

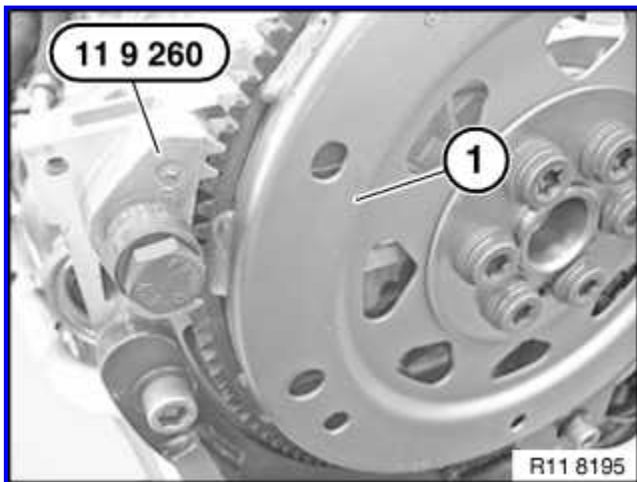
11 31 051**Replacing timing chain (N55)****Special tools required:**

- [11 0 300](#)
- [11 4 280](#)
- [11 8 180](#)
- [11 8 660](#)
- [11 9 260](#)

**Necessary preliminary tasks:**

- Remove [cylinder head cover](#).
- Remove all [spark plugs](#).
- Remove [crankshaft seal](#) at front
- Remove [tensioning device](#) for drive belt.
- Remove [vibration damper](#).
- Check [timing](#).
- Remove [sealing cover](#) for vacuum pump.
- Remove [sealing cap](#) of chain tensioner for oil pump.

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**Engine removed:**

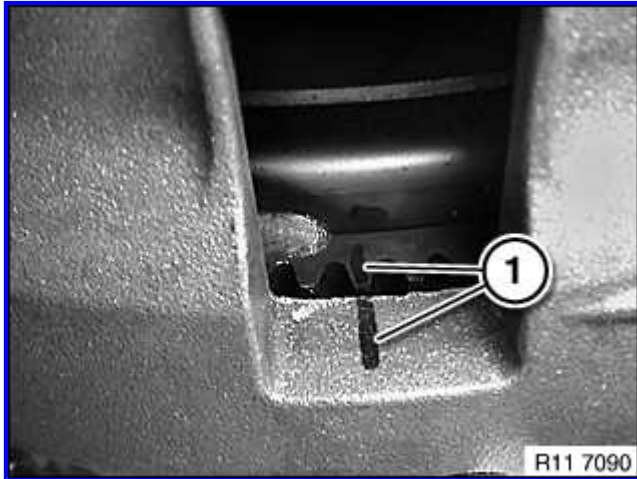
Block crankshaft with special tool [11 9 260](#).

Important!

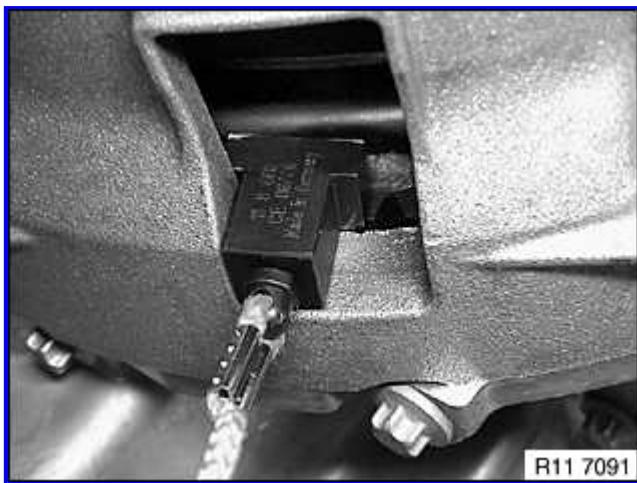
To release central bolt (1), remove special tool [11 0 300](#).

Important!

When central bolt of crankshaft is released, there is no longer a secure connection to timing drive.

