



## SIB 52 01 24 SEAT HEATING AND COOLING X5, X6, X7

2024-02-16

 THIS REPAIR IS MOBILE FRIENDLY

### MODEL

E-Series	Model Description	Affected Option Code
F95	X5 M Sports Activity Vehicle	<b>453</b> Front ventilated seats <b>494</b> Heated front seats <b>4NN</b> 5 zone integrated HVAC <b>ZLS</b> Luxury Seating Package
F96	X6 M Sports Activity Coupe	
G05	X5 Sports Activity Vehicle	
G06	X6 Sports Activity Coupe	
G07	X7 Sports Activity Vehicle	

### SITUATION

Customer states that the seat heating and/or cooling doesn't meet his/her expectations.

### CAUSE

There are multiple things that influence how the seats operate; including battery state of charge, seat initialization, whether an occupant is in the seat, inside/outside temperature, the vehicle's current software level, and the Driver's profile used to log into the vehicle.

- Some stored fault codes can indicate a problem with the vehicle battery state of charge. Faults may include:
  - 030E06** Power management: Reduction or shutdown of individual electrical consumer
  - 8042FC** Function Energy supply limited available (QM functions)
  - 030E0B** Power management: Cancellation emergency recharging
- Reference SI **B52 23 19** for details on operation of these seats and hyperlinks to all relevant seat service bulletins
- The customer will only have limited functionality of multiple systems without the use of the BMW ID and Driver profile. Reference SI **B65 04 22**.
- The Climate control rules for heated surfaces and car memory is linked to the use of the BMW ID and Driver profile. For information on Service Pack 2018 (SP18) vs Service Pack 2021 architecture and differences in the climate menu controls between SP18 vs SP21, reference SI **B64 02 23**.
- If the customer states that the heated surfaces (seats, steering wheel, armrest, seat bolsters) don't all feel the same temperature to the touch, reference SI **B64 03 23**

### INFORMATION

## Seat Heater Mats

The seat heater mat (6) is controlled by the seat module.



- Seat heaters are low priority power consumers. If the battery voltage is low the seat heaters may not operate until battery state of charge (SOC) recovers. NOTE: The LED or display on the Climate menu may be illuminated, so the customer may expect the heater to get hot but it won't heat until battery voltage recovers.

A weak/aged battery can affect surface heating warm-up times and must be considered when diagnosing customer concerns.

With SP21 AURA the vehicle is trying to reduce charging system load on the engine and will vary the pulse width modulation PWM (on-time) of the voltage to the heated surface. As surface temperatures rise the pulse width will gradually decrease (SP21 vehicles currently include G05, G06 and G07 LCI). **Outside temperature vs inside temperature** is constantly monitored and the PWM varies accordingly. For example, the customer may state the seats go to a very high temperature initially and as they drive the seat heating temperature cools down.

- **When a seat is not initialized, some seemingly unrelated functions such as the seat heating may be disabled**

If the seat heater is inoperative at the Pre-Delivery Inspection (PDI, aka Quality Certification 1), go through the test plan for seat initialization.

The seat initialization procedure can be found in ISTA by choosing:

- SERVICE FUNCTIONS
- BODY
- SEATS
- SEAT ADJUSTMENT STANDARDIZATION

Then select the correct ABL test plan for the relevant seat.

