



SI B11 03 08
Engine

October 2013
Technical Service

This Service Information bulletin supersedes SI B11 03 08 **dated March 2013.**

NEW designates changes to this revision

SUBJECT

Crankcase Ventilation System Diagnosis and Measurement

MODEL

All

INFORMATION

All current BMW engines incorporate a pressure-controlled crankcase ventilation system. The crankcase ventilation systems use various different crankcase ventilation valves, depending on the engine type. Although the valves all look different, they function similarly, using a spring and diaphragm assembly to control the crankcase pressure. A properly functioning pressure control valve is designed to maintain a slight vacuum (under-pressure) in the crankcase, which assures reliable crankcase venting during all engine operating conditions. Some of the causes and results of a malfunctioning crankcase ventilation system are listed below.

Causes of Excessive Overpressure (Pressure)

- Internal engine damage/wear
- Obstruction in the crankcase ventilation system
- Defective pressure control valve(s)

Results of Excessive Overpressure

- Damage to the engine oil seals
- Increased engine oil consumption (can be misdiagnosed as a defective turbocharger)
- Excessive engine oil in the intake system
- Excessive engine oil in the charged intake tubes or the intercooler on turbocharged engines (can be misdiagnosed as a defective turbocharger)
- Engine oil dip stick is dislodged from the guide tube (if equipped)

Cause of Excessive Under-pressure (Vacuum)

- Defective pressure control valve

Results of Excessive Under-pressure

- Damage to the engine oil seals
- Increased engine oil consumption

- Excessive engine oil in the intake system
- Rough engine idling or engine misfire
- Whistling or howling noise from the engine (can be misdiagnosed as a defective turbocharger)
- Increased mixture adaptation values

NEW N63, N63T, N74, S63 and S63T Equipped Vehicles

The crankcase ventilation system utilized in these engines cannot be measured with consistency because the system does not incorporate a regulating valve (spring with diaphragm). The crankcase pressure is regulated by an orifice in the crankcase ventilation tubes, and the vacuum will vary with crankcase pressure changes. Checking the operation of this unregulated system can only be performed by visually inspecting for loose connections or cracks in the system components. Generally active leakages will have an oily residue surrounding that affected area. The use of a smoke machine may also be helpful when trying to locate leakages in this system.

NEW All Other Engines

Attached to this Service Information bulletin is a procedure for measuring the crankcase ventilation system, using the ISID and IMIB diagnostic equipment.

Specification and actual readings from the vehicle may vary by up to $\pm 10\%$, but not more than 5.0 mBar. Various measuring tools may provide results that are not within specification. All measurements below were recorded using the IMIB. See the attachment for IMIB connection hints.

Engine Variant	Specification (mBar)
M42, M44, M52, M52TU, S52, M54, M60, M62, M62TU, M73	16
M57Y	0.0 +- 1.0
S54	0.0 +- 1.0
S62	0.0 +- 1.0
S65	0.0 +- 2.0
S85	0.0 +- 1.0
N20 and N26	35
N52	30
N51 and N52K	33
N52T	21
N54	17
N54T	14
N55	50.0 +/- 8.0

N62	22
N62TU	40
N73	30

WARRANTY INFORMATION

Not applicable.

ATTACHMENTS

View PDF attachment [B110308 Attachment](#).

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