Vehicle Compliance & Analysis

TO: Mercedes-Benz Dealer Principals, General Managers,	FROM: Gregory Gunther, Department Manager, Vehicle
Sales Managers, Service Managers, Parts Managers	Compliance and Analysis, Engineering Services
RE: Service Campaign Launch Notification	
Check Convertible Roof Frame, Calibrate if	DATE: April 6 2023
Necessary	DATE. April 0, 2020
MY22-23 SL (232 platform)	

IMPORTANT SERVICE CAMPAIGN LAUNCH

Please note that all customer inquiries should be directed to the Customer Assistance Center at 1-800-FOR-MERCEDES (1-800-367-6372).

Sincerely,

Gregory Gunther

Department Manager, Vehicle Compliance & Analysis

Mercedes-Benz USA, LLC A Mercedes-Benz Group AG Company



Vehicle Compliance & Analysis

Service Campa	aign Launch Not	ification	April 6, 2023
Campaign No. :	Campaign Desc. :	Check Co	onvertible Roof Frame, Calibrate if
2023030004	22P7793001		Necessary
This is to notify you of th 2022-2023 SL (23)	e Service Campaign Launch 2 platform) vehicles. The veh	to check the convert icles will be visible ar	ible roof frame outlet flap on <u>153 M</u> odel Year ("MY") nd flagged in VMI as "OPEN" on <mark>April 6, 2023.</mark>
		Background	
Issue	Merced that on control possibil	es-Benz AG ("MBAG") certain MY 2022-202 unit may not mee ity exists that the sof), the manufacturer of Mercedes-Benz, has determined 23 SL (232 platform) vehicles, the software of the rear et current production specifications. Therefore, the t top may not close from the "soft top open" position.
What We're Doing	MBUSA check a	will conduct a service and calibrate the roof	e campaign. An authorized Mercedes-Benz dealer will frame outlet flap, if necessary.
Parts	The rer	nedy is available an	d can be performed as necessary.
	V	ehicles Affecte	d
Vehicle Model Year(s)	2022-2	023	
Vehicle Model	SL		
	Ve	hicle Population	ns
Total Campaign Population	on 153		
	N	ext Steps/Note	S
AOMS/SOMS	AOMs -	· This campaign may Į	generate questions from your dealers.

While we regret any inconvenience this may cause, MBUSA is determined to maintain a high level of vehicle quality and customer satisfaction. Please refer all customer inquiries to the Customer Assistance Center at 1-800-FOR-MERCEDES.

Mercedes-Benz USA, LLC A Mercedes-Benz Group AG Company





Campaign No. 2023030004, April 2023

TO: ALL MERCEDES-BENZ CENTERS

SUBJECT: Model SL (232 platform) Model Year 2022-2023

Check Convertible Roof Frame, Calibrate if Necessary

Mercedes-Benz AG ("MBAG"), the manufacturer of Mercedes-Benz, has determined that on certain MY 2022-2023 SL (232 platform) vehicles, the software of the rear control unit may not meet current production specifications. Therefore, the possibility exists that the soft top may not close from the "soft top open" position. An authorized Mercedes-Benz dealer will check and calibrate the roof frame outlet flap, if necessary.

Prior to performing this Campaign:

- VMI must be checked before performing campaigns to verify that the campaign is required on a specific vehicle. Always check for any other open campaigns, and perform accordingly.
- Please review the entire Campaign bulletin and follow the repair procedure exactly as described.

Order No. P-SC-2023030004

This bulletin has been created and maintained in accordance with MBUSA-SLP S423QH001, Document and Data Control, and MBUSA-SLP S424HH001, Control of Quality Records.

Service Campaign Bulletin

Service Campaign Bulletin

Calibrate convertible roof frame outlet flap (GAK) at soft top

- i Always use the **latest** XENTRY Diagnosis software release with all available add-ons.
 - Make sure to follow the operation steps exactly as described in XENTRY Diagnosis.
 - Use a charger to ensure sufficient power supply to the vehicle's **on-board electrical system battery** (greater than 12.5 V).
 - If XENTRY Diagnosis is already connected to the vehicle, start with **Work Procedure step 2**.

i If two or more software updates or SCN codings are performed during a single workshop visit, the operation items **02-4762 and 02-5058** may only be invoiced **only on one of the workshop orders**.

