



31st MAY 1995

REF.

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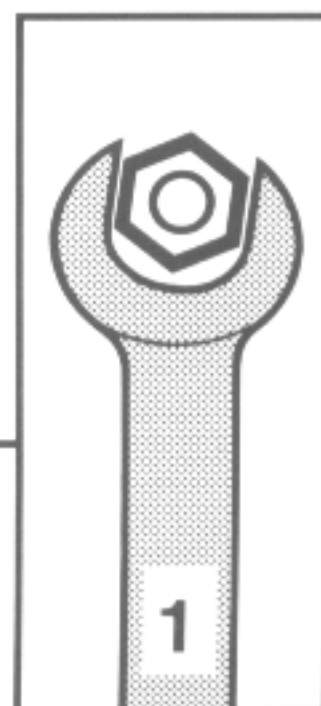
No XM 122-00/2

ABONNEMENT GME

XU 10J4R ENGINE

● VALVE TIMING

MAN 058931



GB



AUTOMOBILES CITROËN
DIRECTION COMMERCE EUROPE
DOCUMENTATION APRÈS VENTE

VALVE TIMING

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CHECKING : THE VALVE TIMING SETTING

1 - RECOMMENDED TOOLS

Engine kit : 7004-T.

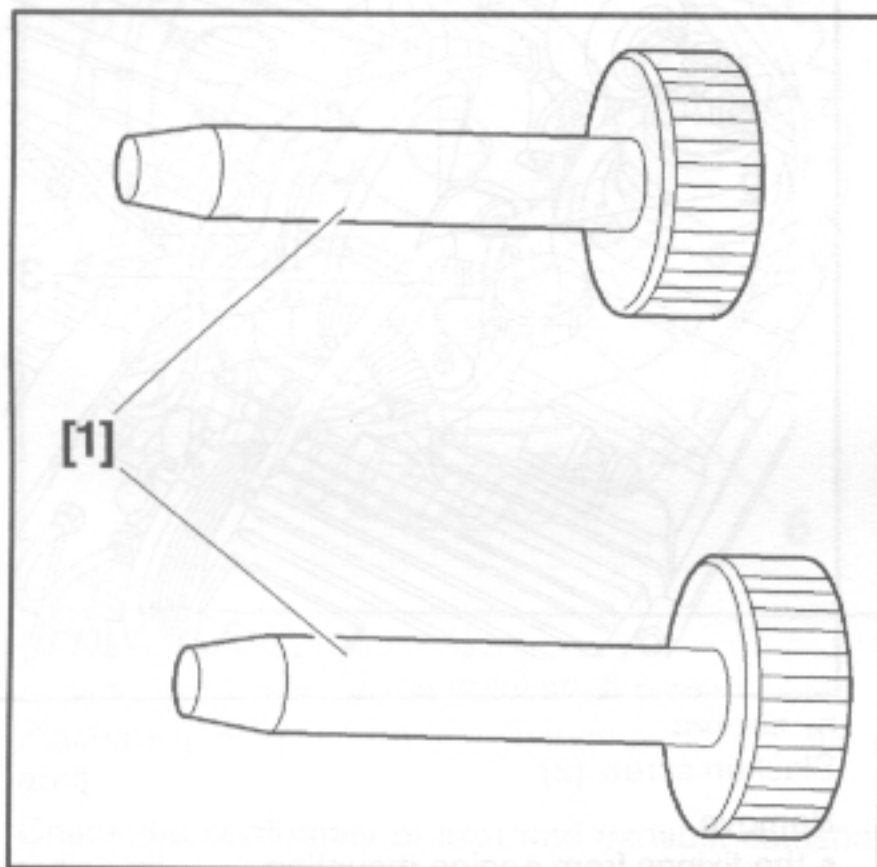


Fig : E5-P04HC

[1] camshaft timing peg 9041-T.Z.

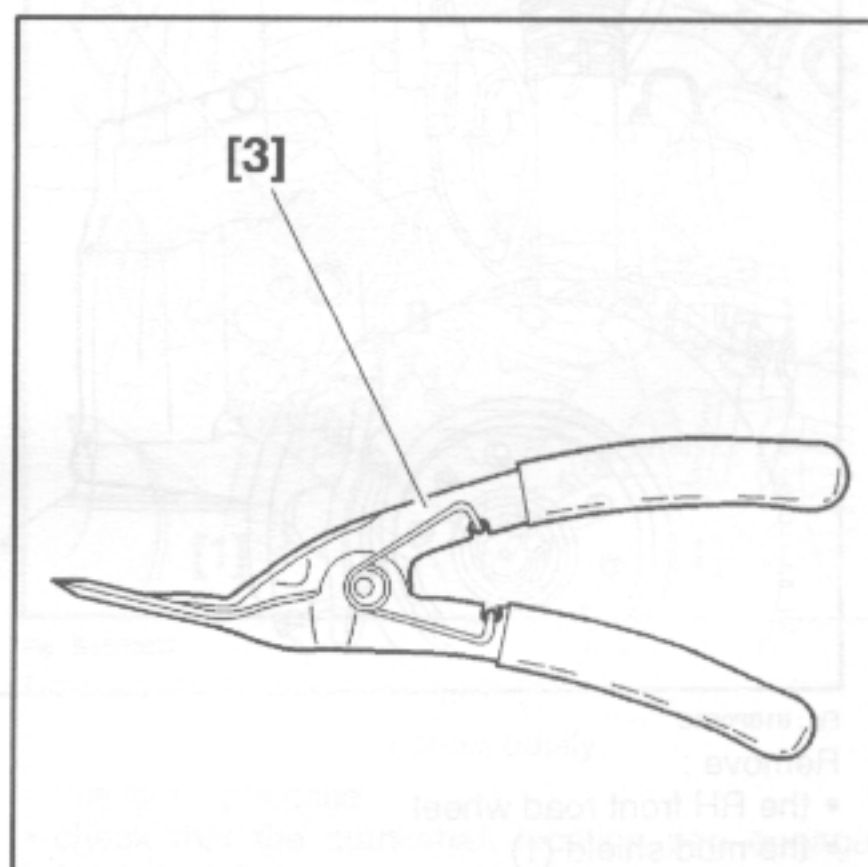


Fig : E5-P07JC

[3] pliers for removing the plastic pegs 7504-T.

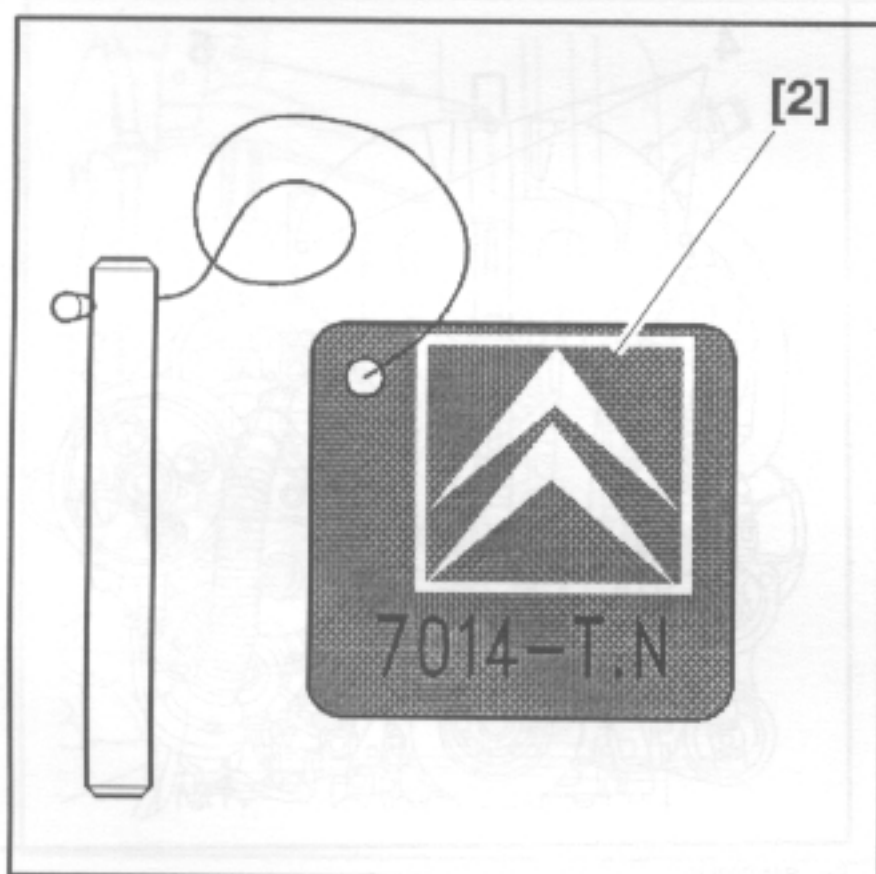


Fig : E5-P07GC

[2] crankshaft locating peg 7014-T.N.

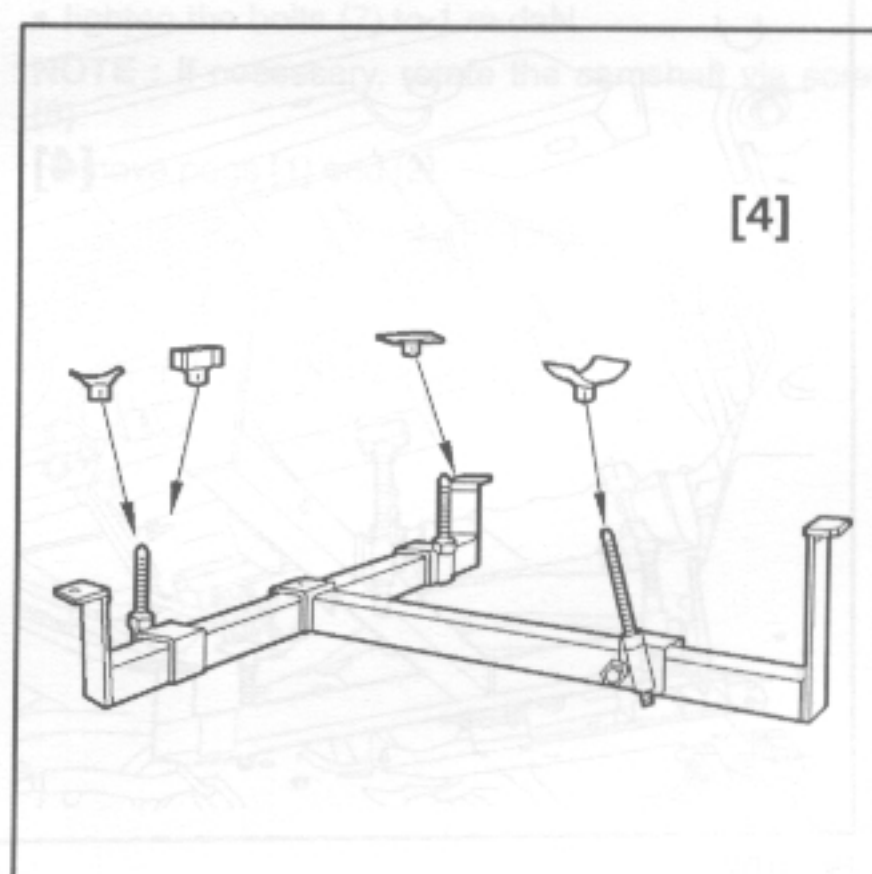


Fig : E5-P087C

[4] engine support 9026-T.

