

15.05.2022

Copyright VW AG

Technical Service Handbook

ElsaPro transaction no.:

DMS order no.:

VIN:

Model year: 2021

Sales code:

Model description: FORMEN2.0 TSIF VZ 5d228 D02A7A

Engine code:

Gearbox code: TUW

Registration number:

Final drive code:

Username:

Service advisor name: erwin, null(null)

Basic filtering of vehicle description

| Brand | Model year | Sales model | Engine code | Gearbox code | Final drive code |
|-------|------------|----------------------|-------------|--------------|------------------|
| S | 2021 | KM% - FORMENTOR (KM) | % | % | % |

| PR numbers |
|---------------------|
| 8AW and without SZ6 |

Technical product information

Update of software packages (baselines)

Transaction No.: 2066692/3

Release date 06-May-2022

Customer statement / workshop findings

Customer statement:

Online Services:

- SOS warning appears sporadically on instrument panel

Airbag:

- Airbag warning lamp lights up sporadically on instrument panel

Display:

- The radio and navigation system screen remain black or magenta after connection.
- The following text message is displayed permanently on the radio and navigation system screen:
 - "Loading settings".
As a result, the radio and navigation system is not operational.
- Sometimes the shortcut keys on the radio and navigation system do not work.

Audio:

- Sometimes the audio from the radio navigation system does not work.
- Sometimes annoying noises can be heard through the speakers.

Full link:

If Apple Carplay is started via Bluetooth, the display on the control panel and screen is black.

Driver assistance systems:

- After engaging reverse gear, no image from the reversing camera appears on the control panel display (screen goes black).
- When starting the vehicle, the "Traction Control" is displayed in grey.
- A continuous high-pitched beep is heard that cannot be stopped.

Workshop findings:

- In a Technical Product Information (TPI), this software update is mentioned as a measure to resolve a customer claim.
- This TPI explains how to perform a software update with a software package.

Document history:

| Item no./Revision no.: | Modification type: |
|---|--|
| 2066692/3 | Modification in: <ul style="list-style-type: none">• Heading• Measure.• Attached document. |
| Warning: <p>The content of this table will not change if the reason for the following revision is only due to changes in the TPI heading data.</p> | |

Technical background

The software update required for resolving the claim should not be performed for individual control units. In the future, software updates will increasingly be offered as a software package. These software packages offer, among other things, the advantage that the software versions of each control unit are kept up to date.

Production change

- - -

Measure

Software update of various control units and, if necessary, replacement.



Estimated duration of the complete software update: approx. 3.5 hours!

As the control units have a different network connection, different types of update must be performed (DoIP control units, CAN control units).



The order of the steps described below must be observed without fail. In the event of a deviation from the sequence, a correct software update and resolution of the customer claim is not guaranteed. In addition, the control units may be damaged.

The software update must be performed in the following verified order (point 1 to 8):

1. Check if the measure can be carried out:

- 1.1: Check if this measure has been applied: 90T4.
- 1.2: Check of the hardware part number of the data bus diagnosis interface control unit (vehicle diagnostics equipment).
- 1.3: Check if it is necessary to enable functions.

2. Preparing the measure:

- 2.1: Preparation of the USB stick for the radio and navigation system software update.
- 2.2: Indications regarding personal user settings in the vehicle.
- 2.3: Indications regarding the implementation of software updates.

3. Data bus diagnosis interface control unit (vehicle diagnostics equipment).

4. Update the control units (vehicle diagnostics equipment) and, in parallel, update the radio and navigation system software (parallel flash update):

- 4.1: Update the software of various control units.
- 4.2: Reset the radio and navigation system to factory settings.
- 4.3: Update of the software (USB stick) of the radio and navigation system (in parallel).
- 4.4: Checking of the update results and ending of the diagnosis session.

5. Adapt the Vehicle Key Management System (VKMS):

- 5.1: Adaptation of the Vehicle Key Management System (VKMS).

6. Enabling of the predictive route data functions.

- 6.1: Enable the predictive route data functions.
- 6.2: Resetting the predictive route data functions.

