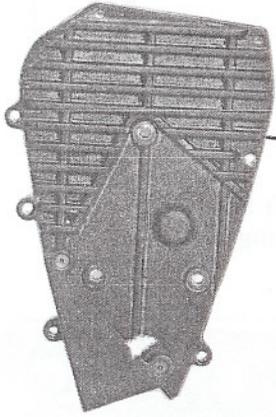
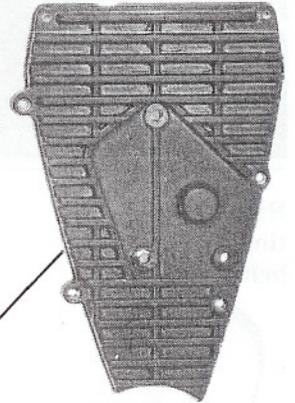


Rear shield for right head timing belt



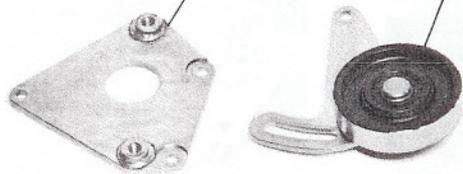
Rear shield for left head timing belt

Front shield for left head timing belt



Front shield for right head timing belt

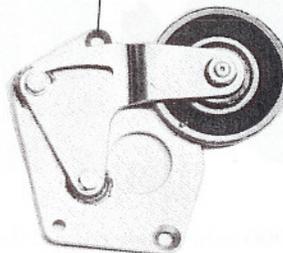
Plate and moveable belt tensioner for crankshaft pulley belt



Compressor drive belt

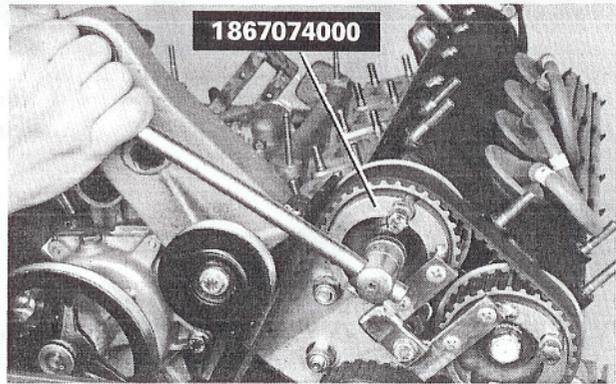
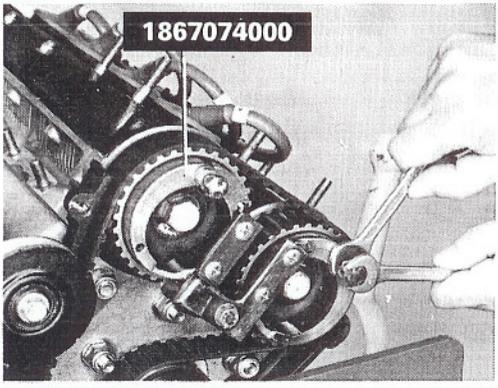


Plate and moveable belt tensioner for air conditioning compressor belt

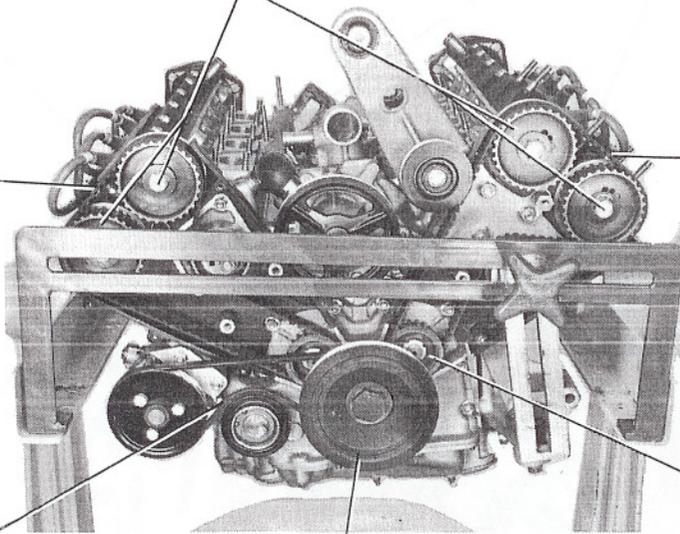


10.

Use tool 1867074000 to remove the camshaft pullies.



Right head timing belt

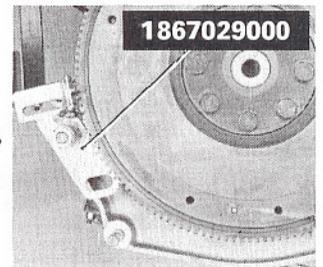
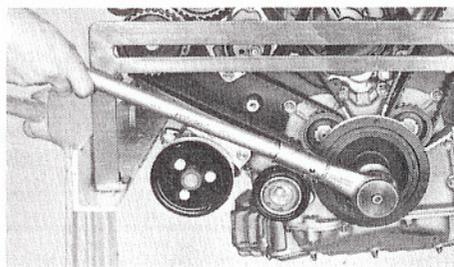
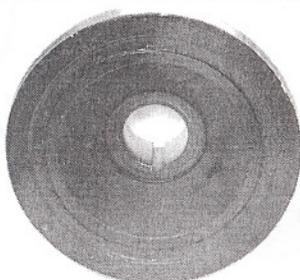
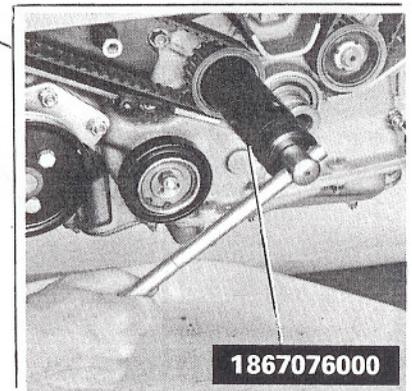


