



This Service Information bulletin supersedes SI B11 02 08 **dated March 2011**.

NEW designates changes to this revision

SUBJECT

Power Reduction, FC 2A82 Intake VANOS and/or FC 2A87 Exhaust VANOS Camshaft Faults are Stored in DME

MODEL

E82 and E88 (1 Series) with N51, N52K and N54 engines produced from 1/2008

E90 and E91 (3 Series) with N52 engine produced from 3/2005 through 6/2006

E90, E91, E92 and E93 (3 Series) with N51, N52K and N54 engines produced from 7/2006

E85 and E86 (Z4) with N52 engine produced from 1/2006

E83 (X3) with N52K engine produced from 9/2006

E60 and E61 (5 Series) with N52, N52K and N54 engines produced from 3/2005

E70 (X5) with N52K engine produced from 10/2006

E71 (X6) with N54 engine produced from 1/2008

SITUATION

The “Service Engine Soon” (MIL) lamp is illuminated and a power reduction is clearly perceptible. This situation can 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
- 2A87 VANOS exhaust – stiff; jammed mechanically
- 3100 Boost-pressure control, deactivation – boost-pressure buildup prohibited (N54 only)

CAUSE

The VANOS faults can be 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 the VANOS quickly advance or retard the intake or exhaust camshaft, fault 2A82 or 2A87 may be set if the camshaft is “late”, or does not reach the target position. In this situation, engine power may be reduced and a check control message is displayed. The consequential

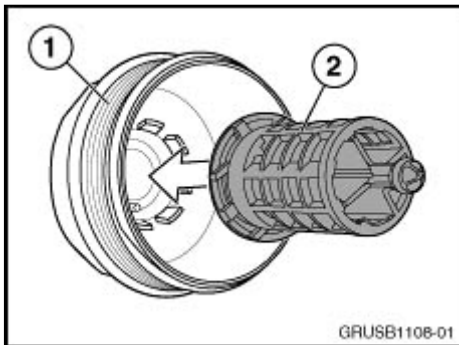
fault 3100 can also be set in the DME fault memory as well.

PROCEDURE

1. **NEW** Perform all applicable test plans completely for the faults stored.

NEW A mechanical restriction or electrical failure of the VANOS solenoid and/or the electrical circuit can cause insufficient oil supply to the VANOS assemblies as well.

NEW If the completed test plans results are inconclusive, then proceed to step 2.



2. **NEW** The oil filter cap insert may have been inadvertently removed during the vehicle's last oil service. If this insert is not installed, it will result in non-filtered engine oil being supplied to the engine, thus possibly clogging or damaging the VANOS solenoids.

NEW If the oil filter cap insert is found to be missing, the entire oil filter housing cap must be replaced (refer to the EPC).

NEW **Note: Repairs related to step 2 are not considered a defect in materials or workmanship.**

3. **NEW** Replace both VANOS solenoids, change the engine oil and filter, **reset the service data only when applicable, as outlined in the Warranty Information section.** Drive the vehicle to verify effectiveness.

If the oil filter cap insert is found to be missing, then the entire oil filter housing cap must be replaced (refer to the EPC). If excessive wear to the camshaft bearing ledge is found, it is only necessary to replace the camshaft hook ring seals and the affected camshaft bearing ledge.

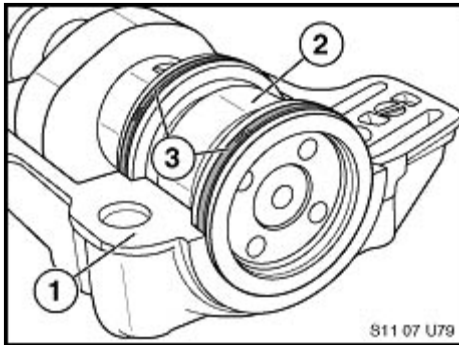
N51, N52 and N52K intake camshaft bearing ledges and hook ring seals cannot be replaced separately. Cylinder head replacement requires a TeileClearing PuMA case.

NEW INFORMATION ONLY - CAMSHAFT BEARING LEDGE WEAR ASSESSMENT

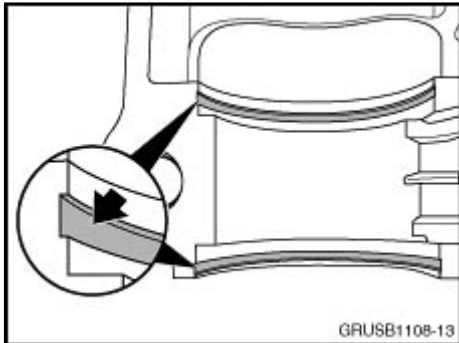
While performing the test plan for the VANOS faults stored (ABL-DIT-B1214_NGNWA or E), the inspection of the camshaft hook ring seals is advised in **“step 5 of these test plans”**.

Below are detailed illustrations of worn camshaft bearing ledges, and the acceptable wear of the camshaft bearing ledge.

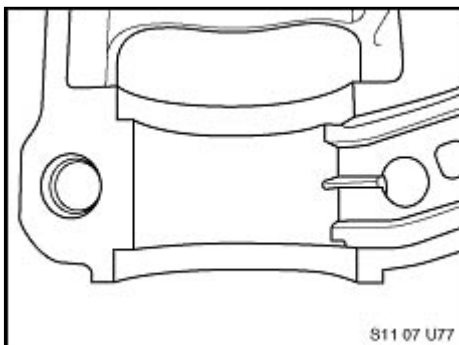
1. Camshaft bearing ledge



2. Intake camshaft
3. Hook ring seals



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



Acceptable camshaft bearing ledge – minor gray wear marks from the rotation of the camshaft are normal. If deep grooves are not apparent, the camshaft bearing ledge is acceptable and should not be replaced.

NEW PARTS INFORMATION

Replace the VANOS solenoids, engine oil and oil filter only.

Part Number	Description	Quantity
11 36 7 585 425	VANOS solenoid	2
11 42 7 566 327	Oil filter	1

NEW WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle/SAV Limited Warranty or the BMW Certified Pre-Owned Program (For all, except for repairs that result from procedure 2).

Replace the VANOS solenoids, engine oil and oil filter only:

Defect Code: 11 13 93 76 00

Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to KSD2	Performing vehicle check
11 36 655	Refer to KSD	Replacing both VANOS solenoid valves
00 99 000*	4 FRU	Perform engine oil service and reset the service data when applicable (see below)

Refer to KSD2 to flat rate and defect code any eligible repairs performed, other the VANOS solenoids, as prescribed by the ISTA diagnosis results.

CBS Vehicles - E82, E83, E90, E91, E92, E93, E60, E61 E70 and E71:

When the SAM data displays the engine oil service as “Recommended” or “Due”, then reset the CBS data when changing the engine oil with this repair.

SIA Vehicles- E83, E85 and E86:

SIA vehicles do not display a recommended period, it only shows oil service or inspection as “Due”. If you determine that the SIA vehicle being repaired will need an engine oil service or inspection (“Due”) within the next 60 days of this repair and engine oil change, reset the service data.

Note for all vehicles:

When resetting the service data procedure applies, please address any “connected” maintenance services items that are also required to be performed, invoice these additional maintenance items separately.

Labor operation code 00 00 006 is a main labor operation, if you are using a main labor code for another repair; use the plus code labor operation 00 00 556 instead.

Even though labor operation code 00 99 000 ends in “000”; it has a designated FRU allowance, and as described above, it is not considered a main labor operation.

Please refer to the Warranty Policy and Procedures Manual regarding proper support, documentation and archiving required for claims, as applicable.

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