Work Procedure

i GAK is the German abbreviation for Header Bow

- 1. Connect XENTRY Diagnosis.
- 2. Update rear control unit (SG-FOND) software.

I To do this, select menu item "Quick test view – N22/6 rear control unit (SG-FOND) - Adaptations – Control unit update – Updating of control unit software".

i Then follow the user guidance in XENTRY Diagnosis.

i If no new software is found, the latest version is already installed. In this case, continue to follow the work instructions.

i XENTRY Diagnosis will fully guide you through the following operations.

(The figures below are examples only and serve to provide a better understanding of the operations to be carried out).

Check/test procedure

- **1.** Identify the work procedure (left GAK and/or right GAK) with XENTRY Diagnosis.
 - a. <u>Read out calibration data (ACTUAL values) with XENTRY Diagnosis.</u>

Li To do this, select menu item "Quick test view – N22/6 control unit – Rear control unit - Control unit log => Read out ACTUAL values.

b. Save calibration data as a PDF, open and identify defective convertible roof frame outlet flap (GAK) (figure 1) and determine the required rework scope (figure 2)





Figure 1: Interpretation of GAK calibration value from control unit log

GAK Calibration Values

GAK1_links_closed GAK1_links_Hall_Sensor_activation_from_Closed_Position GAK1_links_Hall_Sensor_activation_from_Open_Position GAK1_links_Open GAK1_rechts_Hall_Sensor_activation_from_Closed_Position GAK1_rechts_Hall_Sensor_activation_from_Open_Position GAK1_rechts_Open GAK1_rechts_Copen GAK1_rechts_Closed



Figure 2: Determination of rework scope

LI Example: -8 not OK. Here the *left GAK* must be moved to the rear.

2. Move soft top into convertible position and Header Bow (GAK) into intermediate position (figure 3). i For this purpose, move to position via the soft top switch (1).



Figure 3 Move to position via soft top switch (1)

3. Open soft top locks via XENTRY Diagnosis (figure 4).

	> <u>Diagnosis</u> > N22/6 - Rear control unit (SG-F	OND) 🛅 12.0V Ign	nition ON 🕺 🍂 📥) 🖥 🚰 🛸
	Version Error codes / Events Actual values Act	Adaptations Control unit log List of fault codes Tests	5	
	Selection Control unit reset Soft top M27/13 (Touchscreen actuator motor) ⊂ Individual roof motor control M47/1 (Front soft top lock electric motor) Header bow Lower header bow	M47/1 (Front soft top lock electric motor) Caution! An incorrect operation can lead to failure of the system. Requirements Ignition ON Bring the actual values into the specified value ranges by fu Status of associated actual values	illy opening the soft top.	^
	Convertible roof motors	Name	Actual value	Specified value
₽		S84/3 (Soft top 'open' limit switch) S84/38 (Soft top lock locked limit switch)	ACTUATED	ACTUATED
£		Status of component 'M47/1 (Front soft top lock electric motor)'	NOT ACTUATED	
XRD	-(a) â		
		Notes		
		Open soft top lock.		~
	~			Continue

Figure 4

i Important note: Risk of damage! The electric motor is actuated without monitoring. Once the position is reached, the button must be released. Risk of damage!

i 2 people are required for the performance of this operation! *Person 1:* Visual height adjustment (soft top (A) and GAK rear edge (B)) *Person 2:* Gradual raising of soft top via Xentry

4. Raise soft top (A) to same height as GAK rear edge (B) (figure 5).

i For this purpose, gradually raise soft top (A) via Xentry (figure 6). To determine the *lowest* clearance, soft top (A) and GAK rear edge (B) must be at the *same height*.



Figure 5 Raising the soft top 13.7V Ignition ON > Diagnosis > N22/6 - Rear control unit (SG-FOND) 🔭 🛃 🔊 on Error codes / Events Actual valu I unit log List of fault codes Tests Author data 仚 Soft top . Bring the actual values into the specified value ranges M27/13 (Touchscreen actuator motor) 迫 Status of associated actual values Individual roof motor control M47/1 (Front soft top lock electric motor) Name Actual value Specified value æ GAK1_Control Hall sensor GAK1 intermediate position left ACTUATED ACTUATED GAK2 Control ACTUATED ACTUATED Hall sensor GAK1 intermediate position right ACTUATED Hall sensor GAK2 open left NOT ACTUATED NOT ACTUATED ACTUATED Hall sensor GAK2 open right **#** Hall sensor Front latch closed ACTUATED NOT ACTUATED Status of soft top control NOT ACTUATED B Hall sensor Motor CT left -1320 all sensor Motor CT right 1320 B -XRD Note Opening of soft top Closing of soft top Additional note Com Figure 6 Raising the soft top header bow via XENTRY

i The following distance measurements must always be carried out with a raised soft top coming from the convertible position (most critical distance in the movement) Risk of damage to soft top!

i Only perform the operation step if the values of the convertible roof frame outlet flap (GAK) are **not OK**!

