

## Advanced Technical Information

Bulletin #: 2512

Part ID: 0335

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## Macan Electric – General Troubleshooting

### Vehicles Affected

Models	Model Year	Model Type	VIN Range	Vehicle-Specific Equipment
Macan Electric	As of 2024	XAB	N/A	N/A

### Revision History

Revision	Release Date	Changes
0	May 12, 2025	Original document

### Condition

The following document aims to assist Porsche Dealership service and support personnel with diagnosis of select conditions or apparent failures. This document will be updated and re-published when new information becomes available.

### Technical Background

Self-diagnosis and monitoring routines within the PIWIS Tester, the vehicle, vehicle systems, and control units can result in erroneous Fault Codes, DTCs, or warnings.

### Service Information

#### Diagnostic Tip #1

Upon diagnosis, the technician finds numerous fault codes (more fault codes than can be clearly interpreted to aid diagnosis; e.g., 175 faults / 400 faults / 1045 faults...). This situation may arise due to vehicle network communication errors for any number of reasons. For example, an HCP controller or an individual control unit went into an error state and did not or could not reply to network messages.

If there are numerous faults for **HCP communication errors**, the following function will clear outstanding HCP communication jobs:

- Diagnostics --> Additional Menu [F7] --> Special Functions --> "HCPX\_CLEANUP\_H2"

## Advanced Technical Information

If previous network communication errors caused **faults for Vehicle Key Management System (VKMS)**, the following function will ensure all relevant ECUs contain the correct VKMS authorization:

- Diagnostics --> Additional Menu [F7] --> VKMS Learning / Teach In
  - Follow instructions on the tester
  - It is recommended to bypass the key programming procedure with [F12], if possible

If previous communication errors caused **faults for the Combination Sensor** (X/Y/Z-axis fault; Yaw/Rotation sensor fault), the following function will ensure combination-sensor-relevant functions can perform as designed in all relevant ECUs:

- Diagnostics --> Airbag CU (J234) --> Maintenance/Repairs --> Teach Combination Sensor

Communication errors can often lead to a **loss of vehicle localization**. The exact location of the vehicle is critical to management of functions provided both onboard and via online services. If the vehicle and vehicle ECUs don't have an accurate vehicle location, then they will not authorize and enable location-specific vehicle functions or services.

Best practice is to establish vehicle location via existing onboard systems:

- Verify settings to ensure Date and Time and GPS are automatically set via PCM central display Settings --> System --> Date and Time
- Drive on a mapped street to ensure the GPS position and therefore time is automatically set
  - Driving in a Porsche Center parking lot or simply activating driving readiness in the Porsche Center is insufficient

If the Date and Time settings are greyed out, or the time does not set automatically despite adequate vehicle use on a mapped street, then it may be necessary to reset the PCM to factory settings.

If the vehicle cannot be moved (e.g., it is disabled for ongoing repairs), the Time can be set manually in the Main Control Unit for Gateway HCP5 (J1273).

- Diagnostics --> Main Control Unit for Gateway HCP5 (J1273) --> Maintenance/Repairs --> Set time

FYI

- The HCP3 (Central Computer / PCM) receives the Time & GPS from the HCP5 (Gateway)
- The GPS location is retained in the Connect Control Unit / External Communications Control Unit (J949)
- The primary timekeeper in the vehicle is the HCP5 (Gateway)
- The Time Zone is calculated in the vehicle through combination of the GPS Location and the Time

**Calibration of Advanced Driver Assistance System (ADAS)** control units can also be performed on a road test:

- Front Camera
- ACC
- Front Radar
- Rear Radar

During the test drive, verify the vehicle has data connectivity via a green SOS light in the overhead console, and continue to verify vehicle location is accurate by the correct Date & Time shown in the Instrument Cluster and PCM Central Display.

Following execution of any functions described above, it is recommended to **clear subsequent fault codes** and **end the current diagnostic session** with the PIWIS Tester.

Wait for the PT4G and the “on-board diagnostic tester” to close current diagnostic session, then remove the VCI and perform a driving readiness Off / On (Key Cycle) before further work is performed.

