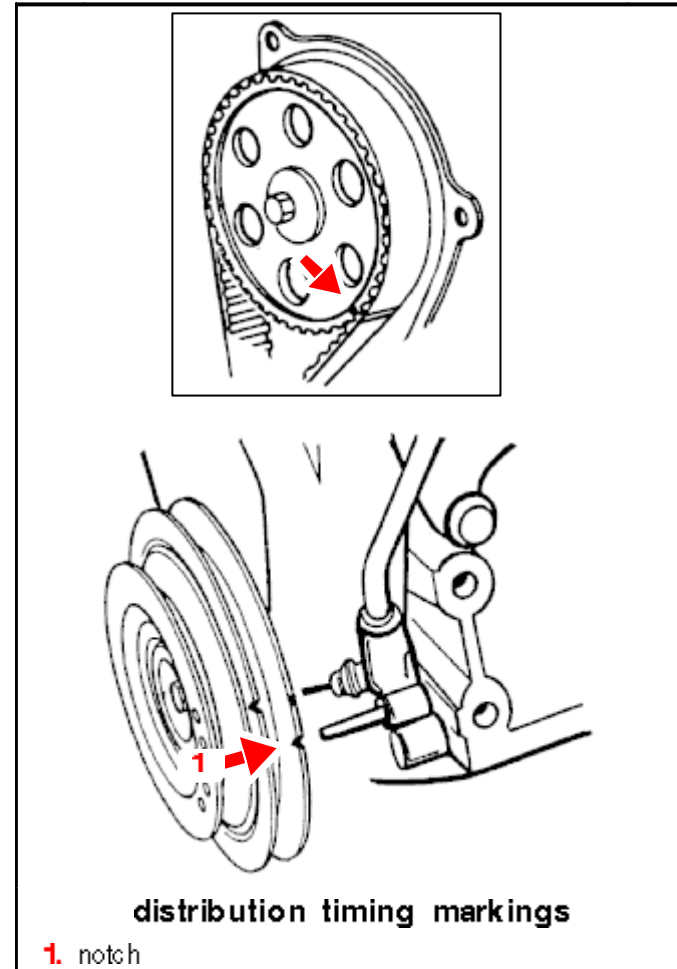
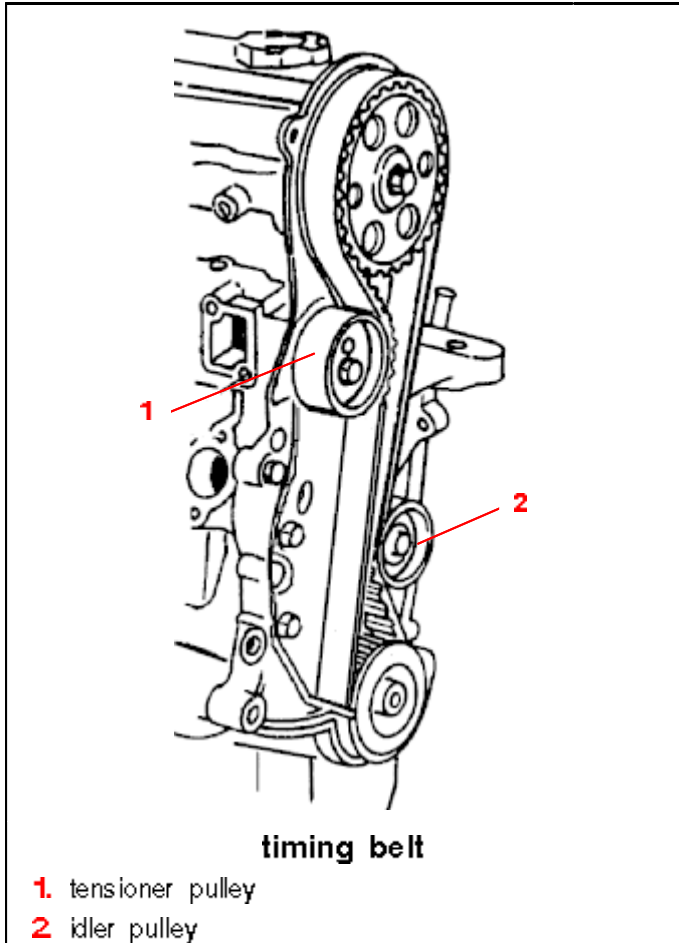


