

**AKB4 - Re-programming Airbag Control Unit (Stop Delivery/Recall Campaign)**

Model Line: **Panamera (970)  
Boxster (981)/Cayman (981)  
718 Boxster (982)/718 Cayman (982)  
911 (991)**

Model Year: **As of 2016 up to 2017**

Subject: **Airbag control unit**

Important: **CRITICAL WARNING** - This campaign includes steps where control unit(s) in the vehicle will be programmed with the PIWIS Tester. The vehicle voltage must be maintained between 13.5 volts and 14.5 volts during this programming. Failure to maintain this voltage could result in damaged control unit(s). Damage caused by inadequate voltage during programming is not a warrantable defect. The technician must verify the actual vehicle voltage in the PIWIS Tester before starting the campaign and also document the actual voltage on the repair order.

Information: **There is a possibility that an airbag control unit with a defective capacitor for maintaining power supply may have been installed on the affected vehicles.**

This defective capacitor in the airbag control unit can trigger the airbags and/or seat-belt pretensioners in the vehicle unexpectedly or can prevent them from triggering.

Remedial Action: Re-program the airbag control unit using the PIWIS Tester with test software version **38.950.010** (or higher) installed.



**Information**

The new software includes an additional check function for the power supply of the airbag control unit, which can be used to detect a faulty capacitor.

The following procedure is therefore used for processing this campaign (brief overview):

General procedure	Result of check	Additional measure required	Warranty processing
<p><b>Only for 982 and 991 from model year 2017:</b></p> <p>Reading out software version of the airbag control unit</p>	<ul style="list-style-type: none"> <li>If the SW version is <b>2050</b> and the Porsche part number index is <b>greater than 08</b></li> </ul>	<p><b>No action required</b></p> <p>Programming is no longer required in this case.</p>	<p>Scope 11</p>

Re-program airbag control unit <b>and</b> then check airbag warning light	<ul style="list-style-type: none"> <li>Once the airbag warning light has been programmed and checked, <b>no warning message</b> is displayed in the instrument cluster <b>and</b></li> <li><b>no fault memory entry "Airbag triggering unit faulty"</b> (Fault code: C11005) is displayed</li> </ul>	none	Scope 1 (valid for all model lines)
	<ul style="list-style-type: none"> <li>Once the airbag warning light has been programmed and checked, <b>permanent warning message</b> in the instrument cluster <b>and</b></li> <li><b>fault memory entry "Airbag triggering unit faulty"</b> (Fault code: C11005) <b>are displayed</b></li> </ul>	Replacing airbag control unit	Scope 2 - 5 or 10 (depending on model line)

Special case:	Action required	Warranty processing
<ul style="list-style-type: none"> <li><b>Airbag warning light</b> already active <b>before</b> programming the airbag control unit <b>and</b></li> <li>fault memory entry <b>"Airbag triggering unit faulty"</b> (Fault code: C11005) <b>is displayed</b></li> </ul>	Replacing airbag control unit  Programming is no longer required in this case.	Scope 6 - 9 (depending on model line)

Affected Vehicles:

Only vehicles assigned to the campaign (see also PCSS Vehicle Information). This campaign affects 8,057 vehicles in North America.

### Required tools

Tools:

- 9900 - PIWIS Tester 3** with PIWIS Tester software version **38.950.010** (or higher) installed
- Battery charger with a current rating of **at least 90 A**, e.g. **VAS 5908 - battery charger 90A or equivalent**

## Preparatory work

**NOTICE**

Fault entry in the fault memory and control unit programming aborted due to low-voltage.

- Increased current draw during diagnosis or control unit programming can cause a drop in voltage, which can result in one or more fault entries and the abnormal termination of the programming process.
- ⇒ Before starting control unit programming, connect a suitable battery charger with a current rating of at least 90 A to the vehicle.

**NOTICE**

Control unit programming will be aborted if the WLAN connection is unstable.

