SIB 12 05 23

ISOLATION FAULTS SAVED IN CCU (COMBINED CHARGING UNIT)

2026-03-06

This Service Information bulletin (Revision 03) supersedes SI B12 05 23 dated **December 2024.**

What's New:

- The Procedure, Parts Information, and Claim Information sections have been updated
- Attachment renamed

☐	THIS REPAIR IS MOBILE FRIENDLY

MODEL

E-Series	Model Description	Production Date
G26 BEV	i4 eDrive35, i4 eDrive40, i4 xDrive40, i4 M50 Gran Coupe (Battery Electric Vehicle (BEV))	SOP to 11/2023
G60 BEV	i5 M60, i5 eDrive40 Sedan	SOP to 11/2023
G70 BEV	i7 xDrive60 Sedan	SOP to 11/2023
i20	iX xDrive50, iX M60 Sports Activity Vehicle	SOP to 11/2023

SITUATION

The customer states there is a Drivetrain Malfunction message displayed in the instrument cluster.
In addition, the following fault memory entries are saved in the CCU (Combined Charging Unit)

0317F2 - High-voltage system, insulation fault detected: when switch contactors are closed.

0317F1 - High-voltage system, insulation resistance below warning threshold: when switch contactors are closed.

The fault memory entries (isolation faults) can occur both individually and in combination and must be traced back to the eDrive motor based on the ISTA test procedure.

If ISTA test procedure lists possible cause of fault as; A metal chip is found behind the brush module (between the brush module and the end shield of the electrical machine). Repair required. Refer to service solution no. 20000794435083 in Aftersales Information Research (AIR). Follow information in the Procedure section below.

CAUSE

There could be a metal chip behind the brush module, and/or there is contamination of the eDrive unit from the manufacturing process. This metal debris may not be visible.

This can affect vehicles listed above that were built before 11/23.

CORRECTION

Remove brush module from affected eDrive motor and thoroughly clean the rotor and brush module as described in the Procedure section.
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NOTE: ONLY PERFORM THIS PROCEDURE IF TEST PLAN DIAGNOSIS LEADS TO THE CLEANING PROCEDURE.

ROCEDURE IF TEST PLAN DIAGNOSIS LEADS TO THE CLEANING PROCEDURE.

PROCEDURE

Important Warning for Working on the High-Voltage (HV) systems on BMW Group vehicles:

Only properly trained personnel, who passed all applicable HV Technical Training Courses, should perform repairs which require disconnecting, or removal of High Voltage battery components on any Hybrid or Electric Vehicle. Work performed on High Voltage systems by unqualified persons may result in severe injury or damage to the vehicle. Additional safety information is found in Repair Instruction 61 00… "Observe safety instructions when handling electric vehicles".

Additional Information:

Scheduled Maintenance, or Quality Certification 1 (Pre-Delivery Inspection) on Electric or Hybrid vehicles does not require HV technical training.

Prior to disconnecting, or the removal of any HV component, the HV system needs to be disabled and secured (by means of the HV Disconnect Switch) by a properly trained technician, who has a minimum HV Qualification level after completing the Technical Training Course ST1824 (Alternative Drive Part 1). Once the vehicle's HV system is disabled (the "Blitz" – lightning bolt icon displayed in instrument cluster, see below), a technician without HV Certification may remove a HV component (e.g., EH Heater, EKK Compressor, EME Control Unit, et.), except for the High Voltage Battery.

High Voltage Battery removal and rework can be performed ONLY by a HV Specialist Technician (certified by the Technical Training Course ST1825 – Alternative Drive Part 2), AND with a HV Battery Certification level corresponding to a specific Electric or Hybrid vehicle (e.g., to repair GEN4 battery of G05 PHEV, certification from Technical Training Course "ST2006 – SP44 HV Battery" is required).

Therefore, to perform this SIB 12 05 23, a GEN5 battery Certification is required from Technical Training Course "ST2205 Generation 5 High-voltage" class).

