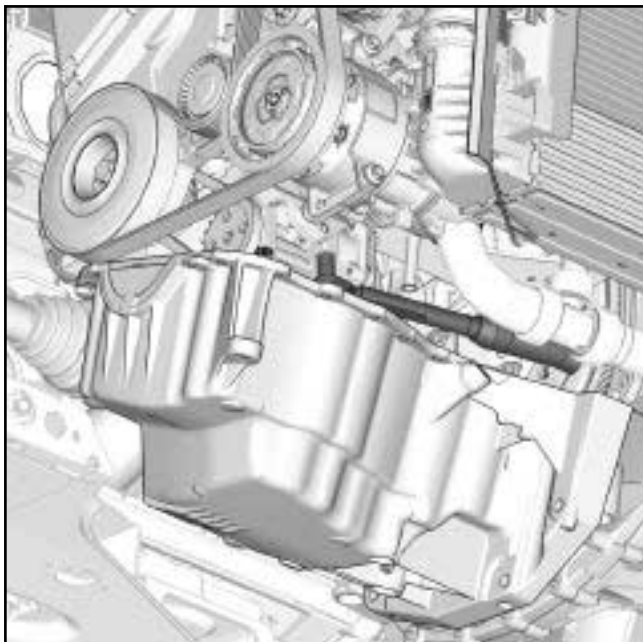


K9K



140918

- ☐ Tilt the engine oil sump forwards in order to access the oil pump bolts.
- ☐ Torque tighten the **oil pump bolts (25 N.m)** using the **torque wrench PROSTEEL**, part number **77 11 226 888** starting with the **13 mm** bolt.

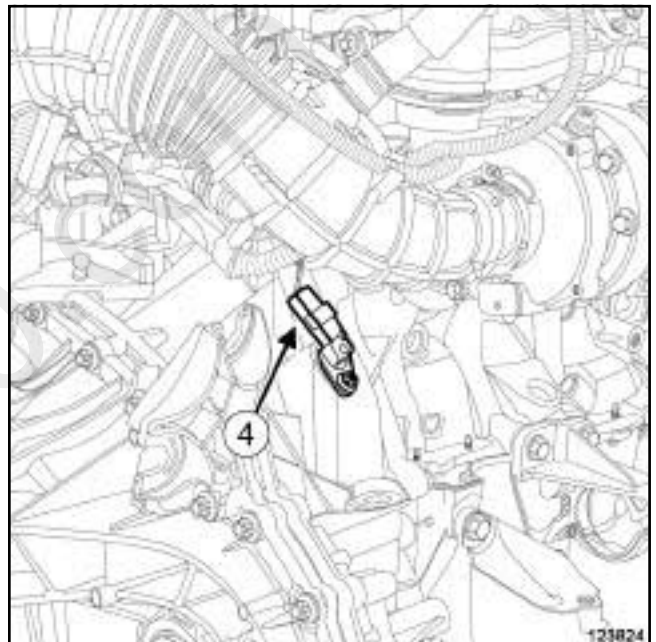
☐

Note:

Check that the engine oil sump seal is definitely in place before tightening the engine oil sump bolts.

- ☐ Refit the engine oil sump bolts.
- ☐ Torque tighten in order the engine oil sump bolts (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**) .
- ☐ Refit the catalytic converter upstream stay (see **19B, Exhaust, Catalytic converter: Removal - Refitting**, page **19B-27**) .
- ☐ Connect the connector to the oil level sensor.
- ☐ Refit the relay bearing of the front right-hand wheel driveshaft (see **Front right-hand driveshaft: Removal - Refitting**) .

- ☐ Refit the radiator mounting cross member (see **Radiator mounting cross member: Removal - Refitting**) (31A, Front axle components).
- ☐ Refit the side reinforcement mountings on the radiator mounting cross member.
- ☐ Refit the mountings of the front right-hand wheel arch liner on the radiator mounting cross member.
- ☐ Remove the **safety strap(s)** from the radiator.
- ☐ Refit the lower engine tie-bar (see **19D, Engine mounting, Lower engine tie-bar: Removal - Refitting**, page **19D-13**) .



123824

- ☐ Disconnect the crankshaft position sensor (4) to prevent the engine from starting.
- ☐ Refit the oil filter (see **10A, Engine and cylinder block assembly, Oil filter: Removal - Refitting**, page **10A-20**)
- ☐ Fill up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .
- ☐ Start the engine using the starter until the engine oil warning light goes out.
- ☐ Connect the crankshaft position sensor.
- ☐ Refit the engine undertray.
- ☐ Clear the present faults using the **Diagnostic tool**.

D4F, and 740 or 742 or 764

Special tooling required

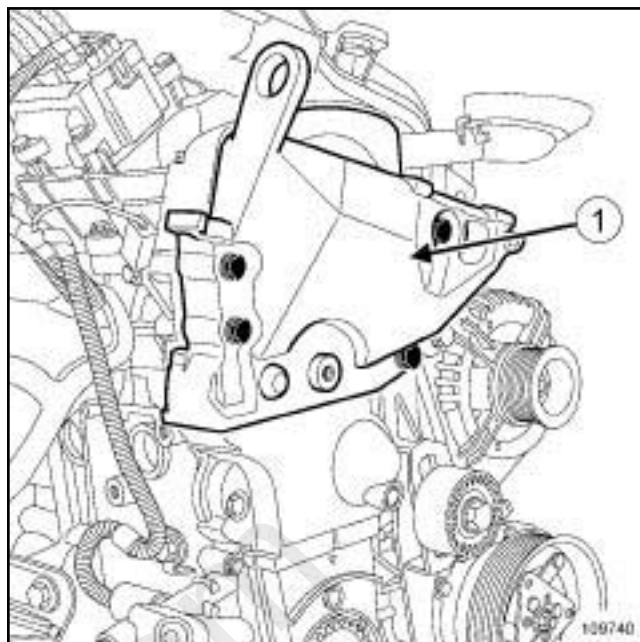
Mot. 1672	Lower engine support.
Mot. 1374	Oil pump seal extractor.
Mot. 1626	Tool for fitting the PTFE crankshaft seal, timing end.

Tightening torques

oil pump mounting bolts	9 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).
- ☐ Remove:
 - the dipstick,
 - the engine undertray,
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (MR 392, 35A, Wheels and tyres),
 - the wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 393, 55A, Exterior protection),
 - the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page **11A-5**) ,
 - the timing belt (see **11A, Top and front of engine, Timing belt: Removal - Refitting**, page **11A-48**) .
- ☐ Drain the oil from the engine (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .



109740

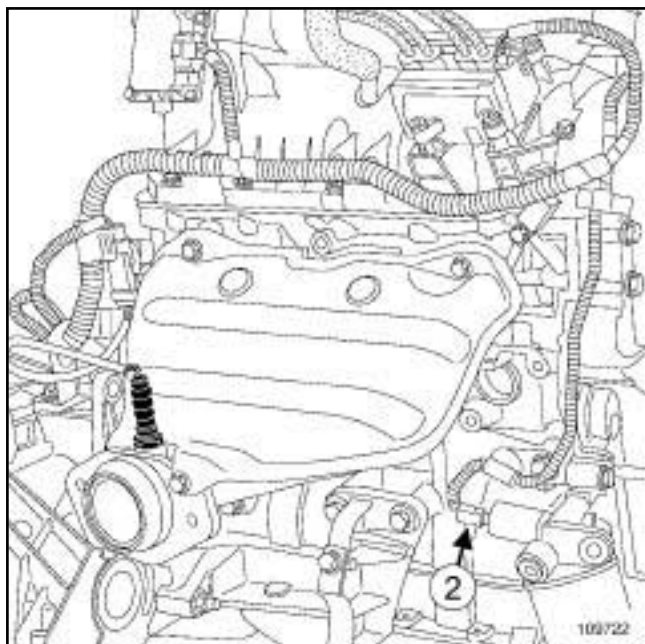
- ☐ Refit the upper timing cover (1) .