7. Checking the software has updated correctly (vehicle diagnostics equipment).

8. Implement basic settings and bus rest (vehicle diagnostics equipment).

9. Additional information on the software update.

Regarding point 1. Check if the measure can be carried out:

Regarding point 1.1: Check if this measure has been applied: 90T4

Observation: Before applying the Technical Product Information, carry out service measure **90T4**

- Check if the vehicle is affected by service measure **90T4**



If the vehicle is not affected by campaign 90T4, go to point 1.2

If the vehicle is affected by the service measure:

- Proceed to carry out the corresponding service measure with a separate/additional order:
- The settlement of work carried out with a separate/additional order is done with the corresponding service measure!
- Only start with this Technical Product Information once the service measure has been carried out.

Regarding point 1.2: Checking the hardware part number of the data bus diagnosis interface control unit (vehicle diagnostics equipment):

Observation: Before carrying out this Technical Product Information, consult/check the hardware part number of the data bus diagnosis interface control unit with the vehicle diagnostics equipment. The measure can only be carried out with certain hardware part numbers.

- The **hardware part number** that is currently installed can be checked with the vehicle diagnostics equipment as described below.
 - Self-diagnosis
 - 0019 Data bus diagnosis interface
 - Identification
 - Check the hardware part number of the data bus diagnosis interface control unit (see Figure 1, orange rectangle)

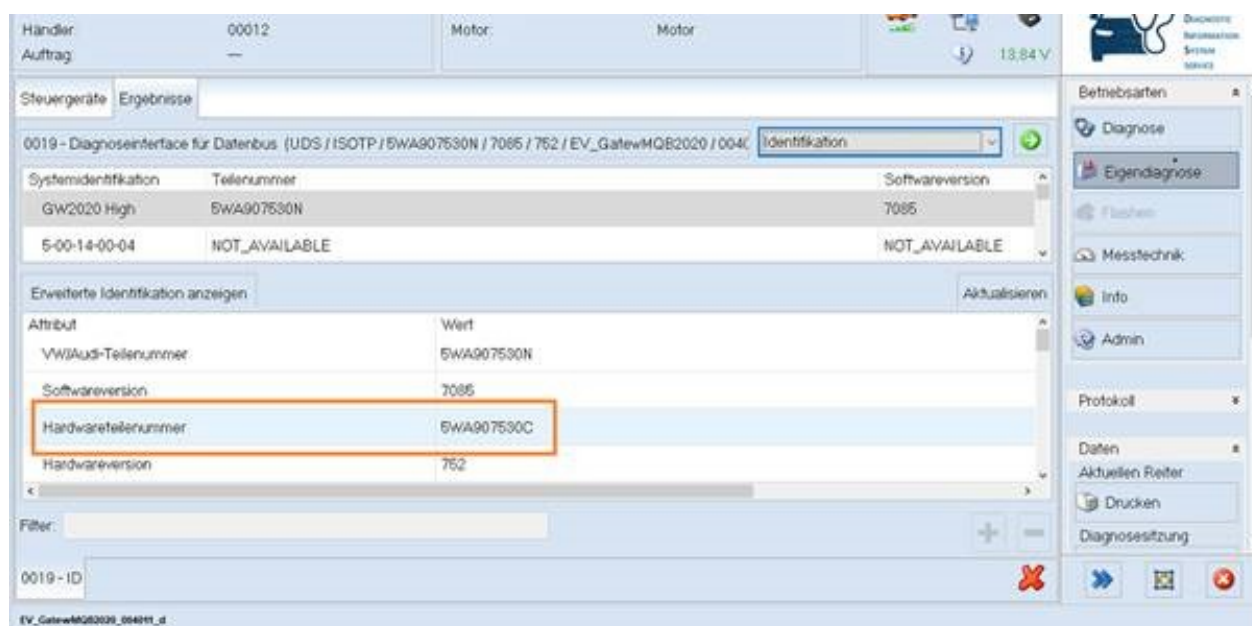


Figure 1: As an example: Checking the hardware part number of the data bus diagnosis interface control unit (diagnosis address: 0019)

- Check if a data bus diagnosis interface control unit is installed in the vehicle (-J533-, diagnosis address: 0019) with the following hardware part number:

| |
|--|
| Hardware part reference number: |
| 5WA 907 530 C |

Results of the check:

- If a data bus diagnosis interface control unit with the hardware part number indicated above (with letter "**C**") is installed:
 - Continue to point: "**Regarding point 1.3**".



If a data bus diagnosis interface control unit with the hardware part number indicated above is not installed:

- The data bus diagnosis interface control unit must be changed for the one indicated in ETKA.

Regarding point 1.3: Check if it is necessary to enable functions:

Observation: With certain vehicles, an **additional enabling of predictive route data functions** must be carried out after the software update. Licence data are required for this.