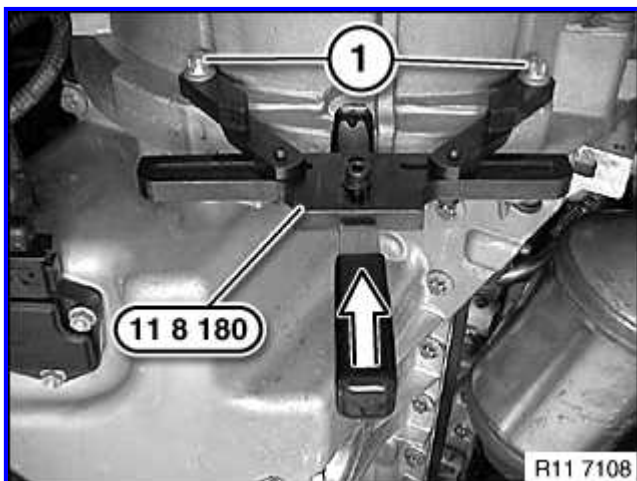


Mark position of crankshaft using a coloured mark (1).
This will make future insertion of special tool [11 0 300](#) easier.



Vehicles with automatic transmission:

Block crankshaft with special tool [11 8 660](#).



Vehicles with manual gearbox:

Attach special tool [11 8 180](#) to manual transmission with existing transmission bolts (1).

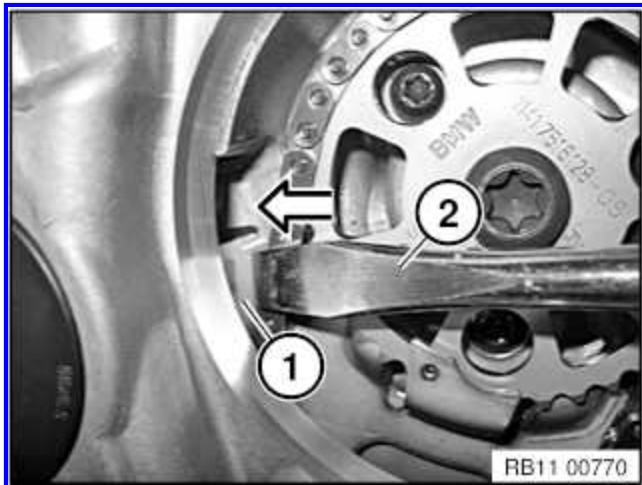
Block crankshaft in direction of arrow with special tool.

Important!

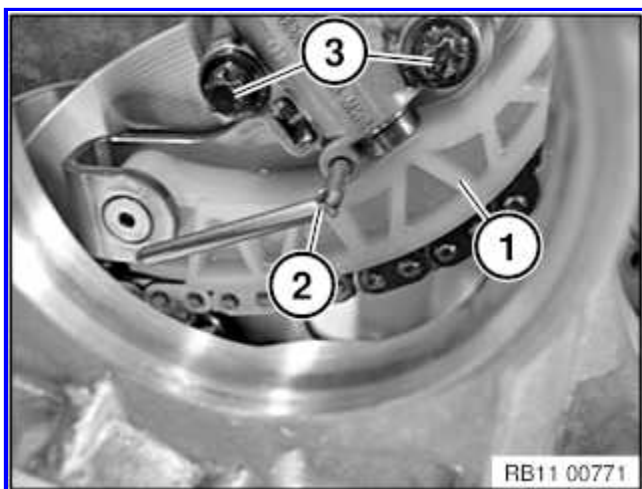
Before releasing the central bolt, the hydraulic chain tensioner must be drained.

Carefully press tensioning rail (1) with a suitable screwdriver (2) in direction of arrow.

As the oil pressure in the chain tensioner can only be drained

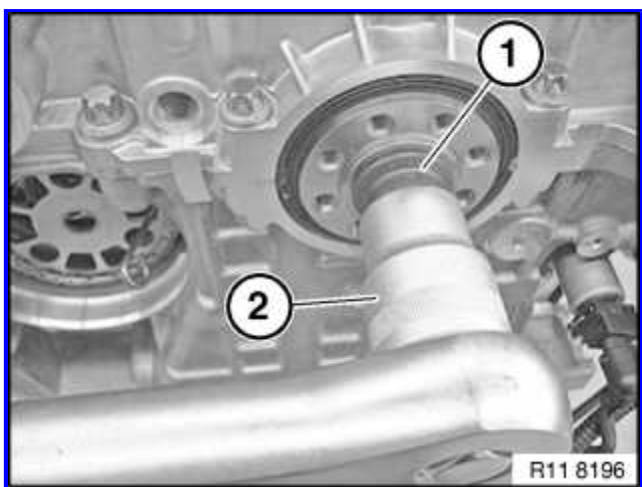


pulsating, the tensioning rail (1) must be pressed several times.



