



This Service Information bulletin supersedes SI B13 04 09 **dated January 2011.**

NEW designates changes to this revision

SUBJECT

NEW N54 Engine: Diagnosis of Cold Start Rough Running with Misfire Faults

MODEL

NEW F01

NEW F02

NEW E82

NEW E88

NEW E89

NEW E90

NEW E92

NEW E93

NEW E60

NEW E61

NEW E71

SITUATION

The customer may complain that during the cold start in the morning, the engine runs very roughly and the Service Engine Soon lamp is illuminated.

Various misfire fault codes (e.g., 29CC, 29D2, 29D1, 29D0, 29C0, 29CF) may be stored in the DME control module.

The engine rough running complaint can be reproduced on a cold start in the workshop. During the course of diagnosis, the spark plugs, removed from the misfiring cylinders after the problem was reproduced, are found to be soaked (“wet”) with fuel, while the injector tips are covered with a layer of carbon deposit.

CAUSE

Possible cause: high-pressure injector failure (leakage or incorrect spraying pattern) due to internal wear or unfavorable stock of tolerances

IMPORTANT:

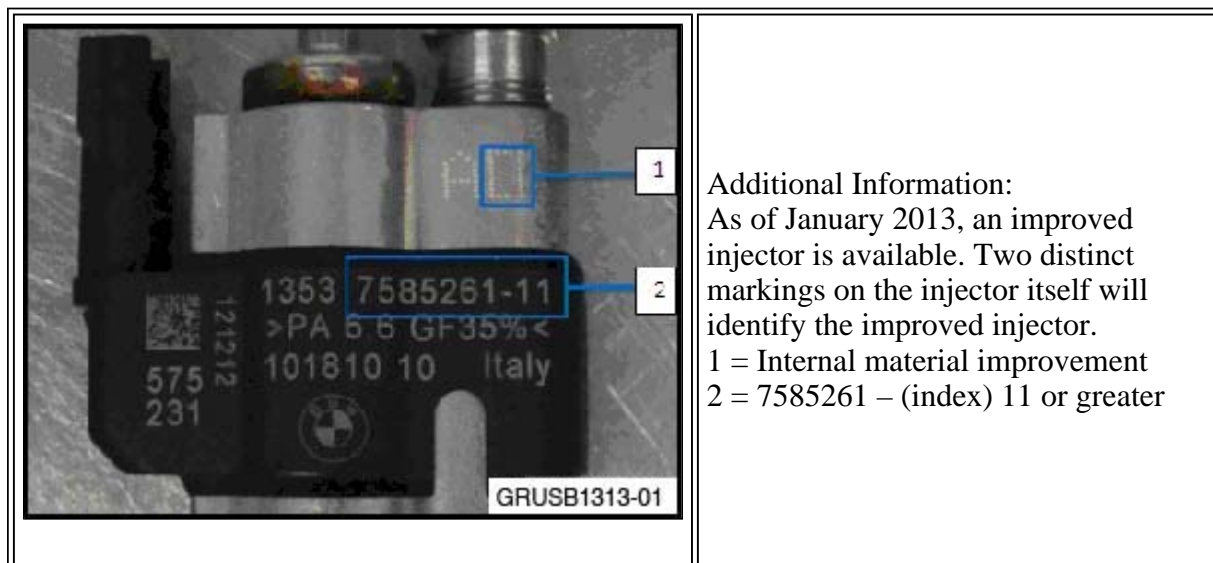
For comprehensive N54 drivability diagnostics, always refer to the “N54 Engine Diagnostic Fault Tree” file (the current version “02_14_13” is found as a PDF attachment to [SI B12 55 06](#)).

NEW CORRECTION

In the case of reproducible “cold start” rough engine running with corresponding misfire faults, replace the high-pressure injectors using improved P/N 13 53 8 616 079 with index 11 or higher. Follow Repair Instruction 13 53 310 for injector removal and installation. Additionally, the spark plugs from the misfiring cylinders which were found to be soaked (“wet”) with fuel should be replaced.

After injector replacement, perform the individual injector calibration (adjustment) with the DME control module, per SI B12 26 08.

See the photo below to properly identify the index number.



IMPORTANT: Injectors with index 11 and higher have a different calibration than injectors with index 10 and lower. Due to this difference, injectors with index 11 and higher and injectors with index 10 and lower cannot be used in the same engine.

IMPORTANT:

Starting on January 3rd, 2011, Part Replacement Authorization is NOT required for N54 injector replacement.

IMPORTANT NOTE:

For N54 misfire fault complaints during normal engine operation (misfire faults not related to the engine’s “cold start”), refer to the following Service bulletins:

- [B12 05 09](#) - N54 (E6x) Misfire Faults due to DME Software Error
- [B12 06 09](#) - N54 (E9x) Misfire Faults due to DME Software Error

PARTS INFORMATION

Part Number	Description	Quantity
13 53 8 616 079	High-pressure injector	As required, up to 6

WARRANTY INFORMATION

Not applicable.

[Copyright ©2013 BMW of North America, Inc.]