## - CD20

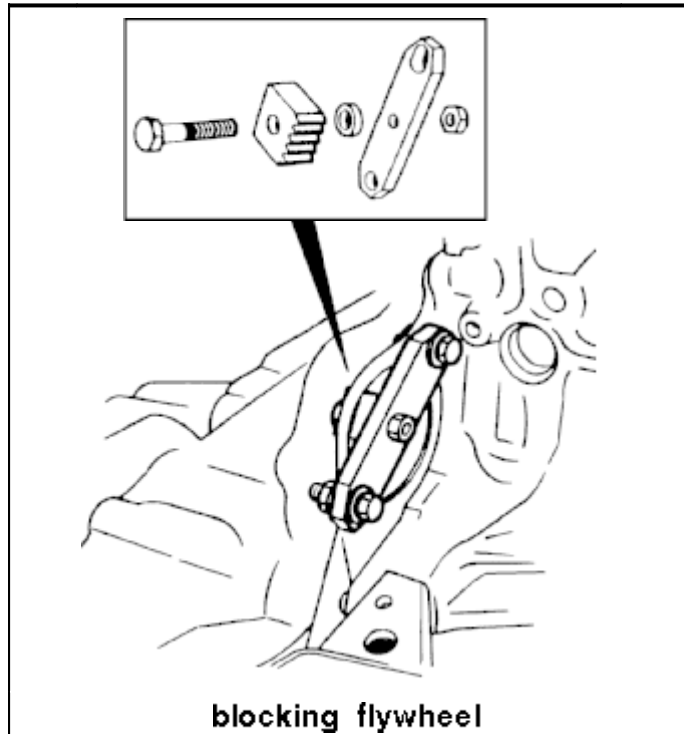
## Timing belt



checking / renewing

See the general information about **Timing belts (Service intervals)**.

## Removal



## special tools

flywheel locking tool	KV101056S0
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Drain: the coolant

Support the engine with a hoist.

Remove:

- the RH engine mounting bracket
- the upper timing cover
- the water pump pulley.

Rotate the crankshaft clockwise until the timing marks are aligned.

**Note:** It is possible that the crankshaft will require several turns.

Remove: the starter motor.

Block flywheel; use the special tool.

Remove:

- the crankshaft pulley
- the lower timing cover.

Release the timing belt:

Slacken: the tensioner pulley securing bolt.

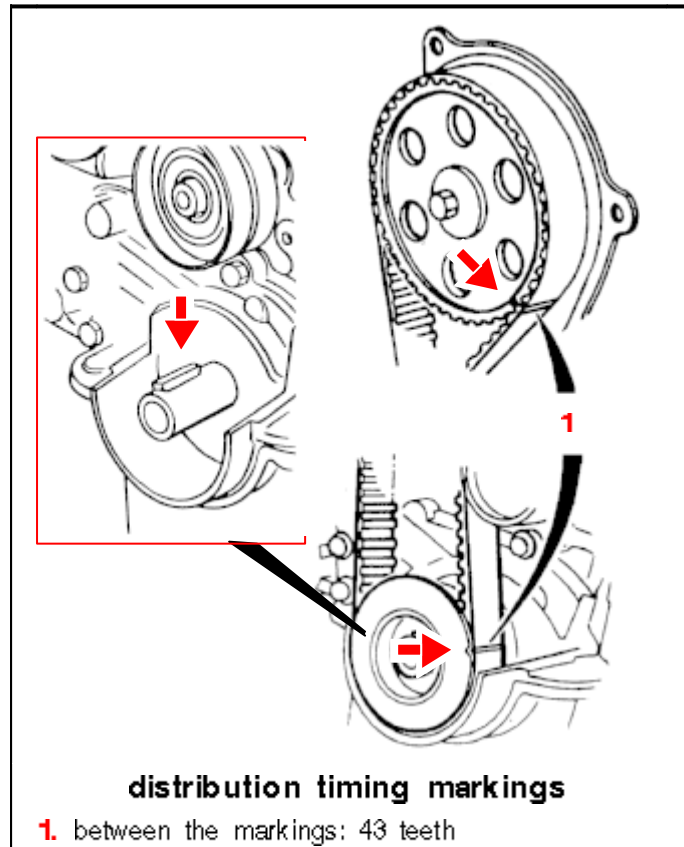
Rotate the tensioner pulley anti-clockwise.