5. <u>Readjustment of not OK GAK (figure 7)</u>

i Perform distance measurement at narrowest location in movement between GAK and soft top.

A distance of at least 15 mm must always be ensured at both convertible roof frame outlet flaps to the soft top!



Figure 7 not OK

i

6. Gradually move back convertible roof frame outlet flap (GAK) via XENTRY to a distance of 17 mm (figure 8).

Selection	Header bow	
Control unit reset	•	
Soft top	Caution!	
Trunk partition	An incorrect operation can lead to failure of the system.	
M27/13 (Touchscreen actuator motor)	Paguiremente	
Individual roof motor control	Requirements	
M47/1 (Front soft top lock electric motor)	Connect charger for battery.	
Header bow		
Lower header bow	Status of associated actual values	
Soft top drive	Name	Actual value
	Status of component 'Drive unit 1 of header bow'	NOT ACTUATED
	B100/24 (Left header bow closed Hall sensor)	ACTUATED
	B100/23 (Right header bow closed Hall sensor)	ACTUATED
1	B100/21 (Left header bow intermediate position Hall sensor)	NOT ACTUATED
	B100/22 (Right header bow intermediate position Hall sensor)	NOT ACTUATED
-	B100/32 (Left header bow open Hall sensor)	NOT ACTUATED
	B100'33 (Right header bow open Hall sensor)	NOT ACTUATED
	3100, (/ twer left header bow open Hall sensor)	NOT ACTUATED
	100/2 wer right header bow open Hall sensor)	NOT ACTUATED

Figure 8

i Check whether sensors for GAK 1 intermediate position are at "Actuated". **Note:** Per actuation, the mechanical system is moved backwards by approx. 1-2 mm



7. Carry out position adjustment of GAK via XENTRY (figure 9).

Both convertible roof frame outlet flaps (GAK) must align (figure 9).

<u>i</u> A distance of **at least** 15 mm must always be ensured at both convertible roof frame outlet flaps to the soft top!



Figure 9

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i 2 people are required for the performance of this operation!! Person 1: Measurement of distance Person 2: Movement of GAK via Xentry

8. Manually raise soft top via Xentry up to "Cobra position" (figure 10).

i The value must lie between 800 and 900 on the right side and -800 and -900 on the left side. Both values of "Hall Sensor Motor CT left/right" show this value (see figure 11).



Figure 10

-	> Diagnosis > N22/6 - Rear control unit (SG-FO)		🖂 13.7V	Ignition ON	💌 🚔 🚑 🛸
奋	Selection	Convertible roof motors			
£	Soft top M27/13 (Touchscreen actuator motor) is Individual roof motor control	Bring the actual values into the specified value ra Status of associated actual values	inges.		
_0	M47/1 (Front soft top lock electric motor)	Name		Actual value	Specified value
~ 0	GAK1_Control	Hall sensor GAK1 intermediate position left		ACTUATED	ACTUATED
	GAK2_Control	Hall sensor GAK1 intermediate position right		ACTUATED	ACTUATED
	Convertible roof motors	Hall sensor GAK2 open left		NOT ACTUATED	ACTUATED
-		Hall sensor GAK2 open right		NOT ACTUATED	ACTUATED
1999 - E		Hall sensor Front latch closed		ACTUATED	NOT ACTUATED
and a		Status of soft top control		NOT ACTUATED	
		Hall sensor Motor CT left		-850	
9		Hall sensor Motor CT right		820	
6		<u>a</u> <u>a</u>			
XRD		Note			
		4 ⁻			
		Opening of soft top			
		Closing of soft top	Hall sen	sor Motor	СТІ 🎳
		The actuation is only a	Hall sen	sor Motor	CT I
1 8	Type here to search	C 💿 🖿 🕸			D (4 00 1243 PM
iaur	o 11				11121014