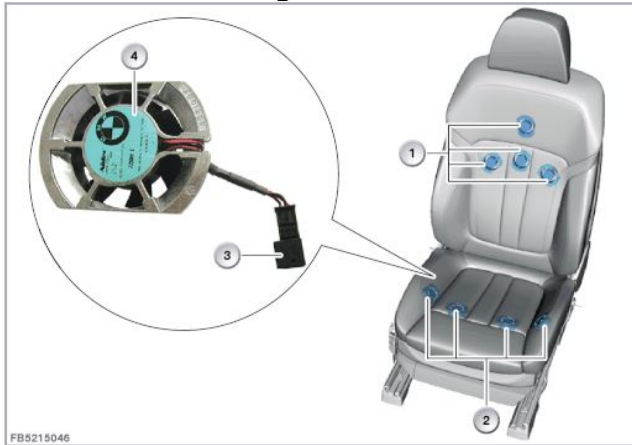
**To properly initialize the seats:** They must be fully assembled with the seat leather. The initialization has a time limit in which to run. Without the seat leather/foam, the motor moves the seat frame past the point where the amperage rise would have ended seat movement. This takes more time, and the seat travels past the maximum time allowed for initialization and the seat fails to initialize. Second seat row headrests must be in the fully down position. If headrests are raised, they can interfere with the first seat row during the initialization process.

- While the vehicle is awake, the passenger seat will not heat up if there is nobody sitting in the seat. This is monitored by the seat occupancy mat (SP21).
- Seat side bolsters are heated to a lower temperature than the seat bottom and seat backrest.

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- Vehicles equipped with option code 4NN (5 zone integrated heating and air conditioning system) adds heated third row seats with controls on the overhead control panel. The button inputs from the overhead IHKA control panel are sent via LIN bus communication via the BDC/BCP and then to the seat module. Third row seat operation and heating are controlled by the second-row seat modules (Driver 2<sup>nd</sup> row FAH, Passenger 2<sup>nd</sup> row BFH).

### Cooling Fan motors



Item	Explanation	Item	Explanation
1	Fans in the backrest	2	Fans in the seat surface
3	three-pin plug connection	4	Fan

The seat cooling fans are controlled by the seat module.

- When these vehicles first launched, non-M models with standard seats received a revised cooling fan design that was first introduced in the G15 8 Series Coupe. These fans work differently than previous models. The fans work to draw heat away from the body rather than blow air onto the body. M model vehicles (F95/F96) with option **04MA** still received fans that blow air onto the body.
- Starting with August 2022 production, non-M models with standard seats switched to the same design cooling fans as in previous BMW models. The fans would blow air onto the body.
- Seat cooling fans are low priority power consumers. If the battery voltage is low, the seat fans may not operate until the battery SOC recovers. NOTE: The LED or display on the Climate menu may be illuminated, so the customer may expect the fans to vent the seat, but it will not function until the battery voltage recovers.
- After an operating period of 10 minutes, the system automatically switches the fans from ventilation stage 3 to ventilation stage 2 for acoustic reasons
- Software modifications were implemented that may influence seat operation for vehicles produced in 2018-2019.
  - Software improvements came August 2019 which changed certain seat operations. For a detailed list of the changes see [SI B52 21 19](#)
  - All G05 / G07 produced up to August 1, 2019, can be updated to 7/2019 SW as per Service Action [SI B65 19 19](#)
- Reference vehicle-specific information in **TECHNIPEDIA**

## CLAIM INFORMATION

This Service Information Bulletin provides seat heating and cooling-related technical and operational information.

### Eligible and Covered Work/Repairs

Repairs that address a verified defect in materials and/or workmanship, but not design, are covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Damage and/or issues caused by outside influences are not covered under the BMW limited warranties.

To submit a claim, please follow the established and applicable warranty policy and procedures (Labor/Part/Sublet) that apply to the repair being performed.

Refer to AIR for the corresponding Repair Code for claim submission. Obtain applicable flat rate labor operation codes (including the diagnosis\* that applies) and the corresponding flat rate unit (FRU) allowances.

Only one Main labor operation code can be claimed per repair visit.

### **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 (the last seven (7) characters of the VIN, select the applicable Model if two or more vehicle choices show), or enter the full VIN (17 characters), click on the "Search" button. Next, click on the "Flat Rate Units" button and enter the flat rate labor operation code in the field to the right, click "Search" to display the Flat Rate Unit Group detail choices.

\*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.

### **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

