

KD457.37

Assembly/disassembly recommendations

AUDI: SEAT: SKODA: VOLKSWAGEN:	A3 Series 1 (AU34) Cordoba III, Ibiza II, Inca, Leon, Toledo Series 2 Octavia II, Octavia III Bora, Caddy II, Golf IV, New Beetle, New Beetle FL, Polo VI, Polo VIII	ENGINES 1.9 Tdi 1.9 Sdi	OE REFERENCE: 038198119E
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TIMING KINEMATICS OF THE KIT KD457.37

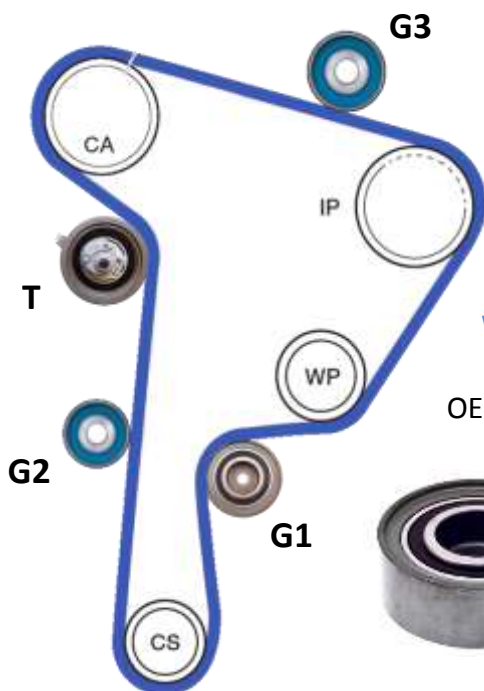
GT357.13 (T)

OE: 038109243



GE357.16 (G2)

OE: 038109244Q



GE357.14 (G3)

OE: 03L109244D

BELT WITH TEETH

141 teeth

OE: 038109119M



GE357.15 (G1)

OE: 038109244M

FEATURES OF THIS BELT

This timing belt requires **special tools**: a setting bracket to hold the camshaft, a locking pin to hold the injection pump and a double hook wrench for installing the tensioner GT357.13.

The timing belt is characterized by a **white Teflon coating** which gives good rigidity and high resistance to wear.

COMMON PROBLEMS

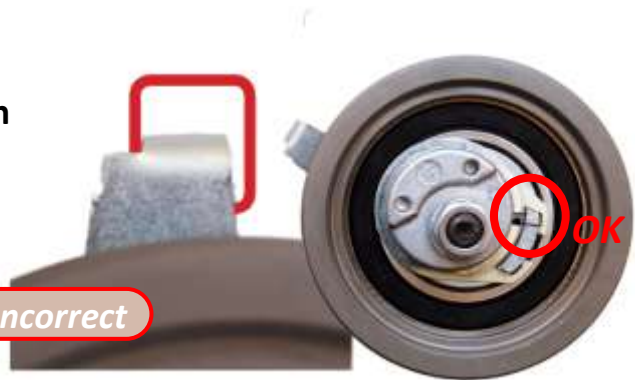
MALFUNCTION OF ROLLER TENSIONER GT357.13

Probable causes

Adjusting the tension in the wrong direction

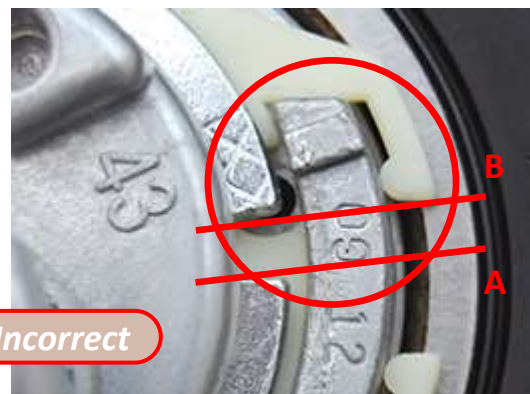
The roller was tensioned counterclockwise, the positioning pin is in the slot but it is not fully flush on the right side.

Even if the cursor and the slot are aligned, the assembly is incorrect and the belt is not properly tensioned.



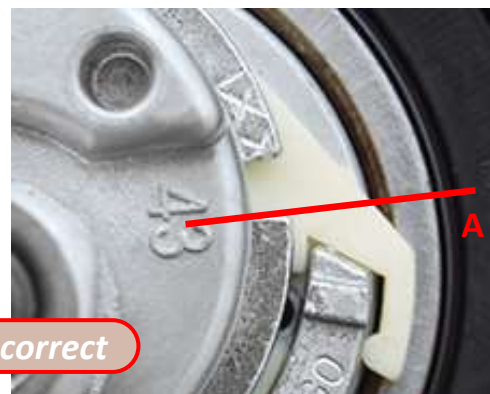
Insufficient belt tension

The cursor is not positioned correctly, it is not aligned with the slot and is found opposite the belt's wear indicator (crosshatch). It should be between lines A and B.



Excessive tension on the belt

The cursor is not positioned correctly, it is not aligned with the notch. It is placed below line A.



Consequences

Engine damage

A malfunction of the roller tensioner generally causes substantial damage to the engine and its environment. (i.e. engine failure)

REPLACEMENT

Special tools

- Camshaft setting bracket - No. 3418/T10098
- Injection pump locking pin - No. 3359
- Sprocket retaining tool - No. 3036
- Double hook wrench - Matra V.159 - TDI
- Extractor - No. T40001

Tightening torque

Roller tensioner nut GT357.13:

20 Nm all vehicles except Skoda Fabia **25 Nm**



Torques of the other components (tensioners, pulleys...) vary depending on the vehicle, be sure to adhere to the tightening torques specified by the manufacturer.

