

11 33 062 Removing and installing/renewing all hydraulic valve clearance compensating elements (N57 D30 U/O/T 0/1)



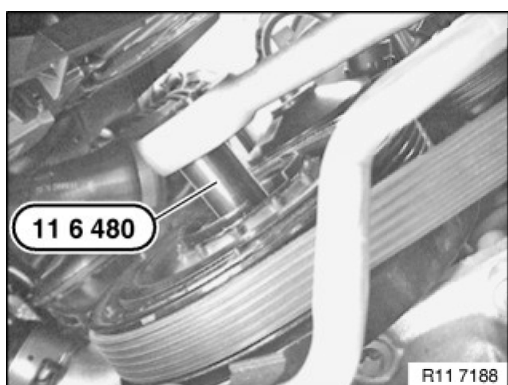
Special tools required:

- [11 4 480](#)
- [11 5 320](#)
- [11 6 480](#)



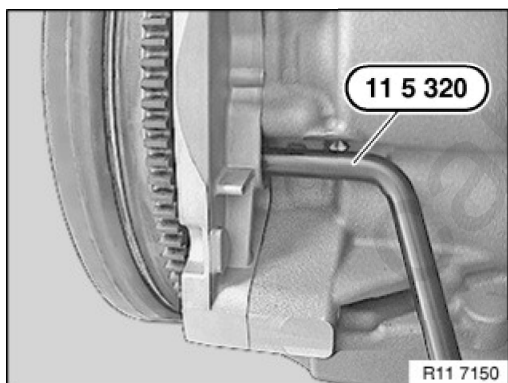
Necessary preliminary tasks:

- Remove [cylinder head cover](#).



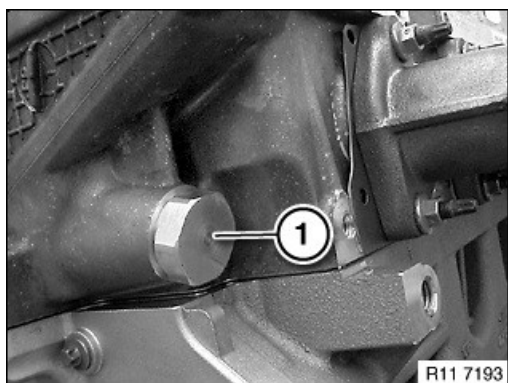
Crank engine with special tool [11 6 480](#) to TDC firing position of cylinder no. 1. **Important!**

Do not crank the engine back.



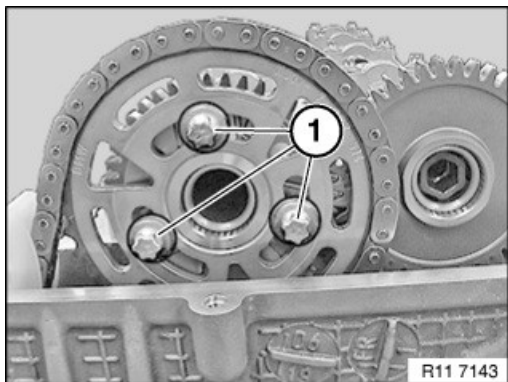
Remove protective cap of gear case cover.

Block crankshaft in firing TDC position of cylinder no. 1 with special tool [11 5 320](#).



Release chain tensioner (1).

