

Remove any excess of SILICONE ADHESIVE SEALANT using a plastic spatula.

Refit [\(see 11A, Top and front of engine, Cylinder head assembly: Exploded view\)](#) :

- the cylinder head closing plate,

- the cylinder head closing plate bolts.

Proceed in the reverse order to removal.



Repair-10x02x02-01x37-1-122-1.xml



XSL version : 3.02 du 22/07/11

CAMSHAFT:REMOVAL-REFITTING



Note, one or more warnings are present in this procedure



Equipment required

component support



WARNING

Before carrying out any operation on a vehicle fitted with the Stop & Start system, always follow the safety instructions [Vehicle: Precautions for the repair](#)

Locations and specifications (tightening torques, parts to always be replaced, etc.) ([see 11A, Top and front of engine, Cylinder head assembly: Exploded view](#)) .

REMOVAL

1. REMOVAL PREPARATION OPERATION

WARNING



To avoid all risk of damage to the systems, apply the safety and cleanliness instructions and operation recommendations before carrying out any repair:



[Engine: Precautions for the repair](#) ,



[Vehicle: Precautions for the repair](#) .



WARNING

Wear goggles with side protectors for this operation.

CAUTION



It is strictly forbidden to apply any pressure to the engine oil sump. Damage to the sump will irreparably damage the engine by:



blocking the strainer,



raising the oil level above maximum, with a risk of engine racing.

Remove the "engine and gearbox" assembly [Engine - gearbox assembly: Removal - Refitting](#) .

Separate the manual gearbox from the engine (see **Manual gearbox: Removal - Refitting**) .

Position the engine on the component support [Engine support equipment: Use](#) .

Drain the engine (see **Engine oil: Draining - Refilling**) .

Remove:



the accessories belt ([see 11A, Top and front of engine, Engine accessories assembly: Exploded view](#)) ,



the ignition coils ([see 11A, Top and front of engine, Cylinder head assembly: Exploded view](#)) ,



the cylinder head cover ([see 11A, Top and front of engine, Cylinder head assembly: Exploded view](#)) ,



the crankshaft accessories pulley ([see 11A, Top and front of engine, Engine accessories assembly: Exploded view](#)) ,



the crankshaft seal on timing end ([see 11A, Top and front of engine, Timing assembly: Exploded view](#)) ,

