

### Removal

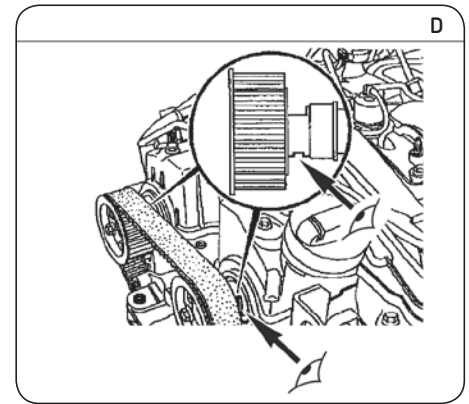
- 1) Disconnect the battery according to the vehicle manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
- 3) Remove crankshaft pin plug (4) (Fig. B)
- 4) Position the crankshaft pulley "TDC" marking (5) almost vertically towards the bottom (Fig. C).
- 5) Insert the crankshaft pin (Renault. Mot 1536 or Opel. KM-6203).
- 6) Turn the engine **clockwise** while pushing on the crankshaft pin until this pin can be inserted into the TDC hole of the crankshaft.
- 7) Check that the grooves of the camshafts are in a vertical position (see Fig. D).
- 8) Place the timing tools (6) and (7) in the grooves on the camshafts (Fig. E).

### Fitting on intake camshaft

- 9) Fit the tool (6) and slightly tighten the bolt (8) (Fig. E).
- 10) Loosen the three bolts (9) of the camshaft sprocket (10) a maximum of one turn (Fig. C)
- 11) Turn the intake camshaft clockwise by means of its central fastening bolt so as to pin the tool (6) against the cylinder head, then tighten the bolt (8) (Fig. E).

### Fitting on exhaust camshaft

- 12) Fit the tool (7) and slightly tighten the bolt (11) (Fig. E).
- 13) Loosen the three bolts (12) of the camshaft sprocket (13) a maximum of one turn (Fig. C)
- 14) Turn the exhaust camshaft **clockwise** by means of its central fastening screw so as to pin the tool (7) against the cylinder head, then tighten the bolt (11) (Fig. E).
- 15) Loosen the tensioner roller fastening bolt (21), to slacken the timing belt (1) (Fig. A).
- 16) Remove the three bolts (12) and the sprocket (13) from the exhaust camshaft (Fig. C). Remove the timing belt (1).
- 17) Remove the tensioner roller (2), its pin (14) and the idler roller (3) (Fig. A).



### Refitting

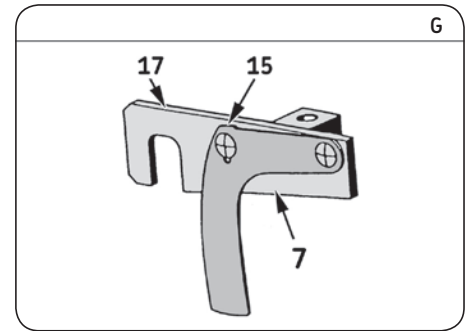
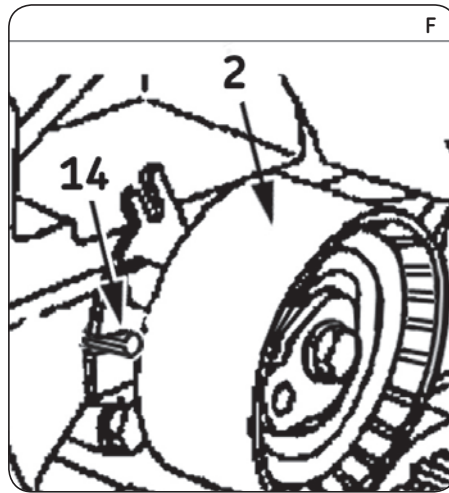
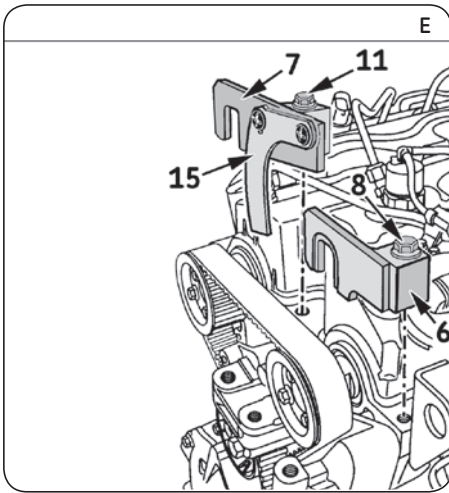
**Caution!** First clean carefully the bearing surfaces of the tensioner rollers.

