

11 31 005

Checking camshaft timing (N55)**Special tools required:**

- [11 0 300](#)
- [11 4 281](#)
- [11 4 282](#)
- [11 4 285](#)

**Important!**

When the engine is shut down, the intake and exhaust camshaft adjusters are normally locked in their initial setting. In order to avoid incorrect timing adjustment, it is essential to check the locking of the camshaft adjuster and if necessary perform locking by rotating the camshafts.

**Important!**

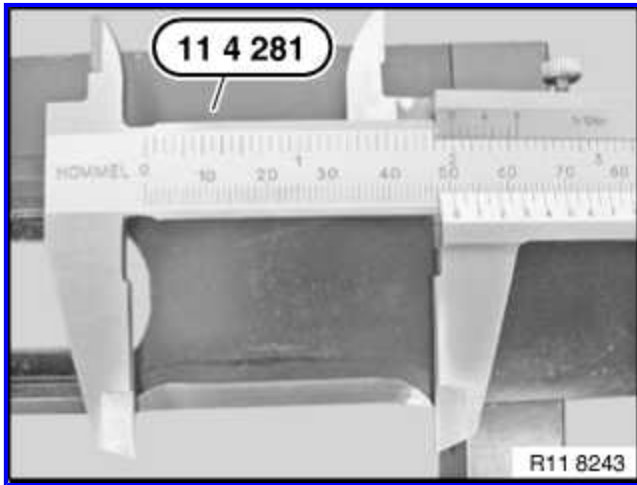
For the positioning of the special tool [11 4 281](#) on the mounting flats of the intake camshaft, a collision with the cylinder throttle return spring 1 can occur.

Special tool [11 4 281](#) reconditions at following description.

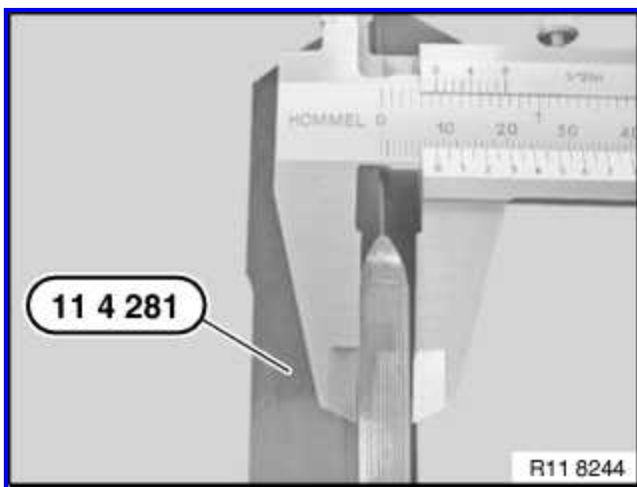
Check for freedom of movement of throttle return spring at intermediate lever cylinder 1.

Recondition special tool [11 4 281](#).

Rework chamfer on special tool [11 4 281](#) as shown in the range



of 50 millimetres long and 8.5 millimetres wide.



Recondition chamfer on special tool [11 4 281](#) to 8.5 millimetres (see picture).