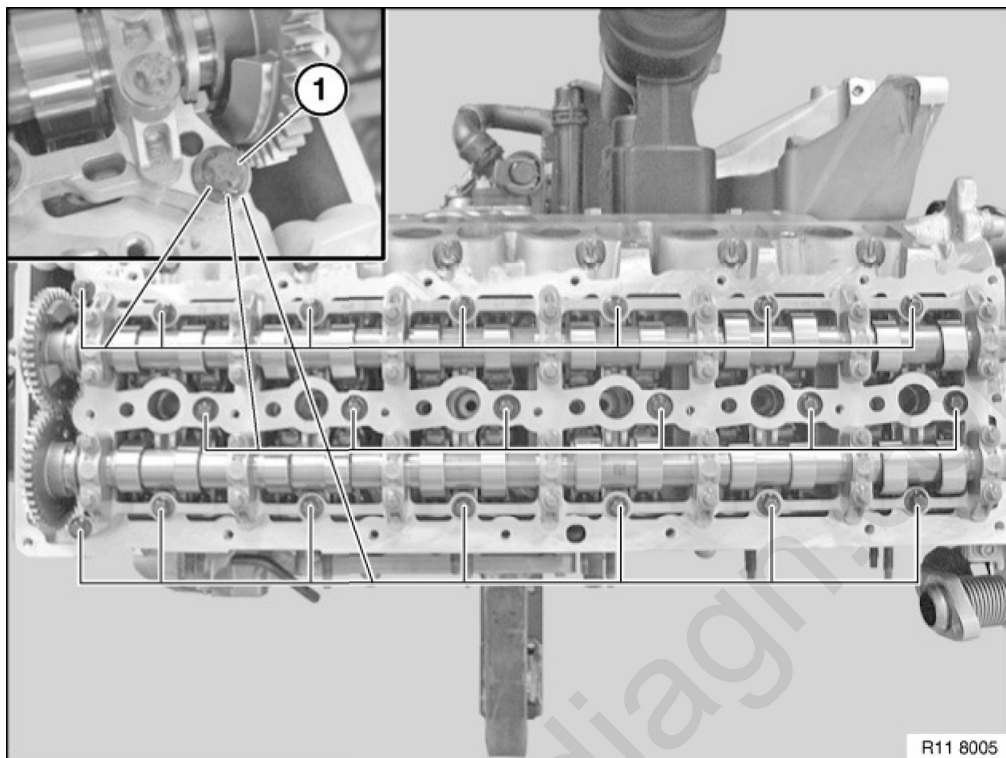
Tightening torque: [11 12 2 AZ](#).



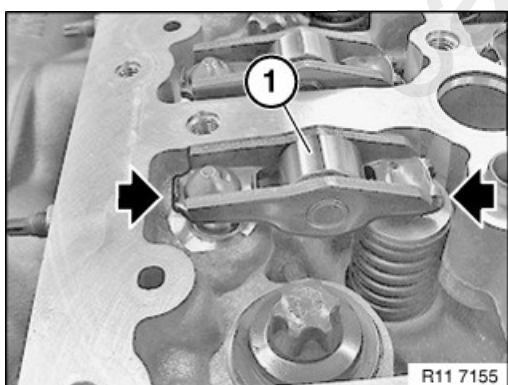
Release screws (1).

Remove camshaft sprocket from assembled shaft and feed out of timing chain.

Place timing chain in cylinder head.

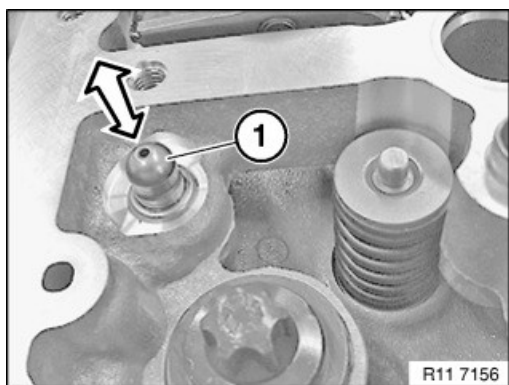


Release all bolts (1) from outside inwards.



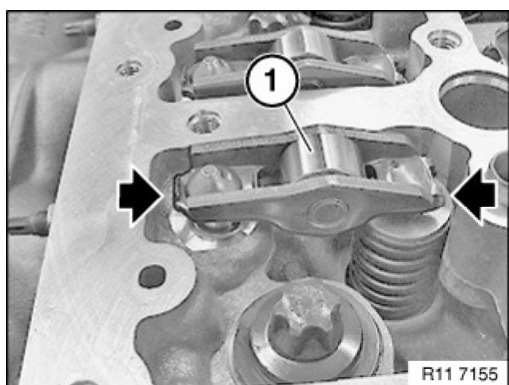
Set down all roller cam followers (1) in an orderly fashion on special tool [11 4 480](#). *Installation note:*

Reuse roller cam followers in the same positions.

