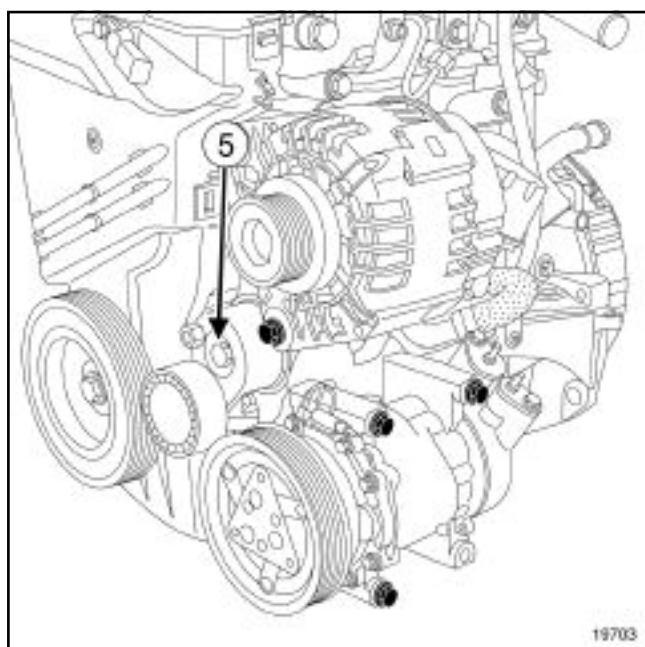


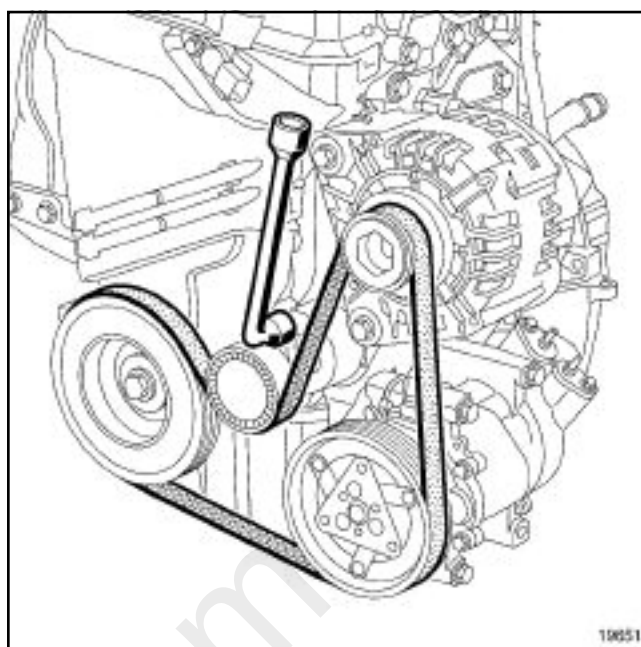


19703

Refit:

- the auto tensioner,
- the auto tensioner mounting bolt (5) .

Tighten to torque the **auto tensioner mounting bolt (40 ± 4 Nm)** .

