



29th SEPTEMBER 1995

ABONNEMENT GME

REF.

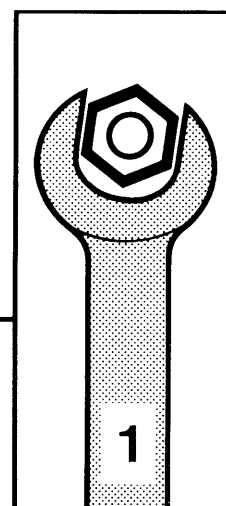
1

No XM 122-00/3

ENGINE XUD 11 BTE

● VALVE TIMING

MAN 158931



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AUTOMOBILES CITROËN
DIRECTION COMMERCE EUROPE
DOCUMENTATION APRÈS VENTE

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VALVE TIMING

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CHECKS : VALVE TIMING

1 - RECOMMENDED TOOLS

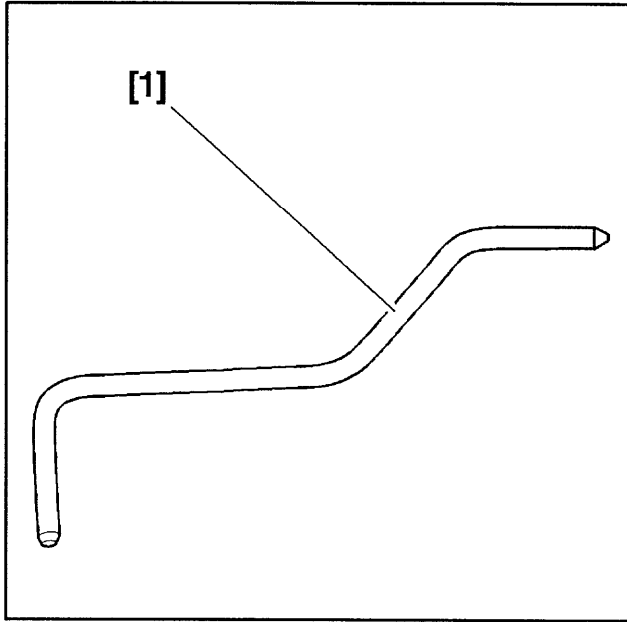


Fig : E5-P01HC
Engine kit : 7004-T.
[1] flywheel locating peg 7014-T.J.

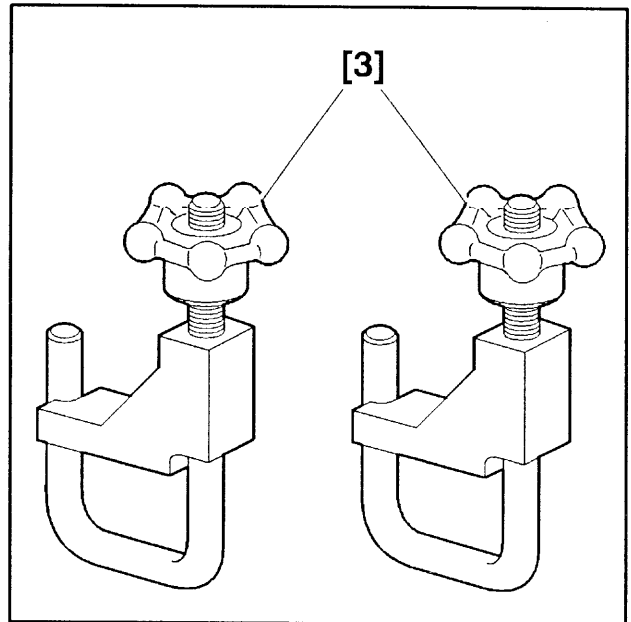


Fig : E5-P08JC
[3] hose clamp (4153-T).

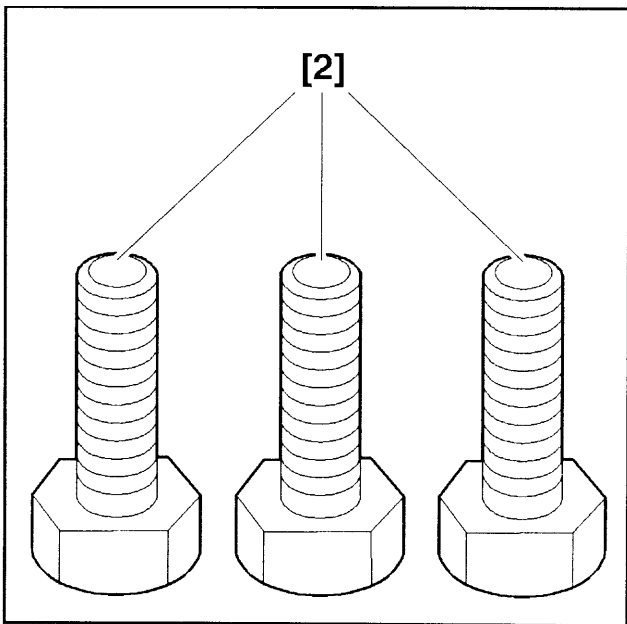


Fig : E5-P09MC
[2] bolt M8x40 : 7004-T.G.

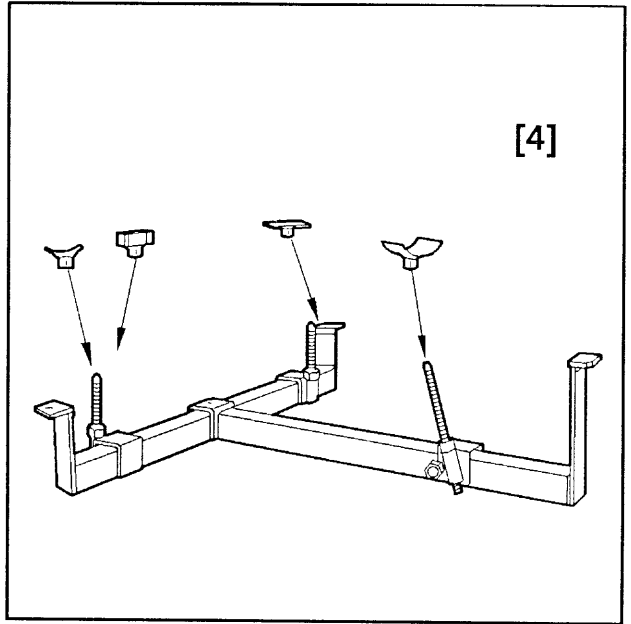


Fig : E5-P087C
Lower support [4] for the engine/gearbox unit, in the vehicle (9026-T).