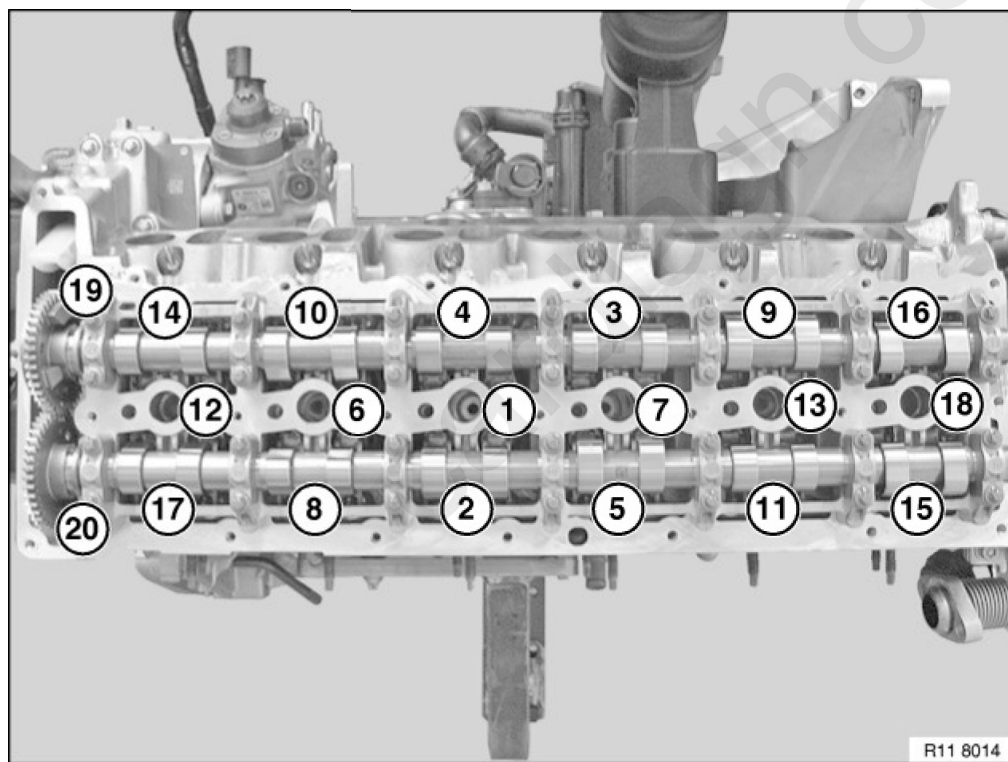


Remove compensating element (1) in direction of arrow. *Installation note:* If reusing compensating elements (1), set down in an orderly fashion in special tool [11 4 480](#).

Reuse compensating elements in the same positions.



Position roller cam follower (1) on hydraulic valve clearance compensating element.



Installation note:

Make sure roller cam followers are in correct installation positions.

Place camshaft carrier on cylinder head.

Tighten bolts in sequence (1 to 20).

Tightening torque: [11 31 3AZ](#).



Adjust [valve timing](#).

Assemble engine.



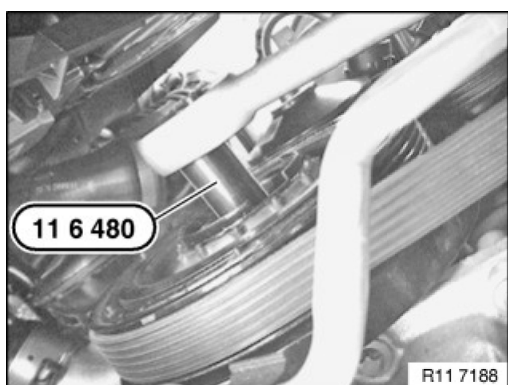
Special tools required:

- [11 4 480](#)
- [11 5 320](#)
- [11 6 480](#)



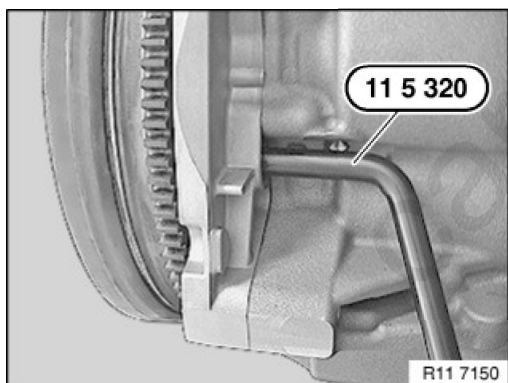
Necessary preliminary tasks:

- Remove [cylinder head cover](#).



