

SB-10057615-8122 Technical Information

Service

118/14 ENU WE83

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WE83 - Check Front Level Sensors, Left and Right (Workshop Campaign)

Vehicle type:	918 Spyder							
Model Year:	2015							
Concerns:	Front level sensors, left and right							
Information:	This is to inform you of a voluntary Workshop Campaign on the above-mentioned vehicles. It is possible that the sensors for the levelling system on the front axle of the relevant vehicles may be damaged or incorrectly positioned in relation to the control arms.							
	If a sensor is damaged, a fault entry may occur in the PASM control unit over the service life of the vehicle and, as a result, a "Chassis system fault" warning message may appear in the instrument cluster. This fault type may occur after only a short time if a sensor is incorrectly positioned.							
Action Required:	Check the front level sensors, left and right.							
Affected vehicles:	The VIN(s) can be checked by using PIWIS Vehicle Information link to verify if the campaign affects the vehicle. This campaign is scope specific to the VIN! Failure to verify in PIWIS may result in an improper repair. This campaign affects 24 vehicles in North America.							
Parts Info:	ALL PARTS AND MATERIALS SHOULD BE ORDERED VIA A PTEC/PAV. NOTE: Parts allocation to PCNA for Scopes 3 & 4 is based upon an extremely low failure rate being expe- rienced in rest-of-world. PLEASE BE CONSERVATIVE IN ORDERING PARTS AS THEY WILL REMAIN IN EXTREMELY SHORT SUPPLY THROUGHOUT THE DURATION OF THIS CAMPAIGN. Any parts or materials required for Scopes 3 and 4 should be ordered via a PTEC/PAV.							
Materials:	Part No.	Designation - Use	Qty.					
	000.043.300.35	 ⇒ McLube Sailkote High Performance Dry Lube – central wheel lock Also commercially available at marine supply stores. 	428 g spray can As much as required					
Tools:	 9002 - Lifting platform holders 9003 - Socket wrench for central wheel lock 9004 - Socket wrench for central wheel lock cover 9453 - Access ramps (or similar) Torque wrench 150 - 800 Nm (111 - 592 ftlb.), e.g. V.A.G 1601 - Torque wrench 150 - 800 Nm (111 - 592 ftlb.) 							

- Torque wrench, 6 50 Nm (4.5 37 ftlb.), e.g. V.A.G 1331 Torque wrench, 6-50 Nm (4.5-37 ftlb.)
- Torque wrench, 2 10 Nm (1.5 7.5 ftlb.), e.g. V.A.G 1783 Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)

Work See Attachment "A". Procedure:

Claim See Attachment "B". Submission.

Attachment "A"

Work Procedure: 1 Raise the vehicle on a lifting platform \Rightarrow *Workshop Manual '4X00IN Lifting the vehicle'*.

- 1.1 Position the vehicle between the arms of the lifting platform and push it onto the **9453** access ramps.
- 1.2 Remove underbody covers on the and fit mounting plates **9002** Lifting platform holders, \Rightarrow Workshop Manual '518119 Removing and installing jacking points'.
- 1.3 Jack and raise the vehicle at the mounting plates.
- 2 Remove both front wheels \Rightarrow Workshop Manual '440519 Removing and installing wheel'.

Check the front level sensors, left and right

Work Procedure: 1Check the lever arm \Rightarrow Checking the level sensor for damage -1 - and connecting link \Rightarrow Checking
the level sensor for damage -2 - of the front level sensors on left and right for damage.

If the lever arm is bent or cracked or the connecting link is damaged, the relevant level sensor must be replaced \Rightarrow Technical Information 'WE8300 Replacing the front level sensor(s)'.

Otherwise continue with **Step 2** and check the installation position of the level sensors.



Checking the level sensor for damage

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- 2 Check the installation position of the front level sensors, left and right.
 - The lever arm ⇒ Installation position of the level sensor -1- of the level sensor faces outwards towards the front wheel ⇒ Installation position of the level sensor -top-: The level sensor is correctly positioned.
 - The lever arm ⇒ Installation position of the level sensor -1- of the level sensor faces inwards towards the vehicle body ⇒ Installation position of the level sensor -bottom-: The level sensor is incorrectly positioned.

