

# NT 02017

## VKMA /VKMC 02206

### VKMC 02206-2

Fiat / Lancia

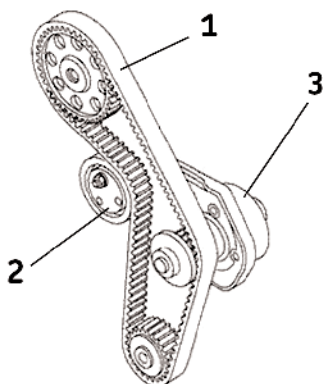
VKMA 02206

VKMC 02206

VKMA 02206-2



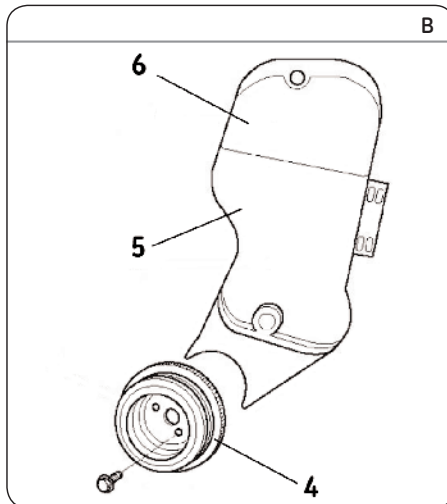
- (12): Camshaft timing tool (ref. 2000004400).
- (13): Crankshaft timing tool (ref. 2000004500).
- (18): Tensioner roller tension tool (ref.1860987000).
- (19): Camshaft sprocket locking tool (ref. 2000004200).
- (20): Cylinder head cover centring tool (ref. 2000004300).



- (9): Camshaft thread cap: 20 Nm (9 Nm for M6)
- (10) Camshaft sprocket bolt: 70 Nm for the Fiat 500 or 20 Nm  $\pm$  2 +55° for other engines
- (17): Tensioner nut: 28 Nm
- (21): Waterpump bolts: 9 Nm

A

B

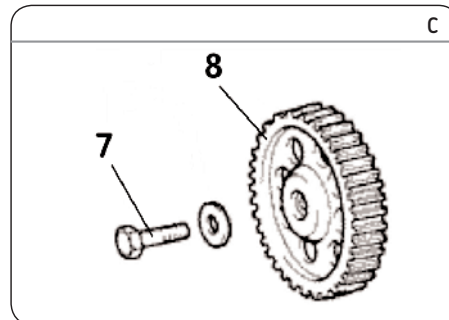


**Caution:** For engines that are equipped with a camshaft phase shift system, the manufacturer recommendations must be followed to self-record the timing adjustment values.

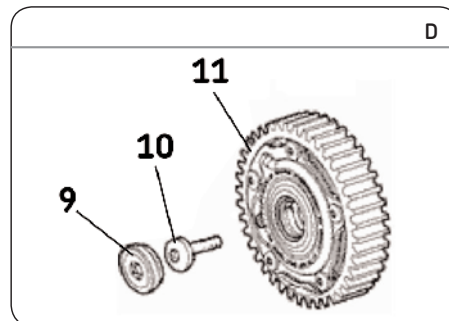
#### Removal

- 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) Remove the crankshaft pulley (4) (Fig. B)
- 4) Remove the camshaft sensor (depending on version)
- 5) Remove the upper timing system casing (6) and the lower timing system casing (5) (Fig. B).
- 6) **For the 1.2 engine in the FIAT Grande Punto:** Loosen the middle fastening screw (7) of the camshaft sprocket (8) (Fig. C).
- 7) For other engines: Remove the threaded cap (9) on the camshaft sprocket (11) and then loosen the fastening screw (10) (Fig. D).

C



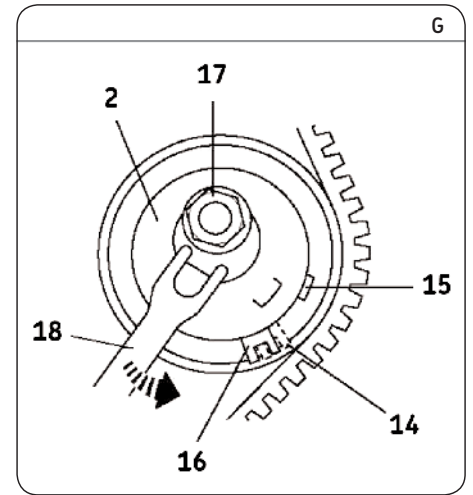
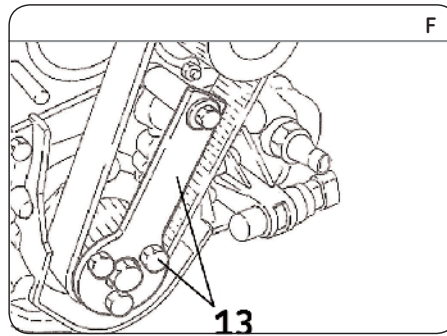
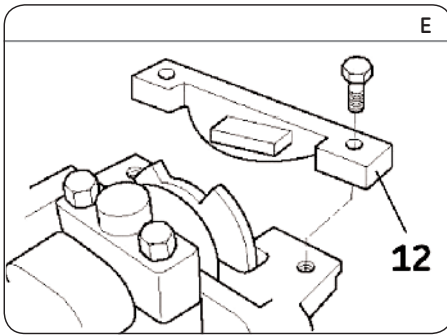
D



