NT 04008
VKMA/C 04212

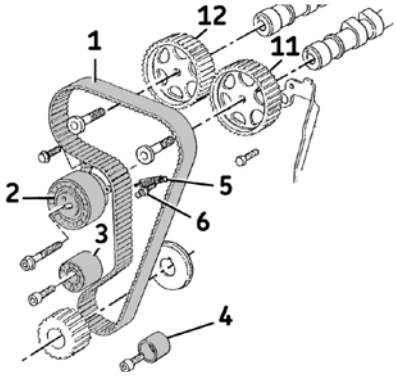
Ford

VKMA 04212

VKMC 04212

A

(4): Flywheel timing pin (CIT ref. 4507-T.A / PEU ref. 0132-QY).
(5): Camshaft sprocket centring pin (CIT/PEU ref. 0194 A).
(6): Camshaft sprocket centring pin (CIT ref.4533-T.AC1 / PEU ref.0132-AJ1).
(10): Timing belt assembly tool (CIT ref. 4533-T.AD/ PEU ref.0132-AK).

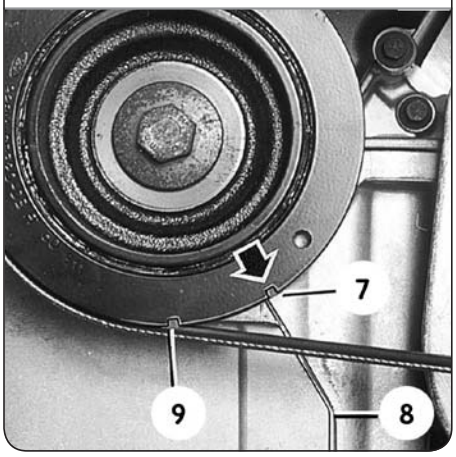


(14): 35-40 Nm
(19): 67-72 Nm

Removal

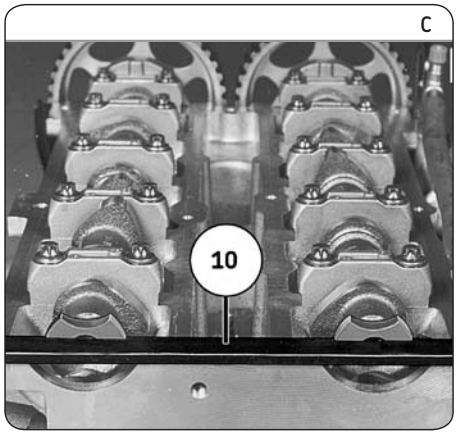
1) Disconnect the battery according to the vehicle manufacturing guidelines.
2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
3) Remove the water pump pulley.
4) Lock the flywheel on rotation then release the crankshaft pulley fastening bolt.
5) Turn the engine to TDC: mark (**7**) on the crankshaft pulley must be aligned with the fixed marker on the oil casing (**8**) (mark (**9**) is not used) (**Fig. B**).
6) Remove the crankshaft pulley.
7) Remove the timing casing and the cylinder head cover.
8) Insert the camshaft tool (**10**) (**Fig. C**). If necessary, turn the engine one extra turn.
9) Release the tensioner roller (**2**) fastening bolt (**14**) then slacken the timing belt by turning the tensioner roller (**2**) **clockwise** using an Allen key (**Fig. D**).
10) Tighten the tensioner fastening bolt (**14**) to hold it in position.
11) Remove timing belt (**1**).
12) Remove the tensioner roller (**2**) and the spring (**5**) and its bolt (**6**) (**Fig. A** and **Fig. B**).
14) Remove idler bolts (**15**) and (**16**), then remove the idler rollers (**3**) and (**4**) (**Fig. A**).
15) **Removing the water pump** (**VKMC 04212**): firstly bleed the cooling circuit, check it is clean, and clean if required; secondly fully loosen the water pump (**17**) fastening bolts (**18**) and remove the pump (**Fig. A**).

