



MIL OR "POWERTRAIN MALFUNCTION!" CCM DISPLAYED IN INSTRUMENT CLUSTER

MODEL

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

One or both of the following check control messages (CCM) is displayed:

- Malfunction indicator lamp (CCM-ID: 34)
- "Powertrain malfunction" (CCM ID: 633)

Note: Depending on the driving situation, additional CCM(s) may also be displayed.

CAUSE

Possible defect of the cell supervision circuit(s) (CSC).

CORRECTION

If specified error codes are present in the fault memory, replace affected CSC.

PROCEDURE

For conditions that are similar to the situation described:



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

1. Check the fault memory (FS) of the vehicle with ISTA NEXT.

Are the following fault codes present for the storage management electronics (SME)?

- **21F1F6 - High-voltage battery, switch contactors: Switch-off after a fault**
- **21F22D - High-voltage battery unit, cell supervision circuit: Software version not compatible**
- **21F22E - High-voltage battery, evaluation electronics for cell block: Assignment lost**

YES- Go to step 2.

NO – continue diagnosis with ISTA.

2. Check for additional specified error codes.

Is at least one of the following error codes also present in the fault memory?

- **21F04D - High-voltage battery unit: no communication with cell supervision circuit 1**
- **21F04E - High-voltage battery unit: no communication with cell supervision circuit 2**
- **21F04F - High-voltage battery unit: no communication with cell supervision circuit 3**
- **21F050 - High-voltage battery unit: no communication with cell supervision circuit 4**

- **21F051 - High-voltage battery unit: no communication with cell supervision circuit 5**
- **21F052 - High-voltage battery unit: no communication with cell supervision circuit 6**

YES- Replace the CSC for the cell(s) indicated using the corresponding repair procedure.

NO - continue diagnosis with ISTA.

PARTS INFORMATION

F15 PHEV (X5 xDrive40e)

Part number	Description	Quantity
61 27 8 667 593	Cell monitoring circuit	As needed
07 12 9 908 570	ISA screw	13
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 8 667 593	Cell monitoring circuit	As needed
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 unit	1
61 27 8 625 078	Hexagon screw with torx socket	36

G12 PHEV (740e xDrive iPerformance)

Part number	Description	Quantity
61 27 8 667 593	Cell monitoring circuit	As needed
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

Bulk Materials

83 19 2 221 349	R134a (Gas 1 oz units)	As needed
Or:		
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	6127041200	
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)
And, as necessary:		
61 00 006	Work time (WT)	Performing vehicle diagnosis – test module
And:		
61 25 510	Refer to KSD2	Removing and installing the high voltage battery unit (includes discharging, evacuating and filling-back air conditioner)

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 operations; however, it does require an individual punch time and an explanation on the repair order and in the claim comments section.

And, for the:

F15 and F30 (Replacing the First Cell Supervision Circuit)

Labor Operation:	Labor Allowance:	Description:
61 27 541	Refer to KSD2	Replacing cell supervision circuit (High-voltage battery unit remove) (Top)
Or:		
61 27 543	Refer to KSD2	Replacing cell supervision circuit (High-voltage battery unit remove) (bottom)

And, as required

F15 (Cell Supervision Circuits 2 to 6) and for the F30 (Cell Supervision Circuits 2 to 5)

Labor Operation:	Labor Allowance:	Description:
00 50 000	Work time (WT)	Replacing additional supervision circuit cells as needed

Or, for the:

G 12 (Replacing the First Cell Supervision Circuit)

Select the flat rate labor operation from the list below that applies to the "Cell Number" replaced.

Description:
Replacing cell supervision circuit (Cell #) (High-voltage)

battery unit remove)			
Circuit Number	Labor Operation:	Circuit Number	Labor Operation:
Circuit #1	61 27 761	Circuit #4	61 27 767
Circuit #2	61 27 763	Circuit #5	61 27 769
Circuit #3	61 27 765	Circuit #6	61 27 771

Or:

G12 (Two or More Cell Supervision Circuits Require Replacement)

Based on which cell supervision “circuits” require replacement, select and claim the flat rate labor operation that applies from the list above which has the highest FRU allowance (Refer to KSD2).

And, in conjunction with this selected flat rate labor operation:

Labor Operation:	Labor Allowance:	Description:
00 50 000	Work time (WT)	Replacing additional supervision circuits as needed

Work time labor operation code 00 50 000 is not considered a Main labor operations; however, it does require an individual punch times and an explanation on the repair order and in the claim comments section.

On the repair order and in the claim comment section, please identify the work contained in labor operation code 00 50 000 and itemize the claimed FRU amount.

And, for:

All Models

Labor Operation:	Labor Allowance:	Description:
61 27 900	Refer to KSD2	Final test of the high-voltage battery unit (After repair of the high-voltage battery unit)

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

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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