

Technical Service Bulletin

57 Audi advanced key and push button start do not work after key adaption

57 18 45 2046196/3 February 15, 2018. Supersedes Technical Service Bulletin Group 57 number 17-39 dated March 30, 2017 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Q3	2015 - 2019	All	Not Applicable

Condition

REVISION HISTORY		
Revision	Date	Purpose
3	-	Revised title Revised <i>Condition</i> (Completely revised) Revised <i>Technical Background</i> (Completely revised) Revised <i>Service</i> (Completely revised)
2	03/31/2017	Revised header data (Added model years 2018 and 2019)
1	12/12/2016	Initial publication

After performing an adaptation of the vehicles immobilizer, the features of Audi advanced key are no longer operational on one or more keys. This includes locking/unlocking of the vehicle from the door handle sensors, or starting the engine with the Audi advanced key.

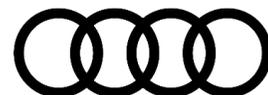
Operation of the door locks is still possible via the remote control buttons. The engine can still be started when holding the key onto the key reader coil, located on the steering column.

Technical Background

The Transponder ID of the Audi advanced key (Comfort Key) has been learned by the vehicle immobilizer (address word 0025), but not to the Access/Start Authorization System (address word 0005).

Production Solution

Not applicable.



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Service

The Audi advanced key stores information in many different modules. Anytime an immobilizer adaptation is performed, it is possible to lose this pairing due to outside influence.

This TSB contains three sections, giving an overview of best practices when performing an immobilizer adaptation:

- **Section 1: Immobilizer Adaptation Key Placement To Reader Coil**
- **Section 2: Verify Adaptation Of The Audi Advanced Key Transponder**
- **Section 3: Verify Adaptation Of The Key And Remote To Vehicle Immobilizer**

Section 1: Immobilizer Adaptation Key Placement To Reader Coil

1. Ensure the key being adapted to the vehicle is properly aligned to the reader coil (Figure 1):
 - LED of the key should face the reader coil.
 - Remote buttons facing upward (Figure 2).
 - Remote body placed perpendicular to the reader coil.

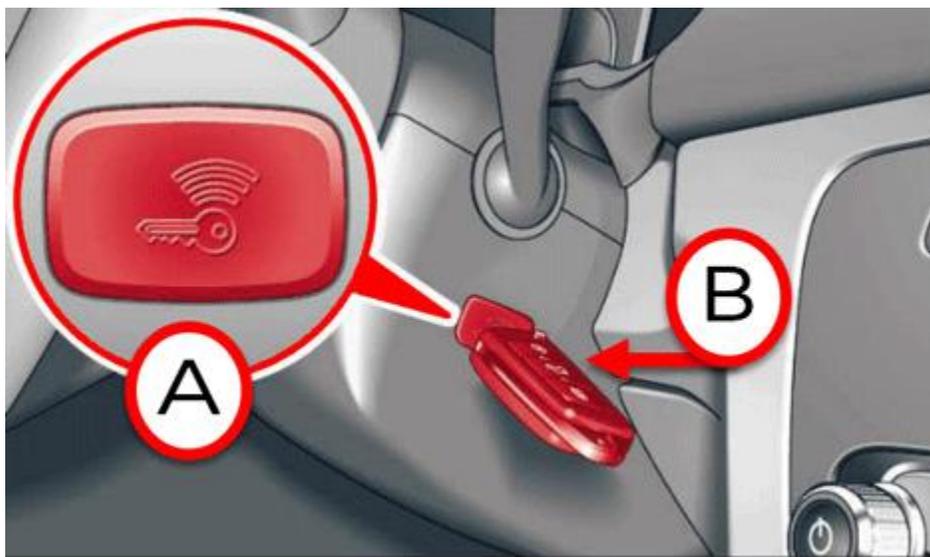


Figure 1. A: Emergency coil reader location. B: Hold top of key against coil.



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Figure 2. The correct way to hold the key while adapting it.

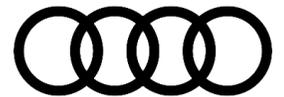
Figure 3. The incorrect way to hold the key while adapting it.

⚠ Note:

It is also important to ensure that all other keys are outside of the range of the Audi advanced key antennas while programming a key.

Section 2: Verify Adaptation Of The Audi Advanced Key Transponder

1. Access the basic settings menu of address word 0005 Kessy:
 - In the Control modules view of GFF, right click control on module 0005 “Kessy” to access this modules options (Figure 4A).
 - In the options menu, Click “Control module OBD”, to access the OBD functions menu (Figure 4B).
 - Highlight the “Basic Settings” option of the OBD functions menu, then click “Perform” (Figure 4C).



