

NT 06005

VKMA 06212

VKMA 06213

VKMA 06214

Volvo

VKMA 06212



VKMA 06213



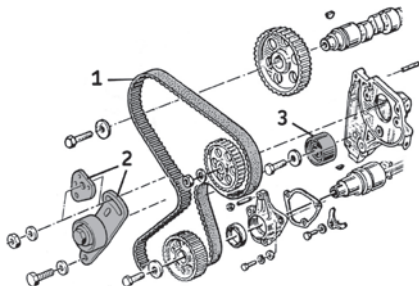
VKMA 06214



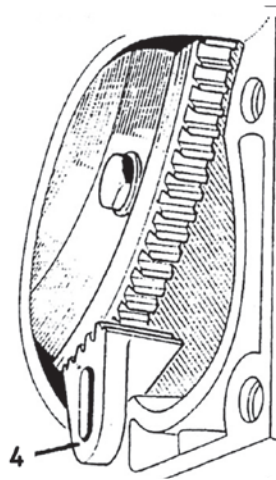
A



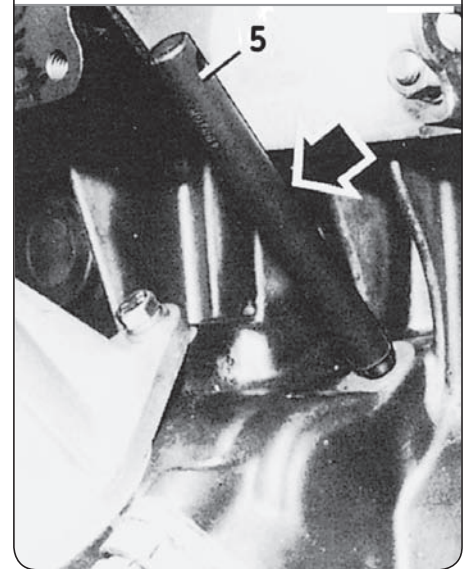
- (4): Flywheel timing tool (REN. Eng. 582).
- (5): TDC gauge \varnothing 8 mm (REN. eng. 861).
- (6): Locking tool (REN. eng. 854).
- (8): Tension controller (REN. eng. 1273).



B



C



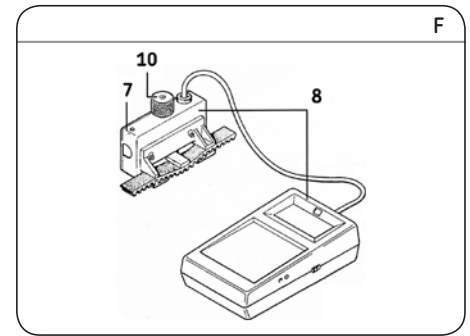
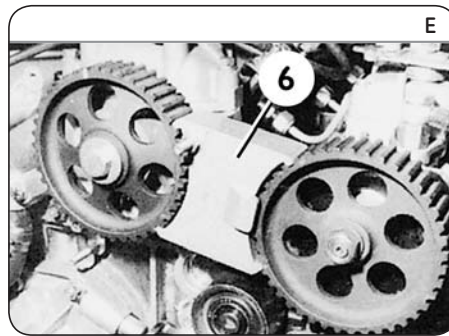
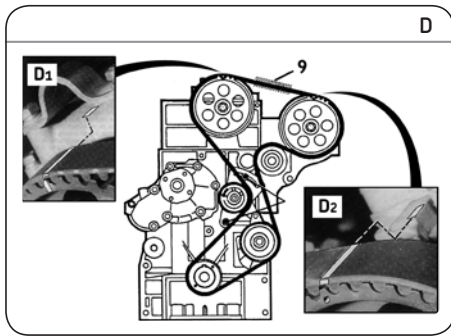
Removal

- 1) Disconnect the battery according to the vehicle manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
- 3) Lock the flywheel using the tool (4) (Fig. B) then release the crankshaft pulley fastening bolt.
- 4) Remove the locking tool (4) from the crankshaft (Fig. B).
- 5) Remove the accessories belts.
- 6) Turn the crankshaft to fit the TDC pin (5) (Fig. C). Ensure it is not inserted in a balancing hole and check the crankshaft does not turn.
- 7) Remove the timing cover.
- 8) Check the timing marks: alignment of the marks on the camshaft sprocket with the cylinder head cover (Fig. D1) and alignment of the marks on the injection pump sprocket and its bracket (Fig. D2)
- 9) Fit the locking tool (6) on the camshaft and injection pump sprockets (Fig. E)
- 10) Loosen the timing belt (1) by untightening the tensioner roller (2).
- 11) Remove the crankshaft pulley, the timing belt (1) and the idler roller (3) (remove roller (3) only when fitting kit VKMA 06212/VKMA 06213).
- 12) Remove the used tensioner roller (2).

Caution: When removing the used tensioner roller, also remove the tappet and its spring (in the cylindrical housing of the water pump). Replace the used tensioner roller by the one supplied in the SKF kit (see roller (2) Fig. A).

Install Confidence





Refitting

Caution! First carefully clean thoroughly the bearing surfaces of the rollers and of the tensioning device.

- 13) Fit the new tensioner roller (2) (Fig. A).
 - 14) Check alignment with the timing marks (Fig. D1 and D2).
 - 15) Fit the idler roller (3) (Fig. A) (fit roller (3) only when fitting kit VKMA 06212/VKMA 06213).
- Caution!** Adjust carefully the position of the idler roller (3) in its fitting hole, in order to prevent it from touching the injection pump bracket and the upper timing cover. Bad adjustment may result in premature damage of the roller.
- 16) Fit the new timing belt (1). Check it is properly tightened between all pinions and sprockets.
 - 17) Adjust tension of the tensioner roller (2) by turning the eccentric to tighten the timing belt.
 - 18) Fit the sensor (7) of the tension controller (8) (Fig. F) on the belt in the zone (9) (Fig. D).

- 19) Turn knob (10) on the sensor (7) (Fig. F) until you hear three "clicks". Depending on type of tension controller.
- 20) Adjust the position of the tensioner roller (2) to a tension of **45 units SEEM** on the tension controller (8) (Fig. F).
- 21) Tighten the bolts securing the tensioner roller (2).
- 22) Remove the TDC gauge (5) (Fig. C) as well as the tools (4) (Fig. B) and (6) (Fig. E).
- 23) Remove the sensor (7) (Fig. F).
- 24) Turn the crankshaft by three turns in the engine rotation direction up to TDC. Turn the crankshaft to fit the TDC gauge (5) (Fig. C).
- 25) Refit the sensor (7) (Fig. F) then check the tension value, which must be **45 units SEEM**. Otherwise, readjust this value using the tensioner roller (2).
- 26) Remove the sensor of the tension controller.
- 27) Check and adjust the timing of the injection pump if required.

- 28) Refit the remainder of the removed elements in the reverse order to removal.
- 29) Fill the cooling circuit with the permanent fluid recommended.
- 30) Check the circuit's leak-tightness when the engine reaches its running temperature and secure the level of coolant when the engine is at ambient temperature (20 °C).

Notice: Always follow the vehicle manufacturer instructions when working on the engine. The SKF KITS are designed for the automotive repair professional and must be fitted using tooling used by these professionals. These instructions are to be used as a guideline only. This document is the exclusive property of SKF. Any representation, partial or full reproduction, is forbidden without prior written consent from SKF.

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