SUBJECT
N62 Engine - Rough Idle, Misfire Faults after Cold Start

MODEL
E53 (X5 4.4 i/4.8is); E60, E63/64, E65/66 with N62 from 06/04 up to 02/05 production

SITUATION
Customer may complain of erratic engine idle speed lasting for approximately 20 seconds after a cold start. Check Engine Soon light may be illuminated and misfire faults for various cylinders (e.g. FC 2742, 2743, 2744, 2745, 2746, 2748, 2749, 274E) may be stored in the DME.

CAUSE
Incorrect tolerances and geometry of Valvetronic intermediate levers are causing uneven cylinder filling during the transitional cold start period (60 seconds after the engine has been started) when the Valvetronic system is switching from the initial 6 mm to a minimum 0.3/0.8 mm valve lift.

CORRECTION
On a customer complaint basis, and after performing diagnostic procedure described below, replace the Valvetronic intermediate levers.

PROCEDURE

1. Perform basic engine diagnosis (compression, ignition, fuel pressure, etc) to rule out other potential causes.

2. Allow the engine to cool down.

3. Connect GT1/DIS to a cold vehicle (coolant temperature below 30 deg C) and from the Diagnostic Report select: "Intake valve lift" and "Rough running values".

4. Start the engine and observe valve lift reading. After approximately 60 seconds, when valve lift changes from the initial 6 mm to 0.3/0.8 mm, momentarily step on the accelerator pedal.

5. Observe rough running values when idle speed stabilizes. If values are in excess of +/- 2.5 accompanied with noticeable engine vibration (and sometimes Check Engine Soon flashing), then remove valve covers on both banks.

6. Look for the intermediate lever production date (stamped on the lever, next to the smaller roller contacting the eccentric shaft).

7. If the production date is in the range between "04 180" and "04 324" (e.g. day 324 of the year 2004), then the whole set of intermediate levers (16) has to be replaced. The same classification of levers must be used when ordering the intermediate levers (classification number is stamped below production date). There are 5 classifications of levers used in the N62 engine.

Note: In an individual cylinder head, all levers must have the same classification, but two different

classification of intermediate levers may be used in one engine (e.g. bank 1: classification 2, bank 2: classification 3).

Important: The lower production range of the affected intermediate levers is only an approximation. It is possible that levers produced prior to "04 180" (but not earlier then "03 363") may have certain deviations in tolerances.

8. For Valvetronic intermediate lever replacement procedure, refer to RA 11 37 012 (bank 1) and RA 11 37 014 (bank 2), found in BMW TIS.

IMPORTANT:

1. Improved intermediate levers are currently in **extremely short supply and this repair should be performed only for critical cases.**

2. In the event of a reproducible customer complaint, a PuMA case has to created and forwarded to the BMW Technical Hotline/Drivetrain.

3. If a case is considered as critical (e.g. multiple complaints, buy-back, etc.), contact your FSE/AMM. The Technical Hotline will release the set of improved intermediate levers upon FSE/AMM recommendation.

4. The above listed parts release procedure will be valid until further notice.

PARTS INFORMATION

Part Number	Description	Quantity
11 37 7 516 895	Intermediate levers class 1	Maximum 16
11 37 7 514 012	Intermediate levers class 2	Maximum 16
11 37 7 514 013	Intermediate levers class 3	Maximum 16
11 37 7 514 014	Intermediate levers class 4	Maximum 16
11 37 7 514 015	Intermediate levers class 5	Maximum 16
11 12 7 513 194	Valve cover gasket bank 1	1
11 12 7 513 195	Valve cover gasket bank 2	1
11 31 7 507 432	Tensioner sealing ring	2
07 11 9 903 596	Valvetronic motor spacer ring	2
11 14 7 506 424	Timing chain cover, u-shape metal gasket, bank 1	1
11 14 7 506 425	Timing chain cover, u-shape metal gasket, bank 2	1
11 36 7 513 222	Vanos solenoid O-ring	4
11 36 7 546 379	Vanos solenoid O-ring	4
11 36 7 501 423	Vanos unit bolts	4
12 14 1 748 398	Cam sensor o-rings	4

11 12 7 518 420	Eccentric shaft sensor o-ring	2

NOTE:

It is not necessary to replace spark plugs tubes during a course of this repair.

WARRANTY INFORMATION

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

Defect Code	**11 37 91 42 00**	
	Labor Operation:	**Labor Allowance:**
Main work:	00 55 453	93 FRU – E53 X5 4.4i/4.8is
		91 FRU – E65/66
		102 FRU – E60, E63/64
+Associated work:	00 55 793	91 FRU – E53 X5 4.4i/4.8is
		90 FRU – E65/66
		100 FRU – E60, E63/64

Note: The following explanations will spell out the correct use of the work times.

Main Work:	Use this labor operation number when the only repair performed is the listed warranty repair.
	OR
+Associated Work:	Use this labor operation number when other repairs or services are performed along with the listed warranty repair. Under no circumstances should both labor operation numbers be claimed. Attempts to claim both times will result in an unnecessary delay in claim processing and payment.

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