

Measuring and reconditioning the cylinder head

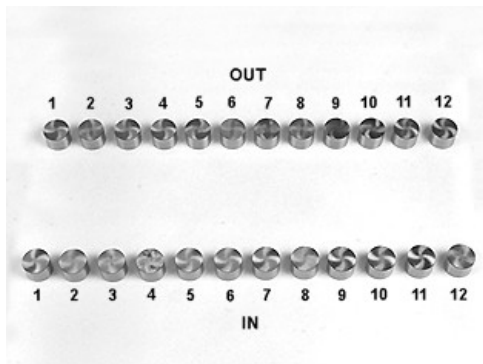
Special tools: [998 6052](#) , [999 5219](#) , [999 5222](#) , [999 5379](#) , [999 5748](#) , [999 5764](#)

Note! The illustrations in this service information are used for different model years and / or models. Therefore there may be some variation. However, the essential information in the illustrations is always correct.

Removing tappets from the cylinder head

Lift out the tappets. Mark up the tappets so that the original positions can be established. Use a suction cup to remove the tappets. Check for wear on the tappets. Measure if necessary.

Tappets, dimensions: See [Specifications](#) .



Removing valves

Use valve spring compressor [998 6052](#) with attachment claw [999 5748](#) .

Remove

- the valve locks
- the upper valve collars
- the valve springs
- the valves.

Note! Keep track of the position of the moving parts.

Removing valve stem seals

Use tool [999 5219](#) .

Remove the valve stem seals and the lower valve collars.

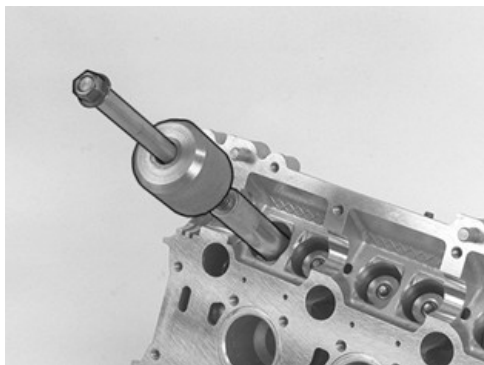
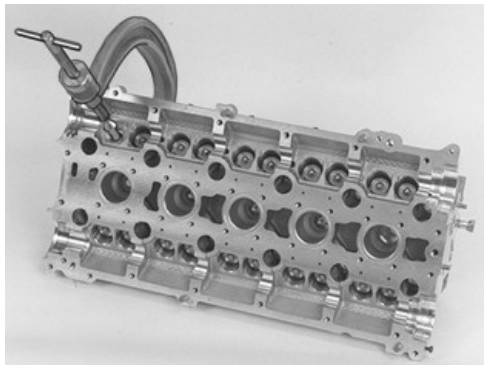
Clean the cylinder head:

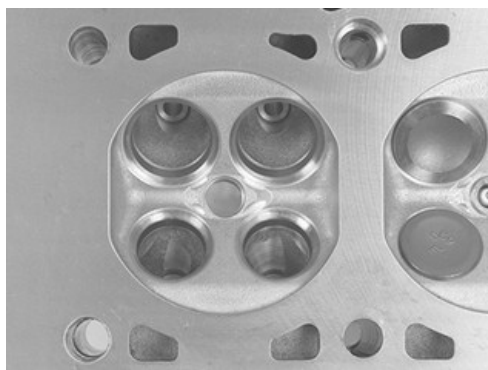
- the gasket faces
- the combustion chambers
- the inlet and exhaust ports
- the valve seats.

Checking the cylinder head

Clean the spark plug threads (tap M14 x 1.25). Clean the valves, valve springs and collars. Visually check for damage.

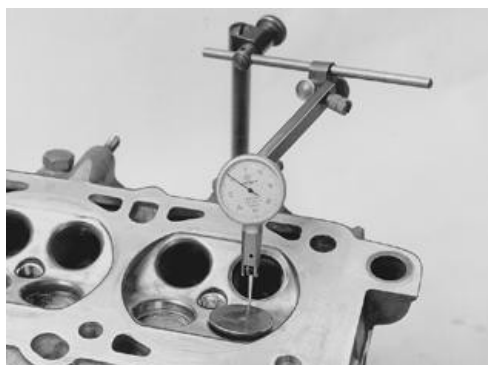
Regind the seats if unsure about cracks. See [Specifications](#) .





