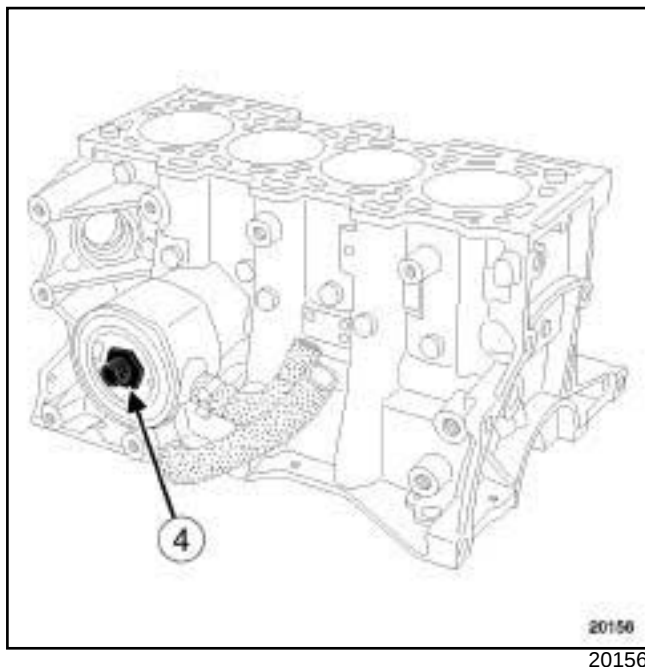
ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

K9K, and 750 or 752

II - OPERATION FOR REMOVAL OF PART CONCERNED



❑ Remove:

- the nipple (4) from the oil-coolant heat exchanger,
- the oil-coolant heat exchanger.

REFITTING

I - REFITTING PREPARATION OPERATION

- ❑ parts always to be replaced: coolant-engine oil heat exchanger seal on the cylinder block (10,05, 05,12).

II - REFITTING OPERATION FOR PART CONCERNED

❑ Refit:

- a new exchanger seal by positioning the seal lip behind the exchanger tabs,
- the oil-coolant heat exchanger.

- ❑ Screw in the oil-coolant heat exchanger nipple, without tightening it.
- ❑ Torque tighten the **oil-coolant heat exchanger nipple (45 N.m)**.

III - FINAL OPERATION

- ❑ Refit the oil filter holder.
- ❑ Torque tighten the **oil filter holder bolt (45 N.m)**.

- ❑ Connect the oil-coolant heat exchanger inlet and outlet hoses.
- ❑ Fit the oil-coolant heat exchanger inlet and outlet hoses clips using the **(Mot. 1448)** or **(Mot. 1202-01)** or **(Mot. 1202-02)**.
- ❑ Remove the hose clamps **(Ms. 583)** on the oil-coolant heat exchanger inlet and outlet hoses.
- ❑ Fill and bleed the cooling system (see **19A, Cooling, Cooling system: Draining - Refilling**, page **19A-16**).
- ❑ Refit the engine undertray.

ENGINE AND CYLINDER BLOCK ASSEMBLY

Oil-coolant heat exchanger: Removal - Refitting

10A

D4F, and 784

Special tooling required

Ms. 583	Pipe clamps.
Mot. 1448	Remote operation pliers for hose clips.

Tightening torques

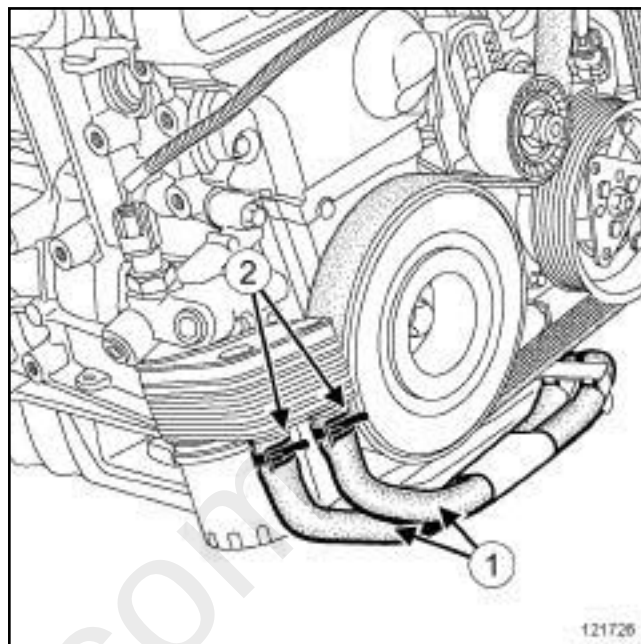
oil-coolant heat exchanger nipple	30 Nm
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REMOVAL

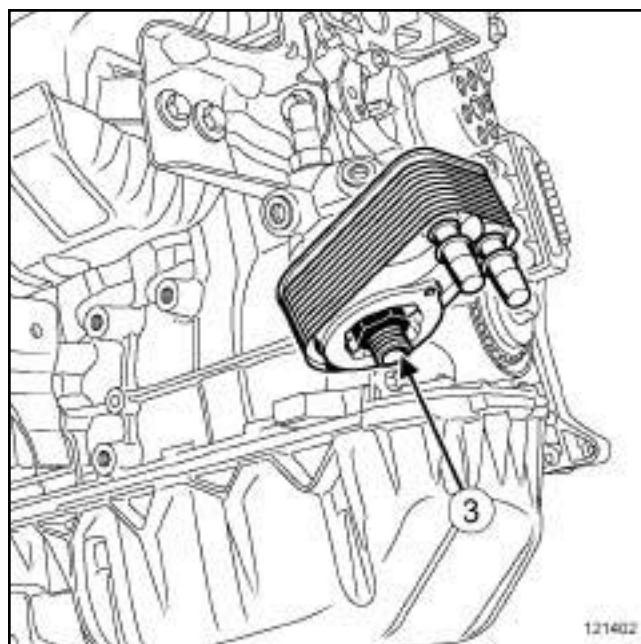
I - REMOVAL PREPARATION OPERATION

- ☐ 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,
 - the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page 10A-20) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



- ☐ Fit hose clamps (**Ms. 583**) onto the oil-coolant heat exchanger hoses (1) .
- ☐ Release the clips (2) using the (**Mot. 1448**).
- ☐ Disconnect the oil cooler hoses.



- ☐ Remove:
 - the nipple (3) from the oil-water heat exchanger,
 - the oil cooler.