

**Removal**

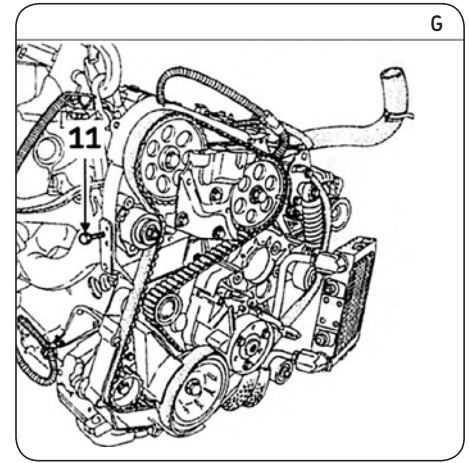
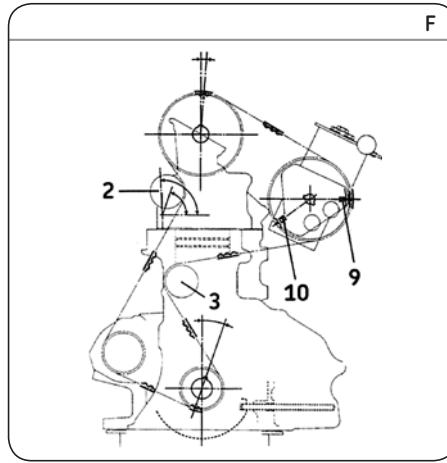
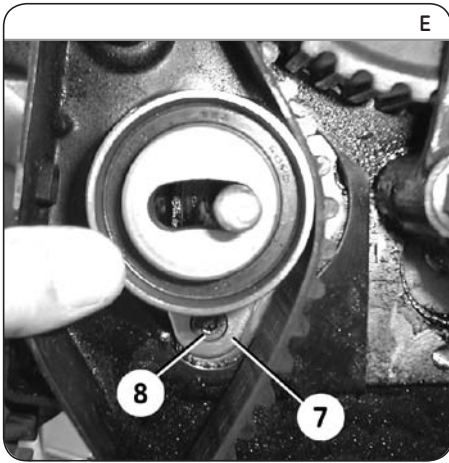
- 1) Disconnect the battery according to the vehicle manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
- 3) Lock the flywheel and remove the crankshaft pulley.
- 4) Set the engine to TDC by aligning the mark on the camshaft sprocket with the fixed mark on the timing cover (Fig. B).
- 5) Insert the gauge (5) in the hole provided (Fig. C).
- 6) Check that the crankshaft does not turn.
- 7) Remove the upper and lower timing casings.
- 8) Lock the camshaft and injection pump sprockets using the tool (6) (Fig. D).
- 9) Loosen tensioner roller (2).
- 10) Remove the timing belt (1).
- 11) Remove the tensioner roller (2) and idler rollers (3) and (4) (Fig. A).

**Refitting**

**Caution!** First clean the bearing surfaces of the rollers.

- 12) Refit the new idler rollers (3) and (4).
- 13) Refit the new tensioner roller (2). The hole in the plate (7) of the roller must be placed on the positioning pin (8) (Fig. E).
- 14) Fit the new timing belt (1) by aligning the marks on the belt with the fixed marks on the camshaft, injection pump and crankshaft sprockets (Fig. F).
- 15) Apply the rotation direction (arrow on the belt) and the following fitting sequence: crankshaft sprocket, idler roller (3), injection pump and camshaft sprockets, tensioner roller (2), then idler roller (4).

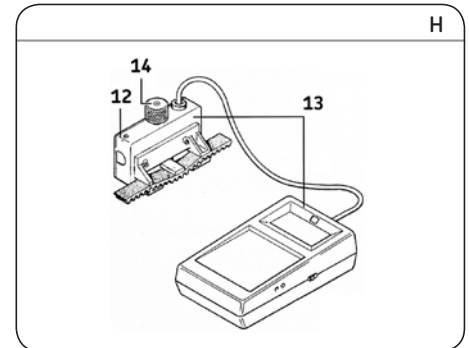
Install Confidence



**Caution:** There are two types of injection pump sprockets:

- A sprocket with a mark (9) for a BOSCH injection pump and a mark (100) for a ROTO DIESEL pump (Fig. F).
  - A sprocket in one or two parts with a single mark. Therefore, these marks must be considered when fitting the timing belt.
- 15) Fit a bolt (11) on the rear timing cover, and screw it to tighten the timing belt (1) (Fig. H).
  - 16) Fit the sensor (12) of the belt tension gauge (13) onto the belt (Fig. I).
  - 17) Turn knob (14) on the sensor (12) until you hear three "clicks" (Fig. I). Depending on type of tension controller.
  - 18) Turn the bolt (11) (Fig. H) until the tension gauge (13) shows a reading of 29 SEEM units (Fig. I).
  - 19) Tighten the tensioner roller (2) to a torque of 50 Nm.
  - 20) Remove the TDC gauge (5) and the tool (6) (Fig. C and D).

- 21) Remove the belt tension gauge (13) (Fig. I).
- 22) Turn the crankshaft through three revolutions in the engine rotation direction.
- 23) Refit the TDC gauge (5) (Fig. C) and the belt tension gauge (13) (Fig. I).
- 24) Check the tension value of the belt. If it is incorrect, readjust this value by turning the bolt (11) once more (Fig. H).
- 25) Remove the TDC gauge (5) (Fig. C), the bolt (11) (Fig. H), and the belt tension gauge (13) (Fig. I).
- 26) Check the timing of the injection pump.
- 27) Refit the remainder of the removed elements in the reverse order to removal.



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