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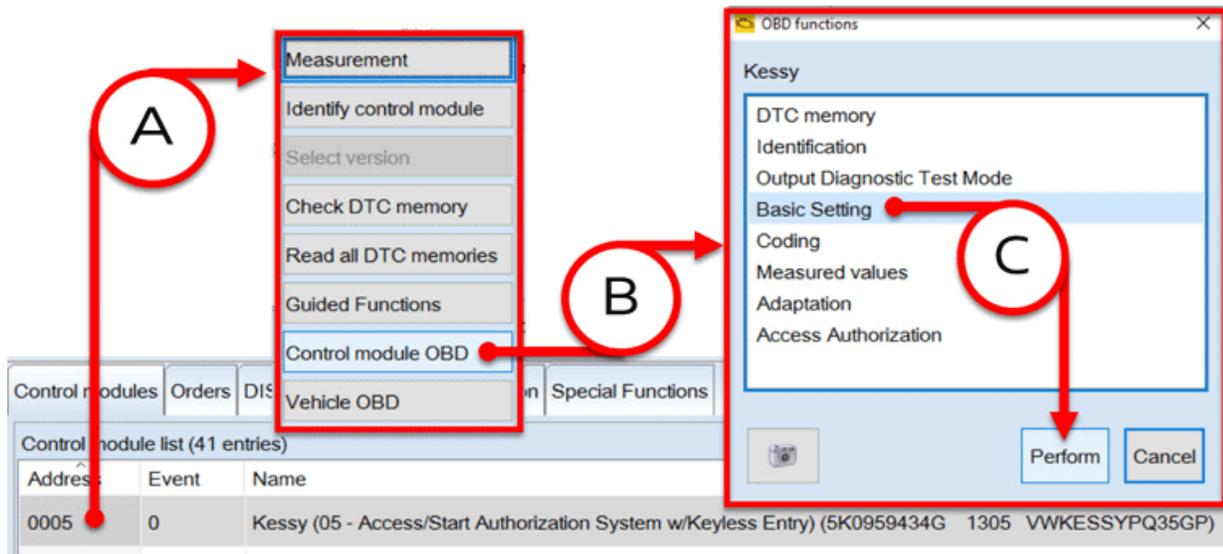


Figure 4. Access the basic settings menu.

2. Enable Basic Settings for “Key position, positioning”:

- Highlight the “Key position, positioning” Basic Setting, click the Single Selection Arrow to select this Basic Setting (Figure 5A).
- With the “Key position, positioning” Basic Setting moved into the Selection List, click the advance arrow to access this Basic Setting (Figure 5B).

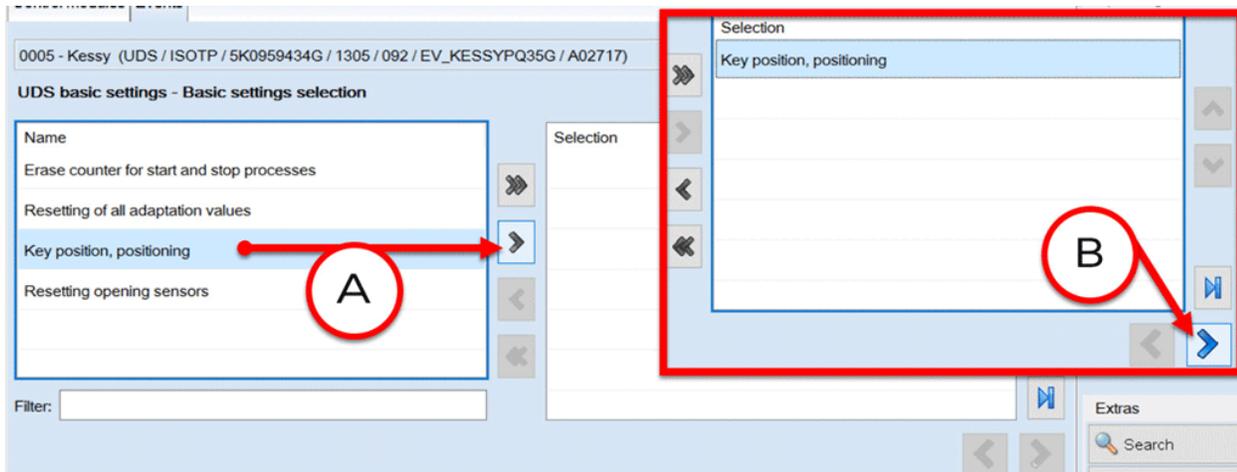
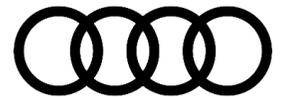


Figure 5. Enable basic settings.

