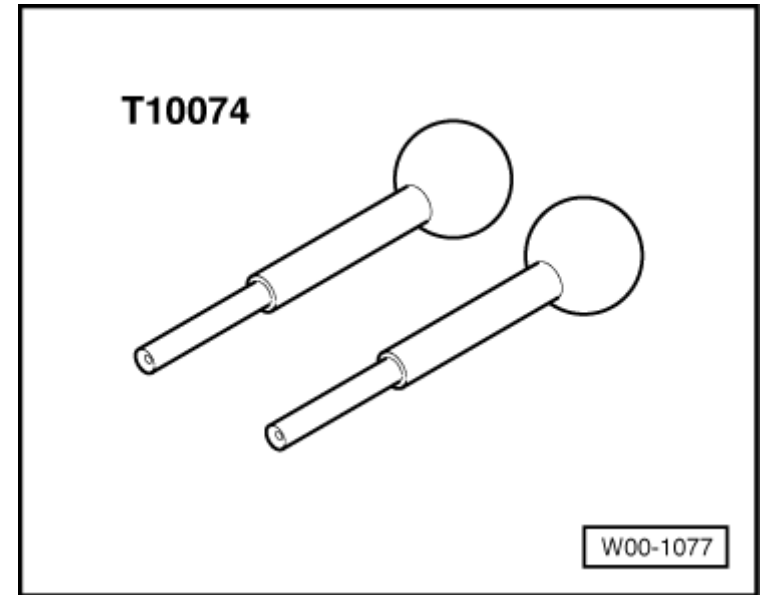


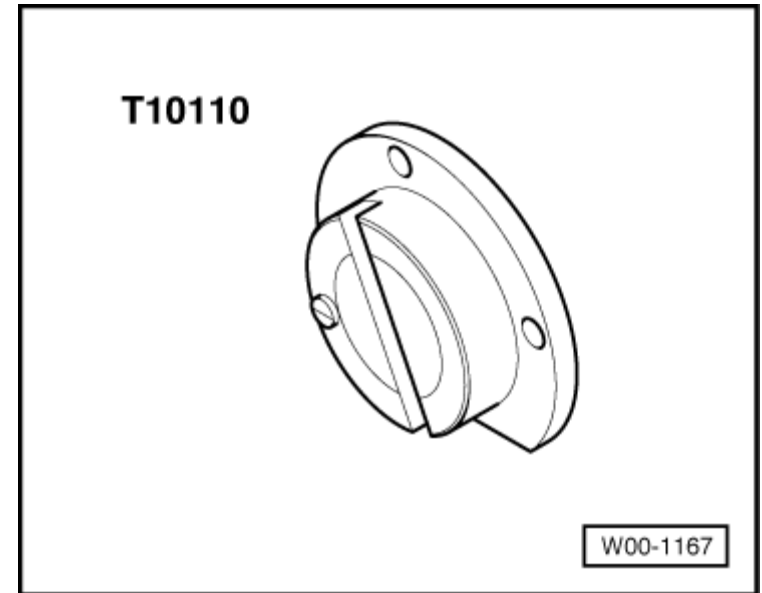
## Removing and installing main drive toothed belt

