## NT 02003 VKMA 02381 VKMA 02382 VKMA 02384 Alfa Romeo / Seat / Fiat / veco / Renault



## Removal

- **1)** Disconnect the battery according to the vehicle manufacturing guidelines.
- Prepare the vehicle for the timingreplacement according to the vehicle manufacturing guidelines.
- **3)** Lock the flywheel and unlock the crankshaft pulley bolt.
- 4) Remove the timing cover.
- Set cylinder Nr 1 up to the TDC, by turning the crankshaft in the rotation direction: align the mark on the crankshaft pulley (4) with the fixed mark (5) on the lower protection plate (Fig. B) and the mark (6) of the camshaft pinion with the fixed mark (7) on the cylinder head cover (Fig. C).
- Fit the gauge (8) (Fig. D) through the injection pump pinion (9) (Fig. B) shim the crankshaft pulley (10) with the gauge (11) (Fig. B).
- 7) Remove the gauge (11) and the crankshaft pulley.
- Push the tensioner roller (2) spring using a screwdriver and clamp the spring with the spacer (12) (Fig. B).
- 9) Loosen the fastener (13) (Fig. B) of the tensioner roller (2) bracket.
- **10)** Push the tensioner roller (**2**) and loosen its fastener (**14**) to release the belt.
- **11)** Remove distribution belt (**1**).
- 12) Remove the rollers (2) and (3).



**Install Confidence** 







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

- 13) Reassemble the new idler roller (3).
- **14)** Reassemble the new tensioner roller (**2**) in the pushed-in position.
- **15)** Reassemble the new timing belt (1).
- 16) Release the tensioner roller spring (2).
- 17) Reassemble the gauge (8).
- **18)** Turn the crankshaft by 1/4 turn in the rotation direction.
- **19)** Tighten the fastener **(13)** of the tensioner roller bracket.
- 20) Turn the crankshaft by 3/4 turn.
- 21) In this position, adjust the belt's tension by releasing and tightening the tensioner roller fastener (14) to 25 Nm.
- **22)** Reassemble the crankshaft pulley without tightening its fastener.



- 23) Turn the crankshaft by an additional turn, and check the alignment of the marks and shimming points using gauges (8) and (11).
- **24)** Check the tension of the timing belt (1).
- 25) Lock the flywheel and tighten the crankshaft pulley mounting (15) to 200 Nm
- **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).

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