

Replacing the timing belt / idler pulley / belt tensioner

Special tools: [999 5433](#)

Note! As the illustrations in the information are used for different model years and / or models, certain variations may occur. However, the essential information in the illustrations is always correct.

Remove components

Caution! Remove the ignition key from the ignition switch before beginning work.

Note! The crankshaft or camshaft must not be rotated under any circumstances other than those listed below. Failure to follow these instructions may cause damage to the valves.

Remove:

- the upper timing belt cover.
- the servo reservoir and the expansion tank. Lift up and place on top of the engine.

Note! Take care not to spill servo oil from the bleed hole in the cap.

Place paper wipe around the reservoir and then cover with a plastic bag as protection. Spilled servo oil is highly inflammable.

- the auxiliaries belt.
- the front camshaft belt cover.

Position the engine according to the marking

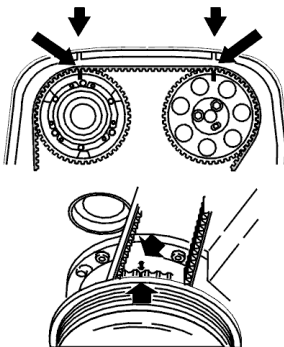
Raise the car.

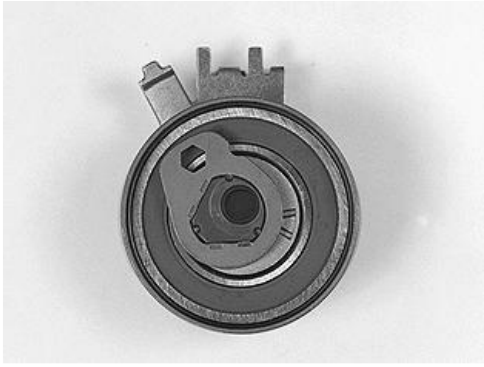
- Remove the right front wheel.
- Remove the nut for the cover in the fender liner.
- Install the upper camshaft belt cover.
- Turn the crankshaft clockwise until the markings on the crankshaft and camshaft pulley correspond.
- Turn the crankshaft a further 1/4 turn clockwise and then back again until the markings correspond. The markings are illustrated.
- Remove the upper camshaft belt cover.

Removing the camshaft belt

Slacken off the belt tensioner

- Slacken off the belt tensioner centre screw slightly.
- Hold the centre screw still and turn the





tensioner eccentric clockwise with a 6 mm Allen key to "10 o'clock".

- Remove the camshaft belt from the tension pulley, camshaft pulley and idler pulley.

Remove the vibration damper

Raise the car

- Remove the vibration damper.
Use counterhold **999 5433**.
Work the vibration damper loose.
- Remove the camshaft belt.



Checking the tension and idler pulleys

Check bearing wear:

Replace if necessary.

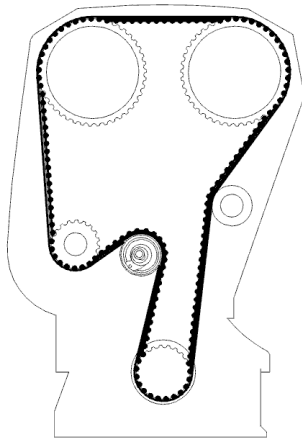
- **Idler pulley:**
Spin the idler pulley and listen for noise.
If replacing with a new idler pulley, tighten to **24 Nm**.
- **Tension pulley:**
When replacing, screw the tension pulley into place with the centre screw.
Screw in the centre screw by hand.
Ensure that the tensioner fork is centred over the cylinder block rib.
Ensure that the Allen key hole on the eccentric is at 10 o'clock.
As illustrated above.



Installing the camshaft belt

Install the new belt as follows:

- Install the new camshaft belt over the crankshaft pulley wheel.
- Install the vibration damper.
Tighten the centre nut to **180 Nm**.
Use counterhold **999 5433**.
Remove the counterhold and install new screws.
Tighten the screws to **25 Nm**. Angle tighten **30°**.



