

MCK0580

VALVE TIMING PROCEDURE

**MAGNETI
MARELLI**

PARTS & SERVICES

Car brands: **Audi, Volkswagen**

Models: **Audi A3, Volkswagen EOS, Golf V, Golf Plus, Jetta III, Passat VI, Touran**

Engine code: **BAG, BLF, BLG, BLP, BMY**





Power: **1.4 FSI, 1.4 TSI, 1.6 FSI (115, 140, 170 CV)**


Year: **02/2003** →



General precautions

- Always disconnect the ground cable from the battery.
- Remove the spark plugs in order to allow the engine to turn more freely.
- Always turn the engine in the normal direction of rotation (unless specifically instructed otherwise).
- Observe tightening torques.
- If fitted: note the position of the engine shaft position sensor before dismantling.
- **DO NOT** turn the engine shaft by turning the camshaft or other pinions.
- **DO NOT** turn the engine shaft or camshaft with the timing chain removed.


Valve timing procedure


- To dismantle/fit the timing chain it is necessary:
 - To remove the timing cover.
 - To remove the cup.
-  **Mark the direction of rotation on the chains.**
- Fit the gauge and its support into the spark plug hole for cylinder n. 1. Make sure that the engine is at the TDC of cylinder n. 1 .
- Make sure that the timing marks on the camshaft are aligned as shown . Otherwise, turn the engine shaft 360°.
- Fit the camshaft alignment tool .

 **If the camshaft alignment tool cannot be inserted, valve timing is not correct.**


- Press the chain tensioner and block it with the blocking pin .
- Dismantle the camshaft pinion and the chain.
- Align the camshafts. Use the special tool .
- Fit the camshaft pinion and the timing chain.

Engines with variable valve timing:

Fit a new bolt. Tighten the bolt for the intake camshaft adjustment device . Tightening torque: 40 Nm + 90°.

 **The intake camshaft pinion bolt is reverse threaded.**

Engines without variable valve timing:


Tighten the intake camshaft pinion bolt . Tightening torque: 50 Nm + 90°.

- Tighten the exhaust camshaft pinion bolt. Tightening torque: 50 Nm + 90°.

- Tighten the engine shaft pulley bolt. Tightening torque .

• A = 150 Nm + 180°

• B = 90Nm + 90°.

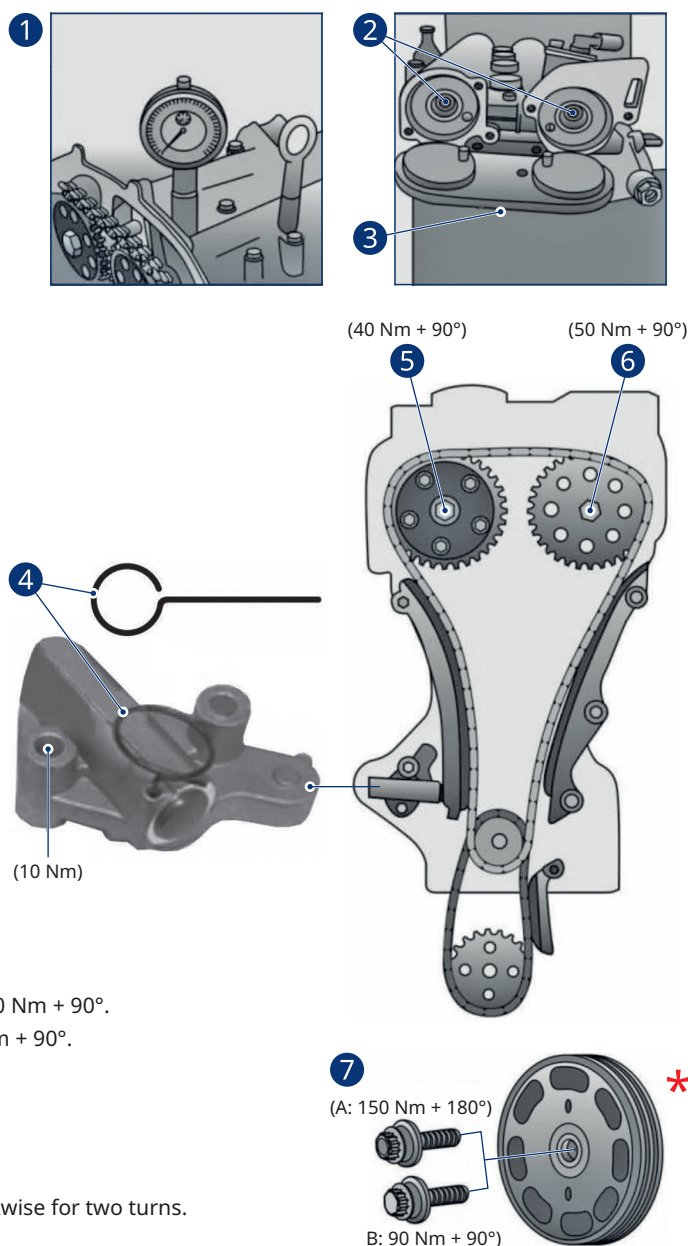
 **The engine shaft pulley bolt and all camshaft pinion bolts MUST be used once only.**


