

ContiTech: Installation Tips for Changing Timing Belts

Described using Opel 1.8i 16V C 18 XE as an example

Hanover, June 2010. The 1.8i 16V C 18 XE engine – with varying engine displacement – is installed in a large number of Opel models. In changing the timing belt, however, serious mistakes are often made when the tension pulley is adjusted. To ensure that changing the belts goes smoothly, ContiTech Power Transmission Group is providing mechanics with detailed installation tips. Step by step, ContiTech experts explain how to replace belts correctly.

When the timing belts are changed, the tension pulley, the guide pulley and the water pump should be replaced, too. Opel recommends replacement after 60,000 km or every four years.

When carrying out a replacement, mechanics need a tool to lock the camshaft, for instance the Multilock from the CONTI® TOOL BOX. On an Astra F, it takes about one hour to replace the parts.

Preparatory work:

Identify the vehicle using the engine code, which can be found on the outer edge of the transmission mounting flange on the engine block (fig. 1). Disconnect the vehicle's battery.

Next, dismantle the air filter, the air intake hose and, on engines with the code C 18 XE/XEL, also the air mass sensor.

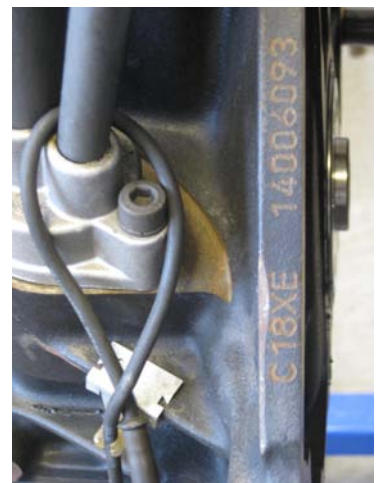


fig. 1

- 2 -

Support the engine and remove the right engine mount, the auxiliaries and the V-ribbed belt. Then dismount the pump of the power steering and the air-conditioning compressor and remove the timing belt cover.

Disassembling the timing belt:

Turn the crankshaft to the right until the control mark on the crankshaft pulley aligns with the tip on the engine block (fig. 2).

On camshaft pulleys with a single control mark, make sure that the mark of the respective camshaft pulley is aligned with the marks of the valve cover.

On camshaft pulleys with two control marks, check that the "INTAKE" and "EXHAUST" control marks are aligned with the marks of the valve cover (fig. 3).

Lock the camshaft with the locking tool (fig. 4).

Note: If the timing belt is removed without locking the camshafts, the camshafts turn, the engine timing is off and the timing belt can no longer be mounted properly. In such cases, the camshafts can be put in a position for mounting only by using improper methods.

Remove the crankshaft screw and loosen the tension pulley screw.

Turn tension pulley to the right until the pointer is at the left stop. Here, the tab attached with a hexagon socket screw must move clockwise downwards. Use a hexagon socket wrench here.

You can now remove the timing belt.



fig. 2



fig. 3



fig. 4

- 3 -

Drain cooling water and dismount the tension and idler pulleys and the water pump.

Installation of the timing belt:

Replace idler pulleys and water pump.

Note: When installing the water pump, make sure that it is positioned correctly. The nose of the water pump must be placed in the recess of the rear timing belt housing (fig. 5).

Now install the new tension pulley. Make certain that the counter support on the back of the tension pulley (base plate of the tension pulley) is positioned between the contact surfaces on the engine block and not next to them (fig. 6).

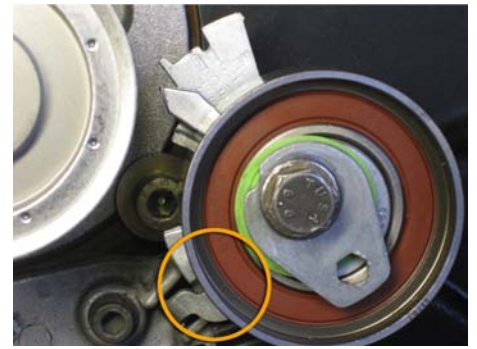


fig. 6

Position the new timing belt against the rotational direction starting at the crankshaft gear.

Turn tension pulley with the adjusting cam to the left until the pointer is at the right stop. Here, the hexagon socket screw moves counterclockwise upwards. Use a hexagon socket wrench. Then tighten the new tension pulley slightly.

Note: This is an especially important step. If this is not done, the belt drive will start making noise in a short time due to insufficient tension.

Now rotate the engine by hand in the running direction at least twice after removing the locking tool.

Loosen the screw of the tension pulley and turn the tension pulley to the right until the pointer is aligned with the notch in the bracket (fig. 7).



fig. 7

- 4 -

Tighten the screw of the tension pulley with a force of 20 Nm.

Turn the engine drive two more times, check the setting and adjust if necessary.

Install the components in reverse order of removal. Fill up the cooling water and vent the cooling system.

Record the replacement of the original ContiTech timing belt on the supplied sticker and affix it in the engine compartment (fig. 8).

Test run the engine or take a test drive.

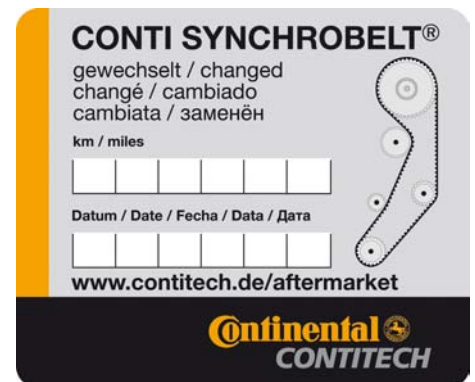


fig. 8

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The ContiTech division holds a global market leadership position for many non-tire rubber products and is a specialist in plastics technology in the non-tire rubber sector. The division develops and produces functional parts, components and systems for the automotive industry and other important industries. The division has a workforce of approximately 22,000 employees. In 2009, it achieved sales of approximately €2.4 billion.

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