109733

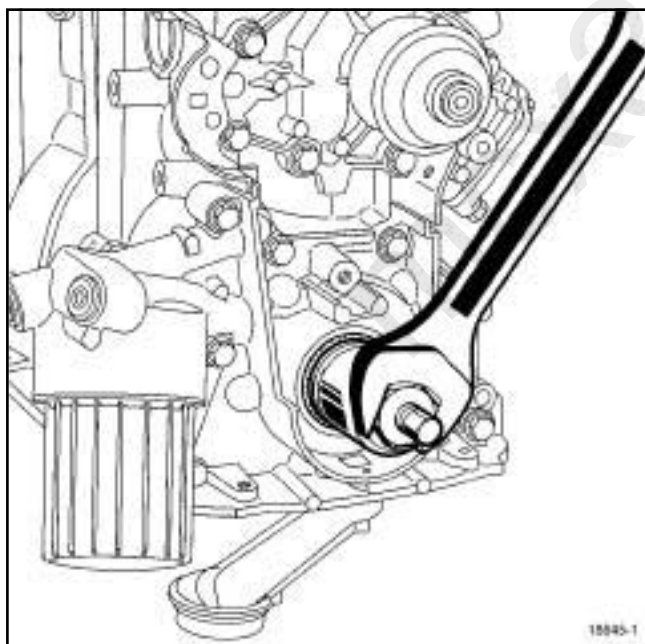
- ☐ Refit the right-hand suspended mounting support (see **19D, Engine mounting, Right-hand suspended engine mounting: Removal - Refitting**, page **19D-22**) .
- ☐ Remove the lower engine support tool (**Mot. 1672**).
- ☐ Remove:
 - the lower cover (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**) ,

D4F, and 740 or 742 or 764



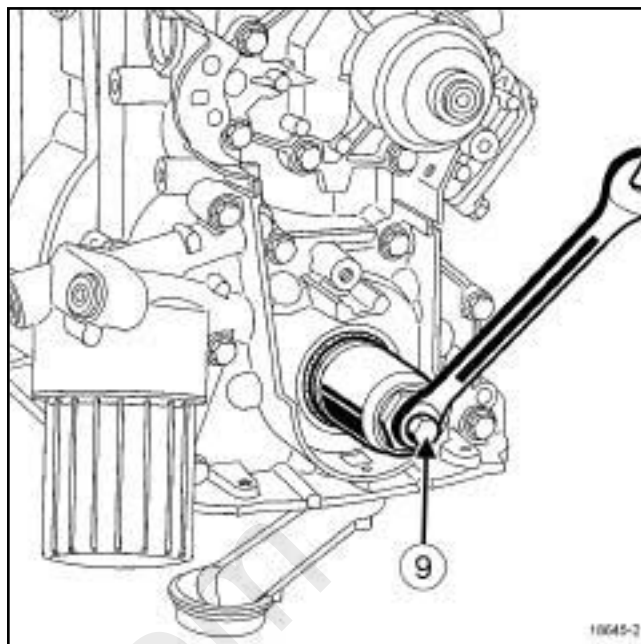
109722

- ❑ Disconnect the oil pressure sensor connector (2) .
- ❑ Remove the crankshaft accessories pulley (see **11A, Top and front of engine, Crankshaft accessories pulley: Removal - Refitting, page 11A-31**) .



18645-1

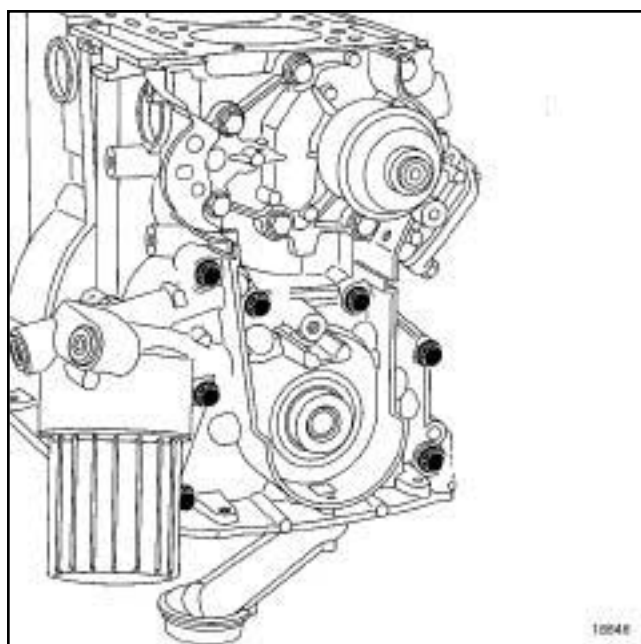
- ❑ Remove the crankshaft seal by turning tool (**Mot. 1374**).



18645-2

- ❑ Remove the seal by tightening the bolt (9) on the (**Mot. 1374**).

II - OPERATION FOR REMOVAL OF PART CONCERNED



10948

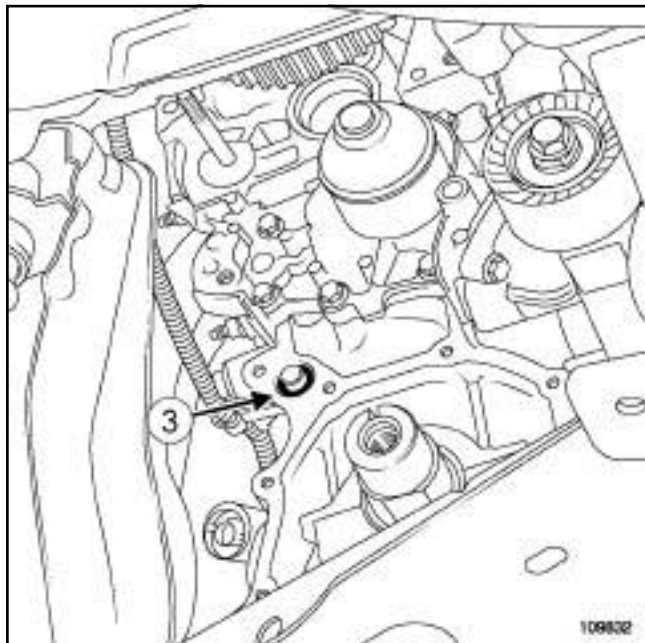
18646

- ❑ Remove:
 - the oil pump strainer,
 - the oil pump mounting bolts,
 - the oil pump.

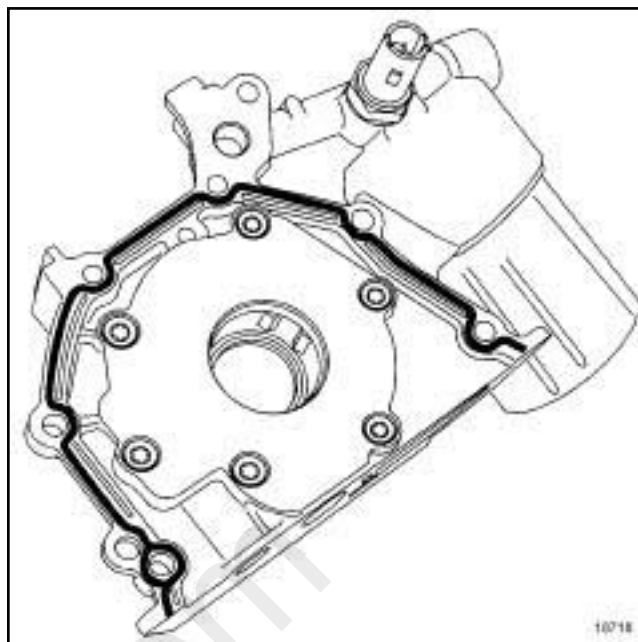
D4F, and 740 or 742 or 764

REFITTING

I - REFITTING PREPARATION OPERATION



- ☐ Always replace:
- the O-ring (3) ,
 - the crankshaft seal.