- 8) Bring cylinder n°1 to TDC and then fit the timing tool (12) (Fig. E) on the rear end of the camshaft.
- 9) Fit the tool (13) (Fig. F) to lock the crankshaft sprocket.
- 10) Loosen the nut (17) of the tensioner roller (2) and remove the timing belt (1) and the tensioner roller (2) (Fig. A).
- 11) **Removing the water pump (VKMC 02206):** firstly bleed the cooling circuit, check it is clean, and clean if required; secondly fully loosen the water pump (3) fastening bolts (21) and remove the pump (Fig. A).

**Install Confidence**



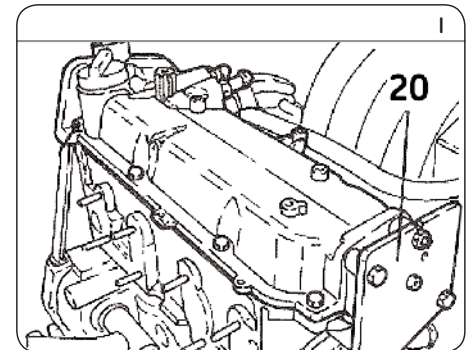
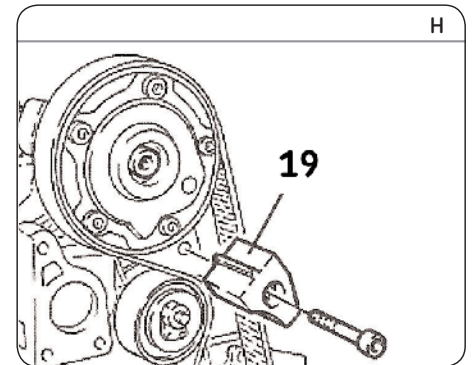


## Refitting

**Caution:** Clean the bearing surfaces of the rollers.

- 12) **Refitting the water pump:** Firstly fit the new water pump (3), apply the torque **9 Nm** to the waterpump bolts (21); then check that the water pump pulley runs properly, and has no hard or locking spots.
- 13) Fit the new tension roller (2).
- 14) Fit the timing belt in position (1) in the following order: crankshaft, water pump, camshaft, tensioner roller.
- 15) Turn the tensioner roller (2) in an **anti-clockwise** direction using the tension tool (18) to bring the fork (16) into contact with the stop (15) of the tensioner (Fig. G).
- 16) Tighten the nut (17) of the tensioner roller (2) (Fig. G) to **28 Nm**
- 17) **For the 1.2 engine in the FIAT Grande Punto:** Retighten the fastening bolt (7) of the camshaft sprocket (8) to **70 Nm** (Fig. C).
- 18) For other engines: Remove the heat shield on the exhaust manifold and then remove the side clamp bracket that secures the timing casing. Lock the camshaft sprocket using the tool (19) (Fig. H) and then retighten the fastening bolt (10) (Fig. D) of the camshaft sprocket (11) to **70 N m** for the Fiat 500 or **20 Nm +55°** for other engines. Retighten the threaded cap (9) to **20 Nm** (**9 Nm** for M6)
- 19) Remove the timing and locking tools (12), (13) and (19).

- 20) Rotate the crankshaft two turns in the engine rotation direction back to the timing point.
- 21) Loosen the nut (17) of the tensioner roller (2) and then turn the roller using the tension tool (18) so that the front fork (16) is aligned with the rear fork (14) (Fig. G).
- 22) Tighten the nut (17) of the tensioner roller (2) (Fig. G) to **28 Nm**.
- 23) Refit the tools (12) (Fig. E) and (13) (Fig. F) to check the timing point and then remove them.
- 24) Rotate the crankshaft two turns in the engine rotation direction back to the timing point. Check that the front fork (16) is aligned with the rear fork (14) (Fig. G). Go back to step 28), if it does not line up.
- 25) Refit the cylinder head cover by centring it using the cylinder head cover centring tool (20) (Fig. I) (except for FIAT Grande Punto).
- 26) Refit the elements removed in reverse order to removal.
- 27) Fill the cooling circuit with the permanent fluid recommended.
- 28) 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.