Then install the new belt in the following order:

- 1. Idler pulley.
- 2. Intake camshaft pulley.
- 3. Exhaust camshaft pulley.
- 4. Water pump.
- 5. Belt tensioner.

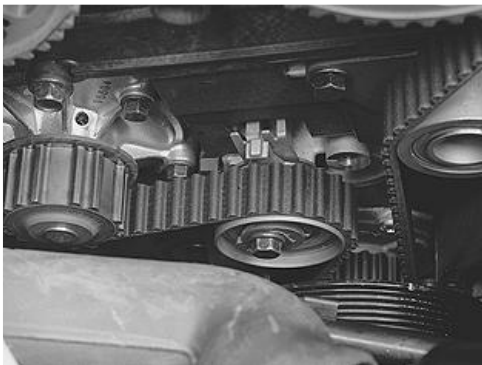
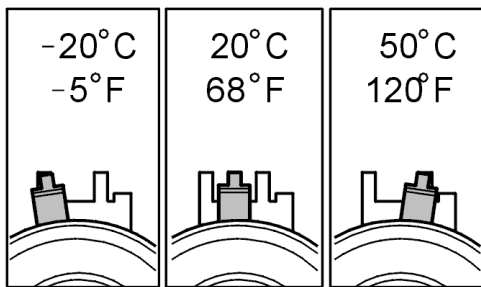
Tighten the timing belt

This adjustment is to be made with a cold engine.

A suitable temperature is approximately 20° C/68°F.

At a higher temperature, for example with a warm engine or a higher ambient temperature, the needle is further to the right.

The illustration shows the indicator position when adjusting the belt tensioner at different engine temperatures.



Tighten the timing belt as follows:

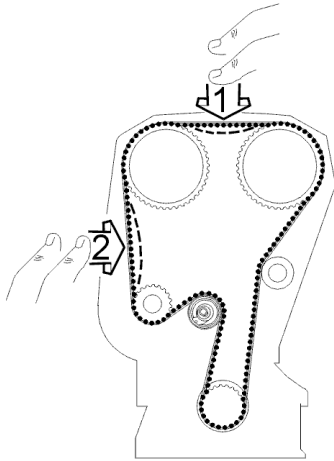
- Carefully turn the crankshaft clockwise until the camshaft belt is tensioned.
The belt must be tensioned between the intake camshaft pulley, the idler pulley and the crankshaft.
- Hold the belt tensioner centre screw secure and turn the belt tensioner eccentric counter-clockwise until the tensioner indicator passes the marked position.
- Then turn the eccentric back so that the needle reaches the marked position corresponding to the relevant temperature.
At 20°C the needle must be centred in the window.
See the illustration above.
- Hold the eccentric secure and tighten the centre screw to **20 Nm**.

Check that the indicator is in the correct position.

A new alignment must be carried out if the indicator is not in the correct position.

Check

Checking markings:



- Press the belt to check that the indicator on the belt tensioner moves easily.
- Install the upper timing belt cover.
- Turn the crankshaft 2 turns and check that the markings on the crankshaft and camshaft pulley correspond.
- Check that the indicator on the belt tensioner is within the marked area.

Reinstall

Reinstall:

- The front camshaft belt cover.
Tighten to **12 Nm**.
- The upper camshaft cover.
Tighten to **8 Nm**.
- Install the auxiliaries belt.
- The servo reservoir.
Wipe clean.
Check the fluid level. Top up if necessary.
- The expansion tank.

Note! Ensure that the hoses are correctly positioned.

- Wipe clean and check the engine compartment.
- The cover in the fender liner.
- The front wheel.

Checking work

Note! Write the date and mileage on the decal. Stick it on the camshaft belt cover.

Function test:

- Test drive the engine.
- Wipe the steering wheel and gear selector lever clean.