If one or both level sensors are **incorrectly positioned**, the installation position must be corrected \Rightarrow *Technical Information 'WE8300 Correcting the installation position of the front level sensor(s)'.*



Installation position of the level sensor

If both level sensors are undamaged and positioned correctly \Rightarrow End of action required, complete the vehicle \Rightarrow Technical Information 'WE8300 Subsequent work'.

Correcting the installation position of the front level sensor(s)

- Tools:
- Suitable removal lever, e.g. VAS 6933 disassembly tool.
- 9818 PIWIS Tester II
- **Battery Charger/Power Supply** Suitable for lithium ion type batteries, recommended current rating of 70A fixed voltage 13.8V. Refer to Equipment Information EQ-1105.

Work Procedure:

NOTICE

Incorrect handling of the level sensor

- Damage to the level sensor
- Damage to the connecting link for the level sensor
- \Rightarrow Disconnect the connecting link only at the control arm.
- \Rightarrow Do not use sharp-edged tools to lever off the connecting link.
- \Rightarrow Do not bend the lever arm.
- \Rightarrow Do not push the lever arm forwards or backwards.

- 1 Carefully press the connecting link \Rightarrow Correct the installation position -2- of the level sensor off the ball joint ⇒ Correct the installation position -3- on the trailing arm using the disassembly tool VAS 6933 -Disassembly tool.
- Check the ball socket of the connecting link \Rightarrow 2 Correct the installation position -2- for damage. If the connecting link is damaged, the relevant level sensor must be replaced \Rightarrow Technical Information 'WE8300 Replacing the front level sensor(s)'.



Correct the installation position

3 Place the lever arm \Rightarrow Correct the installation position -1 - in the correct installation position, so that the lever arm faces outwards towards the front wheel.

- 4 Carefully push the connecting link \Rightarrow Correct the installation position -2- onto the ball head \Rightarrow *Correct the installation position* **-3**-, until the connecting link is felt to engage.
- 5 Read out and erase the fault memory \Rightarrow Technical Information 'WE8300 Reading out and erasing the fault memory'.

Replacing the front level sensor(s)

Parts Info: ALL PARTS AND MATERIALS SHOULD BE ORDERED VIA A PTEC/PAV.

NOTE: Parts allocation to PCNA for Scopes 3 & 4 is based upon an extremely low failure rate being experienced in rest-of-world. PLEASE BE CONSERVATIVE IN ORDERING PARTS AS THEY WILL REMAIN IN EXTREMELY SHORT SUPPLY THROUGHOUT THE DURATION OF THIS CAMPAIGN. Any parts or materials required for Scopes 3 and 4 should be ordered via a PTEC/PAV.

Part No.	Designation – Location	Qty.
918.343.021.00	\Rightarrow Left level control sensor	1 ea.
and/or		
918.343.022.00	\Rightarrow Right level control sensor	1 ea.
The following parts are ad	ditionally required for each level sensor to be replace	d:
N 105.447.03	\Rightarrow Cheese head bolt, M6 x 10 – Level sensor to body	2 ea.

Tools:

9768 - Electronic torque wrench, 2 - 100 Nm/1.5 - 74 ftlb.

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- Torque wrench, 2 10 Nm (1.5 7.5 ftlb.), e.g. V.A.G 1783 Torque wrench, 2-10 Nm (1.5-7.5 ftlb.)
- 9818 PIWIS Tester II
- **Battery Charger/Power Supply** Suitable for lithium ion type batteries, recommended current rating of 70A fixed voltage 13.8V. Refer to Equipment Information EQ-1105.

Work Procedure: 1 Remove the center part of the wheel housing liner on the affected side of the vehicle \Rightarrow *Workshop Manual '50561903 Removing and installing front wheel housing liner (centre part)'.*

- 2 Remove the trim panel at the front right and if affected left \Rightarrow *Workshop Manual '700219 Removing and reinstalling front trim panel'*.
- 3 Replace the front level sensor on the affected side of the vehicle \Rightarrow *Workshop Manual '431855 Replacing front level sensor'.*



Information

The lever arm of the level sensor must face towards the front wheel when installed. It must be ensured that the level sensor is fitted with the swivel area of the lever towards the outside of the vehicle.

- 4 If previously removed, install the front left trim panel \Rightarrow Workshop Manual '700219 Removing and installing front trim panel'.
- 5 Install the center part of the wheel housing liner \Rightarrow Workshop Manual '50561903 Removing and installing front wheel housing liner (centre part)'.
- 6 Read out and erase the fault memory. **Then** use the PIWIS Tester to **calibrate** the level sensors.