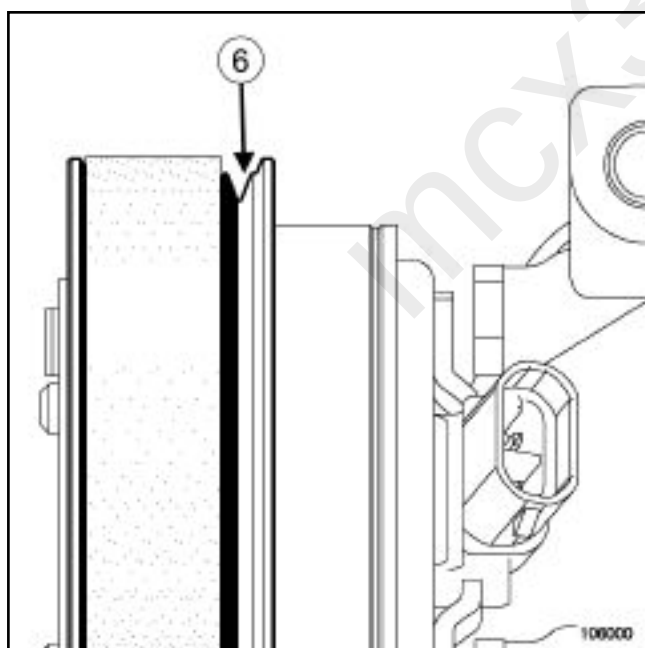


19651

Turn the accessories belt auto tensioner clockwise using a **16 mm** spanner.

Refit the crankshaft accessories belt.

Rotate the crankshaft twice to position the accessories belt correctly.



106000

It is essential to leave one inner tooth (6) of the pulleys free for engines fitted with a belt with five teeth for pulleys with six teeth.

Special tooling required	
Mot. 792-03	Engine support plate for Desvil engine stand
Mot. 1638	Accessories belt tension tool. For engines fitted with a mechanical tensioning roller.
Mot. 1505	Belt tension setting tool (frequency meter)
Mot. 1715	Belt tension checking tool (frequency indicator).
Mot. 1723	Engine support for DESVIL engine support stand.
Mot. 582-01	Flywheel locking tool.
Mot. 1677	Flywheel locking tool.
Emb. 1780	Set of clutch disc centring mandrels.

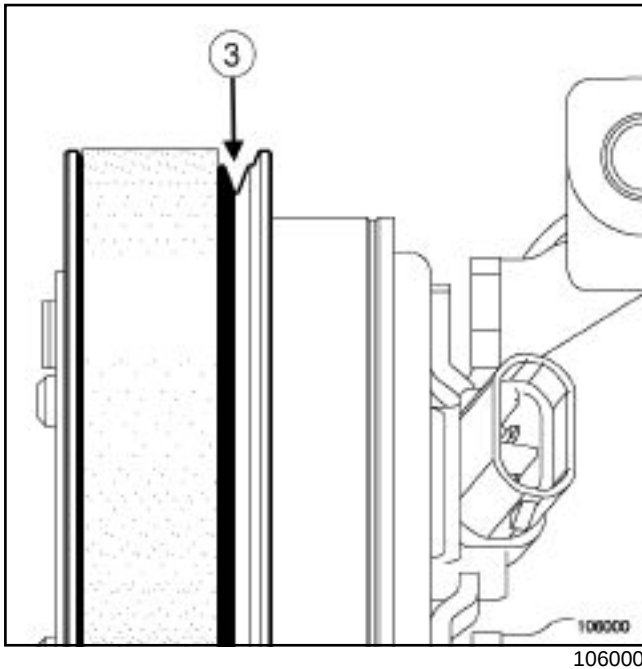
Tightening torques 	
coolant pump inlet pipe mounting bolt	22 ± 2.2 Nm
multifunction support mounting bolts (1 to 6 or 1 to 5)	44 ± 4.4 Nm
multifunction support mounting bolt (7)	21 ± 2.1 Nm
the power-assisted steering pump or dummy pulley mounting bolts	21 ± 2.1 Nm
the air conditioning compressor mounting bolts	21 ± 2.1 Nm
the alternator mounting bolts	21 ± 2.1 Nm
mechanical tensioning roller mounting bolts	35 ± 3.5 Nm
auto tensioner mounting bolt	40 ± 4 Nm

Tightening torques 	
the flywheel mounting bolts	55 ± 5.5 Nm
the dual-mass flywheel mounting bolts	20 ± 2 Nm + 36° ± 6°
clutch pressure plate mounting bolts	M6 bolts to 14 ± 1.4 Nm and M7 bolt to 20 ± 2 Nm

I - RECOMMENDATIONS FOR REPAIR

IMPORTANT

Wear protective gloves throughout the operation.