In some cases, a 30 minute bus/network sleep cycle (park & lock vehicle; move key >10 meters away from vehicle) is necessary to ensure all relevant functions are restored to operation.

When all mentioned issues are addressed (HCPx communication jobs are resolved; VKMS is taught; Combination sensor is calibrated; vehicle is localized; date & time are verified; ADAS systems are calibrated; vehicle sleep cycle is completed) and erroneous fault codes are cleared, a **new Vehicle Analysis Log (VAL)** should be generated and diagnosis of the customer complaint or vehicle issue can continue.

#### **Diagnostic Tip #2**

During a test drive, technicians find the Lane Change Assist (LCA) function does not work, and the blind spot indicator lights in the exterior mirrors do not light up.

This can occur if 12V power was disconnected and reconnected, and the position of folding side mirrors is lost. **The basic positions of the exterior mirrors must be taught by folding the mirrors in and back out again** (similar to teaching window end-stops following a power loss). The LCA function will work again after the door control units store the exterior mirror positions.

### Diagnostic Tip #3

A drive cycle starts once the car is shifted into drive and ends when the ignition is switched off.

**Putting the car in park or neutral does not end the drive cycle.** Therefore, the ignition should be switched off before starting any fault diagnosis.

When the ignition is not switched off first, faults will not be able to be fully cleared and will return after FML deletion. Also, various control units will show "Coding signing error" when trying to run an integration test.

**Macan XABDC1 / 2025**

**Vehicle control unit integration test**

Die Fahrzeugverbundprüfung konnte nicht erfolgreich ausgeführt werden. Verlassen mit [F11].

Control unit	Status	Necessary action
Inverter (see description)	✓	
High-voltage battery sensor 1 (J1297)	✓	
High-voltage battery sensor 2 (J1298)	✓	
Left auxiliary headlight (J1018)	⊕	Coding signing error
Right auxiliary headlight (J1023)	⊕	Coding signing error
Front driver's side door (J386)	✓	
Oil pump - front axle (V553)	✓	
Oil pump - rear axle (V552)	✓	
Center right tail light (MX13)	✓	
Right main headlight (A27)	⊕	Coding signing error
Front high-voltage pulse inverter (JX4)	✓	

## Advanced Technical Information

### Diagnostic Tip #4

There are 3 different ways to run an integration test using the PIWIS Tester

- 1) Integration Test (F3)
- 2) Additional Menu (F7) -> Programming and coding control units (campaign)
- 3) "Coding programming" Tab with specific control unit(s) selected in the "Overview" Tab

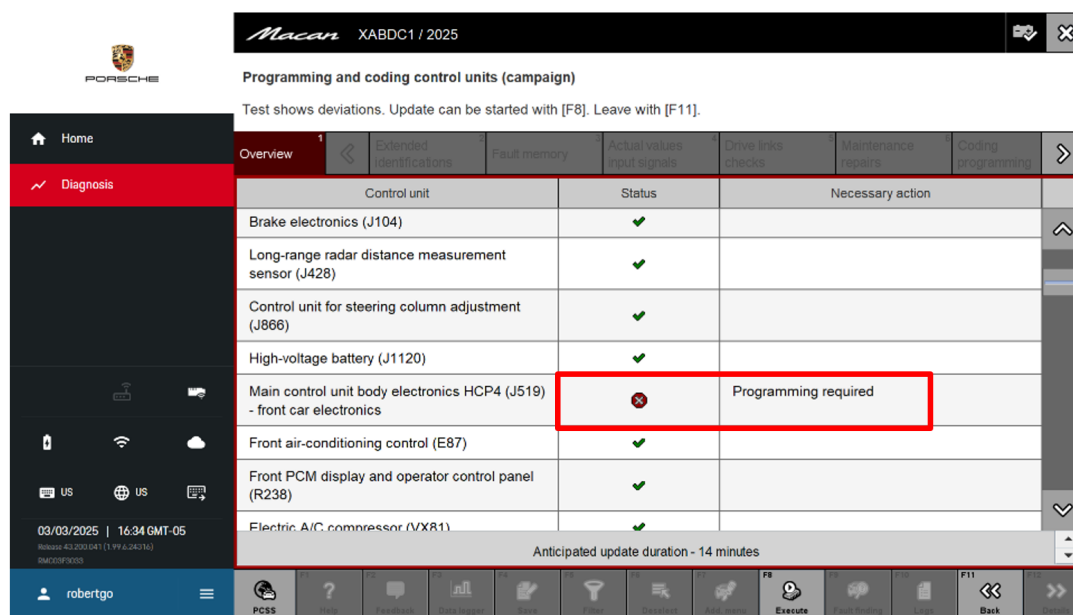
When checking if any integration tests are available for a given vehicle, it is recommended to use option 2 – Additional Menu (F7) -> Programming and coding control units (campaign).

