

How to Handle the front passenger seat occupancy DTC's 0x930A16 and 0x9309ED

This small guide should show you how you can fix the passenger seat occupancy detection for Gx vehicles. Please note this guide is an example the screenshots you see can differ from yours.

After programming G12, G30, G32 or G01 it could happen that after the programming was successfully the fault memory can have several DTCs including the ones for the front seat passenger seat occupancy:

The screenshot shows the Integrated Service Technical Application interface for a vehicle with VIN G458011. The 'Fault memory' section is active, displaying a table of Diagnostic Trouble Codes (DTCs). The DTC 930A16 is highlighted with a red oval. The table has columns for Code, Description, Mileage, Existent, and Class.

Code	Description	Mileage	Existent	Class
930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data. -1	-1	yes	
D36D49	Signal (sensor cluster data extended non-linearized value, 42.0.2) invalid, transmi	16216	yes	Information
S 0701	Terminal 15 inhibitors	16216	yes	

Or

The screenshot shows the Integrated Service Technical Application interface for a vehicle with VIN LC72834. The 'Fault memory' section is active, displaying a table of Diagnostic Trouble Codes (DTCs). The DTC 9309ED is highlighted with a red oval. The table has columns for Code, Description, Mileage, Existent, and Class.

Code	Description	Mileage	Existent	Class
9309ED	Front passenger seat occupancy detection System not yet enabled	18	yes	
CA949A	Invalid signal (0x7530_0x0001, chassis, vehicle model), transmitter BDC-ZGM	-1	yes	Information

In case of the DTC 0x9309ED please read **Section A:**

In case of DTC 0x930A16 read **Section B:**

SECTION A (0x9309ED)

- Let ISTA4 calculate a Test plan:

Integrated Service Technical Application

VIN LC72834 Vehicle X/G01/off-road vehicle/X3 xDrive30i/B46/AUT/US/left-hand drive/2017/07 PAD U= 13.8 V

Code	Description	Mileage	Existent	Class
9309ED	Front passenger seat occupancy detection System not yet enabled	18	yes	
CA949A	Invalid signal (0x7530_0x0001, chassis, vehicle model), transmitter BDC-ZGM	-1	yes	Information

Number of fault memories: 2 / 2 No. fault patterns: 0 Filter: Default

Show fault code Erase fault memory Filter fault memory Delete filter Show completely SIBs **Calculate test plan**

- Select the Front passenger seat occupancy detection testplan and click on display

Integrated Service Technical Application

VIN LC72834 Vehicle X/G01/off-road vehicle/X3 xDrive30i/B46/AUT/US/left-hand drive/2017/07 PAD U= 13.8 V

Type	Title	State	Priority
	Seat occupancy detector, passenger		1
ABL	Front passenger seat occupancy detection, US version	<input checked="" type="checkbox"/>	1
	03 Bus system analysis: Signal fault		2
ABL	CAN/FlexRay bus system analysis: Interface fault information "Signal invalid"	<input type="checkbox"/>	2

Hits: 2 / 3 Filter: Default not called performed minimized canceled suspected

Back Filters Show symptoms Collapse / expand Set standard filter Repair overviews (Parts, ...) **Display**

- Select “enable after re-encoding” and click continue

Integrated Service Technical Application

VIN LC72834 Vehicle X/G01/off-road vehicle/X3 xDrive30i/B46/AUT/US/left-hand drive/2017/07 PAD U= 13.8 V

ABL-WAR-AT6577_SBE4I5US3 - Front passenger seat occupancy detection, US version - V.15

Procedure

Selection>

- Release after exchanging the seat occupancy detection sensor or seat heating
- Release after exchanging the seat occupancy detection electronics
- Enable after re-encoding** 1

Important:

The repeated release of the seat occupancy detection without previous exchange can lead to a faulty calibration.