- ☐ Refit the oil pump.

WARNING

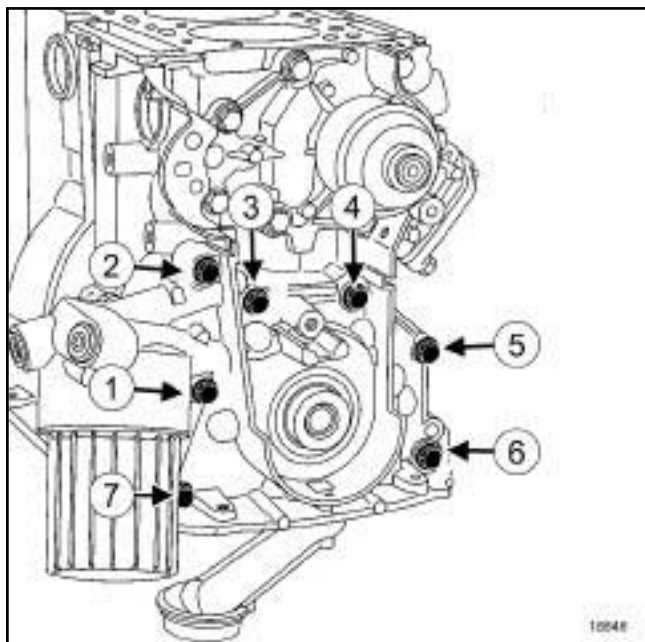
The sealing surfaces must be clean, dry and free from grease (avoid finger marks).

Apply a beading of **SILICONE ADHESIVE SEALANT 77 11 227 484** with a width of **1.3 mm** to seal the oil pump.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐ Fit the oil pump, aligning the oil pump drive points with the flat surface of the crankshaft.

D4F, and 740 or 742 or 764



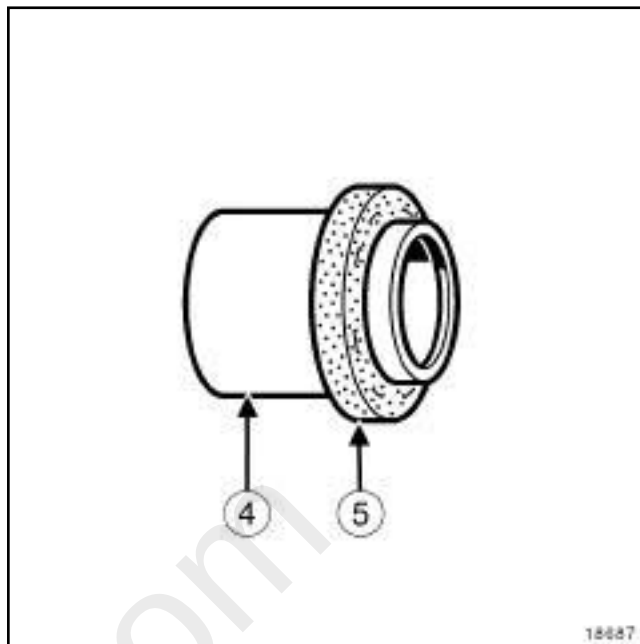
18646

- ☐ Tighten to torque and in order the **oil pump mounting bolts (9 N.m)**.
- ☐ Refit the oil pump strainer.

Note:

The oil pump strainer does not have a seal.

III - FINAL OPERATION.



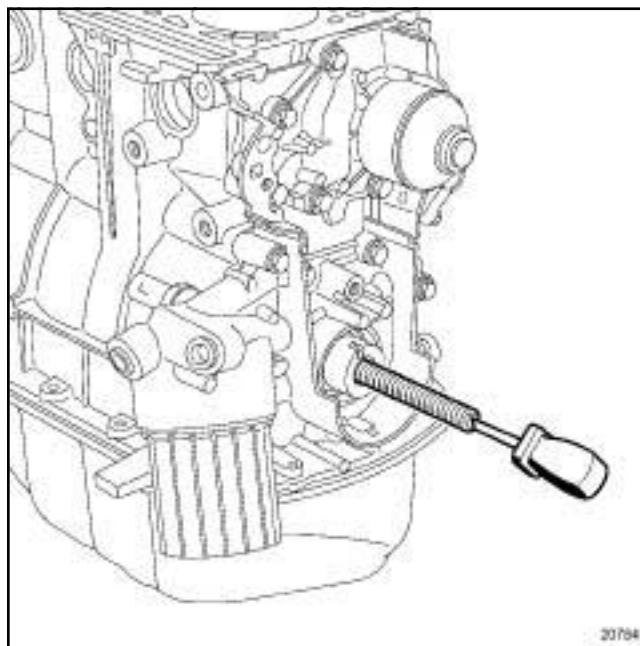
18687

18687

- ☐ Refit the crankshaft seal.

WARNING

This type of seal is extremely fragile. When handling, it is essential to grip protective piece (4) . It is strictly forbidden to touch seal; (5) this is to prevent any oil leaks once the oil seal is fitted to the engine.



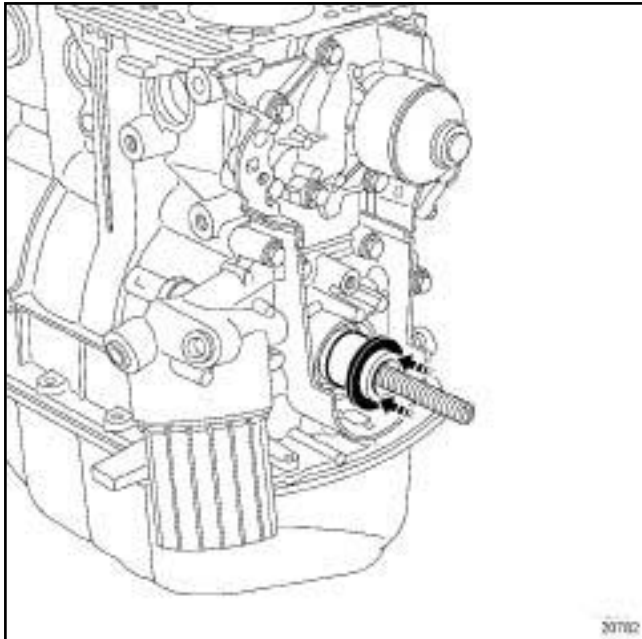
20784

20784

- ☐ Screw the threaded rod (**Mot. 1626**) into the crankshaft.

