

SB-10032779-2821

SI B11 02 08
Engine

November 2012
Technical Service

This Service Information bulletin supersedes SI B11 02 08 **dated June 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

NEW E82 and E88 with N51, N52K and N54 engines produced from 1/2008 to 1/2010

NEW E90 and E91 with N52 engine produced from 3/2005 to 6/2006

NEW E90, E91, E92 and E93 with N51, N52K and N54 engines produced from 7/2006 to 1/2010

NEW E85 and E86 with N52 engine produced from 1/2006 to 1/2010

NEW E83 with N52K engine produced from 9/2006 to 1/2010

NEW E60 and E61 with N52, N52K and N54 engines produced from 3/2005 to 1/2010

NEW E70 with N52K engine produced from 10/2006 to 1/2010

NEW E71 with N54 engine produced from 1/2008 to 1/2010

NEW F01 and F02 with N54 engine from start of production to 1/2010

SITUATION

NEW The “Service Engine Soon” (MIL) lamp is illuminated and engine power reduction is perceived. This situation can occur after driving for some time with the engine 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
- **NEW** 130108 VANOS intake: control fault, position not reached
- **NEW** 130308 VANOS exhaust: control fault, position not reached

NEW For the N54 engine, the following secondary faults may also be stored:

- **NEW** 120408 Charge-air pressure control, cut-out: Boost pressure accumulation blocked

- **NEW** 3100 Boost-pressure control, deactivation – boost-pressure buildup prohibited

NEW 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.

If engine operation requires the VANOS system to quickly advance or retard the intake or exhaust camshaft, faults may be stored 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.

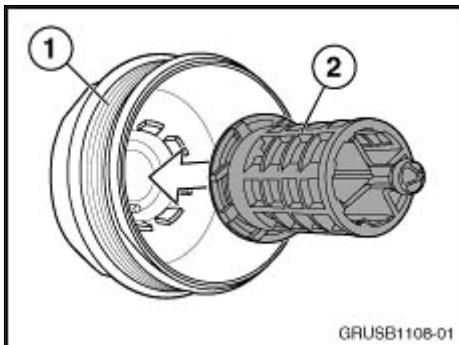
The consequential fault 3100 or 120408 can also be set in the DME fault memory as well.

PROCEDURE

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

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.

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



2. 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.

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

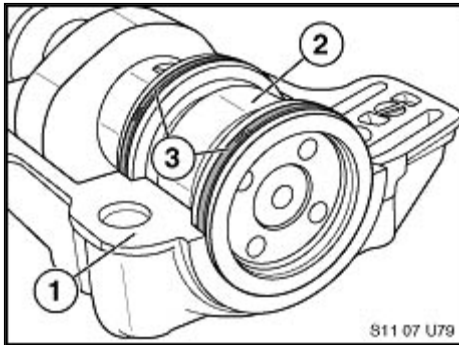
Note: Repairs related to step 2 are not considered a defect in materials or workmanship.

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

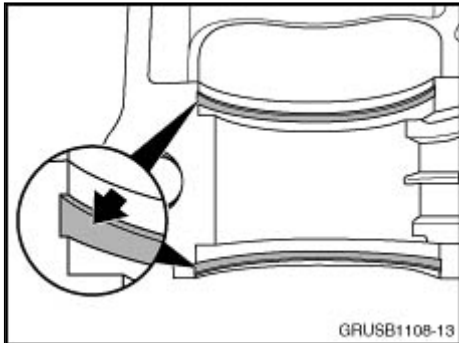
INFORMATION ONLY - CAMSHAFT BEARING LEDGE WEAR ASSESSMENT

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.

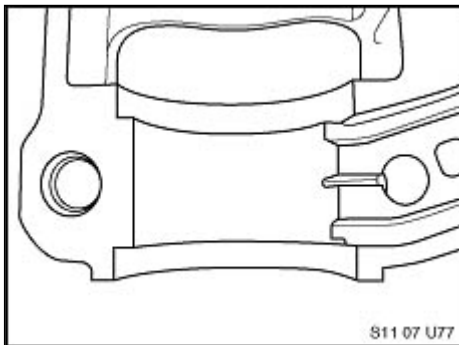


1. Camshaft bearing ledge
2. Intake camshaft
3. Hook ring seals



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

NEW See the magnification call-out in the illustration for a detailed description of the wear.



NEW 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 Do not replace parts that are not worn.

IMPORTANT: The applicable test plans for the faults stated in this bulletin may advise replacement of the entire intake or exhaust camshaft. This statement is an error, and will be corrected with ISTA/D 2.34.0. Do not replace the entire intake or exhaust camshaft; if applicable, only replace the bearing ledge and rectangular hook rings on the affected camshaft for the VANOS fault stored in DME Memory.

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 the issue identified in 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 test” (with vehicle diagnosis system – checking faults)
and if necessary, also		
61 21 528	Refer to KSD2	Charging battery
and if necessary, also		
61 00 006	Work Time (WT)	Performing vehicle diagnosis – test module
11 36 655	Refer to KSD	Replacing both VANOS solenoid valves
and		
00 99 000	4 FRU	Perform engine oil service and reset the service data when applicable (see below)

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 work time labor operation code 61 00 006 ends in “006,” it is not considered a Main labor operation.

Work time (WT) labor operation 61 00 006 requires an individual punch time.

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.

CBS Vehicles - E82, E88, E90, E91, E92, E93, E60, E61 E70, E71, F01 and F02:

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

Important CBS note:

Due to a calculation issue, some of the vehicles listed above may have their their “Remaining” or “Due in” miles to the engine oil service at or below the “Priority Value” of 2000 miles; however the Service Status does not show “Recommended.” If this situation exists, reset the CBS data after performing this repair.

SIA Vehicles- E83, E85 and E86:

SIA vehicles do not display a recommended period; it only shows the engine oil services or inspections as “Due”.

When the forecasted remaining miles to the next "OIL SERVICE" or "INSPECTION" is 2,000 miles or less, reset the SIA data after performing this repair.

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.

Other Repairs

If performing the ISTA diagnostics and the related test plans results with **eligible and covered work**, claim this work with the applicable defect code and labor operations listed in KSD2.

Note: Please follow any TeileClearing or Diagcode requirements that may apply to this additional work.

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