Wiring Diagram

Functional Description

Back Measuring devices Keyboard Full Screen **Continue** 2

- Click through the test plan until you came to this point where you need to have a person sit on the passenger seat.

Integrated Service Technical Application

VIN LC72834 Vehicle X/G01/off-road vehicle/X3 xDrive30i/B46/AUT/US/left-hand drive/2017/07 PAD U= 13.8 V

ABL-WAR-AT6577_SBE4I5US3 - Front passenger seat occupancy detection, US version - V.15

Procedure

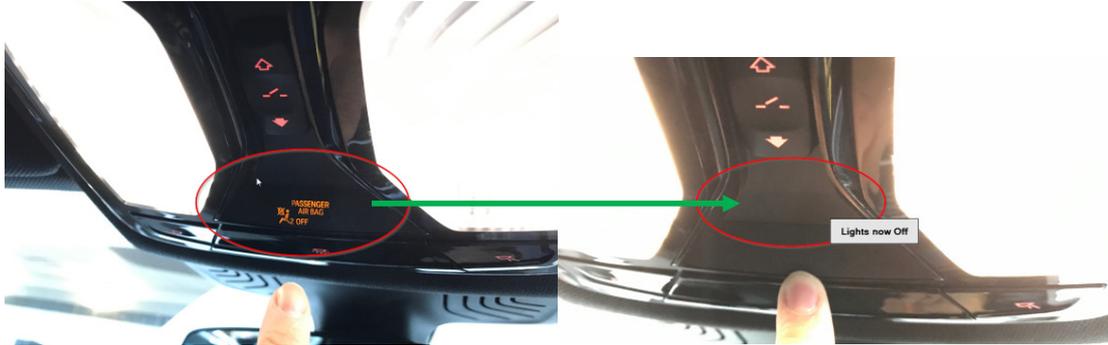
Have a person Service Information Technology on the front passenger seat in the correct seat position and wait...

Wiring Diagram

Functional Description

Back Measuring devices Keyboard Full Screen Continue

- Have a person sit for round about 20sec seat on the passenger seat until the lights for the Airbag at the FZD turns off. Off means the seat matt has recognized a person.



- After it was successful ISTA4 should show you the following screen, where you can click continue.

- Finish the test module go the Vehicle management Tab and select the Fault Memory Tab the error should be gone. Sometimes a sleep cycle is necessary and after that the fault memory can be cleared again.

The screenshot shows the 'Integrated Service Technical Application' interface. At the top, there are navigation tabs (1, 2, 3) and a toolbar with icons for home, print, settings, help, and search. Below the toolbar, the application title 'Integrated Service Technical Application' is displayed. The main header area shows the VIN 'LC72834' and the vehicle description 'X/G01/off-road vehicle/23 x Drive30i/B46/AUT/US/left-hand drive/2017/07'. The battery status is shown as 'PAD U= 13.8 V'.

The interface features a grid of navigation tabs. The 'Vehicle management' tab is highlighted with a red circle. Below it, the 'Fault memory' tab is also highlighted with a red circle. Other tabs include 'Operations', 'Vehicle information', 'Service plan', 'Favorites', 'Workshop/Operating fluids', 'Measuring devices', 'Repair/maintenance', 'Troubleshooting', 'Service functions', 'Software update', 'Control Unit Replacement', 'Vehicle modification', 'Fault patterns', 'Function Structure', 'Component Structure', 'Text Search', and 'SAE fault code input'.

The main content area displays a table with the following data:

Code	Description	Mileage	Existent	Class
CA949A	Invalid signal (0x7530_0x0001, chassis, vehicle model), transmitter BDC-ZGM	-1	yes	Information

At the bottom of the interface, there is a summary bar showing 'Number of fault memories: 1 / 1', 'No. fault patterns: 0', and 'Filter: Default'. Below this are several buttons: 'Show fault code', 'Erase fault memory', 'Filter fault memory', 'Delete filter', 'Show completely', 'SiBs', and 'Calculate test plan'.

