



SME FAULT CODE 21F02A

MODEL

G12 PHEV (740e xDrive iPerformance)	F15 PHEV (X5 xDrive40e)	
G30 PHEV (530e iPerformance)	F30 PHEV (330e iPerformance)	

SITUATION

Upon starting the vehicle, the following CC message is displayed to the customer:

- "Powertrain malfunction!" (CCM-ID: 633)

In addition, one or several of the following CC message(s) may be displayed:

- "Charging not possible" (CCM-ID: 804), "Hybrid system malfunctioning!" (CCM-ID: 585),
- "Drive. No restart" (CCM-ID: 586) or "Engine fault! Power loss" (CCM-ID: 29).

CAUSE

Possible hardware defect of the safety box.

CORRECTION

Replace the safety box (S-Box) or program the vehicle.

PROCEDURE



Note: Always connect a BMW approved battery charger/power supply ([SI B04 23](#) 10).

1. Perform diagnosis with the latest version of ISTA.
2. Read out the fault memory of the vehicle.

Is fault code "21F02A - High-voltage battery unit, safety box: Fault, voltage and current sensor (multiple fault)" stored in the battery management electronics (SME).



Note: Subsequently, the following fault code will also be entered:

- 21F1F6 - High-voltage battery, switch contactors: Switch-off after a fault

YES — Go to next step.

NO — Continue diagnosis with ISTA.

- Count the number of fault code 21F02A occurrences.

Was the code entered more than three (3) times?

YES — Replace safety box according to repair instruction.

NO — Ignore the fault code and reprogram/recode the vehicle with the most current version of ISTA/P or ISTA Next.

PARTS INFORMATION

F15 PHEV (X5 xDrive40e)

Part number	Description	Quantity
61 27 8 686 893	Safety Box	1
07 12 9 908 570	ISA screw	13
07 11 9 909 322	Self-locking hex nut	4
61 27 8 614 090	Seal for HV battery	1
61 27 7 643 663	Hexagon bolt with inside Torx	28
61 27 8 614 091	Seal, service cover, HV battery	1

F30 PHEV (330e)

Part number	Description	Quantity
61 27 8 686 893	Safety box	1
07 11 9 909 322	Self-locking hex nut	6
07 12 9 908 570	ISA screw	4
61 27 8 626 650	Sealing screw	6
61 27 8 626 643	Seal, high-voltage battery	1

	unit	
61 27 8 625 078	Hexagon screw with torx socket	36

G12 PHEV (740e xDrive iPerformance)

Part number	Description	Quantity
61 27 8 686 893	Safety box	1
07 11 9 909 322	Self-locking hex nut	4
07 12 9 908 570	ISA screw	4
61 27 8 620 917	Seal, high-voltage battery unit	1
61 27 7 643 663	Hexagon bolt with inside Torx	51

G30 PHEV (530e iPerformance)

Part number	Description	Quantity
61 27 8 686 893	Safety box	1
07 11 9 909 322	Self-locking hex nut	4
07 12 9 908 570	ISA screw	4
61 27 8 620 917	Seal, high-voltage battery unit	1
61 27 7 643 663	Hexagon bolt with inside Torx	49

Bulk Materials

83 19 2 221 349	R134a (Gas 1 oz units)	As needed
83 19 2 287 039	R1234YF (Gas 1 oz units)	As needed

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.

Defect Code	6127040200		

Labor Operation:	Labor Allowance:	Description:
00 00 006	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Main work)
Or:		
00 00 556	Refer to KSD2	Performing “vehicle test” (with vehicle diagnosis system – checking faults) (Plus work)
And:		
61 21 528	Refer to KSD2	Connect an approved battery charger/power supply (indicated in KSD 2 as Charging battery)

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

And, if necessary:

Replacing the Safety Box per the procedure (excluding the 530e iP and 530e xDrive)

Labor Operation:	Labor Allowance:	Description:
61 25 510	Refer to KSD2	Removing and installing the high voltage battery unit (Includes discharging, evacuating and filling-back air conditioner)
And:		
61 27 551	Refer to KSD2	Replace the contactor (safety) box (High-voltage battery unit remove)

Or, for the:

G30 (530e iP and 530e xDrive, until the labor operations below are listed in the KDS2

Labor Operation 61 25 510*

Type No.	Series	Engine	Model	Labor Allowance
JA03	G30	XB1H	530e iPerformance	45 FRU
JB23	G30	XB1H	530e xDrive	41 FRU

And:

Labor Operation 61 27 551*				
Type No.	Series	Engine	Model	Labor Allowance
JA03	G30	XB1H	530e iPerformance	16 FRU
JB23	G30	XB1H	530e xDrive	16 FRU

*See the section above for the corresponding Flat Rate Labor Operation “Description” information.

And/or:

Vehicle Programming and Coding

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

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

When ISTA/P automatically reprograms and codes all the vehicle’s control modules that “currently do not have” the latest software and 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 KSD2/AIR labor operations.

Other Repairs

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 in KSD2/AIR.

And, as necessary:

Sublet – Bulk Materials (excluding R134a or R1234YF)

Sublet Code 4	See sublet reimbursement calculation below	Reimbursement for the repair-related bulk materials (Please do not use the part numbers for claim submission)
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Sublet reimbursement calculation for claiming the “used quantities” of repair-related bulk materials (BMW part numbers) is at dealer net plus your center’s handling.

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

Overlapping Labor Procedure – Other Repairs

If invoicing the KSD2 flat rate labor operation codes for other repair work results in overlapping labor, for those flat rate labor operations that are affected, you can now:

- Replace the stated KSD2 “FRU allowance” with a “reduced FRU value” to eliminate the overlapping labor.

For help in identifying the overlapping labor, please refer to the AIR FRU Plausibility Check (Overlapping Labor Tool) that is located in the AIR Client.

Eligible other repair work being claimed under a different defect code will require separate punch times.

On the repair order and in the claim comment section, please identify and itemize those labor operations being claimed with a “reduced FRU value.”

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