Depending on the vehicle model and the result of the ISTA test module, either the rear or the front eDrive motor is affected.

Remove the affected eDrive motor as per ISTA test module.

NOTE: DO NOT DRAIN THE TRANSMISSION FLUID.

All Models

- For the rear (Reference/observe repair instruction 12 35 530/12 35 531)

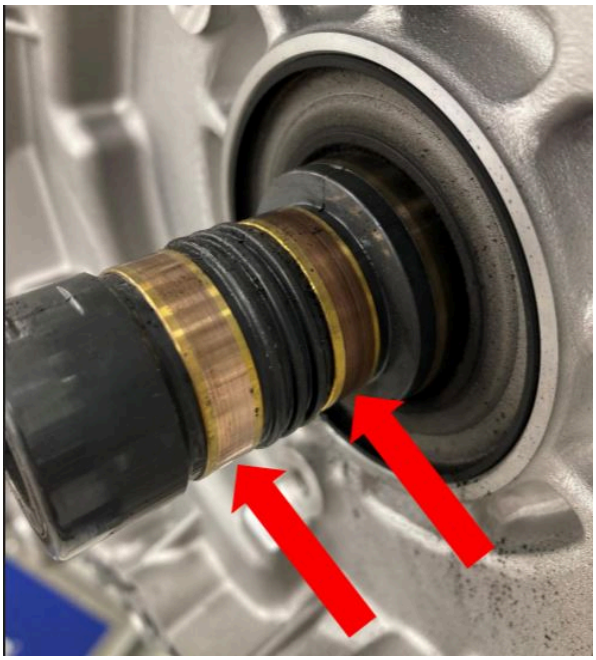
All Models except for the eDrive RWD only Models

- For the front (Reference/observe repair instruction 12 35 520/12 35 521).

Then remove the brush module.

Thoroughly vacuum the area on the eDrive motor behind the brush module, and the brush module itself with the vacuum cleaner.

Then use a clean lint-free cloth to clean/wipe the area on the eDrive motor behind the brush module.



In addition, clean/wipe the slip rings (bronze rings) on the rotor, with a clean lint-free cloth (arrows).

NOTE: If oil is found leaking from rotor seal and has contaminated brush module, please submit TC case to determine the condition of the copper rings before continuing with this procedure.

Important: Optimal cleaning can only be carried out when the brush module is removed. Only a clean lint-free cloth is to be used to clean the above-mentioned areas and components.

Never use mechanical cleaning tools!

All Models

- For the removal of the **rear brush module** (Reference/observe repair instruction 12 37 902)

All Models except for the eDrive RWD only Models

- For the removal of the **front brush module** (Reference/observe repair instruction 12 37 702).

NOTE: Black dust in the area of the brush module is normal abrasion of the carbon brushes and has no effect on the described cause.

Then re-install the brush module and reassemble eDrive unit.

Perform an EoS test on the drive unit. If EOS test fails after cleaning procedure, please submit TC case for next steps.

Reinstall drive unit in vehicle after EOS test pass

PARTS INFORMATION

NOTE: For parts for eDrive removal and installation per Vehicle Model, refer to the attachment. Parts have changed for G60 Front eDrive and G60 Rear eDrive.

Part Number	Description	Quantity
83 19 5A32851	HT-12 Antifreeze RTU (Bulk, DN = 1/10 liter) (Pre-mix)	Sublet as needed
Or:		

83 19 2468442	BMW Antifreeze/Coolant (DN = 1 Gallon Concentrate) - HT-12	Sublet as needed
NPN	Lint free cloth (sourced locally)	Sublet as needed
83 19 0404517	Liquid sealant, Loctite 5970 (DN = 50 ml)	Sublet as needed

Additionally, other materials and small parts that are not specified above, such as fluids, lubricants, one-time use screws, nuts, and seals, which must be replaced or installed according to the ISTA repair instructions/ETK, must be selected from the Electronic Parts Catalog, or other approved BMW resources, according to the respective vehicle type. Invoiced these items separately under the Repair Code listed in this bulletin.