3. Activate the Basic Settings for “Key position, positioning”:



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- In the Set Parameters menu, click the area directly under the Value column, this will then display a drop down menu, select “On” (Figure 6A).
- Once the Value for “Key position, positioning” parameter reads “On”, click the advance arrow (Figure 6B).

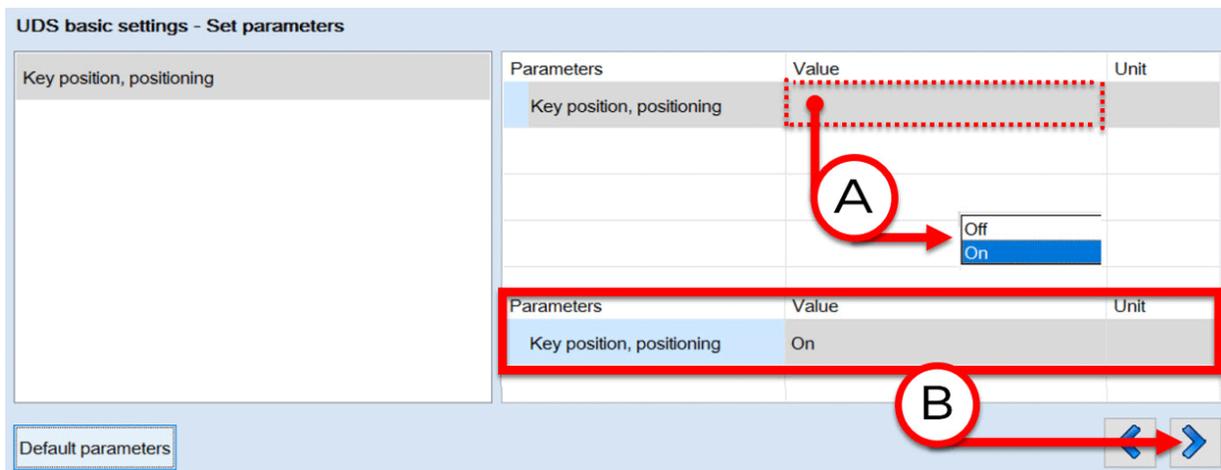


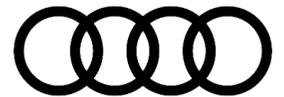
Figure 6. Activate the Basic Settings.

4. Validate that each key is learned in the Audi advanced key system:

- Ensure the ignition is on (KL15) and place all keys inside the vehicle, on the passenger seat.
- Click the Start button (Figure 7) to initiate a search of all Audi advanced keys, which are paired to the system and inside the vehicle.
- The Status of the basic settings will turn to “active” (Figure 8A), the vehicle will then send a single communication request of the Audi advanced key system and you will see the LED of each key flash.

The Measured values section will display the Audi advanced key pairing status for each key:

- A “Yes” value indicates proper pairing, and a “No” value indicates no pairing.
- Each Measured value of “[MAS02***]_ID sensor **” represents a single key. For example [MAS02399]_ID sensor 2 represents Advanced Key number 2.
- In the example displayed by Figure 8, you can see that the Audi advanced key system has been paired to key number 2 (Figure 8C), but not key number 1 (Figure 8B). In this example, only two keys were placed on the passenger seat. Based on this, you know key number 2 will operate the Audi advanced key functions for this vehicle.
- Click Stop (Figure 8D) to end the measurement.



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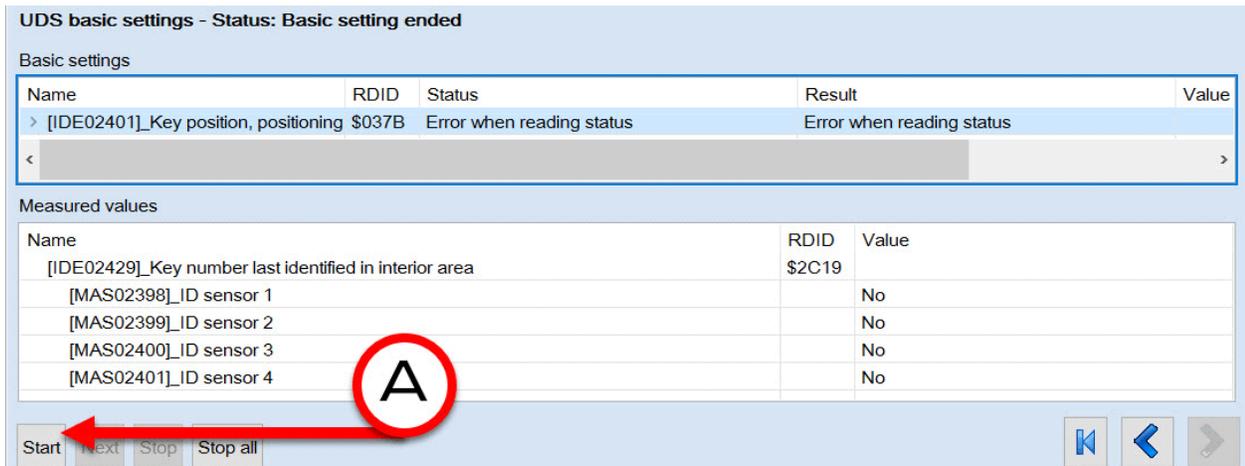


Figure 7. Validating the key.

