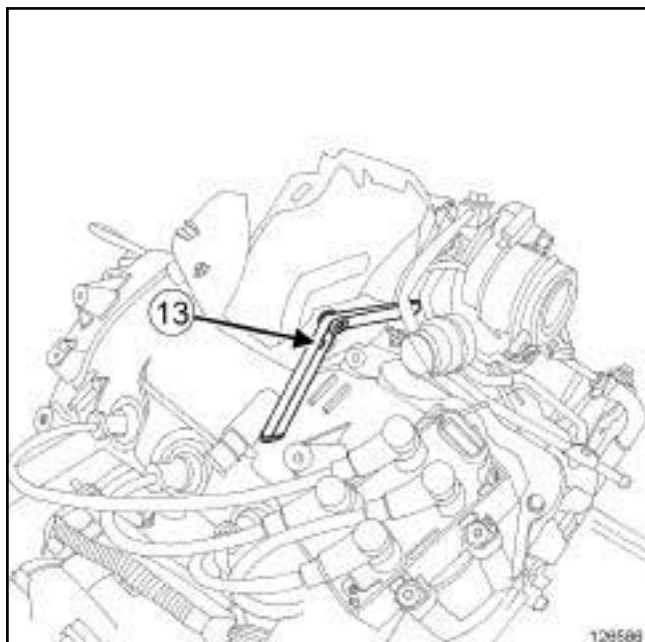


TURBOCHARGING

Turbocharger: Removal - Refitting

12B

D4F, and 784



126586

- ☐ Position a **3 mm set of feeler gauges (13)** between the compressor cooling pipe and the compressor heat shield.
- ☐ Tighten to torque:
 - the **turbocharger cooling pipe hollow bolts (30 N.m)**,
 - the **turbocharger cooling pipe bracket bolts (10 N.m)**.
- ☐ Connect the turbocharging pressure relief valve pipes.
- ☐ Tighten the turbocharging pressure relief valve pipe clips.

III - FINAL OPERATION

- ☐ Connect the air outlet pipe of the air filter unit.
- ☐ Tighten:
 - the clips of the air outlet pipe of the air filter unit,
 - the compressor discharge air pipe clip.
- ☐ Connect:
 - fuel vapour recirculation pipe,
 - the oil vapour rebreathing pipe,
 - the turbocharging pressure relief valve.
- ☐ Refit the turbocharger air outlet pipe.
- ☐ Clip the turbocharger air outlet pipe onto the turbocharger.

☐ Refit:

- the turbocharger air outlet pipe bolt,
- new turbocharger oil pipes (see **12B, Turbocharging, Turbocharger oil pipe: Removal - Refitting, page 12B-15**),
- the catalytic pre-converter (see **19B, Exhaust, Catalytic pre-converter: Removal - Refitting, page 19B-21**),
- the front right-hand wheel driveshaft (see **Front right-hand driveshaft: Removal - Refitting (29A, Driveshafts)**).

☐ 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**).

☐ Check that there are no leaks:

- start the engine,
- check that the oil pressure warning light has gone out,
- leave the engine to idle,
- accelerate several times at no load,
- check that there are no leaks.

☐ Refit:

- the engine undertray,
- the engine cover.

TURBOCHARGING

Turbocharger oil pipe: Removal - Refitting

12B

D4F, and 784

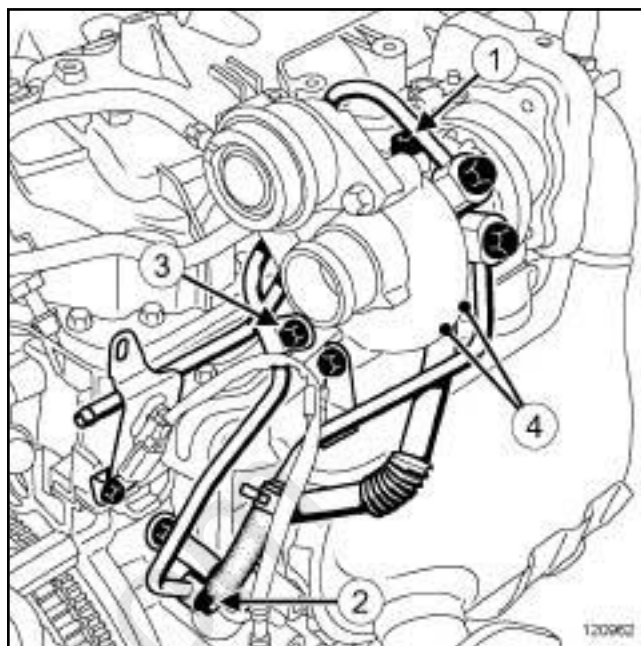
Tightening torques 	
turbocharger oil return pipe bolts	10 Nm
turbocharger oil supply pipe bolt on the cylinder block	19 Nm
turbocharger oil supply pipe bolt on the turbo-charger	19 Nm
turbocharger oil supply pipe bracket bolt	10 Nm