VALVE TIMING

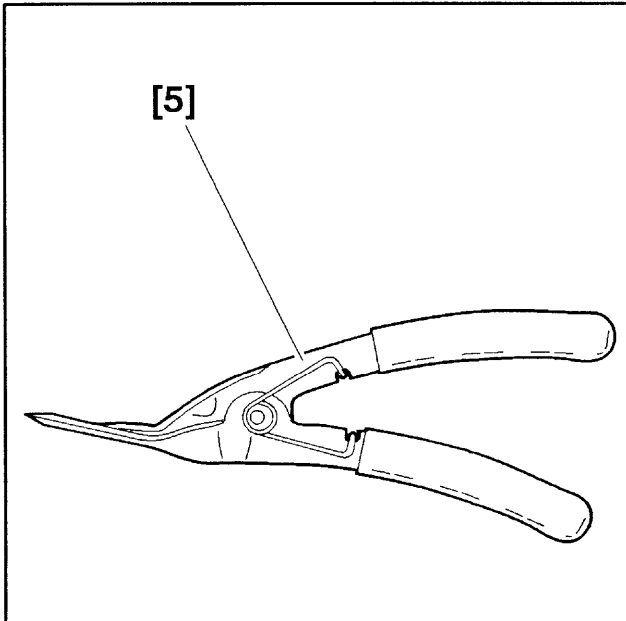


Fig : E5-P10GC

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

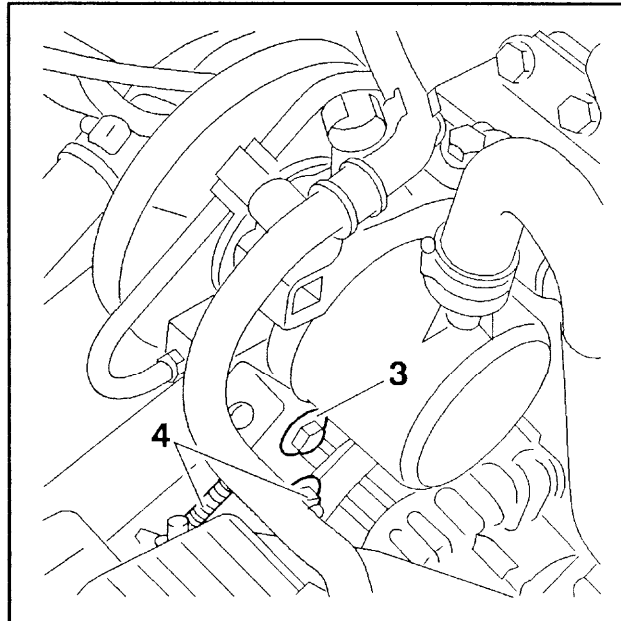


Fig : B1EP052C

Remove belt of high pressure pump (screw (3)).
Remove the alternator belt (nut (4) + screw).

2 – REMOVAL

Disconnect the battery negative terminal.

Engage the 5th gear to enable the engine to be turned.

Raise the front R.H. side of the vehicle and support it on stands.

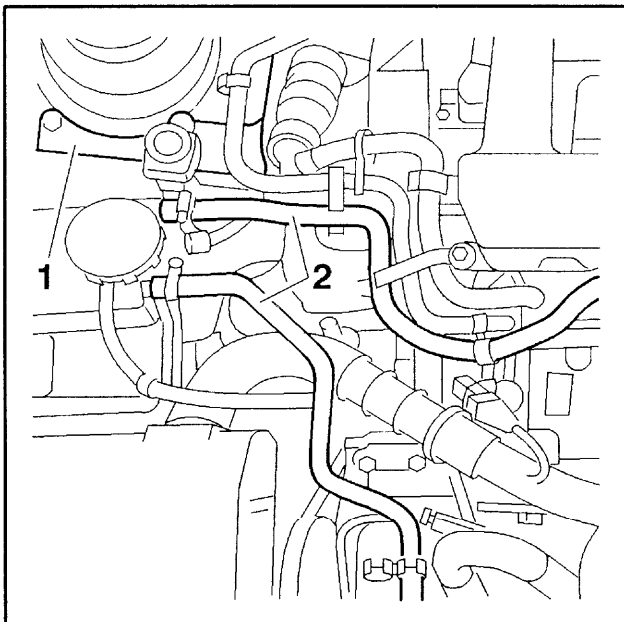


Fig : B1EP051C

Remove :

- the wheel
- the mud shield ; utilising tool [5]
- the sound insulator from under the engine
- the ECU housing (push the ECU and electrical harness aside)
- support (1) of switch with inertia

Uncouple flexible pipes (2) ; utilising tool [3].

Remove Diesel fuel flexible pipes.

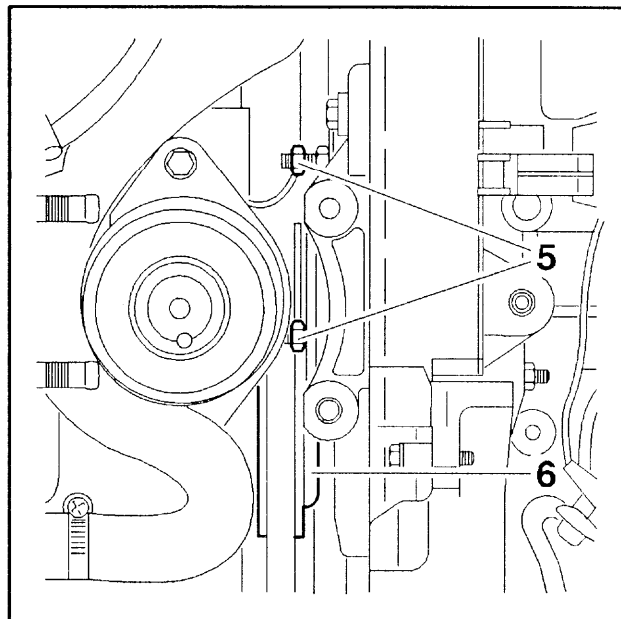


Fig : B1EP045C

Remove :

- the two nuts (5)
- the guide roller (6)

VALVE TIMING

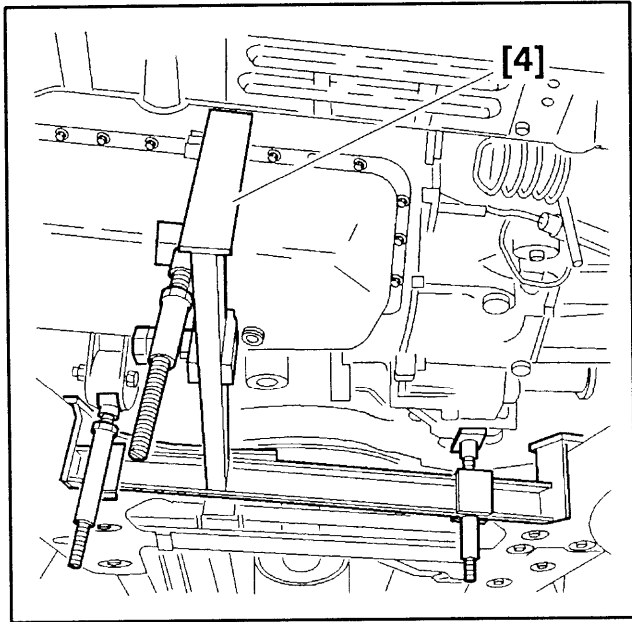


Fig : B1EP043C

Position tool [4] under cradle.