Reading out and erasing fault memories

- Work Procedure: 1 Remove the front right trim panel \Rightarrow Workshop Manual '700219 Removing and installing the front trim panel'.
 - 2 Connect the Schumacher INC-700A to the jump-start terminals in the luggage compartment, set the charger to "Flash Reprogram" and adjust the charging voltage to 13.8V. ⇒ Installation position of external power connection.

For further details, see \Rightarrow Workshop Manual '9X00IN Battery trickle charging'.

- 3 **9818 PIWIS Tester II** must be connected to the vehicle communication module (VCI) via the **USB cable**. Then connect the communication module to the vehicle and switch on the PIWIS Tester.
- 4 Switch on ignition.
- On the start screen of the PIWIS Tester, call up the ⇒
 'Diagnostics' ⇒ 'Other models' menu and select vehicle type ⇒ '918 Spyder'. The diagnostic application then starts and the control unit selection screen is populated.
- 6 Read out and erase fault memories.
 - 6.1 In the control unit selection screen (⇒
 'Overview' menu), press F7" to call up the ⇒ 'Additional menu' (⇒ Control unit selection).
 - 6.2 When the question "Create Vehicle Analysis Log (VAL)?" appears, either press • F12" to create a VAL or press • F11" if you do not want to create a VAL.
 - 6.3 Press •>>" to acknowledge the message that may appear informing you that campaigns for the vehicle are stored in the PIWIS information system.



Installation position of external power connection

Overan	•				
OTC Rat	Gintral unit	D	shi.	Parache part number	
	Airbag				
	Gataway				
	DME				
	PDK (Porsche Doppelkupplung)				
	PDK selector lever				
	Instrument cluster				
	Starring wheel electronics				
	Stopwatch				
	PCM / CDR				

Control unit selection

6.4 Select the function \Rightarrow 'Read all fault memories and erase if required' and press $\bullet >>$ " to confirm \Rightarrow *Erasing fault memories*.

The fault memories of the control units are read out.

- 6.5 Once you have read out the fault memories, delete the fault memory entries by pressing
 •F8".
- 6.6 Press •>>" ("Yes") in response to the question as to whether you really want to delete all fault memory entries.

The faults stored in the fault memories of the various control units are deleted.

Overview			
	Funct	tion	1
Measurement of closed-circuit cur	tent .		
Maintemance of vehicle data			
Vehicle analysis log (VAL)			
Campaign			
Vehicle handover			
Read all fault memories and image	Frequinet		
			-

Erasing fault memories



Information

If the fault memories of individual control units cannot be erased, steps 7 and 8 must first be carried out and the fault memories of these control units must then be erased separately before starting to locate and correct faults.

- 7 Select the \Rightarrow 'Overview' menu on the PIWIS Tester and press •<<" to return to the control unit selection screen.
- 8 Calibrate electric machines.



Information

The electric machines must generally be calibrated after the fault memories of the OBD-relevant control units or the fault memories of all control units have been erased.

When calibrating the electric machines, the relevant rotor position (phase angle) of the two electric machines is stored.

The process is performed synchronously for both electric machines and must only be performed once in accordance with the description provided below.

- 8.1 Press the brake pedal and keep it pressed during the entire calibration process.
- 8.2 Turn the ignition key in the ignition lock to position 2 (terminal 50 'engine start') and hold it at this position for about 2 to 3 seconds.
 Calibration of the electric machines is clearly audible. Calibration is complete once the calibration noise can no longer be heard.
- 8.3 Release the ignition key and switch off ignition.
- 9 Check that the electric machines were calibrated successfully by starting the combustion engine.

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After the ignition is switched on, "E-power" driving mode is activated automatically if the state of charge of the high-voltage battery is high enough (SOC > 35%). Given that purely electric driving is the preferred driving style in this driving mode, the combustion engine is not started when terminal 50 (engine start) is actuated.

To check whether calibration of the electric machines was successful and that the combustion engine can be started, the "Sport Hybrid" or "Race Hybrid" driving mode must first be selected using the Map switch on the steering wheel.