2 - REMOVAL

Lift and support the vehicle with the front wheels suspended.

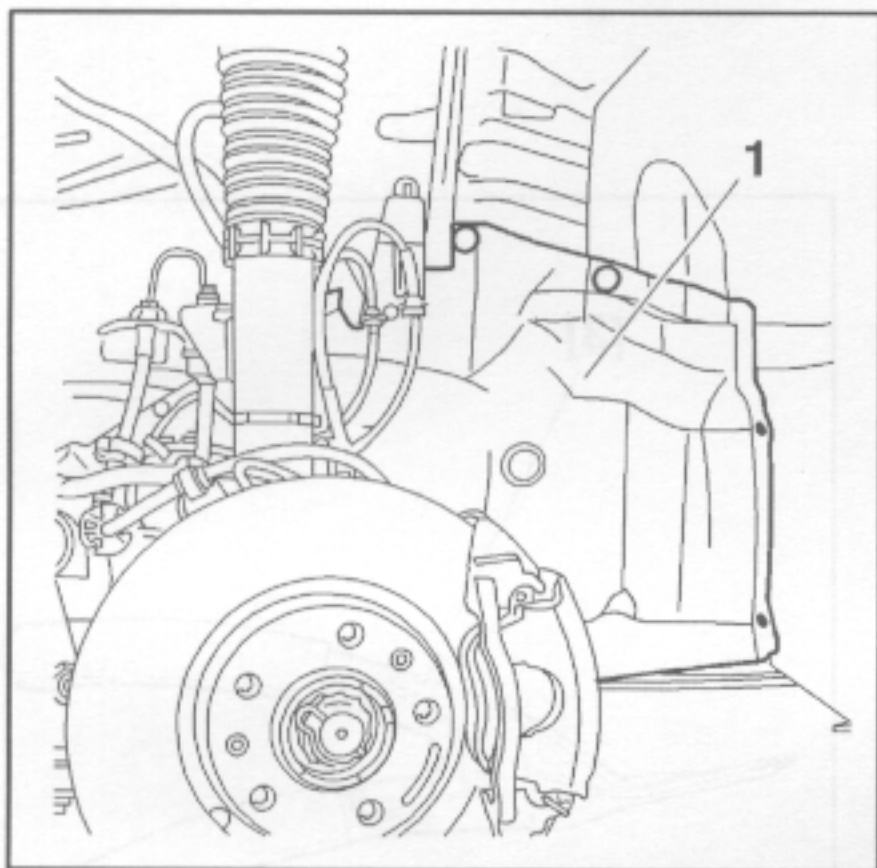


Fig : B1BP05SC

Remove :

- the RH front road wheel
- the mud shield (1)

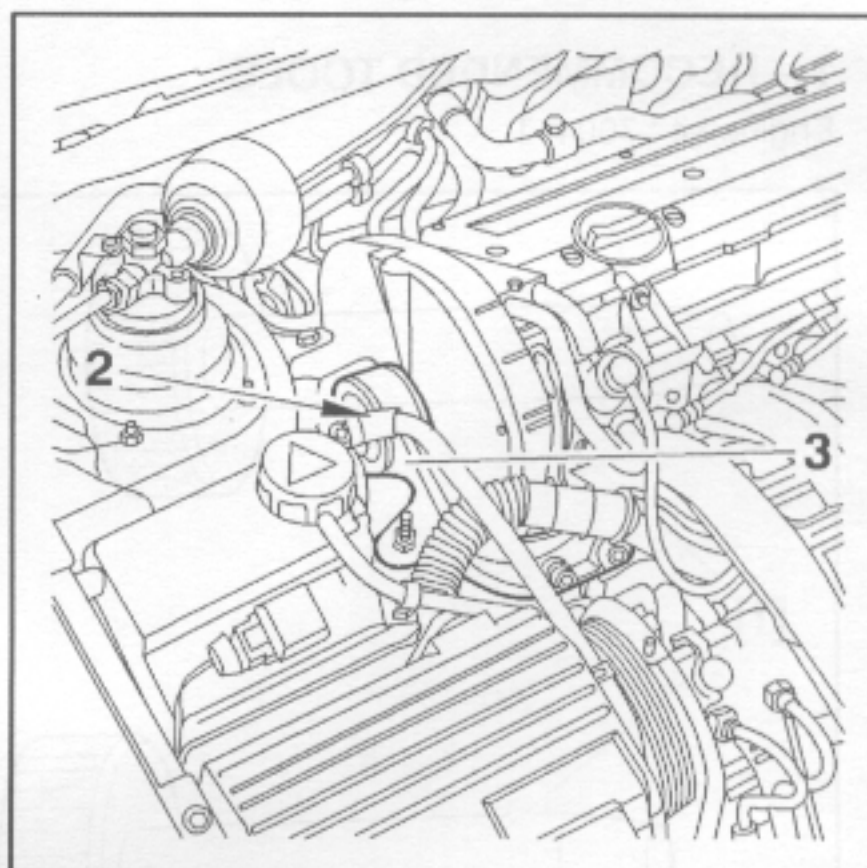


Fig : B1EP03KC

Slacken screw (2).

Remove :

- the fixings from engine mounting
- engine mounting bracket (3)

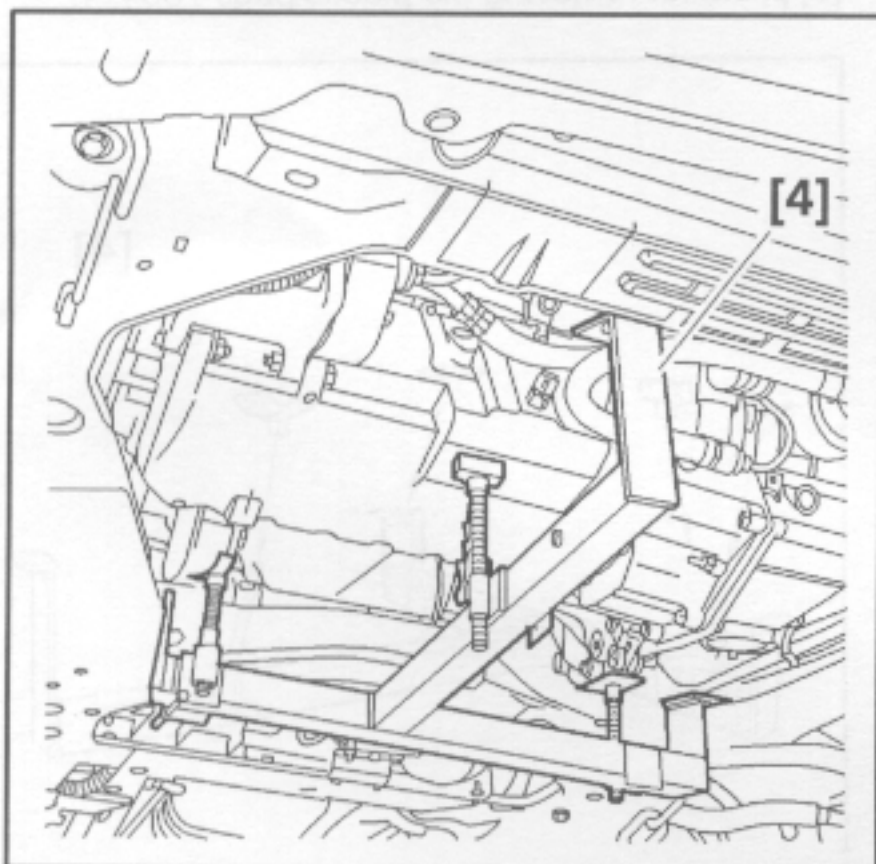


Fig : B1EP03WC

Fit support [4] to the cradle (under the engine/gearbox assembly).

Bring the adjustable fixing rods into contact with the power unit assembly.

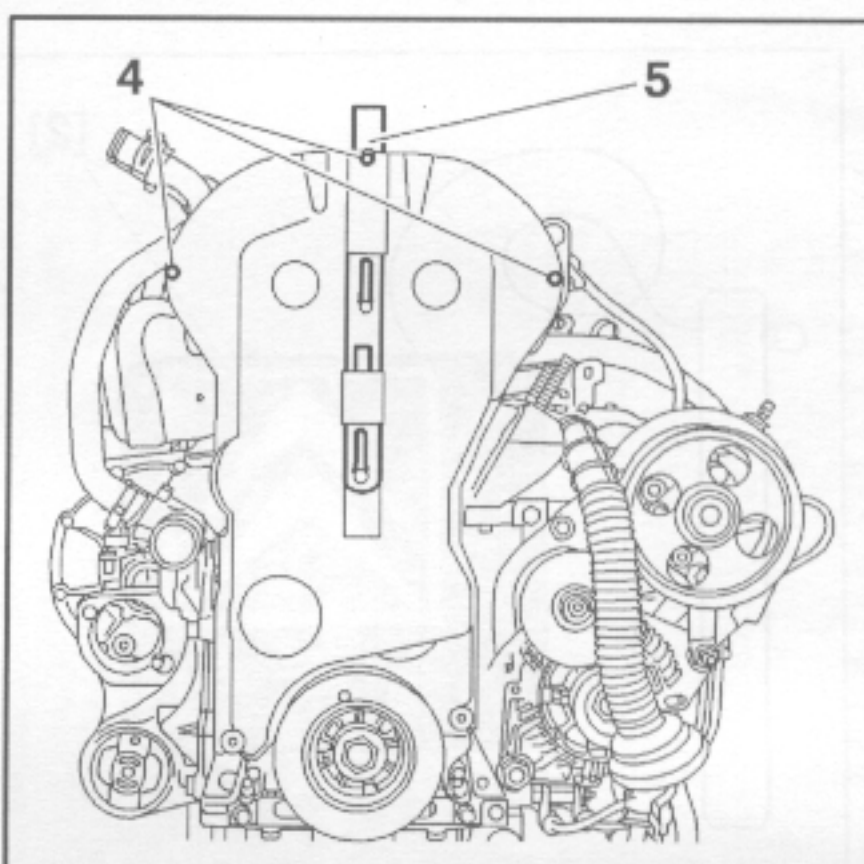


Fig : B1EP03LC

Pull tab (5) upwards to release the pins.

Unscrew the 3 screws (4).

Remove the timing cover.