- For a limited range of VINs (see the table below), **check if an additional enabling of functions is necessary:**

| Model: | Range of VINs for which the enabling of predictive route data functions must be checked: | |
|-----------|--|------------------------|
| | From: | To (inclusive): |
| LEON (KL) | VSS ZZZ KL Z LR 000334 | VSS ZZZ KL Z LR 014785 |

| Model: | Range of VINs for which the enabling of predictive route data functions must be checked: | |
|----------------|--|------------------------|
| | From: | To (inclusive): |
| FORMENTOR (KM) | VSS ZZZ KM Z MR 000226 | VSS ZZZ KM Z MR 007184 |

Results of the prior manual check:

The VIN is not within the indicated range.

- The vehicle is **not affected**; it is **not necessary** to carry out any further checks and it is **not** mandatory to enable predictive route data functions.
 - Continue with point: "**Regarding point 2.**".

The VIN is within the indicated range.

- The vehicle is **affected**: The additional check must be carried out to find out whether an additional enabling of the predictive route data functions is necessary.
 - The activation codes required to activate the function (activation code/activation number/activation PIN) must be requested from your importer via a DISS Technical Enquiry.
 - The functions must be enabled later, save the codes received and use them in point 6.



Once the software update is complete, the navigation in the affected vehicles will not start if the predictive route data functions have not been enabled.



In order to guarantee a smooth/short workshop process, it is recommended to send the request to your importer before the expected date of the software update (as soon as possible).

Regarding point 2. Preparing the measure:

Regarding point 2.1: Prepare the USB stick for the radio and navigation system software update.

- Generate the USB stick (Type-C 32 GB) using the SD-Creator according to TPI 2059999/*.
- It is recommended to use a conventional USB stick in the following format:
 - **USB Type-C** (due to the data transmission speed required),
 - **USB stick memory: 32 GB**,
 - **Formatting: FAT32**.



Do not use a USB hub (a device with USB ports that allows several USB devices to be used in a USB connection) to install the software update in the vehicle.

The USB stick must be created for the information electronics control unit software update:

- Prior to use, identify the **USB stick** with the corresponding reference number:

| | |
|-----------------------------|-----------|
| USB stick reference number: | |
| 5FA 919 360 S | USB stick |

Regarding point 2.2: Indications regarding personal user settings in the vehicle:

- Inform the customer in advance that when updating the radio and navigation system software, the user settings will be reset to factory settings. **Customer-specific settings** (radio stations, telephone connections, etc.) will be **deleted**. Customer-specific settings must be saved again after the software update.
- If necessary, the customer must reconnect as the " **primary user** " in order to use the "SEAT Connect services". To connect as the " **primary user** ", the login name (customer's email address) and the customer's password are required. To become the " **primary user** " of the "SEAT Connect services", **both vehicle keys (radio frequency remote controls) are required**.
- With the software update, it is possible that the door window **comfort opening** settings will have to be **selected again**.

Comfort opening example: If the "open button is pressed and held" on the vehicle key/radio frequency remote control, the driver window, all windows or (depending on the selection) no window will open. The selection is made via the control panel and the radio and navigation system screen. "Vehicle" -> „Vehicle status" -> "Exterior" -> "Window" -> ""All windows"/ "Driver window" / "Off".

Regarding point 2.3: Indications regarding the implementation of software updates:

- Ensure there is a **battery charger** connected to the 12 V battery.
- The manufacturer recommends using the diagnosis interface **-VAS 6154A-** for the software update.
- For the software update, use the diagnosis interface VAS 6154A exclusively in **USB mode** as it offers extremely high transmission stability.

Requirements for updating the control units:

- Perform the **diagnostics equipment** update according to the **latest version available**, this version must be installed as a minimum:

| Offboard Diagnostic Information System Service diagnostics equipment: | |
|---|--------------------|
| Patch version (product version) | from 9.1.0 |
| Base version (diagnosis data didb_GFS- v) | from 2.23.1 |

- If necessary, proceed to **delete** the **hotfix file(s)** that may have been installed from the vehicle diagnostics equipment, as otherwise, event memory entries may be recorded when using/updating the software.
- **Disconnect** all **unnecessary electrical equipment** (e.g. ventilation, seat heating, etc.).
- Make sure that **sources of electromagnetic radiation** (e.g. mobile phones or wireless DECT phones) are not used either in the car or in the immediate vicinity while updating the control unit software.
- **During the software update, only one key (radio frequency remote control)** is permitted in the vehicle/in the reader coil (place the other vehicle keys well away from the vehicle (at least more than 10 metres away)).
- If problems related to the software update occur, always activate the **"Help, Technical support"** button on the diagnostics equipment.

