Vehicle has No Power Steering and Multiple Yellow Warning Messages (247/24)

Change overview:

Release	Date	Modification
1	02/05/2025	▪ First publication
2	04/24/2025	▪ Action revised

Model Line: **Macan (XAB)**

Model Year: **As of 2024**

Concerns: **HCP4 body electronics main control unit**

Information: **The customer complains that the vehicle has no power steering.**

Cause: Various fault memory entries are identified in various control units in the workshop.

Action: If there is a customer complaint, check fault memory for the above-mentioned fault memory entries and, if necessary, re-programme the HCP4 body electronics main control unit.

Information

The minimum programming/coding requirement is the PIWIS Tester software release: **43.200.021**

Information

It is **not necessary** to replace the HCP4 body electronics main control unit for this complaint. Bus idle does not provide **any remedy** for this complaint.

Required tools

Tools:

- **P90999 - PIWIS Tester 4**
- Battery charger with a current rating of **at least 90 A**, e.g. **VAS 5908 - 90 A battery charger**. For further information about the battery chargers to be used, see the corresponding Workshop Manual. ⇒ *Workshop Manual '270689 Charge battery and vehicle electrical system'*
- 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.)**

Checking fault memory entries

Work Procedure: 1 Read out the fault memory and check for the following fault memory entries.

1.1 Connect and switch on the battery charger.
⇒ *Workshop Manual '270689 Charge vehicle electrical system battery'*

1.2 Place original remote control in emergency start tray.

1.3 Connect the **P90999 - PIWIS Tester 4**, establish readiness for operation and start the diagnostic application.

1.4 Read out the fault memory and check for the following fault memory entries:

HCP1 drive / chassis main control unit

- **B1AECF0** – Active cross-exchange protection or faulty coding (00051C)
- **C054600** – Chassis number, not stored / incompatible (00051D)

Airbag control unit

- **C115E54** – Control unit - internal combination sensor, not taught (515E54)
- **B18B0F0** – Theft protection functions (VKMS) not taught (98B0F0)
- **B1AECF0** – Theft protection functions (VKMS), active (9AECF0)

Assessment		Action
(✓)	The fault memory entries listed above are **not available** in the fault memory.	The complaint in this technical information is not caused by an incorrect vehicle identification number in the HCP4 body electronics main control unit. Continue troubleshooting elsewhere. **End of action.**
(✗)	The fault memory entries listed above are **available** in the fault memory.	Vehicle identification number in HCP4 body electronics main control unit **not OK**. **Re-programme the HCP4 body electronics main control unit.** Continue ⇒ *Technical Information '270689 re-programming with the HCP4 body electronics main control unit'*.

Re-programming HCP4 body electronics main control unit

NOTICE

Sitting inside the vehicle during the update

- **Abort update by automatically activating the ignition**

⇒ **Avoid sitting inside the vehicle during the update.**

NOTICE

The specified update process was not followed

- **Update cancelled**
- **Destruction of control units**

⇒ **Observe and follow the process displayed for the update and instructions for the PIWIS Tester**

⇒ **Do not replace ignition without instructions from PIWIS Tester**

⇒ **Do not repeat the update procedure unless a failed update is displayed on the PIWIS Tester**

Information

Vehicle update – general information

The entire vehicle network will be checked for a necessary update or computed to ensure fault-free functioning of the vehicle. The following preparations must be made:

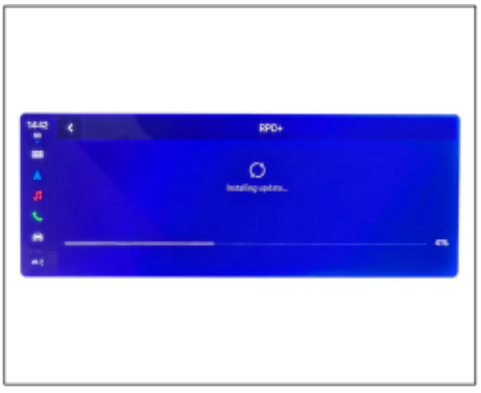
- Latest release on PIWIS Tester 4 and PiUS available
- Vehicle is fully constructed
- VCI and PIWIS Tester 4 must be connected to each other via workshop WiFi
- The user must be logged in to the PIWIS Tester 4 in the PPN
- Vehicle must be supported by an external charger
- Seat heating and seat ventilation must not be active
- Place the original hand-held transmitter in the emergency start tray (see Workshop Manual)

The vehicle performs the update independently. The current status can be retrieved on the diagnostic tester or on the front display and control unit (R238) under Messages (RPC+).