Checking the cylinder head for distortion

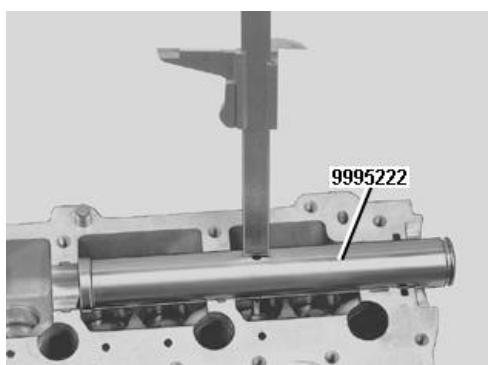
Measure cylinder head distortion Use a steel ruler and feeler gauge. See [Specifications](#) .



Checking for wear in the valve guides

Measure the wear in the valve guides. Use a dial indicator and magnetic holder. Lift the valve approximately 2–3 mm from the seat when carrying out the check.

Clearance between the valve and valve guide:
See [Specifications](#) .

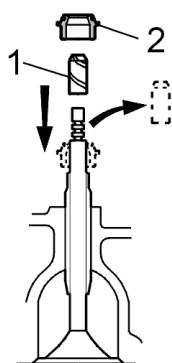


Checking the vertical position of the valve stem

Use camshaft adjustment tool [999 5222](#) .

Position the camshaft adjustment tool in the camshaft bearing recesses.

Measure the height of the valve stem using a feeler gauge through the hole in the camshaft adjustment tool. See [Specifications](#) .



Installing valve stem seals

Lubricate the valve stems and the upper ends of the valve guides.

Install

- the lower valve spring collars
- the valves in their positions.

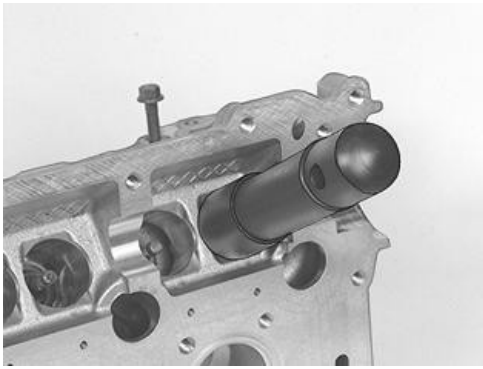
Install the protective sleeve (included in the gasket kit) on the valve stem.

Note! The protective sleeve must be installed on the valve stem when the valve stem seal is installed.

Lubricate the protective sleeve (1) and install it on the valve stem.

Lubricate the valve stem seal (2).

Press down the seal past the protective sleeve

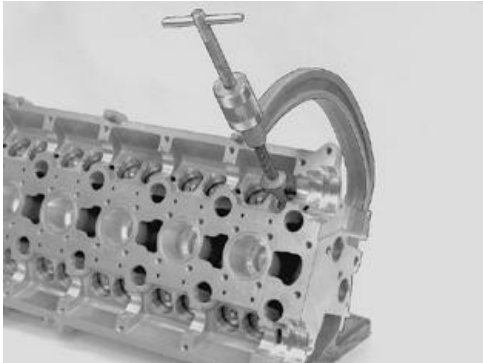


with your finger.

Press the seal down. Use tool [999 5764](#) . Press down by hand until the tool stops against the lower valve spring washer.

Remove the tool. Pull off the protective socket.

Installing valve springs



Install the valve spring. Install the valve spring washer.

Compress the valve spring so that the three valve lock tracks are visible. Use valve spring compressor [998 6052](#) with attachment claw [999 5748](#) .

Note! Do not compress more than is absolutely necessary. The valve stem seal may be damaged.

Install the valve locks.

Check that valve locks are in the correct position when the spring is not loaded.

Repeat the procedure with the remaining valves.