



SIB 27 02 20

2025-06-06

JERKING OR SHUDDERING FROM THE DRIVELINE (XDRIVE TRANSFER CASE ATX13-X)

This Service Information Bulletin (Revision 5) replaces SI B27 02 20 **dated March 2025**.

What's New:

- Claim Information updated

<input type="checkbox"/>	THIS REPAIR IS MOBILE FRIENDLY
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MODEL

F90 (M5 Sedan)	F91 (M8 Convertible)	F92 (M8 Coupe)	F93 (M8 Gran Coupe)
F95 (X5 M Sports Activity Vehicle)	F96 (X6 M Sports Activity Coupe)	F97 (X3 M Sports Activity Vehicle)	F98 (X4 M Sports Activity Coupe)
G01 (X3 Sports Activity Vehicle)	G02 (X4 Sports Activity Coupe)	G05 (X5 Sports Activity Vehicle)	G06 (X6 Sports Activity Coupe)
G07 (X7 Sports Activity Vehicle)	G09 (BMS XM)	G12 (7 Series Sedan)	G14 (8 Series Convertible)
G15 (8 Series Coupe)	G16 (8 Series Gran Coupe)	G20 (3 Series Sedan)	G22 (4 Series Coupe)
G23 (4 Series Convertible)	G26 (4 Series Gran Coupe)	G30 (5 Series Sedan)	G32 (640i xDrive Gran Turismo)
G42 (2 Series Coupe)	G45 (X3 Sports Activity Vehicle)	G60 (5 Series Sedan)	G70 (7 Series Sedan)

SITUATION

There is a jerking or shuddering during either or both of the following:

- Cornering or accelerating from low speeds
- Driving with low to medium loads

There are no warning lights or Check Control messages.

CAUSE

Unevenly worn or incorrect fitment tires are installed on the vehicle, or the factory-filled transfer case oil does not meet BMW specifications.

CORRECTION

Unevenly worn or incorrect fitment tires are installed on the vehicle, or the factory-filled transfer case oil does not meet BMW specifications.

PROCEDURE

Prerequisite vehicle tire inspection-

- Check the tires:
 - Check the size and brand for correct fitment to the vehicle (e.g., tire placard on driver's B-pillar for factory-fitted tire sizes)
 - One or more tires with extreme tire wear will keep the xDrive engaged
 - If tires are brand new (just replaced), the issue could have happened with old tires
 - If the vehicle was equipped with staggered sizes, check to make sure they are not mismatched to axle (front are now on rear)
 - Checking the rolling circumference of all four tires is highly recommended to note variances not noticeable with tread depth
 - Tire technical specifications (allowable tolerances) can be found in **Repair Instruction 3612...**

Notes and specifications for tire / wheel exchange

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- **Documentation of tire specifications must be recorded using Attachment 2 for warranty approval**

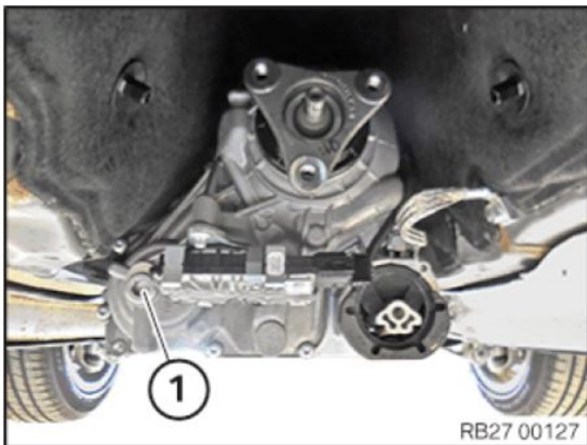
If no tire issues were found, or the SITUATION still exists after the tire issues are corrected-

- Check for and diagnose any faults in the powertrain control units.
- Diagnose the transfer case:
 - It is no longer necessary (or approved) to unplug the transfer case (VTG) module on the models listed in this SIB to diagnose a transfer case related concern
 - The VTG can be disconnected through ISTA test plan **Temporary deactivation of all-wheel-drive system – (ABL-DIT-AW2710_TDEAKAWD11)**
 - Follow path Vehicle Management/Troubleshooting/Function structure/Drive/Transfer box/[!] Current fault patterns/Temporary deactivation of all-wheel-drive system
 - Follow the instructions in the test plan and test drive the vehicle with the transfer case clutch deactivated to further diagnose the related complaint

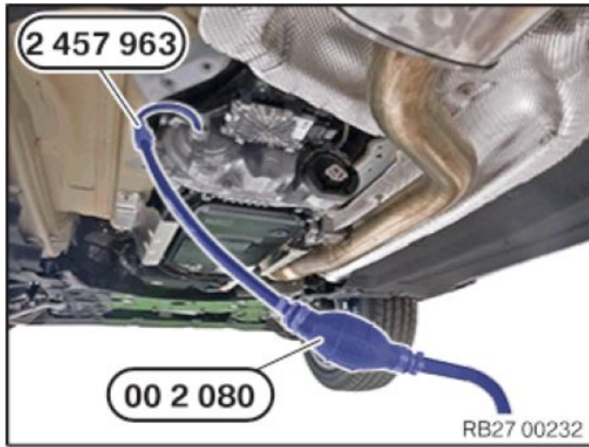
NOTE: There will be a warning in the control display for the xDrive system which for this procedure is to be ignored. Cycling the ignition will re-activate the VTG.

