

VKMA 01015

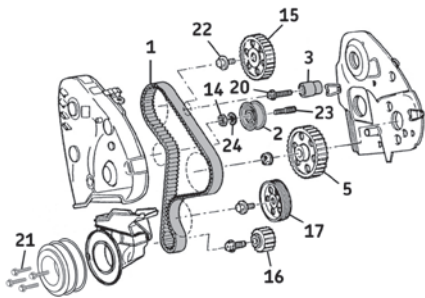
VKMA 01016



A

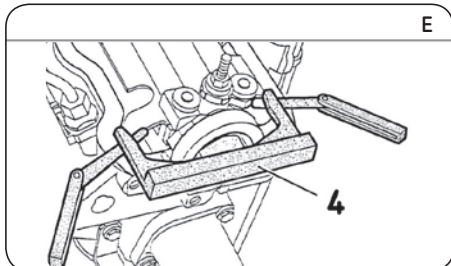


- (4): Camshaft timing ruler (ref. VAG 2065A or Ford 21105).
- (6): Locking rod (ref. VW 3359 or Seat U-40074).
- (7): Locking rod (ref. VW 2064 or Ford 23047).
- (13): Spanner wrench (ref. VW V159 or Seat U-30009A).

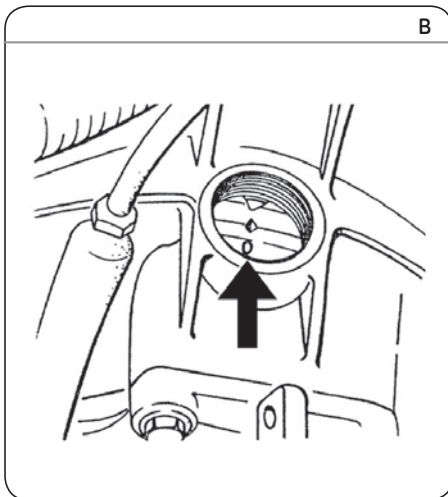


- (8): 25 Nm
- (14): 20 Nm
- (20): 22 Nm
- (21): 25 Nm (1Z) 10 Nm + 90° (AGP/AGR/AHF/ALH/AQM/ASV)
- (22): 45 Nm
- (23): 15 Nm

