

Ensure that the engine is at TDC 1st cylinder.

- The crankshaft locking bolt (3518-03) is screwed in and tightened to 30 Nm.
- Turn the crankshaft clockwise against the locking bolt as far as it will go.
- Loosen the camshaft sprockets.
- Place the inclinometer in the center of the intake and exhaust camshaft adapters.

Note: Both raised bars of the inclinometer must lie on the flat surfaces..

Loosen the clamping screws of the respective clamping device.

- Turn the camshafts according to the repair documentation so that the specified value is displayed.
- Re-clip the camshaft adapter with the clamping screws.
- Pre-tighten the camshaft sprockets (reference 1.5 TFSI DACA: 18 Nm).

Check the timing

Loosen the clamping screws of the clamping device, turn the engine through 2 revolutions again.

- Position the engine again just before TDC of the 1st cylinder.
- Insert the crankshaft locking bolt (3518-03) and tighten to 30 Nm.
- Turn the crankshaft clockwise as far as it will go against the locking bolt.
- Center the inclinometer on the camshaft adapters.

Note: Both raised bars of the inclinometer must lie on the flat surfaces.

Compare the measured values with the target values.

Reference - 1.5 TFSI DACA:

Intake camshaft: IN = $-0.3^\circ \pm 1.2^\circ$

Exhaust camshaft: EX = $+1.1^\circ \pm 1.2^\circ$

- Deviation outside the tolerance detected?
- Set the timing again.

- If the timing settings are correct

Final tightening of camshaft sprockets

- Loosen the clamping screws of the clamping device.
- Use a counterholder to perform final tightening:

Note: A 2nd person is usually required for this.

Reference - 1.5 TFSI DACA:

Intake camshaft (control valve): Stage 1: 140 Nm

Exhaust camshaft (central screw): Stage 1: 50 Nm

Stage 2: $+135^\circ$

After the final tightening of the camshaft sprockets, it is recommended to check the timing once again with the inclinometer.

Remove all tools for timing measurement and reassemble the engine according to the manufacturer's instructions.



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No. 36617B - Timing Tool Set, Audi / VW 1.5 L (EA 211 Evo)



GENERAL SAFETY RULES

- Read all the instructions in this manual carefully.
- Always follow the repair instructions and safety instructions provided by the manufacturer.
- Failure to do so may result in damage and injury.
- The supplier is not liable for damage caused by improper use and operation. The tool may only be used by trained personnel with the appropriate qualifications.



CAUTION

Some of the engines listed are also installed in hybrid vehicles.

Work on hybrid and plug-in hybrid vehicles may only be carried out by personnel with the appropriate safety training and qualifications.

When working on these vehicles, it is essential to take the appropriate safety precautions to prevent the risk of electric shock and injury.

Preparation

You always need the manufacturer's current engine-specific repair guide.

Our instructions describe generally applicable work processes and also take into account the specific requirements of individual engine variants, insofar as these are relevant for the respective procedure.

Bring the engine just before TDC of the 1st cylinder.

(Tip: Remove the spark plugs to make it easier to turn the engine)

- Remove the screw plug on the engine block (also remove the sealing ring) and screw in the crankshaft locking bolt (no. 3518-03). Tighten the bolt to 30 Nm.
- Carefully turn the crankshaft clockwise against the locking bolt as far as it will go - the engine is now at TDC 1st cylinder.

Preparing the engine (gearbox side)

- Remove the rear cover or cover of the camshafts.
- Remove the coolant pump and drive belt (drain the coolant first if necessary).
- Remove the drive wheel and timing belt of the coolant pump.

Note: Condor 4280-01 (OEM reference no. T10221A) is recommended as a puller. For 1.4L engines with ATC, adapter Condor 6617-07 (OEM reference no. 611007/14) is required, where the camshaft sprocket has a countersunk central screw and a fixing hole, the rear camshaft sprocket can remain fitted. For all other variants, the rear camshaft sprocket must be removed.

Loosen the camshaft sprockets or adjuster

Depending on the engine version, remove the cover or screw beforehand if necessary.

- Collect any leaking oil; oil must not get onto the timing belt.
- To counterhold the camshaft sprockets, use a suitable counterholder with a suitable adapter plate.

Note: For 1.0L engines with timing markings and "out-of-round" camshaft sprockets, use the Condor 6614-05 locking tool (OEM reference no. T10476) for basic adjustment. The tool is removed before the timing belt is tensioned so that the sprockets can rotate. After tensioning, the tool no longer needs to fit exactly - this is not a fault.

Removing and installing the timing belt

Loosen the tension pulley (note the direction of rotation for subsequent installation).

- Remove the timing belt

Replace the tensioning pulley and idler pulley.

- The nose of the tensioning pulley must sit exactly in the recess in the cylinder head.

Fit the new timing belt in the following order:

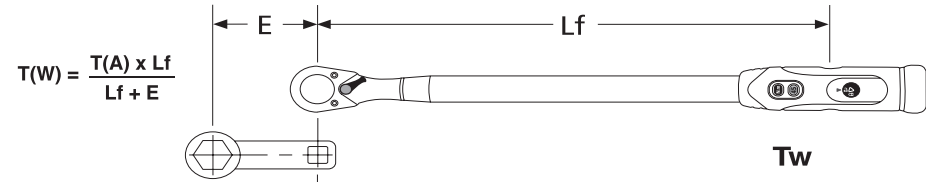
- Crankshaft → Tensioning pulley → Idler pulley → Camshaft sprockets

Tensioning the timing belt

- Important: The camshaft sprockets must be able to rotate freely on the camshafts.
- Turn the tensioning pulley clockwise.
- First overtension the tensioning pulley pointer by approx. 10 mm, then turn it back to the set position. Tighten the tension pulley according to the manufacturer's instructions.