3 - CHECKS

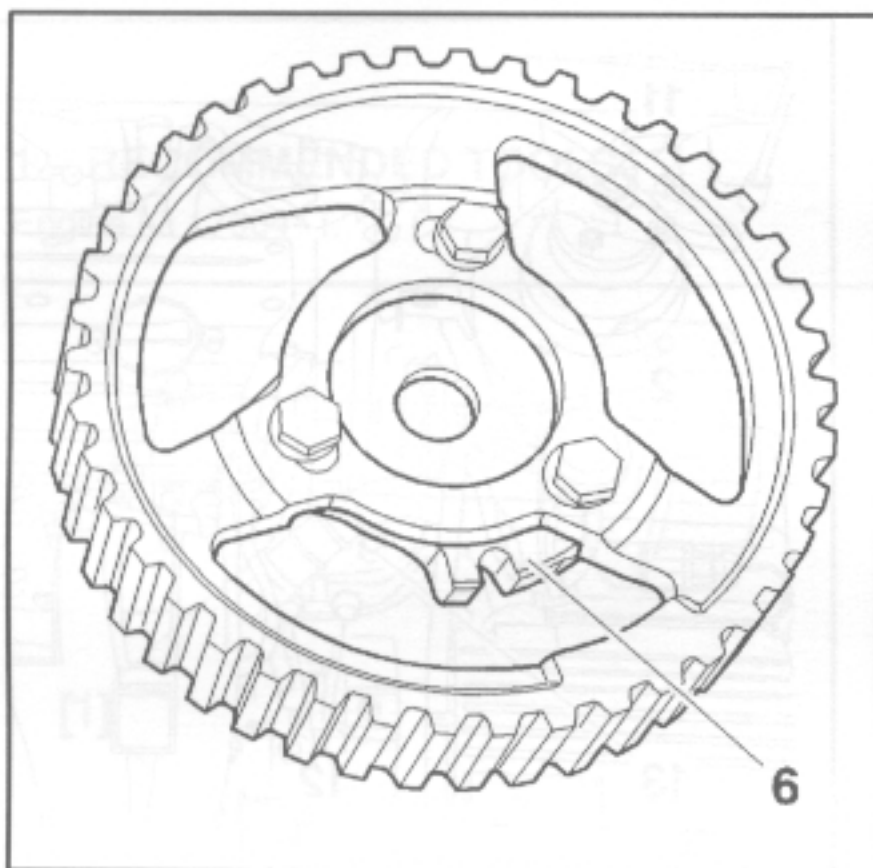


Fig : B1EP03XC

Rotate the engine via the crankshaft screw.

Place the timing slot (6) of camshaft hubs in a visible area.

Check the conformity of inlet and exhaust camshaft hubs (6) : refer to the engine specification and identification.

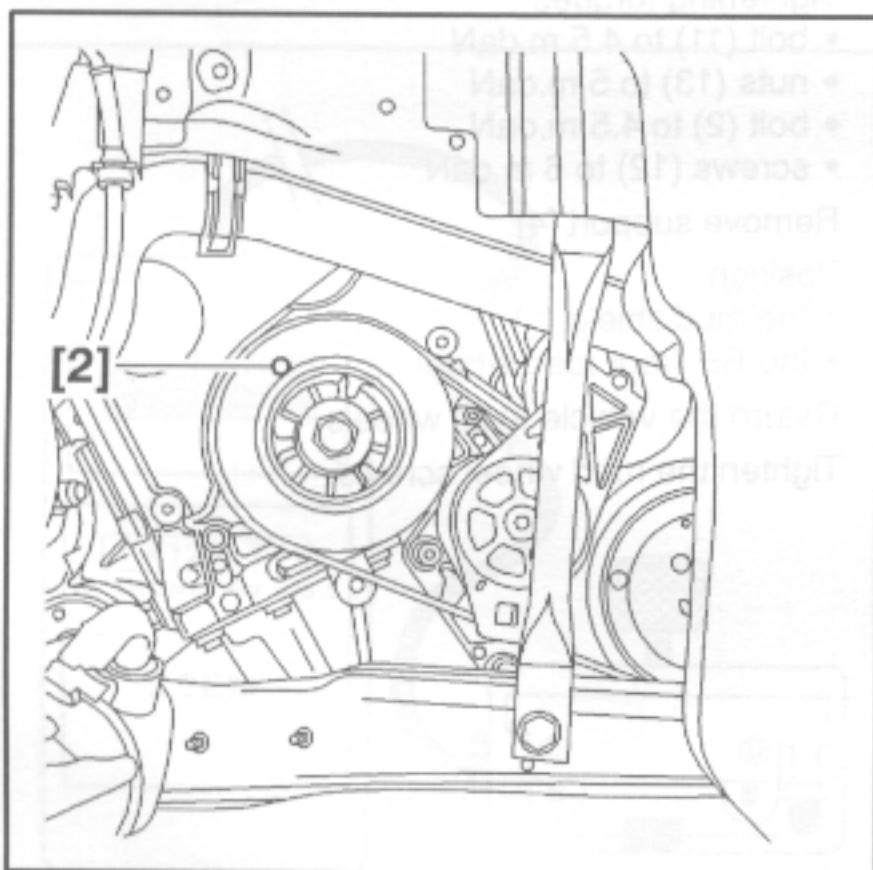


Fig : B1EP03YC

Turn the engine by the crankshaft pulley bolt until it is in the setting position.

Peg the crankshaft by means of locating peg [2].

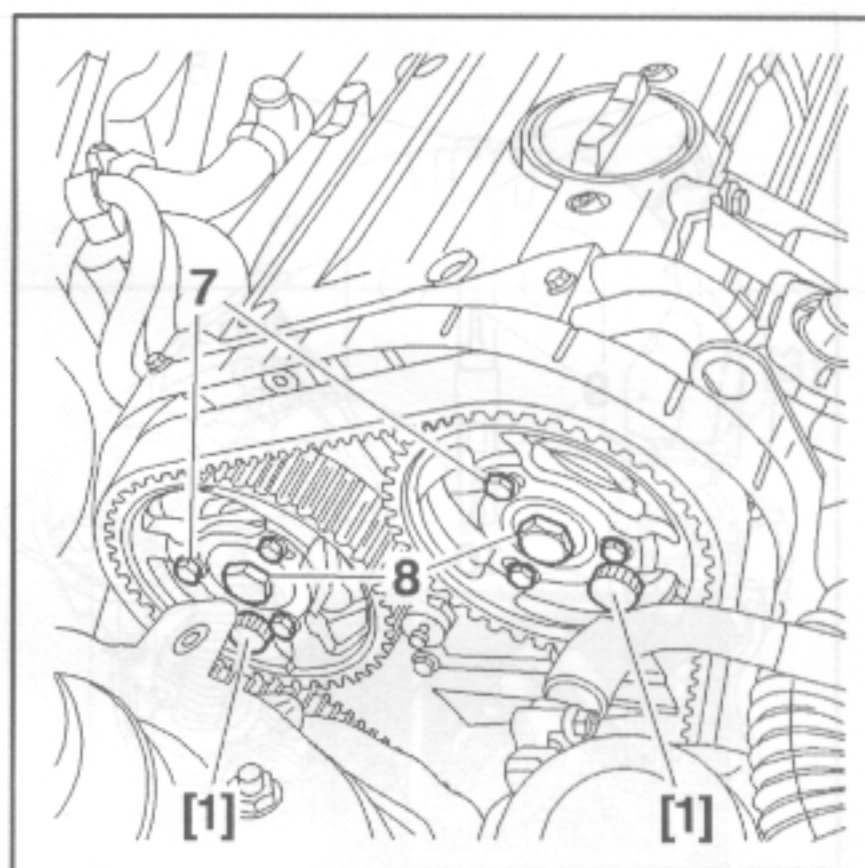


Fig : B1EP03ZC

Peg the camshafts, with tools [1].

Timing pegs [1] should enter easily.

If this is not the case :

- check that the crankshaft locating peg engages freely in its location
- slacken the 3 screws (7) of the camshaft pulleys
- peg the camshaft hubs (refer to the Note)
- tighten the bolts (7) to 1 m.daN

NOTE : If necessary, rotate the camshaft via screw (8).

Remove pegs [1] and [2].

4 - REFITTING

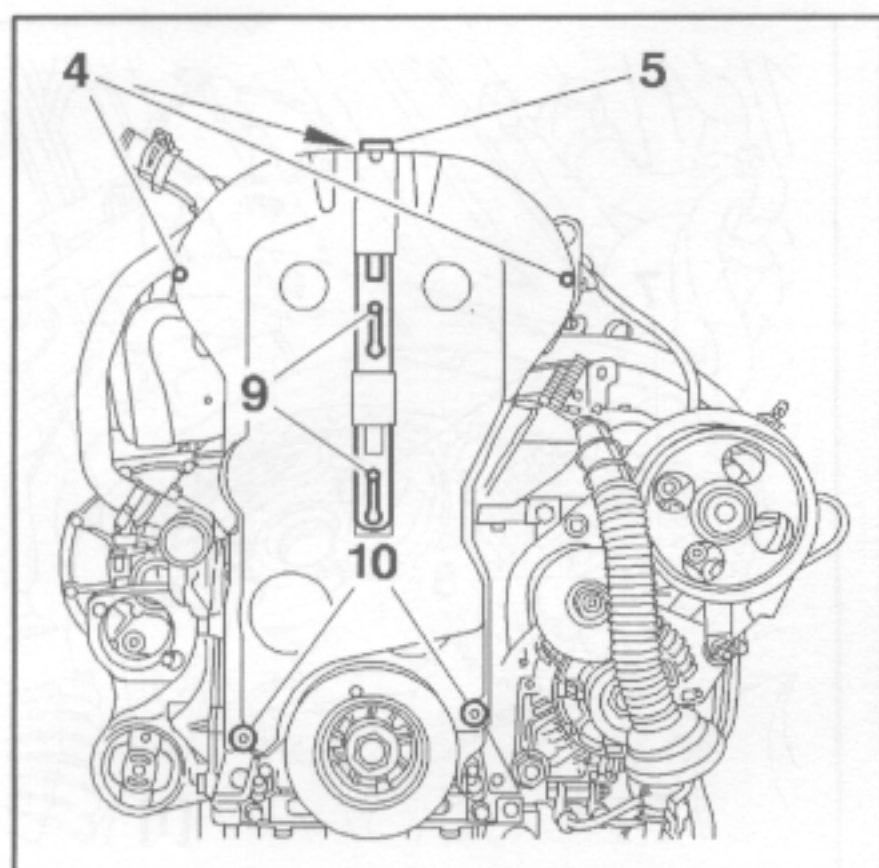


Fig : B1EP040C

Ensure that the rubber pads are in position on spindles (9).

Put the timing cover on its support screws (10).

Tighten the 3 screws (4).

Exert a pressure in the centre of the timing cover.

Lower tab (5) to lock pins (9).