- Dismantle the camshaft alignment tool. Turn the engine shaft clockwise for two turns.

- Check valve timing .

Special equipment

- Display gauge – n. VAS 6079.
- Display gauge support – n. T10170.
- Camshaft alignment tool – n. T10171
- Camshaft pinion-oil pump blocking tool – n. T10172.
- Engine shaft blocking tool – n. T10340.
- Engine shaft pulley blocking tool – n. 3415.
- Chain tensioner blocking pin – n. T40011.

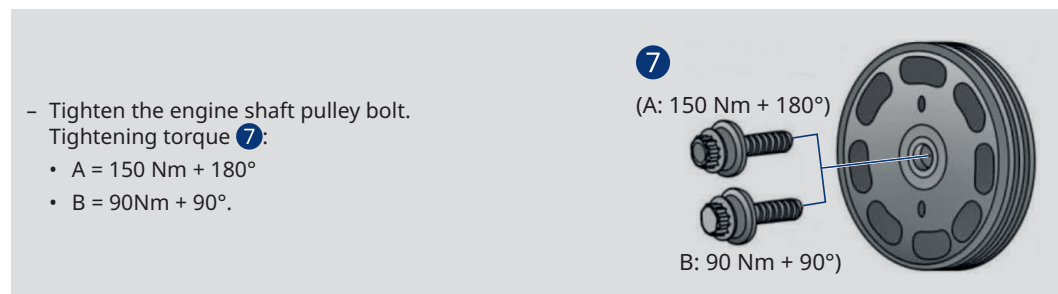


 The chain tensioner contained in this kit is spring-loaded and may cause damage if not handled correctly. **DO NOT** remove the pin until it is completely installed, and always ensure that the piston is pointing away from you or anyone else within a range of 20 metres.

The instructions, the recommendations and the information contained in this publication have been prepared with the utmost attention. Marelli Aftermarket Italy S.p.A., in the name and on behalf of its affiliates/subsidiaries, does not assume responsibility for any type of damage even deriving from incorrect interpretation of the information therein contained.

* CLARIFICATION ON SCREW TIGHTENING TORQUE

On the Technical bulletin is showed the following information:



Two tightening torques for a single screw. Which one?

A

If on the vehicle is installed a **combined dodecahedron screw**, with bore headed, resistance/category 10.9, dimensions M14x1,5x100, OE n.: N91048601 like the one showed here below:



Maximum tightening torque must be fixed to: **150 Nm + 180°** (Case A)

B

If on the vehicle is installed a different screw "**without screw head**", maximum tightening torque must be fixed to **90 Nm + 90°** (Case B)