- 9.1 Switch on ignition.
- 9.2 Select "Sport Hybrid" or "Race Hybrid" driving mode. To do this, turn the Map switch (driving mode controls) on the steering wheel until the LED corresponding to the letter "S" or "R" in the MAP switch lights up.
 The display "Sport mode" or "Race mode" also appears in the information display on the instrument cluster.
- 9.3 Turn the ignition key in the ignition lock to position 2 (terminal 50 'engine start') to check whether the combustion engine starts.
- 9.4 Then stop the combustion engine again.
- 10 If the fault memories of individual control units could not be erased before, read out and erase the relevant fault memories again.

It may then be necessary to calibrate the electric machines again and check the function as described in Steps 7 and 8.

- 11 If one or both level sensors have been replaced, first calibrate these using the PIWIS Tester ⇒ Technical Information 'WE8300 Calibrating the level sensors'. Otherwise continue with Step 12.
- 12 Switch off the ignition and disconnect the PIWIS Tester from the vehicle.
- 13 Switch off and disconnect the battery charger.
- 14 Reinstall the front right trim panel \Rightarrow Workshop Manual '700219 Removing and installing the front trim panel'.
- 15 Complete the vehicle \Rightarrow Technical Information 'WE8300 Subsequent work'.

Calibrating the level sensors

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Work Procedure:



Information

It is only necessary to calibrate the level sensors using the PIWIS Tester if one or both level sensors has been previously replaced.

- Select the control unit \Rightarrow '**PASM'** in the control unit 1 selection screen (\Rightarrow "**Overview**" menu) and press •>>" to confirm your selection \Rightarrow Control unit selection - PASM.
- 2 Once the 'PASM' control unit has been found and is displayed in the overview, select the \Rightarrow 'Maintenance/repairs' menu.

Select the \Rightarrow 'Calibration' function and confirm your selection by pressing $\bullet >> " \Rightarrow 'Calibration' function.$

Note the preconditions displayed and start the cali-

If the error message "Calibration failed" appears, confirm the correct installation of the level sensors with •F8" in order to start calibration again

Following successful calibration, the message

performed, the process must be repeated.

"Calibration complete" is displayed on the PIWIS Tester's screen and a tick appears in the 'Status'

If the calibration process has not been successfully

bration process by pressing •F8".

 \Rightarrow Starting calibration.

field \Rightarrow Calibration successful.



Control unit selection - PASM



'Calibration' function



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Calibration successful

6 Complete calibration by pressing • F12".

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- 7 Select the \Rightarrow 'Overview' menu on the PIWIS Tester and press •<<" to return to the control unit selection screen.
- 8 Switch off the ignition and disconnect the PIWIS Tester from the vehicle.
- 9 Switch off and disconnect the battery charger.
- 10 Reinstall the front right trim panel \Rightarrow Workshop Manual '700219 Removing and installing the front trim panel'.
- 11 Complete the vehicle \Rightarrow *Technical Information 'WE8300 Subsequent work'*.

Subsequent work

- Work Procedure: 1Install both front wheels and secure using the specified five-step tightening procedure \Rightarrow Workshop
Manual '440519 Removing and reinstalling the wheel'.
 - 2 Lower the vehicle and remove it from the lifting platform \Rightarrow *Workshop Manual '4X00IN Lifting the vehicle'*.
 - 2.1 Lower the vehicle onto the **9453 access ramps** with the lifting platform.
 - 2.2 Mounting plates **9002 Remove the lifting platform holders** and install the covers on the underbody \Rightarrow *Workshop Manual '518119 Removing and installing jacking points'*.
 - 3 Enter the workshop campaign in the Warranty and Maintenance booklet.

Attachment "B"

Claim Submission - Workshop Campaign WE83

Warranty claims should be submitted via WWS/PQIS.

Open campaigns may be checked by using either the PIWIS Vehicle Information system or through PQIS Job Creation.

Labor, parts, and sublet will be automatically inserted when Technician is selected in WWS/PQIS. If necessary, the required part numbers will need to be manually entered into warranty system by the dealer administrator.

Scope 1: Check front level sensors – no level sensor must be corrected or replaced.

Working tir	me:		
Checking fro	ont level s Lifting a Removi	Labor time: 107 TU	
Parts requ	ired:		
000.043.30	00.35	McLube Sailkote High Performance Dry Lube Also commercially available at marine supply stores.	0.05 ea. (428 g spray can, as much as required)
⇒ Damage	e Code W	E83 066 000 1	

Scope 2: Check and correct front level sensors - no level sensor must be replaced.