CLAIM 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.

Repair Code:	**1233001500**	**eDrive motor-permanent malfunction**

Obtain the flat rate unit (FRU) allowances for the following that applies.

Labor Operation	Description	Labor Allowance
00 00 006	Carrying out vehicle test **(Main work)**	As applicable
Or:		
00 00 556	Carrying out vehicle test **(Plusposition work)**	As applicable
And, as needed:		
61 00 006*	Carrying out vehicle diagnosis, ABL (Work time)	WT FRU
Or:		
00 58 500*	Diagnosis Worktime Flat Rate	2 FRU

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, or exclude when the Vehicle Test is included in another repair.

BEVs: Labor operation code 61 21 528 is not necessary for performing a Vehicle Test.

Work time labor operation codes 61 00 006 and 00 58 500 are not considered Main labor operations.

And, for the:

Rear Electric Drive Unit (**All Models)**

Labor Operation	Description	Labor Allowance
12 35 530	Removing and installing rear electric drive unit completely **(Plusposition work)**	As applicable
And:		
12 37 902	Replace **(Remove/Install)** brush module rear **(For access only)**	As applicable

Or/and for the:

Front Electric Drive Unit (**Excluding the eDrive RWD only Models)**

Labor Operation	Description	Labor Allowance
12 35 520	Removing and installing front electric drive unit completely	As applicable

And:		
12 37 702	Replace **(Remove/Install)** brush module front **(For access only)**	As applicable

Always refer to the AIR repair instructions, and the flat rate unit group details for the Engine electrical system's: Rear electric drive unit and/or Front electric drive unit for other additional and/or required work procedures that may also apply.

And:

Labor Operation	Description	Labor Allowance
17 00 533	Check tightness of rear electric drive unit cooling system (Also applies to the Front Electric Drive Unit repairs)	As applicable
And:		
12 35 900	Perform EoS test	As applicable

And, only when noted in AIR with:

"AW specification without wheel alignment" is specified for 12 35 520 or 12 35 530

Labor Operation	Description	Labor Allowance
32 00 595	Kinematics Diagnosis System wheel alignment with ride height measurement without loading the vehicle (Plusposition)	Refer to AIR
And:		
32 00 601	Adjusting toe-in on front axle (Associated work)	Refer to AIR
And, as needed:		
32 00 650	32 00 650 Additional work for integral active steering (HSR)(Associated work)	Refer to AIR

And, as needed, based on the results of checking the vehicle's wheel alignment

Labor Operation	Description	Labor Allowance
32 00 NNN	Refer to Main Group 32 (Steering and wheel alignment / Electronic wheel alignment) for other/additional wheel alignment-related work that may also need to be performed	Refer to AIR

And:

Sublet – Bulk Supply Materials (RO and Claim Comments Required)

Sublet Code 4	Reimbursement for the repair-related bulk supply materials (Do not use the BMW part numbers for claim submission)	See the sublet reimbursement calculations below

Sublet reimbursement calculation for claiming the applicable repair-related bulk supply materials (BMW part numbers) is at the dealer net (DN) price for the full or proportional quantities used plus your center's handling.

BMW Antifreeze/Coolant: Claim the corresponding sublet dollar amount for the quantity needed to replace what was drained. The one-gallon concentrate's part number quantity as needed to obtain a 50/50 coolant/water solution.

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

No Part Number (NPN): Locally sourced supplies (Items not Available through BMW NA Only) are reimbursed at the cost of the proportional quantity used plus 20 percent (WPPM Section 8 Page 25).

