

NT 06008

VKMA/C 06020 –
VKMA/C 06021 –
VKMA/C 06023

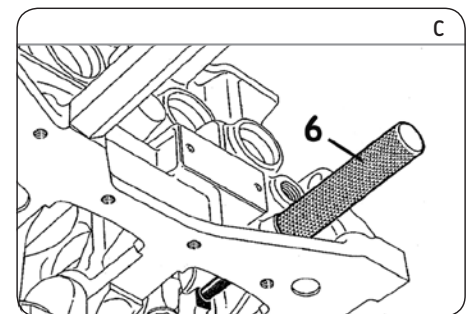
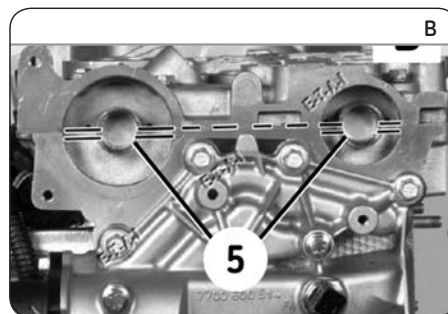
Nissan / Renault / Dacia



A

(6): Eng.1489
(8): Eng.1496

(4): 11 Nm (M6) / 22 Nm (M8)
(12): 27 Nm
(19): 45 Nm
(20): 20 Nm + 135°+/-15°
(VKMA/C 06020/06021).
40 Nm + 115°+/-15°
(Scenic/Grand Scenic).
40 Nm + 145°+/-15°
(Clio/Laguna)
(VKMA/VKMC 06023).



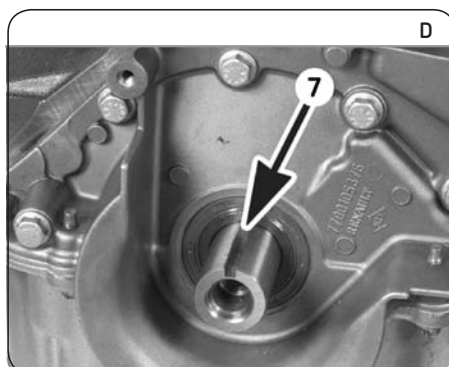
Removal

- 1) Disconnect the battery according to the manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the manufacturing guidelines.
- 3) Remove the sealing plugs/caps (17) on the end of the camshafts (18) (Fig. A).
- 4) Remove the plug from the crankshaft TDC timing orifice.
- 5) Before fitting the crankshaft timing pin (6), position the grooves (5) of the camshafts downwards (the grooves should be horizontal) (Fig. B).
- 6) Check that the grooves (5) on the camshafts are directed slightly downwards to the right (the grooves are almost horizontal) and that the groove (7) at the end of the crankshaft is directed upwards (Fig. B and Fig. D).
- 7) Fit the crankshaft locking pin (6) and then rotate the engine clockwise slowly and without jerking until the crankshaft presses against the pin (6) (Fig. C).
- 8) Secure the camshaft with the locking pin (8) (Fig. E).

- 9) Lock the flywheel and remove the crankshaft pulley.
- 10) Loosen the fastening nut (12) of the tensioner roller (2), then turn it to slacken the timing belt (Fig. A).
- 11) Remove the timing belt (1) (Fig. A).
- 12) Remove the tensioner roller (2) and idler roller (3) (Fig. A).
- 13) Remove the waterpump (VKMC 06020/06021/06023): Firstly, Bleed the cooling circuit, check it is clean, and clean if required; then fully loosen the bolts securing the water pump (4) and remove it.

Refitting

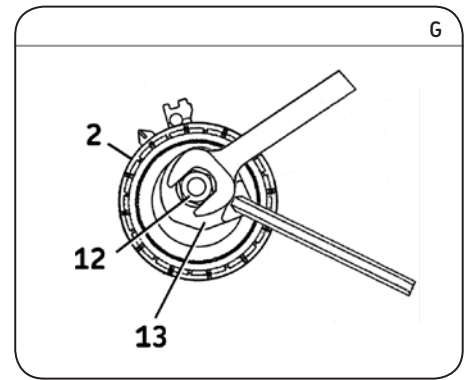
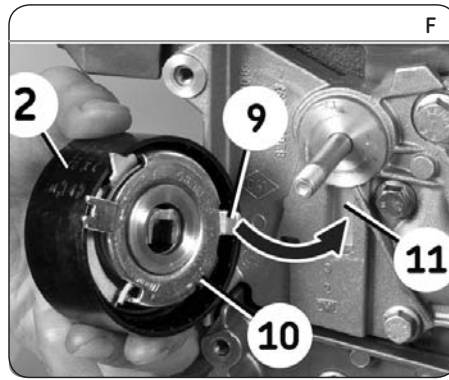
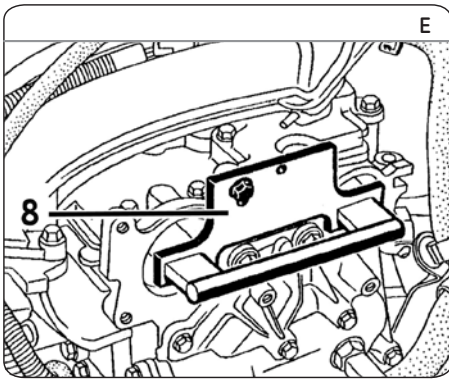
- Caution!** First clean the bearing surfaces of the rollers.
- 14) For VKMC 06020/06021/06023: Firstly fit the new water pump (4), apply the torque **11 Nm (M6)** and **22 Nm (M8)** and then check that the water pump pulley runs properly, and has no hard or locking spots. Fit new tensioner stud and tighten to vehicle manufacturer instructions.