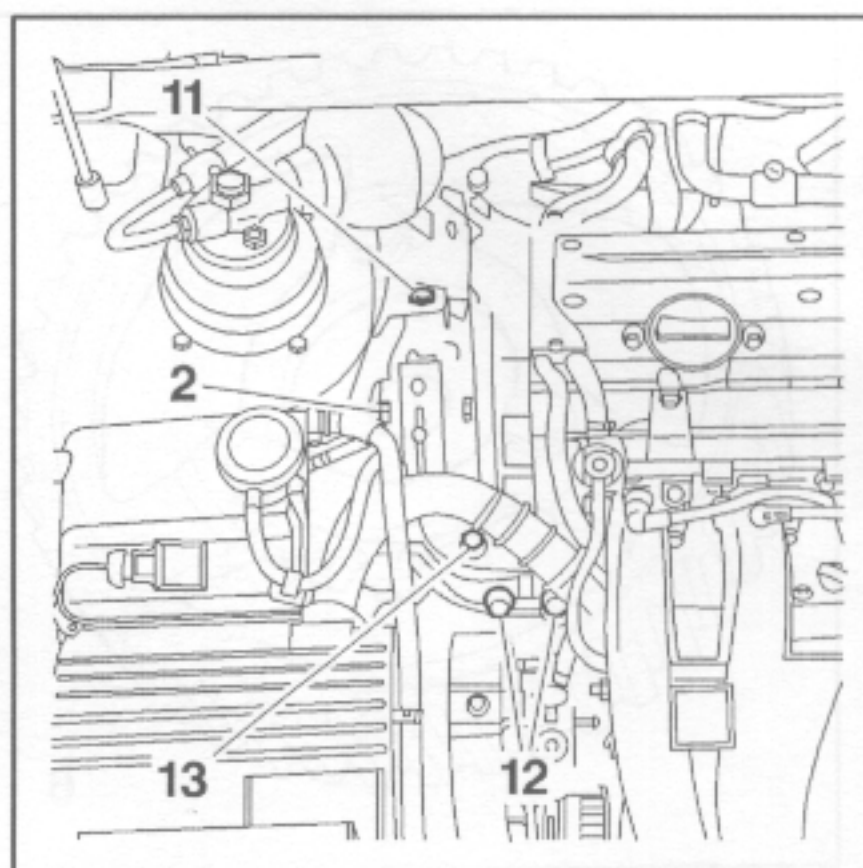


Fig : B1EP041C

Refit the engine mounting bracket.

Position :

- screw (11)
- the 3 nuts (13)
- screw (2)
- screws (12)

Tightening torques :

- bolt (11) to 4.5 m.daN
- nuts (13) to 5 m.daN
- bolt (2) to 4.5 m.daN
- screws (12) to 6 m.daN

Remove support [4].

Position :

- the mud shield (1)
- the RH front road wheel

Return the vehicle to its wheels.

Tighten the road wheel screws.

REMOVING – REFITTING : THE TIMING BELT

1 – RECOMMENDED TOOLS

Engine kit : 7004-T.

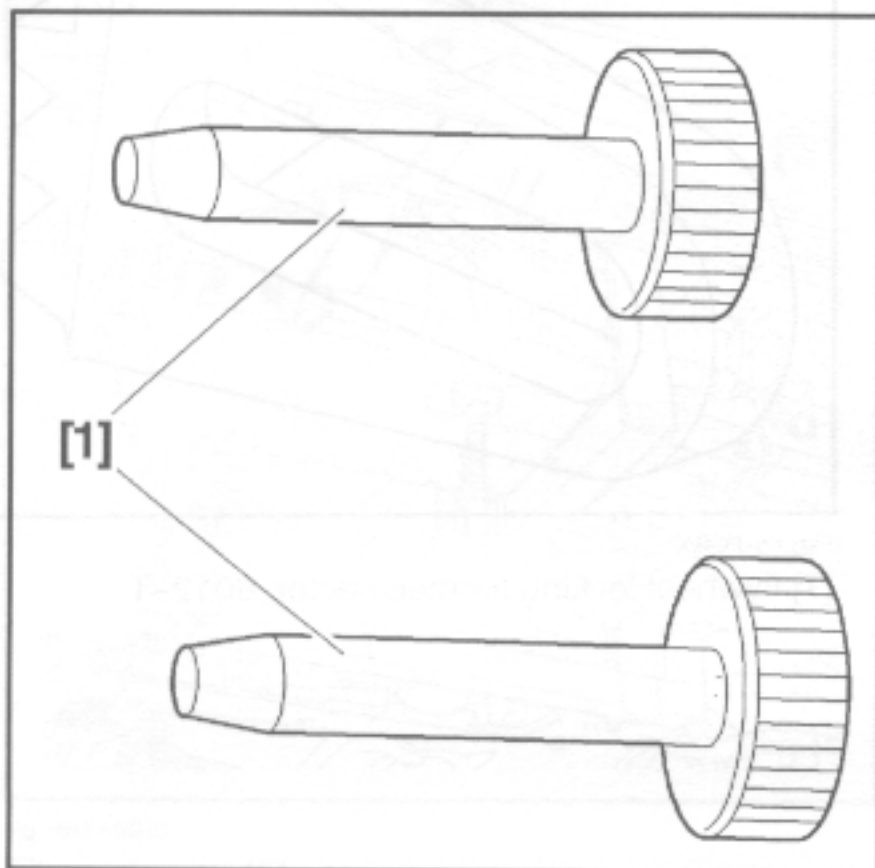


Fig : E5-P04HC

[1] camshaft timing peg, 9041-T.Z.

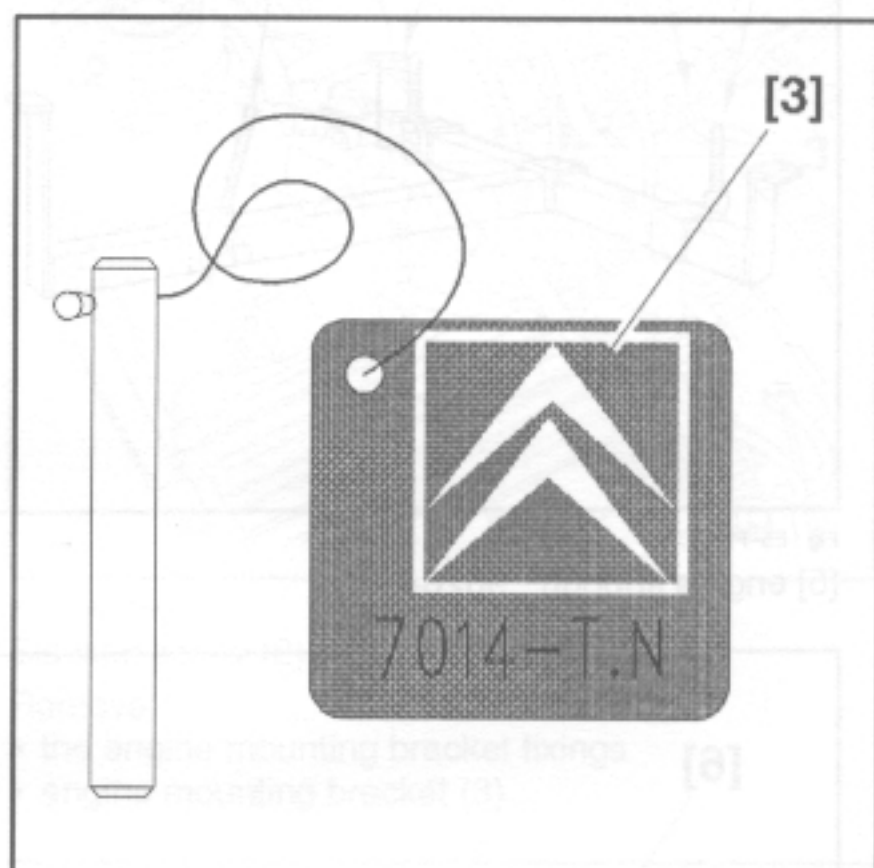


Fig : E5-P04JC

[3] crankshaft locating peg, 7014-T.N.

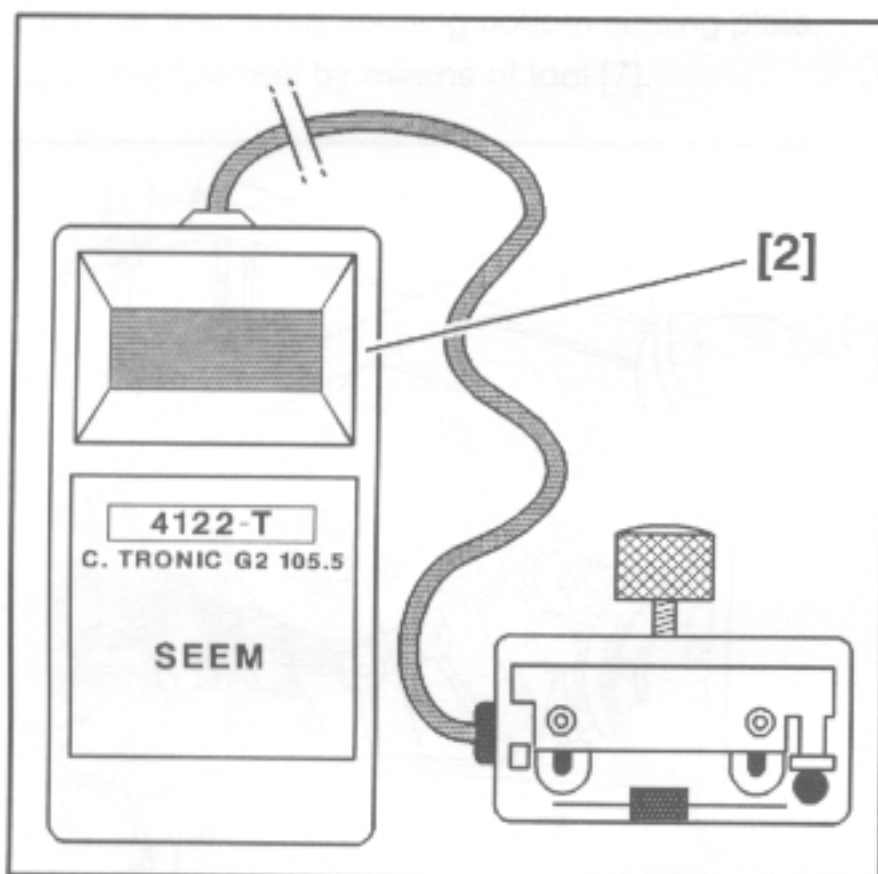


Fig : E5-P031C

[2] belt tension measuring equipment, with digital read-out, 4122-T or 4099-T.