### Special tools and workshop equipment required

- ♦ Locking pin -T10074-

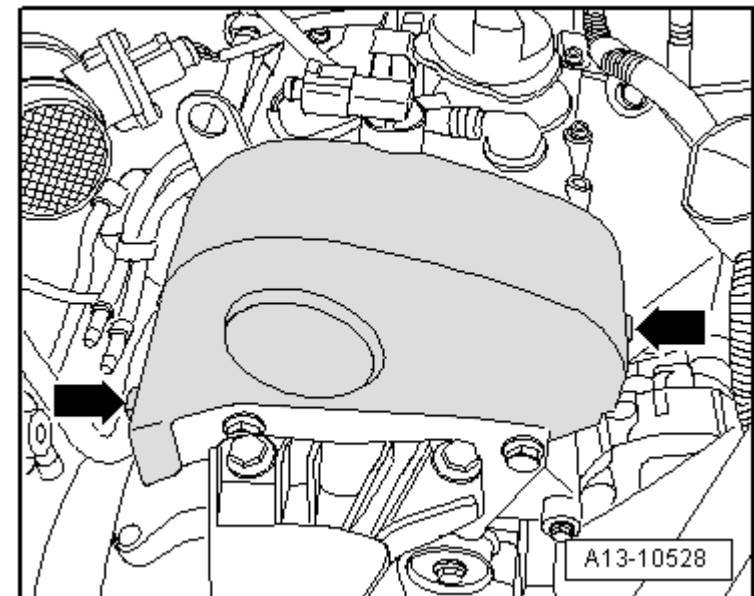


- ♦ Locating flange -T10110-



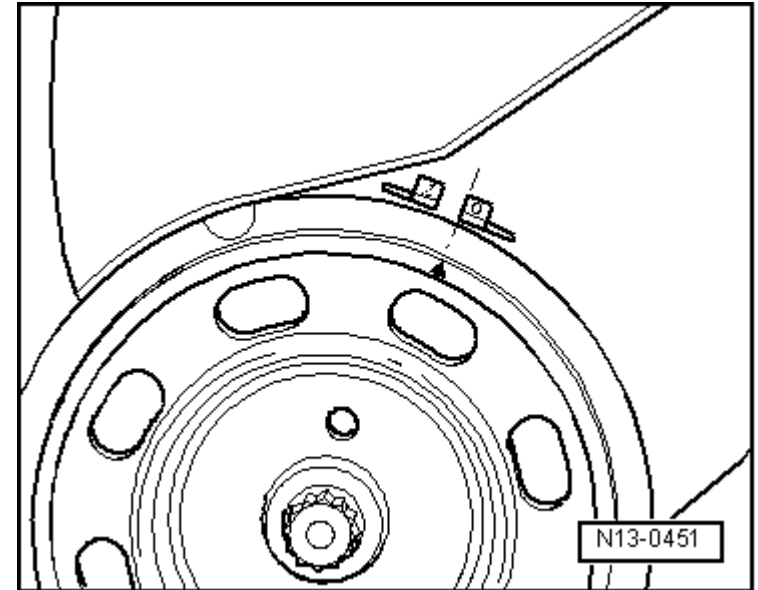
### Removing

- Detach bonnet → Chapter.
- Remove poly V-belt → Chapter.
- Release retaining clips -arrows- and detach cover (top) for toothed belt.



- Rotate crankshaft in normal direction of rotation to „TDC“.

- Notch on crankshaft pulley must align with edge of marking -O-.

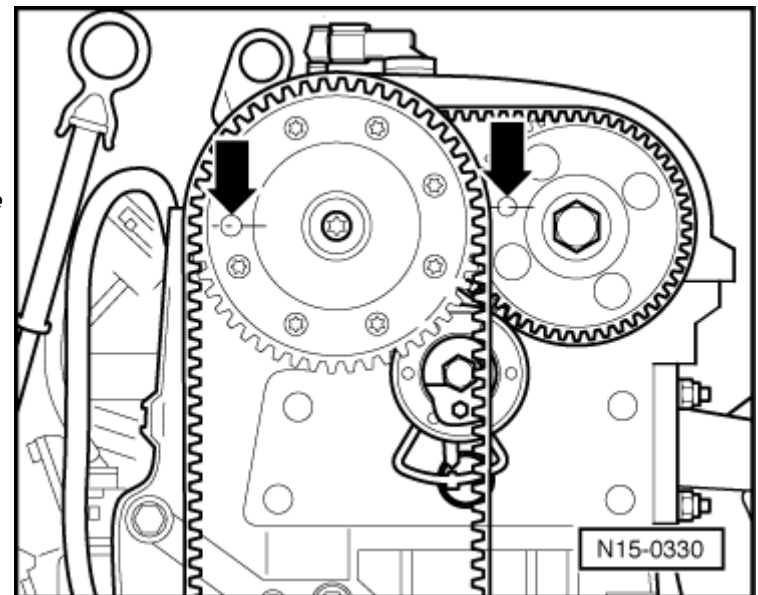


- The locking pin holes in the inlet camshaft sprocket with camshaft adjuster and in the exhaust camshaft sprocket must align with the corresponding holes in the camshaft housing -arrows-.