Left head timing belt



Power assisted steering pump drive belt

Use tool 1867076000 to remove the ring nut fixing the timing gear

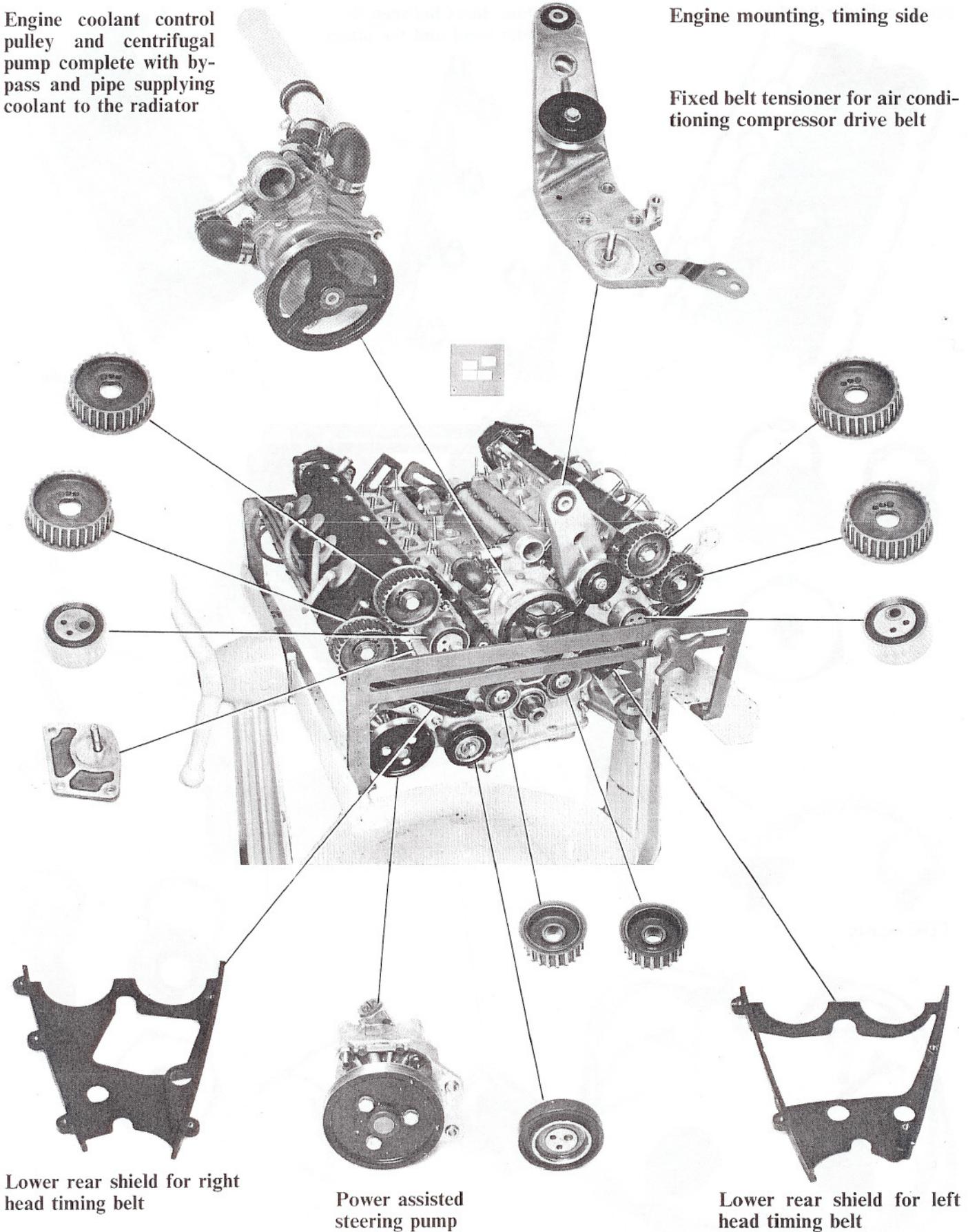


Use flywheel lock 1867029000 when removing the bolt fixing the power assisted steering pump damper, the engine coolant pump, the air conditioning compressor and the alternator

Engine coolant control pulley and centrifugal pump complete with by-pass and pipe supplying coolant to the radiator

Engine mounting, timing side

Fixed belt tensioner for air conditioning compressor drive belt



Lower rear shield for right head timing belt

Power assisted steering pump

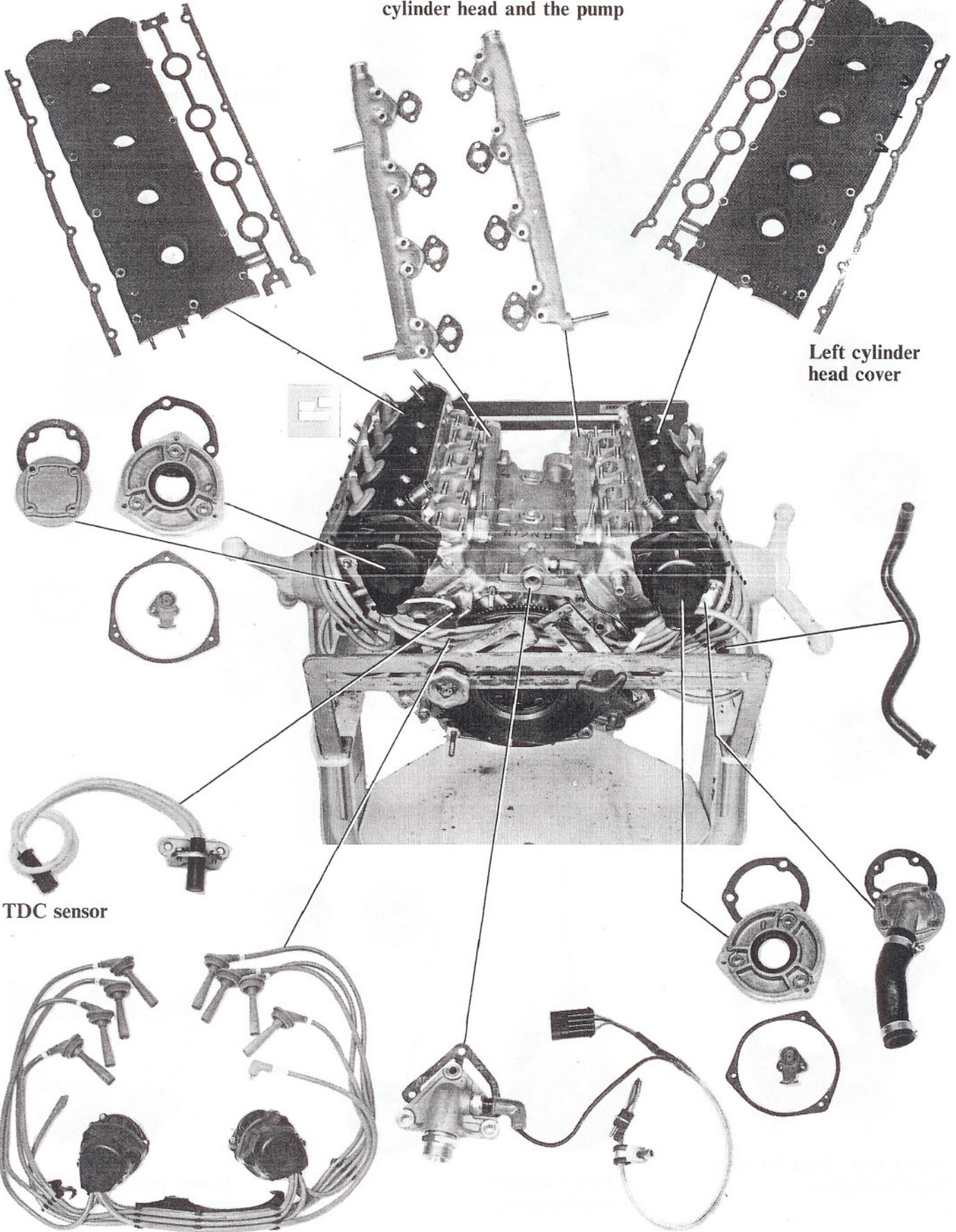
Lower rear shield for left head timing belt

10.