- An unstable WiFi connection can interrupt communication between the PIWIS Tester and the vehicle communication module (VCI). As a result, control unit programming may be aborted.
- ⇒ During control unit programming, always connect the PIWIS Tester to the vehicle communication module (VCI) via the USB cable.

**NOTICE**

Control unit programming will be aborted if the driver's key is not recognized

- If the driver's key is not recognized in the vehicle, programming cannot be started or will be interrupted.
- ⇒ Place the driver's key with the back facing down into the front left storage compartment in the center console to guarantee a continuous radio link between the vehicle and the driver's key.

- Work Procedure: 1 Carry out general preliminary work for control unit programming as described in ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.
- 2 Read out the software version of the airbag control unit:  
**Only for 982 and 991 from model year 2017**
- If the SW version is **2050** and the Porsche part number index is **greater than 08**, programming of the airbag control unit is no longer required. Please close the campaign with a recall update.
- 3 **Before programming** the airbag control unit, **create a vehicle analysis log (VAL)** and mark it with the attribute "**Before repair**".
- 4 Check whether the airbag warning light is displayed in the instrument cluster and the fault memory entry "Airbag triggering unit fault" (Fault code: C11005) is stored in the fault memory.
- If this is **not** the case, continue with the section ⇒ *Technical Information '9X00IN Re-programming the airbag control unit'*.
  - If this is the case, the airbag control unit does not need to be programmed. The airbag control unit must be replaced. For details of procedure, see the section ⇒ *Technical Information '9X00IN Replacing airbag control unit'*.



### Information

If the airbag warning light is displayed in the instrument cluster and other fault memory entries other than the one mentioned above are stored in the fault memory of the airbag control unit, the fault must be found and rectified separately.

This work cannot be invoiced under the campaign number, but must be invoiced using a separate warranty or goodwill claim.

In the event of correcting faults in the case of other than the above fault memory entry, it generally applies that: If the airbag control unit remains in the vehicle, programming is required in the context of this campaign. If the airbag control unit has to be replaced, programming is no longer required.

## Re-programming the airbag control unit and checking the airbag warning light



### Electrically moved side windows and rear spoiler

- Danger of limbs being trapped or severed
- Risk of damage to components
- ⇒ Do not reach into the danger area.
- ⇒ Keep third parties away from the danger area.
- ⇒ Do not move components or tools into the danger area.
- ⇒ Retract roll-up sun blinds on the rear side windows before starting programming or coding.



### Information

The **crash data** in the airbag control unit is **read out** during the programming sequence. If crash data that was caused by triggering an airbag or seat-belt pretensioner is entered in an airbag control unit, the airbag control unit cannot be programmed and this will be indicated by the message "Crash data stored in airbag control unit" on the PIWIS Tester.

Even if the message "Crash data stored in airbag control unit" is displayed, please **try to start programming** using **F8** (Start).

- If this is possible and programming was successful, follow the other instructions in the programming sequence and in the Technical Information.
- If this is **not** possible, the airbag control unit must be replaced because of the stored crash data. This can be invoiced under scope 6-9 (depending on model line). There is no need to program the airbag control unit in this case.

Work Procedure: 1 **Re-program airbag control unit.**



**Information**

**Each time the airbag control unit is programmed, an extended log** (logging) must be **created** using the PIWIS Tester by pressing the key combination "Ctrl+L".

If problems arise when carrying out the programming sequence, please send the extended log (logging) and a current vehicle analysis log (VAL) to the contact person responsible for your market.

The basic procedure for control unit programming is described in the Workshop Manual ⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.