**Note**

*If the locating holes are positioned on the opposite side, the crankshaft must be turned one revolution further.*



- Lock camshafts using locking pins -T10074-:

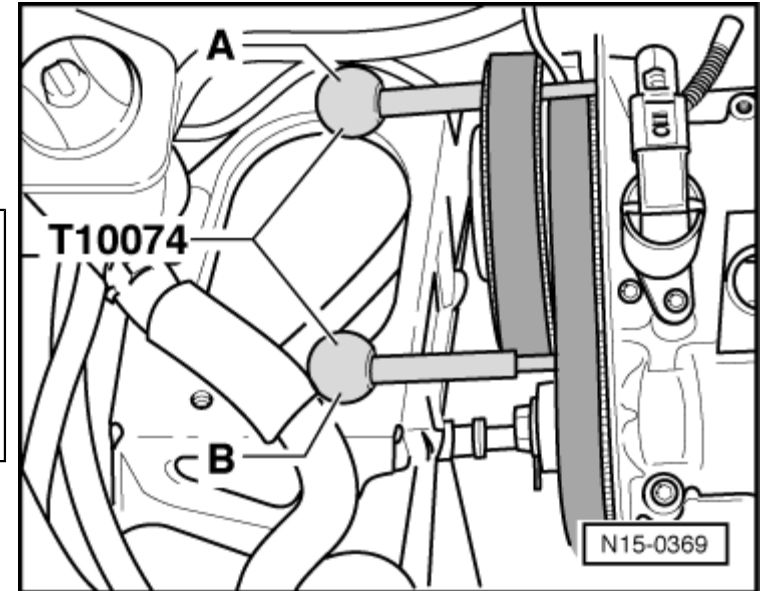
- It should be possible to insert locking pin -A- through locking pin hole in inlet camshaft sprocket into corresponding hole in camshaft housing.
- It should be possible to insert locking pin -B- through locking pin hole in exhaust camshaft sprocket into corresponding hole in camshaft housing.
- Remove engine mounting → [Chapter](#).



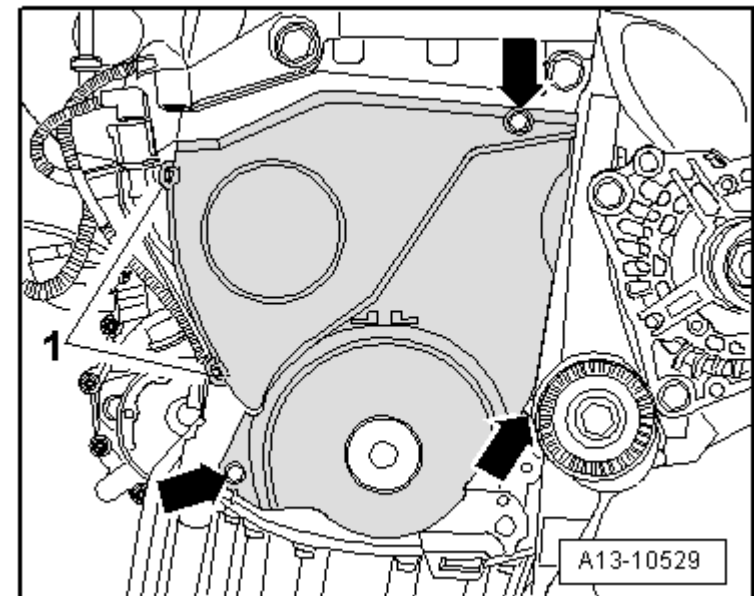
**Caution**

**Risk of damage to engine.**

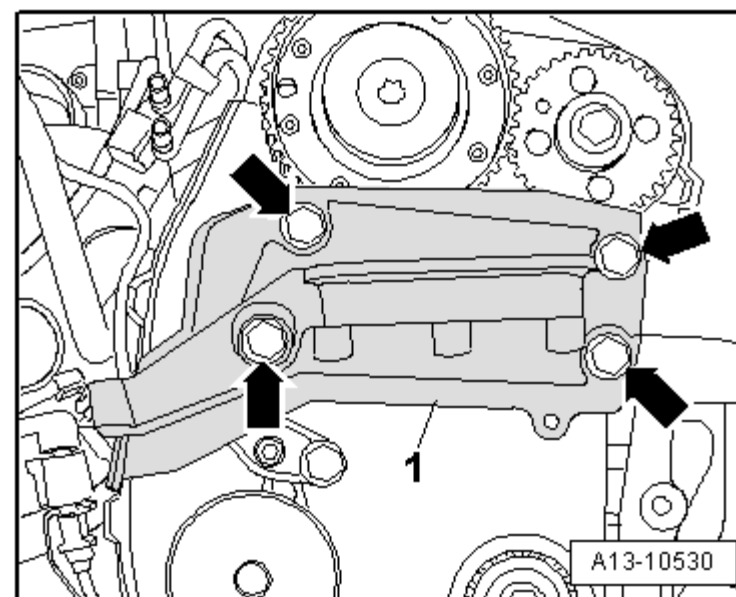
- ♦ **To prevent the crankshaft sprocket from slipping off the drive lug, do not rotate the crankshaft after the poly V-belt pulley has been detached.**
- ♦ **Secure crankshaft sprocket with bolt and 2 washers before turning crankshaft.**
- Remove poly V-belt pulley for crankshaft → [Chapter](#).