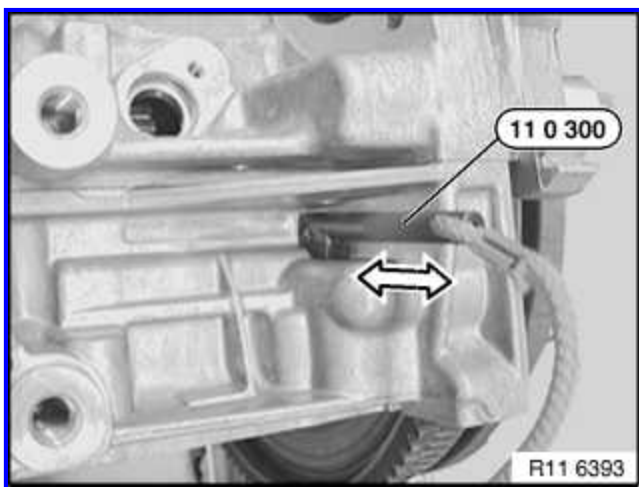
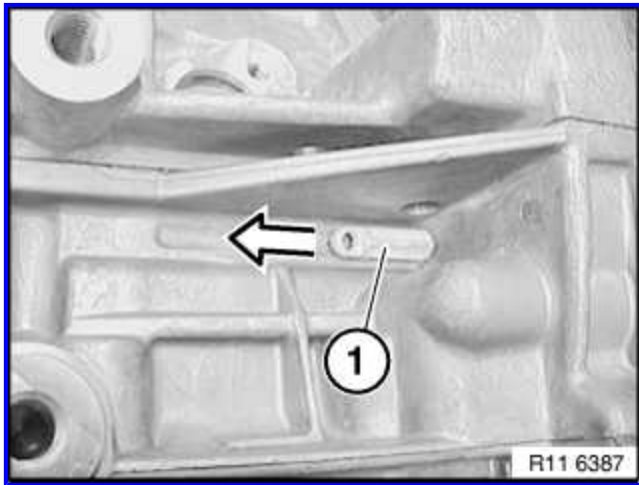
Necessary preliminary tasks:

- Remove [cylinder head cover](#).
- Remove [underbody protection](#).

Remove fastener (1) in direction of arrow.

Installation note:

Install fastener (1) with bore facing outwards.

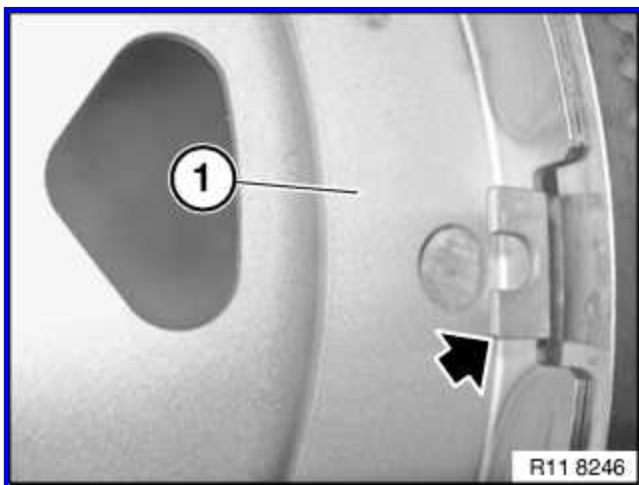


Rotate crankshaft at central bolt into TDC setting.

Slide special tool [11 0 300](#) in direction of arrow into dowel hole and secure crankshaft.

Important!

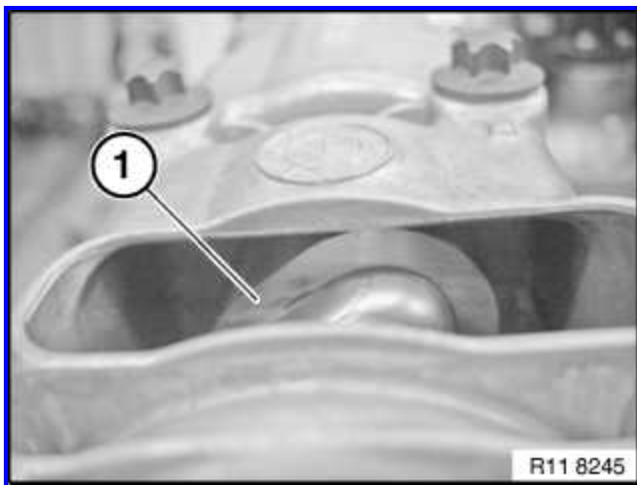
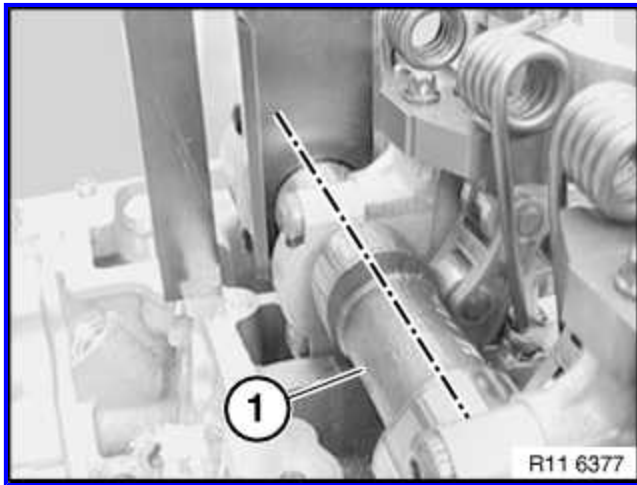
If the flywheel is secured in the correct dowel hole with special tool [11 0 300](#), the engine can no longer be moved at the central bolt.