**WARNING**

Certain accessories belts have five teeth whereas the air conditioning compressor pulley, power-assisted steering pump pulley, and alternator pulley all have six teeth. In this case, it is essential to check that the inner tooth (3) of the pulleys remains free when fitting the accessories belt.

Never turn the engine in the opposite direction to its normal operating direction.

Use a brush to remove any deposits from the crankshaft accessories pulley V grooves.

For engines fitted with a mechanical tensioning roller, it is essential to replace the tensioning roller mounting bolts.

II - PARTS AND CONSUMABLES FOR THE REPAIR**Parts always to be replaced**

- Coolant pump inlet pipe seal,
- Flywheel mounting bolt,
- Accessories belt mechanical or auto tensioner,
- Mechanical tensioning roller mounting bolts with **M8 - 125 X20** bolts, part no. **77 03 002 059**
- Accessories belt.

Consumables

- Degreaser, part no. **77 11 224 559** .

III - ESSENTIAL EQUIPMENT

- Workshop crane,
- Load positioner,
- Brush,
- Offset wrench or tubular hexagon box spanner **16 mm** ,
- Protective gloves,
- Male torx socket,
- Torque/angle wrench,
- Torque wrench
- Cylinder head bolt tightening gauge (angular measuring type).

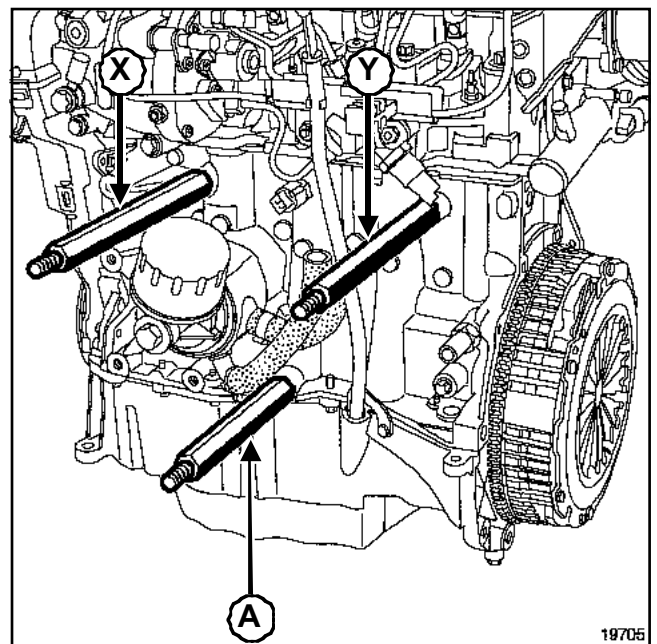
IV - REBUILDING THE ENGINE FOR ENGINES ATTACHED ON SIDE OF OIL FILTER

1 - This fitting operation only concerns K9K 260-270-272-700-702-704-706-710-722-750-752-790 engines.

Fit a load positioner onto the engine lifting eyes.

Remove the engine from the engine stand using a workshop hoist.

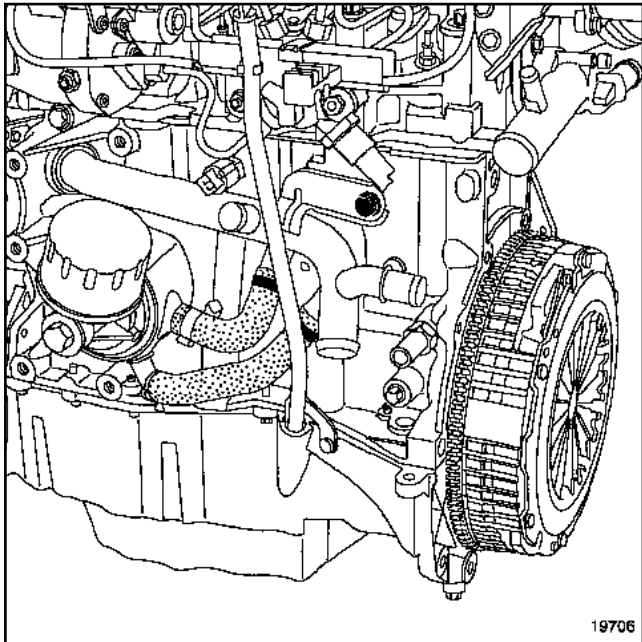
Remove the support plate (**Mot. 792-03**) from the engine.



