NT 95000
VKMA 95010
VKMA 95014

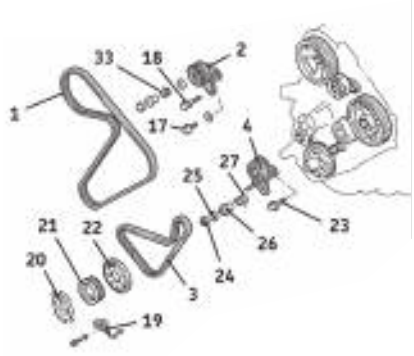
Mitsubishi

VKMA 95010

VKMA 95014

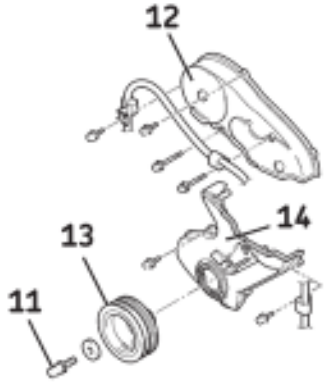
A

MD998721



(11): 180-190 Nm
(12)/(14): 10-12 Nm
(17)/(18): 23-29 Nm
(23)/(24): 23-29 Nm

B



Removal

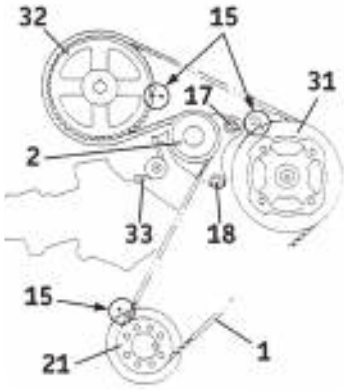
1) Disconnecting the battery according to the vehicle manufacturing guidelines.
2) Prepare the vehicle for the timing replacement according to the vehicle manufacturing guidelines.
3) Immobilise the crankshaft pulley (**13**) using the tool MD998721 and remove its fixing bolt (**11**) (**Fig. B**).
4) Remove the crankshaft pulley (**13**).
5) Remove the upper (**12**) and lower (**14**) timing belt covers (**Fig. B**).
6) Refit the crankshaft pulley fixing bolt (**11**) in order to rotate the crankshaft in a **clockwise** direction to align the timing marks (**15**) and (**16**) of timing belts (**1**) and (**3**) (**Fig. C** and **D**).
7) Slacken the timing belt (**1**) roller (**2**) fixing bolts (**17**) and (**18**) (**Fig. E**).
8) Tip the tensioner roller (**2**) in an **anti-clockwise** direction using a screwdriver (**Fig. E**).
9) Immobilise the tensioner roller (**2**) by temporarily tightening its bolt (**17**) (**Fig. E**).
10) Remove the crankshaft angle sensor (**19**) (**Fig. A**) (depending on the assembly).
11) Remove the crankshaft rotation detection ring (**20**) (depending on the assembly).
12) Remove the timing belt (**1**) (**Fig. A**).
13) Loosen the bolt (**17**) to release the tensioner roller (**2**) then remove the bolts (**17**), (**18**) and the tensioner roller (**2**) (**Fig. E**).
14) Slacken the bolt (**23**) and the nut (**24**) of the tensioner roller (**4**) for the balance shafts belt (**3**) (**Fig. F**).
15) Tip the tensioner roller (**4**) in a **clockwise** direction using a screwdriver (**Fig. F**).
16) Immobilise the tensioner roller (**4**) by temporarily tightening its nut (**24**).
17) Remove the belt (**3**) (**Fig. A**).
18) Loosen the nut (**24**) to release the tensioner roller (**4**) then remove the nut (**24**) (**Fig. F**).
19) Remove the gasket (**25**), the tension spacer (**26**) and the spring (**27**) of the tensioning roller (**4**) (**Fig. A**).
20) Remove the bolt (**23**) and the tensioner roller (**4**) (**Fig A**).

Refitting

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

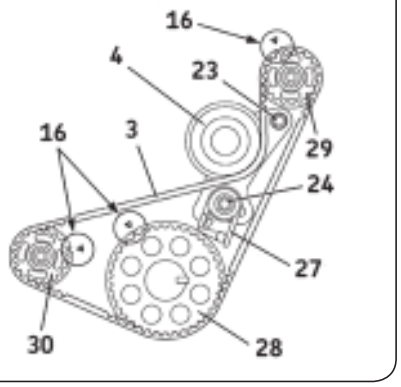
21) Fit the new tensioner roller (**4**) and hand-tighten its fixing bolt (**23**) (**Fig. F**).
22) Refit the tension spacer (**26**), the spring (**27**) and the gasket (**25**) and hand-tighten the nut (**24**) (**Fig. A**).
23) Tip the tensioner roller (**4**) in a **clockwise** direction using a screwdriver (**Fig. F**).
24) Immobilise the tensioner roller (**4**) in this position by temporarily tightening its nut (**24**).
25) Check the alignment of the timing marks (**16**) for the timing belt (**3**) (**Fig. D**). Fit the new balance shafts belt (**3**), starting with the crankshaft sprocket (**28**) (**Fig. D**).
26) Support the upper balance shaft pinion (**29**) in order to stop the timing mark turning and engage the belt (**3**), taking care to correctly tension the strand located between the crankshaft sprocket and the upper balance shaft pinion (**29**) (**Fig. D**).
27) Support the lower balance shaft pinion (**30**) in order to stop the timing mark turning and engage the belt (**3**), taking care to correctly tension the strand located between the crankshaft sprocket (**28**) and the lower balance shaft sprocket (**30**) (**Fig. D**).