Tighten: the tensioner pulley securing bolt.

Remove:

- the guide plate; from the camshaft timing gear
- the timing belt; together with the crankshaft gear.

## Installation



timing covers	3 - 5 Nm
crankshaft pulley	142 - 152 Nm
timing belt tensioner pulley	32 - 40 Nm
camshaft timing gear guide plate	5 - 7 Nm

**Note:** Coat bolts with: sealant

Check that the distribution timing markings are aligned.

Fit / apply: the timing belt; together with the crankshaft gear. Ensure that the markings are aligned; timing belt markings.

**Note:** The arrow on the belt must point towards the timing cover.

Remove: the locking tool.

Fit / apply: the guide plate; to the camshaft timing gear.

Tension the timing belt:

Slacken: the tensioner pulley securing bolt.

Rotate the crankshaft clockwise: 2 turns.

Tighten: the tensioner pulley securing bolt.

Complete the installation in reverse order of removal.

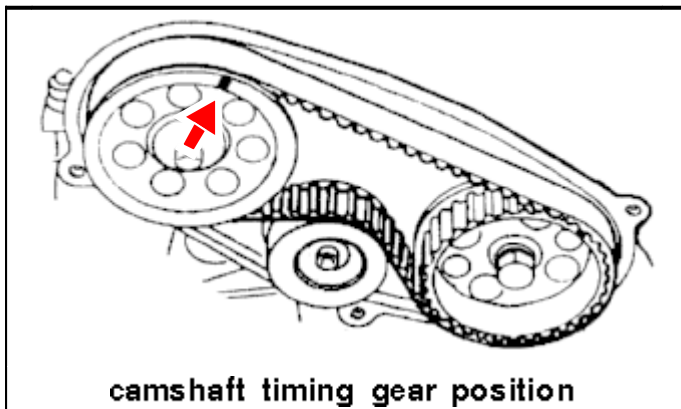
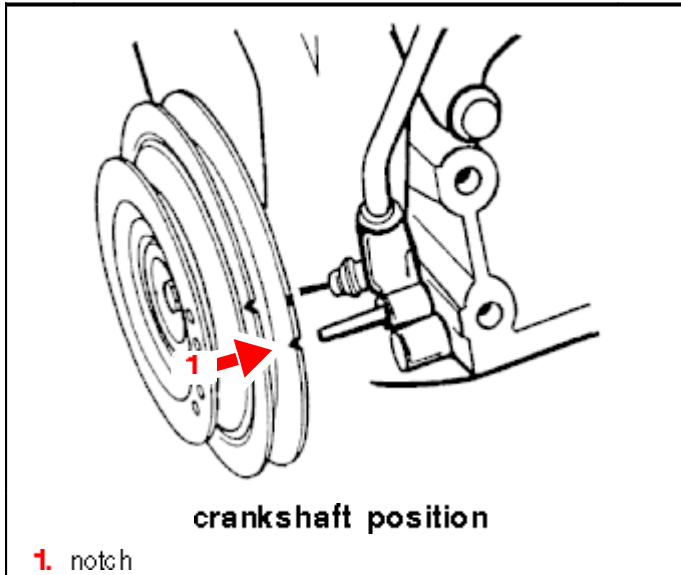
## torque settings

RH engine mounting bracket	43 - 58 Nm
starter motor	31 - 42 Nm
water pump pulley	9 - 11 Nm

## Drive belt injection pump

checking / renewing

See the general information about **Timing belts (Service intervals)**.



