

SB-10032779-7577

SI B11 02 08
Engine

February 2008
Technical Service

[Load Graphics](#)

SUBJECT

N54: Power Reduction - DME Fault 2A82 VANOS Inlet is Stored

MODEL

All E60, E61, E90, E92, E93 with the N54 engine from SOP

SITUATION

The "Service Engine Soon" (MIL) lamp is illuminated and a power reduction is clearly perceptible. This situation may occur after driving for some time with the engine already at full operating temperature. If the ignition is cycled, the engine then usually performs normally.

The following faults are stored in the DME:

- **2A82** VANOS intake - stiff; jammed mechanically - fault currently not present - fault would cause warning lamp (MIL) to light up
- **3100** Boost-pressure control, deactivation - Boost-pressure buildup prohibited - fault currently not present - fault does not cause warning lamp (MIL) to light up

CAUSE

The VANOS fault is usually caused by an insufficient oil pressure supply to the inlet VANOS adjustment unit.

To effectively move the camshafts to the target positions, in the specified time and under all engine conditions, sufficient oil pressure supply to the VANOS control pistons must always be available.

When the engine operation requires that VANOS quickly advance the intake camshaft, fault 2A82 may be set if the intake camshaft is "late", or does not reach the target position. In this situation, engine power may be reduced and a check control message displayed. The consequential fault 3100 can also be set in the DME fault memory as well.

If this fault is stored under these conditions, the possible cause is that the camshaft hook ring seals (3) have worn a groove into the camshaft bearing ledge (1), causing a drop in oil supply to the VANOS unit.

1. Camshaft bearing ledge

[GRUSB1107U79.JPG]

2. Intake camshaft

3. Hook ring seals

[GRUSB1107U78.JPG]

Note the deep grooves worn into the intake camshaft bearing ledge by the camshaft hook ring seals.

[GRUSB1107U77.JPG]

Acceptable camshaft bearing ledge – minor wear marks from

the rotation of the camshaft are normal.

If excessive wear to the camshaft bearing ledge is found, it is only necessary to replace the intake camshaft sealing rings and the intake camshaft bearing ledge.

PARTS INFORMATION

Part Number	Description	Quantity
11 31 1 705 512	Intake camshaft hook ring seals	2
11 12 7 550 913	Intake bearing ledge	1

WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty.

Defect Code **11 31 21 26 00**

Main Work*

Labor Operation: 11 31 028 Removing and installing or replacing

Labor Allowance: Refer to KSD

*Main Use this labor operation number when this is the only repair being performed, or
Work: if this is the main repair when performed along with other repairs at the same
 time. If this is not the main repair, refer to KSD for the associated (+) labor
 operation code.

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