1) Before installing ensure that:

- The engine and roller tensioner are at room temperature. Never install a cold roller in a hot engine and vice versa.
- The engine is at TDC of the first cylinder. In this position, the first cylinder is in the ignition position and no force (positive or negative) is exerted on the camshaft and crankshaft.
- Timing marks are aligned.
- The camshaft setting bracket is in place.
- The timing pin is in place in the injection pump.

2) Hold the camshaft sprocket with tool No. 3036

Then loosen the camshaft sprocket bolt by one turn.

N.B. DO NOT hold the camshaft using the setting bracket when loosening the sprocket bolt.

3) Remove the sprocket from its cone

Method 1: Use a locking pin.

Method 2: Use an extractor. Tool No. T40001.

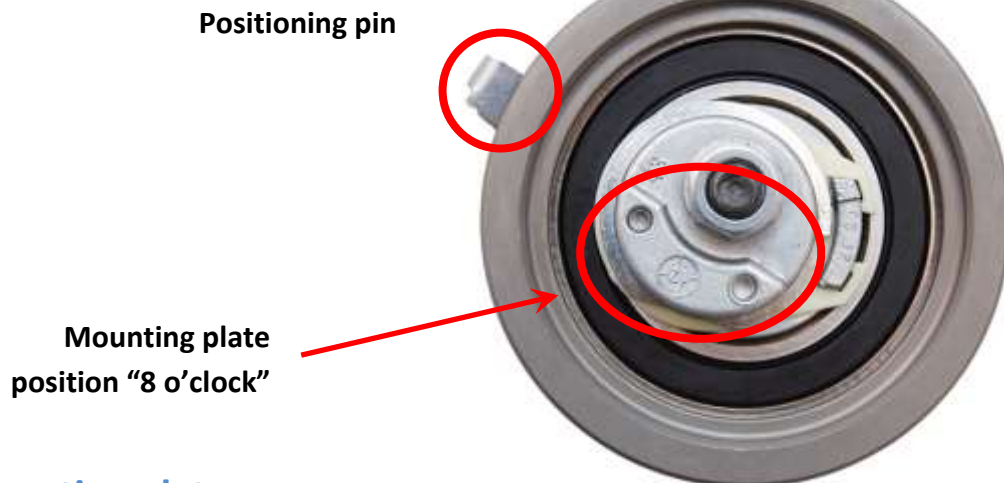
Remove the camshaft sprocket bolt and the camshaft sprocket.

4) Remove the screws and center the injection pump sprocket

so that the bolts are in the middle of the holes.

5) Installing the new roller tensioner

Make sure the positioning pin of the roller is inserted properly into the slot provided in the crankcase.



6) Turn the mounting plate

in order to orient the two guide holes for the double hook wrench set to "8 o'clock" (the wrench handle facing 8 o'clock).

And hand tighten the retaining nut.

7) Place the timing belt in the following order (see page 1)

- Crankshaft sprocket
- Roller 1 → G1 (GE357.15)
- Water pump sprocket
- Injection pump sprocket
- Roller 2 → G2 (GE357.15)
- Tensioner → T (GT357.13)
- Roller 3 → G3 (GE357.15)

Make sure that the belt is correctly tensioned between the sprockets.



**Do not move the crankshaft, the injection pump and cam shaft.
Consider replacing the water pump.
NTN-SNR also supplies the complete kit: KDP457.370.**

8) Loosen the tensioner nut

9) Turn the mounting plate in a clockwise direction

using the double hook wrench and keep hold of the retaining screw with a spanner.

The roller tensioner then rotates in the direction of the belt, keep turning to tension the belt and until the cursor and the slot are aligned.



- 10) When this nominal position is reached, **tighten the retaining nut** of the roller tensioner to **20 Nm**, then tighten the camshaft sprocket and injection pump sprocket screws.

11) Checking the roller tensioner assembly

After removing the double hook wrench and spanner, turn the crankshaft **two full turns** clockwise to bring it to TDC of the first cylinder.

This operation will correctly position the belt on the sprockets. Check that all timing marks are aligned.

Check that you can insert the setting bracket in the camshaft and the timing pin in the injection pump.



Always turn the crankshaft clockwise for TDC.

12) Checking the roller tensioner setting

If the cursor and the slot are aligned, installation is complete.

If they are not aligned, you must start the setting operations over again (see point 13).



13) Rectifying the roller tensioner setting

Using the double hook wrench, hold the roller tensioner in place while loosening the retaining nut with the spanner (without removing the nut nor the roller tensioner).

Using the double hook wrench, relax the tensioner by turning the mounting plate counter-clockwise, the roller tensioner must go back to the lower stop (as it was on delivery).

Then repeat the assembly procedure from point 7 to point 12, inclusive.



Recommendations

Every 15,000 km or 12 months (whichever comes first), check the belt width, the minimum allowed width is 22 mm.

During replacement, all components, roller tensioners and tensioners, should be replaced and not just the belt.

Do not store belts in the sun. Never bend, turn or twist a belt and do not force the belt on the pulleys.

Follow the manufacturers' assembly procedures as well as their indicated tightening torques.

Consult vehicle applications in our online catalogue: <http://lc.cx/catalog-ra>



Use this QR Code to find our online catalogue

**ALWAYS FOLLOW THE VEHICLE
MANUFACTURER'S RECOMMENDATIONS!**

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