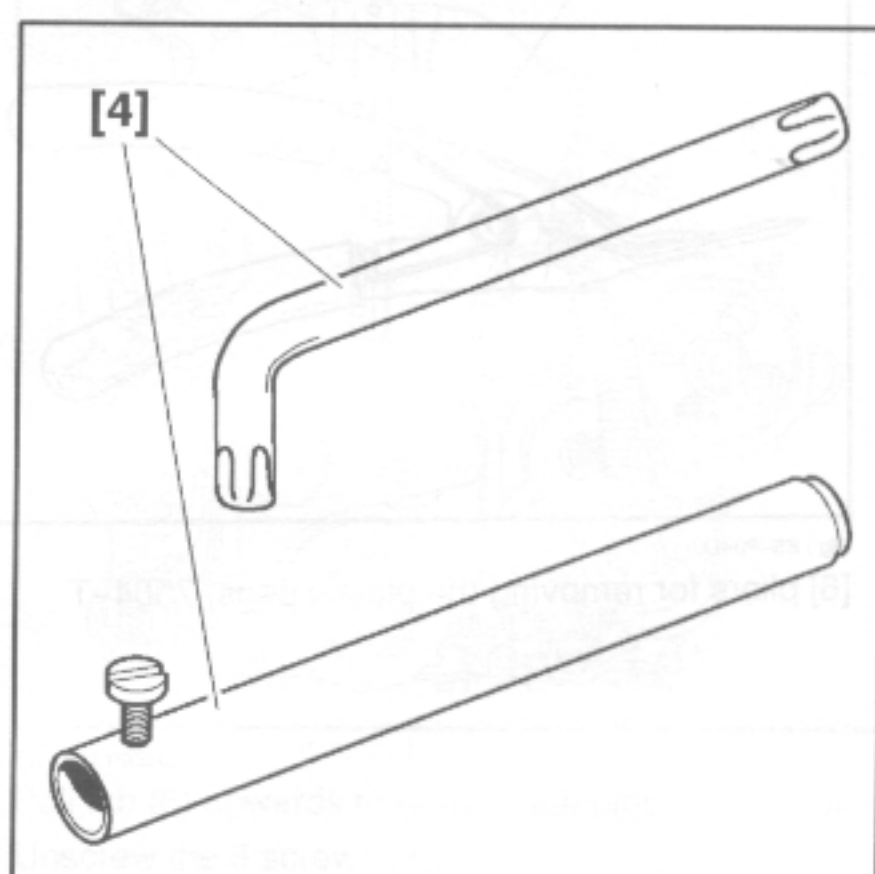


Fig : E5-P04KC

[4] tensioning spanner for the roller tensioner, 7017-T.W.

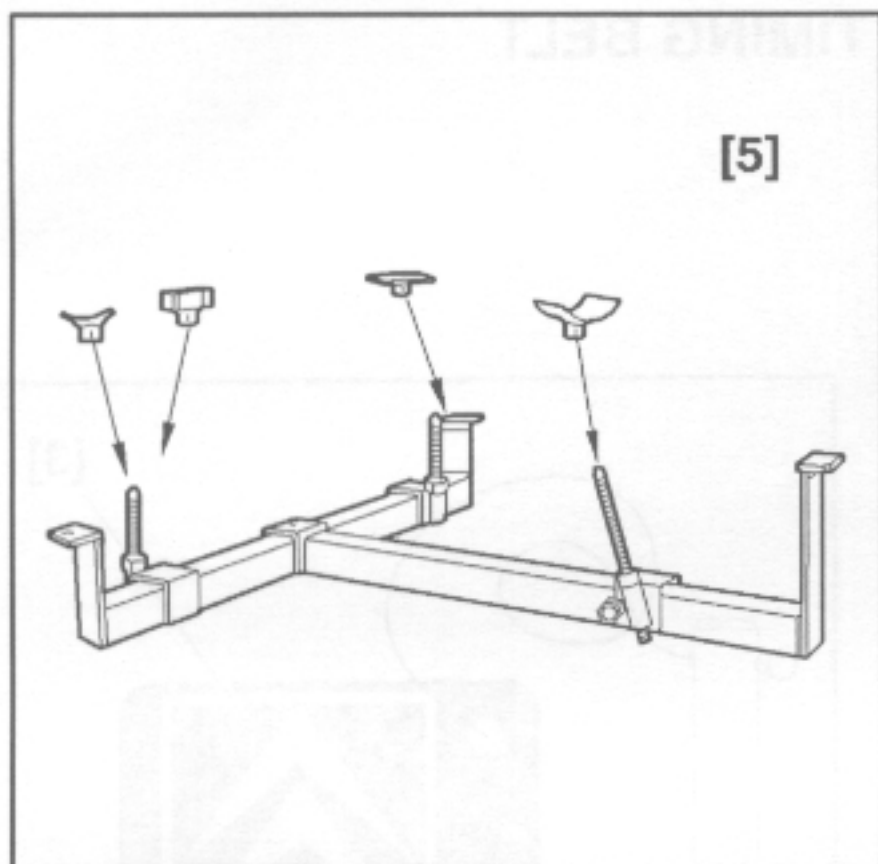


Fig : E5-P062C

[5] engine support , 9026-T.

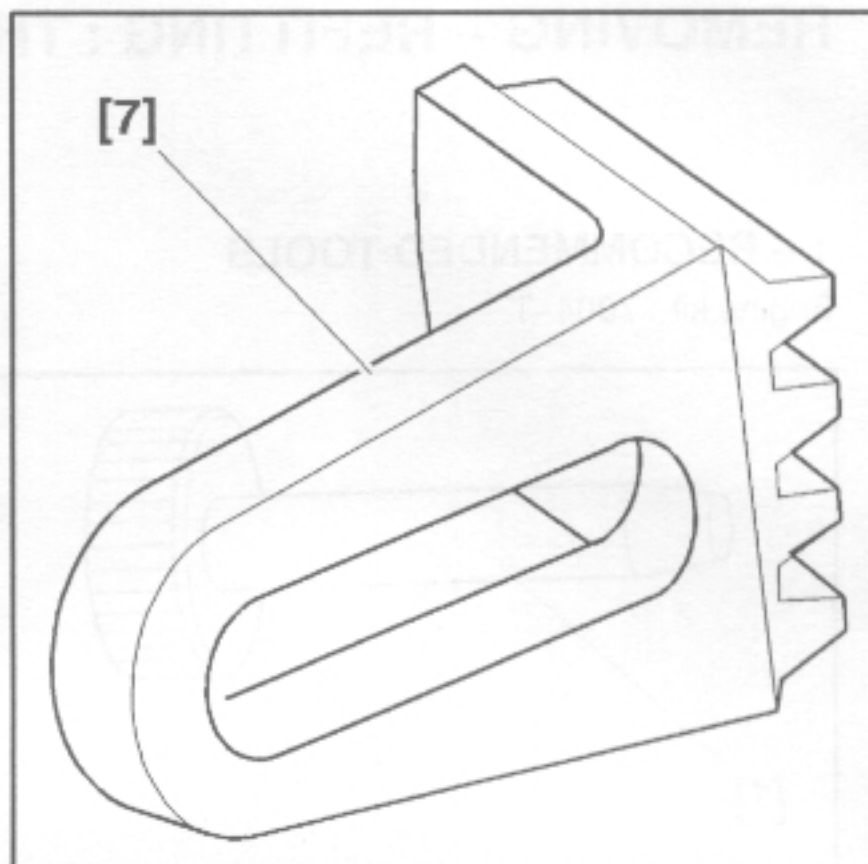


Fig : E5-P04MC

[7] flywheel locking toothed sector, 6012-T.

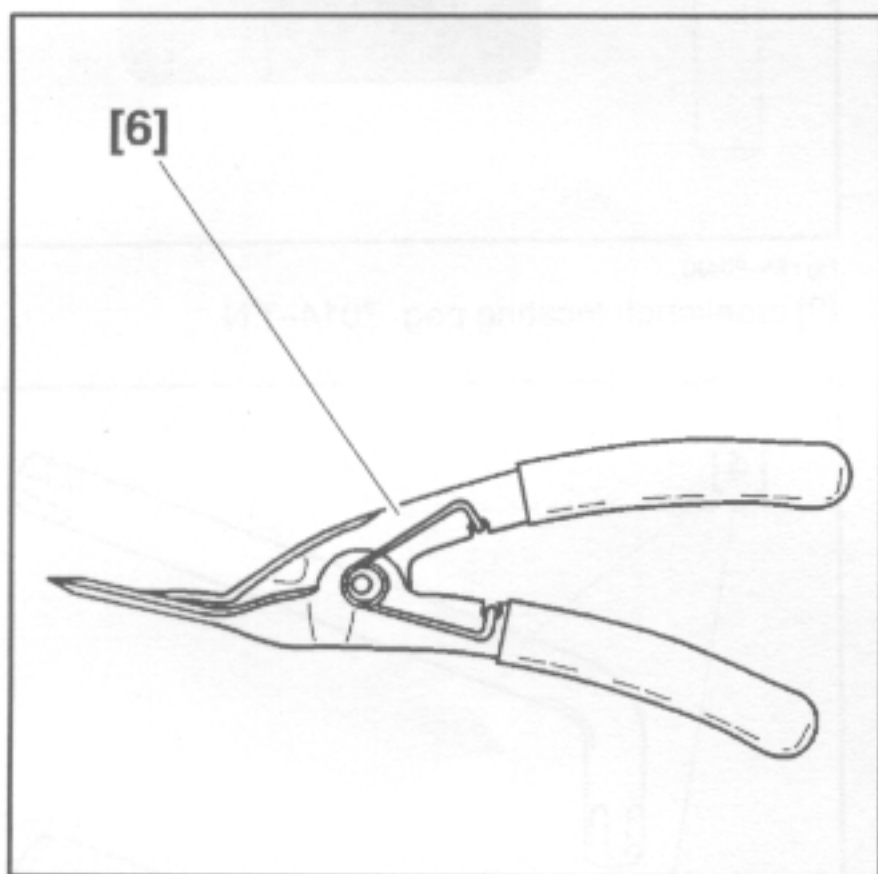


Fig : E5-P04LC

[6] pliers for removing the plastic pegs, 7504-T.

2 - REMOVAL

Lift and support the vehicle with the front wheels suspended.

Remove the accessory drive belt (see the relevant operation).

