
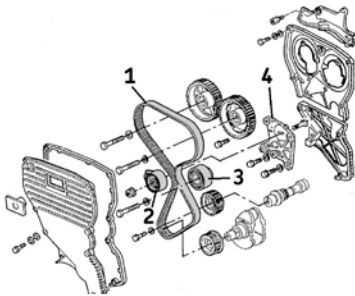




-  (8): Flywheel locking tool (ref. Fiat 1860771000).
- (9): Camshaft timing gauges (ref. Fiat 1860874000).
- (15): Belt tension tool (ref. Fiat 1860876000).
- (-): Dial indicator and stand (ref. Fiat 1860895000).
- (-): Wrench (ref. Fiat 1860831001).
- (-): Camshaft locking tool (ref. Fiat 1860885000).



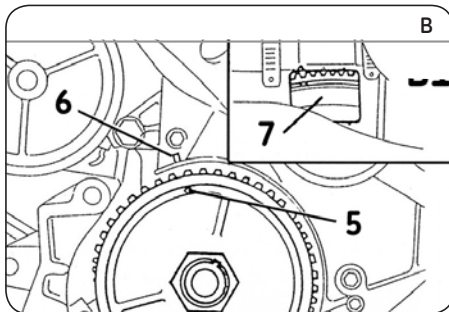
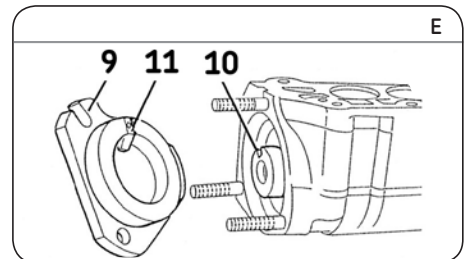
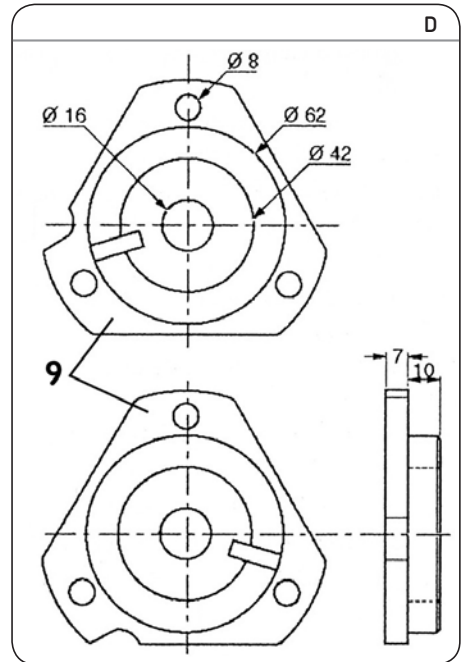
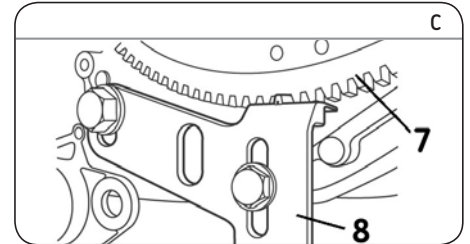
- (18): Tensioner nut: 25 Nm
- (19): Camshaft sprocket: 120 Nm

Removal

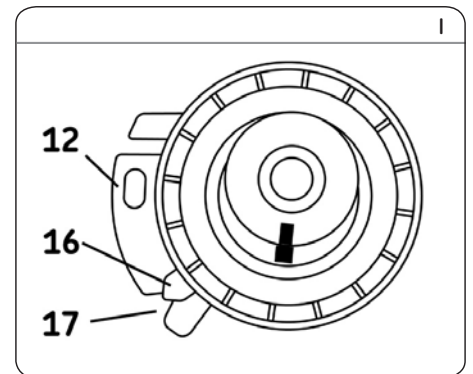
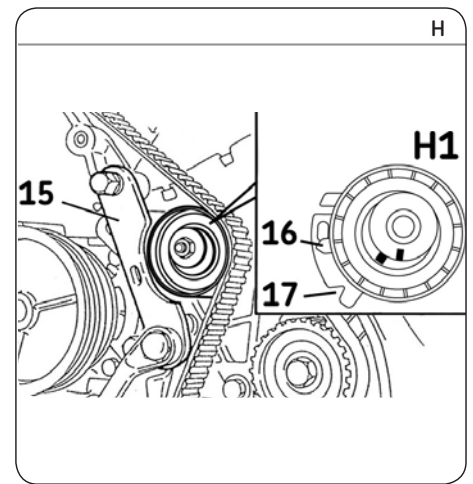
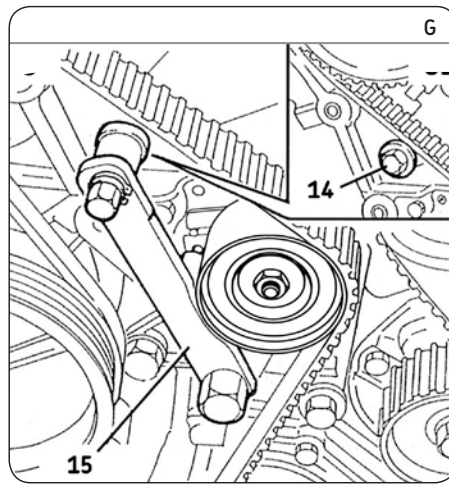
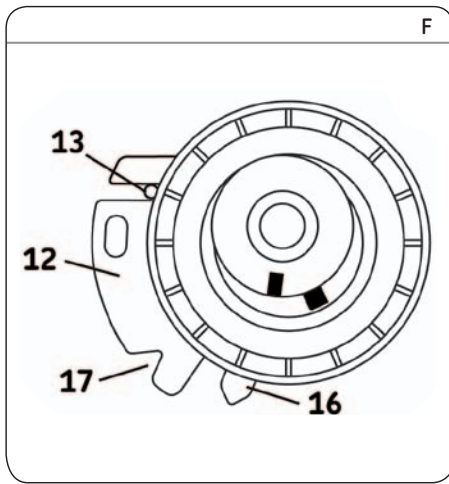
- 1) Disconnect the battery according to the vehicle manufacturing guidelines.
- 2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
- 3) Fit dial indicator to #1 cylinder. Turn the crankshaft in the normal rotation direction up to TDC on cylinder Nr 1.
- 4) Check whether the mark (5) on the crankshaft sprocket is aligned with the fixed mark (6) on the lower timing belt casing (Fig. B) and set the dial indicator to zero.
- 5) Check the mark on the flywheel (7) is next to the "o" mark on the clutch casing (Fig. B).
- 6) Remove the lower clutch casing.
- 7) Lock the flywheel (7) using the locking tool (8) (Fig. C).
- 8) Remove the crankshaft sprocket.

