

**Haynes**
shows you how

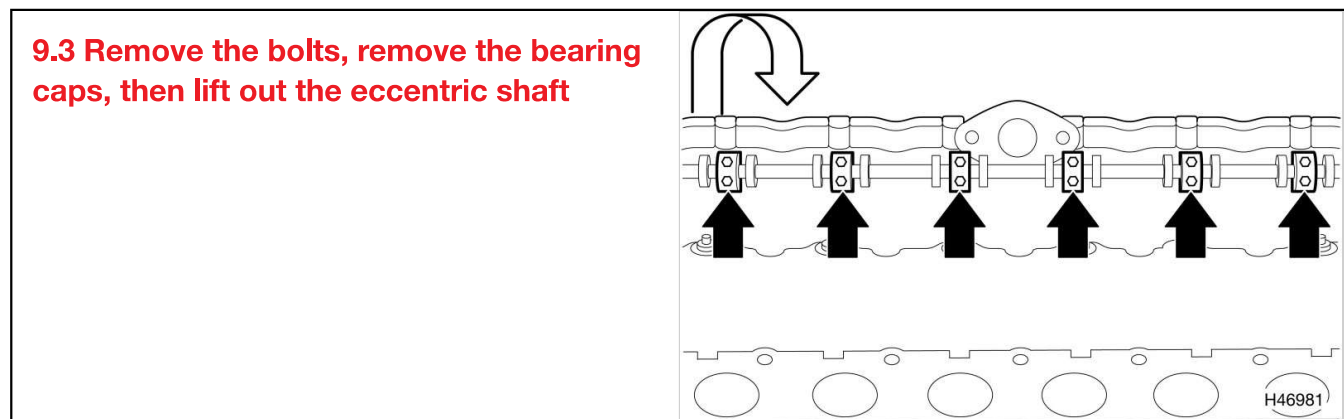
BMW 3-Series 320i & 320xi (12-14), 325i, 325xi, 330i & 330xi (06) & 328i & 328xi (07-14) Haynes Online Manual

9 Valvetronic components - removal and installation

Eccentric shaft

Removal

- 1 Remove the intake valve intermediate levers (see [Section 8](#) , Steps 1 through 10).
- 2 Rotate the eccentric shaft by a wrench on the hexagonal section until its lobes are in the minimum lift position.
- 3 Remove the retaining bolts and remove the shaft bearing caps. Lay the caps out on a clean surface in order. It is essential they are reinstalled to their original positions (see illustration) . Discard the bolts; new ones must be installed.



- 4 Carefully maneuver the eccentric shaft from position.
- 5 If required, remove the bolt and remove the magnetic sensor wheel from the end of the shaft (see illustration)

9.5 Remove the bolt and remove the magnetic sensor wheel



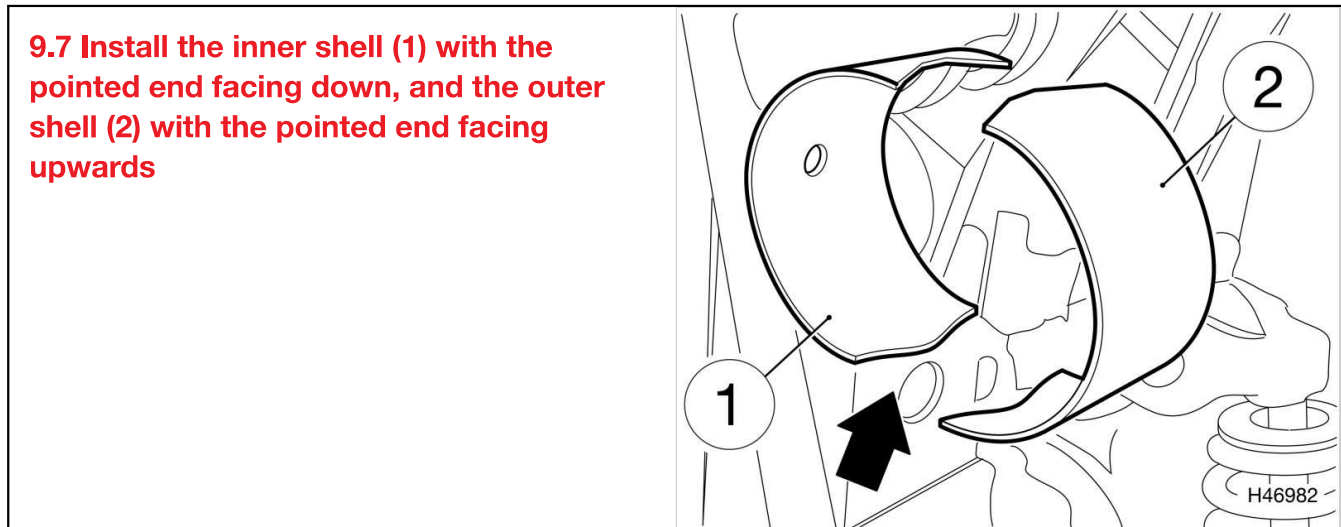
6 If required, carefully pull apart the bearing cages and remove the bearings from the shaft, then remove the shells from the bearing caps (see illustration) . Lay the caps/bearings out on a clean surface in order. Its essential they are reinstalled to their original positions. **Caution:** *Only spread the bearing cages just enough to remove them from the shaft - they are easily broken.*