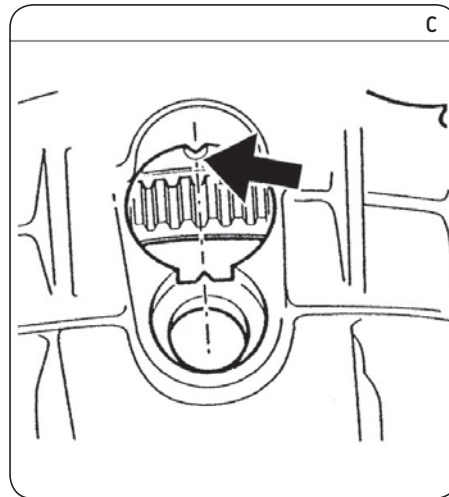
E



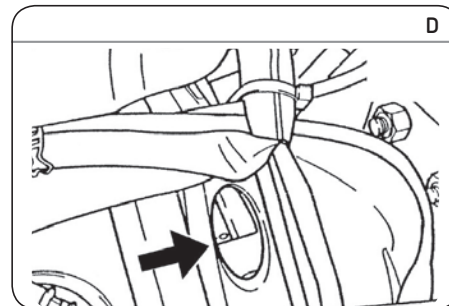
B



C



D



#### Removal

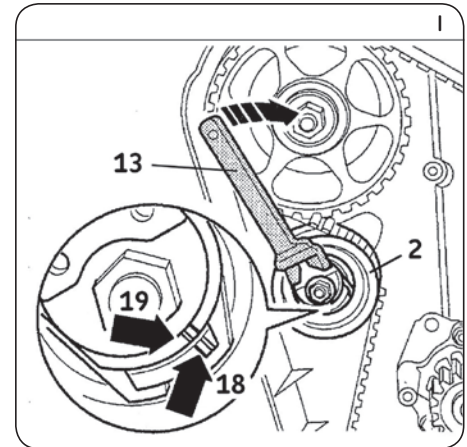
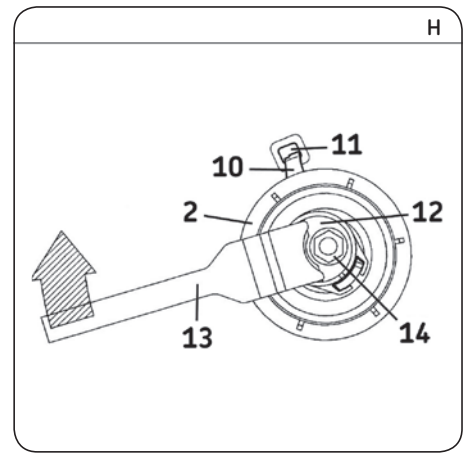
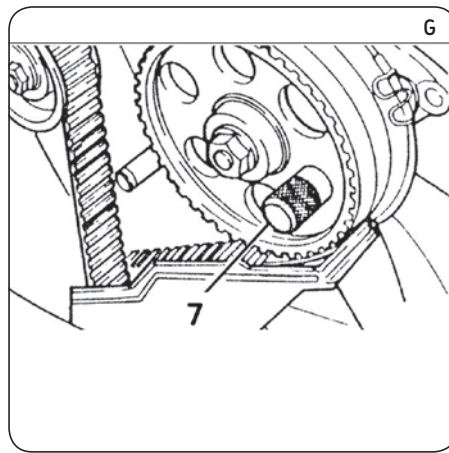
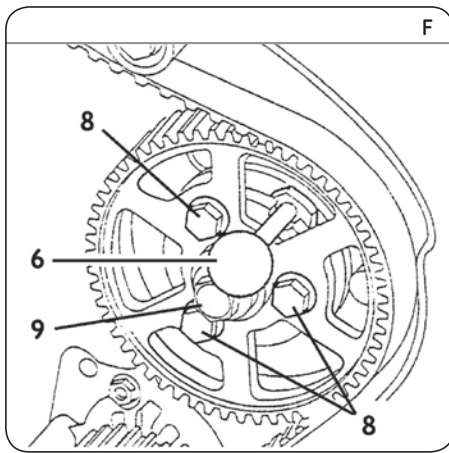
- 1) Disconnect the battery according to the vehicle manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
- 3) Bring cylinder n°1 to TDC aligning the flywheel/clutch housing markers or drive plate/automatic transmission markers (Fig. B or Fig. C or Fig. D).
- 4) Remove the cylinder head cover and lock the camshaft using the locking ruler (4), by centering it (Fig. E).
- 5) Block the sprocket (5) of the injection pump (Fig. A):
  - Engines with injection pump sprocket in two parts: with the gauge (6) (Fig. F).
  - Engines with injection pump sprocket in one part: with the gauge (7) (Fig. G)
- 6) For engines with injection pump sprocket in two parts: loosen mounting bolts (8) of the injection pump sprocket (Fig. F).

**Note:** Do not touch nut (9) of the pump (Fig. F).

- 7) Remove the crankshaft pulley, loosen the nut (14) fastening the tensioner roller (2) (Fig. A), then remove the timing belt (1) as well as the tensioner roller.
- 8) For engines with injection pump sprocket in one part: remove the idler roller (3) (Fig. A).
- 9) Remove the stud (23) (Fig. A).

**Install Confidence**





### Refitting

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

- 10) Fit and tighten the new stud (23) to the torque of **15 Nm (Fig. A)**.
- 11) Check that cylinder n°1 is at TDC.
- 12) Engines with injection pump sprocket in one part: reassemble the new idler roller (3) and tighten its new bolt (20) to a torque of **22 Nm (Fig. A)**.
- 13) Reassemble the new tensioner roller (2) with its new washer (24) and new nut (14). Set the positioning stud (10) in slot (11) of the engine block (Fig. H). Turn the adjustment dial (12) using the wrench (13) until the wrench reaches the "8 o'clock" position (Fig. H) then tighten slightly by hand the securing nut (14) (Fig. H) on the tensioner roller.
- 14) Loosen by a half-turn the mounting bolt (22) of the camshaft gear (15) (Fig. A).
- 15) Pull the camshaft sprocket from the hub and ensure it rotates freely around its shaft.
- 16) Fit the new timing belt (1) on the following elements: crankshaft gear (16), oil pump pulley (17), injection pump dented wheel (5), idler roller (3) (according to engine), camshaft gear (15) and tensioner roller (2) (Fig. A).
- 17) Tighten by hand the camshaft sprocket fitting bolt (22).
- 18) Tighten the timing belt (1): turn the adjustment dial (12) on the tensioner roller (2) **clockwise** using the wrench (13), while holding the fastening nut (14) hold the roller in position using a hex nut wrench (Fig. H). Until the mobile index (18) is aligned with the notch (19) (Fig. I). Then tighten the fastening nut (14) (Fig. H) at **20 Nm**.
- 19) Tighten the fastening bolt (22) of the camshaft sprocket at **45 Nm**.
- 20) Engines with injection pump sprocket in two parts: change the fastening bolts (8) of the injection pump sprocket and tighten them at **25 Nm (Fig. F)**.
- 21) Remove the shimming ruler (4) (Fig. E) and the gauges (6) or (7) (Fig. F and Fig. G).
- 22) Rotate the crankshaft by **2 turns** in the direction of rotation of the engine until the TDC for cylinder Nr 1 is reached.
- 23) Check the timing setting marks (Fig. B or Fig. C or Fig. D) and that it is possible to lock the injection pump sprocket using the gauges (6) or (7) (Fig. F and Fig. G).
- 24) Check the setting of the moving index (18) must be aligned with the notch (19) (Fig. I).
- 25) If the marks on the tensioner roller are not aligned, proceed as follows: turn the adjustment dial (12) **counterclockwise** to set the moving index in the initial position, then remove the timing belt. Then restart the tension setting operation at step 16).
- 26) Refit the elements removed before in the reverse removal sequence while observing the following points:
  - Tighten the crankshaft pulley bolts (21) at:
    - For 1Z engines: **25 Nm**.
    - For the AGP/AGR/AHF/ALH/AQM/ASV engines: **10 Nm + 90°**.
    - For the other engines, refer to manufacturer recommendations
- 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.