Remove support studs (A) , (X) and (Y) from the cylinder block.

Refit a new O-ring onto the coolant pump inlet pipe.

Apply a small amount of soapy water to the coolant pump inlet pipe O-ring.

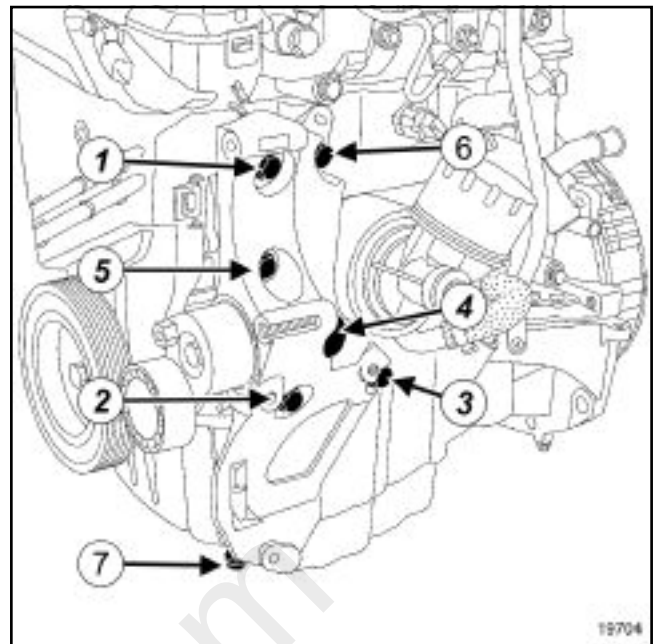


Refit:

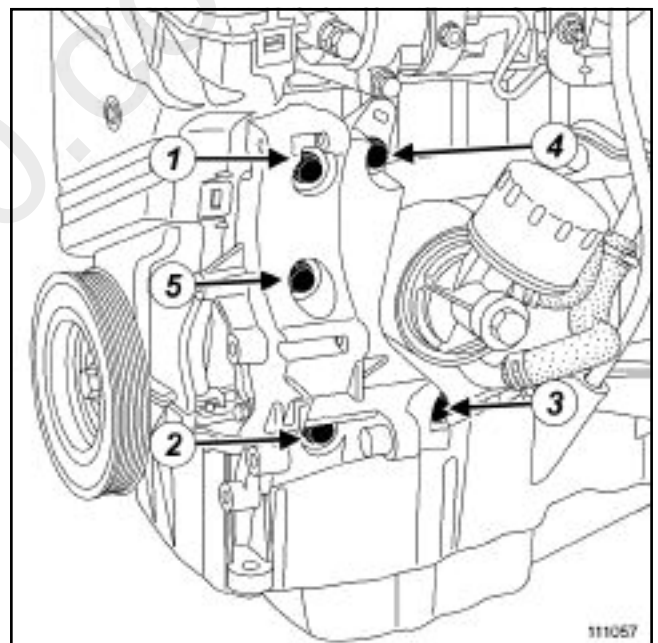
- the coolant pump inlet pipe,
- the coolant pump inlet pipe mounting bolt.

Tighten to torque the **coolant pump inlet pipe mounting bolt** (22 ± 2.2 Nm).

Connect the hoses to the coolant pump inlet pipe.