9.6 Carefully spread the bearing cage apart



Installation

7 If removed, install the bearing shells into their original positions in the bearing caps. The inner shell must be installed with the pointed end facing downwards, and the outer shell with the pointed end upwards (see illustration) .



8 If removed, install the magnetic sensor wheel to the shaft and tighten the bolt securely.

9 If removed, install the bearings to their original positions on the eccentric shaft.

10 Lubricate the bearing surfaces with clean engine oil, then install the eccentric shaft in the minimum lift position.

11 Install the bearing caps and tighten the new retaining bolts to the specified torque.

12 Install the intermediate levers (see [Section 8](#)).

Positioning motor

Removal

13 Remove the two ignition coils on each side of the positioning motor (see [Chapter 5](#)).

14 Disconnect the wiring plug from the positioning motor.

15 Using an Allen bit and ratchet, rotate the end of the positioning motor shaft clockwise until the tension on the eccentric shaft has been relieved.

16 Remove the motor mounting bolts and the motor - note one of the mounting bolts is located under the motor. Discard the bolts - new ones must be installed.

Installation

17 Position the motor in the aperture in the valve cover, then rotate the motor shaft counterclockwise with an Allen bit and draw the motor into position against the flange. Install the new bolts and tighten them to the specified torque.

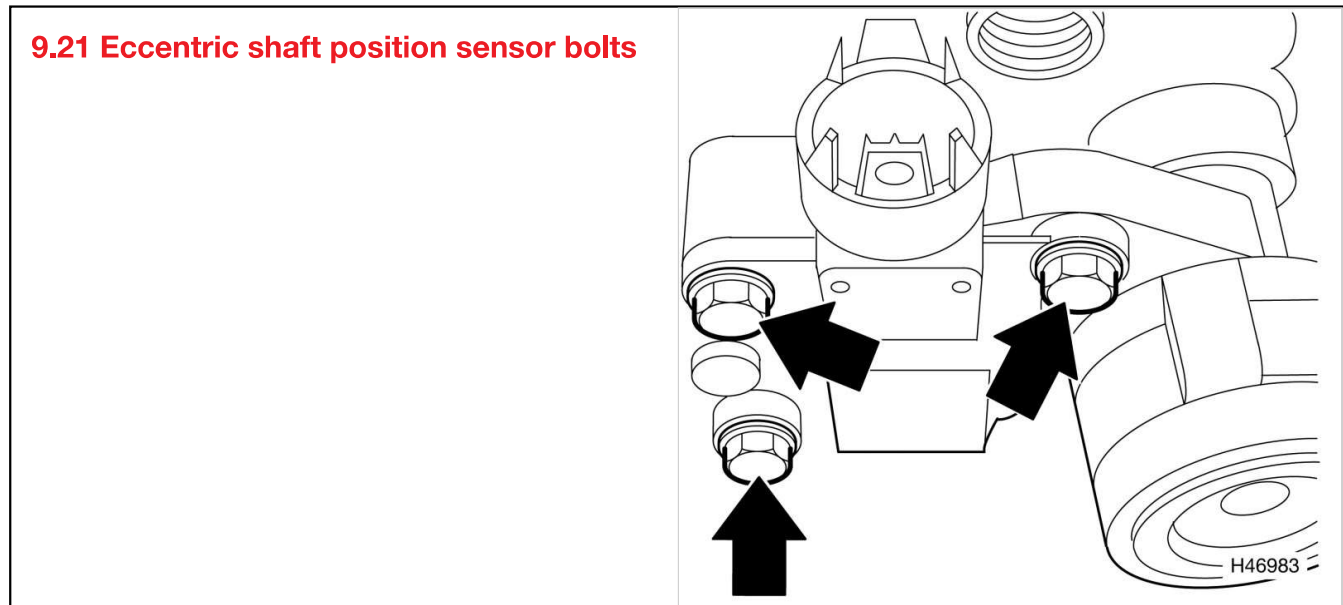
18 The remainder of installation is the reverse of removal.

Position sensor

19 Remove the valve cover (see [Section 4](#)).

20 Disconnect the sensor wiring plug.

21 Loosen the sensor retaining bolts (see illustration) . Note that the bolts are integral with the sensor - do not attempt to loosen them from the sensor. If fully unscrewed, the bolts *will* fall out .



22 Remove the sensor.

23 Installation is the reverse of removal.