## Removal

Rotate the crankshaft clockwise until the crankshaft markings are aligned; notch in the crankshaft pulley.

Remove:

- the air intake tube
- the timing cover.

Check that the camshaft timing gear is in the position shown. If necessary, rotate the crankshaft 1 turn; in the direction of rotation of the engine

Release the drive belt:

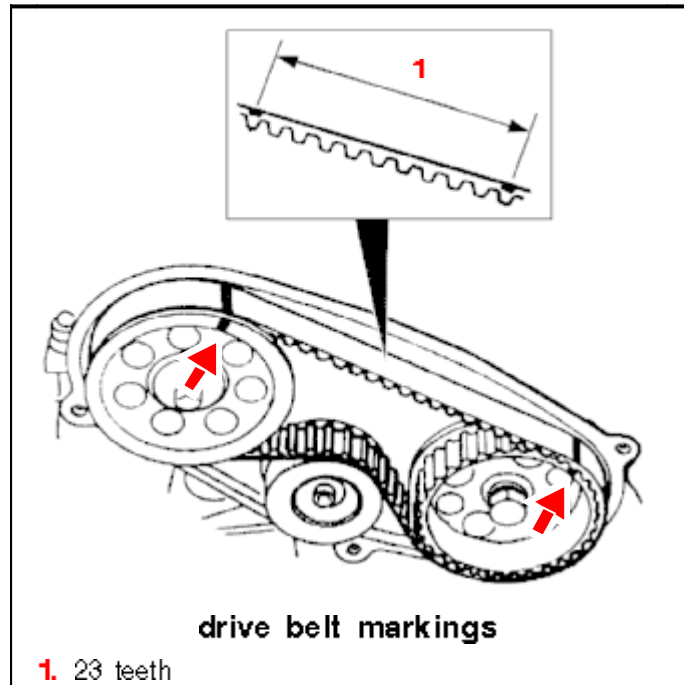
Slacken: the tensioner pulley securing nut.

Turn the tensioner pulley clockwise.

Tighten: the tensioner pulley securing nut.

Remove: the injection pump drive belt.

## Installation



Slacken: the tensioner pulley securing nut.  
 Rotate the crankshaft clockwise: 2 turns  
 Tighten: the tensioner pulley securing nut.  
 Refit the components in reverse order of removal.

## torque settings

timing cover	3 - 5 Nm
tensioner pulley	16 - 21 Nm

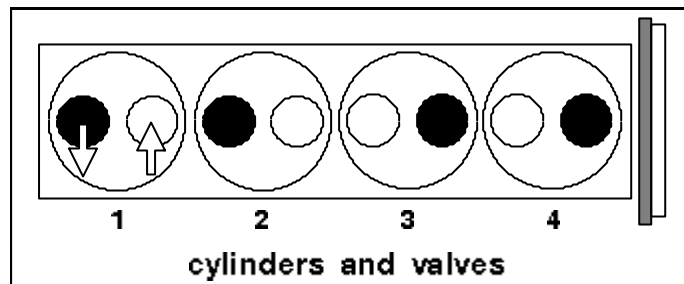
Check that the crankshaft pulley is in the position shown.

Fit / apply: the injection pump drive belt. Ensure that the markings are aligned; drive belt markings.