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-right hand wheel driveshaft (see **Front right-hand driveshaft: Removal - Refitting**) (MR 392, 29A, driveshafts),
 - the catalytic pre-converter (see **19B, Exhaust, Catalytic pre-converter: Removal - Refitting, page 19B-21**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



120962

- ☐ Remove:
 - the bolt (1) from the turbocharger oil supply pipe on the turbocharger,
 - the bolt (2) on the turbocharger oil supply pipe on the cylinder block,
 - the bracket bolt (3) from the turbocharger oil supply pipe,
 - the turbocharger oil supply pipe,
 - the bolts (4) from the turbocharger oil return pipe,
 - the turbocharger oil return pipe.
- ☐ Fit a blanking plug to the opening on the cylinder block after removal of the turbocharger oil return pipe.

REFITTING

I - REFITTING PREPARATIONS OPERATION

- ☐ Always replace the turbocharger oil pipes.
- ☐ Remove the protective plug from the opening on the cylinder block.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit:
 - the new turbocharger oil return pipe fitted with new seals,

Turbocharger oil pipe: Removal - Refitting

D4F, and 784

- the turbocharger oil return pipe bolts.

☐ Torque tighten the **turbocharger oil return pipe bolts (10 Nm)**.

☐ Refit:

- the new turbocharger oil supply pipe fitted with its new seals,

- the turbocharger oil supply pipe bolt on the cylinder block,

- the turbocharger oil supply pipe bolt on the turbocharger,

- the turbocharger oil supply pipe bracket bolt.

☐ Torque tighten:

- the **turbocharger oil supply pipe bolt on the cylinder block (19 Nm)**,

- the **turbocharger oil supply pipe bolt on the turbocharger (19 Nm)**,

- the **turbocharger oil supply pipe bracket bolt (10 Nm)**.

III - FINAL OPERATION.

☐ Refit:

- the catalytic pre-converter (see **19B, Exhaust, Catalytic pre-converter: Removal - Refitting, page 19B-21**) ,

- the front right-hand wheel driveshaft (see **Front right-hand driveshaft: Removal - Refitting**) (MR 392, 29A, driveshafts).

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

☐ Check that there are no leaks:

- start the engine,

- check that the oil pressure warning light has gone out,

- leave the engine to idle,

- accelerate several times at no load,

- check that there are no oil leaks.

☐ Refit:

- the engine undertray,

- the engine cover.

TURBOCHARGING

Turbocharger oil pipe: Removal - Refitting

12B

K9K

Special tooling required

Mot. 1746 Offset wrench for tightening High Pressure pump pipes.

Equipment required

Diagnostic tool

Tightening torques

turbocharger oil supply pipe hollow bolt (turbocharger end)	torx head bolt 18 N.m or bolt with head type H 14 N.m
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turbocharger oil supply pipe nut (cylinder head side) collar nut 35 N.m or non-collar nut	23 N.m
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turbocharger oil return pipe bolts	12 N.m
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IMPORTANT

Wear protective gloves during the operation.

WARNING

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

Note:

This procedure deals with removing and refitting the turbocharger oil return pipe and the turbocharger oil supply pipe.

REMOVING THE TURBOCHARGER OIL SUPPLY PIPE

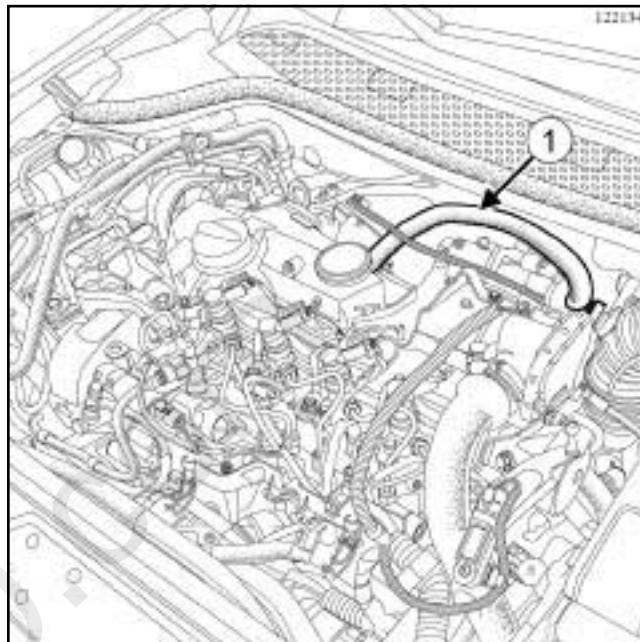
I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Remove:
 - the engine cover,
 - the battery (see **Battery: Removal - Refitting**) (80A, Battery),

