Timing belt: removal/installation

General

Before disconnecting the battery cable, check the audio system security code

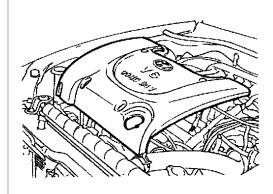
Always check the timing marks before timing belt removal (1.00)



Removal

Disconnect the battery

Remove the engine cover (2.00)



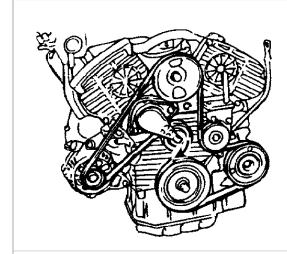
Turn the tensioner clockwise

(14°)

Use a hexagonal wrench (3.00)

(16 mm)

Timing belt: removal/installation



Remove the ancillary drive belt

Remove the coolant pump pulley

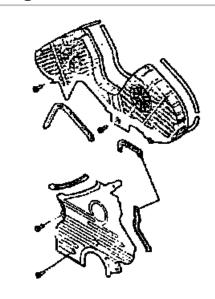
Remove the ancillary drive belt tensioner

Remove the ancillary drive belt idler pulley

Remove the crankshaft pulley

Remove the timing belt front covers (4.00)

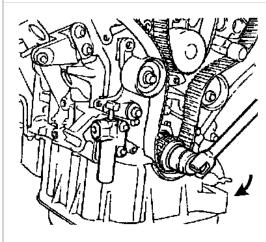
Timing belt: removal/installation



Use a trolley jack to support the engine

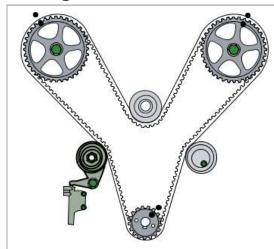
Remove the engine mounting bracket

Turn the crankshaft to TDC for cylinder 1 (5.00)



Align the timing marks (1.00)

Timing belt: removal/installation



Remove the automatic tensioner

Remove the tensioner pulley

Remove the idler pulley

Remove the timing belt

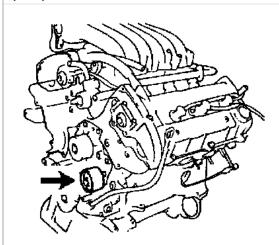
Check the gearwheels, tensioner and idler pulley(s) for damage and wear

Installation

Check the timing marks

Refit the idler pulley (8.00)

(50 - 60 Nm)

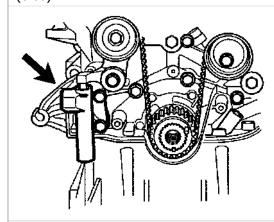


Timing belt: removal/installation

Compress the tensioner

Push the piston and insert a suitable pin

Refit the automatic tensioner (35 - 55 Nm) (6.00)



Fit the tensioner pulley

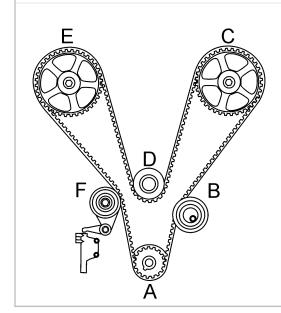
(43 - 55 Nm)

Check the timing marks again

Fit the timing belt

(A->B->C->D->E)

(9.00)



Timing belt: removal/installation

Unlock the tensioner

Rotate the crankshaft clockwise by 2 turns

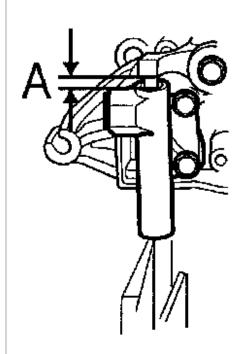
Wait for 5 minutes

Measure the protrusion of the tensioner push rod from the housing end

Measurement value

(A: 6 - 8 mm)

(7.00)



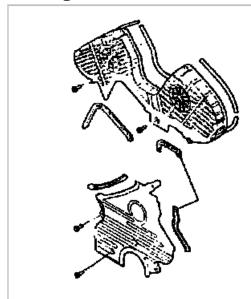
Refit the engine mounting bracket

Remove the jack

Refit the timing belt covers (10 -12 Nm)

(4.00)

Timing belt: removal/installation



Refit the crankshaft pulley (180 - 190 Nm)

Refit the coolant pump pulley

Fit the ancillary drive belt idler pulley

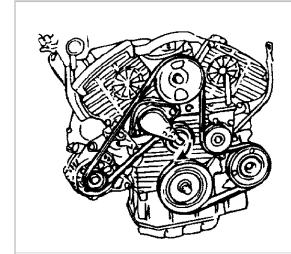
Fit the ancillary drive belt tensioner (20 - 27 Nm)

Turn the tensioner clockwise (14°)

Use a hexagonal wrench (16 mm)

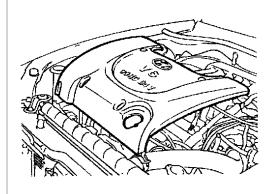
(3.00)

Timing belt: removal/installation



Fit the ancillary drive belt

Refit the engine cover (2.00)



Reconnect the battery

Torque settings

Crankshaft pulley: (180 - 190 Nm)

Ancillary drive belt tensioner: (20 - 27 Nm)

Ancillary drive belt idler pulley: (35 - 55 Nm)

Timing belt covers: (10 - 12 Nm)

Tensioner body (bolts): (35 - 55 Nm)

Timing belt: removal/installation

Tensioner pulley: (43 - 55 Nm)

Idler pulley: (50 - 60 Nm)

Engine support bracket: (15 - 22 Nm)

DataCar