Press the tensioning rail (1) and hold down.

Fix chain tensioner piston in position with a suitable lock pin (2).



Important!

Breakaway torque of the central bolt > 600 Newton metres

A 3/4-inch tool (large powered square) is required to release central bolt.

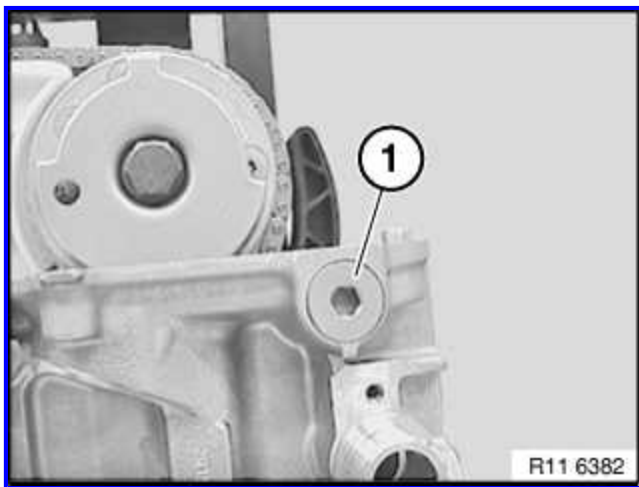
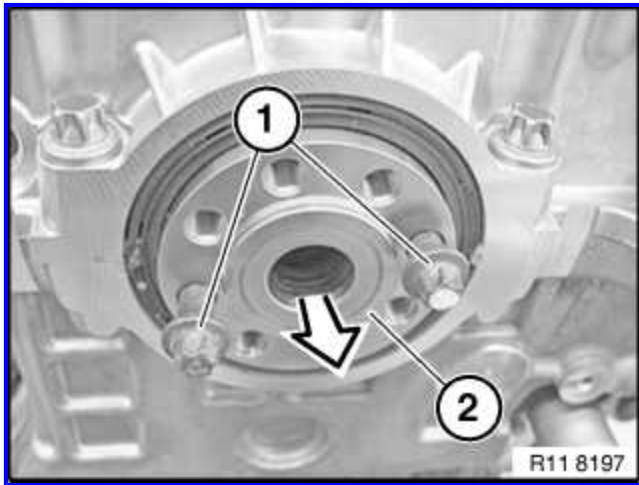
Release central bolt (1) with 3/4-inch tool (2).

Tightening torque [11 21 1AZ](#).

Remove [chain tensioner](#).

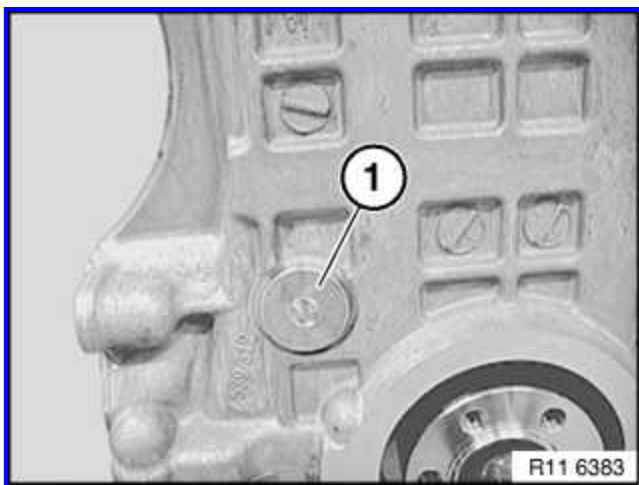
Screw in vibration absorber screws (1).

Move hub (2) on crankshaft forward in direction of arrow to remove.



Open screw plug (1).

Tightening torque [11 31 8AZ](#).



Open screw plug (1).