Working tim	ne:		
Checking fro Includes:	nt level se Lifting an Removing Removing Connecti Connecti Reading	nsors and correcting the installation position d lowering the vehicle g and installing front wheels, left and right g and reinstalling front right trim panel ng and disconnecting the battery charger ng and disconnecting the PIWIS Tester but and erasing the fault memory	Labor time: 133 TU
Parts requi	red:		
000.043.30	0.35	McLube Sailkote High Performance Dry Lube Also commercially available at marine supply stores.	0.05 ea. (428 g spray can, as much as required)
⇒ Damage	Code WE	83 066 000 1	

Scope 3: Check front level sensors and replace **one level sensor**.

NOTE: Parts allocation to PCNA for Scopes 3 & 4 is based upon an extremely low failure rate being experienced in rest-of-world. **PLEASE BE CONSERVATIVE IN ORDERING PARTS AS THEY WILL REMAIN**

IN EXTREMELY SHORT SUPPLY THROUGHOUT THE DURATION OF THIS CAMPAIGN. Any parts or

materials required for Scopes 3 and 4 should be ordered via a PTEC/PAV.

Working tir	ne:					
Checking the	Checking the installation position of the front level sensors and replacing one level sensor					
Includes:	Lifting an	d lowering the vehicle				
	Removing	and installing front wheels, left and right				
	Removino necessar					
	Removing	g and installing wheel housing liner (centre part),				
	front left of	or right				
	Connecti	ng and disconnecting the battery charger				
	Connecti	ng and disconnecting the PIWIS Tester				
		Ig the level sensors				
Reading out and erasing the fault memory						
Parts requi	ired:					
918.343.021.00		Left level control sensor	1 ea.			
or						
918.343.02	22.00	Right level control sensor	1 ea.			
Additional	parts requ	ired:				
N 105.447	.03	Cheese-head bolt, M6 x 10	2 ea.			
000.043.30	00.35	McLube Sailkote High Performance Dry Lube	0.05 ea.			
		Also commercially available at marine supply	(428 g spray can, as much			
		stores.	as required)			
⇒ Damage	e Code WE	83 066 000 2				

Scope 4: NOTE: Parts allocation to PCNA for Scopes 3 & 4 is based upon an extremely low failure rate being experienced in rest-of-world. PLEASE BE CONSERVATIVE IN ORDERING PARTS AS THEY WILL REMAIN IN EXTREMELY SHORT SUPPLY THROUGHOUT THE DURATION OF THIS CAMPAIGN. Any parts or materials required for Scopes 3 and 4 should be ordered via a PTEC/PAV.

Check front level sensors and replace both level sensors.

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Working time:								
Checking the installat	ion position of the front level sensors and replacing	Labor time: 203 TU						
both level sensors								
Includes: Lifting a	nd lowering the vehicle							
Removi	ng and installing front wheels, left and right							
Removing and reinstalling the trim panel, front left and right								
Removi	ng and installing wheel housing liner (centre part),							
front lef	t and right							
Connec	ting and disconnecting the battery charger							
Connec	ting and disconnecting the PIWIS Tester							
Calibrat	Calibrating the level sensors							
Reading	Reading out and erasing the fault memory							
Parts required:								
Faits required.								
918.343.021.00	Left level control sensor	1 ea.						
918.343.022.00	Right level control sensor	1 ea.						
N 105.447.03	Cheese-head bolt, M6 x 10	4 ea.						
000.043.300.35	McLube Sailkote High Performance Dry Lube	0.05 ea.						
	Also commercially available at marine supply	(428 g spray can, as much						
	stores.	as required)						
\Rightarrow Damage Code W	E83 066 000 2							

References:

 \Rightarrow Workshop Manual '4X00IN Lifting the vehicle'

 \Rightarrow Workshop Manual '431855 Replacing the front level sensor'

 \Rightarrow Workshop Manual '440519 Removing and installing the wheel'

- \Rightarrow Workshop Manual '50561903 Removing and installing the wheel housing liner (centre part)'
- \Rightarrow Workshop Manual '518119 Removing and installing the jacking point'
- \Rightarrow Workshop Manual '700219 Removing and installing the front trim panel'

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⇒ Workshop Manual '9X00IN Battery trickle charging'

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Dealership	Service Manager	 Shop Foreman	 Service Technician	 	
Distribution	Asst Managor	Warranty Admin	Service Technician		
Routing	ASSI. Wallayei	 warranty Aumin.	 Service recrimician	 	

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