Section B (0x930A16)

- In some cases this DTC is stored, it states that the ACSM has incorrect code data, although it was successfully coded before. Let ISTA 4 calculate the testplan

Integrated Service Technical Application

VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V

Code	Description	Mileage	Existent	Class
930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data.	-1	yes	
D36D49	Signal (sensor cluster data extended non-linearized value, 42.0.2) invalid, transmi	16216	yes	Information
S 0701	Terminal 15 inhibitors	16216	yes	

Number of fault memories: 3 / 3 No. fault patterns: 0 Filter: Default

Show fault code Erase fault memory Filter fault memory Delete filter Show completely SIBs Calculate test plan

- Select the Front passenger seat occupancy detection test module and click display

Application

VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V

Type	Title	State	Priority
	Terminal 15 inhibitors		1
ABL	ELV blocks terminal 15	<input type="checkbox"/>	1
	Seat occupancy detector, passenger		2
ABL	Front passenger seat occupancy detection, US version	<input checked="" type="checkbox"/>	2
	03 Bus system analysis: Signal fault		3
ABL	CAN/FlexRay bus system analysis: Interface fault information "Signal invalid"	<input type="checkbox"/>	3

Hits: 3 / 4 Filter: Default not called performed minimized canceled suspected

Back Filters Show symptoms Collapse / expand Set standard filter Repair overviews (Parts, ...) Display

- Click continue...

Integrated Service Technical Application
 VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V
 ABL-WAR-AT6577_SBE4I5US3 - Front passenger seat occupancy detection, US version - V.15

Procedure Description Details System context

Fault data
 Following fault data are stored for the tested function or component group.

1	930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data.
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Select fault code and continue procedure.

Fault description	The installed seat occupancy detection has been accepted by ACSM as a spare part.
Condition for fault identification	Voltage supply 8 V to 16 V
Condition for fault memory entry	none
Action in service	<ol style="list-style-type: none"> 1. Encode the ACSM. 2. Ensure that there are no persons or objects on the front passenger seat. 3. Enable seat occupancy detection!
Note on effect of fault	SBE without function
Driver information	Warning light: Airbag indicator lamp Check Control message (109): Front passenger restraint system

Back Measuring devices Keyboard Full Screen Continue

- On the next page the test plan click continue again

Integrated Service Technical Application
 VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V
 ABL-WAR-AT6577_SBE4I5US3 - Front passenger seat occupancy detection, US version - V.15

Procedure Functional Description

Coding between ACSM and front passenger seat occupancy detection evaluation electronics has been aligned. Seat occupancy detection can now be released.

Crash safety

The 5th generation ACSM safety system (ACSM stands for "Advanced Crash Safety Module") has the following functions:

- Detecting an accident situation that is critical for the occupants
- Activating the necessary restraint systems (selectively depending on the severity of the accident and accident type)

Depending on the vehicle equipment, the preventive occupant safety system Active Protection is installed. When an accident threatens to occur, Active Protection initiates the following protective measures for the occupants:

- Belt tensioning
- Shutting the window glass but for a small gap
- Shutting the sliding/tilt sunroof (equipment dependent)
- Positioning the front passenger seat backrest and the rear seat (equipment dependent)
- Automatic braking after an impact

Brief component description

Notice! There are differences in the equipment of the safety system depending on the series, model, vehicle equipment and national-market version.

The following description does not go into detail about all possible equipment ranges of the safety system depending on the series, model, vehicle equipment, optional equipment and national-market version.