Regarding point 3. Data bus diagnosis interface control unit (vehicle diagnostics equipment):



This point must only be carried out if a data bus diagnosis interface control unit (-J533-, diagnosis address 0019) with hardware part number "letter C" is installed in the vehicle. Otherwise, the Technical Product Information will not apply to the vehicle.

- Open the driver door and the bonnet and leave them open while updating the software.
- Vehicles without an ignition lock installed (Kessy): Place the vehicle key in the centre console (in the reader coil) (see Figure 2).



Figure 2: Vehicle without ignition lock (Kessy): Vehicle key placed in the centre console

- Switch the ignition on.
- Set the gear selector to position "P".
- Release the handbrake.
- Access the diagnosis.
- Start the diagnosis with the "Diagnosis" button.
- In "**Special functions**" start the "**Adapt software**" test program. Then select button number 2 "**by test code**".
- Enter the test code according to the following table:

| |
|--|
| Test code for updating the data bus diagnosis interface control unit and parts update : |
|--|

| |
|------|
| 3627 |
|------|

- Follow the instructions that appear on the diagnostics equipment.
- If the diagnostics equipment returns the message "**The data version is current**", end the diagnostic session. In this point, existing event memory entries can be ignored.



If no software update is offered, it means that the required version of the software is already installed. In this case, no further work is required in point: regarding point 3 .

- Continue with point: "**Regarding point 4.**" .

Regarding point 4. Update the control units (vehicle diagnostics equipment) and, in parallel, update the radio and navigation system software (parallel flash update):

Regarding point 4.1: Update the software of various control units:

- Open the driver door and leave it open while updating the software.
- Switch the ignition on.

- Set the gear selector to position "P".
- Start the diagnosis with the "Diagnosis" button.
- In "**Special functions**" start the "**Adapt software**" test program. Then select button number 2 "**by test code**".
- Enter the test code according to the following table:

| Update test code |
|------------------|
| 3629 |

- Follow the instructions on the diagnostics equipment (the software of various control units will be updated).
- As soon as the software update of the control units has been started, you can start the software update (step 2) of the radio and navigation system **in parallel** (see point: "**Regarding point 4.2**").

Regarding point 4.2: Reset the radio and navigation system to factory settings:

- Press the "**Setup**" button on the control panel and screen.
- Press the "**Auf Werkseinstellungen zurücksetzen**" ("**Reset to factory settings**") button a little further down and confirm with "**OK**".
- The radio and navigation system will be reset to factory settings.

Regarding point 4.3: Update of the software (USB stick) of the radio and navigation system (in parallel).

If the software update from point 4 has been started, start the **radio and navigation system software update in parallel** using the USB stick as described below (software updates of units from point 4.1 and the radio and navigation unit can be performed simultaneously (in parallel)):

- Turn on the radio and navigation system. Please wait 5 minutes until all the functions of the devices have loaded.
- Remove/disconnect all USB connectors, charging cables, etc. from the USB interfaces.
- Connect/insert the "**USB stick**" (reference number: **5FA 919 360 S**) in one of the two USB interfaces (located above the storage compartment in the centre console).
- Press and hold the "**Menu/Home**" button for about 5 seconds. The service menu will open, see Figure 3, red circle.



Figure 3: Press and hold the Menu/Home button on the control panel screen for about 5 seconds.

- Press the button: "**Software-Aktualisierung/ Versionen**" "**Software Update/Versions**", then press "**Start Update**".
- Press the following buttons consecutively: "**Update**" -> "**USB**" -> "**Next List**" -> "**Start Update**".
- The software update of the radio and navigation system will start and run automatically.
- The software update of the radio and navigation system has finished when the following "**Update Summary**" messages are displayed on the control panel screen