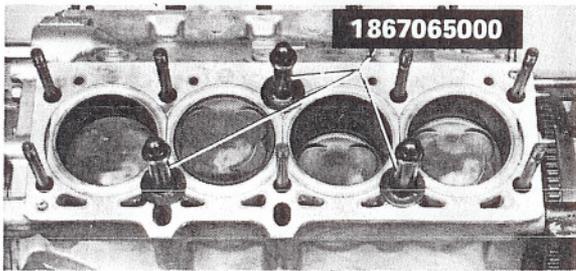
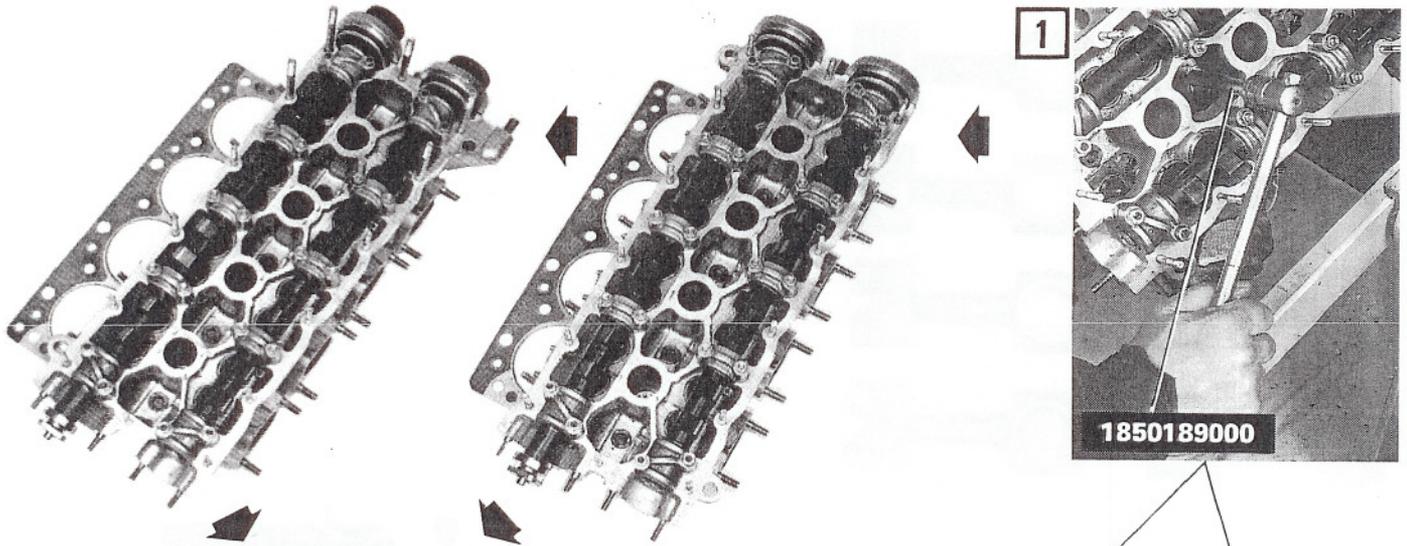
Right cylinder head cover

Coolant ducts between the
cylinder head and the pump

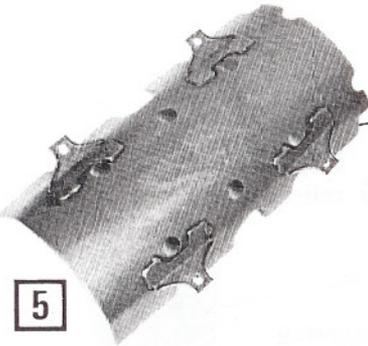
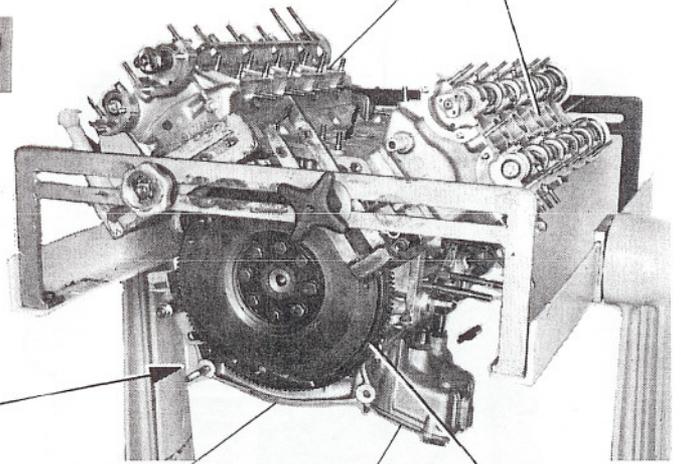
Left cylinder
head cover



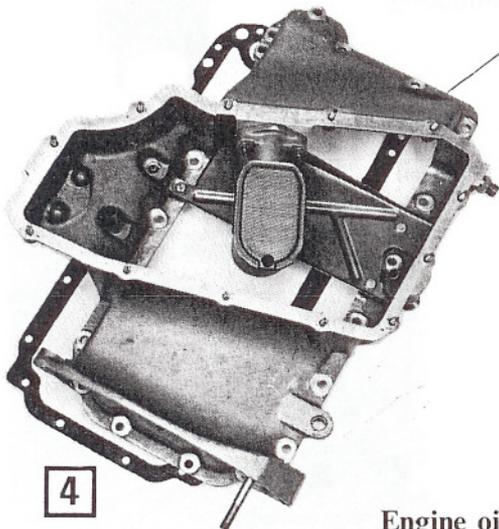
TDC sensor



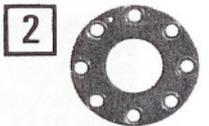
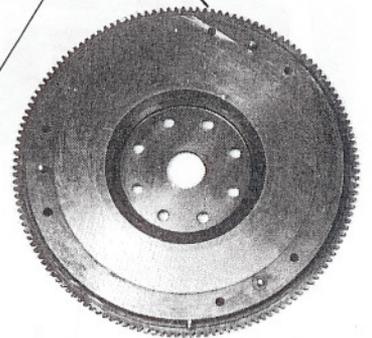
Cylinder bore retaining tool