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

BMW Group's AIR Application Resource for Flat Rate Labor Operation Codes

To obtain the corresponding flat rate unit (FRU) allowance information from the BMW Group AIR application resource, start by entering the Chassis Number (last seven (7) characters of the VIN), and click on the "Search" icon. If the "Vehicle Selection" window displays two or more model possible vehicle choices, select the applicable Model, or enter the full VIN (17 characters) instead to proceed. Click on the "Flat Rate Units" button and enter a flat rate labor operation code number "without spaces" in the field to the right, click on the "Search" icon to display the corresponding listing of "Flat rate unit group details" that are available and their corresponding FRU allowances.

*Based on which one applies to your center, please refer to **SI B01 01 20 or B01 07 20** for the applicable procedure for documenting, claiming, and explaining, on the RO and in the claim comments, your diagnosis work time (WT), job/repair work time (WT), and the vehicle repairs your center performed, unless otherwise required by State law.

Overlapping Labor Removal (AIR client's FRU Plausibility Check Tool)

In the rare instance where both the front and rear electric drive units have the issue described in this Service Information Bulletin, please work together with your center's Warranty Manager, Warranty Administrator, and/or Booker to identify the overlapping labor contained in the flat rate labor operation codes listed above. As determined by the AIR Client's FRU Plausibility Check Tool; calculate, claim, and submit for the reduced FRU allowances that apply.

FEEDBACK REGARDING THIS BULLETIN

Technical Feedback	To submit feedback for the technical topic of this bulletin: Submit your feedback in the rating box at the top of this bulletin
Warranty Feedback	To submit feedback for the CLAIMS section of this bulletin: Submit an IDS ticket to the Warranty Department, or use the chat available in the Warranty Documentation Portal
Parts Feedback	To submit feedback for the PARTS section of this bulletin: Submit an IDS ticket to the Parts Department

Supporting Materials
picture_as_pdf B120523_AT_1 Parts 12_2024.pdf

G70 Front eDrive

Part Number	Description	Quantity
33 30 6782246	Hexagon screw with washer	4
31 10 6872062	Hexagon screw with washer	4
32 30 6778609	Torx bolt	1
33 13 1214961	Retaining ring	1
31 20 6866022	Shouldered bolt with compression spring	2
31 10 6765451	Combination nut	2
31 10 6789333	Outside torx bolt	2
07 11 9904956	Hexagon bolt	2
34 10 6864424	Torx screw with washer	4
07 11 9904161	Hexagon bolt with collar	2
07 11 9906100	Hexagon head collar bolt	2
07 14 8835360	Combination nut	2
37 10 6789678	Flanged hexagon nut	2
07 14 7283812	Speed nut	2
31 11 6899302	Multi-purpose bolt	10
07 14 8837399	ASA Bolt	4
07 14 8840397	ASA Bolt	2
12 37 1023794	Pressure compensation element	1

G26 Front eDrive

Part Number	Description	Quantity
33 30 6782246	Hexagon screw with washer	4
07 14 6885922	Multi-purpose bolt ASA	4
07 14 6899140	Cage nut	4
07 14 6897424	Cage nut	2
39 10 6865725	Multi-purpose bolt	4
07 14 8835104	Multi-purpose bolt	4
07 14 6875114	Hexagon collar nut	4
37 14 8851843	Front attachment rod	1
07 14 7575163	Self-locking hexagon nut	1
33 32 6768884	Hexagon collar nut	2
33 13 1214961	Retaining ring	1
31 20 6866022	Shouldered bolt with compression spring	2
22 31 9494177	Hexagon bolt	2
33 30 6787062	Combination nut	2
32 30 6778609	Torx bolt	1
12 37 1023794	Pressure compensation element	1