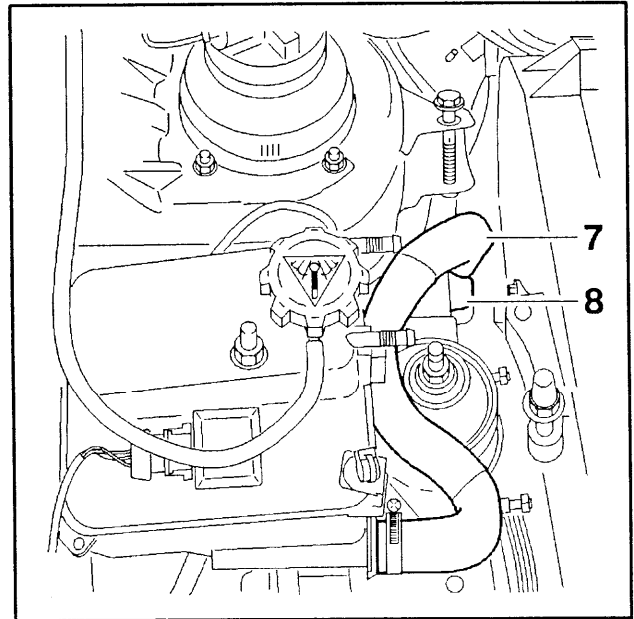


Fig : B1EP046C

Free flexible pipe (7) from clamp (8).

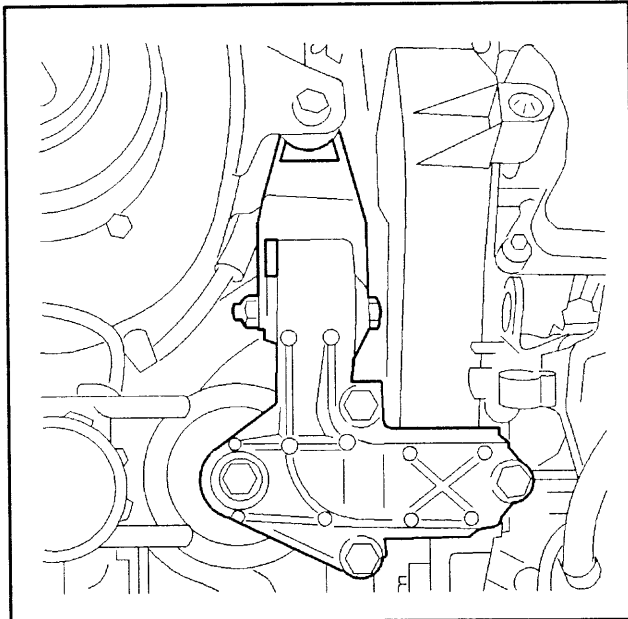


Fig : B1EP055C

Remove the whole engine support bracket.

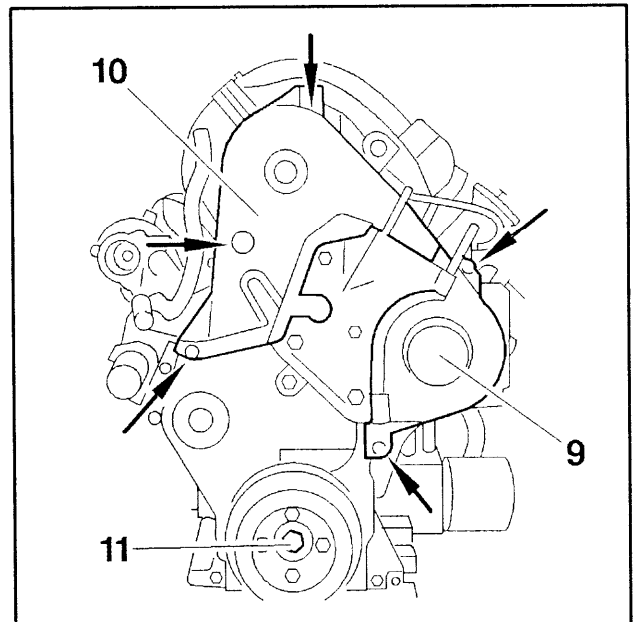


Fig : B1EP057C

Remove :

- the cover (9) (screw ->)
- the cover (10) (screw ->) (pull flexible pipe (7) towards the bulkhead)

3 – CHECKING THE SETTING

Rotate the engine via screw (11). Check if camshaft is in the setting position.

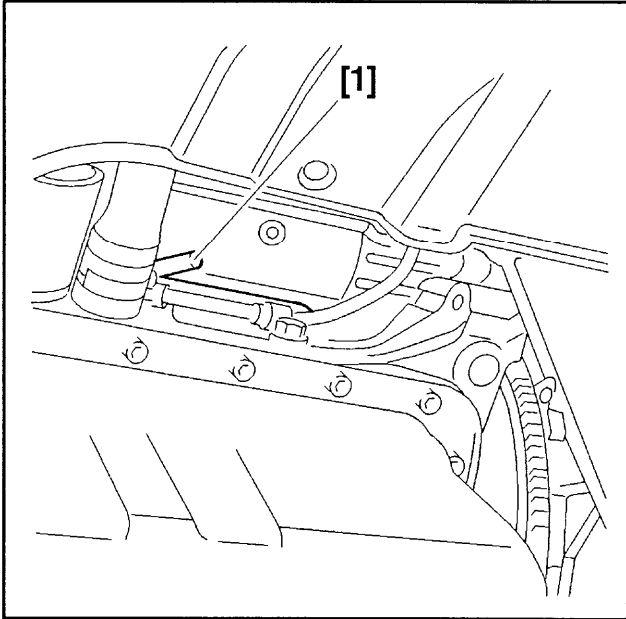


Fig : B1EP058C

Peg the flywheel with tool [1].