**Note:** The arrow on the belt must be pointing towards the timing cover.

Tension the drive belt:

## Valves, rocker arms and tappets

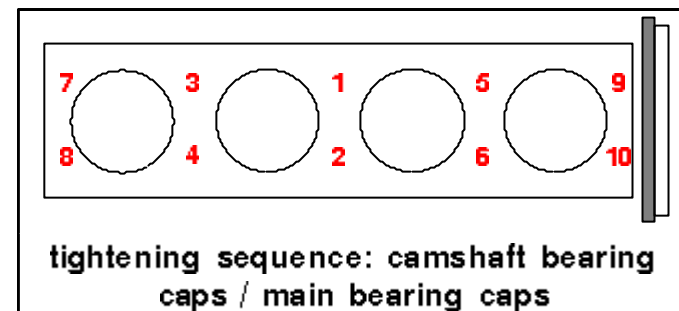
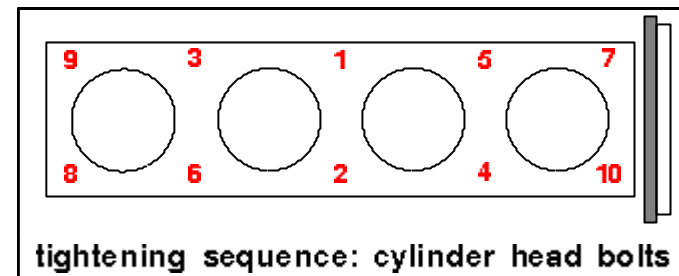


technical specifications	
firing order	1 - 3 - 4 - 2
valve operation	OHC; hydraulic tappets

### Hydraulic tappets

The hydraulic tappets cannot be adjusted.

## Torque settings



cylinder head	
cylinder head bolts	
<b>Note:</b> Lubricate bolts	
- step 1	39 Nm
- step 2	83 - 93 Nm
- step 3	slacken
- step 4	39 Nm
- step 5	83 - 93 Nm

camshaft bearing caps	
<b>Note:</b> Tighten the nuts in the specified sequence	
– step: 1	5 Nm
– step: 2	10 Nm
– step: 3	18 - 22 Nm
exhaust manifold	18 - 22 Nm
inlet manifold	18 - 22 Nm
valve cover	2 - 4 Nm
<b>engine block</b>	
big end bearing caps	
<b>Note:</b> Lubricate nuts	
– step: 1	14 - 16 Nm
– step: 2	37 - 45 Nm
main bearing caps	
<b>Note:</b> Tighten bolts in the specified sequence	
<b>Note:</b> Lubricate bolts	
– step: 1	10 Nm
– step: 2	30 Nm
– step: 3	44 - 54 Nm
drive plate	83 - 93 Nm
flywheel	83 - 93 Nm
<b>timing</b>	
timing cover	3 - 5 Nm
camshaft timing gear	87 - 107 Nm
injection pump gear	59 - 69 Nm
timing belt tensioner pulley	32 - 40 Nm

timing belt idler pulley	32 - 40 Nm
tensioner pulley; drive belt injection pump	16 - 21 Nm
crankshaft pulley	142 - 152 Nm
camshaft timing gear guide plate	5 - 7 Nm
<b>Note:</b> Coat bolts with: sealant	
<b>lubrication system</b>	
engine sump	7 - 8 Nm
oil drain plug	29 - 39 Nm
oil pressure switch	no data available
oil pump	12 - 16 Nm
<b>cooling system</b>	
coolant temperature sensor	no data available
coolant drain plug in engine block	54 - 74 Nm
thermostat housing	16 - 21 Nm
water pump	no data available
water pump pulley	9 - 11 Nm
<b>auxiliary units</b>	
starter motor	31 - 42 Nm
alternator	
– adjustment bolt	16 - 21 Nm
– bolt	37 - 50 Nm
power steering pump	
– adjustment bolt	16 - 21 Nm
– bolt	37 - 50 Nm

<b>fuel system / pre-glow system</b>	
injector lines	22 - 25 Nm
glow plugs	no data available
injection pump	
- bolt	49 - 59 Nm
- nut	13 - 18 Nm
injector in injector holder	22 - 25 Nm
injector holder in cylinder head	59 - 69 Nm