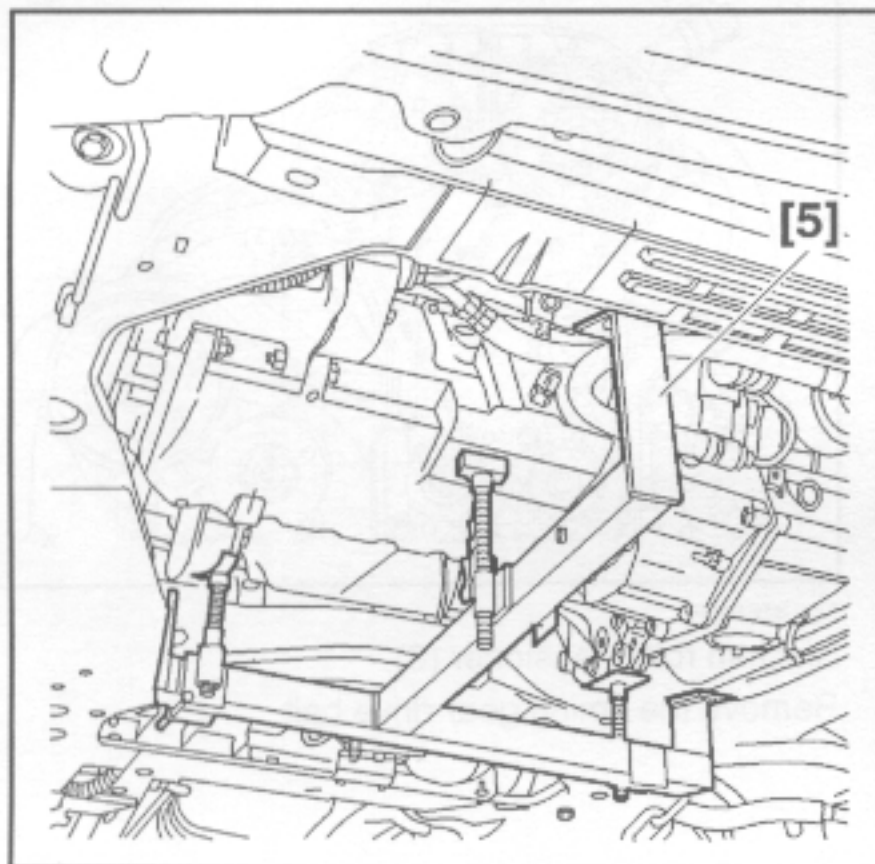


Fig : B1EP03HC

Fit support [5] to the cradle - (under the engine/gearbox assembly) ; bring the adjustable fixing rods into contact with the power unit assembly.

Remove the clutch housing bottom closing plate.

Lock the flywheel by means of tool [7].

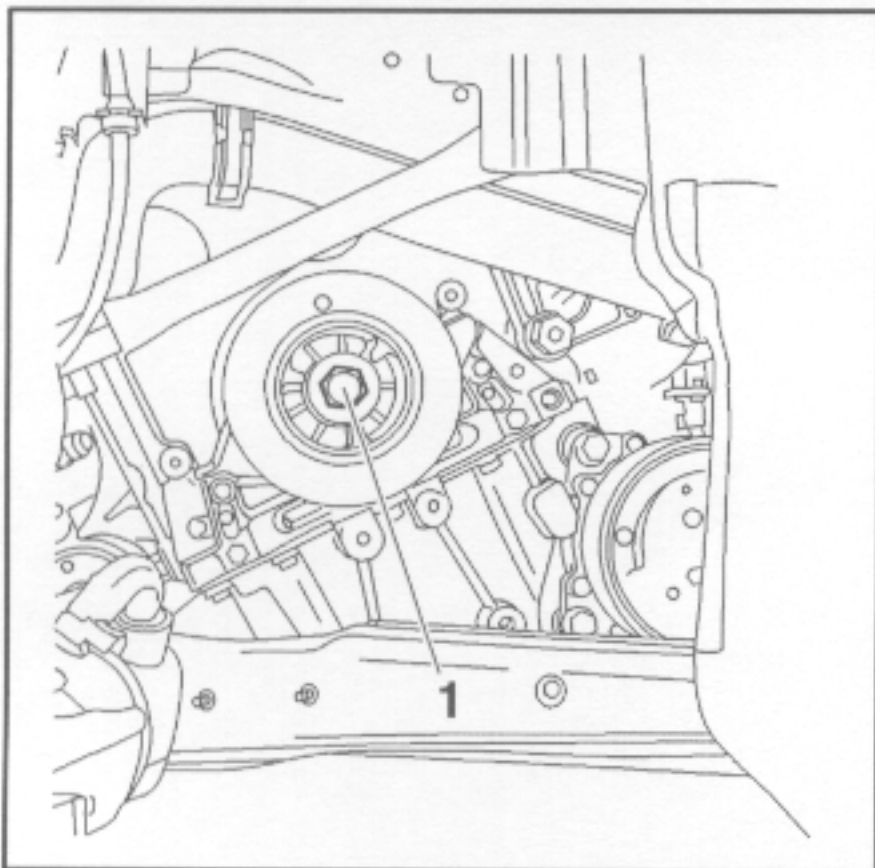


Fig : B1EP03JC

Extract crankshaft pulley screw (1).

Brush the thread of screw (1).

Refit the crankshaft screw to turn the engine (tighten moderately).

Remove tool [7].

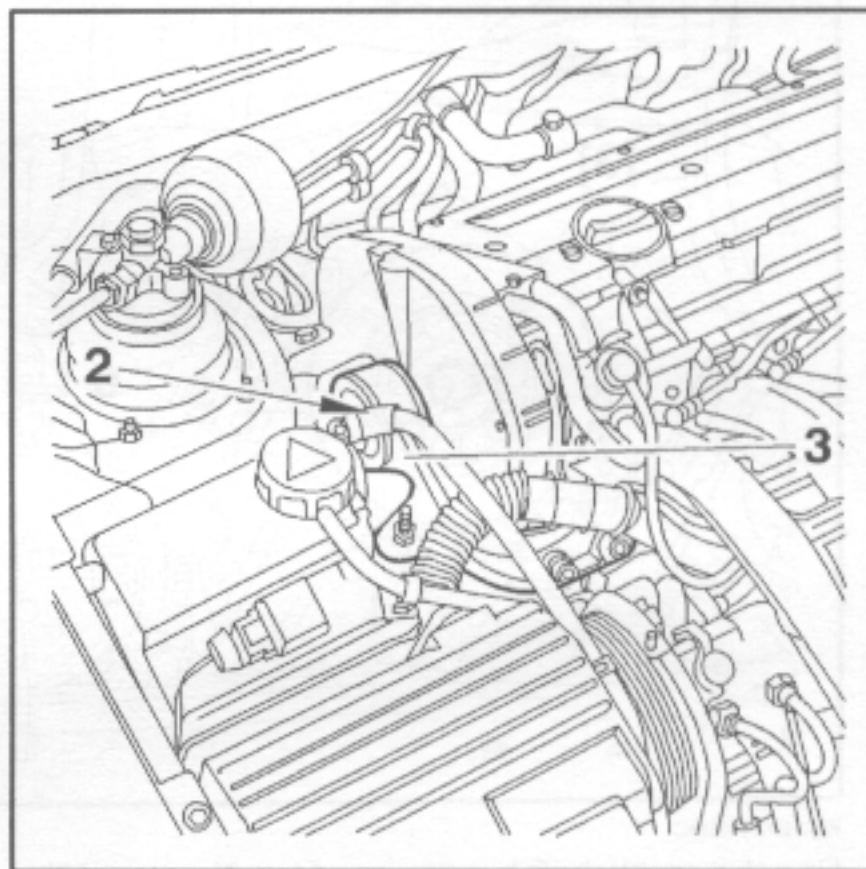


Fig : B1EP03KC

Slacken screw (2).

Remove :

- the engine mounting bracket fixings
- engine mounting bracket (3)

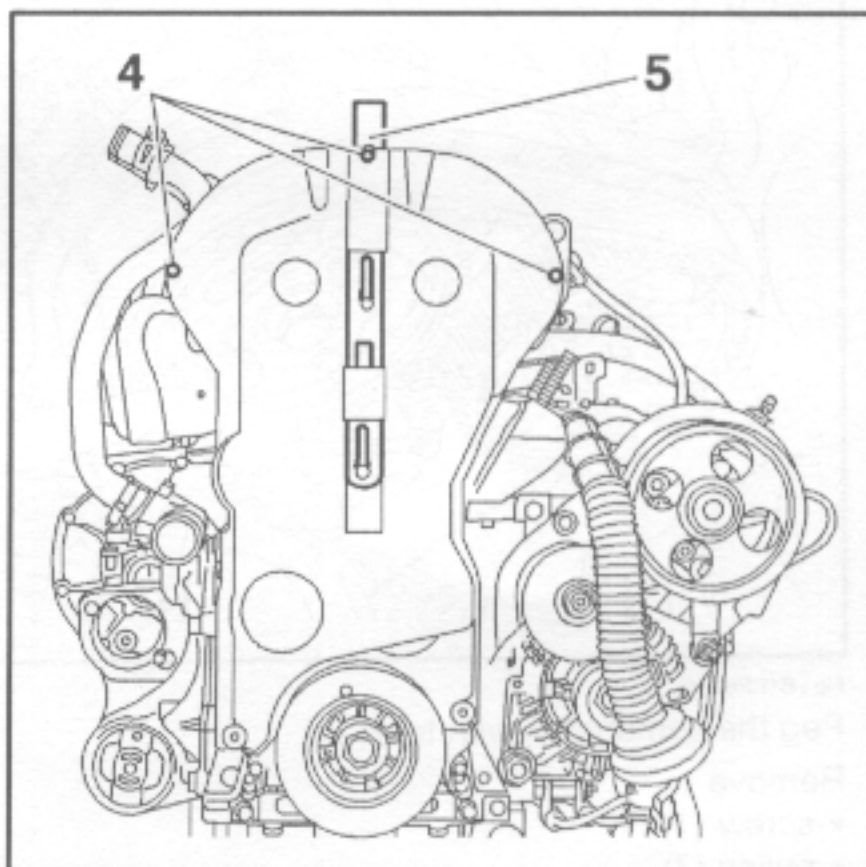


Fig : B1EP03LC

Pull tab (5) upwards to release the pins.

Unscrew the 3 screws (4).

Remove the timing cover.

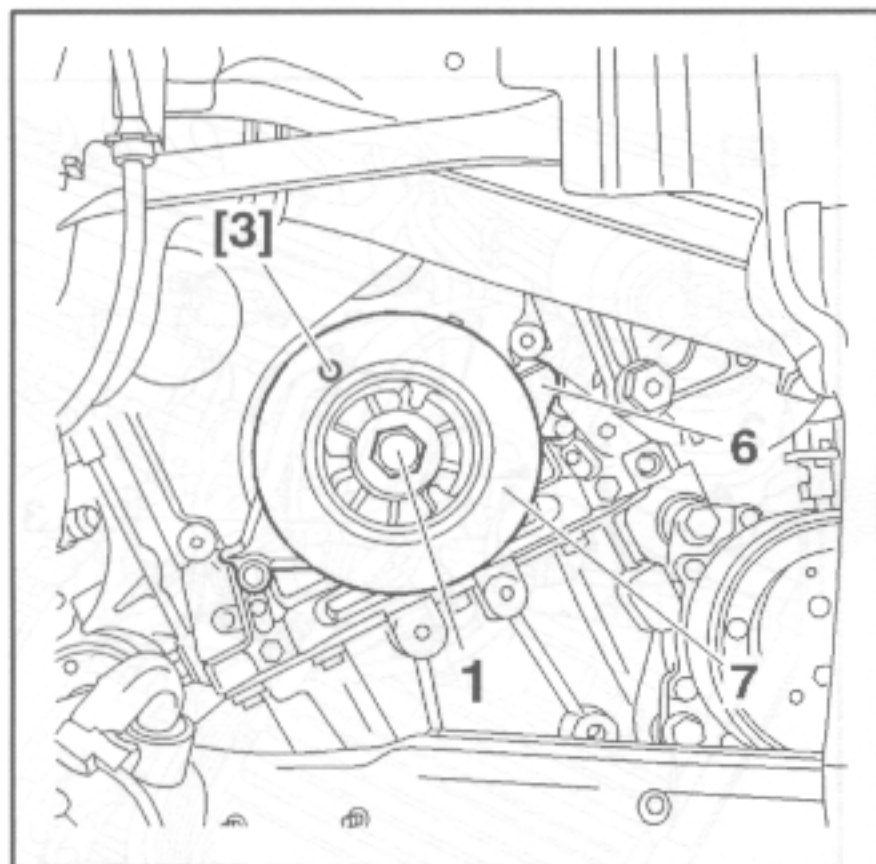


Fig : B1EP03MC

Peg the crankshaft by means of locating peg [3].