- Remove bolts -arrows- and loosen retaining clips -1- to detach toothed belt cover (bottom).



- Remove bolts -arrows- and detach engine support -1-.

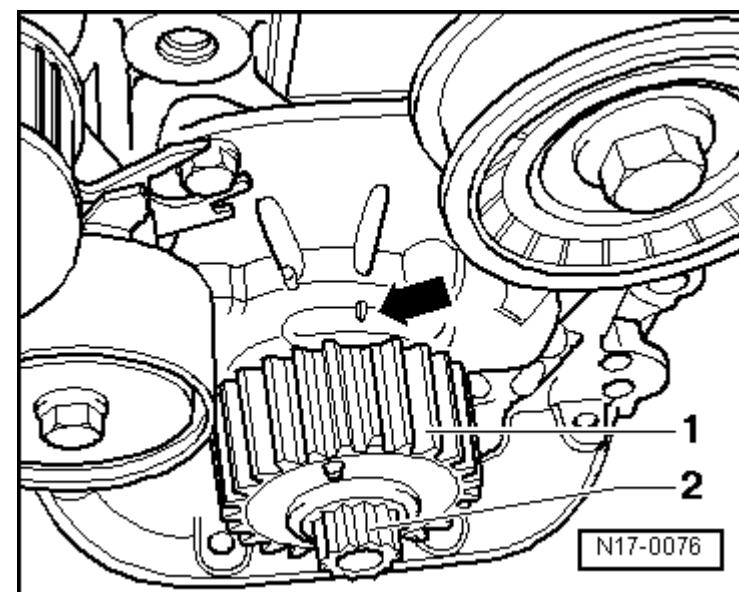


- Check „TDC“ position of crankshaft:
- The flat tooth on crankshaft sprocket -1- must align with marking -arrow- on oil pump housing.



**Note**

Disregard item -2-.



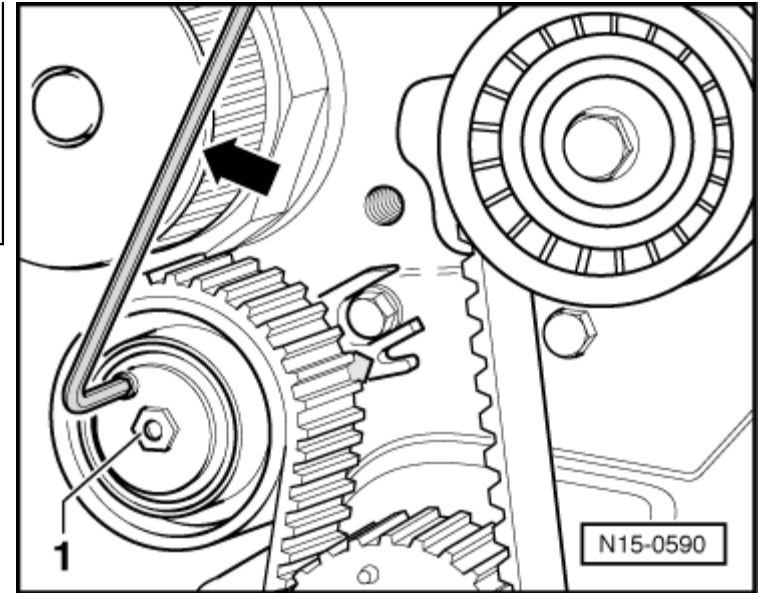


### Caution

***If a used belt runs in the opposite direction when it is refitted, this can cause breakage.***

***Before removing, mark direction of rotation of toothed belt with chalk or felt-tipped pen for re-installation.***

- Loosen bolt -1- for main drive tensioning roller.
- Use an Allen key to turn tensioning roller in anti-clockwise direction -arrow- and detach toothed belt.