**For specific information on control unit programming during this campaign, see the table below:**

Required PIWIS Tester software version:	38.950.010 (or higher)
Type of control unit programming:	Control unit programming using the <b>"Campaign" function in the Additional menu</b> on the PIWIS Tester by entering a programming code.
Programming code:	<ul style="list-style-type: none"> <li>• <b>970:</b> D2Q6S</li> <li>• <b>981:</b> E5K1G</li> <li>• <b>982:</b> E5K1G</li> <li>• <b>991:</b> E5K1G</li> </ul>
Programming sequence:	<p>Read and follow the <b>information and instructions on the PIWIS Tester</b> during the guided programming sequence.</p> <p><b>Do not interrupt programming.</b></p>
Programming time (approx):	<b>4 minutes</b>
Software version programmed during this campaign for each model line:	<p>Panamera (970): <b>3005</b>                  Boxster (981)/Cayman (981): <b>2045</b>                  718 Boxster (982)/718 Cayman (982): <b>2045</b>                  911 (991): <b>2045</b></p> <p>Following control unit programming, the software version can be read out of the control unit for occupant protection in the 'Extended identification' menu using the PIWIS Tester.</p>

Procedure in the event of abnormal termination of control unit programming:	<ul style="list-style-type: none"> <li>• Switch ignition off and then on again.</li> <li>• Read out and erase fault memories ⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Subsequent work"</i>.</li> <li>• Repeat control unit programming by entering the programming code again.</li> </ul>
Procedure in the event of error messages appearing during the programming sequence:	⇒ <i>Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester - section on "Fault finding"</i> .

## 2 Read out and erase the fault memories of all control units.

2.1 Press **•F7** in the control unit selection screen ('Overview' menu) to call up the Additional menu.

2.2 Select the function "Read all fault memories and erase if required" and press **•F12** ('Next') to confirm.

The fault memories of the control units are read out.

2.3 Once you have read out the fault memories, check the fault memory entries.



### Information

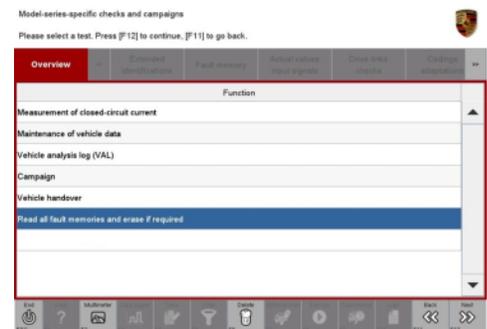
If control units are found to have faults that are **not** caused by control unit programming, these must first be **found** and **corrected**. This work **cannot** be invoiced under the workshop campaign number.

If there are faults in the **airbag control unit** that are **not** attributable to control unit programming, continue with **Step 3**.

2.4 Press **•F8** to delete fault memory entries.

2.5 Press **•F12** ('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.



*Erasing fault memories*

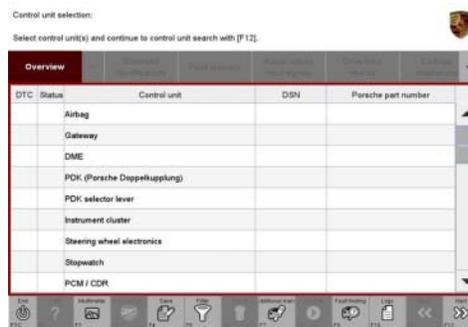


**Information**

If fault memory entries for individual control units cannot be deleted, proceed as follows:

- Switch off the ignition.
- Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- Lock the vehicle using the driver's key.
- Wait approx. 1 minute before unlocking the vehicle again.
- Start the engine, leave it running for a short time and then stop it again.
- Switch off the ignition and wait approx. 10 seconds before switching it back on again.
- Plug the PIWIS Tester diagnostic connector into the diagnostic socket again and restore communication with the vehicle.
- Read out the fault memory again and delete any fault memory entries that are stored.
- Repeat this procedure if necessary.

- 2.6 Once you have erased the fault memories, select the '**Overview**' menu to return to the control unit selection screen.



*Control unit selection*



**Information**

The new software includes an additional check function for the power supply of the airbag control unit. For this reason, the airbag warning light must then be checked using the following description and the fault memory of the airbag control unit must be read out again using the PIWIS Tester.