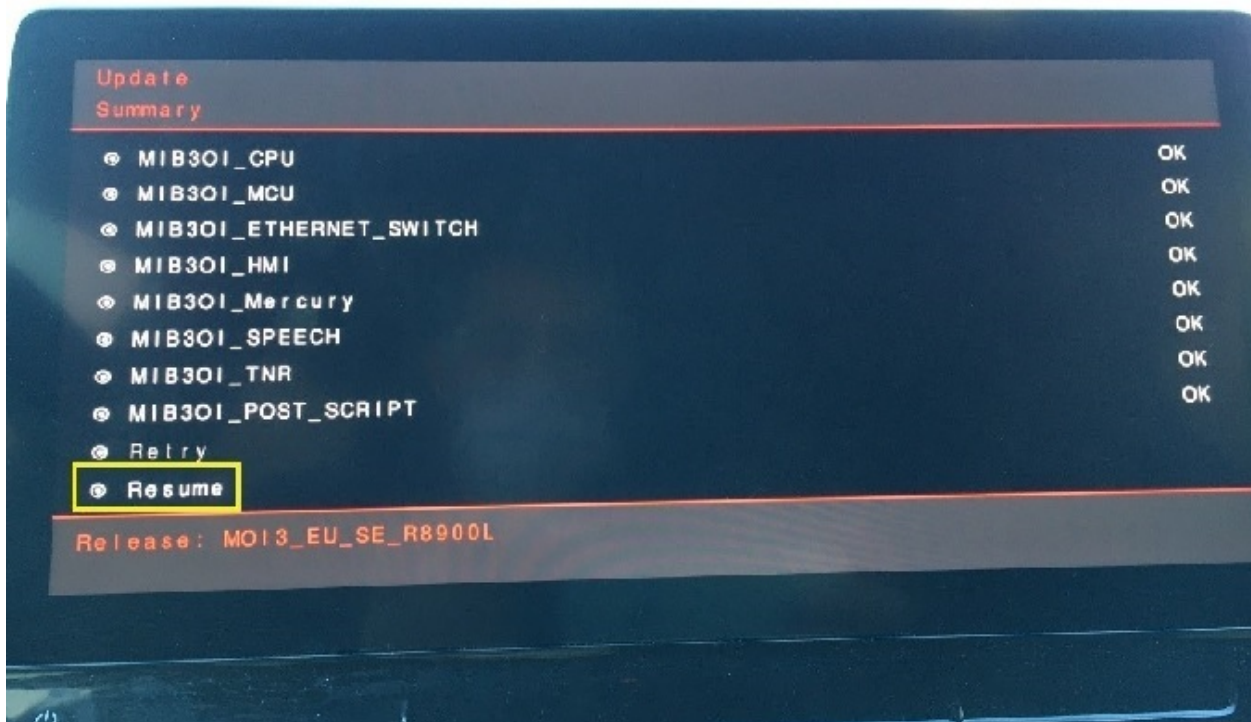


Figure 4: "Update Summary" of the radio and navigation system

- Press the button: "**Resume**" (see Figure 4, yellow rectangle).
- To finish the software update of the radio and navigation system, the following message is displayed: "**Software has been updated**".
- Confirm with the button: "**Accept**" (see Figure 5).



Figure 5: Finishing the software update of the radio and navigation system with the button: "Accept"

- Remove the USB stick.

Regarding point 4.4: Checking the update results and ending the diagnosis session:

- Once the diagnostics equipment has successfully completed the software update of various control units (see **"Regarding point 4.1"**), **check whether all control units have updated successfully.**
After each control unit name, there should be a note that indicates that the update has completed successfully:

Las siguientes unidades de control se han actualizado:

1: 0009 Elektronische Zentralelektrik
Flashen IO

2: 0015 Airbag
Flashen IO

3: 0075 Notrufmodul und Kommunikationseinheit
Flashen IO

4: 0075 Notrufmodul und Kommunikationseinheit
Flashen IO

5: 0075 Notrufmodul und Kommunikationseinheit
Flashen IO

6: 0075 Notrufmodul und Kommunikationseinheit
Flashen IO

Figure 5.1: Example of successful update of the control units, make sure that at the end of the list of each point (red square), the term OK or IO appears, or the relevant term in your language.

- When all control units have been successfully updated, end the diagnosis session and proceed with Regarding point 5.
- If one or more control units have a "not OK" or "niO" note, or the relevant non-compliance message in your language, the software update must be repeated using the test code (return to point "4.1").

Regarding point 5. Adapt the Vehicle Key Management System (VKMS):

Observation: The VKMS will be adapted.

Regarding point 5.1: Adapt the Vehicle Key Management System (VKMS):

- After the software update, perform the **"0025-VKMS Functions -> Adapt VKMS"** check.
- In the **"Test plan"** mode (see Figure 6, highlighted in red), select the function **"Select own check..."** (see Figure 6, highlighted in red).

