

Assembly instruction for timing belt kits

MEYLE no. 151 049 0098
to fit AUDI | SEAT | SKODA | VW

Caution:

The procedure to access the timing belt tensioner and all other timing driven components must be done according to the car manufacturer's guidelines.

Engine temperature:

1. The tensioner must be installed on the engine at room temperature by allowing the engine and tensioner to stabilise to the same relative ambient temperature for proper belt tension adjustment. Do not attempt to install a tensioner onto a hot engine. (For reference, the minimum engine cooling period is 4 hours in tropical climatic regions).

Crank and camshaft TDC position setup:

2. Remove upper and middle timing covers. Rotate the crankshaft **CLOCKWISE ONLY** to TDC (Top Dead Center) position (i.e. #1 cylinder firing position). Review AUDI and VW's guidelines on how to locate the crankshaft and camshaft positions at TDC.
3. Loosen and remove the 4 M8 crank pulley bolts. Remove crank pulley and lower timing cover.

Caution:

If the alignment of the TDC position is missed, **DO NOT** rotate the crankshaft counterclockwise to the correct position, but rather rotate the crankshaft 2 more full rotations with the camshafts to TDC position. This is to be accomplished while the belt is still attached. Also, **DO NOT** at anytime rotate the crankshaft and the camshafts when the timing belt is removed.

Belt and timing belt tensioner removal:

Once the procedure for setting TDC is completed, according to AUDI and VW's guidelines:

4. Using a 5mm bolt/washer (T10092) as a compression tool, place in the slot on the roller and tighten into its corresponding hole in the idler bracket to rotate the roller counterclockwise and compress the hydraulic strut. Align the holes in the piston rod and bracket and insert locking pin (T40011) or 2 mm drill bit.
5. Loosen and remove the 5mm bolt/washer. Remove the belt, loosen and remove the mounting bolt and the old roller. Discard.
6. Loosen and remove the two M6 bolts from the hydraulic strut, then remove and discard it. Save the bolts for use with the new system.

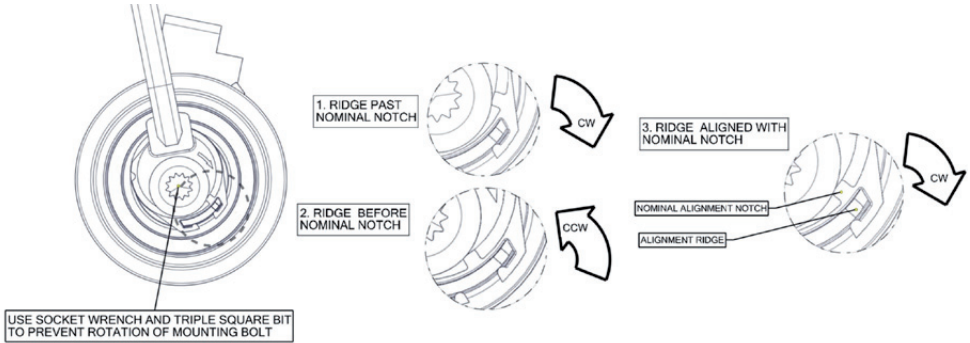
Initial setup of the timing belt tensioner:

7. Install the new style idler bracket on the engine and tighten the two M6 bolts to 15 Nm.
8. Install the tensioner on the engine. Insert and loosely install M10 Triple Square bolt (provided in kit) ensuring that the anti-rotation index tab of the base plate is engaged in the hole in the cylinder head.
9. Rotate the installation shaft on the tensioner by using a 8mm Allen Key to the approximate "7 o'clock position". This will maximise the belt clearance for ease of installation. Hand tighten (lightly) the M10 Triple Square bolt.

Installation of the timing belt tensioner and the belt:

10. Install the timing belt being careful to engage the appropriate teeth of all the corresponding sprockets, as per drive layout, starting with the crankshaft and moving **COUNTERCLOCKWISE** direction to water pump, camshaft, left side idler and the tensioner last. Ensure the timing belt is taut between sprockets on the non-tensioned side during installing the belt.

11. Using a socket wrench and a Triple Square bit (Snap-On FTSM10E) to prevent the rotation of the mounting bolt, rotate the installation shaft CLOCKWISE with 8mm Allen Key. The tensioner assembly will move against the belt and the alignment ridge on the arm will eventually start to move CLOCKWISE.
12. Continue rotating the installation shaft in the clockwise direction 1, so that the alignment ridge passes the nominal alignment notch and stops at load stop as shown in detail 1. Then rotate the installation shaft in the counter-clockwise direction 2 to have the alignment ridge pass the nominal alignment notch and stop as shown in detail 2. After cycling the tensioner as mentioned, rotate the installation shaft in the clockwise direction 3 only so the alignment ridge aligns within the edges of the nominal alignment notch as shown in detail 3.



13. Once the nominal position is achieved, prevent the rotation of the installation shaft and torque the mounting bolt to 27 Nm.

Caution: Do not over-torque the mounting nut.

Verification of the nominal position:

It is highly recommended to use a mechanic's mirror to verify the location of the nominal setting of the tensioner in the event that this area is not visible from any other direction.

14. Remove the 8mm Allen Key, socket wrench, and all other tools for setting the TDC position.
15. Rotate (by hand) the crankshaft 2 complete revolutions clockwise for proper seating of the belt and re-align the crankshaft to TDC.

Check the following:

- Crankshaft mark is aligned.
- Camshaft sprocket mark is aligned.

If the alignment of any of the sprockets is not correct, the belt has to be taken off and the installation procedure has to be repeated starting at step 2.

Caution:

If the alignment of the TDC position is missed, do not rotate the crankshaft counterclockwise to the correct position, but rather rotate the crankshaft 2 more full rotations to the TDC position. There is a risk of damaging the engine due to incorrect synchronisation.

16. Check the tensioner nominal position with the engine set at TDC: If the 2 edges of the arm alignment ridge are within the alignment notch on the front plate, the tensioner is set at its nominal position and the installation is complete. If not, a tensioner re-adjustment is required until the proper position is achieved. For re-adjustment, proceed as follows:

Re-adjustment (If Required):

17. Ensure that the TDC position has not been disturbed. Engage the 8mm Allen Key and retain the installation shaft's position while loosening the mounting bolt. The mounting bolt and the tensioner do not need to be removed.
18. Prevent the mounting bolt from rotating and cycle the installation shaft so that the alignment ridge cycles about the nominal alignment notch and then rotate the installation shaft CLOCKWISE only until the arm alignment ridge moves clockwise to align within the notch on the front plate [Fig. 5].
19. Re-torque the mounting bolt to 27 Nm while preventing the installation shaft from turning by holding it with an 8mm Allen Key.
20. Verify the proper installation of the tensioner by repeating steps #15, #16 and #17.
21. Install the old timing belt cover as this can be reused.