I20 Front eDrive

Part Number	Description	Quantity
31 10 6769907	Screw with shim	2
33 32 6760340	Torx screw with washer	2
22 11 6893773	Multi- purpose bolt	2
07 11 9906460	Hexagon screw with washer	5
33 30 6782246	Hexagon screw with washer	2
31 20 6795249	Shouldered bolt with compression spring	2
33 13 1214961	Retaining ring	1
07 11 9904956	Hexagon bolt	2
07 11 9909673	Hexagon bolt	4
31 10 8835359	Screw	2
07 14 8835360	Combination nut	2
37 10 6789678	Flanged hexagon nut (Forced rounding of 10)	2
31 10 6765451	Combination nut	2
31 10 6789333	Outside torx bolt	2
32 30 6778609	Torx bolt	1
34 10 6864424	Torx screw with washer (Forced rounding of 10)	4
07 14 7398300	Hexagon bolt	4
31 11 6899302	Multi-purpose bolt	14
07 14 9455119	Multi-purpose bolt	6
61 27 9487465	Screw	4
12 37 1023794	Pressure compensation element	1

i20 Rear eDrive

Part Number	Description	Quantity
33 17 6760336	Hexagon screw with washer	4
12 90 9884545	Hexagon bolt	2
61 27 9487464	Screw	4
33 32 6775040	Hexagon screw with washer	4
07 11 9907136	Hexagon bolt	2
33 13 1214961	Retaining ring	2
31 20 6866022	Shouldered bolt with compression spring	2
33 30 6891268	Multi-purpose bolt	2
33 30 6861944	Hexagon bolt	2
33 55 6790913	Hexagon collar nut	2
07 14 8854416	Hexagon nut	10
07 12 9908011	Hexagon bolt with flange	2
33 30 6787062	Combination nut	2
34 20 6881294	BMW design clip	2
34 20 6850560	Hexagon bolt	4
07 14 6893779	Multi-purpose bolt ASA	4
64 50 9123157	Self-locking hexagon nut	8
12 37 1023794	Pressure compensation element	2

G26 Rear eDrive

Part Number	Description	Quantity
07 14 8833456	Hex Bolt (M14X1.5X133)	2
33 32 6760340	Torx-bolt with washer (M12x127-10.9)	4
07 14 6884435	Multi-purpose bolt ASA (M10x35 ZNS3)	4
07 12 9908011	Hexagon screw with flange (M14x1,5x100)	2
33 30 6787062	Combination nut (M14x1,5-10ZNNIV)	2
33 13 1214961	Lock Ring (D=22,4)	2
33 30 6890937	Multi-purpose bolt ASA (M14x1.5x115)	2
07 14 8854416	Hexagon nut	2
31 10 6890194	Hexagon nut with collar (M14x1,5-10 ZNS3)	6
33 30 6867271	Hex Bolt with washer (M14x1,5x84)	4
07 11 9907136	Hexalobular socket screw (14x1,5x90 ZNS3)	2
33 30 6861943	Hex Bolt (M14x1,5x90)	2
33 32 6768884	Hexagon nut with collar (M10-10 ZNS3)	2
33 30 6861221	Torx bolt (ISA M12x35-10.9)	10
31 20 6866022	Collar bolt with compression spring (M16x1,5x66)	2
12 37 1023794	Pressure compensation element	2

G70 Rear eDrive

Part Number	Description	Quantity
33 17 6760336	Hex Bolt with washer (M14x1,5x133ZNS3)	4
12 90 9884545	Hex Bolt	2
33 32 6897737	Multi-purpose bolt (M14x1,5x168ZNS3)	2
33 32 6775040	Hex Bolt with washer (M14x1,5x148)	2
31 10 6862545	ASA screw (M10x40 10.9)	4
07 14 8854416	Hexagon nut	4
33 30 6891268	Multi-purpose bolt	2
33 30 6861944	Hex Bolt (M16x1,5x100)	2
07 11 9907136	Hexalobular socket screw (14x1,5x90 ZNS3)	2
33 30 6867271	Hex Bolt with washer (M14x1,5x84)	2
07 11 9907031	Hex Bolt with washer (M16x1,5x110)	2
34 50 9804151	ASA screw, thread-forming (M6x16)	2
33 55 6790913	Hexagon nut with collar (M10-10 ZNS3)	2
07 11 9908280	Hex Bolt (M12X1,5X35)	8
07 14 7283812	Plug-in nut (M10-10 ZNS3)	2
31 11 6899302	Multi-purpose bolt (10x45 ZNS3)	10
07 14 8837399	ASA-Bolt (M14x1,5x70 ZNS3)	4
61 25 8833846	Hex Bolt (5x105)	6
31 20 6795249	Collar bolt with compression spring (M16x1,5x72-8.8)	2
34 21 1161806	Inner hex bolt (M8X14)	2
12 37 1023794	Pressure compensation element	2