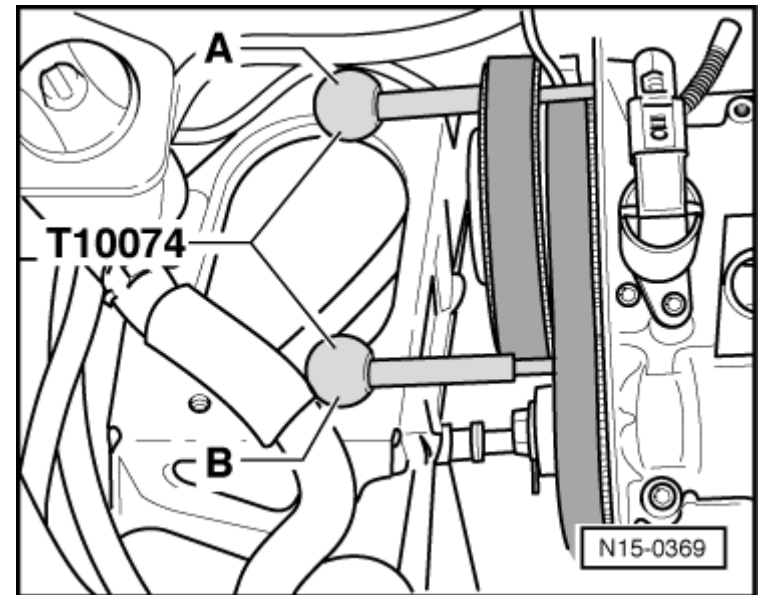


### Installing

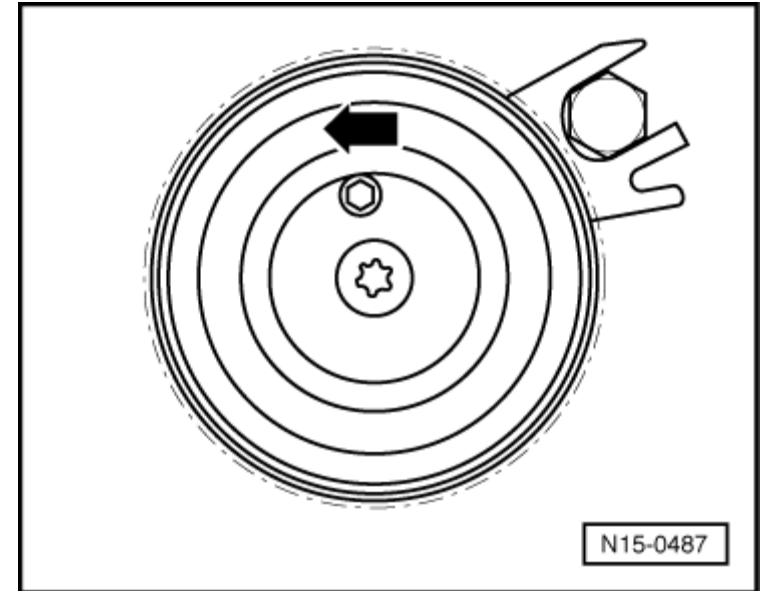
- Tightening torques → [Chapter](#)

Installation is carried out in the reverse order; note the following:

- Inlet camshaft sprocket with camshaft adjuster and exhaust camshaft are locked with locking pins -T10074-.



- Install tensioning roller for main drive (if removed) and turn anti-clockwise to position shown -arrow- using Allen key.