Back Measuring devices Keyboard Full Screen Continue

- End the test module and select the vehicle information tab/control unit tree tab and click on display fault memory

Integrated Service Technical Application
 VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V

Operations **Vehicle information** Vehicle management Service plan Favorites Workshop/Operating fluids Measuring devices

Vehicle details Repair history **Control unit tree** Control unit list Operations report Info from Service Consultation

Diagram showing various control units (ECUs) connected via different communication protocols (CAN, Ethernet, MOST). Units include IHKA, CON, TCB, KAFAS, FRSE, TRSVC, SAS, HU-H, AMPT, KOMBI, ACSM, EPS, DSC, HSR, VTG, ZGM, BDC, DME, EGS, GWS, PCU, FZD, SMBF, SPNMVR, HKFM, SMFA, FLEL, FLER, PMA, SWW.

Legend: K-CAN5 (blue), FLEXRAY (orange), PT-CAN2 (grey), K-CAN2 (blue), K-CAN3 (purple), PT-CAN (black), K-CAN4 (blue), ETHERNET (green), MOST (red)

Fault memory **Existent**
 Ecu responding Ecu not responding Ecu with programming abort Control unit not fitted

Start vehicle test Call up ECU functions **Display fault memory**

- Now the DTC 0x930A16 is still visible but not existent and the next DTC 0x9309ED shows up. Let now ISTA 4 calculate a testplan again.

Integrated Service Technical Application
 VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V

Operations Vehicle information **Vehicle management** Service plan Favorites Workshop/Operating fluids Measuring devices

Repair/maintenance Troubleshooting Service functions Software update Control Unit Replacement Vehicle modification

Fault memory Fault patterns Function Structure Component Structure Text Search SAE fault code input

Code	Description	Mileage	Existent	Class
9309ED	Front passenger seat occupancy detection System not yet enabled	16216	yes	
930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data. -1		No	
D36D49	Signal (sensor cluster data extended non-linearized value, 42.0.2) invalid, transm	16216	yes	Information

Number of fault memories: 3 / 3 No. fault patterns: 0 Filter: Default

Show fault code Erase fault memory Filter fault memory Delete filter Show completely SIBs **Calculate test plan**

- Select the same testplan again as before and click on display

Integrated Service Technical Application

VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.8 V

Operations	Vehicle information	Vehicle management	Service plan	Favorites	Workshop/ Operating fluids	Measuring devices
Hit list	Test plan	Programming plan				

Type	Title	State	Priority
	Seat occupancy detector, passenger		1
ABL	Front passenger seat occupancy detection, US version	<input checked="" type="checkbox"/>	1
	03 Bus system analysis: Signal fault		2
ABL	CAN/FlexRay bus system analysis: Interface fault information "Signal invalid"	<input type="checkbox"/>	2

Hits: 2 / 3 Filter: Default not called performed minimized canceled suspected

Back Filters Show symptoms Collapse / expand Set standard filter Repair overviews (Parts, ...) **Display**