This is due to the fact that when selecting "Integration Test (F3)" the tester may show that "all control units in required status" when this may not be the case.

The screenshot shows the Porsche PIWIS Tester interface for a Macan (XABDC1 / 2025). The 'Vehicle control unit integration test' is displayed, showing a table of control units and their status. A red circle highlights the text 'Test shows all control units in required status'.

Control unit	Status	Necessary action
Rear lid proximity sensor control unit (J938)	✓	
Side Surround View camera right (R245)	✓	
Main control unit for body electronics HCP4 (J519) - A/C and spoiler	✓	
Front camera (R242)	✓	
Power distributor (J1282)	✓	
Surround view camera for front trim (R243)	✓	
Surround View camera on left side (R244)	✓	
Compressor (J1075)	✓	
Expansion valve 1 (N636)	✓	
Main control unit for drive and chassis (HCP1) (J1312)	✓	

When selecting Additional Menu (F7) -> Programming and coding control units (campaign) on the same vehicle, it will then reveal that programming is possible for certain control units if available.



**Macan** XABDC1 / 2025

Programming and coding control units (campaign)

Test shows deviations. Update can be started with [F8]. Leave with [F11].

Control unit	Status	Necessary action
Brake electronics (J104)	✓	
Long-range radar distance measurement sensor (J428)	✓	
Control unit for steering column adjustment (J866)	✓	
High-voltage battery (J1120)	✓	
Main control unit body electronics HCP4 (J519) - front car electronics	✗	Programming required
Front air-conditioning control (E87)	✓	
Front PCM display and operator control panel (R238)	✓	
Electric A/C compressor (VXR1)	✓	

Anticipated update duration - 14 minutes

03/03/2025 | 16:34 GMT-05  
Release 43.200.041 (1 PP 6.24336)  
9M00079003

robertgo

PCSS ? Feedback Data logger Save Filter Disconnect Add menu Execute Fault finding Logs Back Details

## Advanced Technical Information

### Note:

When using Additional Menu (F7) -> Programming and coding control units (campaign), pay close attention to the wording at the top of the screen. Control units with "Necessary actions" are not automatically filtered to the top of the page. Therefore, at first look it may seem that all control units are in the required status as all of the shown control units may have green check marks. If the text at the top of the screen indicates "Test shows deviations", it will be necessary to scroll down to find the control units that require necessary actions.

Macan XABDC1 / 2025

Programming and coding control units (campaign)

Test shows deviations. Update can be started with [F8]. Leave with [F11].

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Front camera (R242)	✓	
Power distributor (J1282)	✓	
Surround view camera for front trim (R243)	✓	
Surround View camera on left side (R244)	✓	
Compressor (J1075)	✓	
Expansion valve 1 (N636)	✓	

Anticipated update duration - 14 minutes

If there are software campaigns available for a specific VIN, the campaign TI will include instructions to perform the campaign using Additional Menu (F7) -> Programming and coding control units (campaign). For further instructions on general control unit programming, reference **Work Manual, 9X10IN**.

### Search Items

Macan, H2, Macan BEV, Troubleshooting, High fault Count, LCA, Lane Change Assist, Drive Cycle, Integration Test, Campaign

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