NT 03016
VKMA/C 03246 – VKMA/C 03247

Citroën / Fiat / Peugeot

VKMA 03246

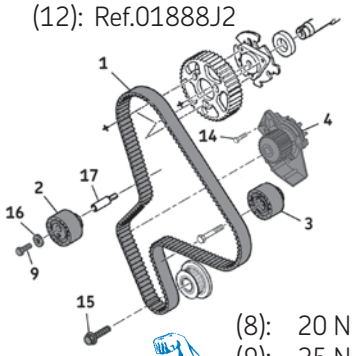
VKMC 03246

VKMA 03247

VKMC 03247

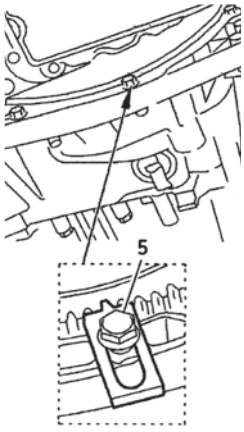
A

(5): Ref. 0188F
(6): Ref.0188X / Ref.0188Y / Ref. 0188D
(7): Ref.0188M
(10): Ref. 0188K
(11): Ref. CTG 105.5M / CIT. ref 4122-T
(12): Ref.01888J2

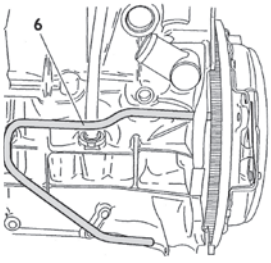


(8): 20 Nm
(9): 25 Nm
(14): 15 Nm

B



C



Removal

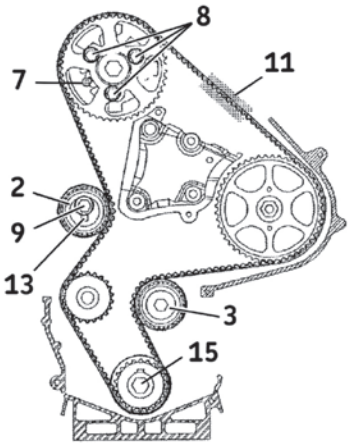
1) Disconnecting the battery according to the vehicle manufacturing guidelines.
2) Prepare the vehicle for the timing replacement according to the manufacturing guidelines.
3) Lock the flywheel using tool (**5**) (**Fig. B**).
4) Remove the crankshaft pulley.
5) Remove the tool (**5**) (**Fig. B**).
6) Turn the crankshaft in the engine rotation direction until the timing pin (**6**) can be inserted in the flywheel (**Fig. C**).
7) Insert pin (**7**) in the camshaft hub (**Fig. D**).
8) Loosen the camshaft sprocket fastening bolts (**8**) (**Fig. D**).
9) Loosen the tensioner roller (**2**) fastening bolt (**9**) (**Fig. D**).
10) Remove timing belt (**1**), tensioner roller (**2**) and idler roller (**3**) (**Fig. D**).
11) **Removing the water pump** (**in VKMC 03246/03247**): firstly bleed the cooling circuit, check it is clean, and clean if required; secondly fully loosen the water pump fastening bolts (**14**) and remove the pump (**4**) (**Fig. A**).

Refitting

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

12) **Refitting the water pump**: Firstly, fit the new water pump (**4**), apply the torque 1**5 Nm** to the waterpump bolts (**14**); then check that the water pump pulley runs properly, and has no hard or locking spots.
13) Fit the new tensioner roller (**2**) with its new bolt (**9**) and its new washer (**16**).
Note: For **VKMA 03247**, take care to get the surface of the tensioner roller (**2**) aligned with the top of the mounting pin (**17**) (**Fig. G**).
14) Fit the new idler roller (**3**).
15) Retighten by hand the camshaft sprocket fastening bolts (**8**) (**Fig. D**).
16) Move the camshaft sprocket to the end of the oblong holes by turning it in the engine rotation direction.

D



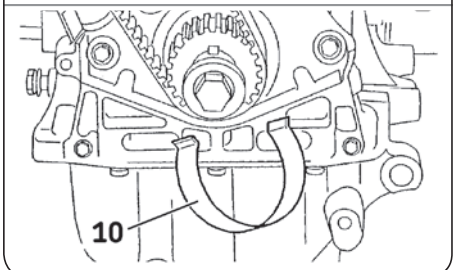
17) Place the new timing belt (**1**) on the crankshaft sprocket and immobilize with the tool (**10**) (**Fig. E**).
18) Continue fitting the timing belt (**1**) in the following order: idler roller (**3**), high pressure pump sprocket, camshaft sprocket, water pump sprocket (**4**) and tensioner roller (**2**).