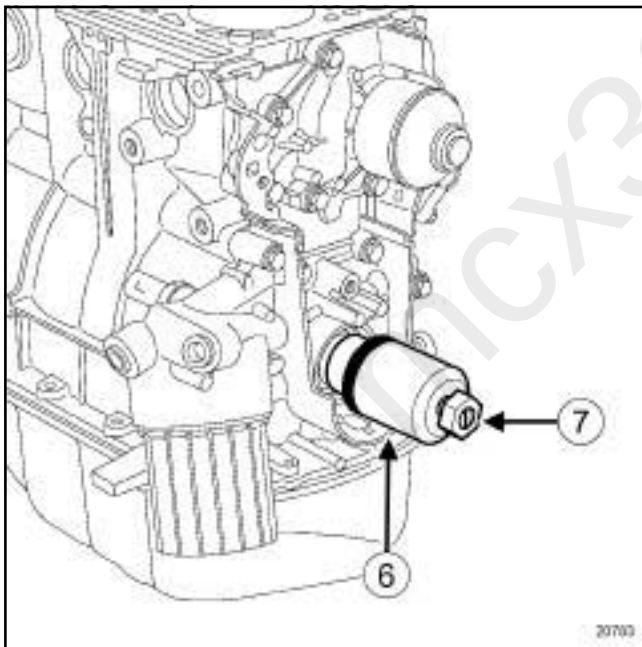
Oil pump: Removal - Refitting

D4F, and 740 or 742 or 764



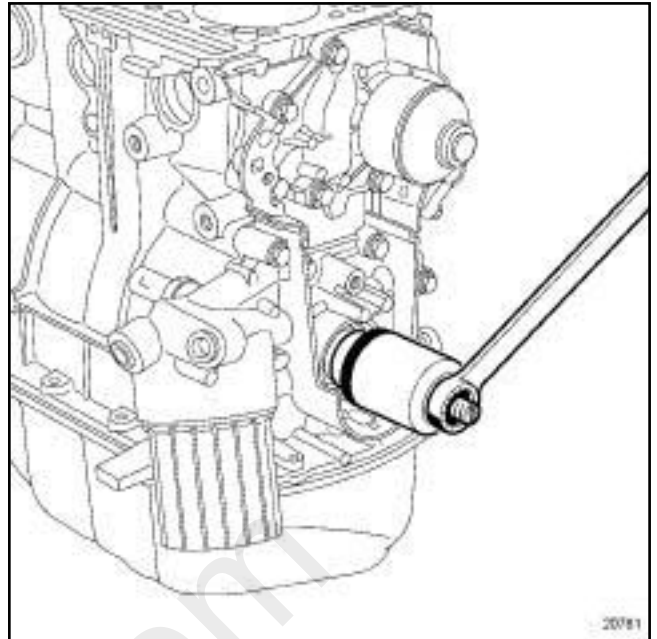
20782

- ❑ Fit the seal and protector on the crankshaft, taking care not to touch the seal.

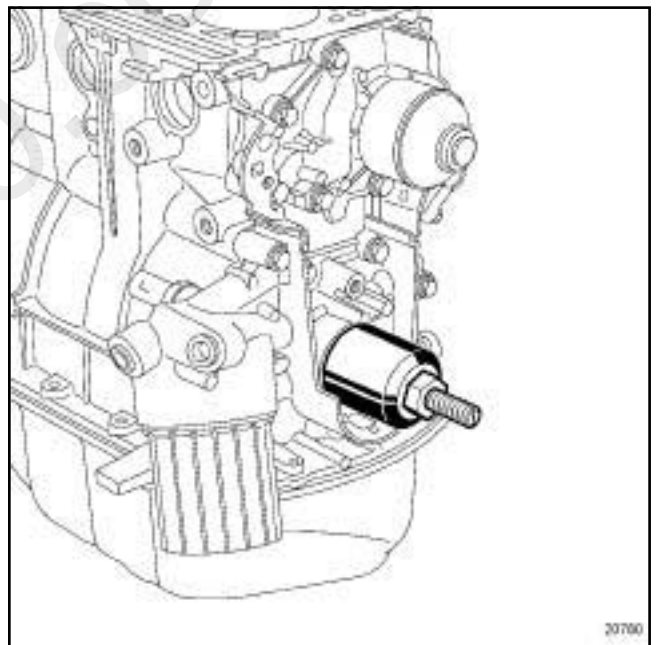


20783

- ❑ Fit the cover (6) and the collar nut (7) of the (Mot. 1626).



20781

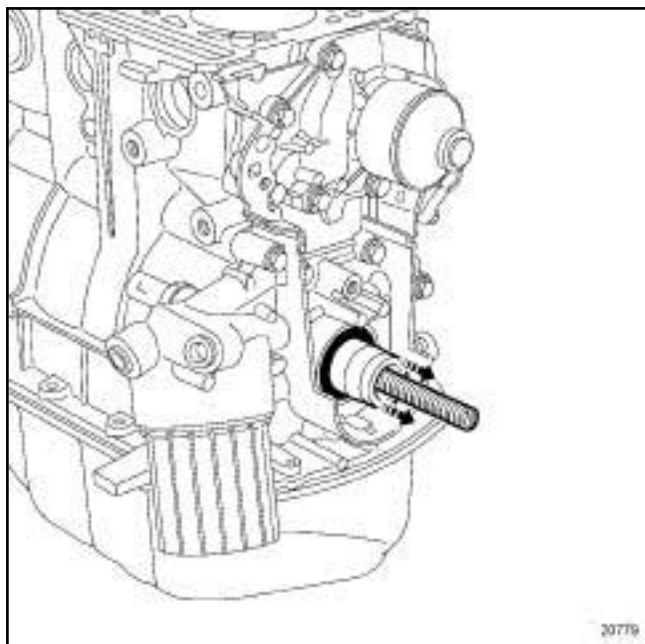


20780

- ❑ Tighten the collar nut until the cap touches the crankshaft closure panel.

Oil pump: Removal - Refitting

D4F, and 740 or 742 or 764



20779

☐ Remove:

- the nut,
- the cover,
- the guard,
- the threaded rod.

☐ Refit the lower cover (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**).☐ Refit the lower engine support (**Mot. 1672**).☐ Remove:

- the right-hand suspended mounting support,
- the upper timing cover.

☐ Connect the oil pressure sensor connector.☐ Refit:

- the timing belt (see **11A, Top and front of engine, Timing belt: Removal - Refitting**, page **11A-48**),
- the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page **11A-5**),
- the dipstick,
- the engine undertray,
- the front right-hand wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 393, 55A, Exterior protection),
- the front right-hand wheel (see **Wheel: Removal - Refitting**) (MR 392, 35A, Wheels and tyres).

☐ Top up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**).☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

K4J or K4M

Tightening torques

oil pump bolts	25 N.m
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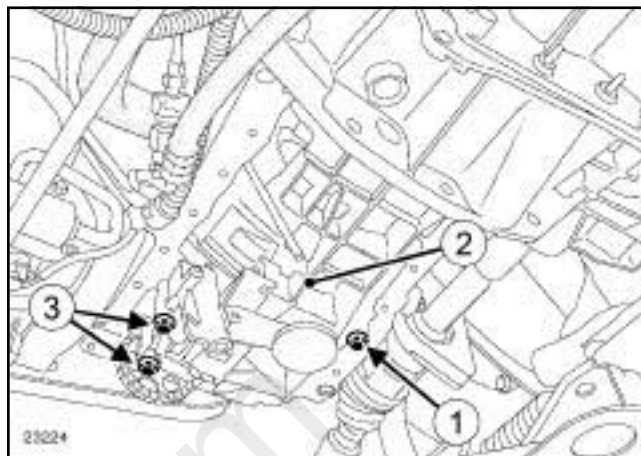
REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (80A, Battery).
- ☐ Remove:
 - the engine undertray bolts,
 - the engine undertray.
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**).
- ☐ Remove:
 - the dipstick,
 - the front wheels (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres),
 - the front wheel arch liners (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
 - the radiator mounting cross member (see **Radiator mounting cross member: Removal - Refitting**) (41A, Front lower structure),
 - the engine oil sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**).

