
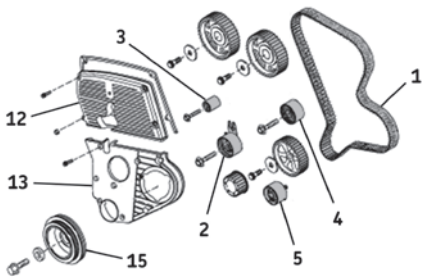



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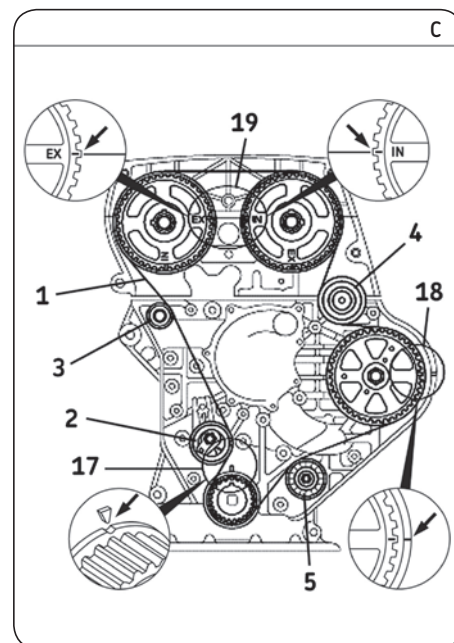
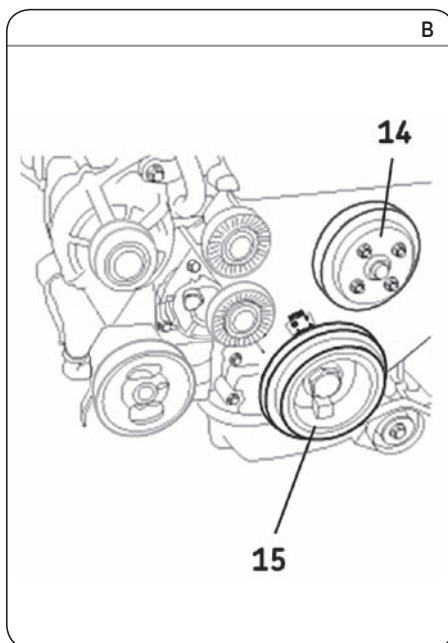


A

 (10): 09517-21700 (Carnival II)
(11): 09231-H1000 (Carnival II)



 (2): 20–26 Nm
(3): 21–26 Nm
(4): 39–49 Nm
(5): 37–43 Nm
(12), (13): 7–10 Nm
(14): 17–28 Nm (Carnival I, Terracan);
6–10 Nm (Carnival II)
(15): 343–392 Nm (Carnival I, Terracan); 376–412 Nm (Carnival II)

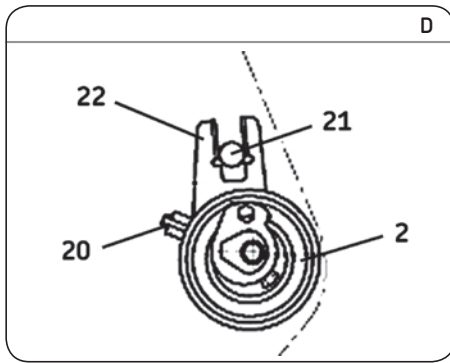


Removal

- 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 the water pump pulley (14) (Fig. B).
- 4) Remove the crankshaft pulley (15) (Fig. B) using special tools (10) and (11) (Carnival II).
- 5) Remove the upper (12) and lower (13) timing covers (Fig. A).
- 6) Turn the crankshaft in a clockwise direction until the marks on the crankshaft (17), the high-pressure pump (18) and the camshaft sprockets (19) are aligned (Fig. C).
- 7) Remove the tensioning roller (2) (Fig. A).
- 8) Remove the timing belt (1).
- 9) Remove the idler rollers (3), (4) and (5) (Fig. C).