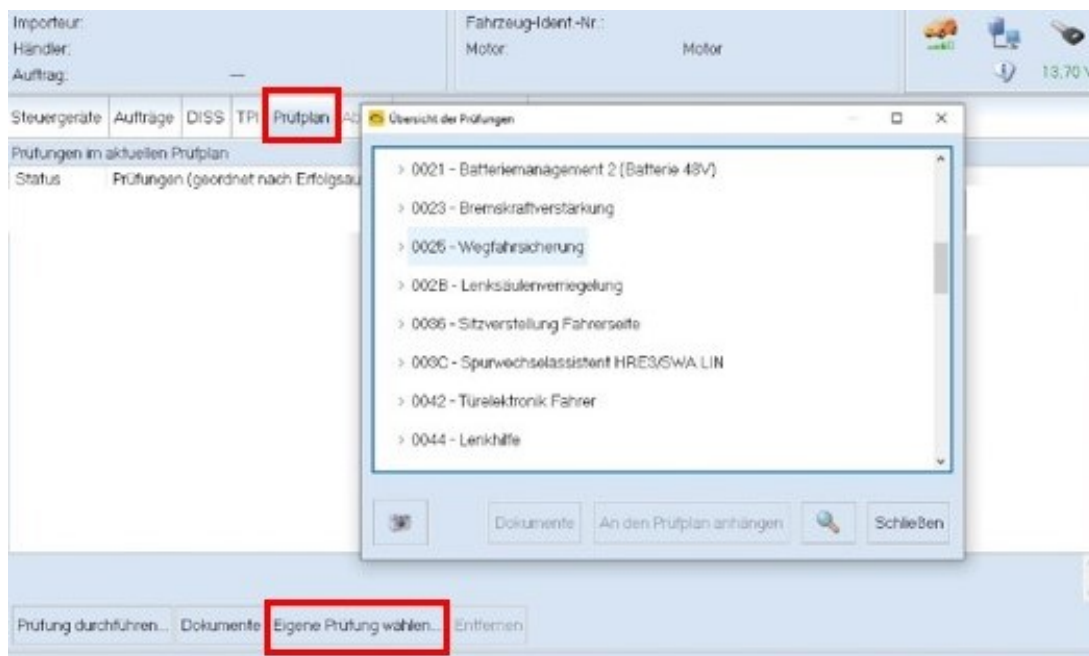


Figure 6: Test plan: Adapt the VKMS

- Select the check **"0025-VKMS Functions -> Adapt VKMS"** (see Figure 7, highlighted in red) and attach it to the test plan (see Figure 7, highlighted in red). **"Systems suitable for diagnosis" -> "0025 - Immobilizer" -> "0025 - VKMS Functions" -> "Adapt VKMS"**.