- If the complaint was eliminated with the transfer case disconnected:
 - Change the oil in the transfer case. Follow Repair Instruction **27 00 270 Oil change in transfer box including used oil disposal**
 - If the repair instruction is not listed for a specified vehicle in ISTA follow this repair procedure
 - Connect the vehicle to ISTA and use test plan **Oil change (ABL-DIT-AS2710_OILCHNG_VTGG11)**
 - Follow path Service functions/Drive/Transfer box VTG/Oil change and follow the steps in the test plan.
 - Remove the transmission cross-member following Repair Instruction **22 32 050 “Replacing the cross member for the transmission bearing”** (included in 27 00 270/770)

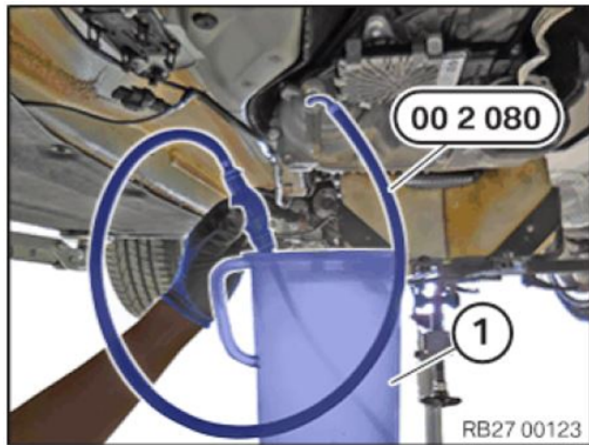
Open the oil filler plug (1).



Extract the transmission oil from the transfer case (VTG) using special tool 0 493 337 (00 2 080) and special tool 2 457 963.

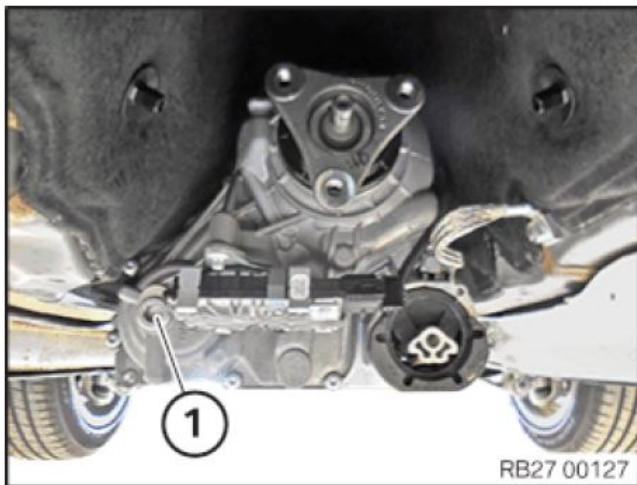


Top up the transmission oil up to the lower edge of the opening for the oil filler plug using special tool 0 493 337 (00 2 080). Use DTF-1 PN 83 22 2 409 710 (@ 0.7 liter).



Replace the oil filler plug (1).
PN 33 11 7525064

Tighten the oil filler plug to 60 Nm.



- Reinstall the transmission cross-member following Repair Instruction **22 32 050 “Replacing the cross member for the transmission bearing”**
- Re-calibrate the VTG using test plan **Calibration (ABL-DIT-AS2710_KALIB_VTGG11)**
- ISTA path: Service functions/Drive/Transfer box VTG/Transfer box (VTG): Calibration

The transfer case’s newly replaced oil still needs a minimum drive time before it is fully saturated into the clutch plates inside the transfer case; a minimum of 125 miles of normal driving is required for this to occur.

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The shuddering should diminish during this run-in period before completely smoothing out.

PARTS INFORMATION

To determine the part number(s) that applies to the specific vehicle being repaired, enter the VIN / Chassis number into either ETK or AIR, this will consider the specific equipment and/or options that are fitted to the vehicle.

Part Number	Description	Quantity
83 22 5 A4F 016	DTF-1 Transfer case oil (1000 ml/1 liter)	Sublet as needed
33 11 7 525 064	Screw plug with O-ring (M22 x 1.5-ZNS3)	1

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/AIR), are to be selected from the Electronic Parts Catalog, and/or other approved BMW Group's resources according to the respective vehicle type. Invoiced these items separately under the Repair Code listed in this bulletin.

