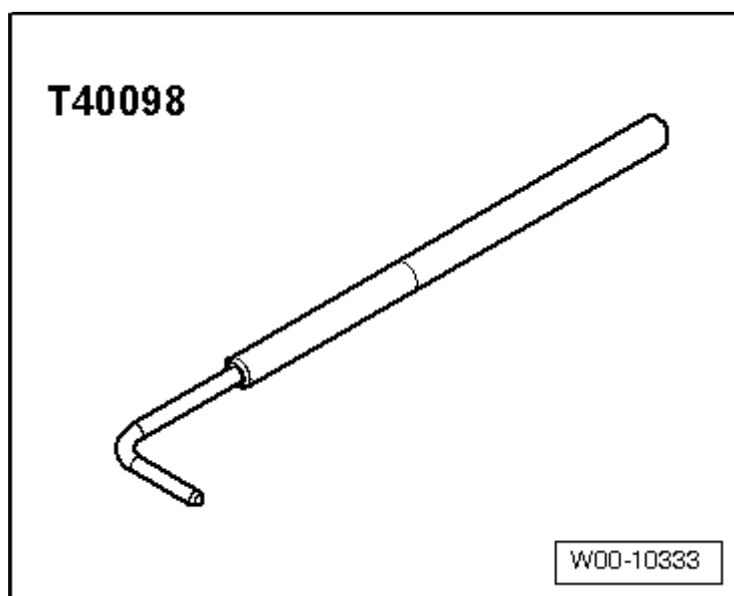


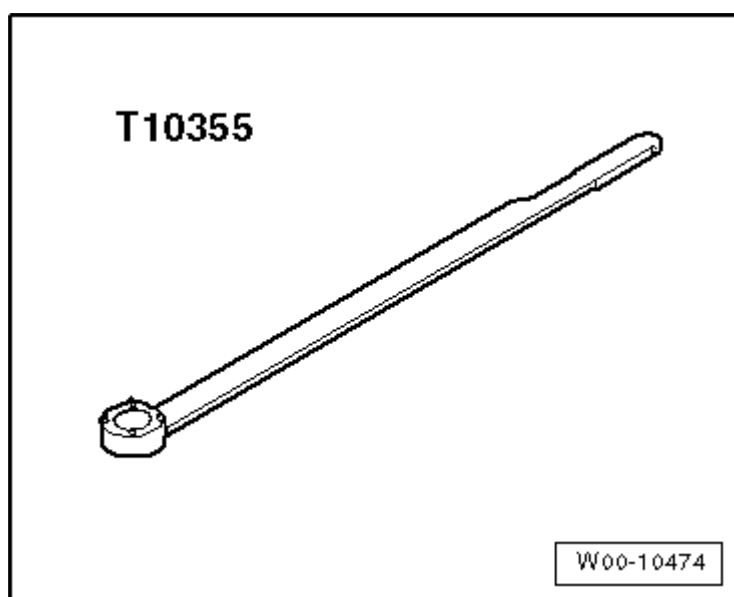
Removing and installing camshaft timing chain