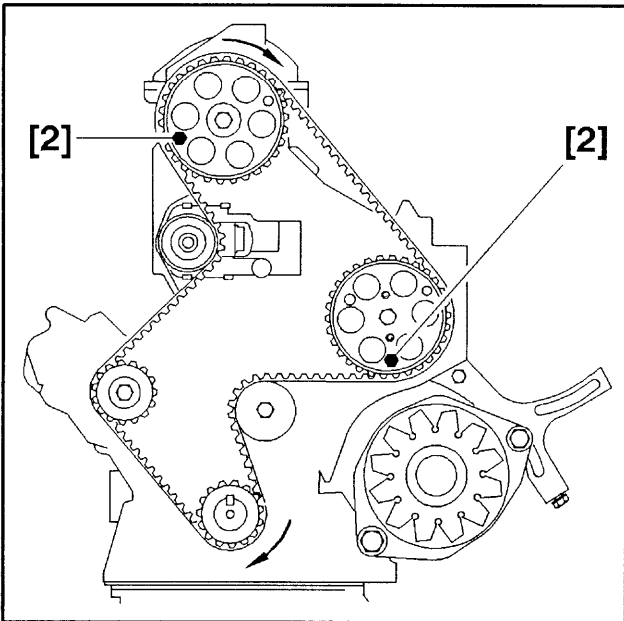


Fig : B1EP059C

Peg :

- the camshaft gear wheel ; utilising tool [2]
- the pinion of injection pump ; utilising tool [2]

If the timing is not correct, repeat the operation (see the relevant operation).

4 – REFITTING

Proceed in the reverse order to removal.

NOTE : Checking belt tension : see the relevant operation.

REMOVING – REFITTING : THE TIMING BELT

1 – RECOMMENDED TOOLS

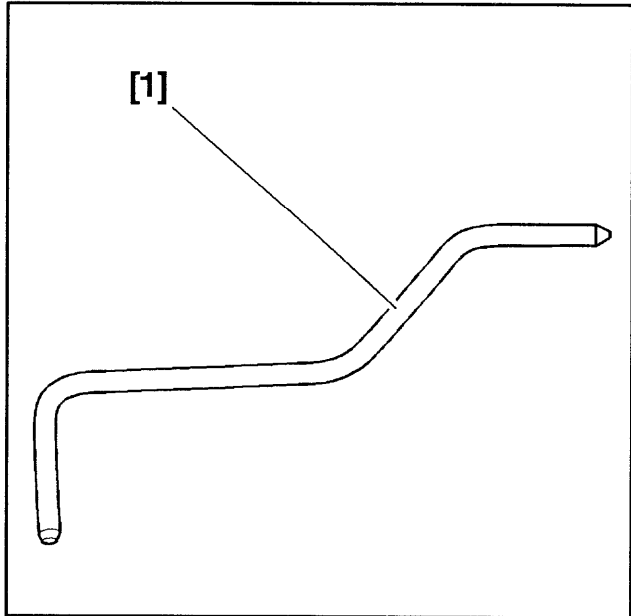


Fig : E5-P01HC

Engine kit 7004-T.

[1] flywheel locating peg 7014-T.J.

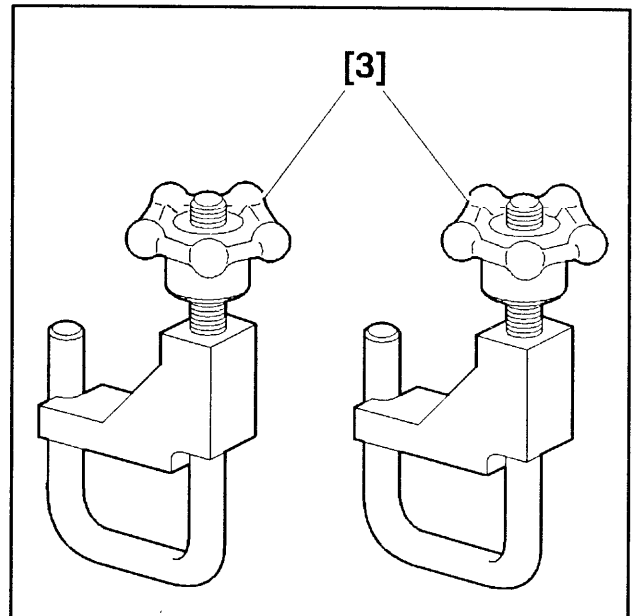


Fig : E5-P08JC

[3] hose clamp (4153-T).

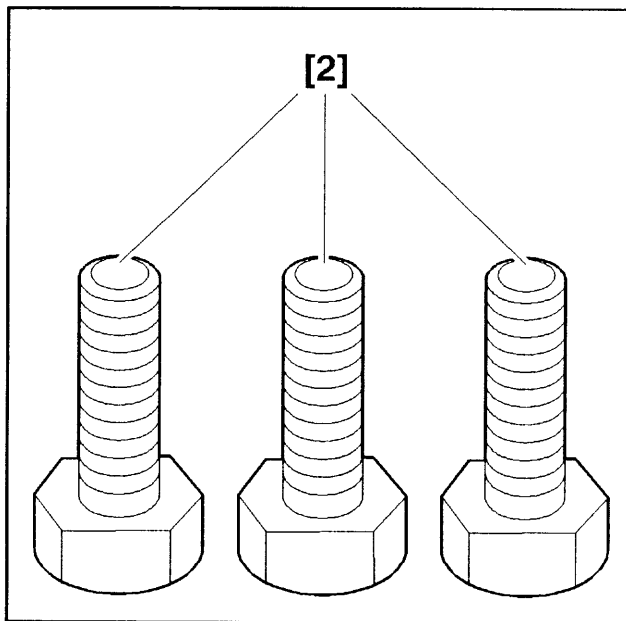


Fig : E5-P09MC

[2] bolt M8x40 : 7004-T.G.

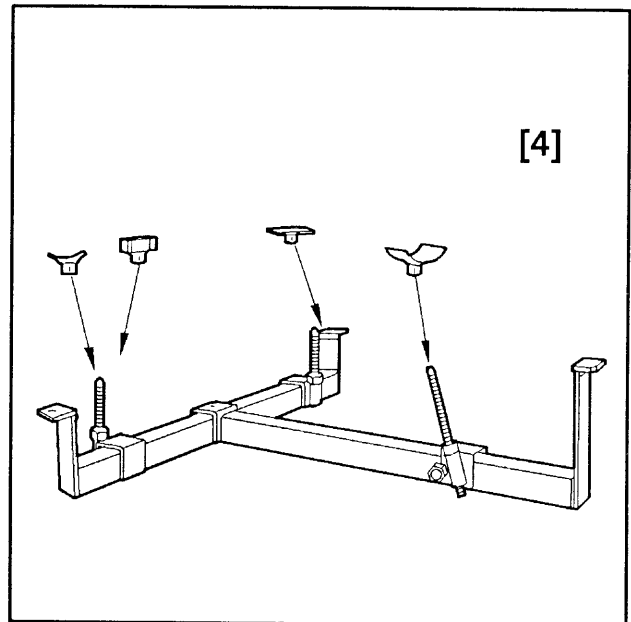


Fig : E5-P087C

Lower support (4) for the engine/gearbox unit, in the vehicle (9026-T).

