



This Service Information bulletin supersedes SI B13 07 12 **dated April 2014.**

NEW designates changes to this revision

SUBJECT

N63 and S63 Engine: High-pressure Fuel Injector Replacement Procedures

MODEL

F01 and F02 (7 Series Sedan)

F04 (ActiveHybrid 7)

F07 (Gran Turismo)

F10 (5 Series Sedan)

F12 (6 Series Convertible)

F13 (6 Series Coupe)

E70 (X5)

E71 (X6)

SITUATION

The customer complains that one of the following scenarios has been encountered while operating the vehicle:

- During a cold start in the morning, the engine runs very roughly and the Service Engine Soon lamp is illuminated.
- During a hot start, the engine runs very roughly and the Service Engine Soon lamp is illuminated.
- While driving or idling, the engine will misfire and the Service Engine Soon lamp is illuminated.
- Various misfire faults are stored in DME fault memory.

CAUSE

An internal failure of the high-pressure fuel injector can lead to incorrect operation.

PROCEDURE

Always diagnose the vehicle using the misfire test plan “AT1214_DI8MISFIRE_20 - Misfiring detection” first.

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.

1. Perform the applicable test plan for the misfire fault stored.

If a misfire fault is not stored but a reproducible customer complaint does exist (e.g., rough running shaking, loss of power, etc.), perform the misfire test plan “AT1214_DI8MISFIRE_20 – Misfiring detection.”

Follow the procedure below to locate and start the misfire test plan.

Select “Function Structure.”

Select “01 Engine.”

Select “Engine electronics, quality control valve (MSV).”

Select “Misfire Detection.”

Select “Start search.”

Select “AT1214_D18MISFIRE_20 – Misfiring detection.”

- After completion of this test plan, repair the vehicle as directed before performing any other suggested engine or fuel system-related test plans, e.g., “AT1214_DI8KHDR - High-pressure fuel system,” “AT1214_DI_GEM - Mixture adaptation,” etc.

Injector Replacement Procedures

NEW Follow the replacement procedures described in the test plan when replacing injectors. The results of the test plan can vary depending on the vehicle complaint. Each vehicle can react differently. Below are guidelines and examples when replacing injectors.

For example, if the engine has a misfire on cylinder 1, replace the injectors for cylinders 1-4 if those **injectors are not already index 11 or higher**.

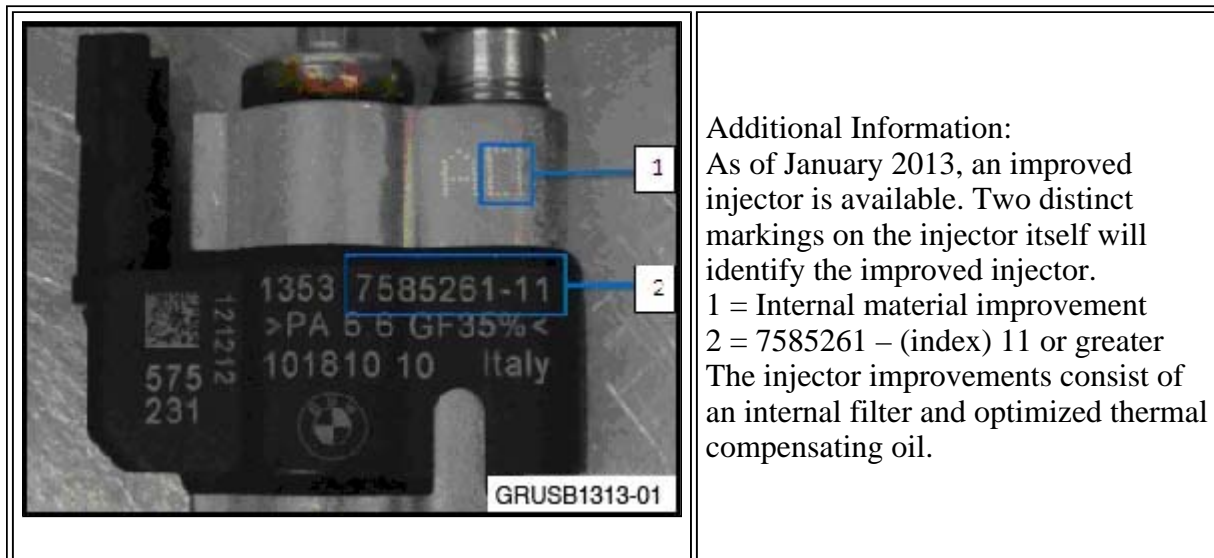
If the **injectors** on that bank are **already index 11 or higher**, only replace the injector on the faulty cylinder.

