

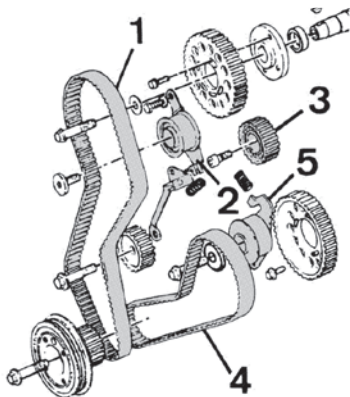
# NT 04005

VKMA 04103 – VKMC 04103-1 –  
VKMC 04103-2 – VKMC 04103-3 –  
VKMA 04106 – VKMC 04106-1 –  
VKMC 04106-2 – VKMC 04106-4

Citroën / Lancia / Fiat / Peugeot

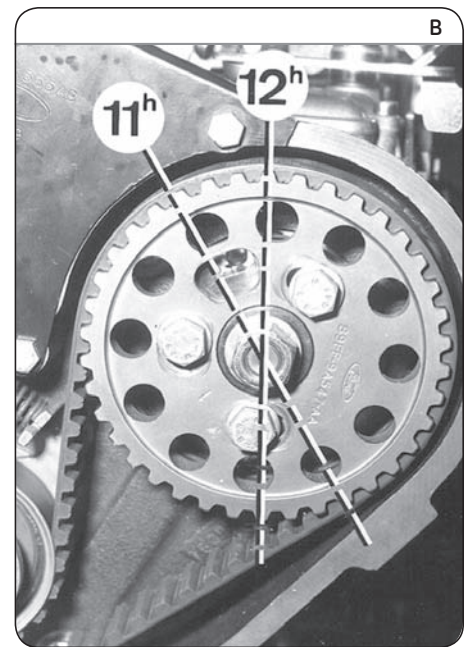


- (9): 10 Nm
- (10): 50 Nm
- (12): 45 Nm
- (14): 23 Nm
- (15): 9 Nm
- (19): 45 Nm



## 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) Turn the crankshaft **clockwise** until the oblong hole on the injection pump sprocket is in the "11 o'clock" position (Fig. B) to set cylinder No.1 at TDC.
- 4) Remove the cap on the housing of the crankshaft gauge and engage fully tool (6) in the engine block (Fig. C). If required, remove the alternator.
- 5) Turn the crankshaft **clockwise** slowly until it stops on the gauge (6).
- 6) In this position, insert the camshaft sprocket timing gauge (7) (Fig. D).
- 7) Insert a timing tool (8) in the injection pump sprocket (Fig. D).
- 8) Untighten the fastening bolts (9) and (10) of the camshaft belt tensioner roller (2) (Fig. D). Compress the spring (11) using an appropriate clamp and tighten the bolts (9) and (10) in this position (Fig. D). The belt must be loosened.
- 9) Remove the camshaft belt (1) and idler roller (3) (Fig. A).
- 10) Loosen the fastening bolt (12) of the tensioner roller (5) from the injection pump belt (4) (Fig. D). Compress the spring (13) on the roller using a suited clamp and tighten the fastening bolt in this position. The belt must be loosened (Fig. D).
- 11) Remove the injection pump belt (4) and the tensioner roller (5).
- 12) **Removing the water pump (VKMC 04103-1/-2/-3-VKMC 04106-1/-2/-4):** Firstly bleed the cooling circuit, check it is clean, and clean if required; secondly fully loosen the water pump, fastening bolts and remove the pump.



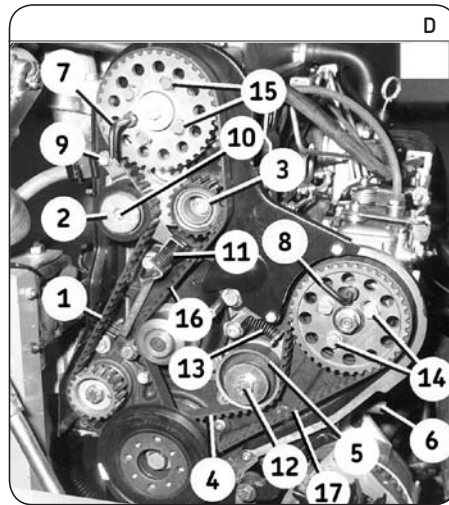
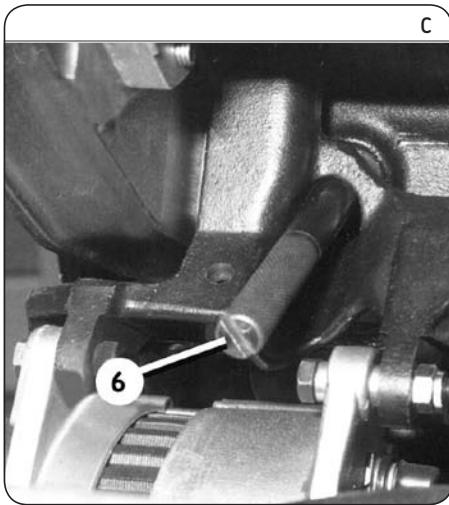
## Refitting