19704



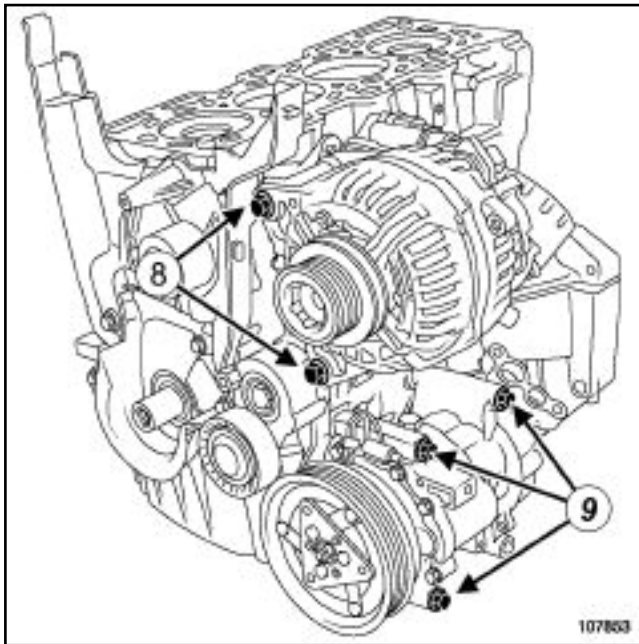
111057

Refit:

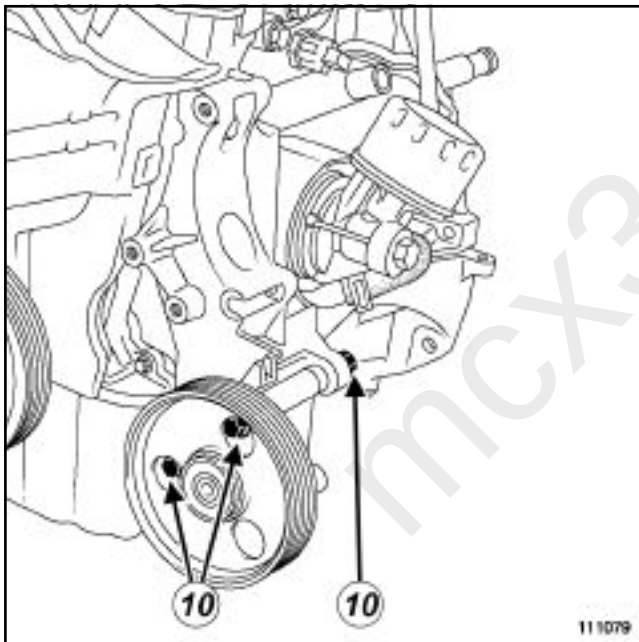
- the multifunction support,
- the multifunction support mounting bolts.

Tighten to torque and in order the **multifunction support mounting bolts** (1 to 6 or 1 to 5) (44 ± 4.4 Nm)

Tighten to torque the **multifunction support mounting bolt** (7) (21 ± 2.1 Nm).



107853



111079

Refit:

- the power-assisted steering pump or dummy pulley,
- the power-assisted steering pump or dummy pulley mounting bolts (10) ,
- the air conditioning compressor (if fitted to the vehicle),
- the air conditioning compressor mounting bolts (9) ,
- the alternator,
- the alternator mounting bolts (8) .