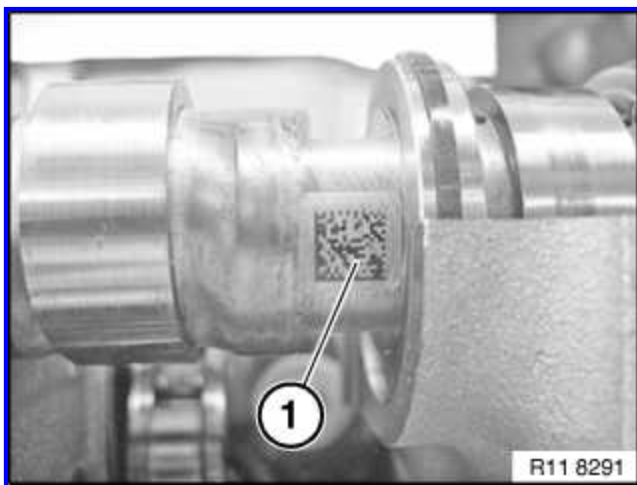
Note:

Vehicles with automatic transmission can only be secured to the specified position on flywheel (1) (see arrow).

With 1st cylinder in TDC firing position, cams of intake camshaft (1) point upward at an angle.



With 1st cylinder in TDC firing position, cams of the exhaust camshaft (1) point upwards at an angle.



The timings are correct when the part numbers or read code (1) and the intake and exhaust camshafts point upwards.

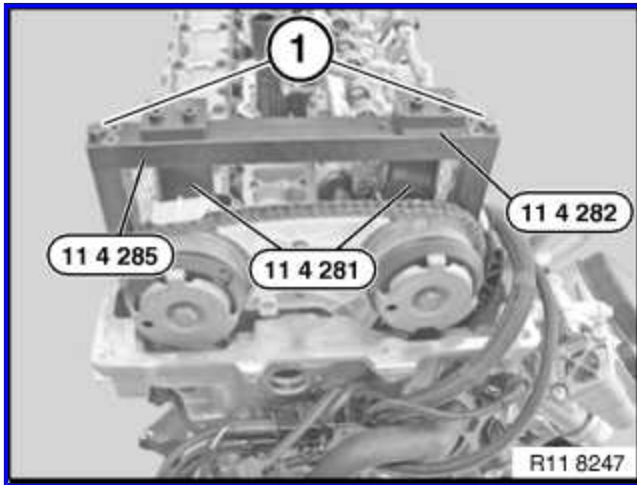
Secure special tool [11 4 285](#) with bolts (1) to cylinder head.

Note:

Fit special tool [11 4 282](#) underneath on side of intake camshaft.

Mount reworked special tool [11 4 281](#) on the intake camshaft.

Mount special tool [11 4 281](#) on the exhaust camshaft.



If necessary, adjust [valve timing](#).
Assemble engine.