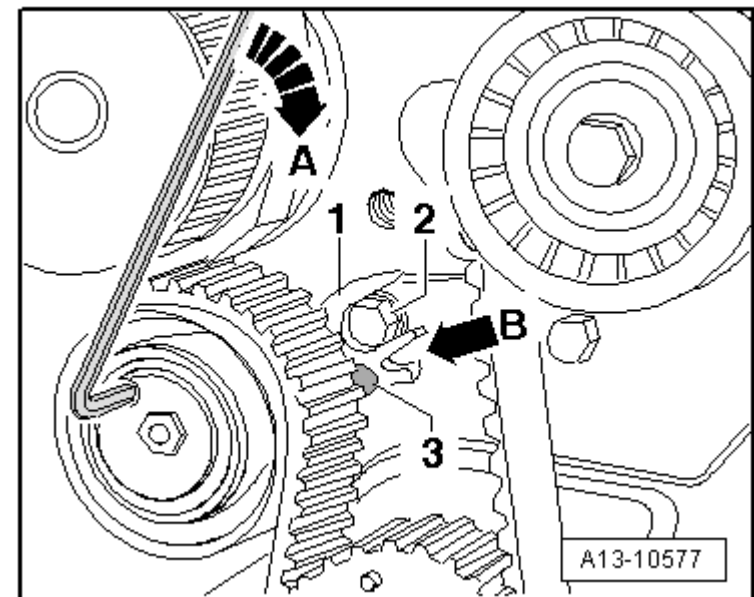


- Tighten bolt for main drive tensioning roller hand-tight.
- Bolt -2- for oil pump housing must engage in the recess in base plate -1-.

**Note**

Disregard items marked -3- and -arrows-.

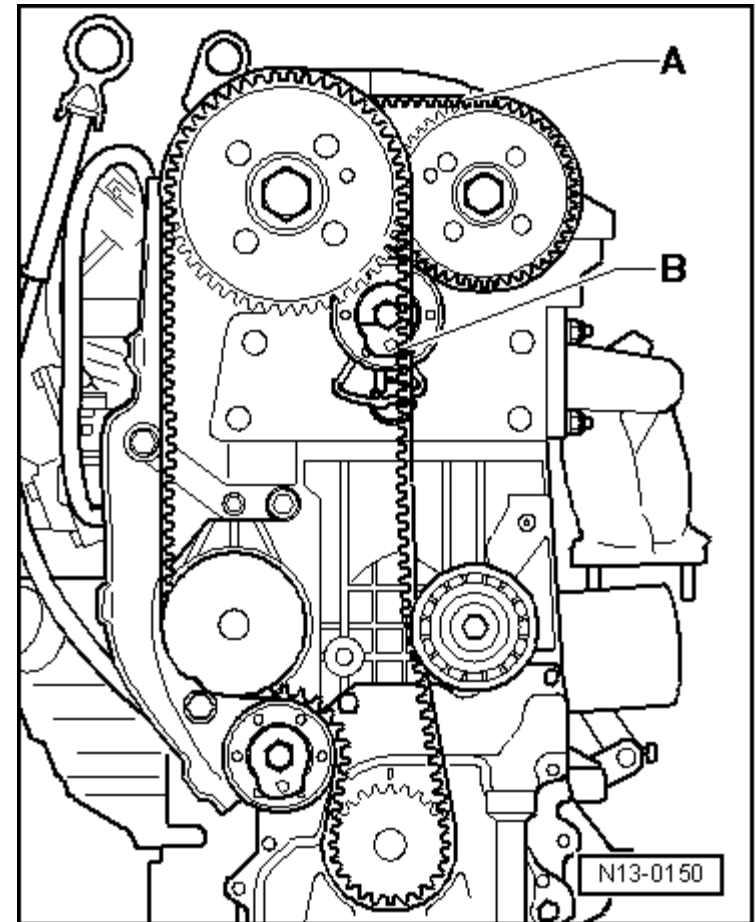
**Note**



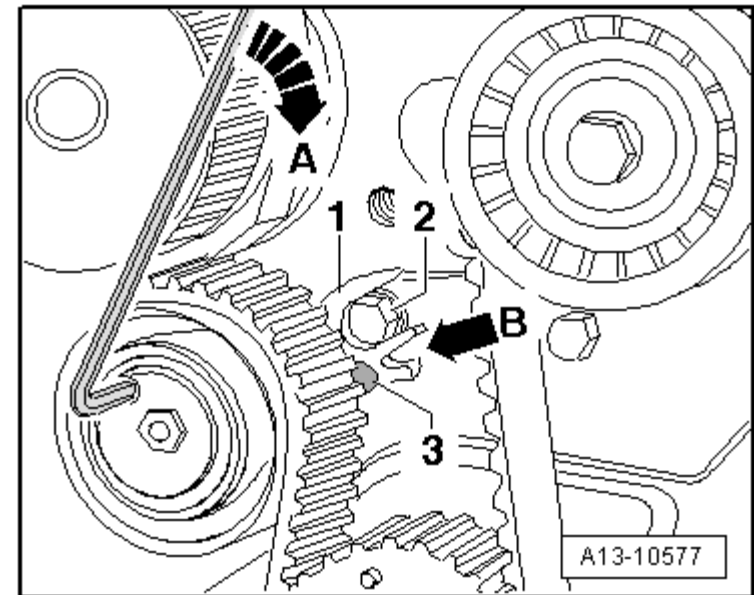
*Note the marking for direction of rotation when reinstalling a used toothed belt.*

