MODEL

E70 (X5)	E71 (X6)	E84 (X1)	F01 (7 Series xDrive Sedan)
F02 (7 Series xDrive Sedan LWB)	F06 (6 Series xDrive Gran Coupe)	F07 (5 Series xDrive Gran Turismo)	F10 (5 Series xDrive Sedan)
F13 (6 Series xDrive Coupe)	F15 (X5)	F16 (X6)	F22 (2 Series xDrive Coupe)
F23 (2 Series xDrive Convertible)	F25 (X3)	F26 (X4)	F30 (3 Series xDrive Sedan)
F31 (3 Series xDrive Sports Wagon)	F32 (4 Series xDrive Coupe)	F34 (3 Series xDrive Gran Turismo)	F36 (3 Series xDrive Gran Coupe)
Excluding the E70 with diesel engines, X5 M, X6 M and the BMW Alpina B6 and BMW Alpina B7 models with xDrive			

SITUATION

Chassis stabilization warning is displayed. Vehicle may exhibit a shudder or vibration when taking off from a stop. One or more of the following fault codes may be stored:

LMV

- 440101 – Transfer box (VTG): End of transmission service life reached
- 440105 – Transfer box (VTG) Calibration Faulty
- 440115 – Transfer box (VTG): Calibration angle deviation outside tolerance
- 44011B – Set torque outside of the torque characteristic curve

EGS

- 420611 – DSC interface (wheel speed): non-permitted deviation of wheel speed (actual speed of wheel RL/FL/RR/FR, 0x254) from output speed and turbine speed

DSC

- 48097D - Transfer box: Fault, clutch position known, only rear-wheel drive

These symptoms or faults would be stored on a vehicle with low mileage (< 12,500 miles).

CAUSE

A front or rear differential with the incorrect gear ratio was installed in the car. The front and rear differentials need to be geared exactly the same for the xDrive to function properly.

PROCEDURE

Checking the front and rear differential gear ratios:

Remove any underbody protection to gain visual access to the front and rear differentials. It will be necessary to use a mirror to read off the gear ratios printed on the differential parts label.

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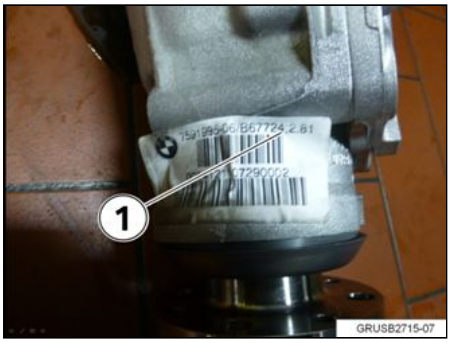
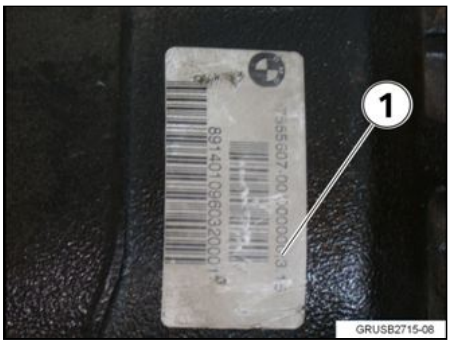
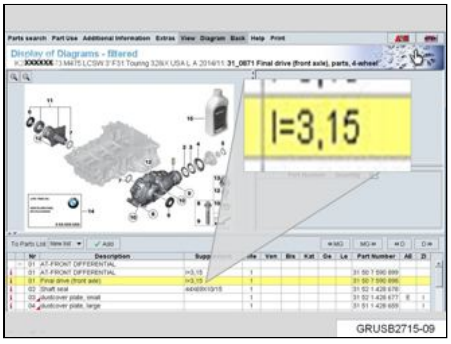
	Gear ratios for all xDrive vehicles are listed on the parts information label on the upper right corner of the label (1).
	Example 1: Front differential label with gear ratio (1) – “2.81”.
	Example 2: Rear differential label with gear ratio (1) – “3.15”.
	Input the VIN into the Electronic Parts Catalog (EPC) to determine the correct gear ratio differential for the affected vehicle. Replace the incorrect diff (front or rear) and the transfer case.

Refer to Repair instruction RA 31 50 001 Removing and installing/replacing front axle gearbox.

Refer to Repair Instruction RA 27 10 010 Removing and installing transfer box.