Note: the nut securing the crankshaft sprocket has a left-hand threading.

- 9) Remove the protection casing on the timing belt.
- 10) Loosen the bolts from the camshaft sprockets using the wrench (ref. Fiat 1860831001) and the camshaft locking tool (ref. Fiat 1860885000).
- 11) Remove the rear camshaft casings.
- 12) Fit the timing tools (9) (Fig. D), by aligning the grooves (10) on the camshafts with the keys (11) on the tools (9) (Fig. E), then fasten them.
- 13) Loosen the nut (18) on the tensioner roller (2) and remove the timing belt (1) (Fig. A).



Install Confidence



14) Remove the tensioner roller (2) and idle roller (3) (Fig. A).

Refitting

Caution: Clean the bearing surfaces of the rollers.

- 15) Fit the new tensioner roller (2), its new nut (18) and the new idler roller (3). Position the open oblong hole in the base-plate (12) (Fig. F) of the tensioner roller on the pin (13) (Fig. F) in the plate (4) (Fig. A) the roller is fitted on.
- 16) Refit the new timing belt (1) as follows: crankshaft sprocket, oil pump sprocket, idler roller (3), intake camshaft sprockets, then exhaust camshaft sprockets and tensioner roller (2).
- 17) Remove the bolt (14) from the plate (4) (Fig. G1) and fit the tension tool (15) (Fig. G).
- 18) Loosen the nut (18) on the tensioner roller (2). Fit the tensioner roller (2) in the maximum tension position using the tension tool (15): turn it **counter-clockwise** (Fig. H) when the moving index (16) reaches the end stop, and protrudes from the notch (17) in the base plate (12) of the tensioner roller (Fig. H1).
- 19) Tighten the nut (18) on the tensioner roller (2).
- 20) Remove the dial indicator and its bracket.
- 21) Tighten the camshaft sprockets at **120 Nm** using the wrench (ref. Fiat 1860831001) and the camshaft locking tool (ref. Fiat 1860885000).
- 22) Remove the tools (9) locking the camshafts (Fig. D and Fig. E).
- 23) Remove the locking tool (8) from the flywheel (7) (Fig. C).
- 24) Turn the crankshaft slowly in the engine rotation direction by **two turns**, until you

return to the TDC timing position (use the timing marks on the flywheel) (Fig. B).

- 25) Loosen the nut (18) on the tensioner roller (2). Fit the tensioner roller (2) in the nominal tension position using the tension tool (15) (Fig. G).

Note: The nominal tension position is reached when the moving index (16) is aligned with the notch (17) in the base plate (12) of the tensioner roller (Fig. I).

- 26) Tighten the nut (18) of the tensioner roller (2) at **25 Nm**.
- 27) Remove the tension tool (15) (Fig. G) and refit the bolt (14) (Fig. G1).
- 28) Refit the dial indicator and its bracket in the plug hole in cylinder Nr 1.
- 29) Turn the crankshaft slowly in the engine rotation direction by **two turns** up to the TDC timing position (use the dial indicator), and check the adjustment of the tensioner roller (the moving index (16) and the notch (17) in the base plate (12) must be aligned (Fig. I). Also check that the camshaft timing locking tools (9) are engaged perfectly (Fig. E).
- 30) If the timing marks are not aligned and/or if the adjustment of the tensioner roller is incorrect, then remove the new timing belt, and restart the setting operation from step 16).
- 31) Remove all timing tools.
- 32) Refit the elements removed in reverse order to removal.

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