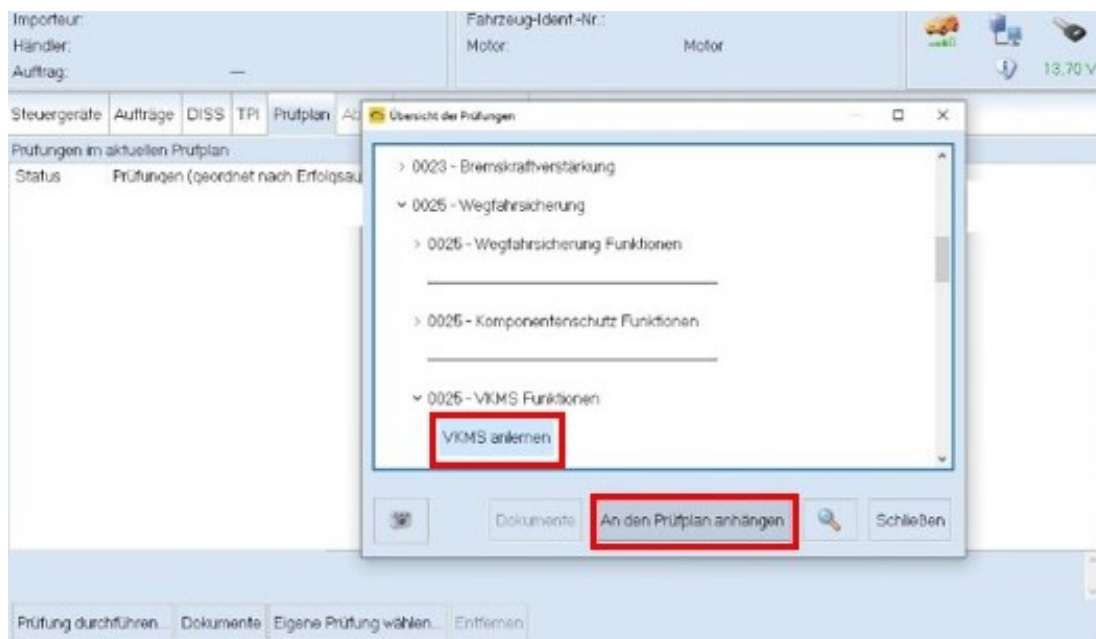


Figure 7: Test plan: Adapt the VKMS

- Press the button: **"Perform check..."** .
- Follow the instructions that appear on the diagnostics equipment.
- Continue with point: **"Regarding point 6."** .

Regarding point 6: Enabling of the predictive route data functions:

Observation: Depending on the vehicle, the predictive route data functions should be **enabled (licence)** or **reset** .

Regarding point 6.1: Enable the predictive route data functions:

If the check described in point: **"Regarding point 1.3"** resulted in an additional enabling of the predictive route data functions, then the functions must be **enabled** :

- Before you start, make sure you have the new activation codes that your importer previously provided you with.
- The functions must be enabled as follows on the diagnostics equipment:
 - **Special functions -> Enabling of functions system (FFS) -> Select "1 Enable function"** (point 1 in the test program).
 - The function can be activated with the licence data obtained from your importer: FM code xxxxxxxxxx /// licence number = xxxxxxxxxx /// PIN = xxxxxx.
 - Follow the instructions that appear on the diagnostics equipment.

Regarding point 6.2: Resetting the predictive route data functions:

- The functions must be reset as follows on the diagnostics equipment:
 - **Special functions -> Enabling functions system (FFS) -> Select "2 Reset function"** (point 2 in the test program).
 - Specify diagnosis address "0019".
 - Press "Done/Next".

- Follow the instructions that appear on the diagnostics equipment.

Regarding point 7. Checking the software has updated correctly (vehicle diagnostics equipment):

- The control units listed in the table published as an attachment are updated with this software package.
- The diagnostics equipment allows you to check, with the "control unit identification", if the new software version was written/programmed correctly according to the table published as an attachment.

TARGET software versions of the software update are listed in the table published as an attachment.

- Continue with point: "**Regarding point 8.**".

Regarding point 8. Implement basic settings and bus rest (vehicle diagnostics equipment):

- If necessary: Reactivate the "Auto-Hold" function.
- With the software update, it is possible that basic settings have been lost (for example: power windows, turning angle sensor). Process the test plan calculated by the diagnostics equipment in relation to:
 - basic settings,
 - disable/lock SFD protection.
- If applicable, the comfort opening of the windows with the vehicle key (radio frequency remote control) must be performed as described in point: "**Regarding point 2.2**".

Perform bus rest:

1. Switch off the ignition.
2. Remove the radio communication diagnostic head from the on-board diagnostic connector (vehicle side).
3. Proceed to disconnect the battery charger
4. Close the bonnet, tailgate and doors.
5. Proceed to lock the vehicle from the outside with the vehicle key (radio frequency remote control). Place the ignition key at a minimum distance of 20 metres from the vehicle.
6. Wait at least **24 minutes** (bus rest).
7. Proceed to unlock the vehicle from the outside with the vehicle key (radio frequency remote control).
8. Connect the battery charger.
9. Connect the radio communication diagnostic head to the on-board diagnostic connector (vehicle side).
10. Switch the ignition on.
11. Insert the ignition key (radio frequency remote control) into the reader coil on the centre console.
12. Complete the diagnosis. The event memory entries will be deleted automatically.

Regarding point 9. Additional information on the software update:

Indication 1: The control unit software update cannot be disabled/enabled.

In certain cases, after the control unit software update, the ignition cannot be disabled/enabled with the "start button". In this case, proceed as described below:

- Remove the ignition key (radio frequency remote control) from the centre console (from the reader coil).
- Proceed to lock the vehicle once from the outside with the radio frequency remote control, and then immediately unlock it again.
- Insert the ignition key (radio frequency remote control) into the reader coil on the centre console.
- Switch the ignition on.
- Follow the instructions on the diagnostics equipment.