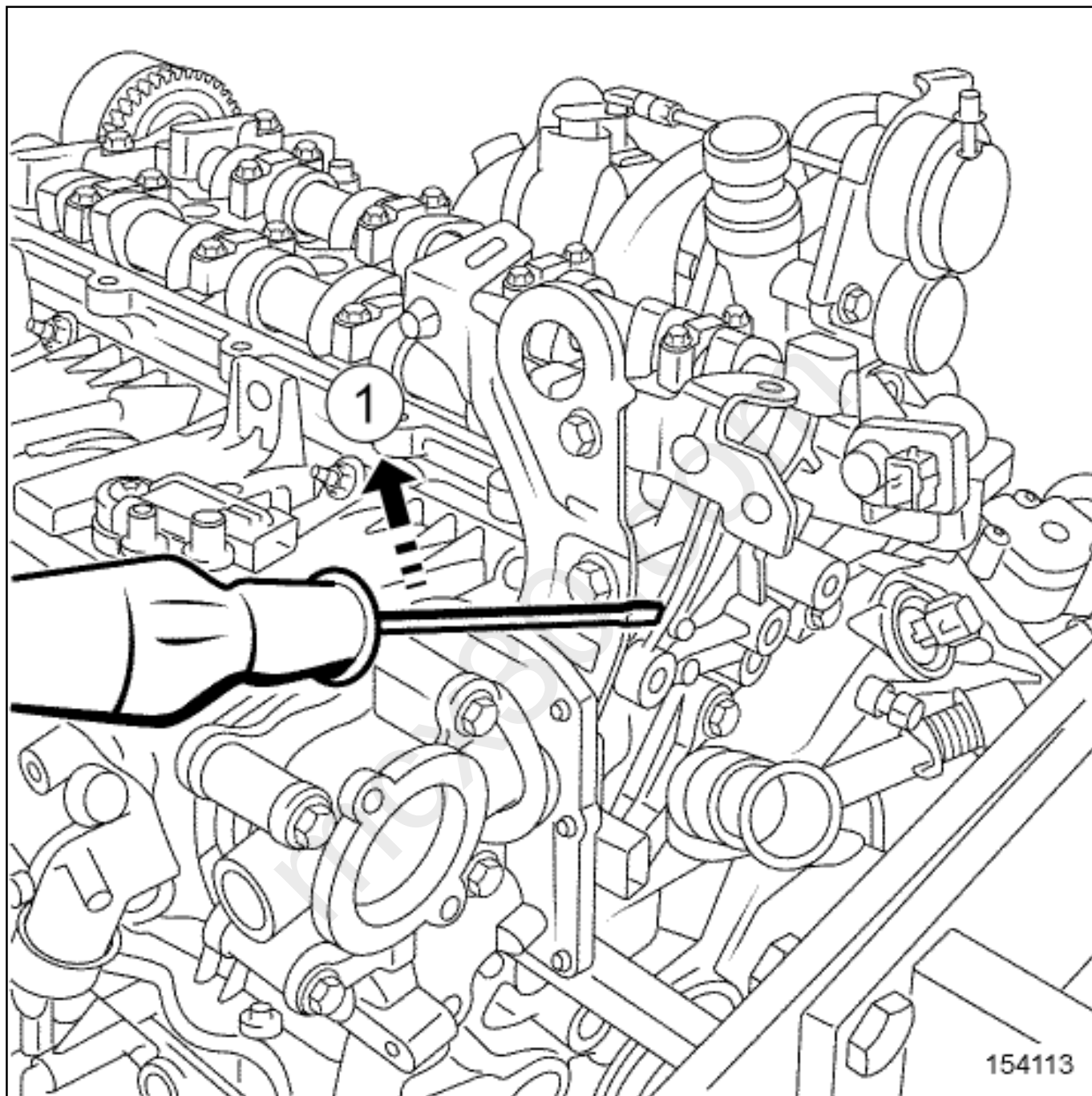


the timing chain ([see 11A, Top and front of engine, Timing assembly: Exploded view](#)) ,



the camshaft timing sprockets([see 11A, Top and front of engine, Timing assembly: Exploded view](#)) ,

the cylinder head closing plate bolts([see 11A, Top and front of engine, Cylinder head assembly: Exploded view](#)) .



Very carefully separate the cylinder head closing plate using a flatblade screwdriver(1) .

Remove the cylinder head closing plate([see 11A, Top and front of engine, Cylinder head assembly:](#)

2. REMOVAL OPERATION



Identify the camshafts [Camshaft: Check](#) .



Remove [\(see 11A, Top and front of engine, Cylinder head assembly: Exploded view\)](#) :

-
- the camshaft bearing cap bolts, timing side,
- the inlet camshaft bearing cap bolts,
- the exhaust camshaft bearing cap bolts,
- the camshaft bearing cap bolts,
- the camshaft bearing cap, timing side,
- the exhaust camshaft bearing cap,
- the inlet camshaft bearing cap,
- the camshaft bearing cap,
- the inlet camshaft,
- the exhaust camshaft.

REFITTING

1. REFITTING PREPARATION OPERATION



Clean the joint faces of the cylinder head cover and the cylinder head closing plate with SUPER CLEANING AGENT FOR JOINT FACES [Vehicle: Parts and consumables for the repair](#) .



CAUTION

Do not scrape the joint faces of the aluminium, any damage caused to the joint face will result in a risk of leaks.

Remove the residue using a plastic spatula.

Finish cleaning the joint faces using a GREY ABRASIVE PAD [Vehicle: Parts and consumables for the repair](#) .