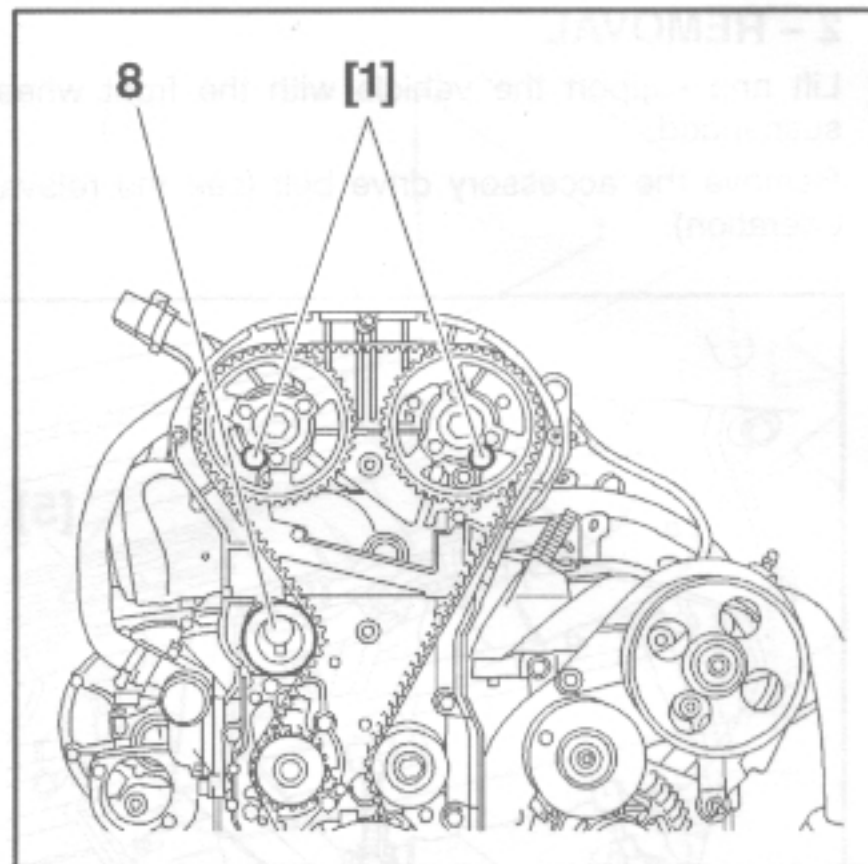


Fig : B1EP03PC

Slacken roller tensioner (8).
Remove the timing gear drive belt.



Fig : B1EP03NC

Peg the camshafts, with tools [1].

Remove :

- screw (1)
- pulley (7)
- lower timing cover (6)

3 – REFITTING

3.1 – Preparation

Loosen the 3 fixing screws of each camshaft pulley.
Make sure that the camshaft pulleys move freely around the hubs.

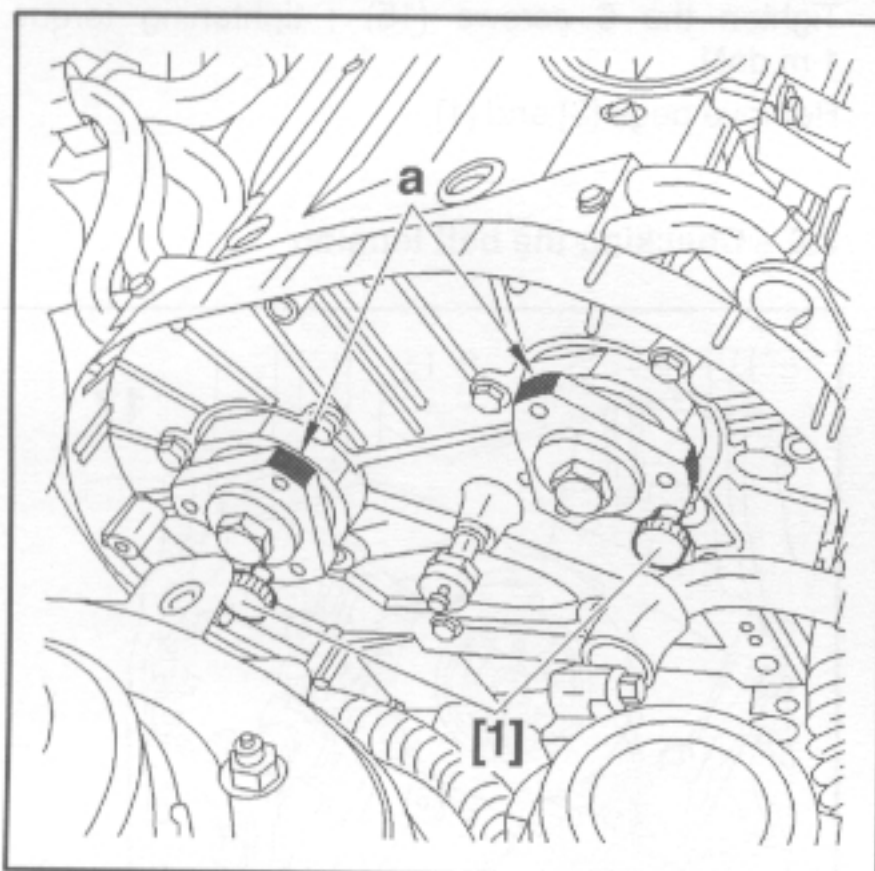


Fig : B1EP03VC

If this is not the case :

- remove camshaft pulleys
- clean the contact surfaces of the camshaft pulleys and hubs (a)

Fit the camshaft pulleys to the hubs, without tightening.

NOTE : The camshaft pulleys are identical. The camshaft hubs are not identical (setting angles).

3.2 – Reinstalling the timing belt

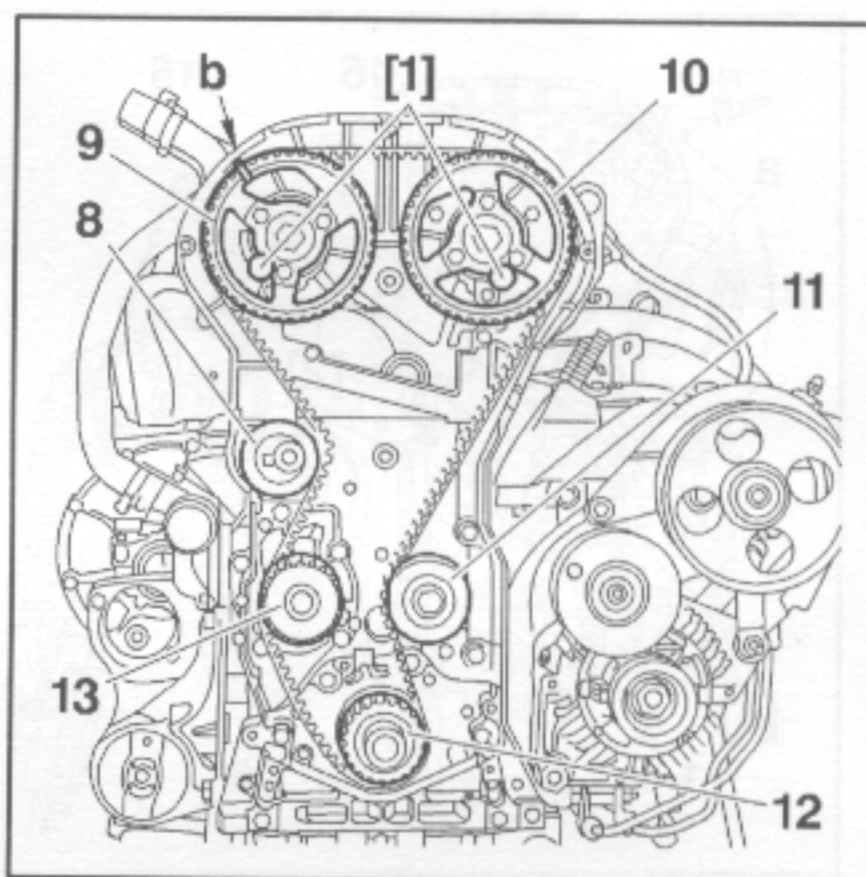


Fig : B1EP03QC

Place the belt over exhaust camshaft pulley (9).
Hold the belt in position by means of a plastic collar at "b".

Wind the belt round :

- inlet camshaft pulley (10)
- guide roller (11)
- crankshaft sprocket (12)
- water pump (13)
- roller tensioner (8)

3.3 – Pre-tensioning the timing belt

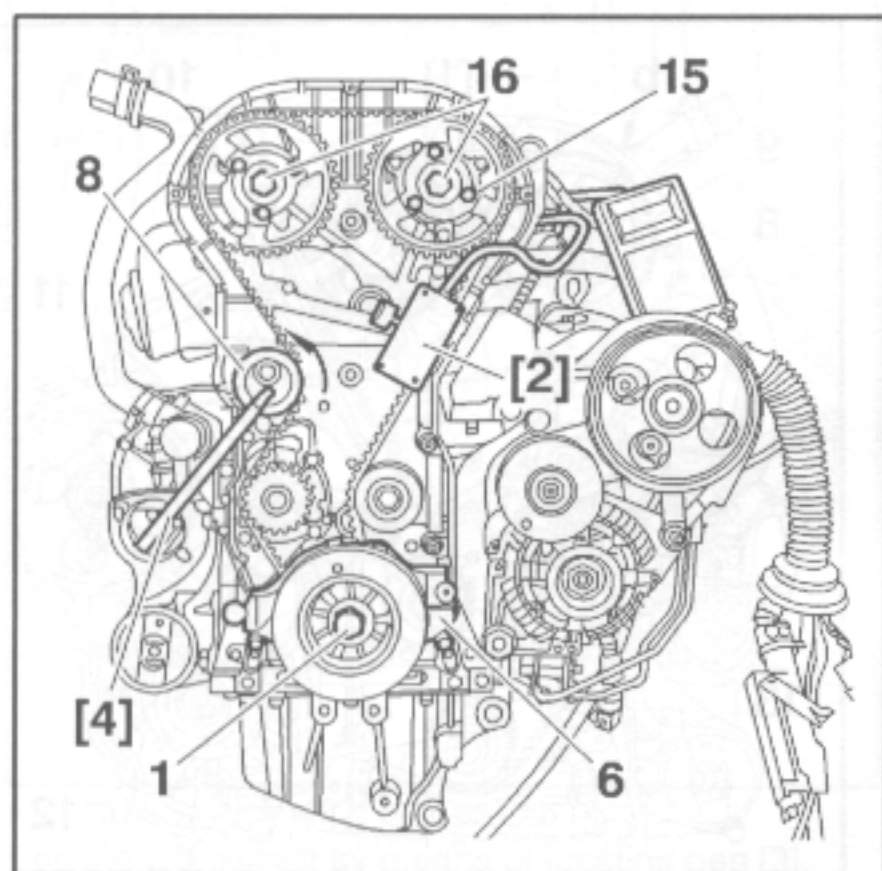


Fig : B1EP03RC

Place instrument [2] on the timing belt, avoiding any stress from the surrounding.