- Select the new error code (9309ED) and click on continue

Integrated Service Technical Application

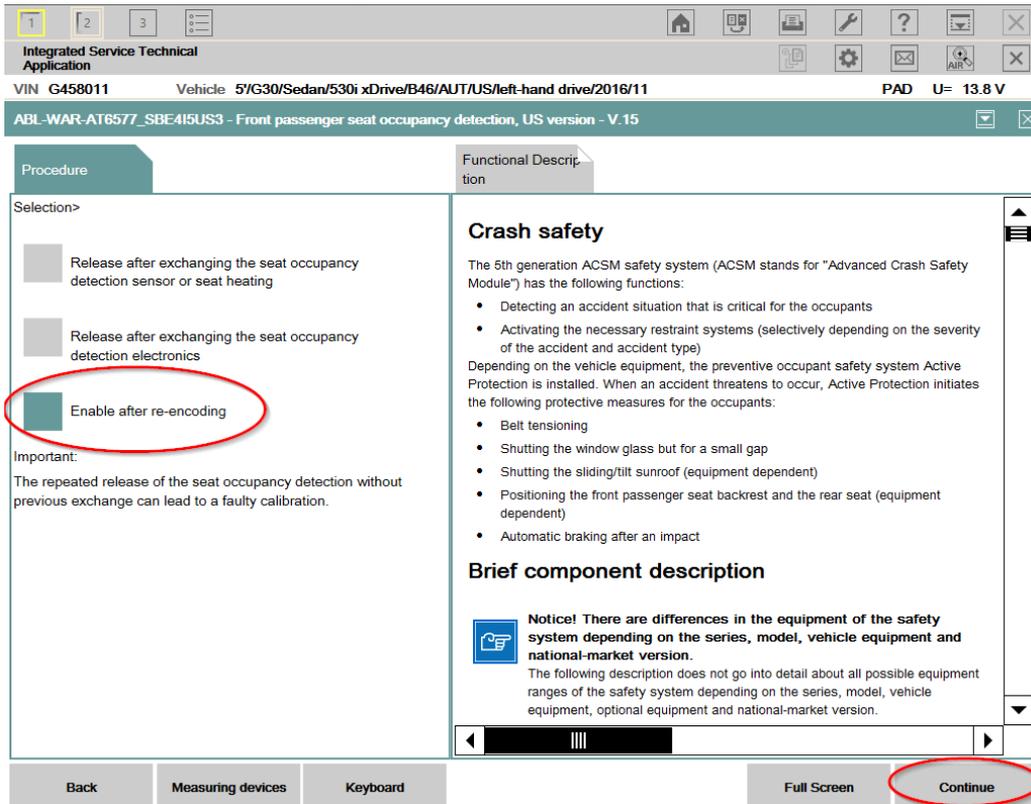
VIN G458011 Vehicle 5/G30/Sedan/530i xDrive/B46/AUT/US/left-hand drive/2016/11 PAD U= 13.7 V

ABL-WAR-AT6577_SBE415US3 - Front passenger seat occupancy detection, US version - V.15

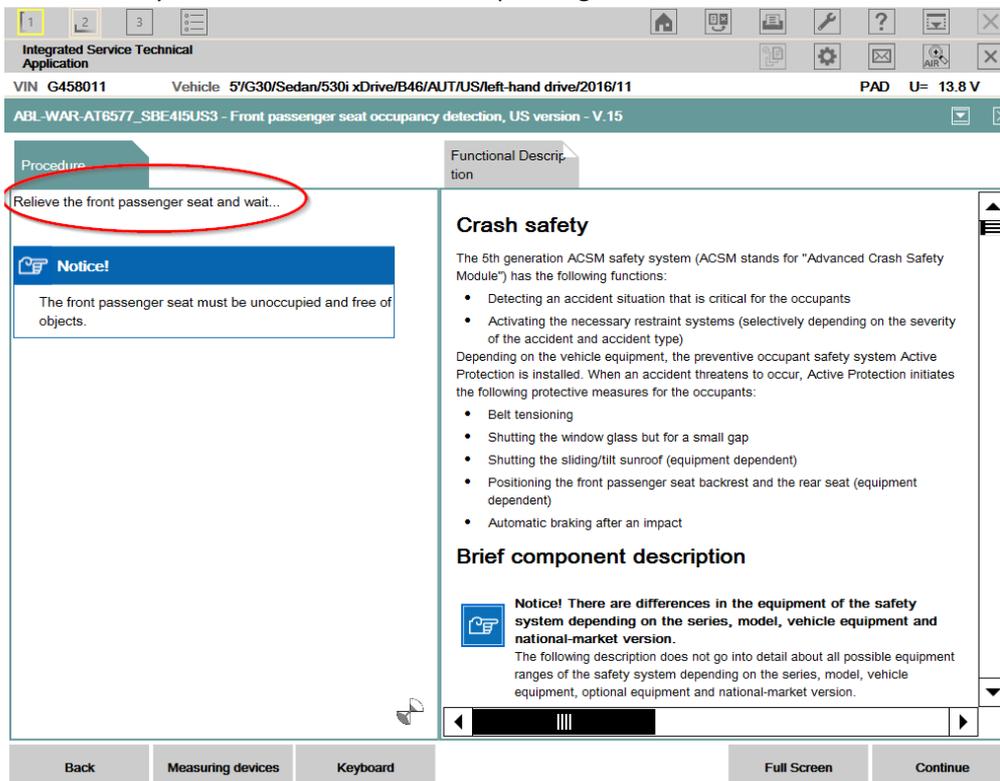
Procedure	Description	Details	System context						
<p>Fault data</p> <p>Following fault data are stored for the tested function or component group.</p> <table border="1"> <tbody> <tr> <td>1</td> <td>9309ED</td> <td>Front passenger seat occupancy detection System not yet enabled</td> </tr> <tr> <td>2</td> <td>930A16</td> <td>Front passenger seat occupancy detection Replacement part: Incorrect code data.</td> </tr> </tbody> </table> <p>Select fault code and continue procedure.</p>	1	9309ED	Front passenger seat occupancy detection System not yet enabled	2	930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data.	<p>Fault description</p> <p>The seat occupancy detection has not yet been enabled.</p>	<p>Condition for fault identification</p> <p>Voltage supply 8 V to 16 V</p>	<p>Condition for fault memory entry</p> <p>Monitoring during startup</p>
1	9309ED	Front passenger seat occupancy detection System not yet enabled							
2	930A16	Front passenger seat occupancy detection Replacement part: Incorrect code data.							
	<p>Action in service</p> <p>1. Ensure that no person or objects are in the front passenger seat. 2. Carry out enabling process.</p>								
	<p>Note on effect of fault</p> <p>SBE without function</p>								
	<p>Driver information</p> <p>Warning light: Airbag control lamp Check Control message (109): Front passenger restraint system</p>								
	<p>Service instruction</p>								