Special tools and workshop equipment required

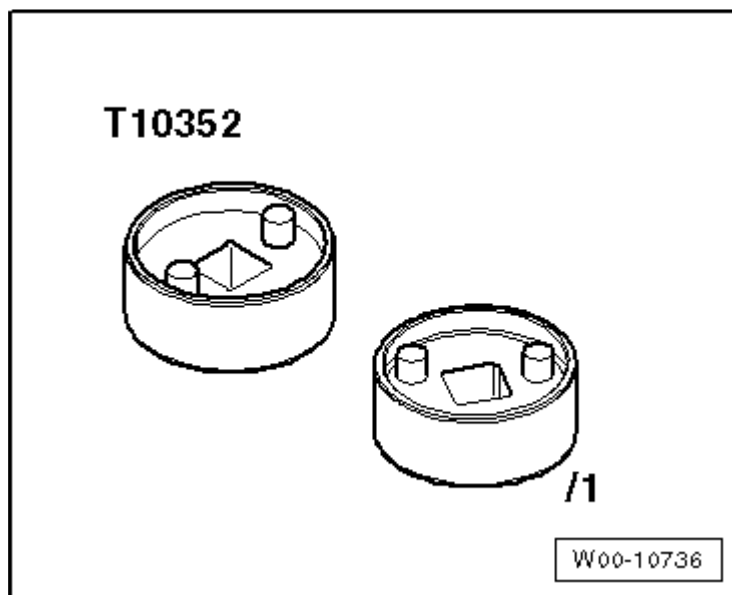
- ♦ Locking tool -T40098-



- ♦ Counterhold tool -T10355-



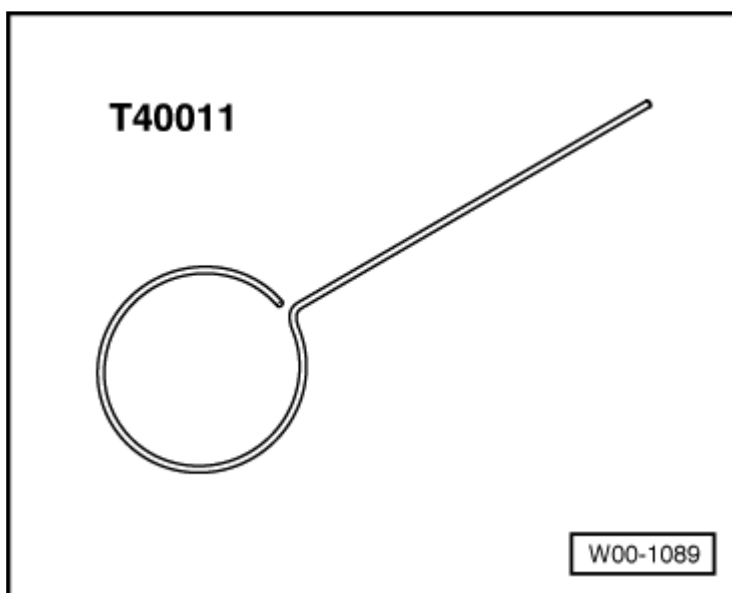
- ◆ Assembly tool -T10352- and assembly tool -T10352/1-



- ◆ Locking pin -T40011-

Removing

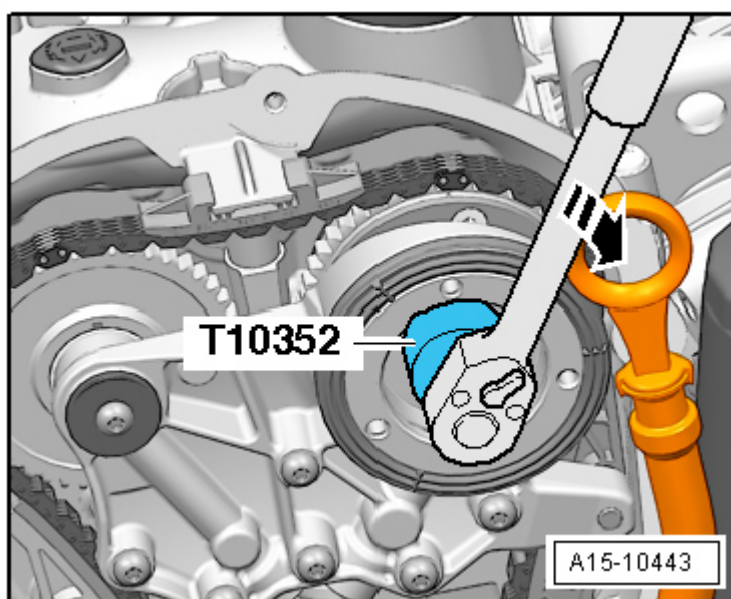
- Remove bumper cover (front) and bumper →Rep. gr.63.
- Perform service position →Rep. gr.50.
- Remove timing chain cover (top) → Chapter.