VALVE TIMING

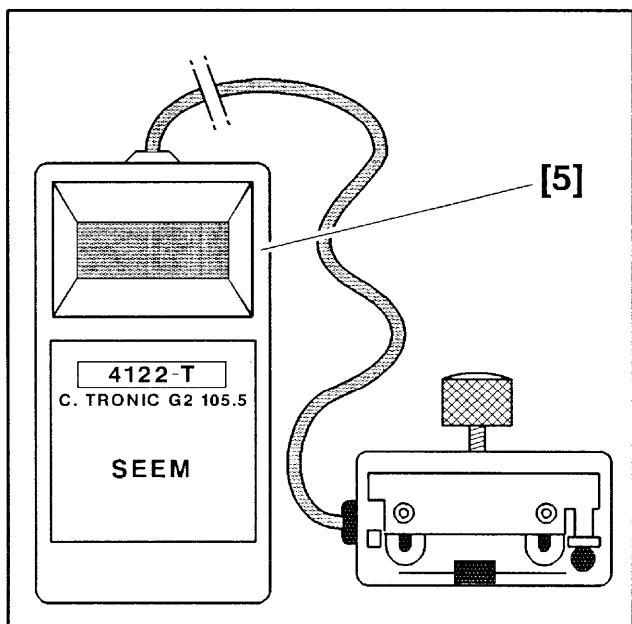


Fig : E5-P03DC
[5] SEEM belt tensioner (C.TRONIC.105.5) 4122-T.

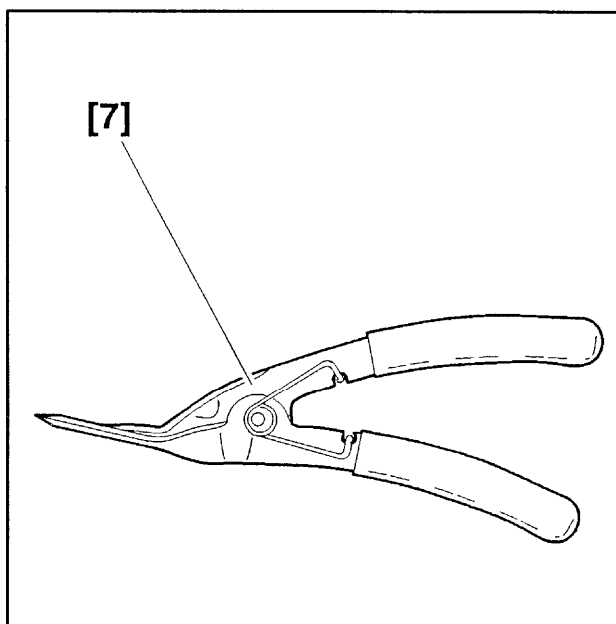


Fig : E5-P09NC
[7] pliers for removing the plastic pegs 7504-T.

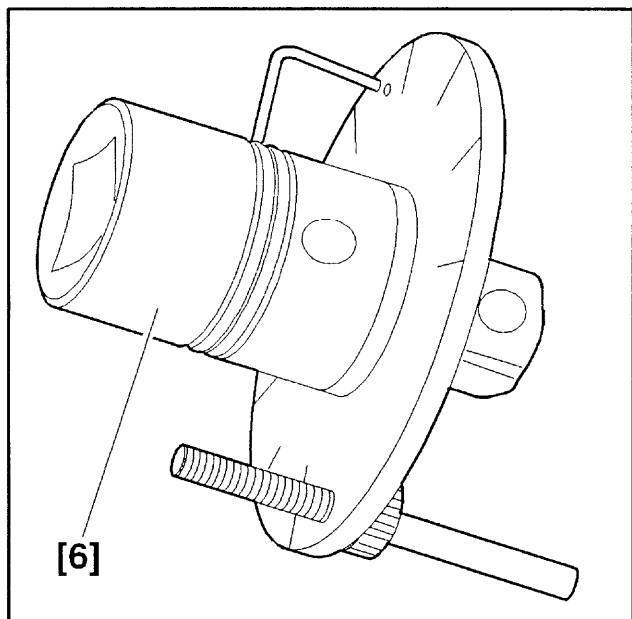


Fig : E5-P04QC
[6] angular torque setting protractor 4069-T.

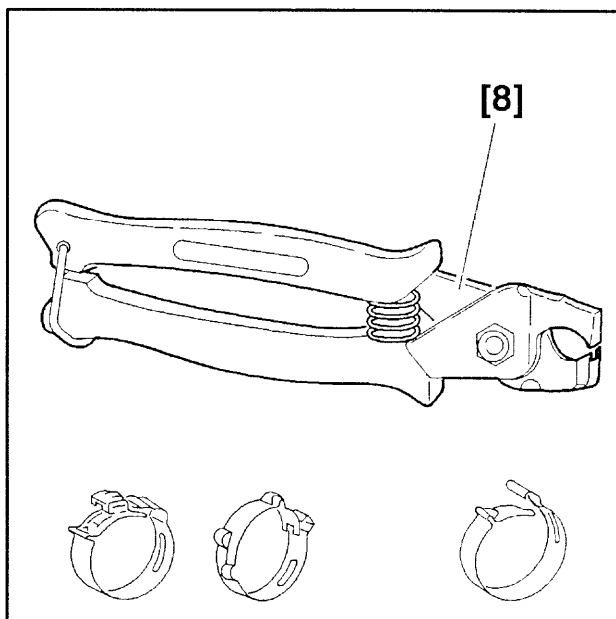


Fig : E5-P09PC
[8] clic clip pliers (4145-T).

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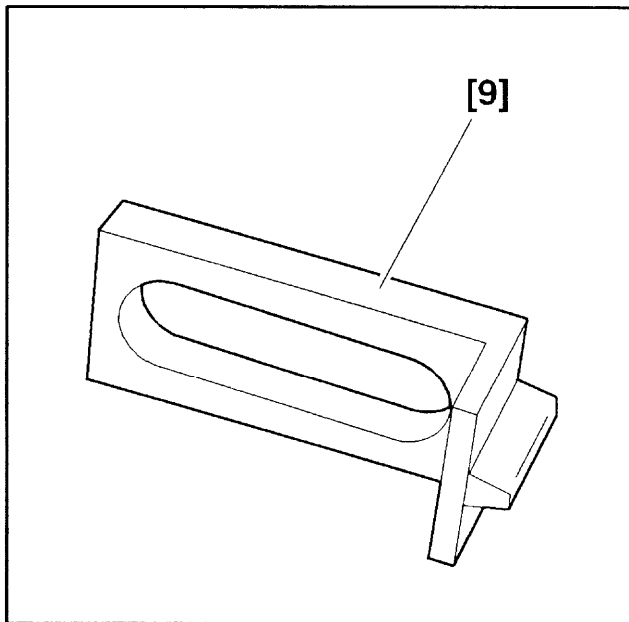


Fig : E5-P10VC

[9] toothed sector for locking the engine flywheel
9044-T.