- the battery tray (see **Battery tray: Removal - Refitting**) (80A, Battery),

- the scuttle panel grille (see **Scuttle panel grille: Removal - Refitting**) .

K9K, and 764 or 772

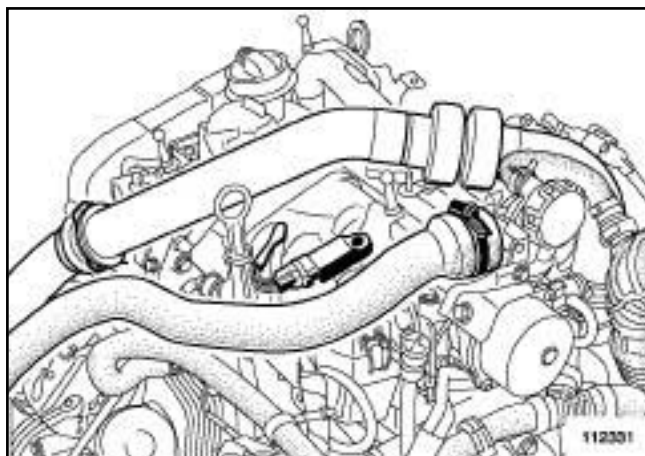


122134

- ☐ Disconnect the oil vapour re-breathing pipe (1) on the rocker cover side.
- ☐ Undo the clips on the air outlet pipe of the air filter unit.
- ☐ Disconnect the air outlet pipe from the air filter unit.
- ☐ Remove the air outlet pipe from the air filter box.

Turbocharger oil pipe: Removal - Refitting

K9K

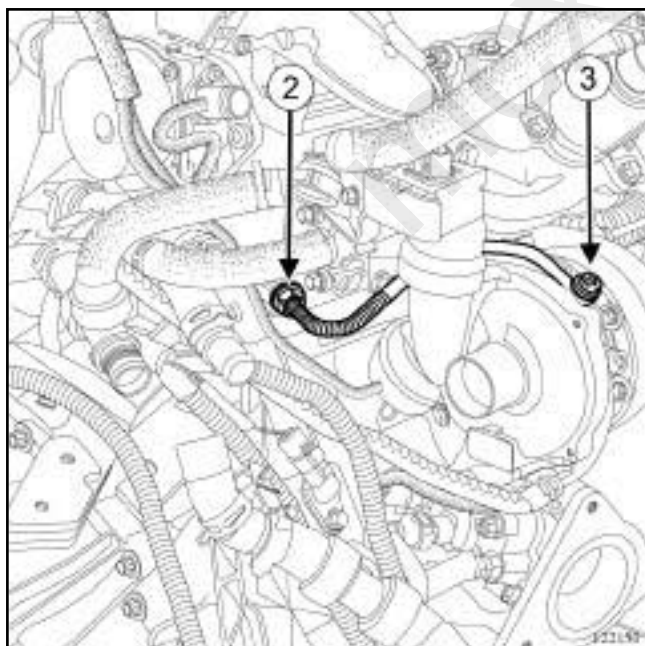


112331

- ☐ Remove the air pipe between the turbocharger outlet and the air pipe at the intercooler inlet.
- ☐ Remove the mounting nut from the intercooler air inlet pipe on the alternator using a ratchet spanner equipped with an extension piece and a universal joint.
- ☐ Move aside the intercooler air inlet pipe.

II - OPERATION FOR REMOVAL OF PART CONCERNED

- ☐ Move the cooling hoses away from the cylinder head water chamber.



122150

- ☐ Undo the turbocharger oil supply pipe nut (2) from the cylinder head using the (Mot. 1746).
- ☐ Remove:
 - the turbocharger oil supply pipe hollow bolt (3) ,

- the turbocharger oil supply pipe.