**3 Check airbag warning light.**

- 3.1 Switch off the ignition.
- 3.2 Disconnect the PIWIS Tester diagnostic connector from the diagnostic socket.
- 3.3 Lock the vehicle using the driver's key.
- 3.4 Wait approx. 1 minute before unlocking the vehicle again.
- 3.5 Start the engine, leave it running for a short time and then stop it again.
- 3.6 Switch off the ignition and wait approx. 10 seconds before switching it back on again.  
**Observe the airbag warning light** in the instrument cluster.  
 This **must** go out after a **short waiting time**.
- 3.7 Also read out the fault memory of the airbag control unit using the PIWIS Tester.

Result of check	Next steps
<ul style="list-style-type: none"> <li>Airbag warning light in the instrument cluster goes out <b>and</b></li> <li>no fault memory entry "Airbag triggering unit faulty" (Fault code: C11005) is displayed</li> </ul>	Continue with ⇒ <i>Technical Information '9X00IN Concluding work'</i> .
<ul style="list-style-type: none"> <li>Airbag warning light in the instrument cluster stays on <b>and</b></li> <li>fault memory entry "Airbag triggering unit faulty" (Fault code: C11005) is displayed</li> </ul>	The airbag control unit <b>must be replaced</b> . To do this, continue with ⇒ <i>Technical Information '9X00IN Replacing airbag control unit'</i> .



### Information

If the airbag warning light is displayed in the instrument cluster and other fault memory entries other than the one mentioned above are stored in the fault memory of the airbag control unit, the fault must be found and corrected separately.

This work cannot be invoiced under the campaign number, but must be invoiced by means of separate warranty or goodwill claim.

## Replacing airbag control unit



### Information

If the airbag control unit must be replaced during the campaign, **programming** of the airbag control unit **using the test software 2045 or 3005 is no longer required**.

Work Procedure: 1 Replace airbag control unit and commission it.  
For instructions, see:  
⇒ *Workshop Manual '695319 Removing and installing airbag triggering unit'*  
⇒ *Workshop Manual '695355 Replacing airbag triggering unit'*

Part No.	Designation	Qty.
	- Use	
<b>Vehicles up to model year 2017:</b>		
00004399094	⇒ Airbag control unit - Boxster (981) / Cayman (981) - 911 (991)	1 ea.
<b>or</b>		
00004399095	⇒ Airbag control unit - Panamera (970)	1 ea.

**Vehicles from model year 2017:**

00004399037 ⇒ Airbag control unit 1 ea.  
 - 718 Boxster (982) / 718 Cayman (982)  
 - 911 (991)

**Concluding work**

- 1 **Create a Vehicle Analysis Log (VAL)** and mark it with the attribute **"Following repairs"**.
- 2 Switch off the ignition.
- 3 Disconnect the PIWIS Tester from the vehicle.
- 4 Switch off and disconnect the battery charger.
- 5 Enter the campaign in the Warranty and Maintenance booklet.

**Warranty processing**

Scope 1: **Airbag control unit programmed with new software - all model lines**

- **No warning message** in the instrument cluster and **no fault memory entry**"Airbag control unit faulty" (Fault code: C11005)" is stored in the fault memory.

**Working time:**

Re-programming airbag control unit Labor time: **81 TU**

Includes:

- Connecting and disconnecting battery charger
- Connecting and disconnecting PIWIS Tester
- Reading out and erasing fault memory
- Checking airbag control unit
- Creating Vehicle Analysis Log (VAL)

⇒ **Damage Code AKB4 099 000 1**

Scope 2: **Airbag control unit programmed with new software and then airbag control unit replaced.**

- Panamera (970)

**Working time:**

Re-programming and replacing airbag control unit

Labor time: **204 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit  
Creating Vehicle Analysis Log (VAL)

**Parts required:**

00004399095      Airbag control unit      1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 3: **Airbag control unit programmed with new software and then airbag control unit replaced.**

- Boxster (981)/Cayman (981)

**Working time:**

Re-programming and replacing airbag control unit

Labor time: **224 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit  
Creating Vehicle Analysis Log (VAL)