-	> Diagnosis > N22/6 - Re	ar control u	ınit (SG-F	OND)				
	Version Error codes / Events	Actual values	Actuations	Adaptations	Control unit log	List of fault codes	Tests	A
谕	Selection			Sel	ection			
0	Control unit initial startu Control unit update	P						
8	Teach-in processes							
e	Teach-in process							
e								
[冊]								
-								
F								
Sa.								
20								
XRD								
م ا	Type here to search		≒i (•	D	9 🖲 🍓	*	ja,

9. Start teach-in run of soft top via XENTRY (figure 12).

Figure 12

10. Confirmation that part replacement has occurred (figure 13).

1		This	is re	quire	d for	the	"teac	h-in	of I	header	bow"	(Start	teach-in	process)	
---	--	------	-------	-------	-------	-----	-------	------	------	--------	------	--------	----------	----------	--

	> <u>Diagnosis</u> > N22/6 - Rear control unit (SG-	FOND)	
	Version Error codes / Events Actual values Ac	ctuations Adaptations Control unit log List of fault codes Tests	
佡	Selection	Teach-in of component 'Header bow'	
ê	Control unit initial startup Control unit update Teach-in processes	Teach-in of component 'Header bow' Have any mechanical components of the roof system been replaced?	^
e	Teach-in of component 'Header bow'		
⊞		Full-screen Snip	
Þ			
<u></u>			
XRD			~
	~		

Figure 13

P-SC-2023030004

11. If the teach-in process is not successful (figure 14), please create a TIPS case.

i If the teach-in process was successful, continue with operation step 12.

XENTRY Diagnosis Pad 2 XENTRY Diagnosis = Mercedes-Benz W1KVK8BB2NF005269 SL (232) 232.481 E: 177.880 T: 725.163 (S) Mercedes-Benz 15/5 > N22/6 - Rear control unit (SG-FOND) C12.8V Ignition ON S. nt log List of fault codes Tests rol u ଲ AWarning The teach-in process was not c -Possible remedies Check system comp Repeat procedure. for blockag E End of procedure 雷 D -



12. Read out calibration data and export as a PDF (figure 15).

	> <u>Diagnosis</u> > N2	2/6 - Rear c	ontrol unit (S	G-FOND)			12.0	V Igni	tion ON	Ē			
	Version Error code	es / Events	Actual values	Actuations	Adaptations	Control unit log	List of fault codes	Tests					
佡	General data												
Q.	Reporting party	/contact	t person										^
a		Worksho	p name	1000000	87.00								
60	Country a	and dealer r	number	18.0000003									
	Name	e of contact	person	1508.0000.0									
	Telephone number	with count	ry code	S. S									
-222	Fax number	with count	ry code										
-		E-mail a	address									- 1	
	Re	epair order i	humber									-	
C2	Customer com	plaint (co	omment on	damage)								
•••	* read out current value	ues											
XRD													
	* =												
	Compulsory field												
													~
											Continue		
Figu	re 15												

13. Evaluate calibration data.

Vergleich mit Grenzwerten	GAK Cal	ibration	Values
	Relev	ante Kalibrie	erwerte
GAK1_links_closed GAK1_links_Hall_Sensor_activation_from_C GAK1_links_Hall_Sensor_activation_from_O GAK1_links_Open GAK1_rechts_Hall_Sensor_activation_from_ GAK1_rechts_Hall_Sensor_activation_from_ GAK1_rechts_Open GAK1_rechts_closed	losed_Position pen_Position Closed_Position Open_Position	-285 -8 80 765 -42 63 751 -284	

Left GAK	Closed Position	Not OK for 0 up to -19	OK < -19
Len GAN	Open Position	Not OK for 0 up to +19	OK > +19
Pight CAK	Closed Position	Not OK for 0 up to -19	OK < -19
Right GAR	Open Position	Not OK for 0 up to +19	OK > +19

Figure 16

i In the case of not OK data after the calibration, please create a TIPS case.

1Note: The following allowable labor operation should be used when submitting a warranty claim for this repair:

Warranty Information

Damage	Operation	Description	Labor Time
Code	Number		(hrs.)
77 930 01	12-1568	Calibrate convertible roof frame outlet flap at soft top Includes: Connect/disconnect diagnostic system (XENTRY Diagnosis) and starter battery charger	1.0

Note: Always check Xentry Operation Time (XOT) for the current OP-Code times. Labor times are subject to change and updates may not be reflected in this document.