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:	Read and follow the **information and instructions on the PIWIS Tester** during the guided programming sequence. The **head-up display** control unit is **reprogrammed** during the programming sequence. The control unit is then **re-coded automatically**. **Do not interrupt the programming and coding process.** Once the control units have been programed and coded, you will be prompted to switch the ignition off and then back on again after a certain waiting time. Backup documentation of the new software releases is then performed.
Programming time:	Programming takes up to **35 minutes**, depending on equipment.
Software release programmed during this action:	▪ **Head-up display control unit** with **Hardware version: 07** Software version: **2401** (or higher) 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'.
Procedure in the event of error messages appearing during the programming sequence:	⇒ *Workshop Manual '9X00IN Basic instructions and procedure for control unit programming using the PIWIS Tester'*.
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