If the claim persists (the ignition cannot be turned on/off with the “start button”):

- Disconnect the 12 V battery
- Wait 2 minutes. Reconnect the 12 V battery
- Switch the ignition on
- Start the engine
- Adapt the steering stops
- Adapt the power windows
- Switch off the engine
- Switch off the ignition
- Turn the ignition on again
- Follow the instructions on the diagnostics equipment

Indication 2: The Airbag control module 0015 does not allow the software to be updated.

In certain cases, the Airbag control module with SW 0036 detects that the impact counter is not at zero and does not allow it to be updated.

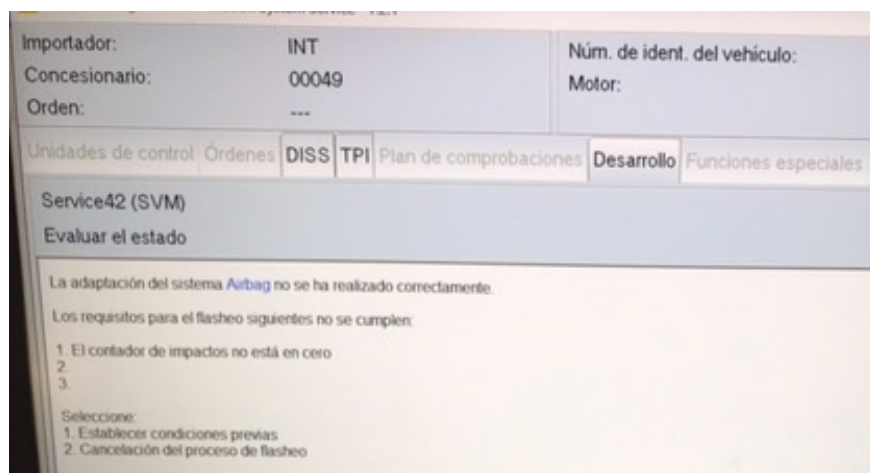


Figure 8: Example of the diagnostics equipment screen.

- To resolve this error, the Airbag control module 0015 must be replaced.

Indication 3: Event memory entry in the data bus diagnosis interface control unit:

- If, immediately after the successful software update, the following entry is recorded in the event memory of the **data bus diagnosis interface control unit** (diagnosis address: 0019), it can be ignored. This event memory entry does not cause any customer claim.
 - "U164300 - Ethernet reversing camera system control unit - No communication"

Warranty accounting instructions



If the vehicle is affected by service measure 90T4:

- Settle the work carried out with a separate/additional order (order 1) with the corresponding service measure.
- The Technical Product Information measures carried out are settled with a second order (order 2) (without taking into account service measures that have been carried out).



If there is no active customer claim, settlement under warranty is not possible.

Service ID / Anomaly / Manufacturer: **S569** / **0041** / ...



- The work times published in this TPI correspond to the TUs valid on the date of completion of this publication. The time units (TU) may vary slightly due to a subsequent update of the Catalogue of Work Items. The times currently in force according to the Catalogue of Work Items are valid, except for the work items entered manually (... 99).
- The time for the Offboard Diagnostic Information System Service is not included in the times specified below. The time must be invoiced separately using the Offboard Diagnostic Information System Service diagnosis report.
- As the radio and navigation software update (see point 3.3) is performed in parallel with the software update of the DoIP control units (see point 3.2), no individual work item for the work performed will be published in the settlement instructions.

| Work item No. | Description of work item | Time Units (TU) |
|----------------------------------|---|-------------------------------------|
| 01 50 00 00 | Guided fault finding/guided function | According to diagnosis protocol. 1) |
| 27 06 89 50 | Confirm battery voltage | 10 1) |
| Regarding point 2: | | |
| 01 50 00 99 | Start software update | 20 1) |
| Regarding point 8: | | |
| 06 89 00 99 | Start bus rest Includes: Disconnect and connect battery charger | 20 1) |
| 97 85 09 50 | Loosen and fix battery earth strap Note: Only when necessary. | 10 1) |
| If necessary for point 9: | | |
| 97 85 09 50 | Loosen and fix battery earth strap | XX 1) 2) |

| | | |
|-------------|---|-------|
| 06 89 41 99 | Adapt vehicle Includes: Adapt the steering stops and also adapt the power windows | 10 1) |
|-------------|---|-------|

2) Complete the XX according to the information in the SEAT Repair Manual for the vehicle type.