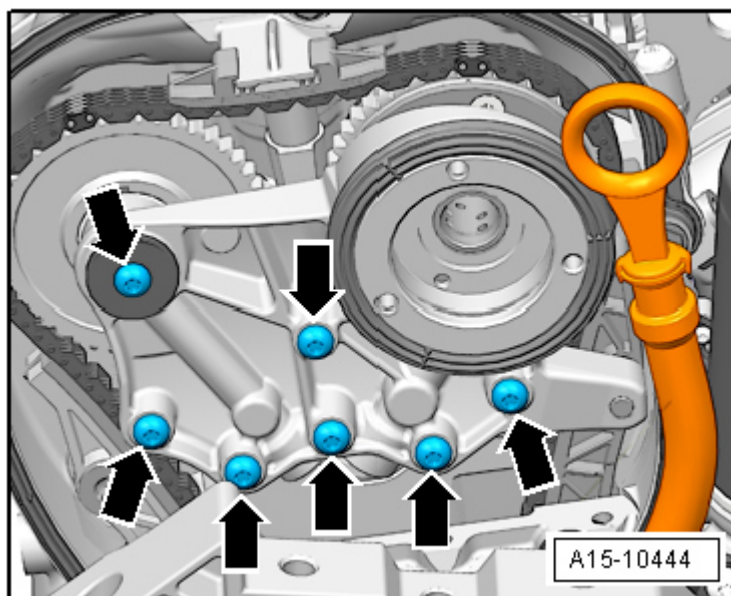
Caution

The timing valve has a left-hand thread.

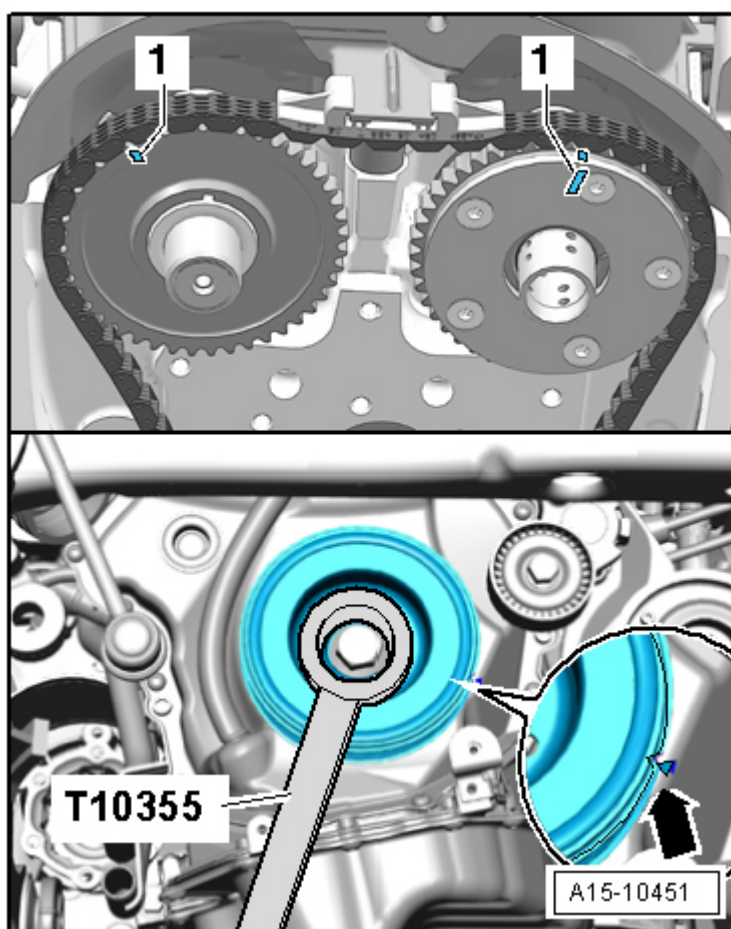
- Depending on version, turn assembly tool -T10352- or assembly tool -T10352/1- in direction of -arrow- to remove timing valve.