Tighten to torque:

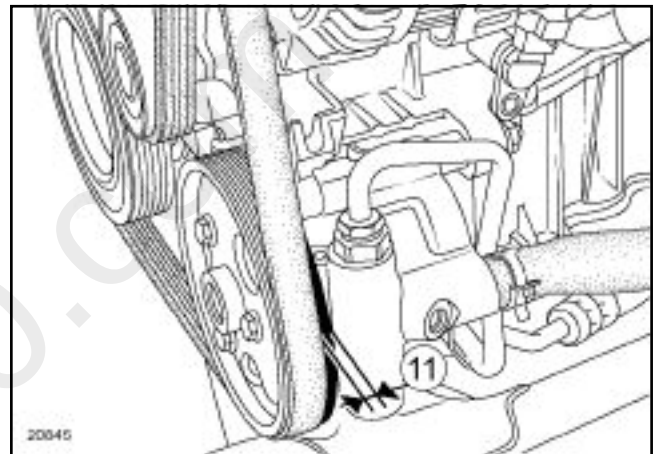
- the power-assisted steering pump or dummy pulley mounting bolts (21 ± 2.1 Nm) ,
- the air conditioning compressor mounting bolts (21 ± 2.1 Nm) ,
- the alternator mounting bolts (21 ± 2.1 Nm) .

2 - Refitting the accessories belt for engines without air conditioning

Use a brush to remove any deposits from the crankshaft accessories pulley V grooves.

Refit:

- the tensioning roller,
- the new tensioning roller mounting bolts.

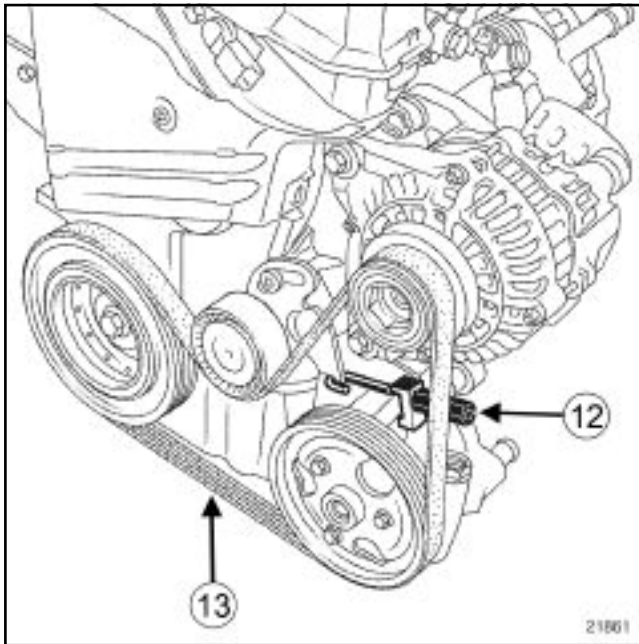


20845

It is essential to leave one inner tooth (11) of the pulleys free for engines fitted with a belt with five teeth for pulleys with six teeth.

Refit the accessories belt.

Check that the two mechanical tensioning roller bolts are not overtightened.



21861

Fit the **(Mot. 1638)** into the tensioning roller notch (as indicated in the diagram).

Put the accessories belt under tension using the **(Mot. 1638)** by tightening nut **(12)** .

Check the accessories belt tension at **(13)** using the **(Mot. 1505)** or **(Mot. 1715)** .

The accessories belt tension must be between **223 to 245 Hz** .

It is essential to turn the engine through two revolutions to position the accessories belt correctly.

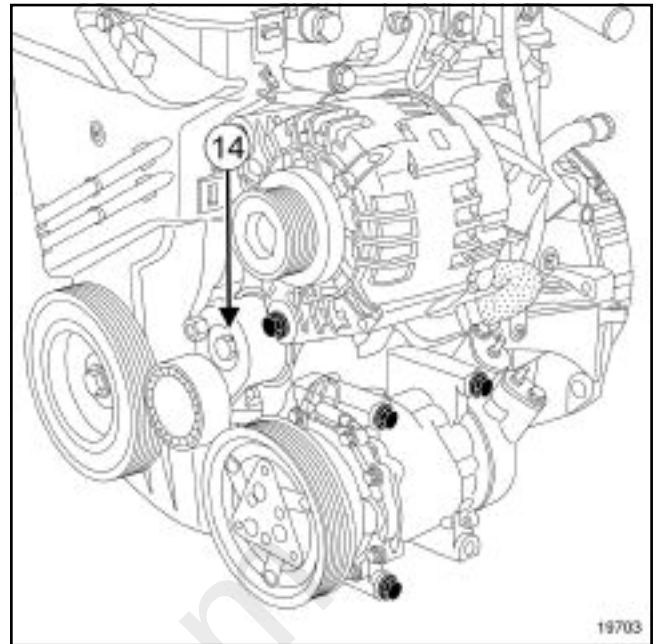
Check that the accessories belt tension is between **223 and 245 Hz** at measuring point **(13)** .