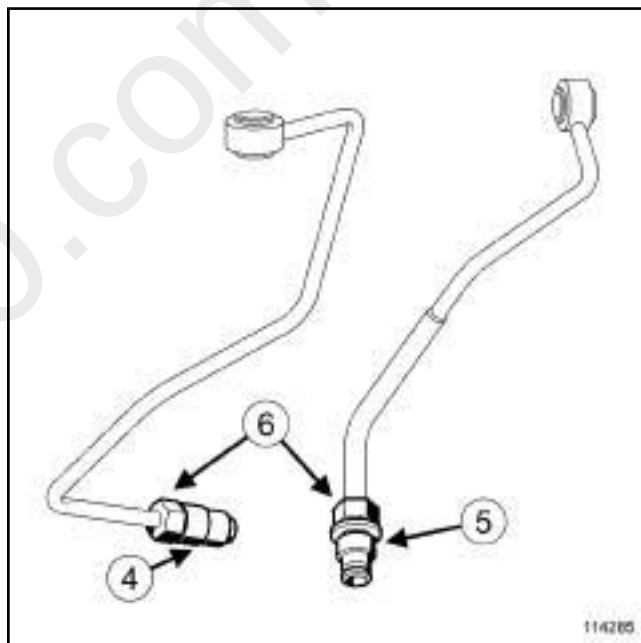
REFITTING THE TURBOCHARGER OIL SUPPLY PIPE

REFITTING PREPARATION OPERATION

- ☐ parts always to be replaced: turbocharger oil supply pipe (10,09,03,01)

parts always to be replaced: Turbocharger oil supply pipe bolt (10,09,03,04)

I - REFITTING OPERATION FOR PART CONCERNED



114285

☐

Note:

These two turbocharger oil supply pipes may be used on the same engine. The tightening torque of the end pieces (6) on the cylinder head is different, depending on the following:

- if the end piece is shouldered (5) , in this case there will be no need to place the high-resistance bolt locking product on the end piece thread,
- if the end piece is not shouldered (4) , it is essential to apply high-strength threadlock to the end piece threading.

- ☐ Refit a new turbocharger oil supply pipe.

TURBOCHARGING

Turbocharger oil pipe: Removal - Refitting

12B

K9K

- ☐ Fit without tightening:
 - the turbocharger oil supply pipe nut on the cylinder head,
 - the turbocharger oil supply pipe hollow bolt.
- ☐ Torque tighten:
 - the **turbocharger oil supply pipe hollow bolt (turbocharger end) (torx head bolt 18 N.m or bolt with head type H 14 N.m)**,
 - the **turbocharger oil supply pipe nut (cylinder head side) collar nut 35 N.m or non-collar nut (23 N.m) using tool (Mot. 1746)**.
- ☐ Clip the cooling hoses onto the cylinder head water chamber.

II - FINAL OPERATION

- ☐ Fit:
 - the turbocharger air outlet pipe,
 - the retaining pins of the turbocharger air outlet pipe.
- ☐ Snap on the turbocharger air outlet pipe.
- ☐ Tighten the turbocharger air outlet pipe bolt on the rocker cover.
- ☐ Tighten the mounting nut of the intercooler air inlet pipe on the alternator using a ratchet spanner equipped with an extension piece and a universal joint.

K9K, and 764 or 772

- ☐ Connect the oil vapour rebreathing pipe on the rocker cover side.

- ☐ Refit:
 - the scuttle panel grille (see **Scuttle panel grille: Removal - Refitting**) ,
 - the battery tray (see **Battery tray: Removal - Refitting**) (80A, Battery),
 - the battery (see **Battery: Removal - Refitting**) (80A, Battery),
 - the engine cover.

Check

- ☐ Disconnect the crankshaft position sensor connector.

- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Run the starter motor until the oil pressure warning light goes out (wait for a few seconds).
- ☐ Switch off the ignition.
- ☐ Make sure that there are no oil leaks.
- ☐ Connect the **Diagnostic tool** and clear the stored faults.
- ☐ Connect the crankshaft position sensor connector.

REMOVING THE TURBOCHARGER OIL RETURN PIPE

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 cover,
 - the scuttle panel grille (see **Scuttle panel grille: Removal - Refitting**) (56A, Exterior equipment),
 - the engine undertray bolts,
 - the engine undertray,
 - the lower engine tie-bar (see **19D, Engine mounting, Lower engine tie-bar: Removal - Refitting**, page **19D-13**) .

K9K, and 750 or 752 or 760 or 762 or 764 or 766 or 768

- ☐ Remove the catalytic converter (see **19B, Exhaust, Catalytic converter: Removal - Refitting**, page **19B-27**) .

K9K, and 772

- ☐ Remove the catalytic pre-converter (see **19B, Exhaust, Catalytic pre-converter: Removal - Refitting**, page **19B-21**) .