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

- 13) **Refitting the water pump:** Firstly fit the new water pump, then check that the water pump pulley runs properly, and has no hard or locking spots. Fitting the injection pump belt and tensioner roller:
- 14) Check that the crankshaft is still stopped against the gauge (6) (Fig. C) and that the timing tool (8) (Fig. D) is properly in place.

Install Confidence





- 15) Refit the new tensioner roller (5), compress the spring (13) and tighten the fastening bolt (12) to maintain the roller in position (Fig. D). Fit the new injection pump belt (4) starting with the crankshaft sprocket and according to the engine rotation direction indicated by the arrows on the belt.
- 16) Untighten by a half-turn each bolt (14) of the sprocket of the injection pump (Fig. D).
- 17) Untighten the bolt (12) of the tensioner roller, then let it move. The belt is tightened automatically.
- 18) Check the bolts (14) and the gauge (8) of the injection pump sprocket are located approximately at the middle of their slots (Fig. D).
- 19) Tighten the fastening bolts (14) (Fig. D) of the injection pump sprocket at a torque of 23 Nm.
- 20) Tighten the bolt (12) on the tensioner roller (5) at the torque 45 Nm (Fig. D). Fitting the camshaft belt and rollers:
- 21) Check that the crankshaft is still stopped against the gauge (6) (Fig. C) and that the timing gauge (7) (Fig. E) is properly in place.
- 22) Fit the idler roller (3) (Fig. D) and tighten its fastening bolt (19) at 45 Nm.
- 23) Refit the new tensioner roller (2), compress the spring (11) and tighten the fastening bolt (10) to maintain the roller in position (Fig. D). Fit the new injection pump belt (1) starting with the crankshaft sprocket, and according to the engine rotation direction indicated by the arrows on the belt.
- 24) Untighten by a half-turn each bolt (15) of the camshaft sprocket (Fig. D).
- 25) Untighten the bolt (10) of the tensioner roller, then let it move. The belt is tightened automatically.
- 26) Check the bolts and gauge (7) of the camshaft sprocket are located approximately at the middle of their slots (Fig. D).
- 27) Tighten the fastening bolts (15) of the camshaft sprocket at 9 Nm (Fig. D).
- 28) Tighten the fastening bolt (10) of the tensioner roller (2) at 50 Nm and the bolt (9) at 10 Nm (Fig. D).
- 29) Remove the crankshaft timing gauge (6) (Fig. C), the camshaft sprocket timing gauge (7) and the gauge (8) on the injection pump sprocket (Fig. D).
- 30) Turn the crankshaft slowly by 6 turns in the engine rotation direction, until the notch on the injection pump sprocket is in the "11 o'clock" position (Fig. B) to set cylinder No.1 at TDC.
- 31) Insert the crankshaft timing gauge (6) (Fig. C) into the engine block. Turn the crankshaft **clockwise** slowly until it stops on the gauge (6).
- 32) Insert the timing gauge (7) of the camshaft sprocket (Fig. D) and the gauge (8) of the injection pump sprocket (Fig. D).
- 33) Untighten by a half-turn the bolts (14) and (15) on the camshaft and injection pump sprockets as well as the two fastening bolts of the tensioner rollers (2) and (5).
- 34) Press several times the tensioned sides (16) and (17) of the two belts (1) and (4) (Fig. D).
- 35) Retighten at the torque specified the bolts loosened.
- 36) Check proper timing by inserting the gauges (7) and (8) (Fig. D). If the timing gauges cannot be fitted, remove the new camshaft belt and the injection pump, and renew the tension adjustment operation from step 14).
- 37) Remove the timing gauges (7) and (8) (Fig. D).
- 38) Refit the removed elements in reverse order to removal :
- 39) Fill the cooling circuit with the permanent fluid recommended.
- 40) 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.