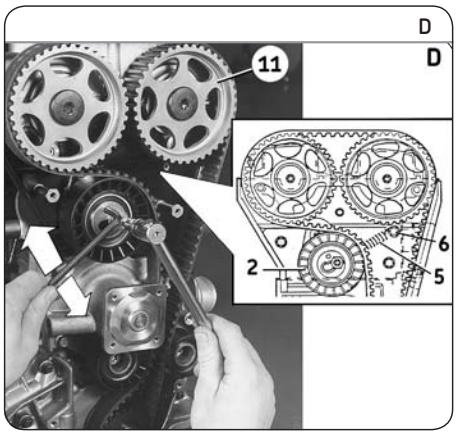
B

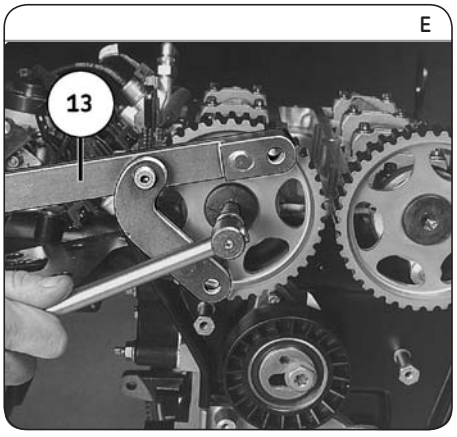


Note: SKF recommends this timing VKMC kit with the water pump driven by the auxiliary belt because it is necessary to remove the timing belt firstly so as to replace the water pump.

Install Confidence







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

16) **Refitting the water pump:** Firstly fit the new water pump (**17**); then check that the water pump pulley runs properly, and has no hard or locking spots.
17) Refit the new idler rollers (**3**) and (**4**) (**Fig. A**).
18) Refit the new bolt for the spring (**6**) (**Fig. A**).
19) Clip the new spring (**5**) to the new tensioner roller (**2**) (**Fig. A**).
20) Replace the tensioner roller (**2**) then put it in a slack position using an Allen key (**Fig. D**). Tighten the tensioner roller fastening bolt (**14**).
21) Check that the engine is at TDC by raising the crankshaft pulley: marks (**7**) and (**8**) must be aligned (**Fig. B**). Remove the crankshaft pulley.
22) Check that the tool (**10**) is in place (**Fig. C**).
23) Fit the new timing belt in the following order: crankshaft pin, idler roller (**4**), camshaft sprocket (**11**), camshaft sprocket (**12**), tensioner roller (**2**) and idler roller (**3**) (**Fig. A**).

Note: Check that the edge of the belt between the crankshaft pin and the camshaft sprocket (**11**) is tight (**Fig. D**).

24) Slacken the fastening bolt (**14**) of the tensioner roller (**2**), the belt tightens automatically. Tighten the tensioner roller fastening bolt (**14**) to a torque of **35** to **40 Nm**.
25) Remove the tool (**10**) (**Fig. C**).
26) Replace the crankshaft pulley then turn the crankshaft twice to TDC: Check that the various marks are aligned (**7**) and (**8**) (**Fig. B**).
27) Check that the tool (**10**) can be inserted easily (**Fig. C**).

Note: The timing system is set correctly when the camshaft timing tool (**10**) can be easily engaged in the grooves (**Fig. C**).

28) If the camshaft timing tool cannot be pushed in easily, lock the camshaft sprockets with the tool (**13**) then slacken their fastening screws (**Fig. E**). Make sure that the sprockets turn freely on their axes and turn the camshafts until the tool is inserted (**10**) (**Fig. C**).
29) Tighten the camshaft sprocket fastening bolts (**19**) to a torque of **67** to **72 Nm**.
30) Refit the elements removed in reverse order to removal respecting the crankshaft pulley tightening torque of **110** to **120 Nm**.
31) Fill the cooling circuit with the permanent fluid recommended.
32) 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).

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.

PUB 80/I1 15032 EN · November 2014