Information

During the update process, all displays in the vehicle (instrument cluster, central display and passenger display) are occasionally switched off. The update process nevertheless continues. **The ignition sequence must not be changed**.

If WiFi coverage is insufficient, the connection between the PIWIS Tester and VCI may be interrupted (battery charge indicator inactive on the Tester display at the top right). The vehicle will nevertheless continue the update **independently**. In the meantime, no entry must be made on the PIWIS Tester, and the programming or coding must not be restarted. In such a case, the progress of the update can still be followed inside the vehicle via the central display by activating the **"Messages"** tile.



Update progress on central display

Work Procedure:

1 Observe preconditions for control unit programming and coding.
⇒ *Technical Information '9X10IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*

Information

An **active** Internet connection with the PIWIS Tester must be maintained.

The technician **must** log in to PPN with the PIWIS tester.

The PIWIS Tester must not be charged using the cigarette lighter!

Information

Before starting the diagnosis, it is essential for an ignition change to be performed on the vehicle.
After starting the diagnosis, the VCI is automatically initialized and the control unit data is loaded.

For additional information on the programming procedure and if the process is interrupted, see ⇒ *Technical Information '9X10IN FAQs on control unit programming'*

2 Prepare programming of the (HCP4) body electronics main control unit.

2.1 Start new logging via P2 .

2.2 As soon as the control unit overview is displayed, open the additional menu by pressing F7 . An overview of all campaigns to be carried out for the respective vehicle is then displayed automatically.

2.3 Confirm the campaigns to be carried out for the respective vehicle by pressing F12 , but do not start for the time being.

2.4 During the **automatic integration test** on the PIWIS Tester, press F11 to **cancel** it.

2.5 If necessary, deactivate Transport mode.

Information

For this update procedure, the respective vehicle no longer needs to be in transport mode. To do this, deactivate Transport mode as follows.
On vehicles without active Transport mode, steps 2.5.1 to 2.5.3 can be skipped.

2.5.1 Press F7 to call up the additional menu.

2.5.2 In the displayed additional menu, select and confirm the **"Vehicle handover"** menu item.

2.5.3 Select **"Deactivate Transport mode"** and confirm by pressing F8 .
Then select **"No"** when the query as to whether it is a new vehicle appears and end the vehicle handover using the PIWIS Tester.

3 End readiness for operation (ignition off) and restore it after waiting approx. 30 seconds (ignition on).

4 Re-programme (HCP4) body electronics main control unit.

4.1 Press F7 to call up the additional menu.

4.2 In the displayed additional menu, select and confirm the **"Control unit programming and coding (campaign)"** menu item.
The (HCP4) body electronics main control unit is then re-programmed as per the menu.

After programming is completed, a corresponding confirmation is displayed on the PIWIS Tester.

Information

The entire **update process** for this action takes **approx. 16 minutes**.
However, the download speed of the update package depends on the performance of the local network and can vary accordingly.

5 After programming is completed, perform a vehicle bus idle.

5.1 Go back to the control unit overview by pressing F11 .

5.2 End the readiness for operation of the vehicle (ignition off).

5.3 Wait **5 minutes** with the driver's door open.

5.4 Establish readiness for operation (ignition on).

6 Check readiness for driving the vehicle.

6.1 Operate the footbrake and keep it pressed.

6.2 Use the selector lever to engage driving gears D and R one after the other. The selected gear must be displayed in the gear indicator on the instrument cluster.

6.3 Activate the parking lock via button P.

7 End readiness for operation (ignition off) and restore it after waiting approx. 30 seconds (ignition on).

8 Read out and delete fault memories.

Information

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

Information

Due to the vehicle diagnosis and coding, fault memory entries that do not indicate an actual fault in the vehicle can be stored.
These fault memory entries can be deleted for the most part after repeated starting and a test drive.

The following fault memory entry is always stored as part of a vehicle diagnosis with the PIWIS Tester and does not represent an actual fault:

Control unit	Fault code	Description
"various" control units	B184C00	Protection of vehicle diagnostics, actuation active

8.1 If necessary, restore communication of the PIWIS Tester with the vehicle.

8.2 Press F7 to call up the additional menu on the PIWIS Tester.

8.3 Select and confirm the menu item **"Read/delete all fault memories"** and press to confirm.

8.4 Press F8 to delete the displayed fault memory entries.

9 If necessary, perform the vehicle handover according to the menu guidance using the PIWIS Tester.

10 End diagnostic application, end readiness for operation and disconnect **P90999 - PIWIS Tester 4** from vehicle.

11 Switch off and disconnect the battery charger.
⇒ *Workshop Manual '270689 Charging vehicle electrical system battery'*

Labor position and PCSS encryption

Labor position:

APOS	Labor operation	I No.
98042540	Checking fault memory entries	
98042541	Re-programming HCP4 body electronics main control unit	

PCSS encryption:

Location (FES5)	98040	Body electronics main control unit
Damage type (SA4)	1142	Incorrect coding

FAQs on control unit programming and coding

Information

If individual programming or rework procedures could not be carried out correctly, please refer to the Workshop Manual for the basic procedure for control unit programming with the PIWIS tester. ⇒ *Technical Information '9X10IN Basic information and procedure for control unit programming with the PIWIS tester. Information'*:

In the event of a fault, **always** create a log with the PIWIS tester during programming with P2 .