- Fit main drive toothed belt -B- in the sequence coolant pump, tensioning roller, crankshaft and inlet camshaft.

A - Coupling drive toothed belt



- To tension toothed belt, turn tensioning roller in clockwise direction -arrow A- until indicator -3- aligns with notch -arrow B- in base plate -1-.
- Tighten bolt for main drive tensioning roller.
- Remove locking pins -T10074-.
- Turn crankshaft 2 revolutions in direction of engine rotation and set to „TDC“ once again.

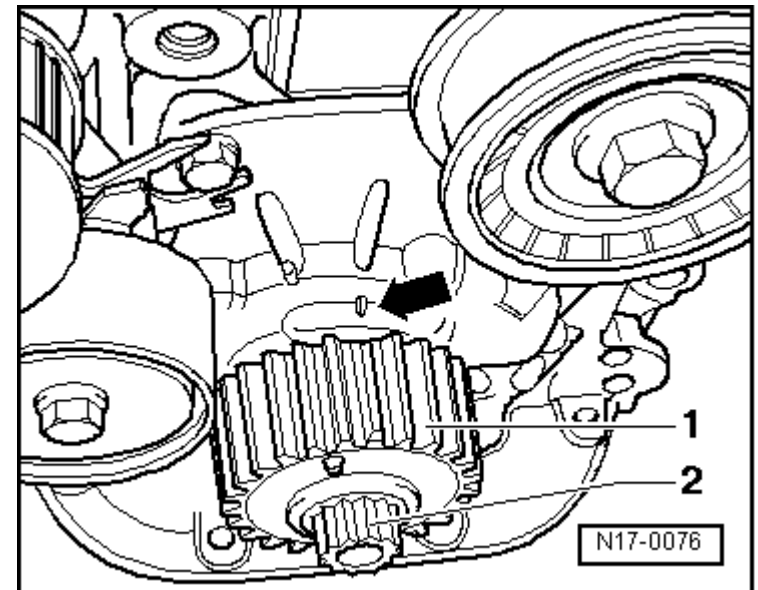


- Check „TDC“ position of crankshaft:
- The flat tooth on crankshaft sprocket -1- must align with marking -arrow- on oil pump housing.



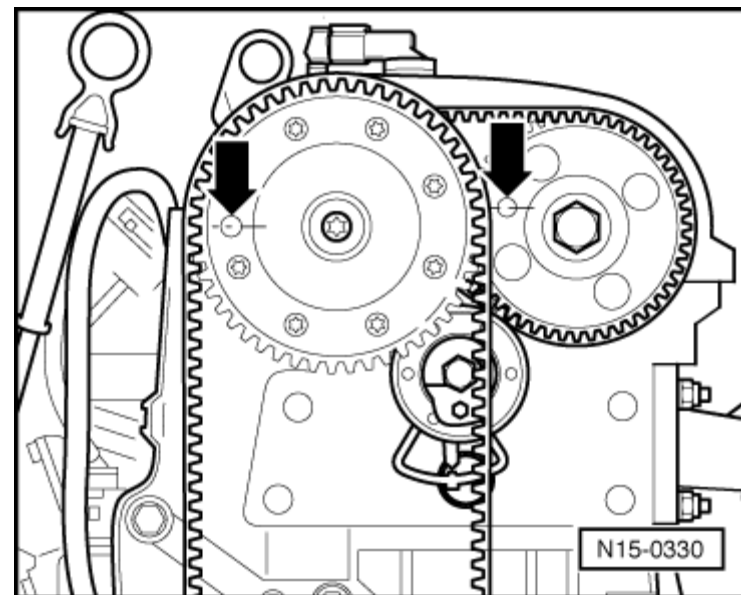
**Note**

Disregard item -2-.