Use **P/N 13 53 8 616 079** when replacing the injector(s).

If the vehicle does not have a misfire fault but the **smooth running test section** of the misfire test plan shows values greater than +/-150, **only replace the injectors on the bank that has a high rough running value**.

For example: If the engine has increased rough running values above +/-150 on cylinder 1, replace the injectors for cylinder banks 1-4 if those **injectors are not already index 11 or higher**.

If the **injectors** on that bank are **already index 11 or higher**, only replace the injector on the affected cylinder. Use P/N 13 53 8 616 079 when replacing the injector(s).



Additional Information:

As of January 2013, an improved injector is available. Two distinct markings on the injector itself will identify the improved injector.
 1 = Internal material improvement
 2 = 7585261 – (index) 11 or greater
 The injector improvements consist of an internal filter and optimized thermal compensating oil.

IMPORTANT: Injectors with index 11 and higher have a different calibration and construction than injectors with index 10 and lower.

Due to this difference, the injectors with index 11 and higher and injectors with index 10 and lower cannot be mixed on the same engine bank (i.e., cylinders 1-4 or 5-8).

Once a bank of injectors is at index 11 or higher, the “bank set replacement” requirement no longer applies. For index 11 injector failures, only replace the failed injector.

Use the DCS Warranty Vehicle Inquiry: See the Repair History (Claims) section to review the prior injector repairs, if applicable. Click on the “Claim Number” to review each claimed defect code and its corresponding line item details (labor, parts and sublet).

PARTS INFORMATION

Part Number	Description	Quantity
13 53 8 616 079	Piezo injector (this part number is index 11 or greater)	As needed

WARRANTY INFORMATION

Covered under the terms of the BMW New Car/SAV Limited Warranty or the BMW Certified Pre-Owned Program.

Specific eligible repairs **may** also be covered by the terms of the Federal, State or BMW Emissions Warranty.

To determine if any **applicable** Federal, State or BMW Emissions Warranty coverage applies **prior** to performing repairs, please see SI B01 02 11 for “Emissions Warranty Coverage” and refer to the “Glossary of Emission Coverage” attachment for more information.

The BMW Certified Pre-Owned Limited Warranty applies to BMW CPO vehicles that are still within the BMW Certified Pre-Owned Limited Warranty, but beyond Emissions Warranty coverage that applies.

Defect Code:	13 53 22 15 00	
Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults)
and		
61 21 528	Refer to KSD2	Connect an approved battery charger/power supply (indicated in KSD2 as “Charging battery”)
and		
61 00 006	Work Time	Performing vehicle diagnosis – test module.

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.

and

Cylinder Bank 1-4 (Replacing one to four injectors on this bank only)

Labor Operation:	Labor Allowance:	Description:
13 53 721	Refer to KSD2	Replacing one fuel injector in the injection system (cylinders 1-4)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – two (for the bank when applicable)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – three (for the bank when applicable)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – four (for the bank when applicable)

or

Cylinders Bank 5-8 (Replacing one to four injectors on this bank only)

Labor Operation:	Labor Allowance:	Description:
13 53 722	Refer to KSD2	Replacing one fuel injector in the injection system (cylinders 5-8)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – two (for the bank when applicable)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – three (for the bank when applicable)
and, as necessary		
13 53 724	Refer to KSD2	Replacing each further fuel injector(s) – four (for the bank when applicable)

or

Both Cylinder Banks (Replacing at least one injector on each bank – two to eight injectors)**NEW E70, E71 and F10 with KSD2 Lead Types: KN03, KP03, FV93**

Labor Operation:	Labor Allowance:	Description:
13 53 585	Refer to KSD2	Removing or installing or replacing all fuel injectors

or

NEW F01, F02, F04, F07, F10 with KSD2 Lead Types: FR03, FR93, FU03, F12 and F13

Labor Operation:	Labor Allowance:	Description:
13 53 719	Refer to KSD2	Replacing all fuel injectors in the injection system

and

Sublet Materials - Drained fluids/refrigerant as applicable

Sublet Code 4	See sublet reimbursement calculation below	Reimbursement for the used quantities of operating fluids as required by the corresponding BMW repair procedure (applicable BMW part numbers. Do not use these part numbers for claim submission)
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Sublet calculation: Reimbursement for the used quantities operating fluids as required by the corresponding BMW repair procedure (applicable BMW part numbers) at dealer net plus handling. Enter this material cost in sublet and itemize the amount in the claim comment section.

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.

Other Repairs

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

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