Note: If necessary, convert the tightening torque depending on the tensioning pulley wrench used.

If it is necessary to use the torque wrench with additional tools (e.g. extensions), the torque value must be recalculated according to the following formula:



- E** = Length of the extension: measured from the center of the drive square to the center of the extension head
- Lf** = Lever length of the torque wrench: measured from the center of the handle to the center of the drive square
- T(W)** = Set torque value
- T(A)** = Torque applied to the tool used

For Condor no. 6607 torque adapter, the dimension "E" is 189 mm.

The pointer must be in the setting window.

Note: Slight deviations in the pointer position after the motor has spun are not critical.

Maintain access to the camshaft sprockets.

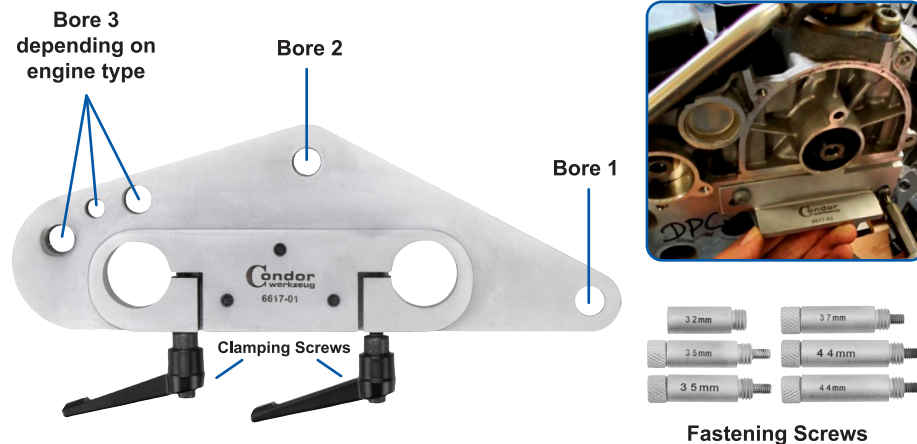
- Fit the vibration damper.
- Tighten the crankshaft center bolt according to the manufacturer's specifications. (Example: 1.5 TFSI DACA - 150 Nm + 180°)

Timing - basic setting

- Mount the calibration angle (6617-02) below the camshaft cover on the gearbox side. The contact surface must be clean. Press against the upper flat surface before tightening.
- Place the main plate (6617-01) on the cylinder head and determine three suitable fixing points.

Note: The fixing points may vary depending on the engine. The main plate must always be aligned parallel to the cylinder head surface.

In bore 1 and 2, the two support bolts of the same length (35 or 44 mm) are screwed into the main plate from behind. Depending on the engine variant, the 32 or 37 mm support bolt is screwed into bore 3 or the main plate is fastened directly to the cover of the intake camshaft without a support bolt.



Mount the main plate loosely, tighten the fastening screws slightly.

- Select suitable adapters based on the camshaft profiles (6617-05 or 6617-06).
- Insert the inlet and outlet adapters into the camshafts and, if using 6617-05, tighten the clamping screw (approx. 10 Nm) until the connection is free of play. Fully tighten the main plate fastening screws.
- Lock the main plate using the clamping screws.

Determine the inclinometer's base position (0°)

Switch on the inclinometer, position it on the mounting bracket from below and set it to zero using the "Zero" button.

Presetting the timing

Note: Presetting and then spinning the engine should remove tension from the newly fitted timing belt, which could affect the result.

Ensure that the engine is at TDC 1st cylinder.

Place the inclinometer in the center of the intake and exhaust camshaft adapters.

Note: Both raised bars of the inclinometer must lie on the flat surfaces.

Loosen the clamping screws of the respective camshaft.

Set the camshafts to 0.0° using the hexagon socket of the measuring adapter and clamp again.

Remove the crankshaft locking bolt.

Pre-tighten the camshaft sprockets (reference: 1.5 TFSI DACA = 18 Nm).

Loosen both clamping screws of the clamping device on the main plate and spin the motor 2 revolutions.

Position the engine again just before TDC of the 1st cylinder.

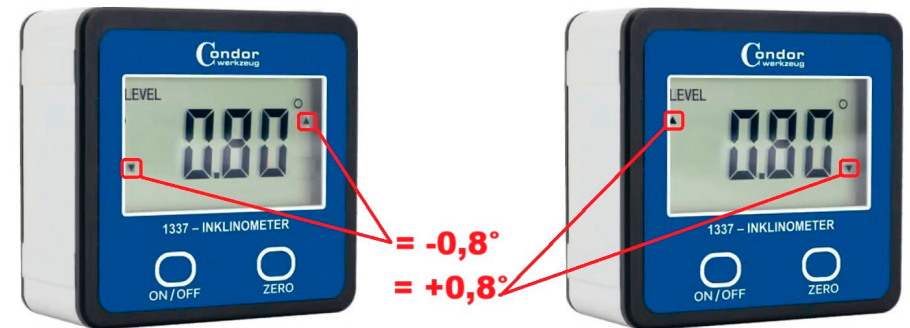
- Screw in the crankshaft locking bolt (3518-03) and tighten to 30 Nm.
- Turn the crankshaft clockwise against the locking bolt as far as it will go.

Place the inclinometer on both adapters again.

Note: Both raised bars of the inclinometer must lie on the flat surfaces.

Check the values of the intake and exhaust camshaft.

Important: Pay attention to polarity (positive/negative) as well as the direction of the arrow and the example image.



Target values should always be taken from the manufacturer's specific repair documentation.

Example - 1.5 TFSI DACA:

Intake camshaft: IN = - 0.3° ± 1.2°

Exhaust camshaft: EX = +1.1° ± 1.2°