II - OPERATION FOR REMOVAL OF PART CONCERNED

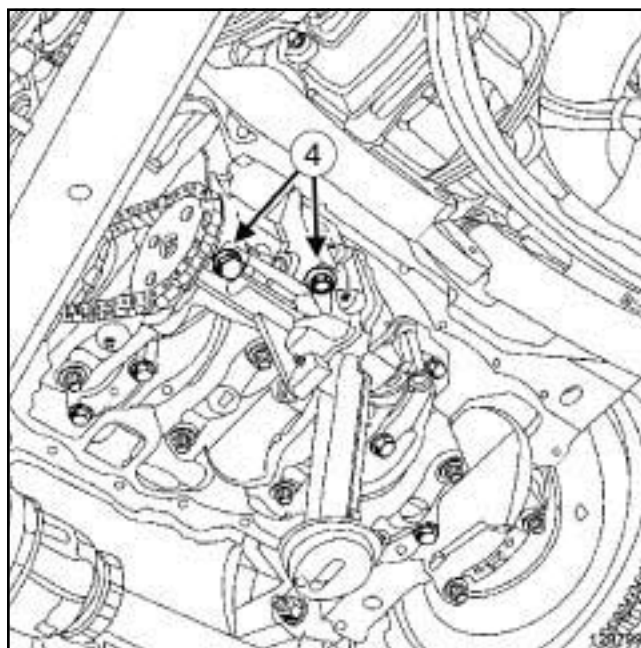
K4J – K4M, and 800 or 801 or 804



23224

- ☐ Remove:
 - the oil splash plate bolt (1),
 - the oil splash plate (2),
 - the oil pump bolts (3).

K4M, and 862



128799

- ☐ Remove the oil pump bolts (4).

K4J or K4M

- ☐ Remove the oil pump.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit:
 - the oil pump,
 - the oil pump bolts.
- ☐ Torque tighten the **oil pump bolts (25 N.m)**.

K4J – K4M, and 800 or 801 or 804

- ☐ Refit:
 - the oil splash plate,
 - the oil splash plate bolt.

II - FINAL OPERATION

- ☐ Refit:
 - the engine oil sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**) ,
 - the radiator mounting cross member (see **Radiator mounting cross member: Removal - Refitting**) (41A, Front lower structure),
 - the front bumper (see **Front bumper: Removal - Refitting**) (55A, Exterior protection),
 - the front wheel arch liners (see **Front wheel arch liner: Removal - Refitting**) (55A, Exterior protection),
 - the front wheels (see **Wheel: Removal - Refitting**) (35A, Wheels and tyres),
 - the dipstick.
- ☐ Fill up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .
- ☐ Refit the engine undertray.
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (80A, Battery).

Oil pump: Removal - Refitting

K9K

Tightening torques

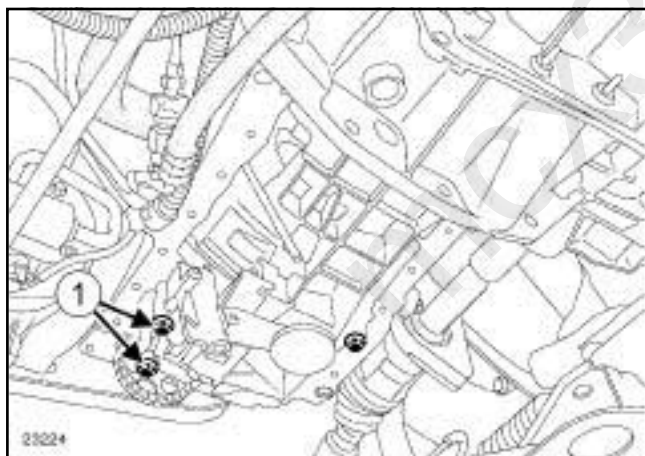
oil pump bolts	25 Nm
----------------	-------

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 undertray,
 - the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page 10A-53) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



23224

- ☐ Remove:
 - the oil pump bolts (1) ,
 - the oil pump.

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit the oil pump.
- ☐ Tighten the **oil pump bolts (25 Nm)**.

II - FINAL OPERATION.

- ☐ Refit:
 - the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page 10A-53) ,
 - the engine undertray.
- ☐ Top up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page 10A-13) .
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).

Oil pump: Removal - Refitting

M4R

- ☐ The engine and gearbox assembly must be removed to remove/refit the oil pump (see **10A, Engine and cylinder block assembly, Engine - gearbox assembly: Removal - Refitting**, page **10A-113**).
- ☐ For the removal and refitting procedure for the oil pump (see **Cylinder block: Stripping**) and (see **Cylinder block: Rebuilding**) (Technical Note 6020A, 10A, Engine and peripherals).

F4R

Tightening torques

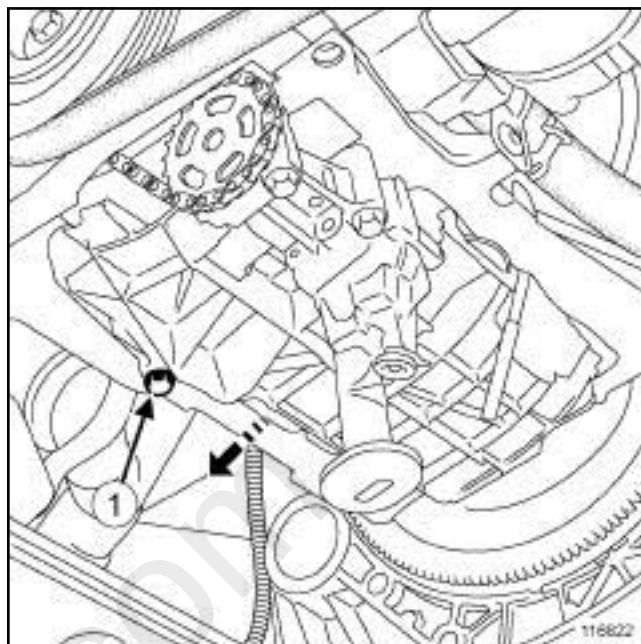
oil pump mounting bolts	24 Nm
oil splash plate mounting bolts	24 Nm

REMOVAL

I - REMOVAL PREPARATION OPERATION

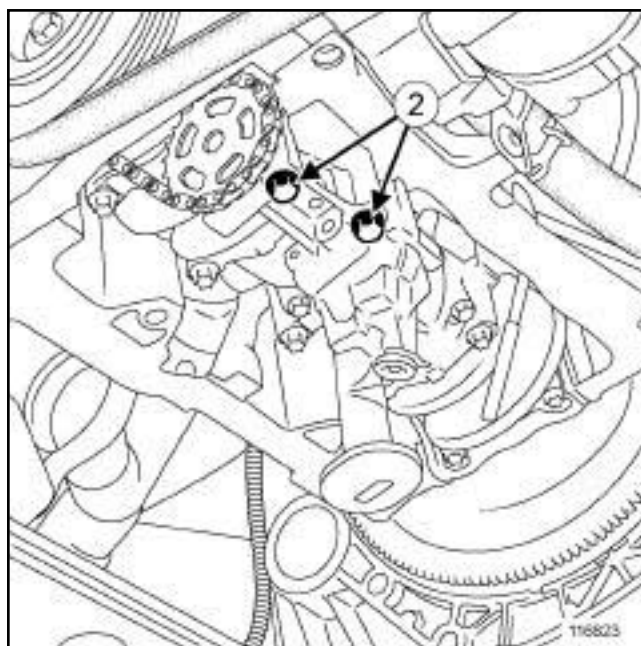
- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Remove:
 - the dipstick,
 - the engine undertray.
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .
- ☐ Remove the sump (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .