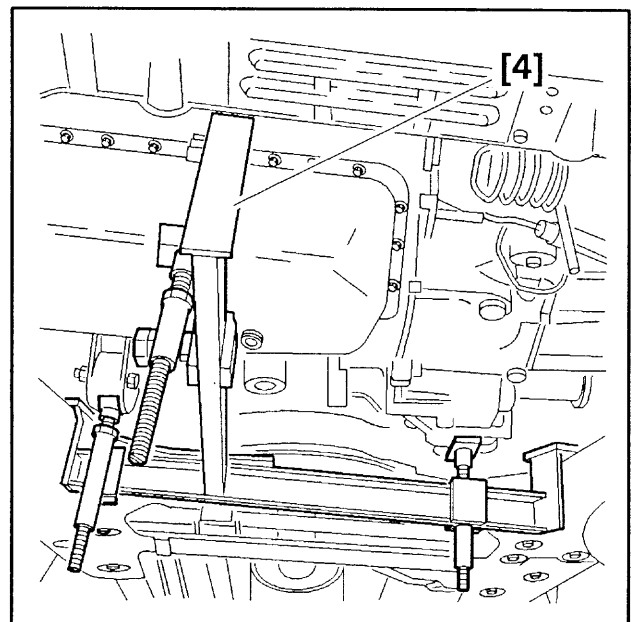


Fig : B1EP043C

Position tool (4) under cradle.
Remove the whole engine support bracket.

2 - REMOVAL

Disconnect the battery negative terminal.
Engage the 5th gear to enable the engine to be turned.
Raise the front R.H. side of the vehicle and support it on stands.

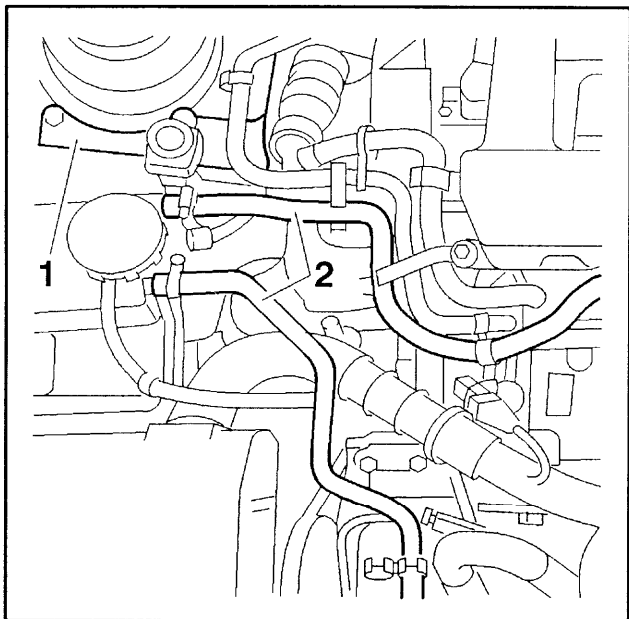


Fig : B1EP051C

Remove :

- the wheel
- the mud shield ; utilising tool [7]
- the sound insulator from under the engine
- the ECU housing (push the ECU and electrical harness aside)
- support (1) of switch with inertia

Uncoupling of flexible pipes (2) ; utilising tool [3].

Remove Diesel fuel flexible pipes.

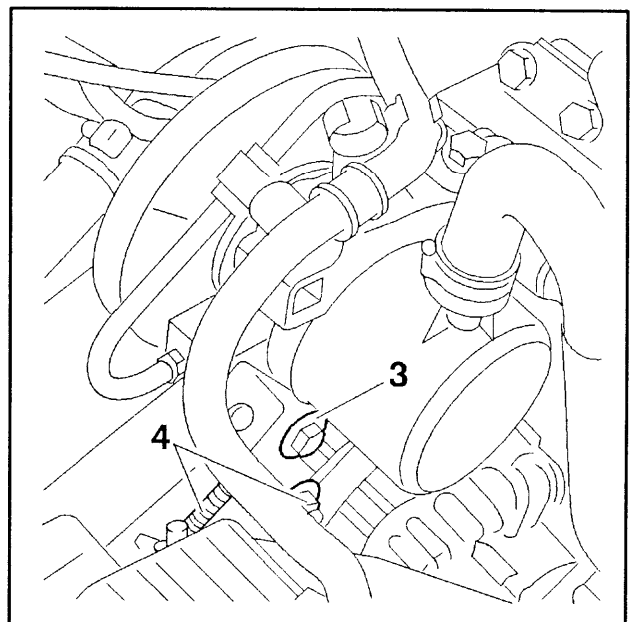


Fig : B1EP052C

Remove belt of high pressure pump (screw (3)).
Remove the alternator belt (nut (4) + screw).

VALVE TIMING

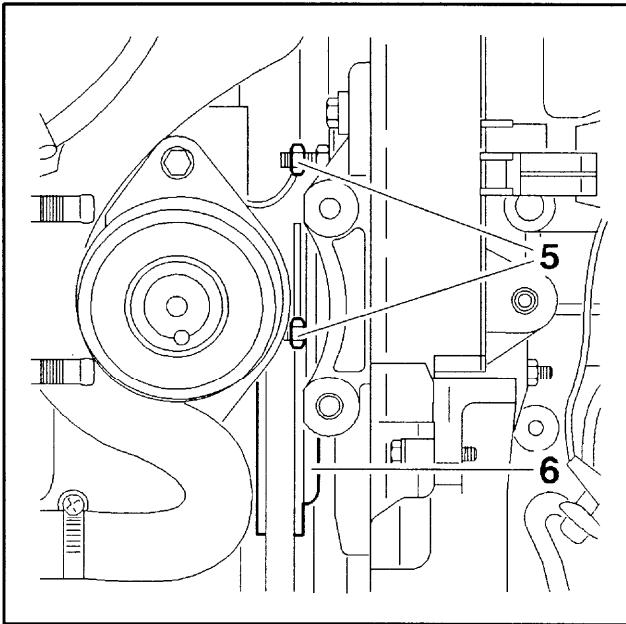


Fig : B1EP045C

Remove :

- the two nuts (5)
- the fluid roller (6)