Back Measuring devices Keyboard Full Screen **Continue**

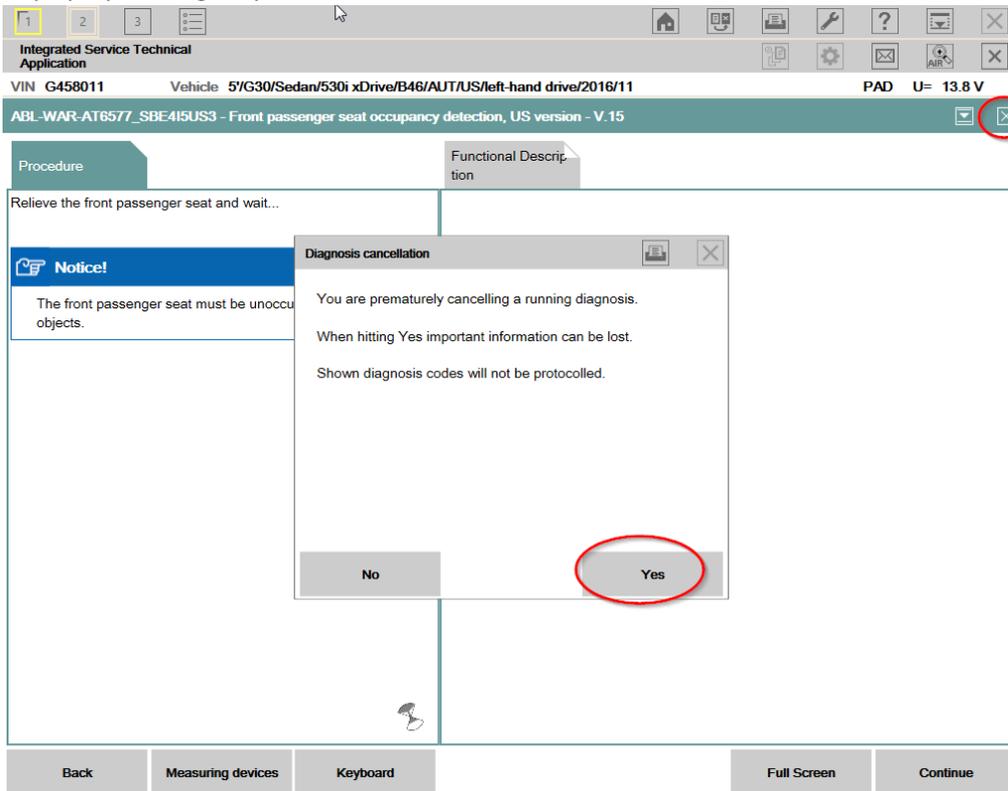
- Select Enable after re-encoding and click continue