Rotate the roller tensioner with tool [4] to reach a tension of 45 SEEM units (25 daN).

Tighten :

- roller tensioner (8)
- the 6 bolts (15) to 1 mdaN

Remove :

- tool [2]
- timing pegs [1]
- the plastic collar

Position :

- the bottom cover (6)
- the crankshaft pulley
- screw (1) (loctite E6 on threads)

Tightening torque : 12 m.daN.

3.4 – Tensioning the timing belt

Turn the crankshaft 2 turns in the normal direction of rotation.

Peg the crankshaft.

Slacken the 6 screws (15) of the camshaft pulleys.

Peg the camshaft hubs ; if necessary, rotate the camshaft via screw (16).

Operate tensioner (8) to slacken the belt.

Place instrument [2] on the timing belt.

Tension to 26 SEEM units (9 to 10 daN).

Tighten :

- roller tensioner (8) ; tighten to 2 m.daN
- the 6 screws (15)

Remove :

- tool [2]
- pegs [3],[1]

3.5 – Setting the valve timing

Turn the crankshaft 2 turns in the normal direction of rotation.

Peg the crankshaft.

Slacken the 6 screws (15) of the camshaft pulleys.

Peg the camshaft hubs ; if necessary, rotate the camshaft via screw (16).

Tighten the 6 screws (15) ; tightening torque : 1 m.daN.

Remove pegs [3] and [1].

3.6 – Checking the belt tension

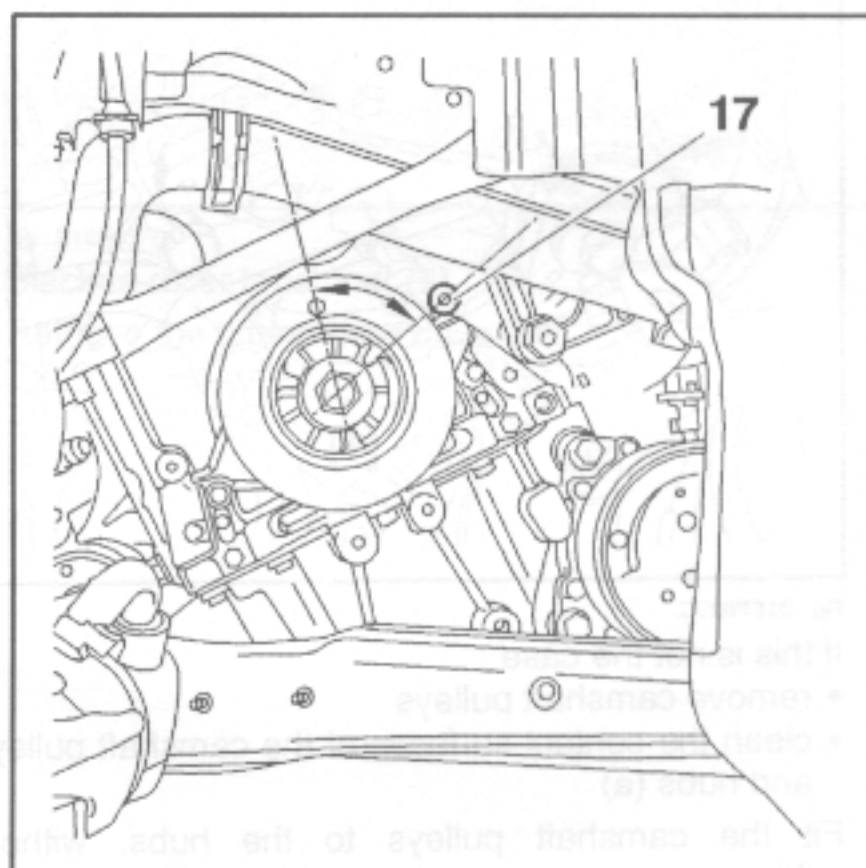


Fig : B1EP03SC

Rotate the crankshaft by a 1/4 turn : bring the timing hole of the pulley opposite support screw (17) of the timing covers ; do not turn backwards.

Place instrument [2] on the timing belt, avoiding any stress from the surrounding.

The tension value should be between 32 and 40 SEEM units (14 to 18 daN). Otherwise : resume the operation from the start.

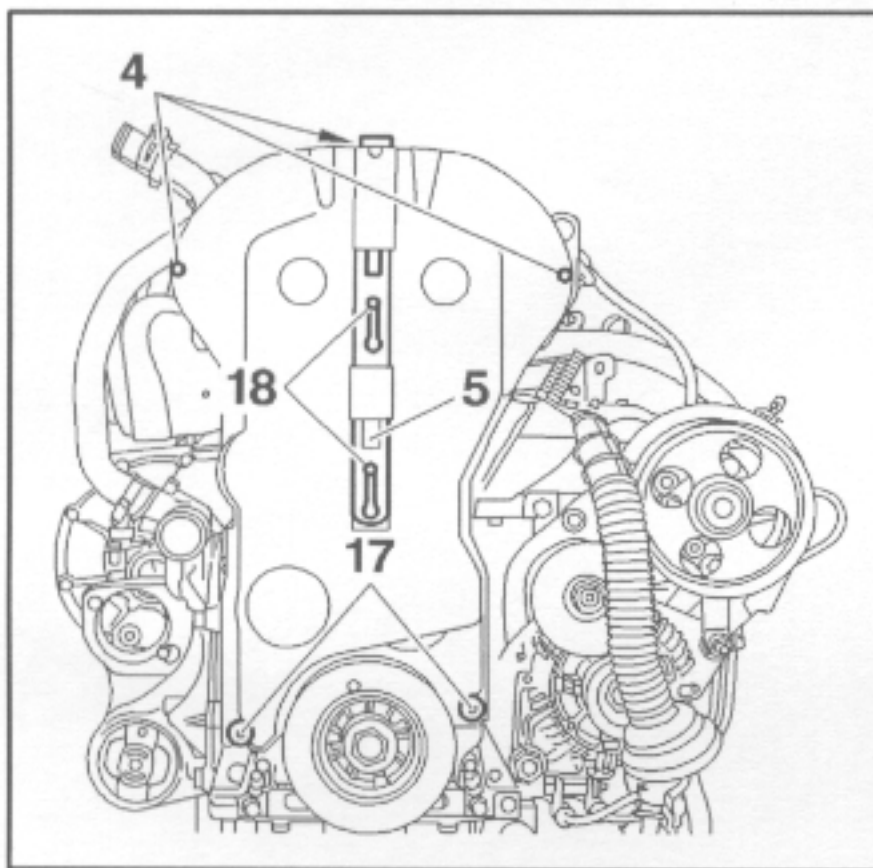


Fig : B1EP03TC

Ensure that the rubber pads are in position on spindles (18).

Put the timing cover on its support screws (17).

Tighten the 3 screws (4).

Exert a pressure in the centre of the timing cover ; lower tab (5) to lock pins (18).

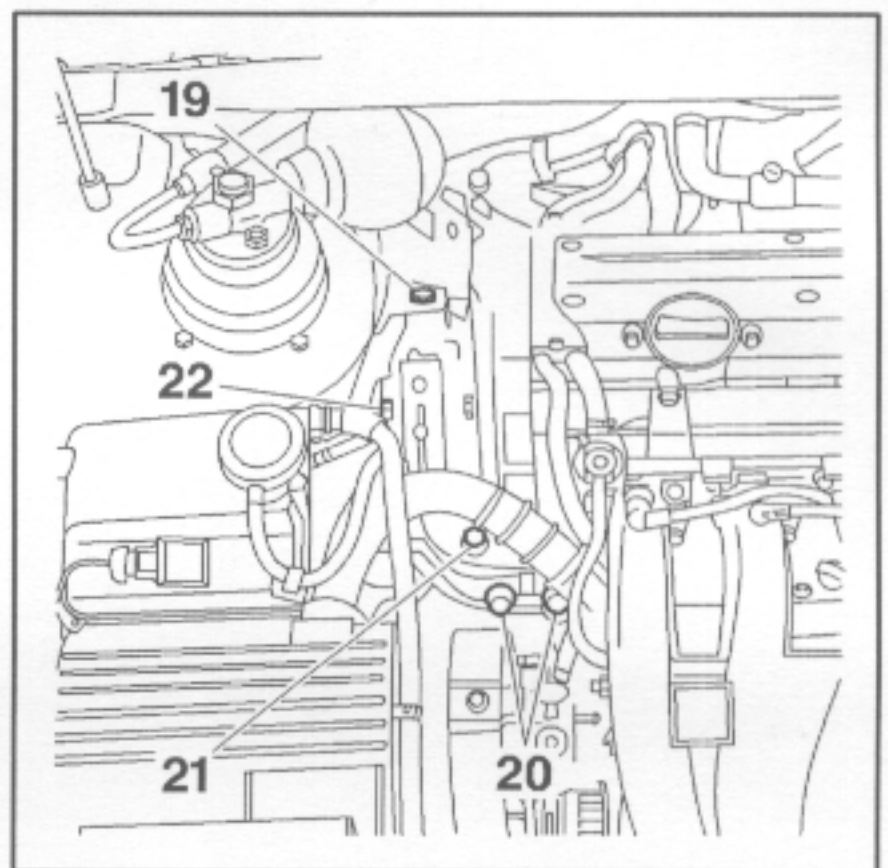


Fig : B1EP03UC

Refit the engine mounting.

Tighten :

- screw (19), the 3 nuts (21) to 4.5 m.daN
- screw (22) to 5 m.daN
- screws (20) to 6 m.daN

Remove support [5].

Position :

- the clutch housing closing plate
- the auxiliary equipment drive belt (see the relevant operation)