Work procedure: **General:**

Fault indication	Cause	Source of fault	Remedial action
Control unit programming	The affected control unit did not respond or did not respond completely when the vehicle information was read out.	Vehicle	▪ Cancel procedure ▪ Close diagnosis ▪ Terminal 15 change ▪ Restart procedure

Before the update:

Fault indication	Cause	Source of fault	Remedial action
Diagnostic application crashes (JAVA error message)		Diagnostic application	▪ Restarting diagnostic application
The VCI connection has been aborted (the diagnosis has no information on battery voltage – see the battery symbol at the top right on the Tester display).		VCI has poor WiFi connection	▪ Restart Tester, reinsert VCI and try again ▪ Ensure that WiFi connection is stable, moving vehicle to a suitable position in workshop if necessary
USB memory stick not detected or no change		Infotainment main control unit (HCP3)	▪ Pull fuse for Infotainment main control unit (HCP3) and wait around 1 minute (30-amp fuse is located

on central display after plugging it in.			on passenger side below A-pillar) ▪ Reinsert fuse for Infotainment main control unit (HCP3)

During the update:

Fault indication	**Cause**	**Source of fault**	**Remedial action**
Diagnostic application crashes (JAVA error message)		Diagnostic application	▪ Checking update progress in vehicle is mandatory ▪ **No ignition change during update** ▪ Do not restart Tester until **update** has been completed in vehicle ("Messages" tile --> installation "successful") ▪ When the update has finished in the vehicle, verify that the update is complete. To do this, restart the **integration test** using the PIWIS Tester.
The following fault occurs at the step **"Attempting to connect to SOD"**: **"The release versions of Tester and PIUS do not match."**	PIWIS Tester 4 did not receive the required release update. Since the PIUS installs the updates automatically, the release versions no longer match.	PIWIS Tester and PiUS	▪ Install current release on PIWIS Tester 4 ▪ Check availability of current release on PiUS workshop server
PIWIS Tester 4 cannot establish communication with diagnostic tester; error message on first attempt to establish communication	Date/time in vehicle is incorrect after disconnecting/re-connecting 12-V battery (terminal 30)	Vehicle	Correct date/time in vehicle: ▪ Open **"Control unit overview"** ▪ Access **"Gateway HCP5"** main control unit ▪ Open **"Service / Maintenance"** menu ▪ Select and execute **"Set time"** menu item

When the update calculation result is displayed, the following fault occurs in all control units to be programmed/coded: **"Fault in determining target state for coding/programming"**	Fault while calculating in backend system	Backend system	▪ Lock vehicle and wait for bus rest ▪ Repeat update
On PIWIS Tester 4, the progress of the vehicle update is **not shown until approx. 27%** has been completed.	Diagnostic service (RPC+) will not forward the progress of the update to the Tester until it is approx. 27% complete.	Vehicle	▪ Wait until progress is displayed
Charging communication 1 (J1245) **or** charging communication 2 (J1246) in **update attempt not OK --> communication error**.		Vehicle, GOBW	▪ Final integration test reports a communication error ▪ Pull fuse from affected control unit ▪ Remove fuse ▪ Wait 30 seconds ▪ Re-insert fuse ▪ Re-attempted update
Programming or coding aborts at approx. 30%.	Cleaning of the systems in the background prevents the programming or coding from being completed.	Backend system	▪ Repeat routine

After the update:

Fault indication	**Cause**	**Source of fault**	**Remedial action**
Delete the fault from the fault memory.		Vehicle	▪ Fault can be ignored

The VCI connection has been aborted (the diagnosis has no information on battery voltage – see the battery symbol at the top right on the Tester display).		VCI has poor WiFi connection	▪ Restart Tester, reinsert VCI and try again ▪ Ensure that WiFi connection is stable, moving vehicle to a suitable position in workshop if necessary
Diagnostic application crashes (JAVA error message)		Diagnostic application	▪ Restarting diagnostic application
Passive fault memories from high-voltage control units cannot be erased.			▪ Switch ignition off and on ▪ Re-reading and deleting fault memory