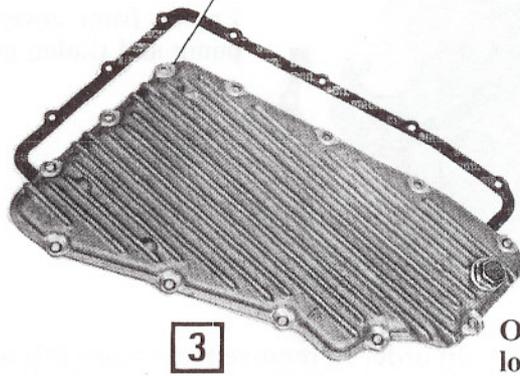
Engine oil
anti-vibration
partition



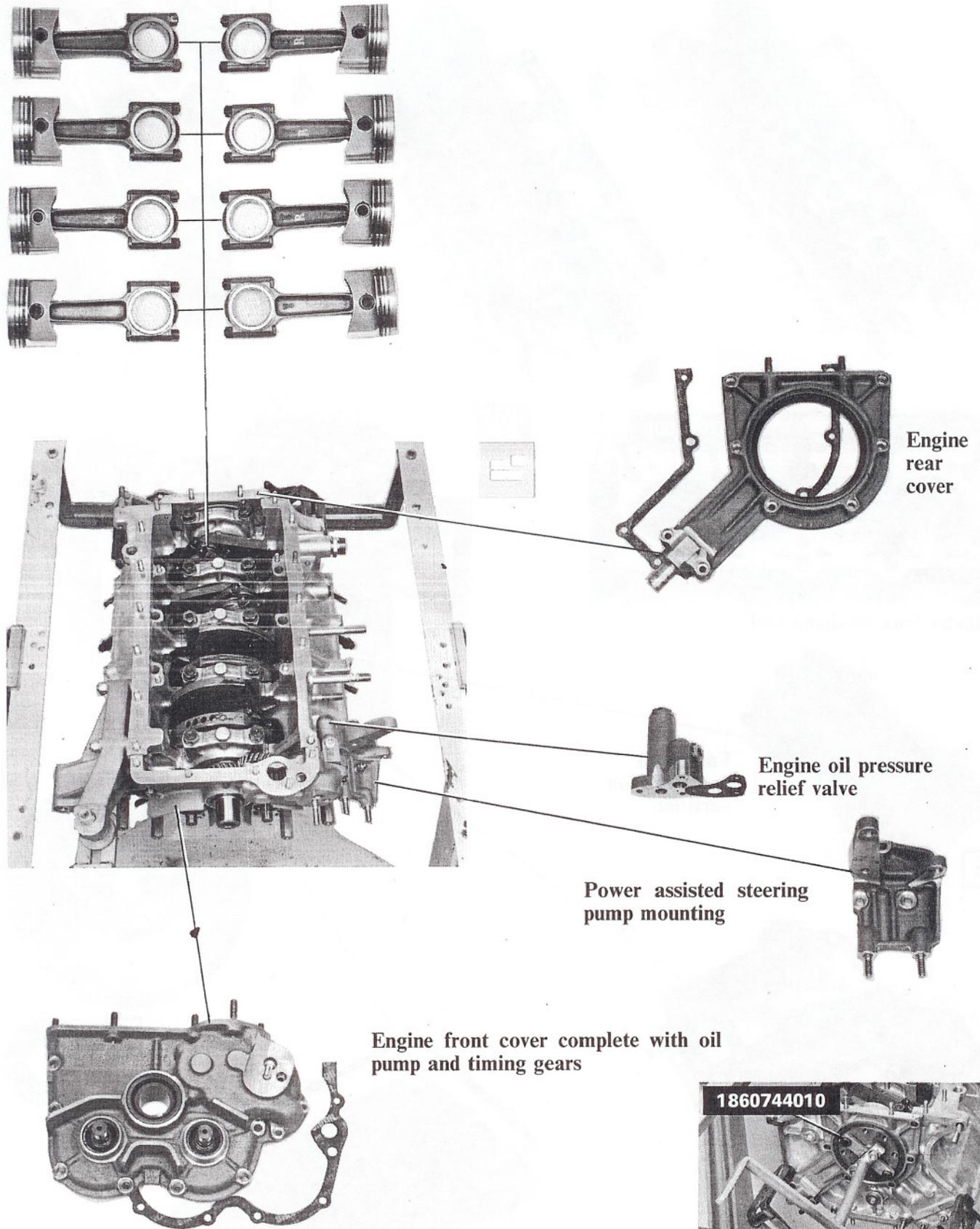
Engine oil sump



Oil sump
lower cover



10.

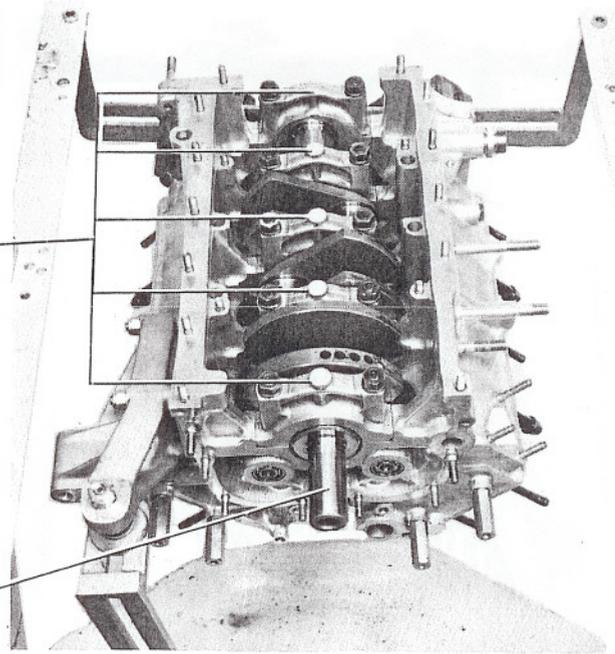
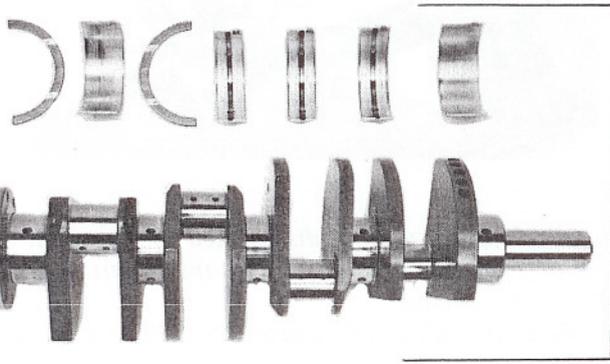
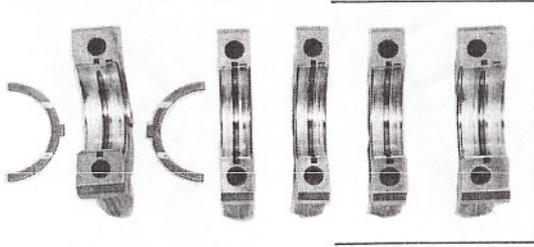


In order to remove the pistons it is necessary to fit crank 1860744000 and tool 1860744010.