Adjust the accessories belt tension if necessary.

Tighten to torque the **mechanical tensioning roller mounting bolts** ($35 \pm 3.5 \text{ Nm}$) .

3 - Refitting the accessories belt for engines with air conditioning

Use a brush to remove any deposits from the crankshaft accessories pulley V grooves.

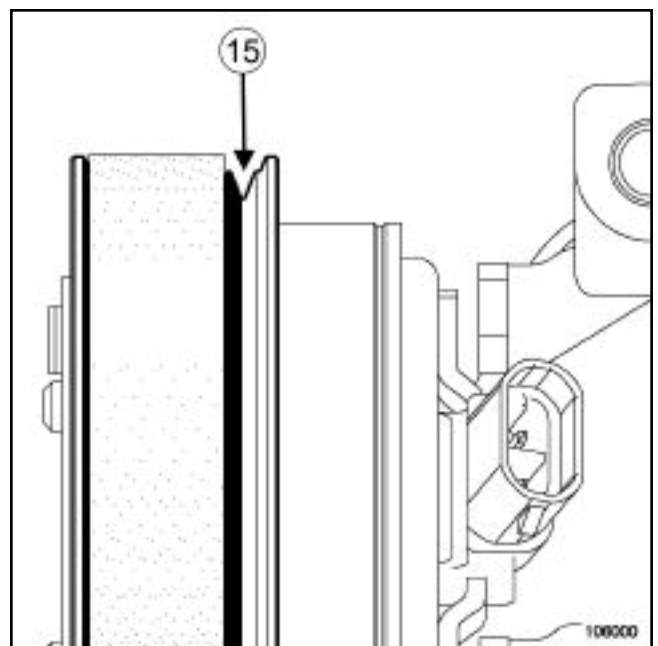


19703

Refit:

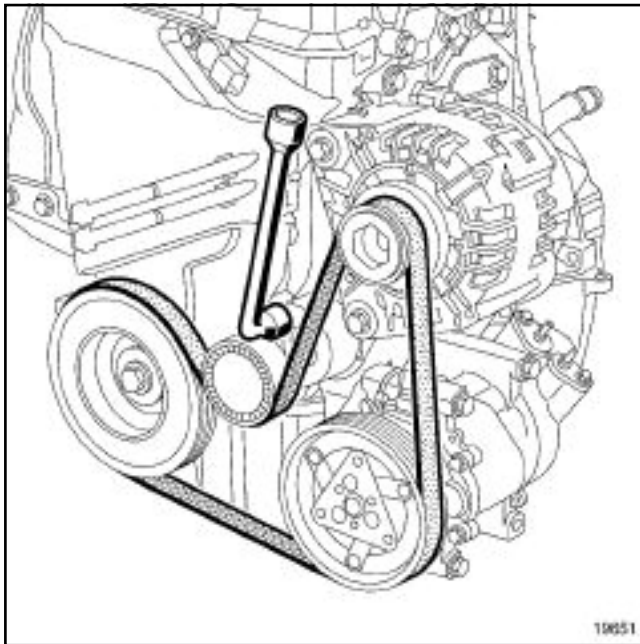
- the auto tensioner,
- the auto tensioner mounting bolt **(14)** .

Tighten to torque the **auto tensioner mounting bolt** ($40 \pm 4 \text{ Nm}$) .