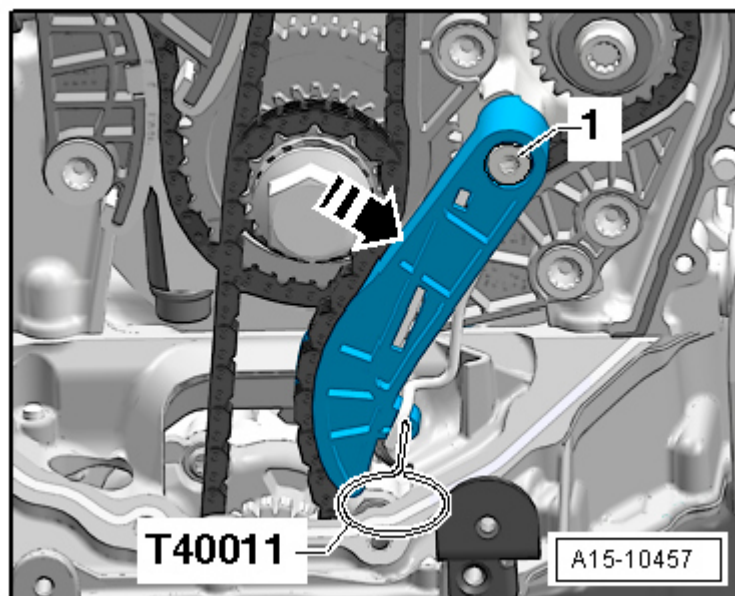
- Remove bolts -arrows- and detach bearing saddle.



- Turn vibration damper to „TDC“ position -arrow- using counterhold tool -T10355-.
- Notch on vibration damper must align with arrow marking on cover for timing chains (bottom).
- The markings -1- on the camshafts must face upwards.
- Remove timing chain cover (bottom)
→ Chapter.



- Press oil pump chain tensioner in direction of -arrow- and lock in place using locking pin -T40011-.
- Remove oil pump chain tensioner -1-.
- Remove oil pump chain.

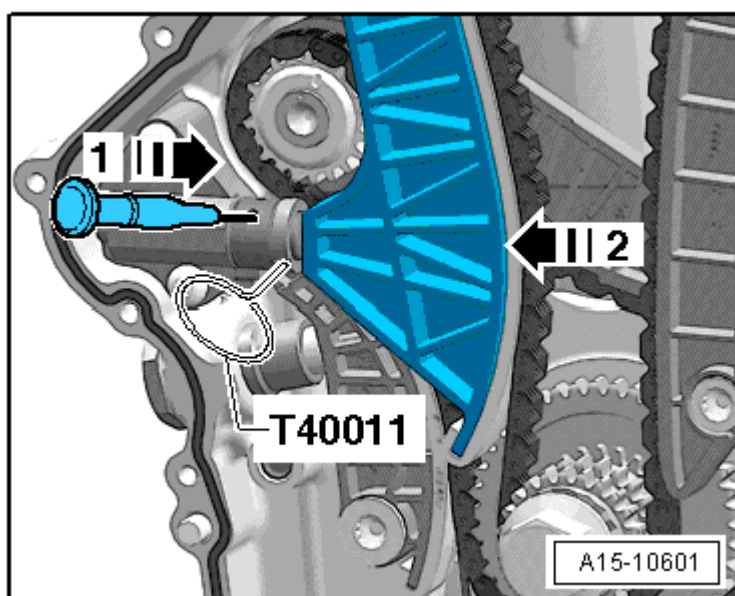


- Insert scriber or suitable screwdriver in hole of chain tensioner in direction of -arrow 1- and lift locking element for chain tensioner.
- Press tensioning rail for timing chain in direction of -arrow 2- and lock in place using locking pin -T40011-.
- Detach camshaft timing chain from cylinder head.