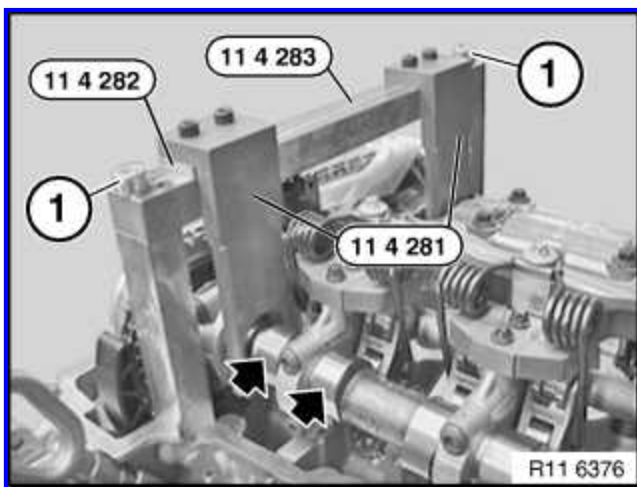
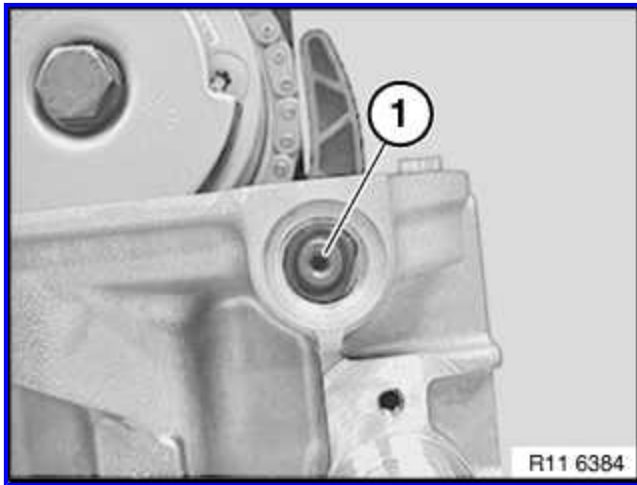
Tightening torque [11 11 7AZ](#).

Installation note:

Replace aluminium screws.

Release bearing journal (1) from timing chain module on cylinder head.

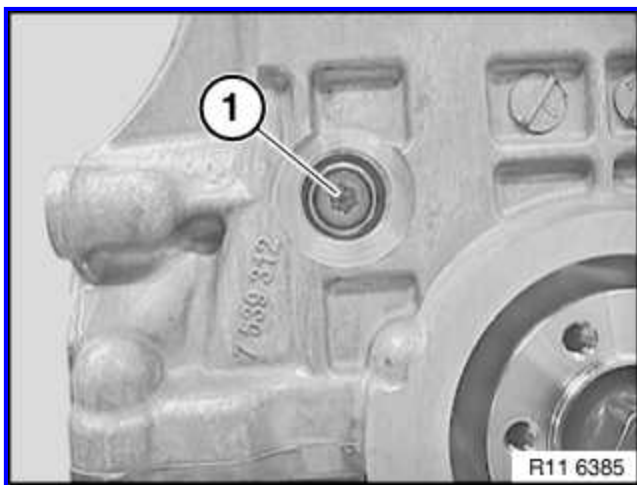
Tightening torque [11 31 6AZ](#).



Important!

Install special tool [11 4 280](#) to release the central bolts on the intake and exhaust camshaft adjusters.

Remove [intake and exhaust camshaft adjusters](#).



Release bearing journal (1) from timing chain module on crankcase.

Tightening torque [11 31 5AZ](#).