CLAIM INFORMATION

Procedure Steps 2 to 5 are covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Note: When applicable to the vehicle being repaired, standalone transfer box/case oil change procedures are not covered or claimable under an active BMW Certified Pre-Owned Program or Extended Service Contract.

The exemption is when an eligible vehicle returns with a continuing related concern, and the prior transfer box/case oil change becomes part of the current diagnosis procedure that helps support a required and covered transfer box/case assembly replacement.

Submit for the prior transfer box/case oil change procedure together with the qualifying final component repair/replacement claim submission.

Repair Code:	2710003800	Transfer box, complete jerking
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For all centers, 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:		
61 21 528	Supporting voltage of the vehicle electrical system / recharging vehicle battery	As applicable
And:		
36 99 000	Check and document the installed tire specifications (See attachment)	3 FRU WT
And:		
27 00 000**	Disconnecting the transfer case (VTG) with ISTA and test-driving vehicle for diagnosis.	6 FRU WT
And:		
27 00 770	Oil change in transfer box	As applicable
And:		

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27 00 000**	Recalibrating the VTG after oil change	4 FRU WT
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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 them (including 61 21 528) when the Vehicle Test is included in another repair.

Note: Claim work time labor operation code 27 00 000 only one time for a total of 10 FRU.

Work time labor operation code 27 00 000 is not considered a Main labor operation.

(**) Based on how the diagnosis above is claimed above for all centers, the “Diagnosis Worktime Flat Rate” code “00 58 500” does not apply to this repair.

And, as needed:

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

Sublet Code 4	Reimbursement for the repair-related bulk supply material (Do not use the BMW part numbers for claim submission)	See the sublet reimbursement calculations below
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Sublet reimbursement calculation for claiming the applicable repair-related bulk materials (BMW part number) is at the dealer net price amount for the quantity 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.

(*) 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, job/repair work time (WT), and the vehicle repairs your center performed, unless otherwise required by State law.

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.

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 SIB27 02 20 Attachment 2.pdf](#)

[picture_as_pdf SIB27 02 20 Attachment1.pdf](#)

JERKING OR SHUDDERING FROM THE DRIVELINE (XDRIVE TRANSFER CASE ATX13-X)

TIRE SPECIFICATION INFORMATION (RECORD FOR WARRANTY DOCUMENTATION)

Left Front

Tire brand	
Tire make	
Star Rated (Y/N)	
DOT number	
Tread Depth	
Circumference	

Right Front

Tire brand	
Tire make	
Star Rated (Y/N)	
DOT number	
Tread Depth	
Circumference	

Left Rear

Tire brand	
Tire make	
Star Rated (Y/N)	
DOT number	
Tread Depth	
Circumference	

Right Rear

Tire brand	
Tire make	
Star Rated (Y/N)	
DOT number	
Tread Depth	
Circumference	

JERKING OR SHUDDERING FROM THE DRIVELINE (XDRIVE TRANSFER CASE ATX13-X)

Repair Instruction 3612...Notes and specifications for tire / wheel exchange (I REP-ALG-RAGRP36-3600_REIFENTAUSCH - V.7)

General:

- The tire size, manufacturer and tire tread must be the same on one axle
- To achieve BMW standards, the vehicle should be equipped with tires from the same manufacturer and with the same tire tread (BMW-approved tires) at all 4 wheel installation positions
- **The difference in tire tread depth on one axle must not exceed 2 mm** (control quality of suspension control systems and wheel alignment requirement)
- The tires with the deeper tread depths must be mounted on the rear axle
- The DOT age difference must not exceed 4 years
- The tire pressure must be adjusted when the tires are exchanged
- Wheel exchange between the axles

To achieve even abrasion, the wheels can be interchanged between the axles. However, BMW does **not recommend** changing the front wheels to the rear or vice-versa.

The wheel exchange may lead to the following customer complaints:

- complaints regarding acoustics
- Risk of increased lane groove sensitivity

Compliance with the following requirements is required when exchanging wheels between the axles:

- Identical tire size and rim size on the front and rear axles
- Assess the wear pattern
- **The tread difference between the front and rear wheels must not exceed a maximum of 2-3 mm**
- Exchange the wheels between the axles every **3000 miles (5000 km)**

Additionally for all-wheel drive vehicles:

- Tire size, manufacturer and tire tread must be the same at all wheel positions; only in the case mixed tires are differing tire sizes permitted between the front axle and the rear axle.
- **The tire tread difference between tires in all wheel positions must not exceed 2 mm (normal quality of the wheel control systems and wheel alignment requirement)**