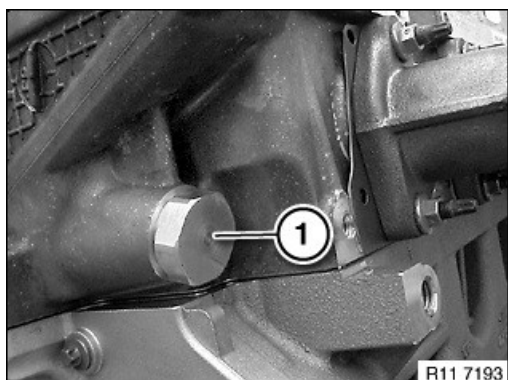
Crank engine with special tool [11 6 480](#) to TDC firing position of cylinder no. 1. **Important!**

Do not crank the engine back!



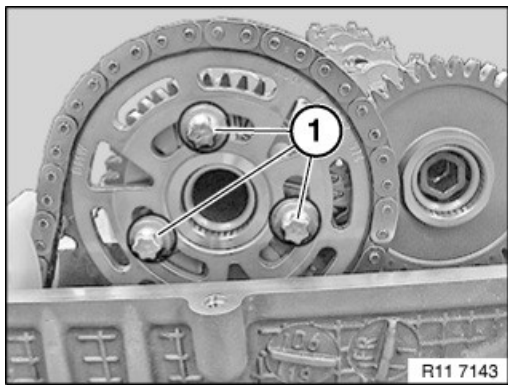
Remove protective cap of gear case cover.

Block crankshaft in firing TDC position of cylinder no. 1 with special tool [11 5 320](#).



Release [chain tensioner \(1\)](#).

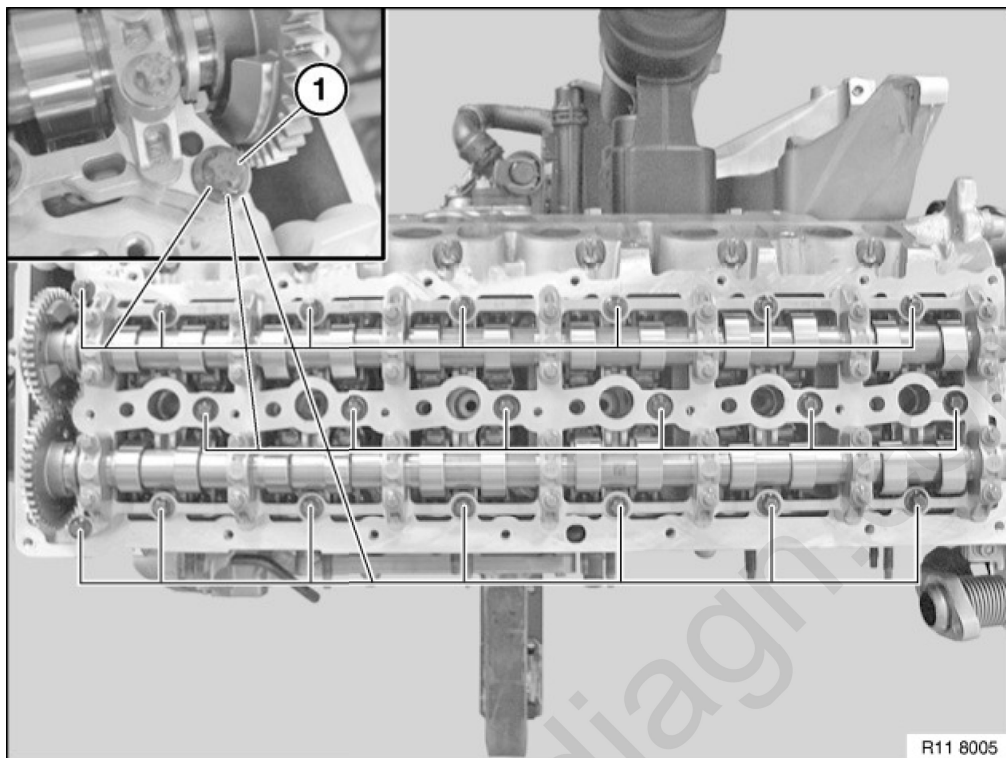
Tightening torque: [11 12 2AZ](#).



Release screws (1).

Remove camshaft sprocket from assembled shaft and feed out of timing chain.