- 18) Check that the engine is at TDC: timing tools (6) and (7) (Fig. E) correctly positioned and the mark (5) on the pulley pointing downward and in a vertical position (Fig. C). Ensure that the crankshaft pin is well inserted into the TDC hole of the crankshaft.
- 19) Fit the new idler roller (3). Tighten the fastening bolt (22) to 33 Nm (Fig. A).
- 20) Fit the new tensioner roller (2) and its new pin (14). Tighten slightly its fastening bolt (21) (Fig. A).

**Note:** When refitting the new tensioner roller (2), set the pin (14) situated on the engine block to the bottom of the slot on the roller rear plate (Fig. F).

- 21) Fit the new timing belt (1) by applying the following sequence: countershaft sprocket, idler roller (3), intake camshaft sprocket (10) (making sure to keep the bolts (9) in the centre of the oblong holes (Fig. C), then the tensioner roller (2).

**Install Confidence**



- 22) Fit the exhaust camshaft sprocket (13) on the timing belt (1). Then place the assembly on the camshaft hub, being sure to keep the bolts (12) in the centre of the oblong holes (Fig. C). Do not tighten the bolts (12).
- 23) Check that the moving part (15) of the tool (7) moves freely (Fig. G).
- 24) Tighten the timing belt (1): Turn the adjustment dial (16) of the tensioner roller (2) in an **anti-clockwise** direction using a 6 mm Allen key (Fig. G). Continue turning the adjustment dial (16) until the upper edge of the moving part (15) is aligned with the upper edge of the fixed part (17) (Fig. G).

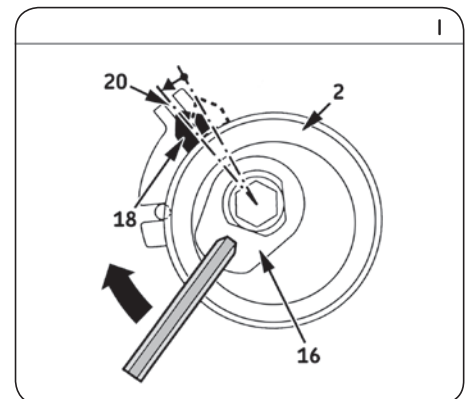
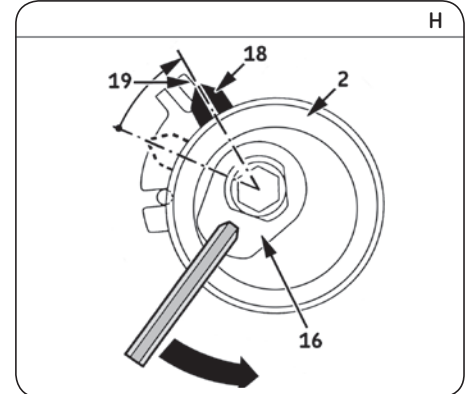
**Note:** the moving pointer (18) must be aligned with the edge (19) of the tensioner roller plate (Fig. H).

- 25) Check that the bolts (9) and (12) are in the centre of the oblong holes of the camshaft sprockets (10) and (13) (Fig. C).
- 26) Tighten the tensioner roller fastening bolt (21) to **25 Nm** (Fig. G) and the camshaft sprocket bolts (9) and (12) to **10 Nm** (Fig. C).
- 27) Remove the tools (6) and (7) (Fig. E) and the crankshaft pin.
- 28) Rotate the crankshaft **2 turns** in the engine rotation direction up to TDC. Refit the crankshaft pin and the tools (6) and (7) (Fig. E) (same process from step 7) to 14) above).
- 29) Check that the moving part (15) of the tool (7) moves freely (Fig. G).

- 30) Slacken the tensioner roller fastening bolt (21) while holding the adjustment dial (16) with a 6 mm Allen key (Fig. I).
- 31) Turn the adjustment dial (16) **clockwise**. Continue turning the adjustment dial (16) until the upper edge of the moving part (15) is aligned with the upper edge of the fixed part (17) (Fig. G).

**Note:** the moving pointer (18) must be aligned with the notch (20) on the tensioner roller rear plate (Fig. I).

- 32) Tighten the tensioner roller fastening bolt (21) to **25 Nm** (Fig. I) and the camshaft sprocket bolts (9) and (12) to **10 Nm** (Fig. C).
- 33) Remove the tools (6) and (7) (Fig. E) and the crankshaft pin.
- 34) Turn the crankshaft through **2 revolutions** in the engine rotation direction.
- 35) Check the tensioner roller setting: the moving pointer (18) must be aligned with the notch (20) on the tensioner roller rear plate (Fig. I).



**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.