Refer to Repair Instruction RA 33 10 016 Removing and installing (replacing) rear axle differential.

A PuMA Case titled “Incorrect Differential Installed” will only be necessary if the front and rear gear ratios do not match each other, and **also** do not match what is listed in EPC.

PARTS INFORMATION

Refer to EPC for the correct part numbers of the affected differential and transfer case.

WARRANTY INFORMATION

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Covered under the terms of the BMW New Vehicle Limited Warranty for Passenger Cars and Light Trucks.

Diagnosis

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

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

Claim the “Diagnosis” above with item that applies below:

The Incorrect Front Final Drive/Gearbox is Installed

Defect Code:	**31 50 00 39 00**	**Front Final Drive Complete**
Labor Operation:	**Labor Allowance:**	**Description:**
31 50 500	Refer to KSD2	Removing and installing or replacing front final drive
Or:		
31 50 502	Refer to KSD2	Replacing front axle gearbox

And:

Performing a Wheel Alignment (All except E84)

Labor Operation:	**Labor Allowance:**	**Description:**
32 00 595	Refer to KSD2	Wheel alignment check KDS with ride-height measurement, without load
And		
32 00 601	Refer to KSD2	Adjusting toe-in on front axle
Or		
32 00 620	Refer to KSD2	Adjusting rear axle
Or		
32 00 630	Refer to KSD2	Adjusting rear axle and front axle

Or:

The Incorrect Rear Final Drive/Rear Axle Differential is Installed

Defect Code:	**33 10 01 39 00**	**Rear Axle Differential HAG**
	Or:	

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	33 10 03 57 00	**Rear Axle Differential HAG –QMVH (X6)**
Labor Operation:	**Labor Allowance:**	**Description:**
33 10 500	Refer to KSD2	Removing and installing or replacing final drive
Or:		
33 10 517	Refer to KSD2	Replacing rear axle differential

And:

Replacing the Transfer Box (Required, in conjunction with the replacing front or rear gearbox)

Labor Operation:	**Labor Allowance:**	**Description:**
00 50 000	Work Time (WT)	Replacing Labor Operation 27 10 520: Work time for the additional time needed to exchange the transfer box in association with performing the applicable repair outlined above minus the overlapping labor.

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

To determine the “included” and “overlapping” labor operations/work procedures, please use both the:

- “Inclusive FR,” and the
- “FR Description” functions in KSD2.

Work time labor operation code 00 50 000 is not considered a Main labor operation. Also, separate punch time(s) are not required.

Please itemize the additional FRU amount claimed on the repair order and in the claim comment section.

And:

Sublet – Bulk Materials

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

Sublet reimbursement calculation for claiming the used quantities of repair-related bulk materials:

- BMW part numbers is at dealer net plus handling, or
- Other materials not available through BMW and obtained locally are at “cost plus 20 percent.”

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

Specific Bulk Materials

- The “top-up” quantity of gear oil (BMW Bulk Part SAF-XO numbers) at dealer net plus handling.
- The used quantity transfer case oil (BMW Bulk Distributor for trans. fluid TF 0870 P/N 83 22 0 397 244, “One liter” container at dealer net plus handling.

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

And:

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Vehicle Programming and Encoding

E70, E71 and E84 only

Labor Operation:	Labor Allowance:	Description:
61 00 710	Refer to KSD2	Programming / encoding control unit(s) (not including CAS)
Or:		
61 00 720	Refer to KSD2	Programming / encoding control unit(s) (with CAS)

For:

All Other Models

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) allowance.

If a control module was working properly and it fails to program correctly or requires initialization, please claim this additional work with the applicable KSD2 labor operations under the defect code listed above.

The diagnosis and repair of vehicles “arriving” with failed control modules or stored faults which will cause the control modules to fail during programming cannot be claimed under the defect codes provided in this bulletin for claim submission.

If other eligible and covered work is performed “prior” to programming and coding the vehicle, claim this work with the applicable defect code and labor operations listed in KSD2.

Overlapping Labor – Other Repairs

If invoicing KSD2 flat rate labor operation codes for the other required and covered repair work results in overlapping labor being claimed, invoice work time labor operation 00 50 000 for the additional time (FRU) minus the overlap instead.

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

Again, work time labor operation code 00 50 000 is not considered a Main labor operation.

Claimed this “other” required repair work with the applicable KSD2 defect codes, separate punch times for the corresponding labor is required.

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