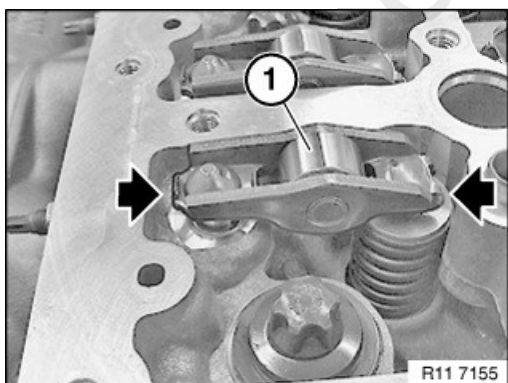
Place timing chain in cylinder head.



Note:

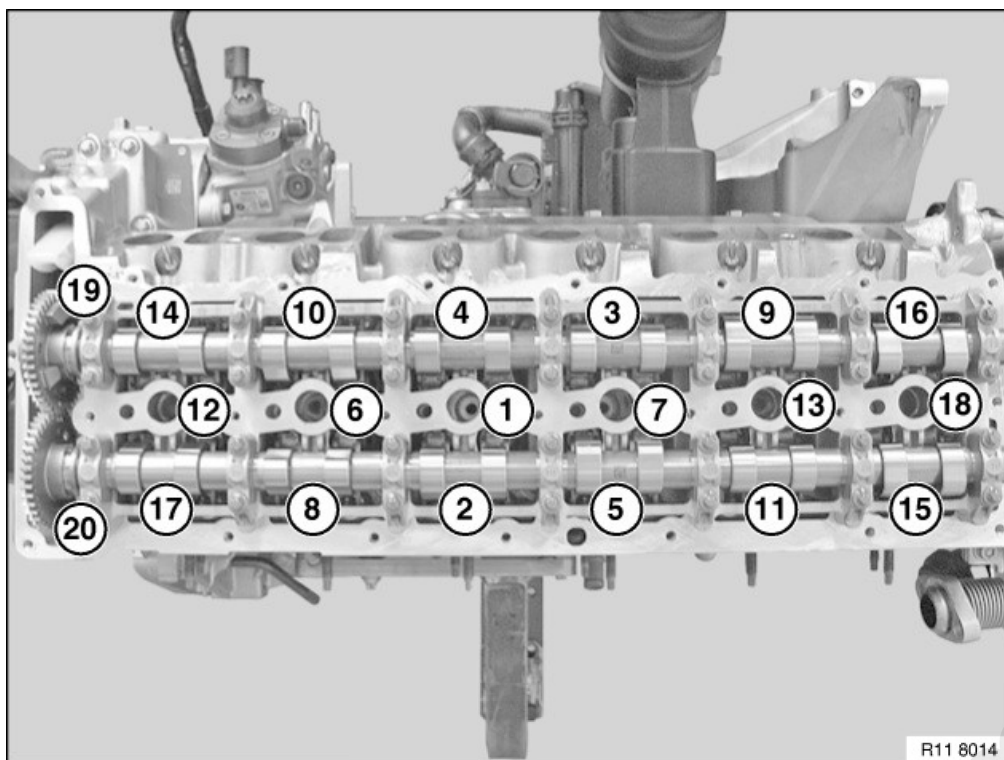
Both camshafts can be removed with the camshaft carrier.

Release all bolts (1) from outside inwards.



Remove all rocker arms (1) and lay down on special tool [11 4 480](#) in an orderly manner. *Installation note:*

Already used rocker arms (1) may only be reused in the same position.



Installation note:

Make sure roller cam followers are in correct installation positions.

Place camshaft carrier on cylinder head.

Tighten bolts in sequence (1 to 20).

Tightening torque: [11 31 3AZ](#).



Adjust [valve timing](#).

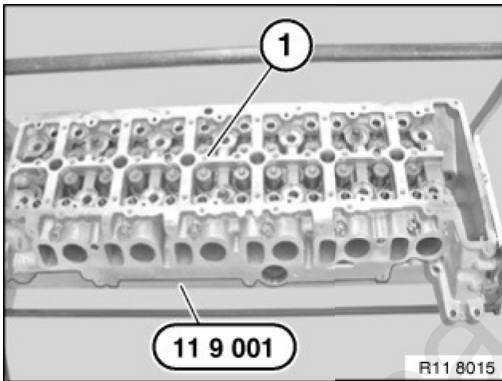
Assemble engine.