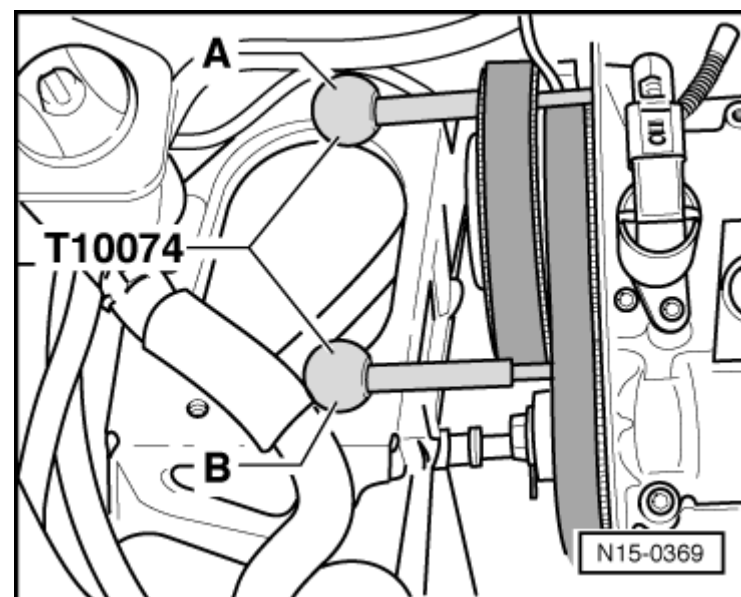


- The locking pin holes in the inlet camshaft sprocket with camshaft adjuster and in the

exhaust camshaft sprocket must align with the corresponding holes in the camshaft housing -arrows-.

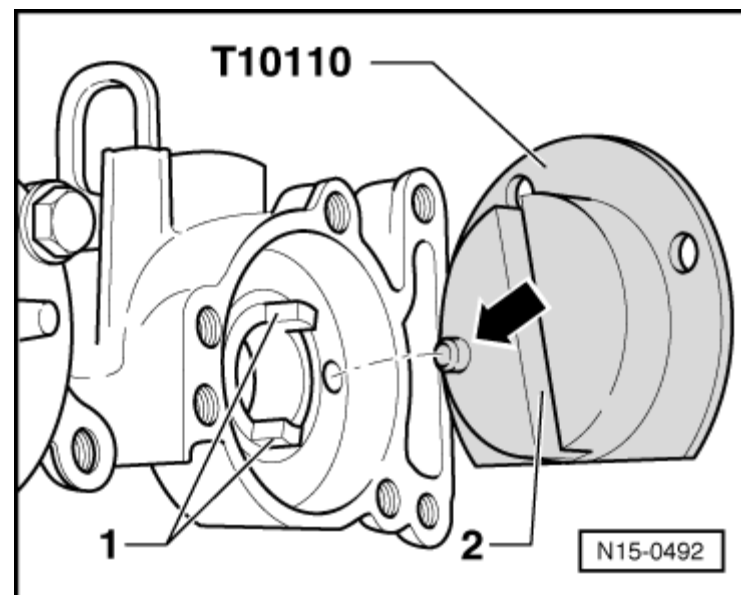


- Lock camshafts using locking pins -T10074-:
- It should be possible to insert locking pin -A- through locking pin hole in inlet camshaft sprocket into corresponding hole in camshaft housing.
- It should be possible to insert locking pin -B- through locking pin hole in exhaust camshaft sprocket into corresponding hole in camshaft housing.



- Attach locating flange -T10110- to camshaft housing of inlet camshaft working from side facing gearbox as follows:

- The pin -arrow- on the locating flange -T10110- must engage in the small hole on the axial bearing of the inlet camshaft.
- The lugs -1- on the inlet camshaft must engage in the slot -2- in the locating flange -T10110-.



- Turn inlet camshaft at hexagon of locating flange -T10110- in opposite direction of engine rotation as far as stop and hold in position.
- If the valve timing is correct, the holes -arrows- in the locating flange -T10110- must align with the tapped holes in the camshaft housing.
- Repeat adjustment procedure if holes do not align → **Anchor**.

Remaining installation steps are carried out in reverse sequence; note the following:

- Install engine support and engine mounting → **Chapter**.
- Install poly V-belt pulley for crankshaft → **Chapter**.