C

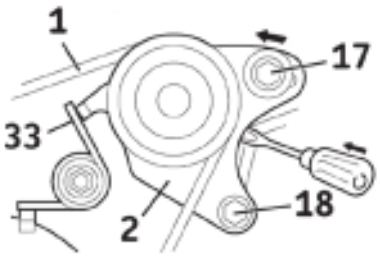


Install Confidence

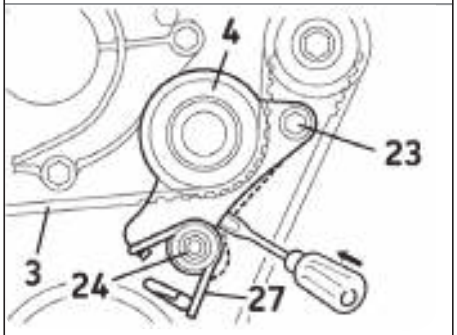
D



E



F

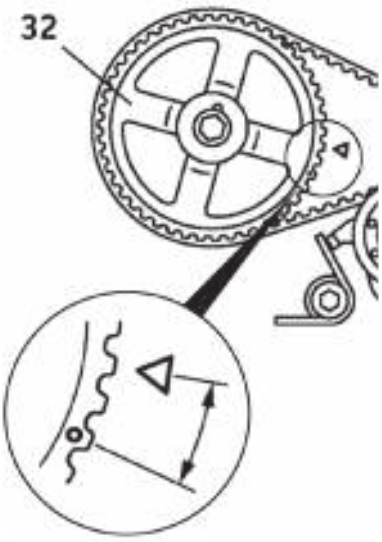


28) Finish by pressing on the strand of the belt located between the tensioning roller (**4**) and the lower balance shaft pinion by hand in order to put the belt (**3**) in place around the tensioning roller (**4**).
29) Check that the timing marks (**16**) are still aligned (**Fig. D**).
30) Slacken the nut (**24**) and the bolt (**23**) so that the spring (**27**) pressure can operate and allow the tensioner roller (**4**) to press without constraint onto the belt (**3**) (**Fig. D**).
31) Tighten the nut (**24**) and the bolt (**23**) to between **23** and **29 Nm** by tightening the nut (**24**) first (if the bolt (**23**) is tightened first the tensioner (**4**) moves and slackens the belt).
32) Press the belt (**3**) with the forefinger between the crankshaft sprocket (**28**) and the upper balance shaft sprocket (**29**) to check that the deflection is between 4 and 5 mm (**Fig. D**).
33) Fit the new tensioner roller (**2**) for the timing belt (**1**) and slightly hand-tighten its bolts (**17**) and (**18**) (**Fig. E**)
34) Tip the timing belt (**1**) tensioner roller (**2**) in an **anti-clockwise** direction using a screwdriver (**Fig. E**).
35) Immobilise the tensioner roller (**2**) in this position by temporarily tightening its bolt (**17**) (**Fig. E**).
36) Check the alignment of the timing marks (**15**) for the timing belt (**1**) (**Fig. C**).
37) Fit the new timing belt (**1**) starting with the crankshaft sprocket (**21**).
38) Support the injection pump sprocket (**31**) in order to stop the timing mark turning and engage the timing belt (**1**), taking care to correctly tension the strand located between the crankshaft sprocket and the injection pump sprocket (**31**) (**Fig. C**).
39) Support the camshaft sprocket (**32**) in order to stop the timing mark turning and engage the timing belt (**1**), taking care to correctly tension the strand located between the injection pump sprocket and the camshaft sprocket (**32**) (**Fig. C**).
40) Finish fitting the belt by putting it in place around the tensioner roller (**2**) (**Fig. C**).
41) Slacken the screws (**17**) and (**18**) so that the spring (**33**) pressure can operate and allow the tensioner roller (**2**) to press without constraint onto the belt (**1**) (**Fig. C**).
42) Turn the crankshaft in a clockwise direction so that the camshaft sprocket turns by 2 teeth (**Fig. G**).

Caution! The rotation of the camshaft sprocket must not exceed 2 teeth relative to the timing mark. Do not touch the timing belt (**1**) during adjustment.

43) Tighten the bolts (**17**) and (**18**) of the tensioner roller (**2**) to between **23** and **29 Nm**, tightening bolt (**17**) first (if bolt (**18**) is tightened first the tensioner moves and over-tightens the belt).
44) Turn the crankshaft in a **clockwise** direction by a little less than **2 turns** and check that the timing belt timing markers (**15**) are aligned (**Fig. C**).
45) Press the timing belt (**1**), with the forefinger between the camshaft sprocket (**28**) and the injection pump to check that the deflection is between 4 and 5 mm (**Fig. C**).
46) Remove the crankshaft pulley fixing bolt (**11**) (**Fig. B**).
47) Refit the crankshaft rotation detection ring (**20**) (**Fig. A**) (depending on the assembly).
48) Refit the crankshaft angle sensor (**19**) (**Fig. A**) (depending on the assembly).
49) Refit the upper and lower covers (12) and (**14**) and tighten their fastenings to between **10** and **12 Nm**.
50) Refit the crankshaft pulley (**13**) (**Fig. A**).
51) Immobilise the pulley (**13**) using the tool MD998721 and tighten its fixing bolt (**11**) to **between 180 and 190 Nm**.
52) Proceed in the reverse order to removal for the remaining operations.

G



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