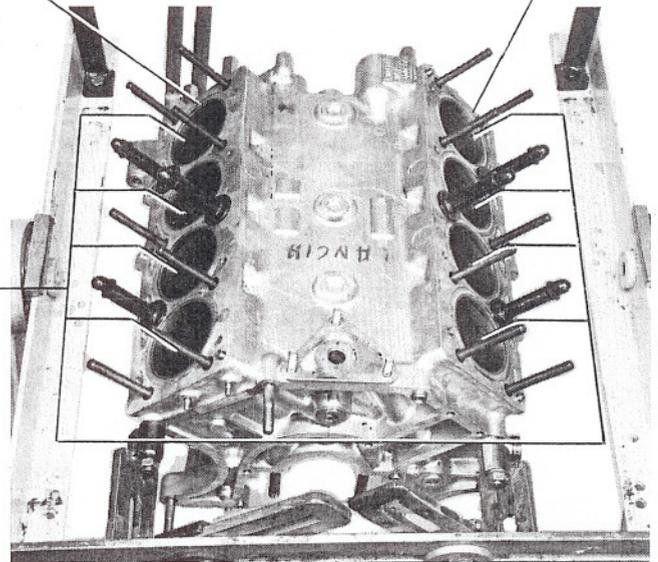
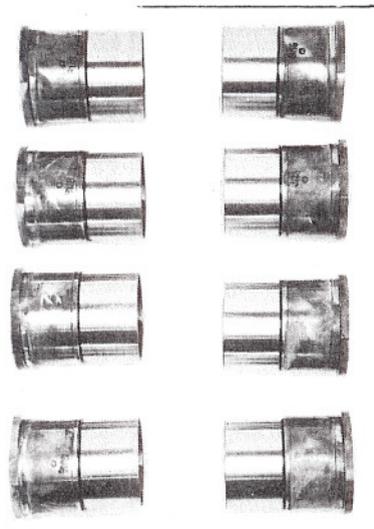
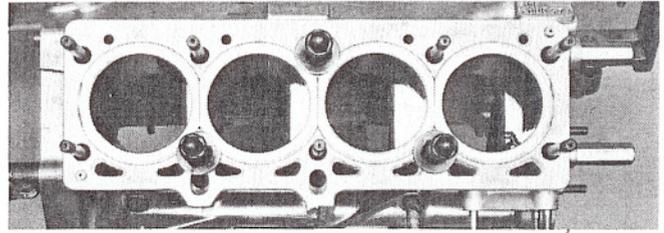
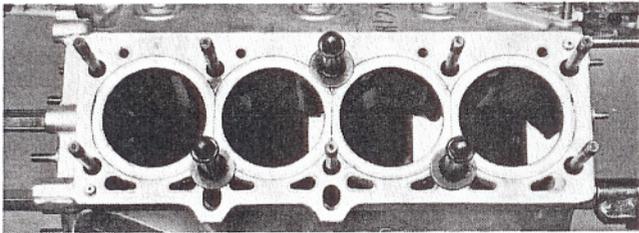




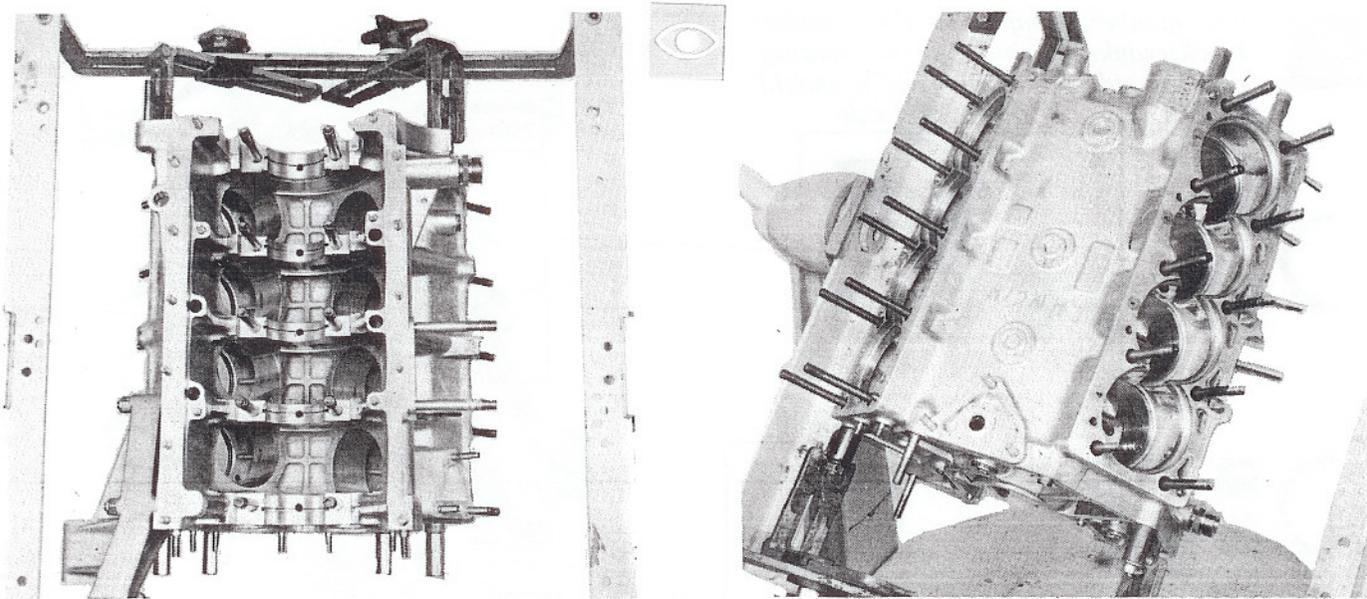
The number stamped on the cylinder block/crankcase and on the bearing caps should be the same and it should be legible from the flywheel side



Before dismantling, mark both the bore and the cylinder block/crankcase using a felt pen.



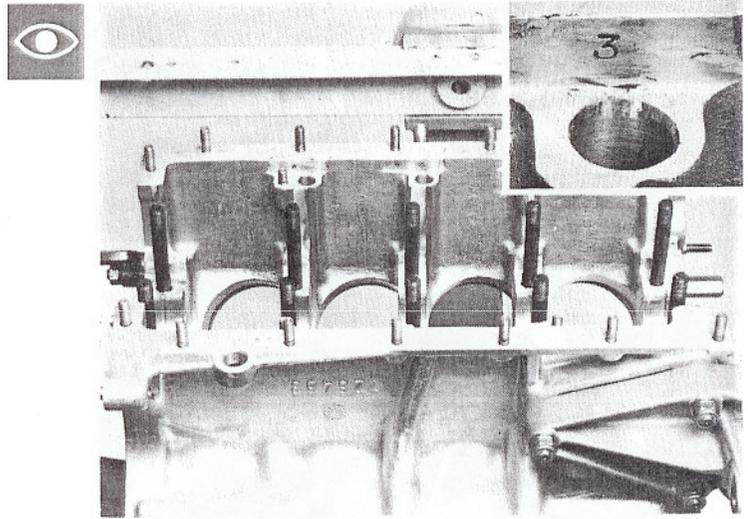
10.