106000

It is essential to leave one inner tooth **(15)** of the pulleys free for engines fitted with a belt with five teeth for pulleys with six teeth.



19651

Turn the accessories belt auto tensioner clockwise using a **16 mm** spanner.

Refit the crankshaft accessories belt.

Rotate the crankshaft twice to position the accessories belt correctly.

V - REBUILDING THE ENGINE ATTACHED TO THE FLYWHEEL END

This fitting operation concerns all K9K engines

Fit a load positioner onto the engine lifting eyes.

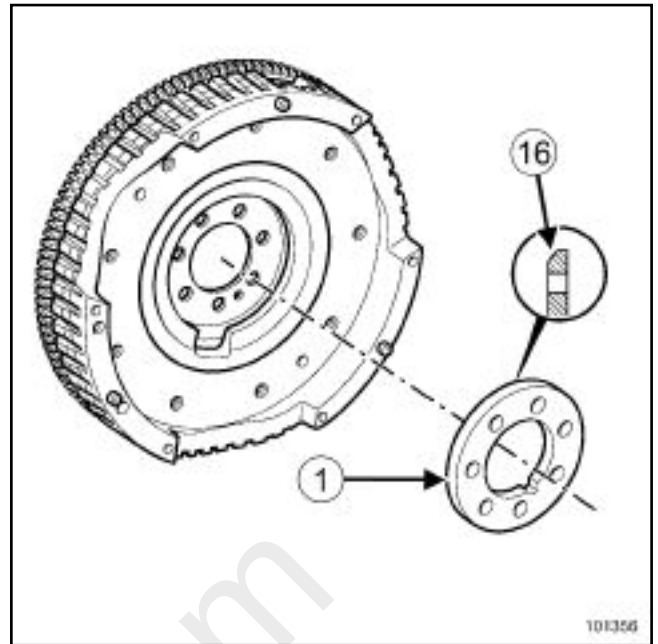
Remove the engine from the engine stand using a workshop hoist.

Remove:

- the engine from the support plate (**Mot. 1723**) ,
- the studs from the cylinder block.

Note:

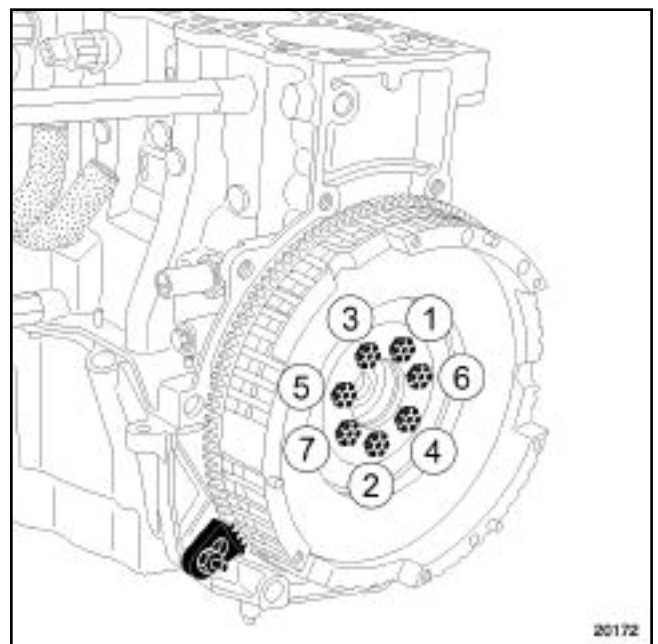
For engines which have a starter located on the exhaust side, the flywheel must only be refitted after the engine has been removed from the engine stand.



101356

Note:

Certain flywheels have a shim (1) . It is essential to position the shim chamfer (16) on the flywheel end .



20172

20172

Refit:

- the flywheel,
- the new flywheel mounting bolts,
- the engine flywheel locking tool (**Mot. 582-01**) or (**Mot. 1677**) .