**Special tools required:**

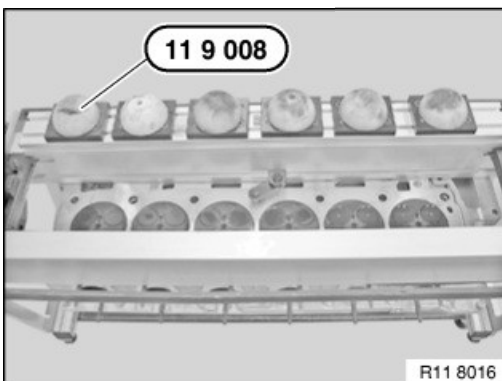
- [11 4 480](#)
- [11 8 840](#)
- [11 9 000](#)
- [11 9 001](#)
- [11 9 005](#)
- [11 9 006](#)
- [11 9 008](#)
- [11 9 009](#)
- [11 9 011](#)

**Necessary preliminary tasks:**

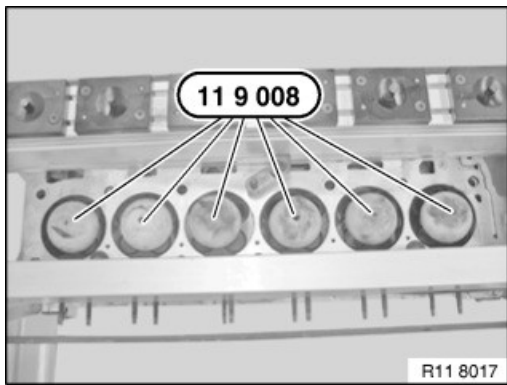
- Remove [cylinder head](#).



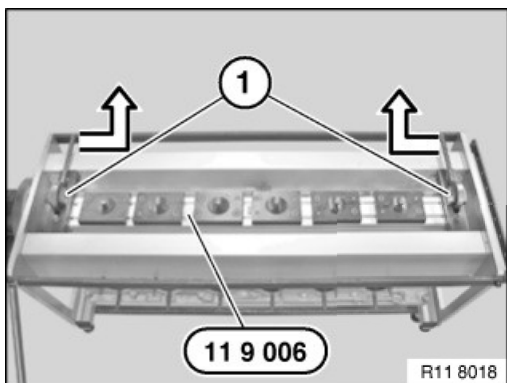
Mount cylinder head (1) on special tool [11 9 001](#).



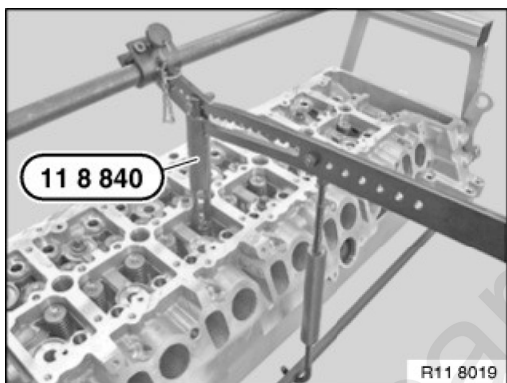
Remove all special tools [11 9 008](#).



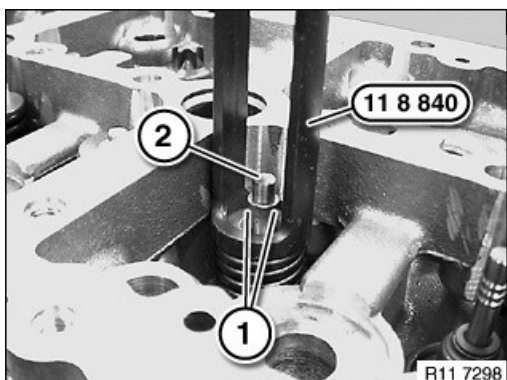
Position special tool [11 9 008](#) with straight surface on combustion chamber side of cylinder head (see illustration). *Note:*
Procedure for all 4-, -6- and 8-cylinder diesel engines.



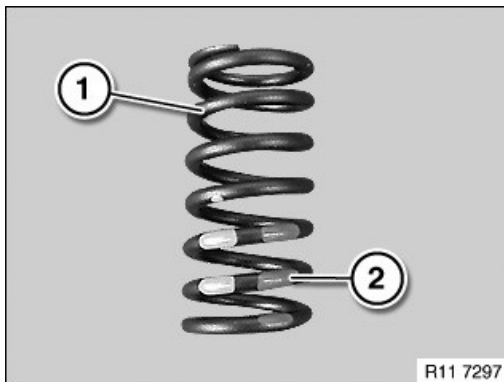
Insert special tool [11 9 006](#) .
Lock special tool [11 9 005](#) in direction of arrow.
Rotate cylinder head, using special tool [11 9 000](#) , 180° into installation position.



