



**Haynes**  
shows you how

[BMW 3-Series \(92-98\) & Z3 \(96-98\) Haynes Online Manual](#)

## 8 Cylinder head - reassembly

### Note:

New valve stem oil seals should be fitted, and a valve spring compressor tool will be required for this operation.

### Four-cylinder engine

1 Follow the procedure outlined in steps 4 through 9.

2 Install the camshaft bearing castings, the cam followers and the camshafts (see [Chapter 2A](#) ).

3 Install the cylinder head (see [Chapter 2A](#) ).

### Six-cylinder engine

4 Lubricate the stems of the valves, and insert the valves into their original locations (see illustration) . If new valves are being fitted, insert them into the locations to which they have been ground.

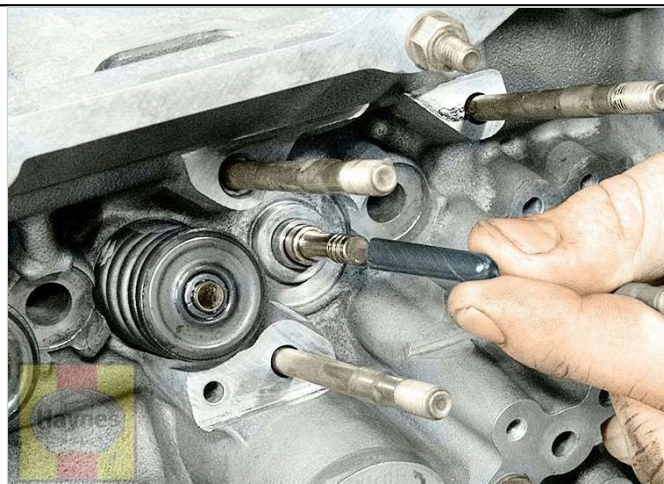
#### 8.4 Lubricate the valve stem



5 Working on the first valve, dip the new valve stem seal in fresh engine oil. New seals are normally supplied with protective sleeves which should be fitted to the tops of the valve stems to prevent the keeper grooves from

damaging the oil seals. If no sleeves are supplied, wind a little thin tape around the top of the valve stems to protect the seals. Carefully locate the seal over the valve and onto the guide. Take care not to damage the seal as it is passed over the valve stem. Use a suitable socket or metal tube to press the seal firmly onto the guide (see illustrations) .

**8.5a Fit the protective sleeve to the valve stem . . .**

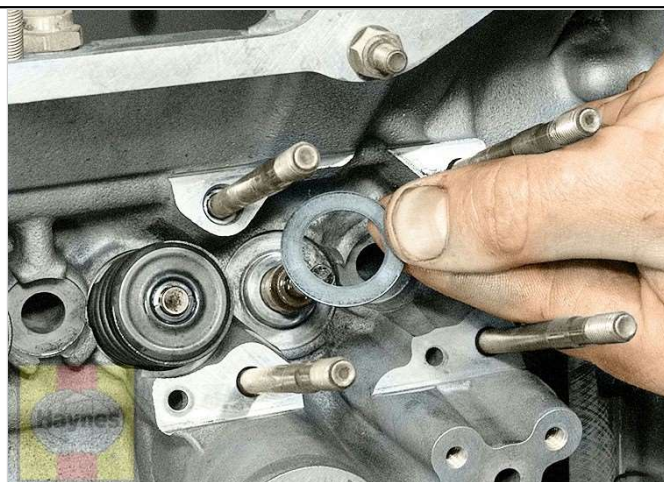


**8.5b . . . then fit the oil seal using a deep socket**

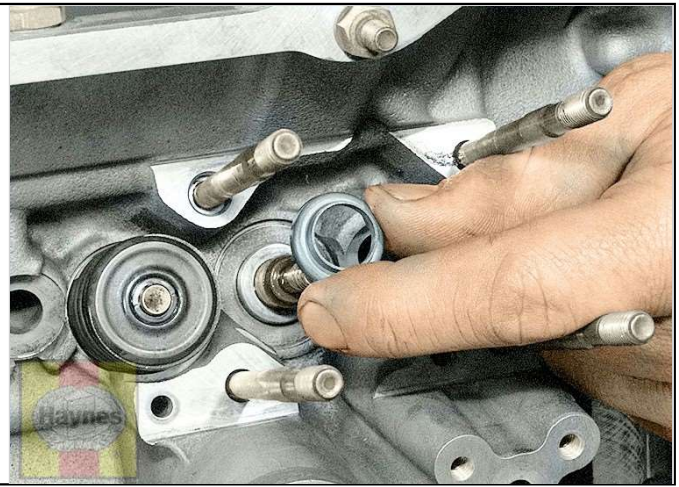


**6 Install the spring seat(s) (see illustrations) .**

**8.6a Fit the outer . . .**





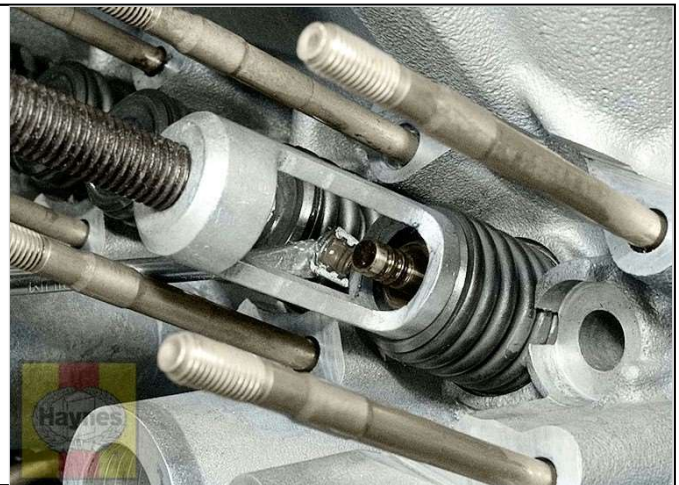
**8.6b . . . and inner spring seats**

7 Locate the valve spring(s) on top of the seat(s), then install the spring retainer (see illustrations) .

**8.7a Fit the inner . . .****8.7b . . . and outer valve springs . . .**

**8.7c . . . followed by the spring retainer**

8 Compress the valve spring(s), and locate the keepers in the recess in the valve stem (see illustration) . Release the compressor, then repeat the procedure on the remaining valves.

**8.8 Use a little dab of grease to hold the keepers in position on the valve stem while the spring compressor is released**

9 With all the valves installed, support the cylinder head on blocks of wood and, using a hammer and block of wood, tap the end of each valve stem to settle the components.

10 Install the camshaft bearing castings, cam followers and camshafts (see [Chapter 2B](#) ).

11 Install the cylinder head (see [Chapter 2B](#) ).