II - OPERATION FOR REMOVAL OF PART CONCERNED



116822

- ☐ Remove:
 - the oil splash plate mounting bolt (1) ,
 - the oil splash plate by sliding it in the direction of the arrow.



116823

- ☐ Remove:
 - the oil pump mounting bolts (2) ,
 - the oil pump.

Oil pump: Removal - Refitting

F4R

REFITTING

I - REFITTING OPERATION FOR PART CONCERNED

- ☐ Refit:
 - the oil pump,
 - the oil pump mounting bolts.
- ☐ Torque tighten the **oil pump mounting bolts (24 Nm)**.
- ☐ Refit:
 - the oil splash plate,
 - the oil splash plate mounting bolts.
- ☐ Torque tighten the **oil splash plate mounting bolts (24 Nm)**.

II - FINAL OPERATION

- ☐ Refit the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**) .
- ☐ Fill up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**) .
- ☐ Connect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Start the engine and let it run for **5 minutes** after the engine oil warning light goes off.
- ☐ Check that there are no leaks between the cylinder block and the sump.
- ☐ Refit the engine undertray.
- ☐ Top up the engine oil level using the dipstick.

D4F, and 784

Special tooling required

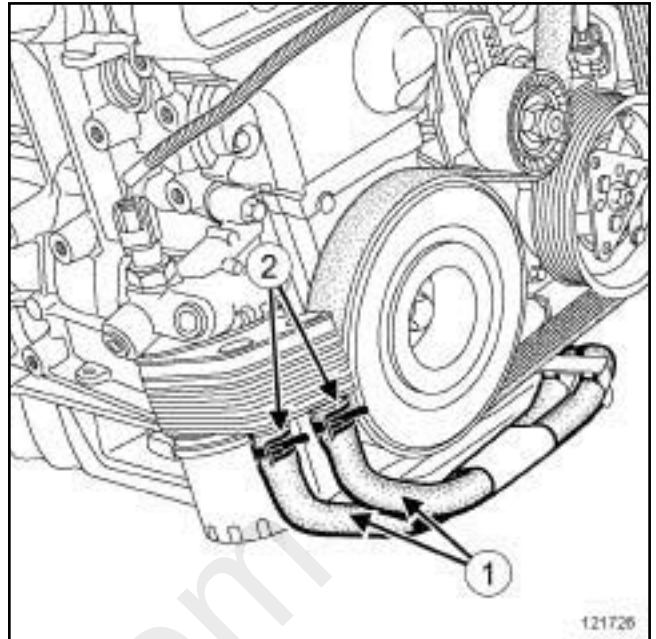
Ms. 583	Pipe clamps.
Mot. 1448	Remote operation pliers for hose clips.
Mot. 1672	Lower engine support.
Mot. 1374	Oil pump seal extractor.
Mot. 1626	Tool for fitting the PTFE crankshaft seal, timing end.

Tightening torques

oil pump bolts	10 Nm
oil pump strainer bolts	10 Nm

REMOVAL**I - REMOVAL PREPARATION OPERATION**

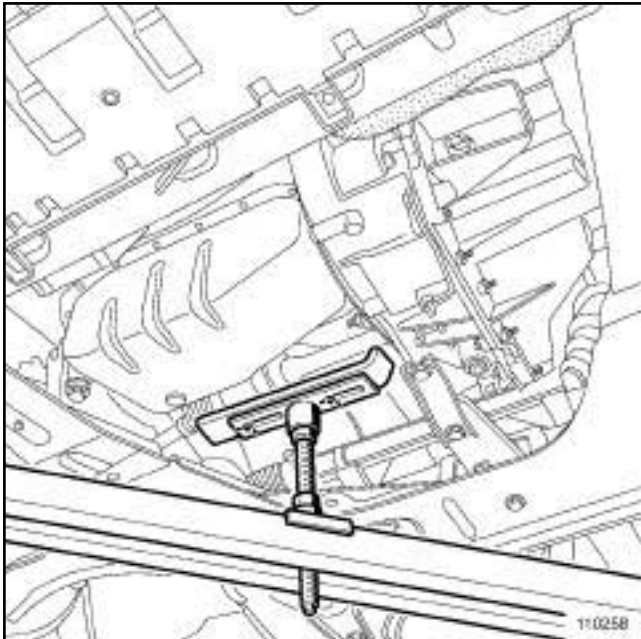
- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (MR 392, 02A, Lifting equipment).
- ☐ Disconnect the battery (see **Battery: Removal - Refitting**) (MR 392, 80A, Battery).
- ☐ Remove the engine undertray.
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page **10A-13**).
- ☐ Remove:
 - the dipstick,
 - the front right-hand wheel (see **Wheel: Removal - Refitting**) (MR 392, 35A, Wheels and tyres),
 - the front section of the front right-hand wheel arch liner (see **Front wheel arch liner: Removal - Refitting**) (MR 393, 55A, Exterior protection).



121726

- ☐ 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.

D4F, and 784



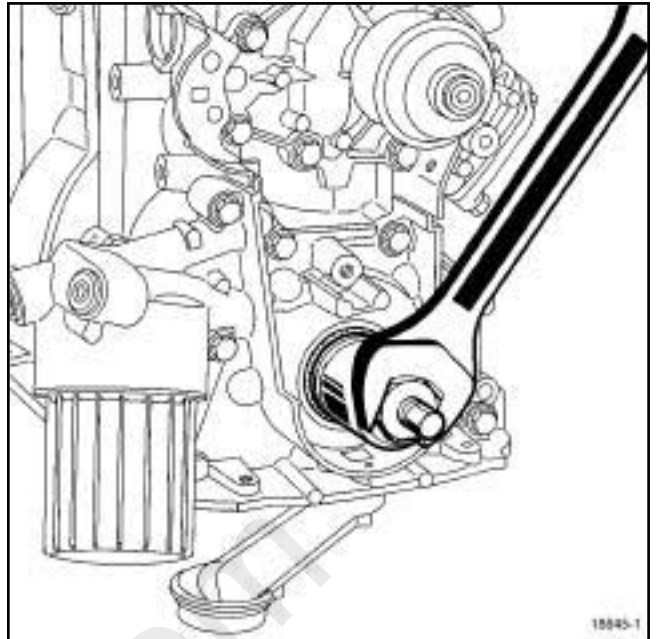
110258

- ☐ Fit the engine support tool (**Mot. 1672**) using the driveshaft relay bearing as a support.

- ☐ Remove:

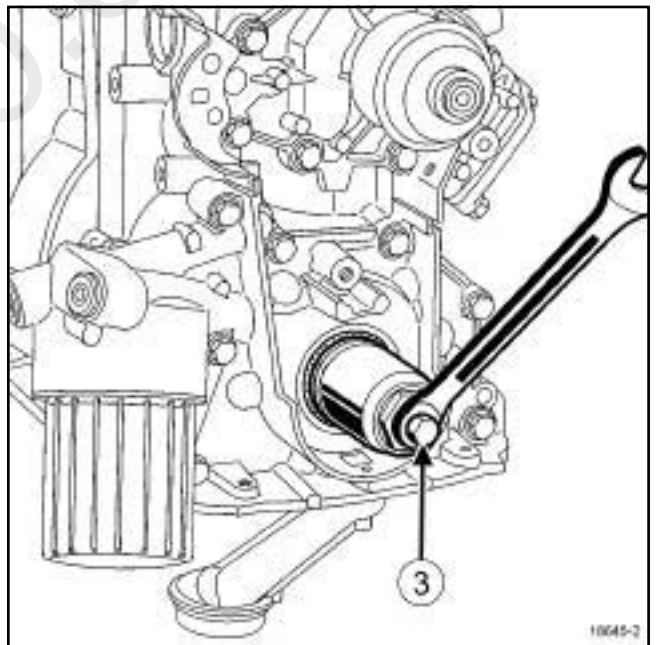
- the accessories belt (see **11A, Top and front of engine, Accessories belt: Removal - Refitting**, page **11A-5**) ,
- the crankshaft accessories pulley (see **11A, Top and front of engine, Crankshaft accessories pulley: Removal - Refitting**, page **11A-31**) ,
- the right-hand suspended engine mounting (see **19D, Engine mounting, Right-hand suspended engine mounting: Removal - Refitting**, page **19D-22**) ,
- the timing belt (see **11A, Top and front of engine, Timing belt: Removal - Refitting**, page **11A-48**) ,
- the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page **10A-53**) .