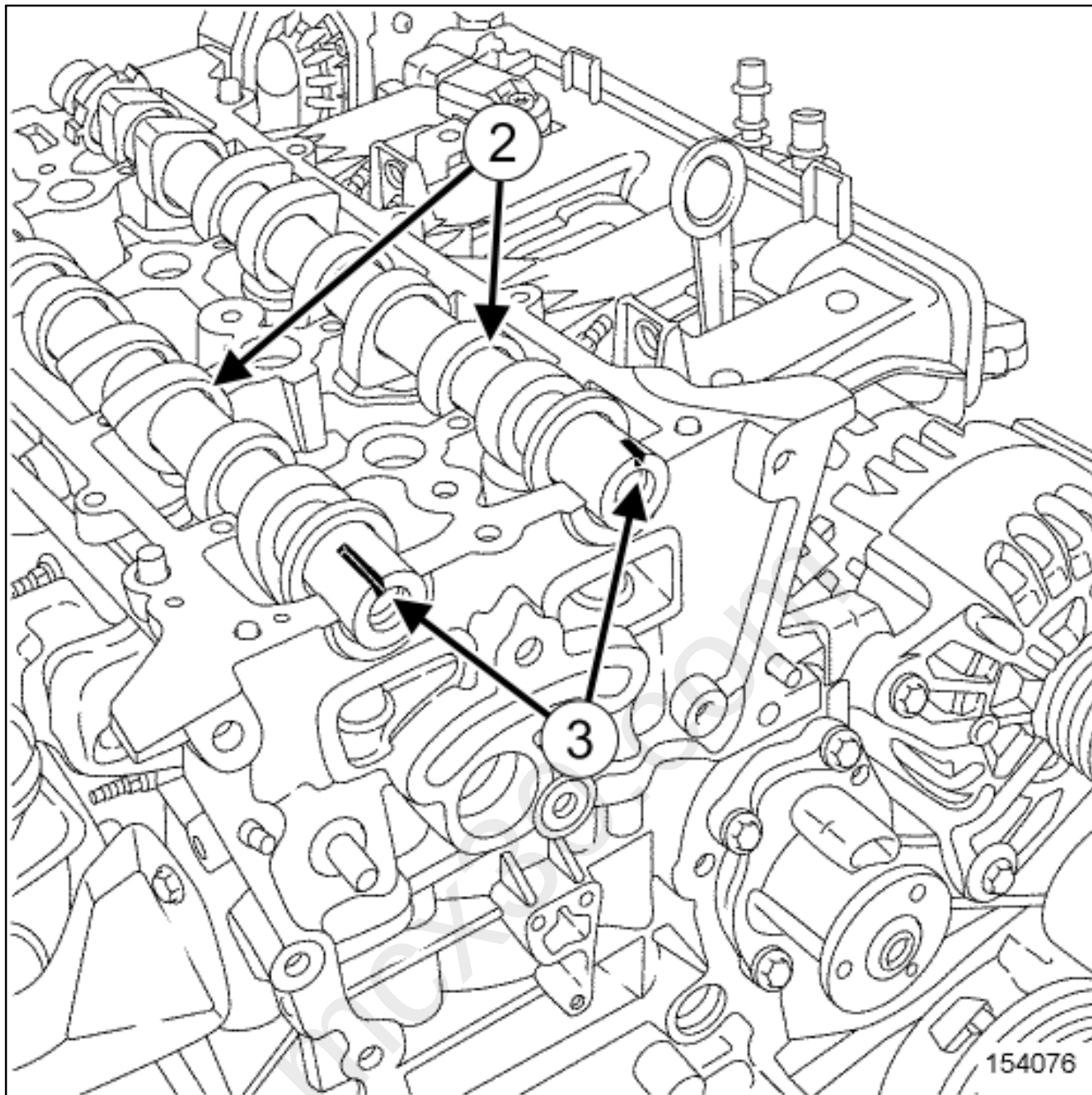
CAUTION

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

Use SURFACE CLEANER [Vehicle: Parts and consumables for the repair](#) to clean:

-
- the camshaft bearing cap, timing side,
-
- the exhaust camshaft bearing cap,
-
- the inlet camshaft bearing cap,
-
- the camshaft bearing cap,
-
- the inlet camshaft,
-
- the exhaust camshaft.

2. REFITTING OPERATION



Lubricate the camshaft bearings on the cylinder head with engine oil.

