SI B12 05 16
Engine Electrical Systems

April 2016
Technical Service

SUBJECT

N55 - Engine Malfunction Warning Due to Vapor Forming in the Fuel System

MODEL

F07 (5 Series Gran Turismo)

F10 (5 Series Sedan)

F12 (6 Series Convertible)

F13 (6 Series Coupe)

With the N55 engine produced to 3/2012 (with the Continental high pressure fuel pump).

SITUATION

The Engine “Drivetrain Malfunction” Check Control warning is displayed and the Service Engine Soon (MIL) Lamp may also be on.

In areas where winterized fuel is used, this situation may occur after prolonged periods of engine idling or “stop and go” driving.

Additional symptoms that may be present:

- rough running
- poor engine performance
- difficulty in starting the engine.

Either or both of the following fault codes can be stored in the DME.

11A002 – Fuel high pressure, plausibility: Pressure too low

11AC02 – Fuel high pressure, plausibility, cold start: Pressure too low

In addition any of the following faults may also be stored:

119404 - Rail pressure sensor, signal: Permanently stuck

118001 - Mixture control: mixture too lean

118401 - Mixture control: mixture too lean; large deviation

CAUSE

Vapor formation in the fuel system from fuel quality characteristics of certain winter fuel blends along with high engine compartment temperatures.

CORRECTION

Replace low pressure fuel pump along with revised DME software (control strategy of the new low pressure fuel pump).

PROCEDURE

1. Perform the recommended test plans using the latest version of ISTA.
2. Check production date on fuel delivery module.

   Remove the rear seat and service cover to inspect the production date of the fuel delivery module as shown in the attachment.

   Follow ISTA repair instruction – REP 16 14 200 (also attached).

   Is the production date code on the module label earlier than "01/10/13" (October 1, 2013)?

   YES - replace fuel delivery module and then go to step 3.

   NO – Go to step 3.

3. Using ISTA/P 3.59.0 or higher, perform the conversion to change the DME software for fuel delivery pressure regulation.

   Conversion, control fuel feed pressure

   New target integration level: **F0xx 16-07-501** or higher

   This will add the E-Word (KV01) to the vehicle order (VO) and install DME software which regulates the low-side supply pressure up to 5.8 bar under certain conditions to prevent vapor formation.

Note that ISTA/P will automatically reprogram and code all programmable control modules that do not have the latest software.

Always connect a BMW approved battery charger/power supply (SI B04 23 10).

For information on programming and coding with ISTA/P, refer to Centernet / Aftersales Portal / Service / Workshop Technology / Vehicle Programming.

IMPORTANT NOTE: Until the release of ISTA/P 3.59.0 (late June 2016), an IRAP solution is available.

- The vehicle must have a fuel delivery module produced from 01/10/13 or later and already be at the most current software integration level.

- Submit a PuMA case entitled **"IRAP - N55 Vapor lock".**

PARTS INFORMATION

Part Number	Description	Quantity
16 11 7 341 301	Fuel delivery module	1

WARRANTY INFORMATION

Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks or the BMW Certified Pre-Owned Program.

This repair is also covered by the terms of the Federal and/or State-specific Emissions Warranty (dependent on the vehicle's model year, state of registration and its inclusion on the "model-specific" list of covered components) that applies to the BMW model(s) listed.

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

Defect Code:	**10 42 31 59 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 KSD 2 as Charging battery)		
And, as necessary:		
61 00 006	Work time (WT)	Performing vehicle diagnosis – test module
And:		
61 00 730	Refer to KSD2	Programming / encoding control unit(s)

And, after performing items **"A"** or **"B"** below:

Labor Operation:	**Labor Allowance:**	**Description:**
61 00 730	Refer to KSD2	Programming / encoding control unit(s)

And, after performing the diagnosis listed above:

A. Fuel Supply Module "Inspection Only" (Replacement "is not" necessary)

F07

Labor Operation:	Labor Allowance:	Description:
52 25 637	Refer to KSD2	Removing and installing seat-backrest frame for right rear seat (Electric – Sub group "25")
Or:		
52 26 637	Refer to KSD2	Removing and installing seat-backrest frame for right rear seat (Manual Electric – Sub group "26")

Or for the:

F10, F12 and F13

Labor Operation:	Labor Allowance:	Description:
52 24 505	Refer to KSD2	Removing and installing or replacing rear seat (Sub group "24")

Or for the:

F10 with the Through-Load System Option

Labor Operation:	Labor Allowance:	Description:
52 26 505	Refer to KSD2	Removing and installing or replacing rear seat (Sub group "26")

And:

Labor Operation:	Labor Allowance:	Description:
16 99 000	1 FRU	Work time to check the fuel delivery module's date production date

Or, additionally:

B. Replacing the Fuel Supply Module "is" Required

Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks or the BMW Certified Pre-Owned Program.

This repair is also be covered by the terms of the State-specific Emissions Warranty (dependent on the vehicle's model year, state of registration and its inclusion on the "model-specific" list of covered components).

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

Defect Code:	**16 14 04 12 00**	
Labor Operation:	**Labor Allowance:**	**Description:**
See KSD2 Main Group "16"	Refer to KSD2	Extracting fuel from the fuel tank and filling (Select the applicable Plus work labor operation (16 00 610 to 16 00 680) that applies to the amount of fuel extracted – 10 liter increments)
And:		
16 14 610	Refer to KSD2	Removing and installing or replacing fuel pump(s) (not including extracting and refiling fuel)

If you are using a Main labor code for another repair, use the Plus code labor operation 00 00 556 instead.

Work time labor operation code 61 00 006 is not considered a Main labor operation; however, it does require an individual punch time and an explanation on the repair order and in the claim comments.

Work time labor operation code 16 99 000 is not considered a Main labor operation. Also, since the "work time" FRU allowance to be claimed is specified, a separate punch time is not required.

Refer to KSD2 for the corresponding flat rate unit (FRU) allowances.

Vehicle Programming and Encoding

If a control module was working properly and it fails to program correctly or requires initialization, please claim this additional work with the applicable KSD2 labor operations under the defect code listed above.

The diagnosis and repair of vehicles "arriving" with failed control modules or stored faults which will cause them to fail during programming cannot be claimed under the defect code listed in this bulletin.

Other Repairs

If other eligible and covered work is performed “prior” to programming and coding the vehicle or as a result of performing the ISTA diagnostics and related test plans, claim this work with the applicable defect code and the labor operations listed in KSD2.

ATTACHMENTS

View PDF attachment **B120516 Fuel delivery module inspection**.

View PDF attachment **B120516 REP 16 14 200**.

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