Install Confidence

VKN 1004





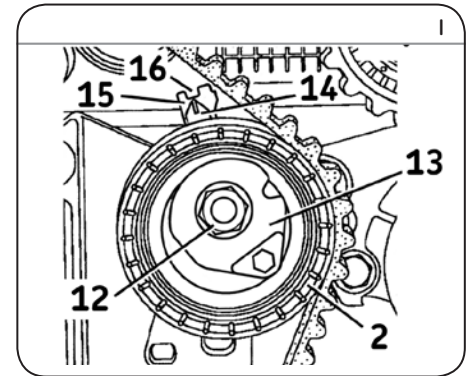
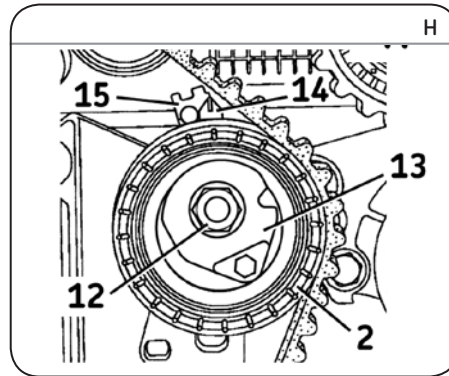
- 15) Fit the new idler roller (3) and tighten its fastening bolt (19) to 45 Nm (Fig. A).
- 16) Fit the new tensioner roller (2).

Note: When refitting the new tensioner roller (2), check that the positioning stud (9) on the roller plate (10) is correctly engaged in the slot (11) of the engine block (Fig. F).

- 17) Using an open-ended spanner, tighten the fastening nut (12) slightly (Fig. G).
- 18) Fit the belt in the following order: crankshaft sprocket, water pump sprocket, idler roller, camshaft sprockets and tensioner roller.
- 19) Refit the crankshaft pulley, tighten the new crankshaft pulley bolt (20) with 20 Nm + 135° ± 15° (VKMA/C 06020/06021), 40 Nm + 115° ± 15° (Scenic/ Grand Scenic), 40 Nm + 145° ± 15° (Clio/Laguna) (VKMA/C 06023) (Fig. A).
- 20) Lock the rotation of the securing nut (12) using an openended spanner. Turn the adjustment dial (13) of the tensioner roller **clockwise** using an Allen key (Fig. G) until you reach the maximum tension position. The moving pointer (14) is then aligned with the right-hand edge of the plate (15) (Fig. H)

Note: The moving index must not go further the right-hand edge of the plate.

- 21) Tighten the tensioner roller fastening nut (12) to 7 Nm.
- 22) Remove the crankshaft locking pin (6) (Fig. C) and the camshaft locking pin (8) (Fig. E).
- 23) Rotate the crankshaft 2 turns in the **clockwise** direction and stop just before the timing point (TDC). Refit the crankshaft locking pin (6) (Fig. C).
- 24) Rotate the crankshaft slowly and without jerking until it presses against the pin. Remove the pin.
- 25) Place the Allen key in the tensioner roller adjustment dial (13) and loosen the fastening nut (12) using an open ended spanner (Fig. G).
- 26) Rotate the adjustment dial (13) to align the moving pointer (14) with the right-hand edge of the plate (15) (Fig. H)



- 27) Tighten the tensioner roller fastening nut (12) to 27 Nm by locking the adjustment dial (13) with the Allen key.
- 28) Rotate the crankshaft 2 turns in the **clockwise** direction and stop just before the timing point (TDC). Refit the crankshaft timing pin (6) (Fig. C).
- 29) Rotate the crankshaft slowly and without jerking until it presses against the pin. Remove the pin.
- 30) Check the tensioner roller setting: the moving pointer (14) must be aligned with the right-hand edge of the plate (15) (Fig. H).
- 31) If the marks are not aligned, remove the new timing belt and adjust the belt tension again, by returning to step 18).
- 32) Check that the timing system is correctly adjusted:
 - Refit the crankshaft locking pin (6) (Fig. C) and rotate the crankshaft slowly and without jerking until it presses against the pin.
 - Refit the camshaft locking pin (8) without forcing it (Fig. E). The grooves (5) on the camshafts should point downwards and be horizontal (Fig. B).

Note: The timing system is set correctly when the camshaft timing gauge (8) can be easily engaged in the grooves.

- 33) If the camshaft locking pin (8) does not engage easily, repeat the operation to set the timing from step 28).

- 34) Remove the crankshaft locking pin and the camshaft locking pin.
- 35) Fit the new sealing plugs/caps (17) at the end of the camshafts (18) (Fig. A).
- 36) Refit the elements removed in the reverse sequence of removal.
- 37) Fill the cooling circuit with the permanent fluid recommended.
- 38) 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).

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