Refit [\(see 11A, Top and front of engine, Cylinder head assembly: Exploded view\)](#) :

- the camshafts(2) , by fitting the lugs(3) in the same position as shown in the illustration,

- the camshaft bearing caps,

- the exhaust camshaft bearing cap,

- the inlet camshaft bearing cap,

- the camshaft bearing cap timing side,

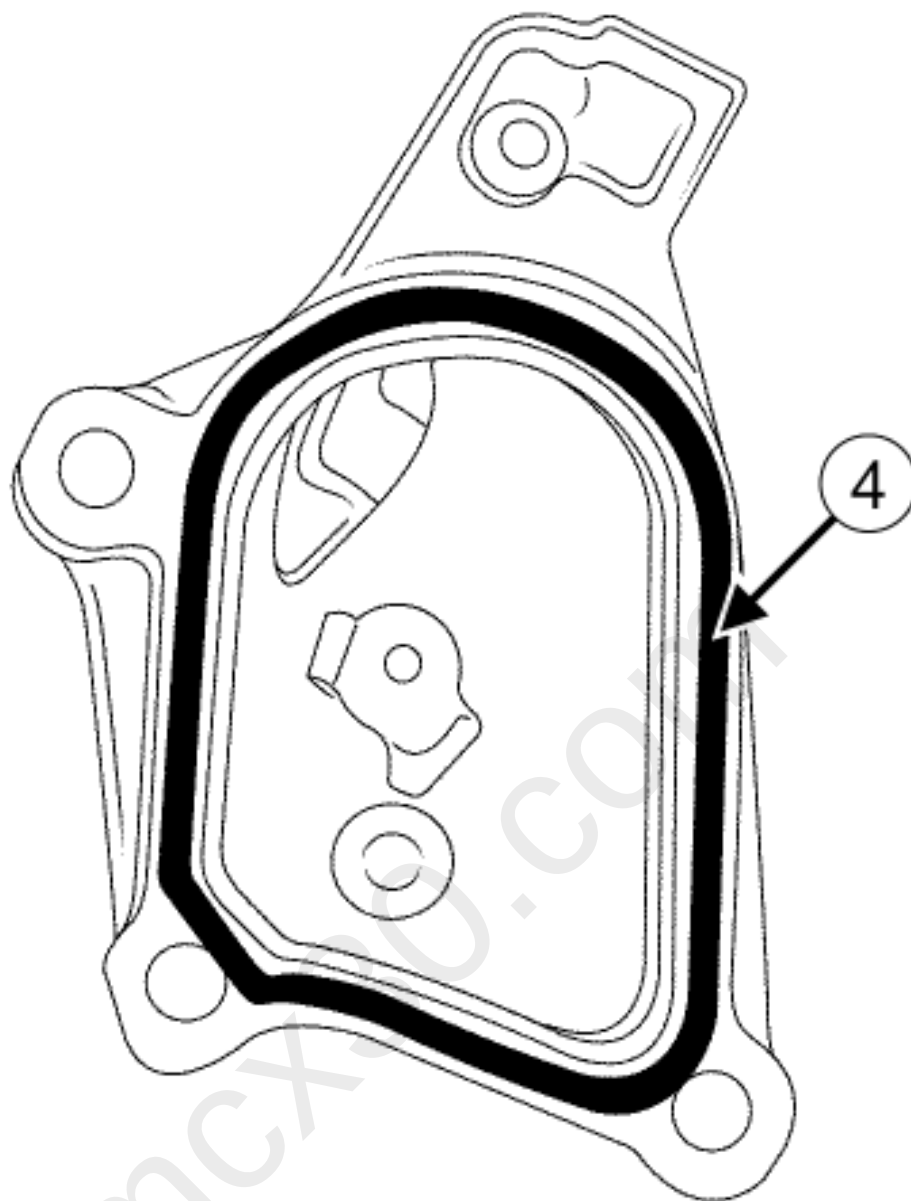
- the camshaft bearing cap bolts,

- the exhaust camshaft bearing cap bolts,

- the inlet camshaft bearing cap bolts,

- the camshaft bearing cap bolts, timing side.

3. FINAL OPERATION



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CAUTION

Applying excess sealant could cause it to be squeezed out when parts are tightened. A mixture of sealant and fluid could damage certain components (engine, radiator, etc.).



Apply beads of SILICONE ADHESIVE SEALANT [Vehicle: Parts and consumables for the repair](#) at(4) with a diameter of 3 to 4 mm on the joint face of the timing cover placed at a distance of 1 to 2 mm from the inside edge of the timing cover.