Note

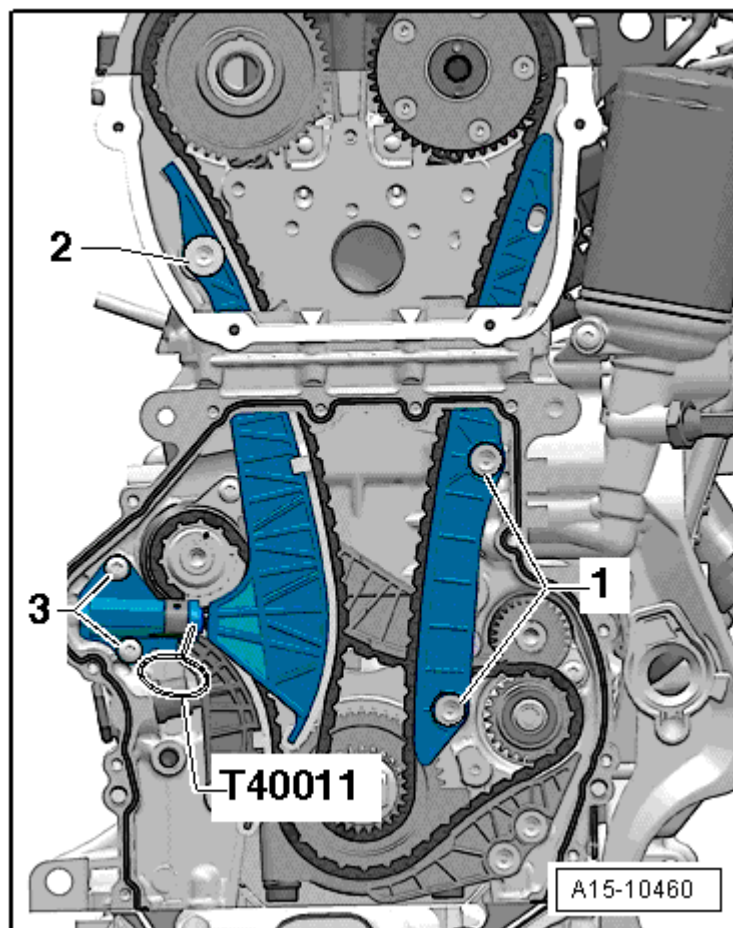
Inlet camshaft will move in direction of engine rotation.



- Remove tensioning rail for timing chain -2-.
- Remove guide rail for camshaft timing chain -1-.
- Remove timing chain.