Note: To help place the belt on the camshaft and high pressure pump sprockets, turn the sprockets very slightly in an **anti-clockwise** direction. The angular displacement of the sprockets relative to the belt must not exceed one tooth.

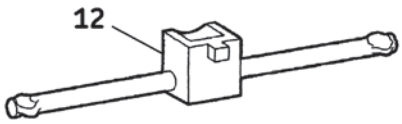
Install Confidence

VKN 1007

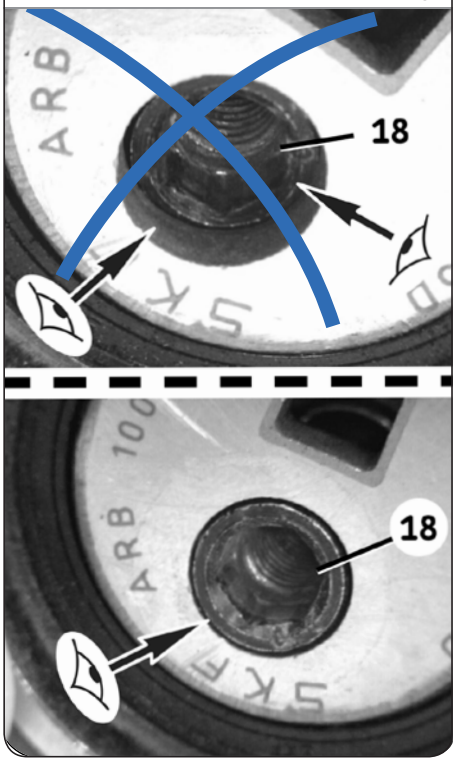
E



F



G



19) Place the sensor (**11**) of the tension gauge on the belt (**1**) between the camshaft and high pressure pump sprockets (**Fig. D**).

20) Tighten the timing belt: insert the tool (**12**) (**Fig. F**) in the hole (**13**) and turn the tensioner roller (**2**) anti-clockwise until a reading of 98 SEEM units is displayed on the tension gauge (**Fig. D**).

21) Tighten the tensioner roller fastening bolt (**9**) to **25 Nm**.

22) Check that the camshaft sprocket is not bearing against the end of the oblong holes. Tighten the camshaft sprocket fastening bolts (**8**) to **20 Nm** (**Fig. D**).

23) Remove the sensor (**11**) (**Fig. D**).

24) Remove the tool (**10**) (**Fig. E**) and the timing pins (**6**) and (**7**) (**Fig. C** & **Fig. D**).

25) Turn the crankshaft through **8 revolutions** in the engine rotation direction until pins (**6**) and (**7**) can be inserted (**Fig. C** & **Fig. D**).

26) Loosen the camshaft sprocket fastening bolts (**8**) as well as those of the tensioner roller (**2**) (**Fig. D**).

27) Place the sensor (**11**) on the belt (**1**), the same position as in step 18) (**Fig. D**).

28) Insert the tool (**12**) (**Fig. F**) in the hole (**13**) and turn the tensioner roller (**2**) **anti-clockwise** until a reading of 54 SEEM units is displayed on the tension gauge (**Fig. D**).

29) Tighten the fastening bolt (**9**) of the tensioner roller (**2**) to of **25 Nm**. Tighten the sprocket fastening bolts (**8**) to **20 Nm** (**Fig. D**).

30) Remove then refit the sensor (**11**) and check that the tension reading is equal to **54 SEEM units** (**Fig. D**).

31) If the tension reading is not equal to **54 SEEM units**, re-start the tension adjustment operation from step **19)**.

32) Remove the sensor (**11**) (**Fig. D**).

33) Remove the timing pins (**6**), and (**7**) (**Fig. C** and **Fig. D**).

34) Turn the engine through **two revolutions** in its normal direction of rotation until pins (**6**) and (**7**) can be inserted (**Fig. C** and **Fig. D**).

35) Remove the timing pins (**6**) and (**7**).

36) Refit the removed elements in reverse order to removal :
- Lock the flywheel using tool (**5**) (**Fig. B**).
- Refit the crankshaft pulley and tighten its new bolt (**15**) according to the manufacturing guidelines.
- Remove the tool (**5**) (**Fig. B**).

37) Fill the cooling circuit with the permanent fluid recommended.

38) 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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