**Parts required:**

00004399094      Airbag control unit      1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 4: **Airbag control unit programmed with new software and then airbag control unit replaced.**

- 718 Boxster (982)/718 Cayman (982)

**Working time:**

Re-programming and replacing airbag control unit

Labor time: **198 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit  
Creating Vehicle Analysis Log (VAL)

**Parts required:**

00004399037 Airbag control unit 1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 5: **Airbag control unit programmed with new software and then airbag control unit replaced.**

- 911 (991)
- Vehicles up to model year 2017

**Working time:**

Re-programming and replacing airbag control unit

Labor time: **250 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit  
Creating Vehicle Analysis Log (VAL)

**Parts required:**

00004399094 Airbag control unit 1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 6: **Airbag control unit replaced.**

- Panamera (970)

**Working time:**

Replacing airbag control unit

Labor time: **165 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit

**Parts required:**

00004399095      Airbag control unit      1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 7: **Airbag control unit replaced.**

- Boxster (981)/Cayman (981)

**Working time:**

Replacing airbag control unit

Labor time: **174 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit

**Parts required:**

00004399094      Airbag control unit      1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 8: **Airbag control unit replaced.**

- 718 Boxster (982)/718 Cayman (982)

**Working time:**

Replacing airbag control unit Labor time: **148 TU**

Includes: Connecting and disconnecting battery charger  
 Connecting and disconnecting PIWIS Tester  
 Reading out and erasing fault memory  
 Removing and installing airbag control unit  
 Commissioning airbag control unit

**Parts required:**

00004399037	Airbag control unit	1 ea.
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⇒ **Damage Code AKB4 099 000 2**

Scope 9: **Airbag control unit replaced.**

- 911 (991)

**Working time:**

Replacing airbag control unit Labor time: **185 TU**

Includes: Connecting and disconnecting battery charger  
 Connecting and disconnecting PIWIS Tester  
 Reading out and erasing fault memory  
 Removing and installing airbag control unit  
 Commissioning airbag control unit

**Parts required:**

Vehicles **up to** model year 2017

00004399094	Airbag control unit	1 ea.
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Vehicles **as of** model year 2017

00004399037	Airbag control unit	1 ea.
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⇒ **Damage Code AKB4 099 000 2**

Scope 10: **Airbag control unit programmed with new software and then airbag control unit replaced.**

- 911 (991)
- Vehicles as of model year 2017

**Working time:**

Re-programming and replacing airbag control unit

Labor time: **235 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out and erasing fault memory  
Removing and installing airbag control unit  
Commissioning airbag control unit  
Creating Vehicle Analysis Log (VAL)

**Parts required:**

00004399037      Airbag control unit      1 ea.

⇒ **Damage Code AKB4 099 000 2**

Scope 11: **Reading out software version of airbag control unit**

- 718 Boxster (982)/718 Cayman (982)
- 911 (991) from model year 2017

**Working time:**

Reading out software version of airbag control unit

Labor time: **48 TU**

Includes: Connecting and disconnecting battery charger  
Connecting and disconnecting PIWIS Tester  
Reading out software version  
Creating Vehicle Analysis Log (VAL)

⇒ **Damage Code AKB4 099 000 1**

**Important Notice:** Technical Bulletins issued by Porsche Cars North America, Inc. are intended only for use by professional automotive technicians who have attended Porsche service training courses. They are written to inform those technicians of conditions that may occur on some Porsche vehicles, or to provide information that could assist in the proper servicing of a vehicle. Porsche special tools may be necessary in order to perform certain operations identified in these bulletins. Use of tools and procedures other than those Porsche recommends in these bulletins may be detrimental to the safe operation of your vehicle, and may endanger the people working on it. Properly trained Porsche technicians have the equipment, tools, safety instructions, and know-how to do the job properly and safely. Part numbers listed in these bulletins are for reference only. The work procedures updated electronically in the Porsche PIWIS diagnostic and testing device take precedence and, in the event of a discrepancy, the work procedures in the PIWIS Tester are the ones that must be followed.

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