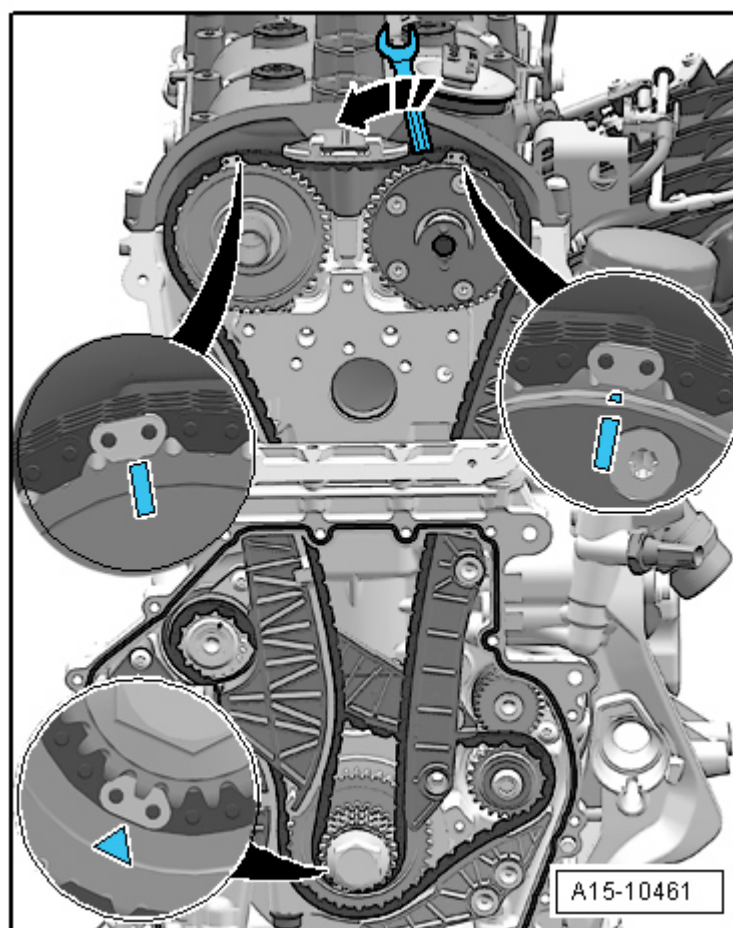
Installing

- Tightening torque → Chapter „Camshaft timing chain - exploded view“

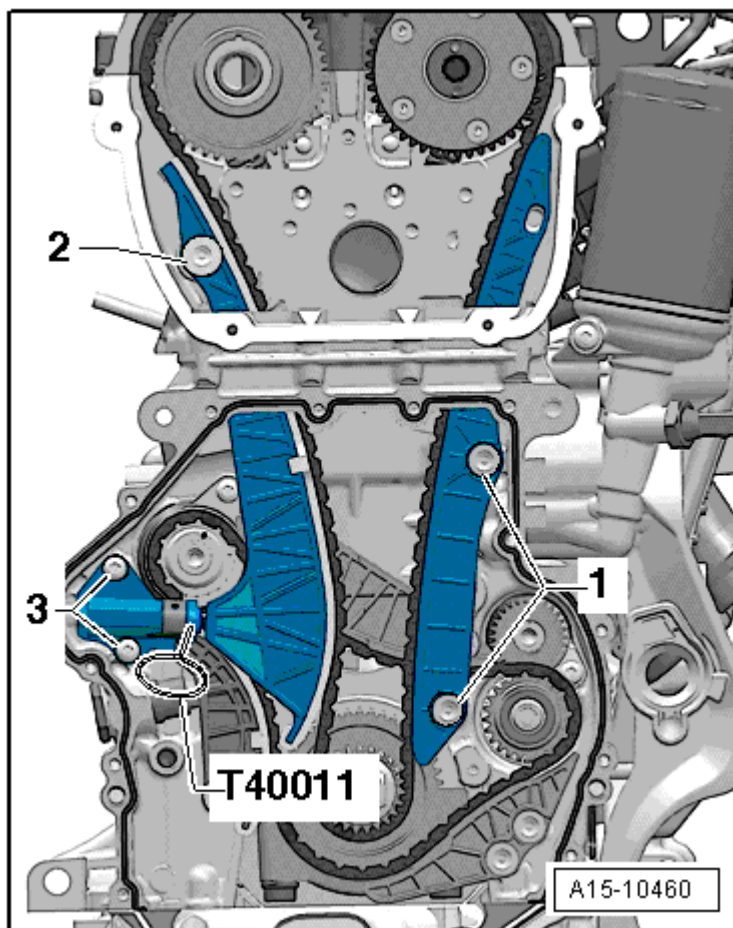


Note

- ♦ The following procedure must be performed in continuous sequence. This requires the assistance of a 2nd person.
- ♦ The timing chain links with coloured markings must be positioned at the markings on the chain sprockets.
- ♦ Hold spanner in position until tensioning rail is installed.
- Fit timing chain onto exhaust camshaft.
- Fit timing chain onto crankshaft.
- Use spanner to turn inlet camshaft in direction of -arrow- and fit timing chain.



- Fit tensioning rail for timing chain and tighten bolt -2-.
- Fit guide rail for camshaft timing chain and tighten bolts -1-.



- Attach bearing saddle and screw in bolts -arrows- hand-tight.
- Remove locking pin -T40011-.
- Tighten bolts -arrows- for bearing saddle → **Chapter**.
- Install timing valve → **Item**.

Further assembly is basically carried out in reverse order of dismantling. Note the following:

- Install timing chain cover (bottom) → **Chapter**.
- Install timing chain cover (top) → **Chapter**.
- Install poly V-belt tensioner → **Chapter**.
- Install poly V-belt → **Chapter**.
- Reset service position → **Rep. gr.50**.
- Install front bumper and bumper cover → **Rep. gr.63**.

