

Rustling noise from the valve timing gear/VANOS

Complaint:

Rustling noises in the area of the timing chain, variable camshaft control (VANOS), camshaft in cold running mode up to an engine speed of 3,000 rpm.

Cause:

Excessive clearance between the thrust washer and the inlet camshaft sprocket wheel.

Affected vehicles:

E34, E36/M50

Manufacturing period: start of series production (03.90) - 06.95

E36/M52

Manufacturing period: start of series production (09.94) - 06.95

Procedure:

Convert the VANOS adjustment unit to plate springs. This solution was introduced to series production in June 1995.

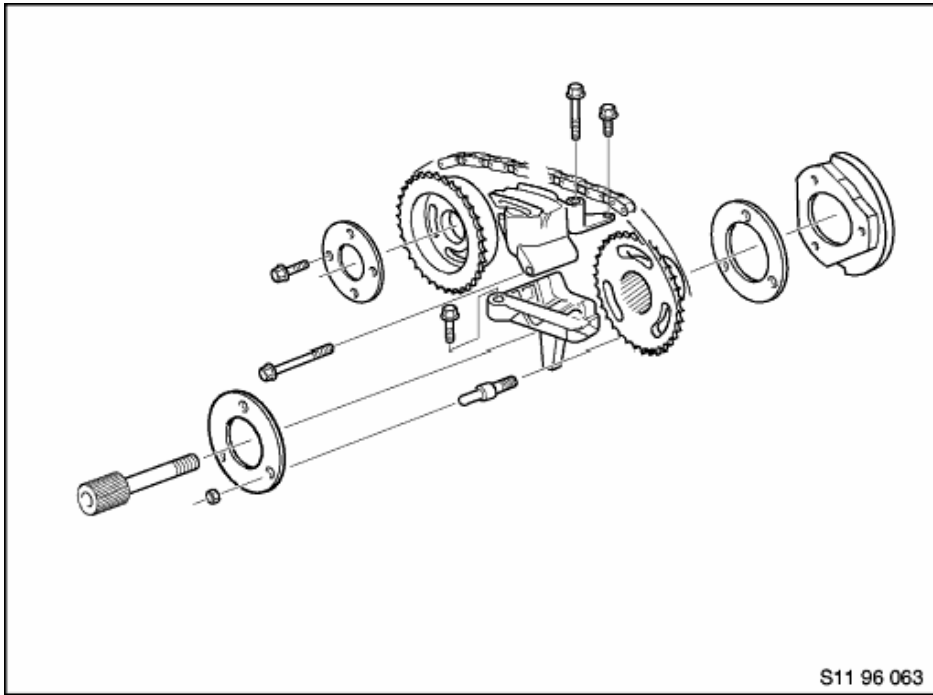


Fig. 2:
Variable camshaft adjustment - old version without plate springs up to June 1995

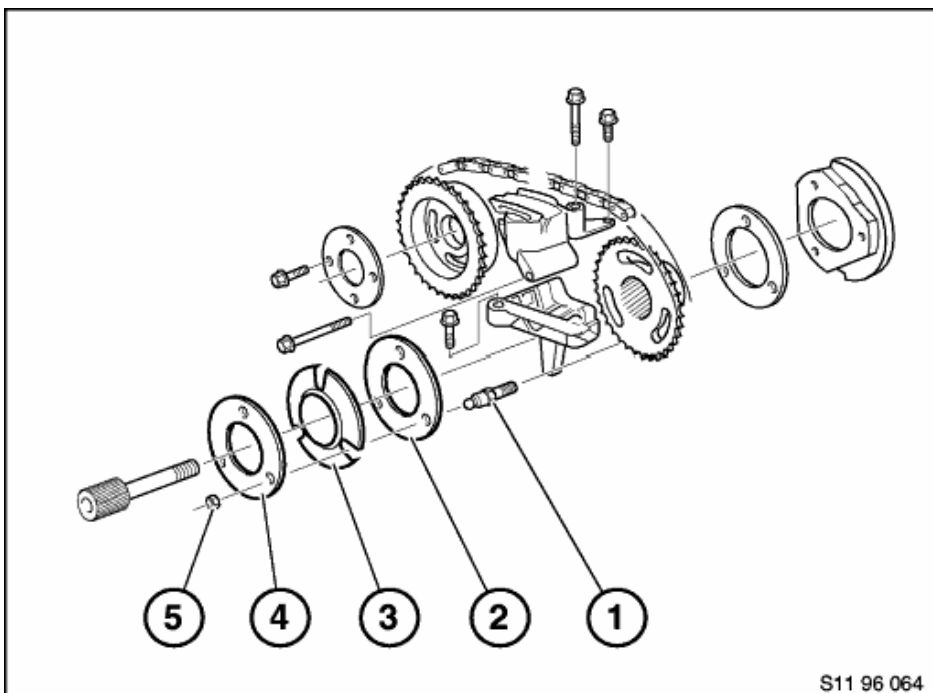


Fig. 3:

Variable camshaft adjustment - new version with plate springs since June 1995

- 1) Stud bolt
- 2) Thrust washer 2 mm
- 3) Plate spring
- 4) Thrust washer 4 mm
- 5) Nut

To convert:

- Remove cylinder head cover.
- Remove VANOS adjustment unit.
See M50 repair instructions - 11 36 010
Please refer to M52 repair instructions - 11 36 010
- Remove inlet camshaft sprocket wheel.
- Install 3 new stud bolts (Fig. 3, item 1).
Application torque: 5 Nm
Joint torque: 22 Nm
- Reinstall sprocket wheel.
- Fit on thrust washer, 2 mm thick (Fig. 3, item 2).
- Fit on plate springs (Fig. 3, item 3). Note installation direction of plate springs: fit with the large support diameter facing the camshaft.
- Fit on thrust washer, 4 mm thick (Fig. 3, item 4).
- Screw on hexagon nuts (Fig. 3, item 5), using Loctite 273 screw locking varnish.
Tightening torque: 10 Nm
- Install VANOS adjustment unit

Note:

The plate springs are consciously used to make the camshaft adjustment tighter.

Parts:

3 x stud bolts	Part number 11 36 1 403 824
Thrust washer, 2 mm thick	Part number 11 36 1 403 822
Plate spring	Part number 11 36 1 403 550
Thrust washer, 4 mm thick	Part number 11 36 1 403 823
3 x hexagon nut M6	Part number 11 36 1 740 288

Reimbursement:

Processing and reimbursement must take place in compliance with applicable warranty conditions.

Defect code:

11 36 94 39 00

This defect code is not listed in the official Defect Code Catalogue but entered in the system, thus enabling warranty claims to be processed.

Job number:

Labour:

Convert VANOS adjustment unit to plate springs.

00 51 279

36 FRUs - E34 M50 B20 saloon

34 FRUs - E34 M50 B20 touring

34 FRUs - E34 M50 B25 all versions

34 FRUs - E36 M50

33 FRUs - E36 M52

Warranty type:

Warranty stage:

1

1 (within vehicle warranty)

2 (outside vehicle warranty)

Reimbursement is limited to **48 months** or **100,000 km** .