

K4M

Tightening torques

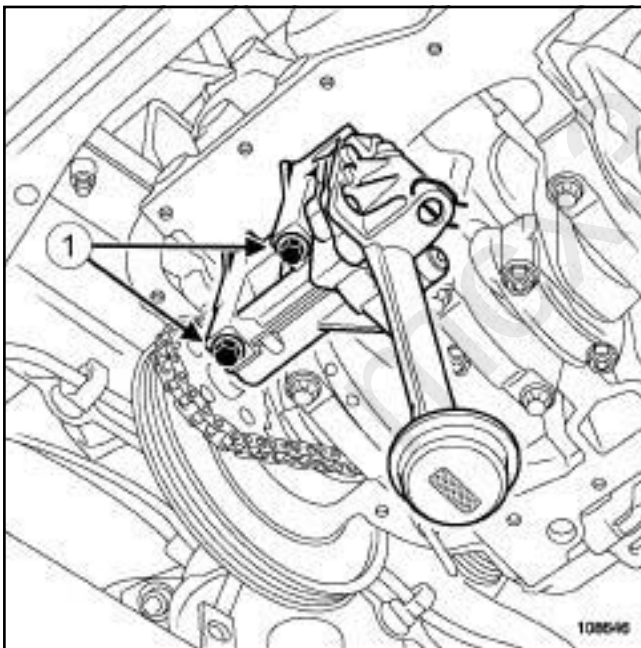
oil pump bolts	25 N.m
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REMOVAL

I - REMOVAL PREPARATION OPERATION

- ☐ Position the vehicle on a two-post lift (see **Vehicle: Towing and lifting**) (02A, Lifting equipment).
- ☐ Drain the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page 10A-32) .
- ☐ Remove the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page 10A-9) .

II - REMOVAL OPERATION



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

REFITTING

I - REFITTING PREPARATION OPERATION

- ☐ Check for centering rings on the oil pump.

II - REFITTING OPERATION

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

III - FINAL OPERATION

- ☐ Refit the sump (see **10A, Engine and cylinder block assembly, Lower cover: Removal - Refitting**, page 10A-9) .
- ☐ Top up the engine oil (see **10A, Engine and cylinder block assembly, Engine oil: Draining - Refilling**, page 10A-32) .

Oil pressure: Check

K4M or K9K

Oil pressure tables:

Engine	Minimum oil pressure (bar)		Maximum oil pressure (bar)
	Idling speed	3000 rpm	3000 rpm
D4D, D4F	1.5	3.9	5.3
K7J, K7M	1.3	3.7	5.0

Engine	Minimum oil pressure (bar)		Maximum oil pressure (bar)
	Idling speed	4000 rpm	4000 rpm
K4M	0.5	3.1	4.4
K9K	0.8	3.4	5.2

End pieces to be used:

Engine	End pieces
D4D, D4F	C + F
K4M, K7J, K7M, K9K	E + C + F

I - REMOVAL PREPARATION OPERATION

**WARNING**

Always check the oil level using the dipstick.

Do not exceed the maximum level on the dipstick (could destroy the engine).

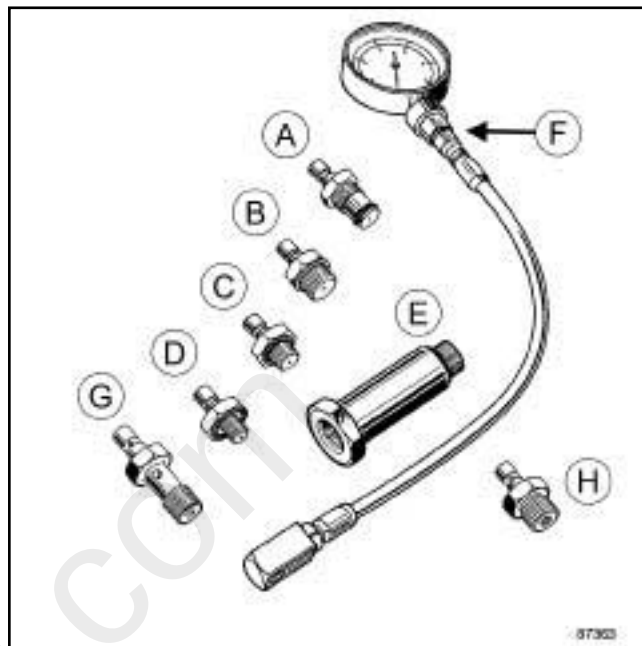
Correct the engine oil level if necessary before delivering the vehicle to the customer.

Note:

When topping up the engine oil, always leave at least **10 minutes** before checking the level with a dipstick.

II - CHECK

- ☐ Remove the oil pressure sensor (see 10A, Engine and cylinder block assembly, Oil pressure sensor: Removal - Refitting, page 10A-42) .



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- ☐ In place of the oil pressure sensor, fit the with suitable adapters using the a **22 mm** long socket.
- ☐ Start the vehicle.
- ☐ Monitor the engine oil pressure as the oil temperature rises (approximately **80°C** or the first time the engine cooling fan is activated); it should not be less than the pressure at idle speed.
- ☐ If the oil pressure is lower than the pressure at idle speed, check that:
 - the oil filter is not clogged,
 - dirt or swarf is not present in the engine oil,
 - the oil pump is in good condition and being correctly driven.
- ☐ Check the oil pressure in comparison with the values given in the table above.
- ☐ Switch off the engine.
- ☐ Remove the with the end pieces.
- ☐ Refit the oil pressure sensor (see 10A, Engine and cylinder block assembly, Oil pressure sensor: Removal - Refitting, page 10A-42) .
- ☐ Wipe any oil run-off with a cloth.
- ☐ Wait at least **10 minutes**.
- ☐ Check the oil level using the dipstick.