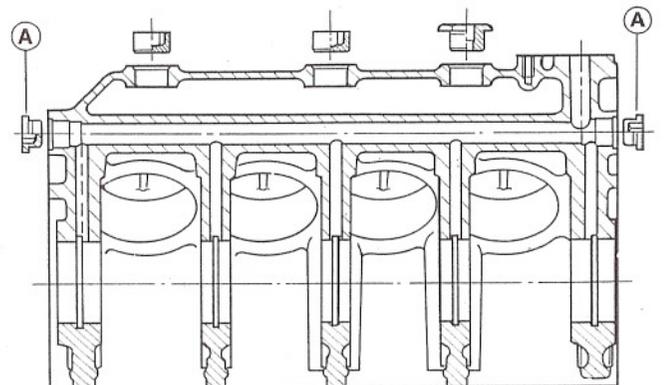
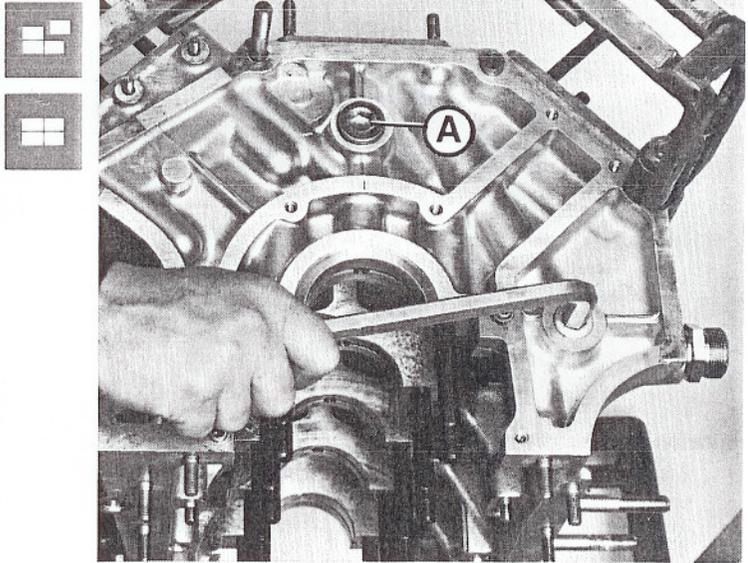
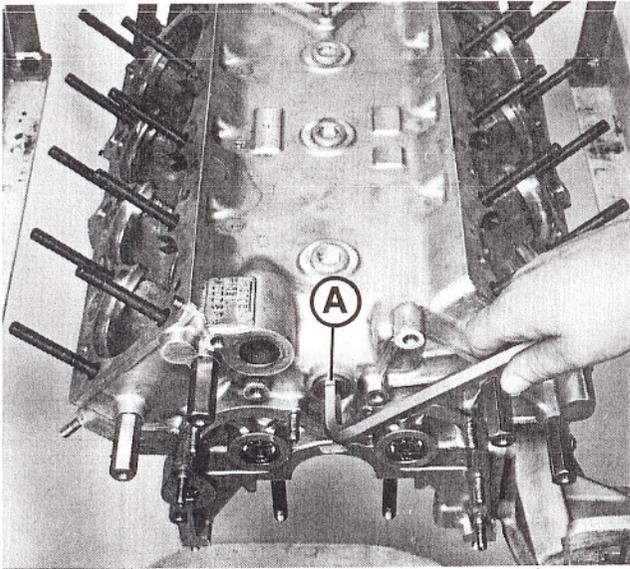
After dismantling the engine, carry out an accurate check on the various dismantled components. The chapters which follow contain instructions for the main checking and measuring operations necessary in determining whether the components are suitable to be reused.

They also contain the refitting sequences and procedures as well as the special tools to be used which facilitate the operation of reassembling the engine.

CYLINDER BLOCK/CRANKCASE

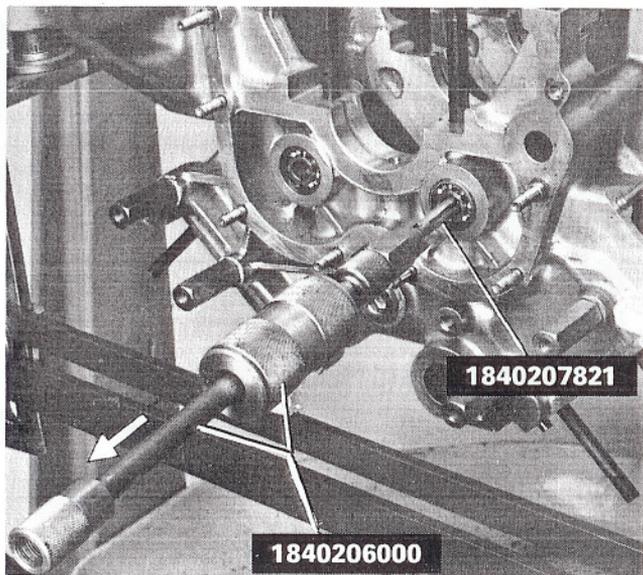


The number stamped on the cylinder block/crankcase indicates the position of the bearing caps.

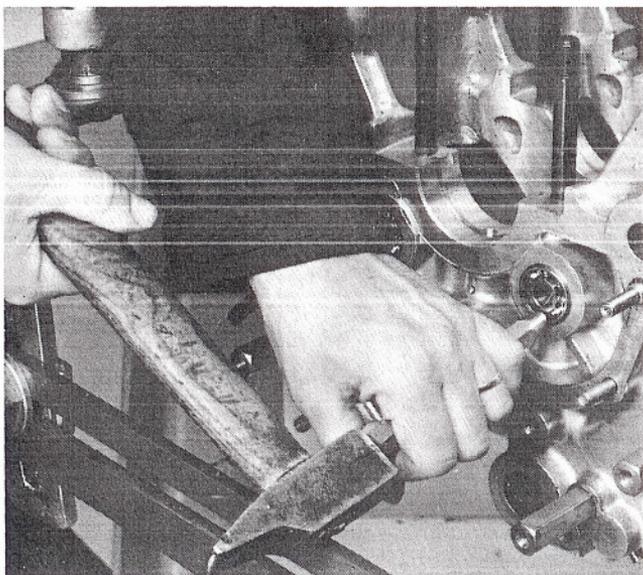
**Cylinder block/crankcase assembly**

Check that there are no signs of cracks or damage to the cylinder block/crankcase; carefully clean it by removing the plugs (A) and spraying through all the lubrication channels with jets of solvent.

10.