Install Confidence





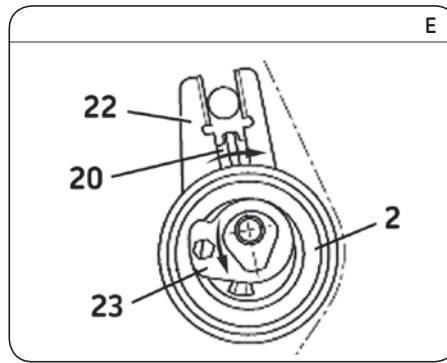
Refitting

Caution. First of all carefully clean the bearing surfaces of the rollers.

- 10) Fit the new idler rollers (3), (4) and (5) and tighten their fixing bolts respectively to between 21 and 26 Nm, between 39 and 49 Nm and between 37 and 43 Nm (Fig. C).
- 11) Check that the timing marks are aligned (Fig. C).
- 12) Fit the new timing belt (1) in the following order: crankshaft pinion, right lower idler roller (5), high pressure pump sprocket, right upper idler roller (4), camshaft sprockets and left idler roller (3) (Fig. C).

Note: When fitting the timing belt, check that the belt is taut between the pinions.

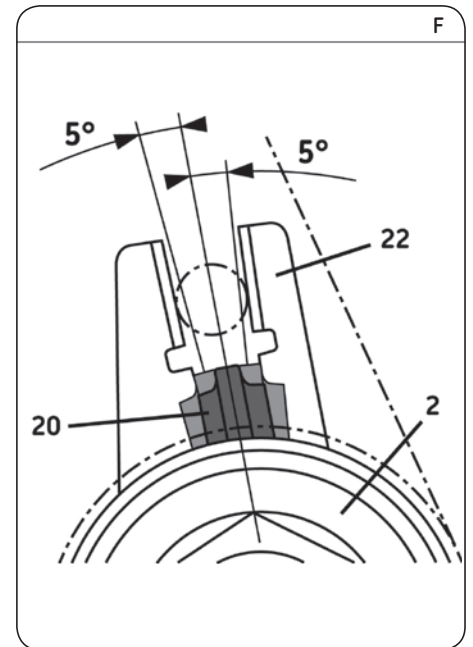
- 13) Fit the new automatic tensioner (2), with the moving index (20) of the tensioner in the 10 o'clock position, indexing its fork (22) on the pin (21) (Fig. D).
- 14) Temporarily tighten the tensioner roller fastening bolt (2) to 4 Nm.
- 15) Rotate the plate (23) using an Allen key in an anti-clockwise direction in order to align the moving index (20) at the centre of the fork (22) on the automatic tensioner (2) (Fig. E).
- 16) In this position tighten the tensioner roller (2) fixing bolt to between 20 and 26 Nm.
- 17) Rotate the crankshaft twice and re-align the timing setting marks (Fig. C) and check that the moving index (20) of the tensioner is located at the centre of the fixed fork (22) with a maximum deviation of $\pm 5^\circ$ (Fig. F).



- 18) If the deviation is greater than this then remove the tensioner roller (2) and the timing belt (1) and repeat the entire tensioning procedure from step 11.

Note: On vehicles with electronic diesel injection pumps, the timing of the latter must be set statically using a comparator and its adapter support.

- 19) Refit the lower (13) and upper (12) timing covers and tighten their fixing bolts to between 7 and 10 Nm (Fig. A).
- 20) Refit the crankshaft pulley (15) and immobilise it using special tools (10) and (11) (Carnival II) then tighten its fixing bolt to between 343 and 392 Nm (Carnival I/Terracan) or to between 376 and 412 Nm (Carnival II) (Fig. B).
- 21) Refit the water pump pulley (14) and tighten its fixing bolts to between 17 and 28 Nm (Carnival I/Terracan) or to between 6 and 10 Nm (Carnival II) (Fig. B).
- 22) Refit the removed elements in reverse order to removal.



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