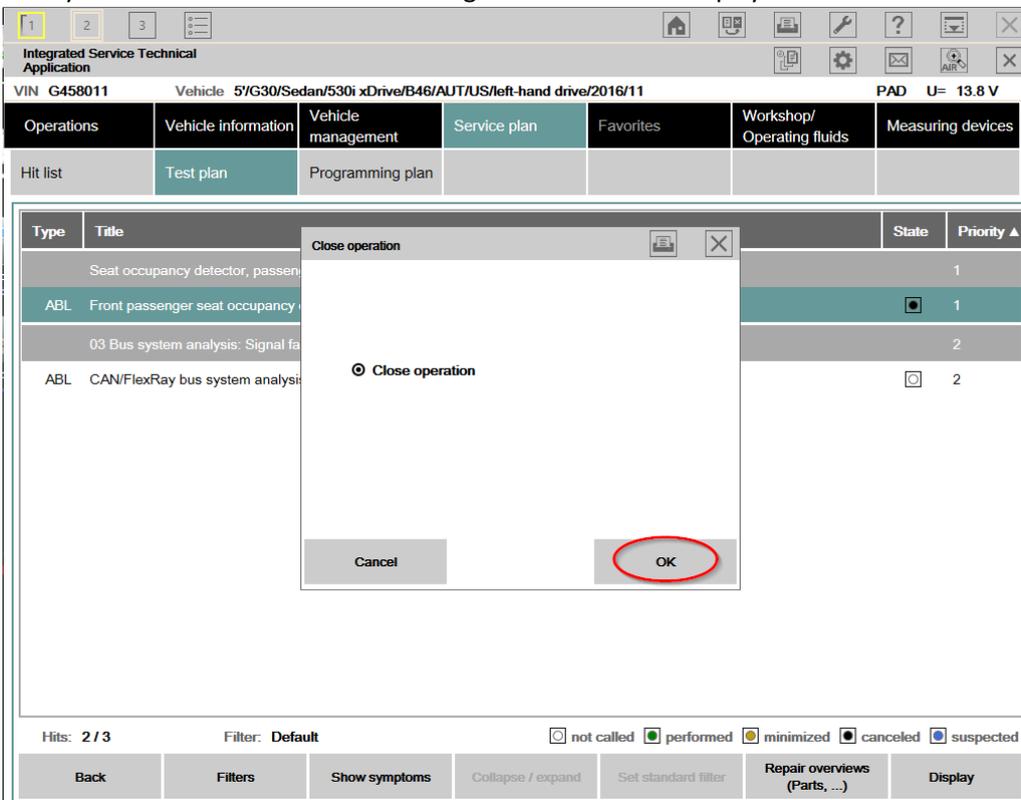
- Once you come to this screen where ISTA states you need to relieve the front passenger seat and wait, even if you haven't started to seat a passenger on the seat.



- In this situation you only can stop this test module by clicking on the X-Symbol and close the PopUp by clicking on yes.



- Now you need to close the session and give the car a full sleep cycle



- After the sleep cycle hook up the car again and check the Fault Memory. The error should be gone. If not try to delete it again. And please have a Person sitting on the passenger seat the light should go off. This is crucial in order that we need to make sure that the passenger seat occupancy is detect!

