

**SB-10037657-5808**SI B11 13 07  
EngineJune 2012  
Technical Service

This Service Information bulletin supersedes SI B11 13 07 **dated August 2010**.

**NEW** designates changes to this revision

**SUBJECT****N54 Engine: Distinct Clanking Noise from Turbocharger Area****MODEL**

E90, E92 and E93 (3 Series) 335i and 335xi

E60 and E61 (5 Series) 535i and 535xi

All with N54 engine from the start of production up to March 2008 production

**SITUATION**

The customer complains of a metallic noise from the exhaust system near the engine or turbocharger area. This noise is described as a clanking noise, occurring up to six or seven times in a row during a deceleration from approximately 3,500 RPM; or during a heavy application of the accelerator without a drive gear being engaged.

Complaints received regarding a slight rattle from this area under steady acceleration in the 2,000 RPM to 4,000 RPM range are due to the rotating waste gate valve face; this is a characteristic of the mechanical waste gate. The rotating waste gate valve face is necessary to ensure proper sealing. This slight rattle noise is considered normal operation of the mechanical waste gate valve. No repair should be attempted for this type of rattling complaint.

**CAUSE**

The wastegate valve does not completely close due to the mechanical tolerances of the wastegate actuator. This results in the wastegate valve repeatedly clanking against its seating surface.

**PROCEDURE****Vehicles produced from May 2006 up to September 2007****Do not replace the turbocharger or adjust the existing wastegate actuator control rod.**

1. **NEW** Perform ISTA/D test plan W1214\_DI6TLM\_ Noticeable symptoms: turbo charger malfunction. (Path: Function Structure – 05 Non-electrical diagnosis – 01 Engine – 01 Interference noise – Engine noise – Noises at turbo charger – Start Search and follow displayed test plan).

Note: For models and production ranges not described in this document, refer to the applicable test plans described in the current version of ISTA/D.

2. **NEW** The test plan will conclude with an instruction to replace the wastegate actuators; ignore this instruction. Reprogram the DME if the vehicle has not already been programmed to one of the levels described below. Compare the vehicle I-Level to the table below.

Note: When the ISTA system message displays: Battery voltage only “XX.XX” V. Please connect charger. Please note the displayed battery voltage reading in the repair order comments section.

<b>Model</b>	<b>Vehicle Data Status</b>
E90, E92, and E93 (335i and 335xi)	E89x-08-03-530 or higher
E60 and E61 (535i and 535xi)	E060-08-03-525 or higher

3. **NEW** If the vehicle has not achieved one of the levels above, reprogram the vehicle using ISTA/P 2.32.1 or a more recent version.
4. **NEW** After programming is completed, if the noise is no longer present, take no further action. If the noise is still present, replace both of the turbocharger wastegate actuators in accordance with Repair Instruction 11 65 580, “Replacing vacuum unit (wastegate) (N54).”

### **Vehicles produced from September 2007 up to March 2008**

#### **Do not replace the turbocharger or adjust the existing wastegate actuator control rod.**

1. Perform ISID Test Plan; Noises at Turbocharger (Path: Function Structure – Drive – Mechanism, Noises, Leaks – Noises – Engine Noise – Noises at Turbocharger – Start Search and follow displayed test plan.
2. **NEW** The test plan will conclude with an instruction to replace the wastegate actuators; ignore this instruction. Reprogram the DME if the vehicle has not already been programmed to one of the levels described below. Compare the vehicle I-Level to the table below.

Note: When the ISTA system message displays: Battery voltage only “XX.XX” V. Please connect charger. Please note the displayed battery voltage reading in the repair order comments section.

<b>Model</b>	<b>Vehicle Data Status</b>
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E60 and E61 (535i and 535xi)	E060-08-03-525 or higher

3. **NEW** If the vehicle has not already achieved one of the levels above, reprogram the vehicle using ISTA/P 2.32.1 or more recent version.

### **All 335i/xi and 535i/xi models built from June 2006 up to September 2007**

The updated software causes a small amount of increased “turbocharger lag” under certain circumstances and, while not substantial, the lag may be perceptible to the most sensitive BMW drivers. X6, 135i, 3 Series and 5 Series vehicles from March 2008 production onward are not affected. If said “turbocharger lag” is a customer’s complaint, then the vehicle’s DME software can be retrofitted to the original waste gate operation.

#### **Procedure for vehicles up to September 2007 production:**

Using ISTA/P 2.32.1 or a more recent version, select “Conversions”, and then select “Wastegate valve conversion”. Follow the on-screen prompts to reinstall the original waste gate operation.

After the “Waste gate valve conversion” has been completed, some waste gate-related noise may be detected.

Important Note:

To eliminate the “turbocharger lag” complaint on the vehicles produced from September 2007 up to March 2008 (after programming with Progman versions V29.2 – V32.0), reprogram the complete vehicle, using ISTA/P 2.32.1 or a more recent version.

#### **PARTS INFORMATION**

##### **E90, E92, and E93 (3 Series):**

<b>Part Number</b>	<b>Description</b>	<b>Quantity</b>
11 65 7 585 745	Actuator Cylinder 1-3	1
11 65 7 585 746	Actuator Cylinder 4-6	1

##### **E60 and E61 (5 Series):**

<b>Part Number</b>	<b>Description</b>	<b>Quantity</b>
11 65 7 585 745	Actuator Cylinder 1-3	1
11 65 7 585 747	Actuator Cylinder 4-6	1

#### **NEW WARRANTY INFORMATION**

Covered under the terms of the BMW New Vehicle/SAV Limited Warranty, and as applicable, any Federal, State or BMW Emissions Warranty or the BMW Certified Pre-Owned Limited Warranty (only applies to BMW vehicles that are still within the BMW CPO coverage period but beyond the BMW New Vehicle/SAV Limited Warranty or Emissions Warranty coverage that applies to the specific repair).

Please see SI B01 02 11 for “Emissions Warranty Coverage” and refer to the “Glossary of Emission Coverage” attachment for more information.

#### **Performing Test Plan and Programming/Encoding Vehicle**

**Defect Code:** 11 65 05 39 00

<b>Labor Operation</b>	<b>Labor Allowance</b>	<b>Description</b>
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	WT	Performing vehicle diagnosis – test module.
and		
61 00 710	Refer to KSD2	Programming / encoding control unit(s) (not including CAS)
or		
61 00 720	Refer to KSD2	Programming / encoding control unit(s) (with CAS)

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.

Refer to KSD2 for the corresponding flat rate unit (FRU) allowance. Enter the Chassis Number, which consists of the last 7 digits of the Vehicle Identification Number (VIN). Click on the “Search” button, and then enter the applicable flat rate labor operation in the FR code field.

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.

If a control module fails to program correctly or initializations are required, the additional work must be claimed with separate labor operations under the defect code listed above, refer to KSD2.

### **Replacing Both Turbocharger Wastegates Actuators (as outlined above)**

<b>Defect Code:</b>	<b>11 65 20 48 00</b>	
<b>Labor Operation:</b>	<b>Labor Allowance:</b>	<b>Description:</b>
11 65 548	Refer to KSD2	Removing and installing or replacing both exhaust turbochargers
and		
11 65 580	Refer to KSD2	Adjusting

vacuum units  
and replacing if  
necessary

Refer to KSD2 for the corresponding flat rate unit (FRU) allowance. Enter the Chassis Number, which consists of the last 7 digits of the Vehicle Identification Number (VIN). Click on the "Search" button, and then enter the applicable flat rate labor operation in the FR code field.

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