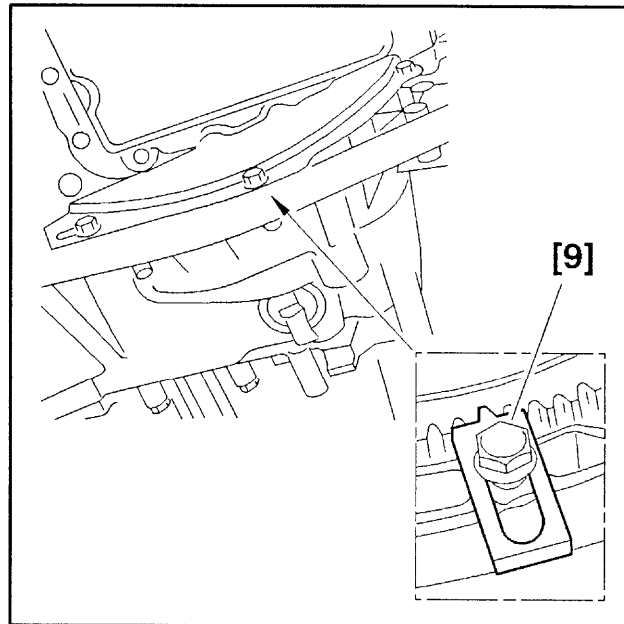


Fig : B1EP05KC

Remove the flywheel protection shield.

Fit the tool [9].

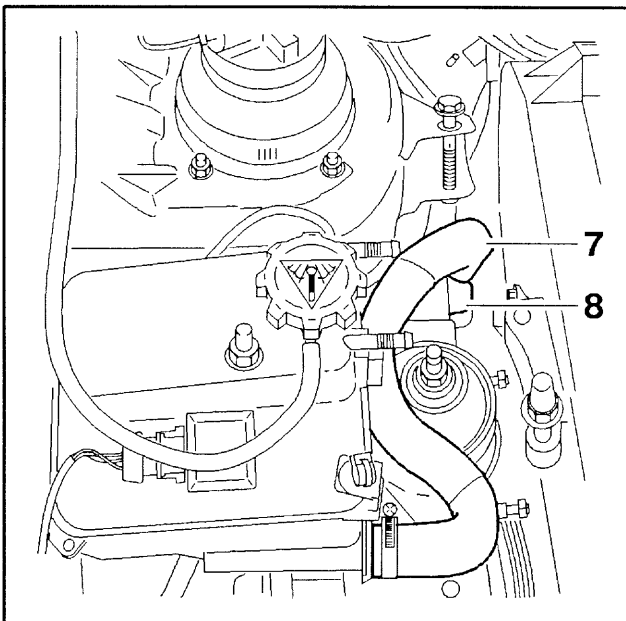


Fig : B1EP046C

Free flexible pipe (7) from clamp (8).

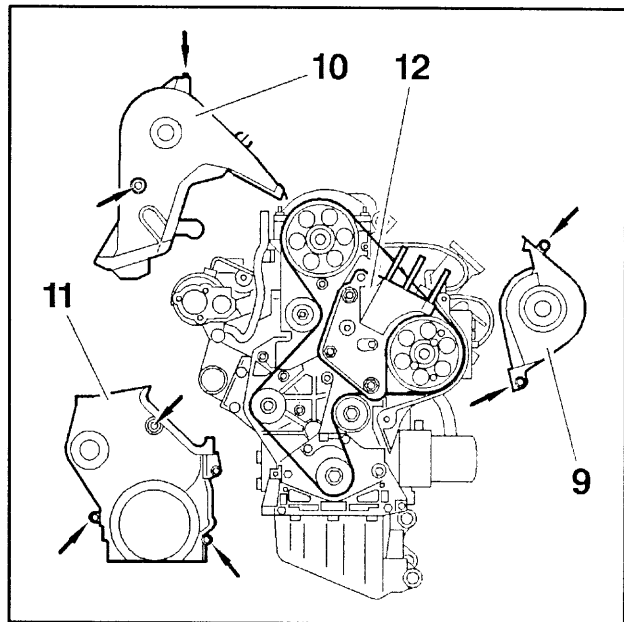


Fig : B1EP047C

Remove :

- the crankshaft pulley fixing screw
- the crankshaft pulley
- the cover (9) (screw ->)
- the cover (10) (screw ->) (pull flexible pipe (7) towards the bulkhead)
- the cover (11) (screw ->)
- the lower engine mounting (12)
- tool [9]

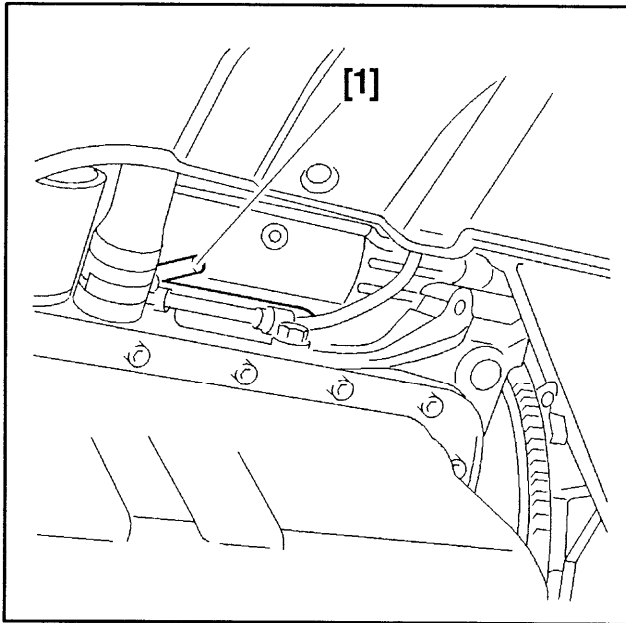


Fig : B1EP058C

Peg the flywheel with tool [1].

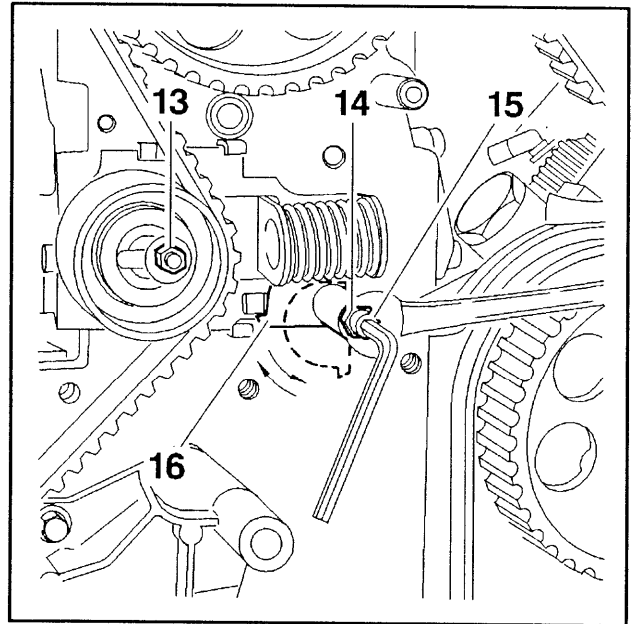


Fig : B1EP04AC

To release the timing belt :

- slacken nut (13)
- slacken the nut (14) and the bolt (15) (5 mm hexagon spanner ; 10 mm open-end spanner)
- act upon the eccentric of roller tensioner (16). Tighten the nut (13)

Remove the timing gear drive belt.