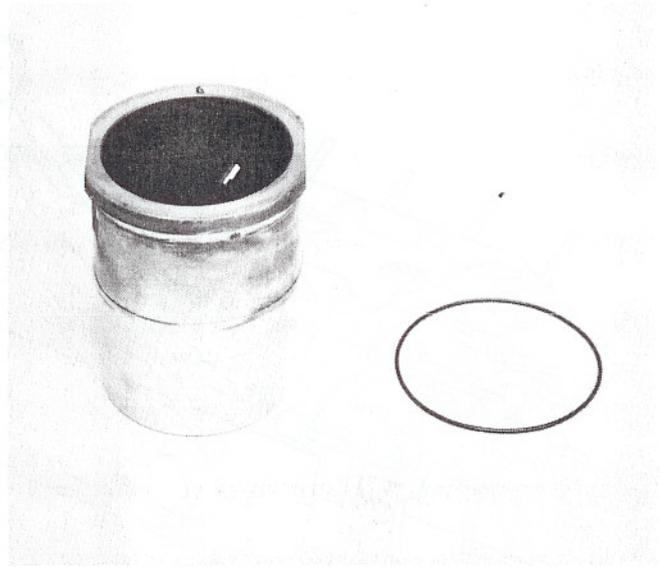
Removing camshaft gear support bearings.



Refitting camshaft gear support bearings

The bearings are refitted using an ordinary steel drift.

CYLINDER BORES



Cylinder bores

The cylinder bores are made from aluminium alloy and the inner surface is strengthened by a layer of Nickel and Silicone (Nikasil) applied by a special process.

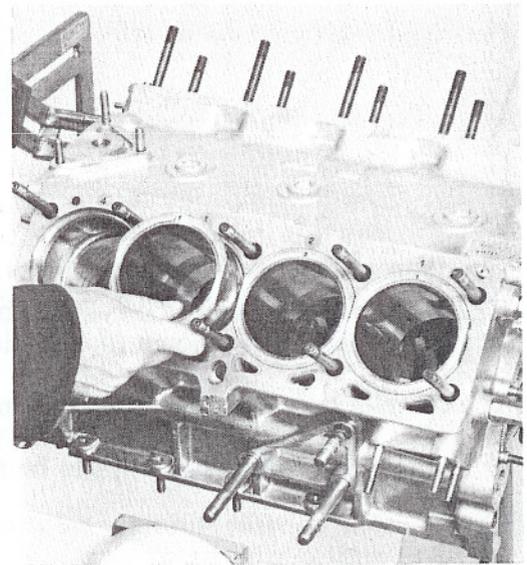
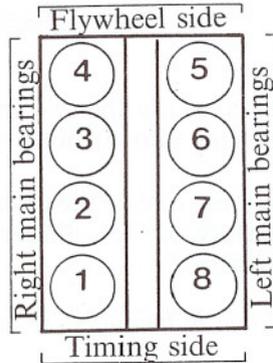
On account of the above treatment any wear of the cylinder bore is extremely slight or non-existent.

Refitting cylinder bores



Maximum care must be taken when handling cylinder bores to avoid scratching or chipping them.

Fit the cylinder bores, **without the rubber seals**, checking that they are in exactly the right position according to the reference marks and numbers on the bores (as shown in the diagram at the side). If necessary, clean the cylinder block support surfaces with fine grade abrasive paper. The cylinder bores should slide accurately but move freely in their housings in the cylinder block.



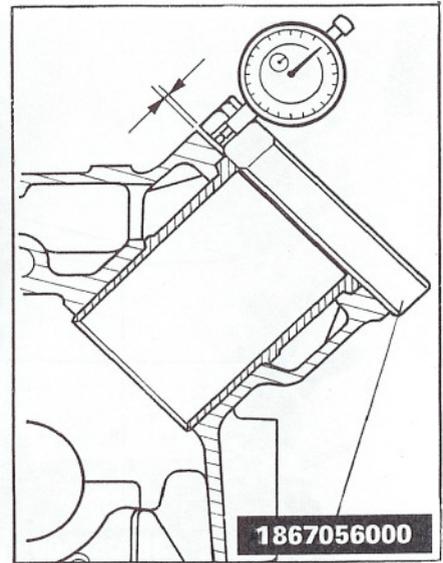
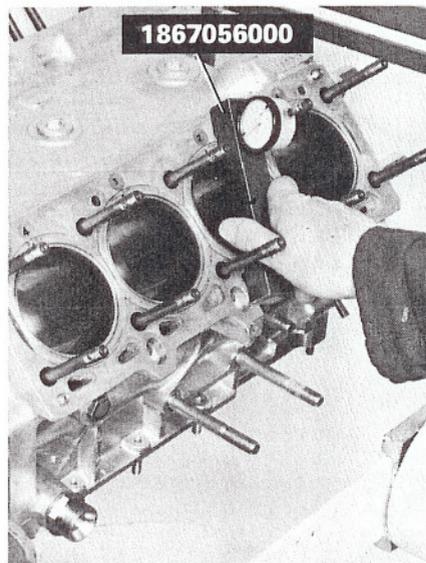
0,030 ÷ 0,080



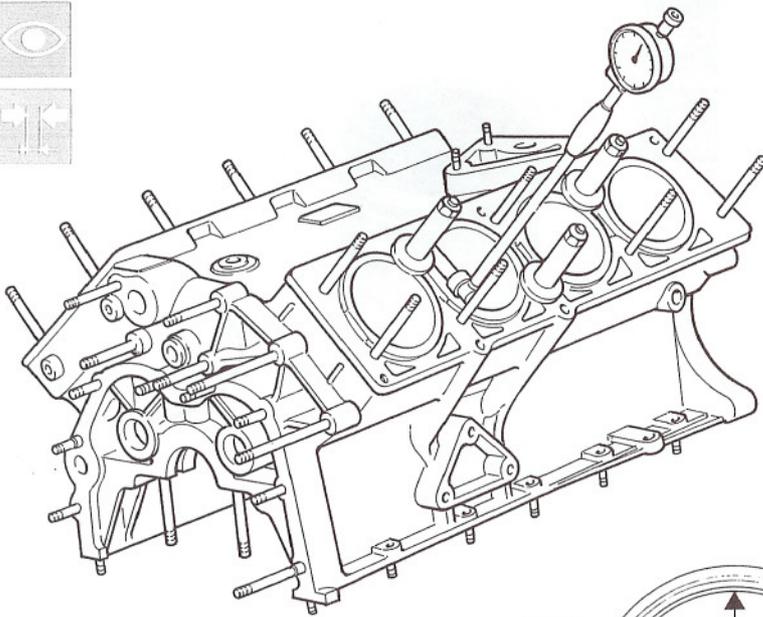
Measuring cylinder bore projection

Check, using tool 1867056000 and the dial gauge, that the cylinder bore projection (measured in 3 different places) from the cylinder block plane corresponds to the figure given.

Remove the cylinder bores. Fit the seals on the cylinder bores and refit them in the cylinder block.