Align special tool [11 9 009](#) in direction of valve axis. Select corresponding groove in special tool [11 8 840](#) .
Press down valve spring on upper spring cup with special tool [11 9 009](#) .
Hook in with special tool [11 9 011](#) .



Use a magnet to remove valve keys (1) from valve (2).
Remove valve spring and spring cup.
Place down valve springs and valve keys on special tool [11 4 480](#) in an orderly manner.



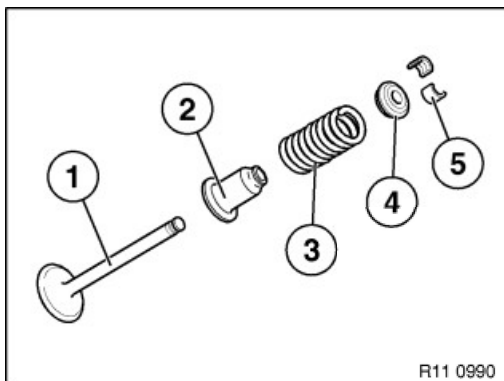
Check colour code of valve spring (1).

The colour orange (2) on the valve spring is important for allocation purposes. Mixed installation is possible.

Possible colour sets:

- Yellow - orange
- Green - orange
- Blue - orange

The installation position of the valve spring can be freely selected.



Installation sequence:

1. Valve
2. Valve stem seal
3. Valve spring
4. Top spring cup
5. Valve keys



If necessary, replace [valve stem seals](#).

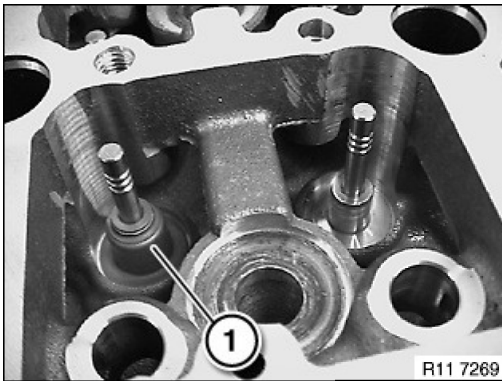
Assemble engine.

**Special tools required:**

- [11 1 480](#)
- [11 6 380](#)

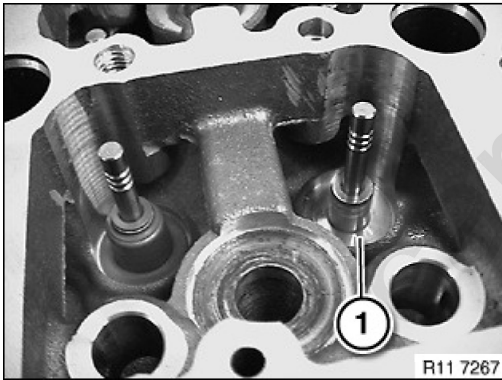
**Necessary preliminary tasks:**

- Remove [cylinder head](#).
- Remove all [valve springs](#).

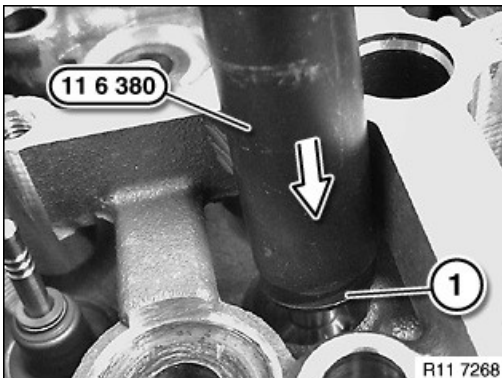


Tap open valve stem seal (1) with special tool [11 1 480](#) or with a size 13 or 14 hexagon bit.

Remove valve stem seal (1) with a twisting and pulling action.



The contact surface (1) must be clean.

**Installation note:**

Before installing the valve stem seals, the protective grommet must be fitted on the valve stem **Risk of damage!** to the sealing lip!

Press on valve stem seal (1) to stop using special tool [11 6 380](#) in direction of arrow.



Assemble engine.

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