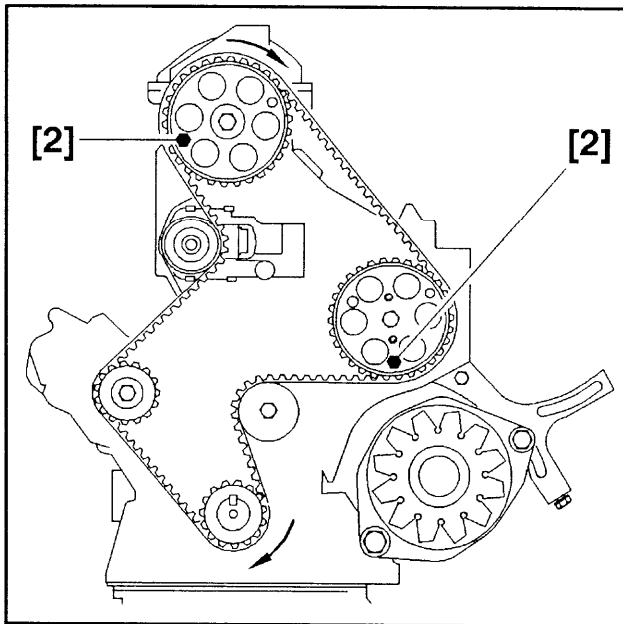


Fig : B1EP059C

Peg :

- the camshaft gear wheel ; utilising tool [2]
- the pinion of injection pump ; utilising tool [2]

3 – REFITTING

Install the timing belt ; observing the correct tightening order, over :

- the pinion of injection pump ; belt run without slack
- the guide roller ; engage the belt by half a width
- the crankshaft sprocket
- the water pump
- the camshaft gear wheel ; engage the belt by half a width
- the roller tensioner ; engage the belt by half a width

Align the belt onto the various pinions.

Remove the three locating pegs.

Slacken nut (13).

Carry out 2 turns with crankshaft and stop at the point where it would be possible to engage the locating pegs (without inserting them).

IMPERATIVE : Never turn backwards.

Tighten the nut (13) : tightening torque = 1 m.daN.

Carry out 2 turns with crankshaft and stop at the point where it would be possible to engage the locating pegs.

IMPERATIVE : Never turn backwards.

VALVE TIMING

Loosen the nut (13) by 1 turn. Let spring act.

Tighten nut (13) and bolt (15) : tightening torque = 1 m.daN.

Fit the three locating pegs.

NOTE : If one of the rods cannot be fitted, repeat the belt fitting operations.

Remove the three locating pegs.

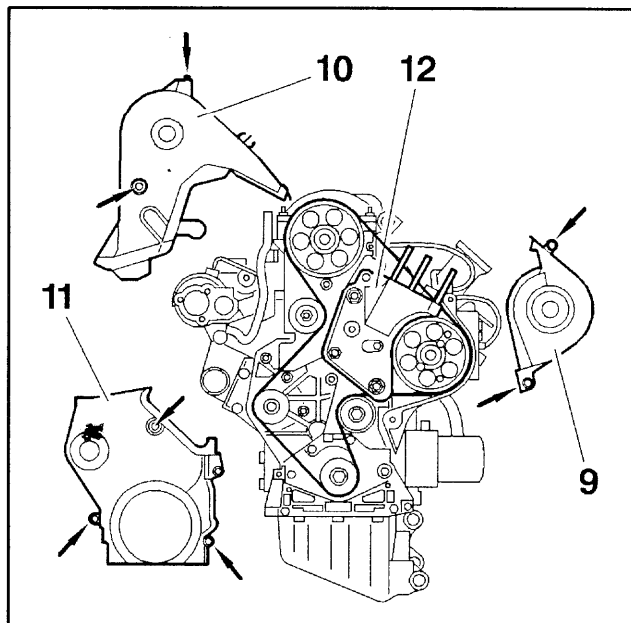


Fig : B1EP047C

Fit :

- the lower engine mounting (12)
- the cover (11) (screw ->)
- the cover (10) (screw ->) (push flexible pipe (7) towards the bulkhead)
- the cover (9) (screw ->)
- tool [9]
- remove the crankshaft pulley (clean the contact surface)

Apply a few drops of LOCTITE FRENBLOC (E6) to the threads.

Tightening sequence :

- crankshaft pulley fixing screw :
pre-tighten to 7 m.daN
- angular tightening of 60°

Remove tool [9].

Fit : the flywheel protection plate.

Insert flexible pipe (7) in clamp (8).

Refit the engine mounting assembly.

Remove tool [4].

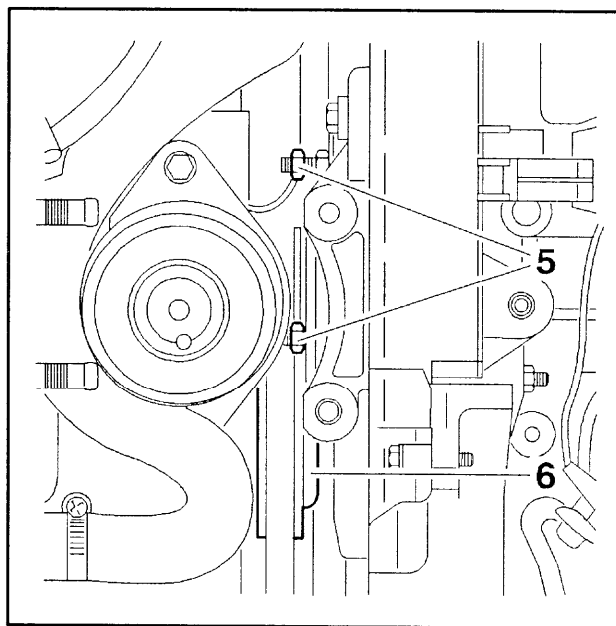


Fig : B1EP045C

Fit :

- the guide roller (6)
- the two nuts (5)

Refit the alternator belt (nut (4) + screw).

Install belt of high pressure pump (screw (3)).

NOTE : Checking belt tension : see the relevant operation.

Locate :

- the Diesel fuel flexible pipes
- the flexible hoses (2)

Fit :

- the ECU housing
- the sound insulator under the engine
- the mud shield
- the wheel

Connect the battery negative terminal.

Return the vehicle to its wheels.