- ☐ Disconnect the oil pressure sensor connector.



18645-1

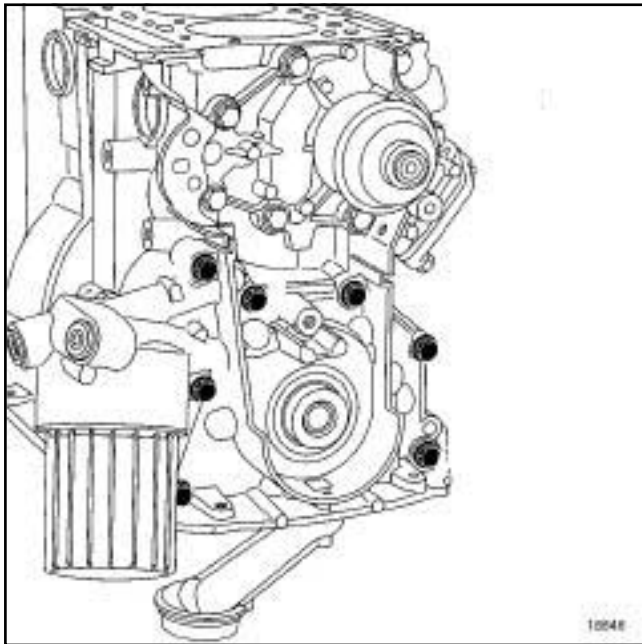
- ☐ Remove the crankshaft seal by turning tool (**Mot. 1374**).



18645-2

- ☐ Remove the seal by tightening the bolt (**3**) on the (**Mot. 1374**).

D4F, and 784

II - OPERATION FOR REMOVAL OF PART CONCERNED

18646

☐ Remove:

- the oil pump strainer bolts,
- the oil pump strainer,
- the oil pump bolts,
- the oil pump.

REFITTING**I - REFITTING PREPARATION OPERATION**

- ☐
- Clean the joint faces with
- SUPER CLEANING AGENT FOR JOINT FACES**
- to dissolve any seal still adhering.

WARNING

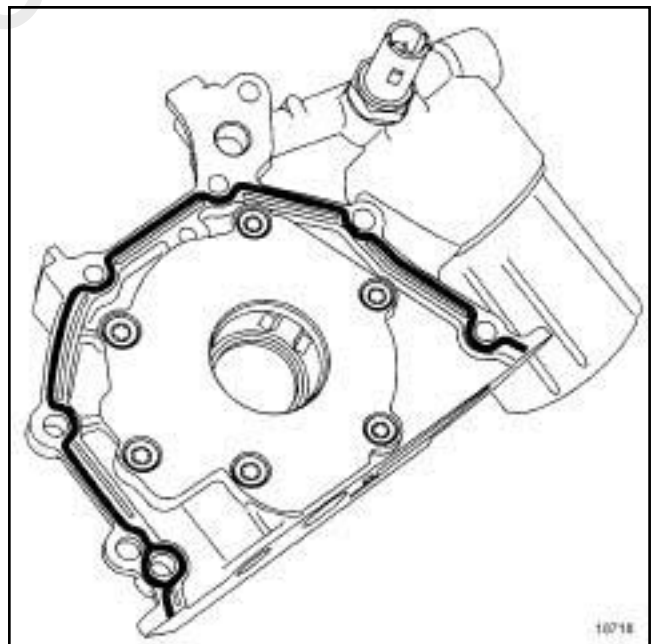
The joint faces must be clean, dry and free from grease (avoid finger marks).



109832

☐ Always replace:

- the O-ring (1) ,
- the crankshaft seal.



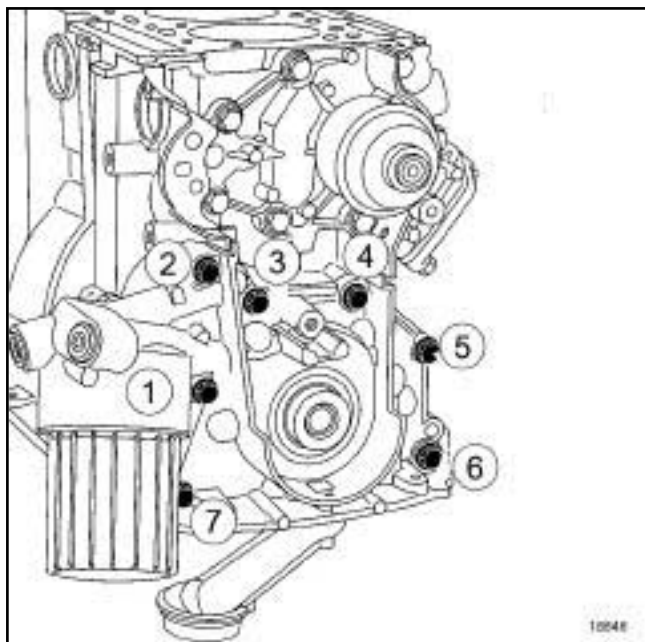
18718

- ☐
- Apply a bead of
- MASTIXO**
- with a width of
- 1.3 mm**
- to ensure that the oil pump is sealed.

II - REFITTING OPERATION FOR PART CONCERNED

- ☐
- Fit the oil pump, aligning the oil pump drive points with the flat surfaces of the crankshaft.

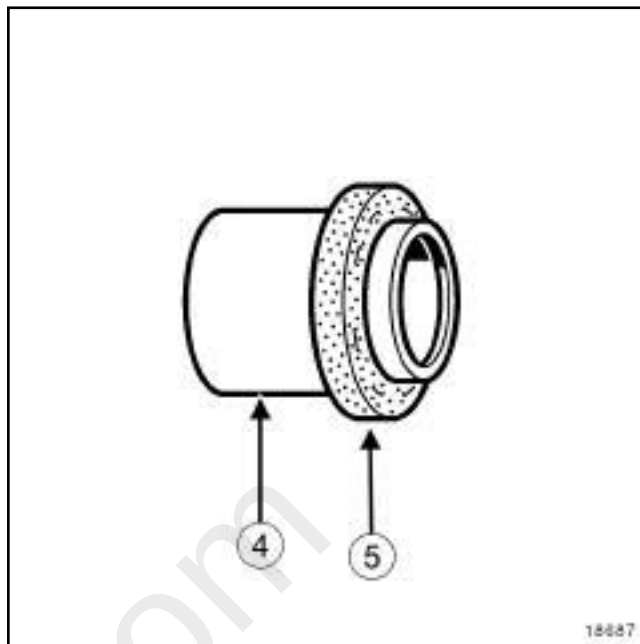
D4F, and 784



18646

- ☐ Refit the oil pump bolts.
- ☐ Tighten to torque and in order the **oil pump bolts (10 Nm)**.
- ☐ Refit:
 - the oil pump strainer,
 - the oil pump strainer bolts.
- ☐ Torque tighten the **oil pump strainer bolts (10 Nm)**.