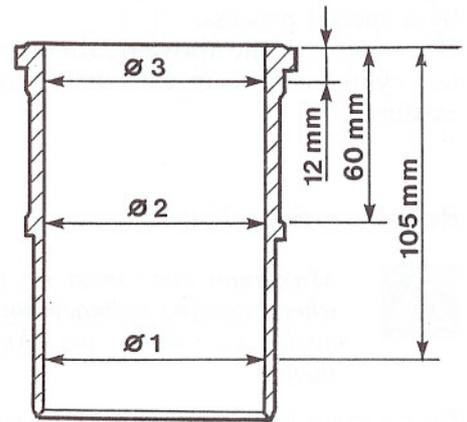
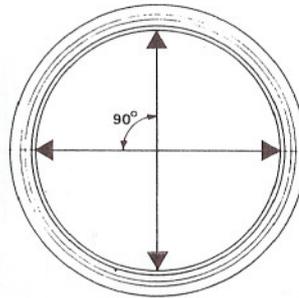
10.



\varnothing_1	verde	$81,010 \div 81,020$
	rosa	$81,000 \div 81,010$

\varnothing_2	verde	$81,005 \div 81,015$
	rosa	$80,995 \div 81,005$

\varnothing_3	verde	$80,995 \div 81,005$
	rosa	$80,985 \div 80,995$



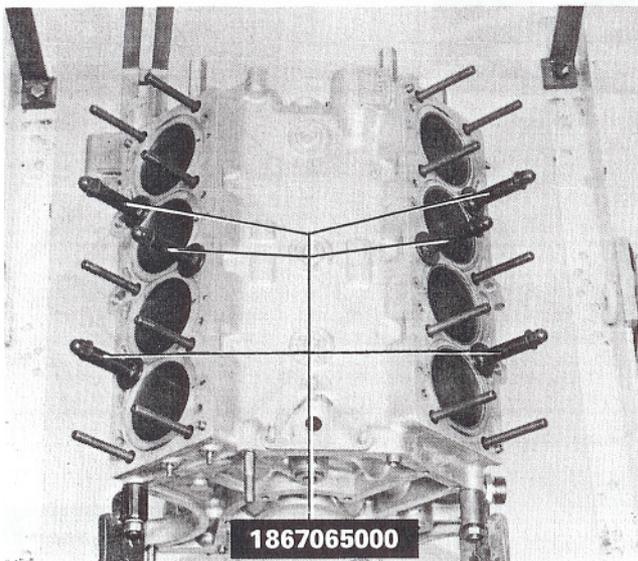
Checking and measuring cylinder bores

Check the dimensions of the cylinder bores taking the two measurements for each diameter, using the dial gauge, at the heights shown (in the diagrams above) both when removing and refitting the new cylinder bores.

The cylinder bore must be replaced even if only one of the diameters checked is below the minimum permissible value. Visually inspect the internal surface of the cylinder bore: it should be clear and free from notches or signs of seizing or else it has to be replaced.



The cylinder bores are not available individually as spares therefore the whole set (8 cylinder bores) must always be replaced.

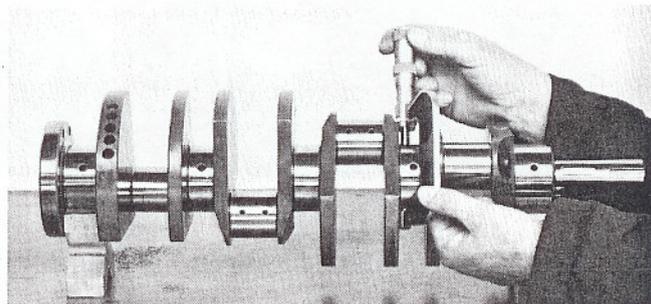


Positioning tools for retaining cylinder bores

CRANKSHAFT

NOTE *In order to improve the crankshaft properties of mechanical resistance to wear it is subjected to a nitriding treatment.*
Normally, after the first undersize (0,254), the main journals and crankpins still maintain their surface hardness properties beyond the minimum requirements.
For operations which involve grinding the main journals and crankpins for the second undersize, the crankshaft must undergo the nitriding treatment again to avoid the possibility of it breaking during usage. This treatment must be carried out a specialist workshop specifying that Tufftriding is required.

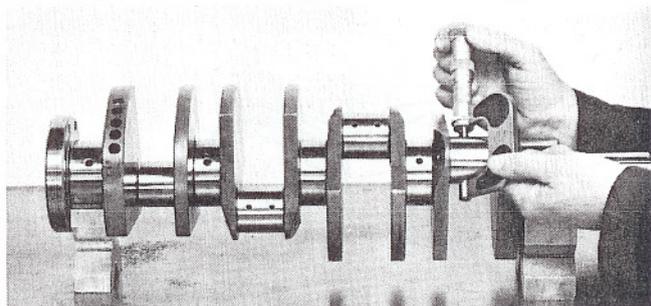
Perni di banco	∅	62,979 ÷ 62,992
Perni di biella	∅	43,619 ÷ 43,637



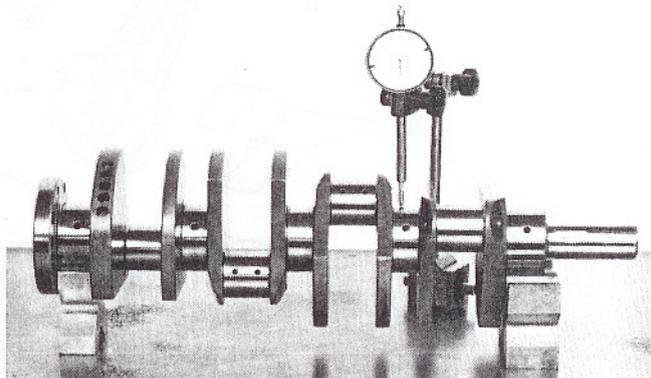
Measuring main journals and crankpins

The following undersizes are available 0,254 – 0,508 mm.

NOTE *If the surfaces of the bearings are have excessive notches they must be ground.*

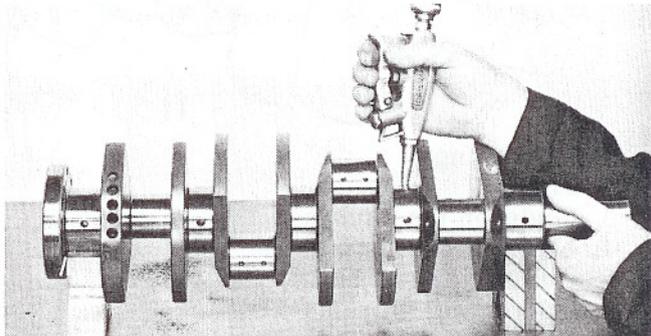


All bearings are always ground to the same undersize so as not to alter the balance of the shaft.



Checking alignment of main journals

Maximum permissible non alignment between main journals: 0,02 mm.



Cleaning inside of lubrication ducts