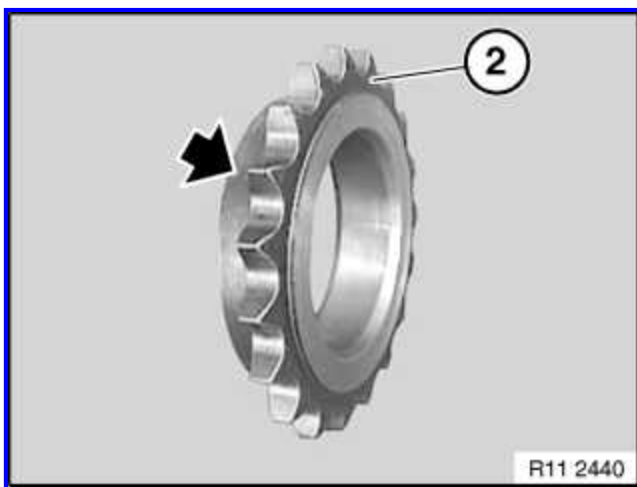
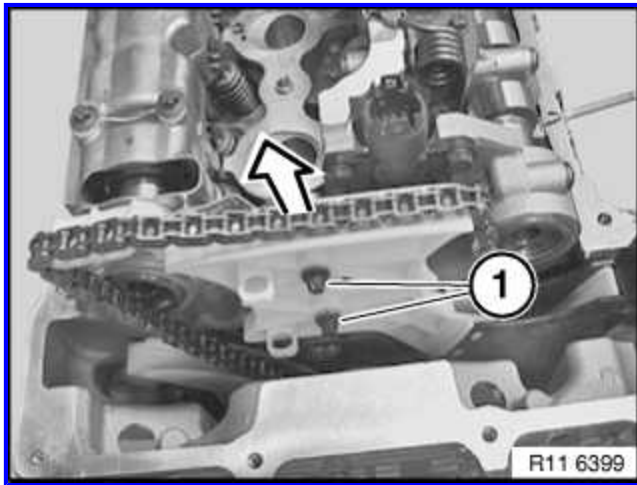
Release bolts (1) from timing chain module on cylinder head.

Tightening torque [11 31 4AZ](#).

Remove chain module with timing chain and camshaft sprocket upwards in direction of arrow.

Note:

Graphic N52.

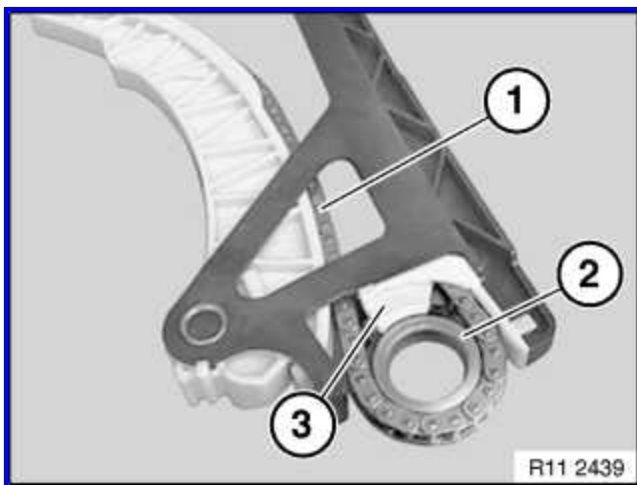


Important!

Note direction of installation of camshaft sprocket (2).

Collar (see arrow) on camshaft sprocket (2) points to **engine**.

Incorrect assembly will result in **engine damage**.



Pull timing chain (1) upwards until camshaft sprocket (2) engages chain guide (3).

Install timing chain (1) and sprocket (2) in this position.

Installation note:

Always hold timing chain (1) under tension. Timing chain (1) may jam on chain guide (3).

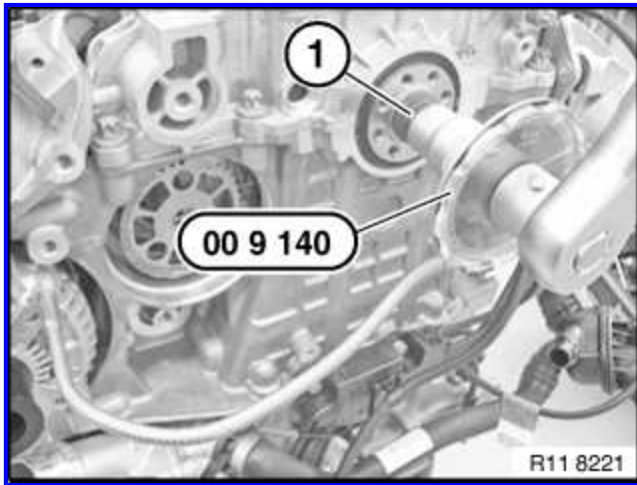
Insert central bolt (1) with hub for crankshaft.

Tighten down central bolt (1).

Tightening torque [11 21 1AZ](#).

Install [intake and exhaust camshaft adjusters](#).

Install [chain tensioner](#).



Crank engine twice.

Check [timing](#).

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

Replace front [crankshaft seal](#).

Assemble engine.