G60 Front eDrive

Part Number	Description	Quantity
33 30 6782246	Hex Bolt with washer (M14x1,5x158)	2
31 10 6872062	Hex Bolt with washer (M12x95x1.5)	4
32 30 6778609	Torx bolt (M8X33)	1
33 13 1214961	Lock Ring (D=22,4)	1
22 31 9494177	Hex Bolt (M10x35-10.9-MKL)	2
34 10 6864424	Torx screw with washer (M12X1,5X43 ZNS3)	4
07 11 9904161	Hex screw with collar (M10x60)	2
07 14 8835360	Combination nut (14x1,5 ZNNIV)	2
31 10 6789333	Torx screw (M10x59-10.9 ZNS)	2
31 10 6765451	Combination nut (M10-22H ZNS3)	2
37 10 6789678	Hex nut with flange (M12x1,5-10-ZNS3)	2
07 14 7283812	Plug-in nut (M10-10 ZNS3)	2
07 14 8837399	ASA-Bolt (M14x1,5x70 ZNS3)	2
07 14 8840397	ASA-Bolt (M14x1,5x85 ZNS3)	2
07 14 8837399	ASA-Bolt (M14x1,5x70 ZNS3)	4
31 11 6899302	Multi-purpose bolt (10x45 ZNS3)	10
61 25 8833846	Hex Bolt (M14x1.5x105)	6
31 20 6866022	Collar bolt with compression spring (M16x1,5x66)	2
12 37 1023794	Pressure compensation element	1

G60 Rear eDrive

Part Number	Description	Quantity
33 17 6760336	Hex Bolt with washer (M14x1,5x133ZNS3)	4
12 90 9884545	Hex Bolt	2
33 32 6775040	Hex Bolt with washer (M14x1,5x148)	2
33 32 6897737	Multi-purpose bolt (M14x1,5x168ZNS3)	2
33 13 8860481	Circlip	2
33 30 6891268	Multi-purpose bolt	2
07 14 8854416	Hexagon nut	6
33 30 6861944	Hex Bolt (M16x1,5x100)	2
07 11 9907136	Hexalobular socket screw (14x1,5x90 ZNS3)	2
33 30 6867271	Hex Bolt with washer (M14x1,5x84)	2
07 14 5A9B1B9	Hexagon bolt (M16x1,5x110)	2
34 50 9804151	ASA screw, thread-forming (M6x16)	2
33 55 6790913	Hexagon nut with collar (M10-10 ZNS3)	2
07 11 9908280	Hex Bolt (M12X1,5X35)	8
07 14 6884435	Multi-purpose bolt ASA (M10x35 ZNS3)	2
07 14 8845501	Hex Bolt (M12x1,5x35)	5
61 25 8833851	Hex Bolt (M12x5x130)	2
07 14 7283812	Plug-in nut (M10-10 ZNS3)	2
07 14 8837399	ASA-Bolt (M14x1,5x70 ZNS3)	4
31 11 6899302	Multi-purpose bolt (10x45 ZNS3)	10
61 25 8833846	Hex Bolt (M14x1.5x105)	6
31 20 6866022	Collar bolt with compression spring (M16x1,5x66)	2
12 37 1023794	Pressure compensation element	2