NT 01003
VKMA 01013 – VKMA 01014 – VKMA 01019

Audi / Seat / Volkswagen

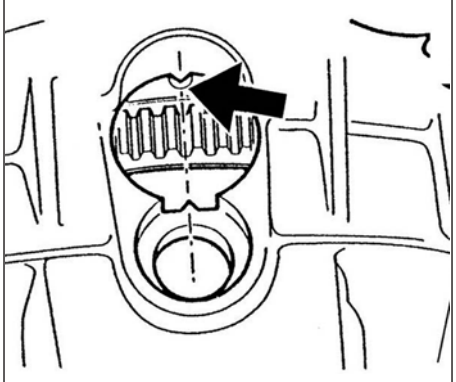
VKMA 01013

VKMA 01014

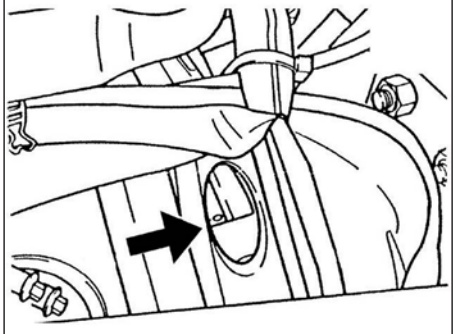
VKMA 01019

B

C

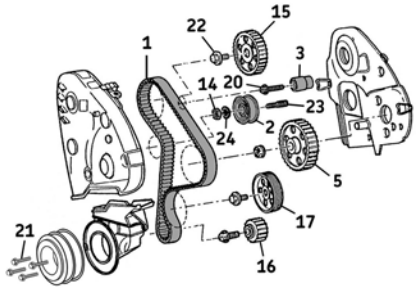


D



A

(4) : VAG 2065A / Ford 21105
(6) : VW 3359 / Seat U-40074
(7) : VW 2064 / Ford 23047
(13) : VW 0159 / 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

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 camshaftusing the locking **bar (4), centralize by using feeler gauges (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 injection 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**).

Refitting

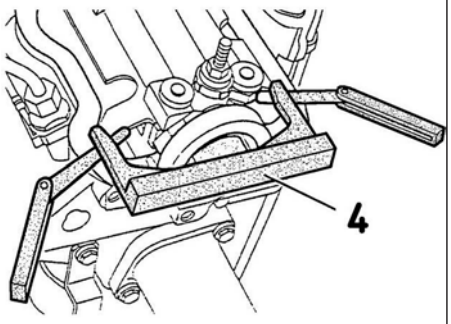
Caution: First clean thoroughly the bearing surfaces of the rollers.

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**), tighten the bolt (**20**) with a torque of **22 Nm** (**Fig. A**)**.**
13) Reassemble the new tensioner roller (**2**) with it's new washer (**24**) and new nut (**14**) (**Fig. A**)**.** 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 then tighten slightly by hand the securing nut (**14**) (**Fig. H**)**.**
14) Loosen by a half-turn the mounting bolt (**22**) of the camshaft sprocket (**15**) (**Fig. A**)**.**

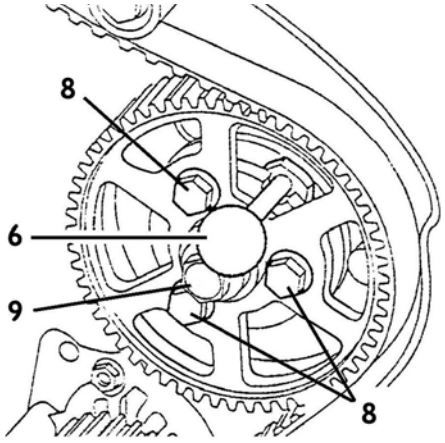
15) Pull the camshaft sprocket from the hub and ensure it rotates freely around its shaft.
16) Fit the new timing belt in anti-clockwise direction, starting at the crankshaft. **Ensure** belt is tight between sprockets (**Fig. A**).

Install Confidence

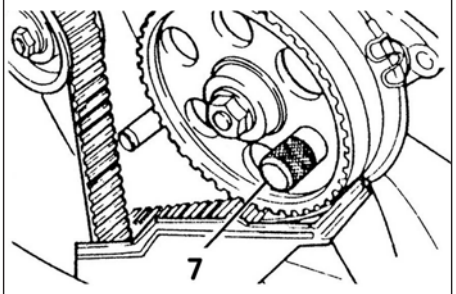
E



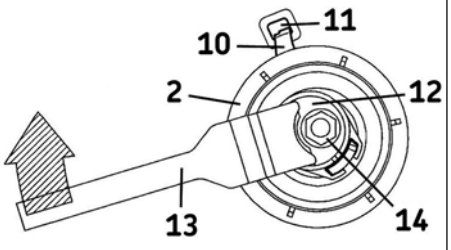
F



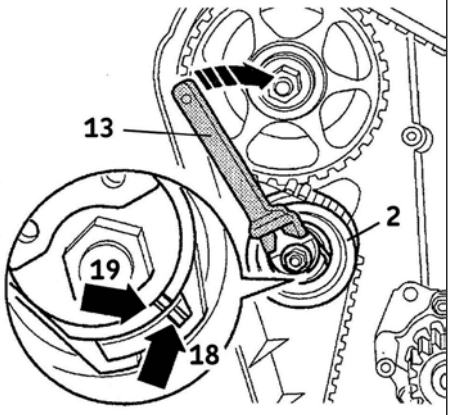
G



H



I



Tighten the crankshaft pulley new bolt (**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.

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 bolt (**14**) at **20 Nm** (**Fig. H**).

19) Tighten the fastening bolt (**22**) of the camshaftsprocket 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 gauge (**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 lock the injection pump gear 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, turn the adjustment dial (**12**) **counter-clockwise** 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:

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