

Vehicle Electrical System Battery Discharged- It is Not Possible to Start or Unlock Vehicle (245/24)

Change Overview

Revision	Date	Change
0	04/25/2025	▪ First publication
1	03/10/2026	▪ Update to step 5 of work procedure. Added "Example of VAL view with value 27"

Model Line: **Cayenne (9YA / 9YB)**

Model Year: **As of 2019 up to 2021**

Equipment: **Head-Up Display (KS1)**

Concerns: **Windshield projection control unit (Head-up display)**

Information: **The customer complains that the vehicle does not open or cannot be started.**
A discharged vehicle electrical system battery is detected in the workshop.

Cause: The vehicle electrical system battery can be discharged by a continuously active head-up display control unit.



Information

No fault memory entries regarding the complaint are stored in the fault memory of the head-up display control unit.

Action: For an existing customer complaint, check the measured value described in this Technical Information (TI) and reprogram the head-up display control unit with the PIWIS tester if necessary.



Information

The minimum programming requirement is the PIWIS Tester software release **43.300.015** (or higher).

Required tools

- Tools:
- **P90999 - PIWIS Tester 4**
 - Battery charger with a current rating of **at least 90 A** and a **current and voltage-controlled charge map** for lithium starter batteries, e.g. **battery charger 90 A**. For further information about the battery chargers to be used, see the corresponding Workshop Manual. ⇒ *Workshop Manual '270689 Charging the vehicle electrical system battery'*

Check measured value and reprogram head-up display control unit if necessary

- Work procedure:
- 1 Connect and switch on the battery charger.
⇒ *Workshop Manual '270689 Charging battery/vehicle electrical system'*
 - 2 Place the original remote control in the emergency start tray.
 - 3 Connect the **P90999 - PIWIS Tester 4**, switch on ignition and start the diagnostic application.
 - 4 Create vehicle analysis log (VAL).
 - 5 In the vehicle analysis log (VAL), select the '**Gateway**' control unit and check the following under measured value '**Life_cycle_data_66 - ECU_1**' or '**History data 66 [1]: Review control unit (1)**' for the last event ⇒ *Example of VAL view with value 27.*

Assessment	Action
The value 27 is not stored as the last event.	The complaint described in this Technical Information is not caused by a continuously active head-up display control unit. Continue troubleshooting elsewhere. End of action.
The value 27 is stored as the last event.	Software for head-up display control unit out of order . Continue with Step ⇒ 6.

Life_cycle_data_66 [1]: ECU_1	27
Life_cycle_data_66 [1]: Awake_Time_ECU_1	25.50 h
Life_cycle_data_66 [2]: ECU_1	27
Life_cycle_data_66 [2]: Awake_Time_ECU_1	20.20 h
Life_cycle_data_66 [3]: ECU_1	27
Life_cycle_data_66 [3]: Awake_Time_ECU_1	5.90 h
Life_cycle_data_66 [4]: ECU_1	27
Life_cycle_data_66 [4]: Awake_Time_ECU_1	0.50 h
Life_cycle_data_66 [5]: ECU_1	240
Life_cycle_data_66 [5]: Awake_Time_ECU_1	0.30 h

Example of VAL view with value 27

6 Re-program head-up display control unit.

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

Specific information on control unit programming in the context of this Technical Information:

Required PIWIS Tester software release:	43.300.015 (or higher)
Type of control unit programming:	Control unit programming using the 'Campaign' function in the additional menu on the PIWIS Tester by entering a programming code.
Programming code:	E3H9D
Programming sequence:	<p>Read and follow the information and instructions on the PIWIS Tester during the guided programming sequence.</p> <p>The head-up display control unit is reprogrammed during the programming sequence.</p> <p>The control unit is then re-coded automatically.</p> <p>Do not interrupt the programming and coding process.</p> <p>Once the control units have been programmed and coded, you will be prompted to switch the ignition off and then back on again after a certain waiting time.</p> <p>Backup documentation of the new software releases is then performed.</p>
Programming time:	Programming takes up to 35 minutes , depending on equipment.
Software release programmed during this action:	<ul style="list-style-type: none"> ▪ Head-up display control unit with <p>Hardware version: 07 Software version: 2401 (or higher)</p> <p>Following control unit programming, the software release can be read out from the relevant control unit using the PIWIS Tester in the menu ⇒ 'Incremented identifications'.</p>
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'</i> .
Procedure in the event of a termination in the control unit programming:	Repeat control unit programming by restarting programming.

- 7 Read out and delete all control unit fault memories.
- 8 Exit the diagnostic application, switch off the ignition and disconnect **P90999 - PIWIS Tester 4** from the vehicle.
- 9 Switch off and disconnect the battery charger.
⇒ *Workshop Manual '270689 Charging the vehicle electrical system battery'*

Labor position and PCSS encryption

Labor position:

APOS	Labor operation	I No.
90862545	Re-programming head-up display control unit	

PCSS encryption:

Location (FES5)	90860	Control unit for head-up display
Damage type (SA4)	4034	automated on/off switch

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