III - FINAL OPERATION.

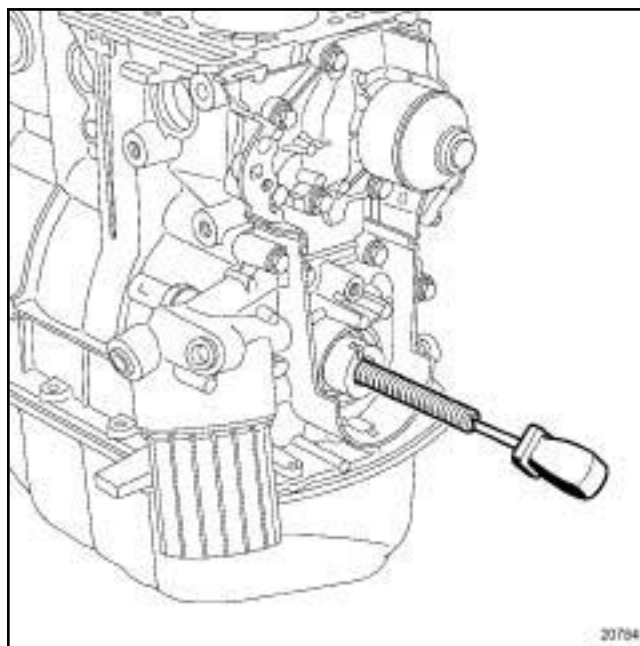


18687

- ☐ Refit the crankshaft seal.

Note:

This type of seal is extremely fragile. When handling, it is essential to hold the protective piece (4). It is strictly forbidden to touch the seal (5); this is to prevent any oil leaks once the oil seal is fitted to the engine.

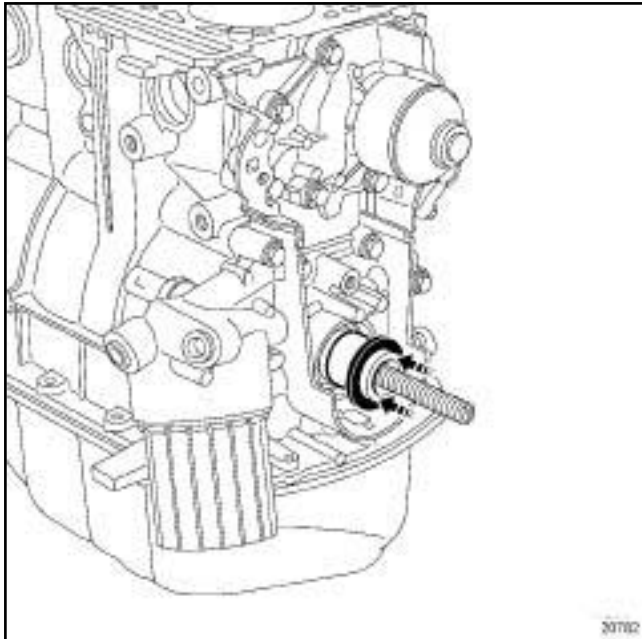


20784

- ☐ Screw the threaded rod (**Mot. 1626**) into the crankshaft.

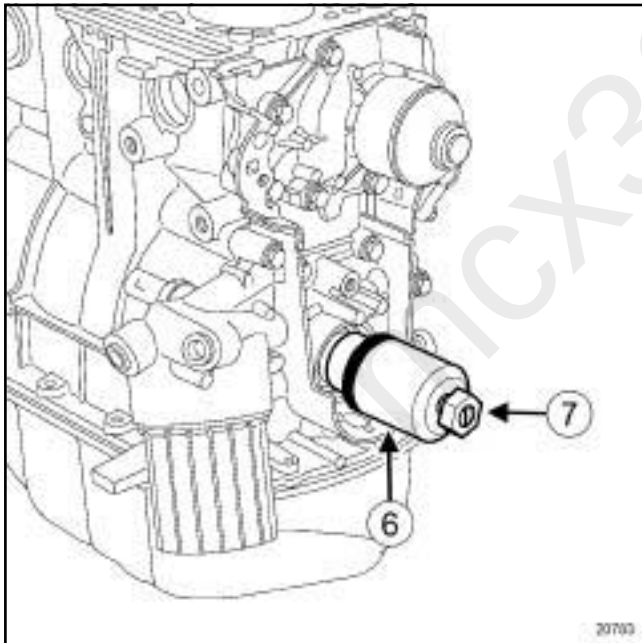
Oil pump: Removal - Refitting

D4F, and 784



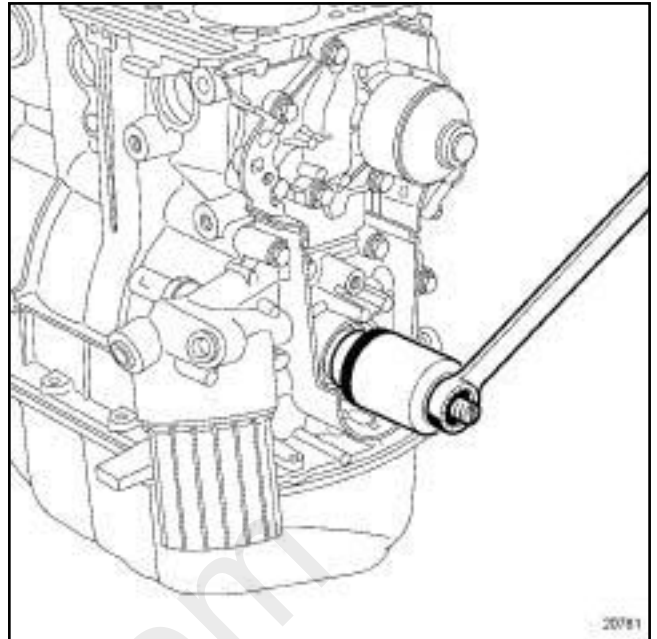
20782

- ❑ Fit the seal and protector on the crankshaft, taking care not to touch the seal.

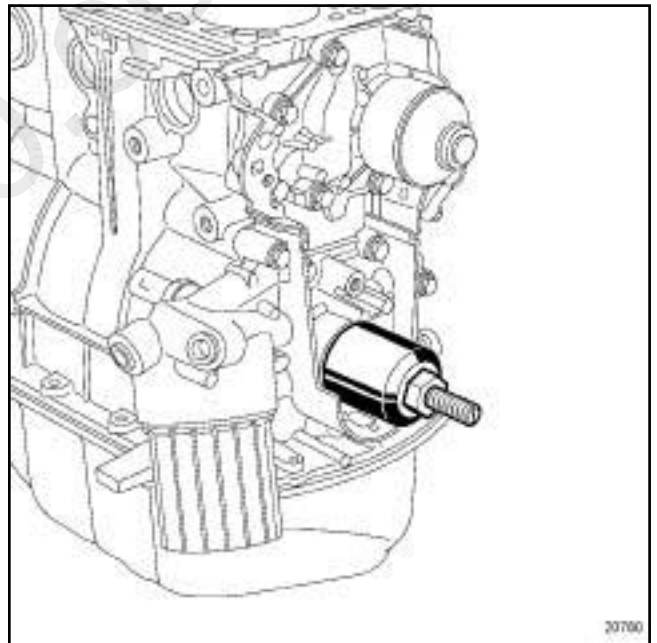


20783

- ❑ Fit the cover (6) and the collar nut (7) of the (Mot. 1626).



20781



20780

- ❑ Tighten the collar nut until the cap touches the crankshaft closure panel.