



FAULT 118002 - MIXTURE TOO RICH SETS DURING WINTER WITH COLD AMBIENT TEMPERATURES

New information provided by this revision is preceded by this symbol  .

This Service Information bulletin supersedes SI B11 07 17 dated **December 2018**.

What's New:

- New target I-level available for F39 and F48
- Formatting changes in Situation section
- Production date constraint removed

Model

F22 (2 Series Coupe)	F23 (2 Series Convertible)	F30 (3 Series Sedan)	F31 (3 Series Sport Wagon)
F32 (4 Series Coupe)	F33 (4 Series Convertible)	F34 (3 Series Gran Turismo)	F36 (4 Series Gran Coupe)
F39 (X2 Sports Activity Coupe)	F48 (X1 Sports Activity Vehicle)	G01 (X3 SAV)	G02 (X4 SAC)
G12 (7 Series Sedan)	G30 (5 Series Sedan)	G32 (6 Series Gran Turismo)	I12 (i8 Coupe)
I15 (i8 Roadster)			

Produced with the B38T, B46O, XB1H, or XB2H engines

Situation

The Service Engine Soon (MIL) light is on with the following fault stored in the Digital Motor Electronics (DME).

Fault Code:	Control Unit:	Fault Code Text:
118002	DME	Mixture control: Fuel-air mixture too rich

In the situation being described, the fault is primarily stored during the cold winter months along with the use of winter fuel.



Note: Various other causes for a rich mixture fault are possible and should not be overlooked.

Cause

- DME software diagnostic is too sensitive
- This situation is most likely to occur if the driving profile is one of frequent cold engine starts and/or primarily short distance trips (idle / low load operation) where full engine operating temperature is not reached.
- Due to the lower engine oil temperatures crankcase vapors that contain a higher fuel content are not completely drawn off via the crankcase ventilation system.
- A false DME adaptation routine could then lead to this fault being set.

Correction

1. Check for rich mixture condition
2. Program the vehicle with ISTA Next as described in this bulletin
3. Replace the engine oil
4. Pre-delivery vehicle procedure

Procedure

Do not replace any parts unless a definite failure is identified during diagnosis.

Perform diagnosis using the latest version of ISTA Next.

1. Check the current mixture adaptation:

Path: ECU function - DME / Diagnostic scan / 721 Mixture Adaptation



Note: Let the engine idle at operating temperature. If the mixture adaptation drops significantly below 1.0 it indicates a rich mixture condition.

1. Replace the engine oil and filter on a warm engine.

Refer to SI **B11 01 15**: Engine Oil Quick Reference and Drain Plug Torque

Do not reset the CBS for engine oil service unless the oil service shows to be currently recommended or due on the key reader.

1. Upgrade the vehicle software using ISTA Next to the appropriate level shown below:

Programming is only required if the current integration level is earlier than these targets.

Model	Target I-level
F22 (2 Series Coupe)	F020-18-07-531 or higher
F23 (2 Series Convertible)	
F30 (3 Series Sedan)	
F31 (3 Series Sport Wagon)	
F32 (4 Series Coupe)	
F33 (4 Series Convertible)	
F34 (3 Series Gran Turismo)	
F36 (4 Series GC)	

Model	Target I-level
F39 (X2)	F056-19-03-540 or higher
F48 (X1)	

Model	Target I-level
G01 (X3)	S15A-18-07-531 or higher
G02 (X4)	
G12 (7 Series)	
G30 (5 Series Sedan)	
G32 (6 Series Gran Turismo)	

Model	Target I-level
I12 (i8 Coupe)	I001-18-07-520 or higher
I15 (i8 Roadster)	



Note: For i8 vehicles which exhibit the fault on a higher Integration level than shown in the table above, refer to Advanced Information i8 Rich mixture higher than 18-07-520.

Note that ISTA Next 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, refer to CenterNet / TIS / Technical Documentation / Programming and Diagnostics / Programming Documentation.

Only for pre-delivery vehicles described in the model list above:

1. During the cold season, replace the engine oil as described in step #2 prior to delivering the vehicle to the customer.

Parts Information

Part Number	Description	Quantity
Refer to ETK	Oil filter	1
83 21 2 365 954	BMW Original Engine Oil LL14FE+, 0W-20	B38 and XB2H – 4.25 liters Or B46 and XB1H – 5.25 liters

Warranty Information

Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Defect Code:	10 42 90 01 00
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Centers that experience Cold Winter Months

- **New vehicles in-stock only (No in-service date), just prior to the first delivery, fault code 118002 is not set/stored in the DME**

Labor Operation:	Labor Allowance:	Description:
11 99 000	3 FRU (All except I12, I15); 5 FRU (I12, I15)	Work time to change the engine oil and filter without a CBS data reset

Note: Only claim the engine oil and filter change as stated above when SI **B01 10 15** (CBS Engine Oil Service Task: New BMW Vehicles in Inventory/in Stock) does not apply.

Or, for:

All applicable vehicles that have fault code 118002 set/stored in the DME

Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to AIR	Performing vehicle test (with vehicle diagnosis system – checking faults) (Main work)
Or:		
00 00 556	Refer to AIR	Performing vehicle test (with vehicle diagnosis system – checking faults) (Plus work)
And:		
61 21 528	Refer to AIR	Connect an approved battery charger/power supply (indicated in AIR as Charging battery)

If you are using a Main labor code for another repair, use the Plus code labor operation 00 00 556 instead of 00 00 006.

And, additionally for the:

e-Vehicles-

Labor Operation:	Labor Allowance:	Description:
61 25 910	Refer to AIR	Recharging high-voltage battery unit (to high voltage charging socket)

And, only if the:

Vehicle's I-level is lower than 18-07-5xx

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

And, together with the above:

Labor Operation:	Labor Allowance:	Description:
11 99 000	3 FRU (All except I12, I15); 5 FRU (I12, I15)	Work time to change the engine oil and filter without a CBS data reset

Note: Only claim the engine oil and filter change as stated above when SI B01 10 15 (CBS Engine Oil Service Task: New BMW Vehicles in Inventory/in Stock) does not apply or when the engine oil service does not show Recommended or Due.

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

Work time labor operation code 11 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. However, it still requires an explanation on the repair order and in the claim comments section.

And:

Sublet – Bulk Materials

Sublet Code 4	See sublet reimbursement calculation below	Reimbursement for used quantities of required operating fluids, including engine oil only when it is not claimed under the BMW Maintenance Program (applicable BMW part numbers). Please do not use these part numbers for claim submission.
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Sublet reimbursement calculation for claiming the applicable repair-related bulk materials (BMW part numbers) is at the dealer net price for the quantities used plus your center's handling.

Enter this material cost in sublet and itemize the amount on the repair order and in claim comment section.

Programming and Encoding - Vehicle Control Units

During the same workshop visit, **if a vehicle also requires another Technical Campaign or repair that also includes programming and encoding the control units, the programming procedure may only be invoiced one time.**

1. **The programming procedure** automatically reprograms and encodes all vehicle control modules which do not have the latest software i-level. If one or more control module failures occur during this programming procedure:

- Please claim this consequential control module-related repair work under the defect code listed in this bulletin with the applicable AIR labor operations.

Please explain this additional work (The why and what) on the repair order and in the claim comments section.

1. For control module failures that occurred prior to performing this programming procedure:

- When covered under an applicable limited warranty, claim this control module-related repair work using the applicable defect code and labor operations (including diagnosis) in AIR.

Other Repairs

If other eligible and covered work is performed after carrying out the ISTA diagnostics and other diagnosis, claim this work with the applicable defect code and labor operations (including diagnosis) that are listed in AIR.