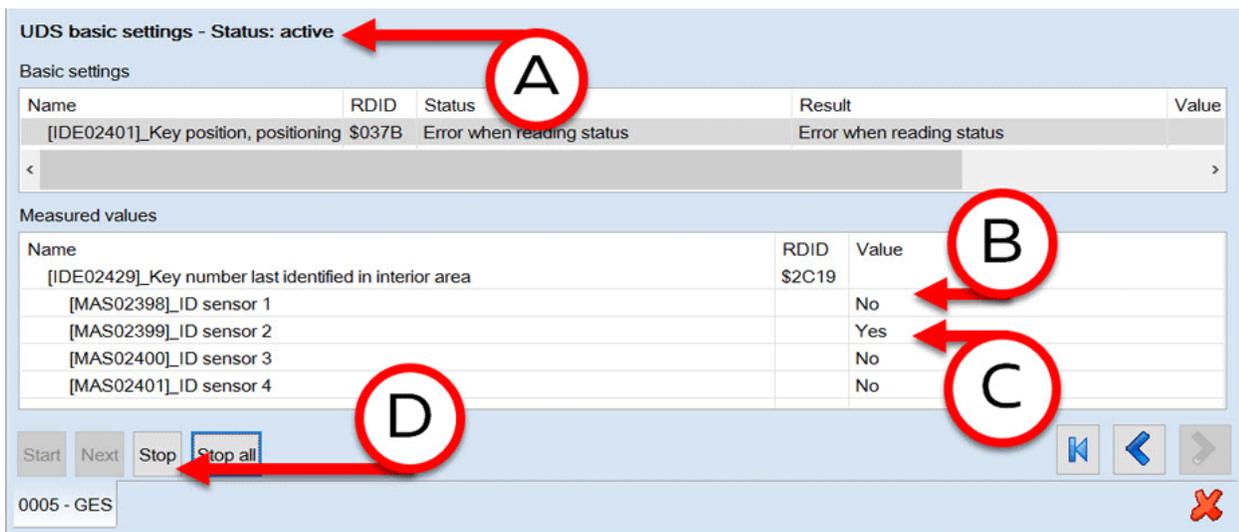
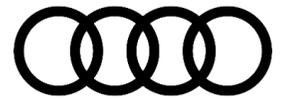


Figure 8. Measured values section.

5. To match individual Audi advanced key ID to the physical key:

- Remove all keys from the vehicle (ensure that accessory power (KL15) remains on).
- Place a single key on the passenger seat.
- Click Start (Figure 7A).
- If the key on the passenger seat is paired to the Audi advanced key system of the vehicle, its ID number will show a value of "Yes".
- Label each key with its current Audi advanced key number.



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- Click Stop (Figure 7D).
- Repeat this process for all remaining keys.

 **Note:**

If there is a problem with the pairing for one or more Audi advanced keys, adapt the keys to the vehicle in their respective Audi advanced key ID order.

Example (using the result from Figure 8 and assuming you have a total of three keys):

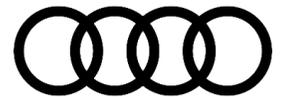
- Using this processes you would identify and label one key as Audi advanced key 2.
- During the immobilizer adaptation, when prompted to hold key 1 on the coil, you would program an unknown key.
- When prompted to hold key 2 on the coil, you would program the identified Audi advanced key 2.
- When prompted to hold key 3 on the coil, you would program an unknown key.

 **Note:**

It is good practice to additionally check the Audi advanced key pairing with no keys in the vehicle. If an Audi advanced key is identified, with all known keys out of the vehicle, an inspection should be performed to locate the unknown key. This could cause errors when teaching a key to the vehicle.

6. Deactivate the Basic Settings for “Key position, positioning”:

- Ensure the Basic Settings has ended by clicking Stop (Figure 9A).
- Click the Return Arrow (Figure 9B) to return to the Set Parameters Menu.
- After clicking the Default Parameters Button (Figure 9C) the Key position, positioning will end. The display text will turn red, and the value will disappear.
- You can now exit the Basic Settings menu and return to the Diagnosis Operating mode.



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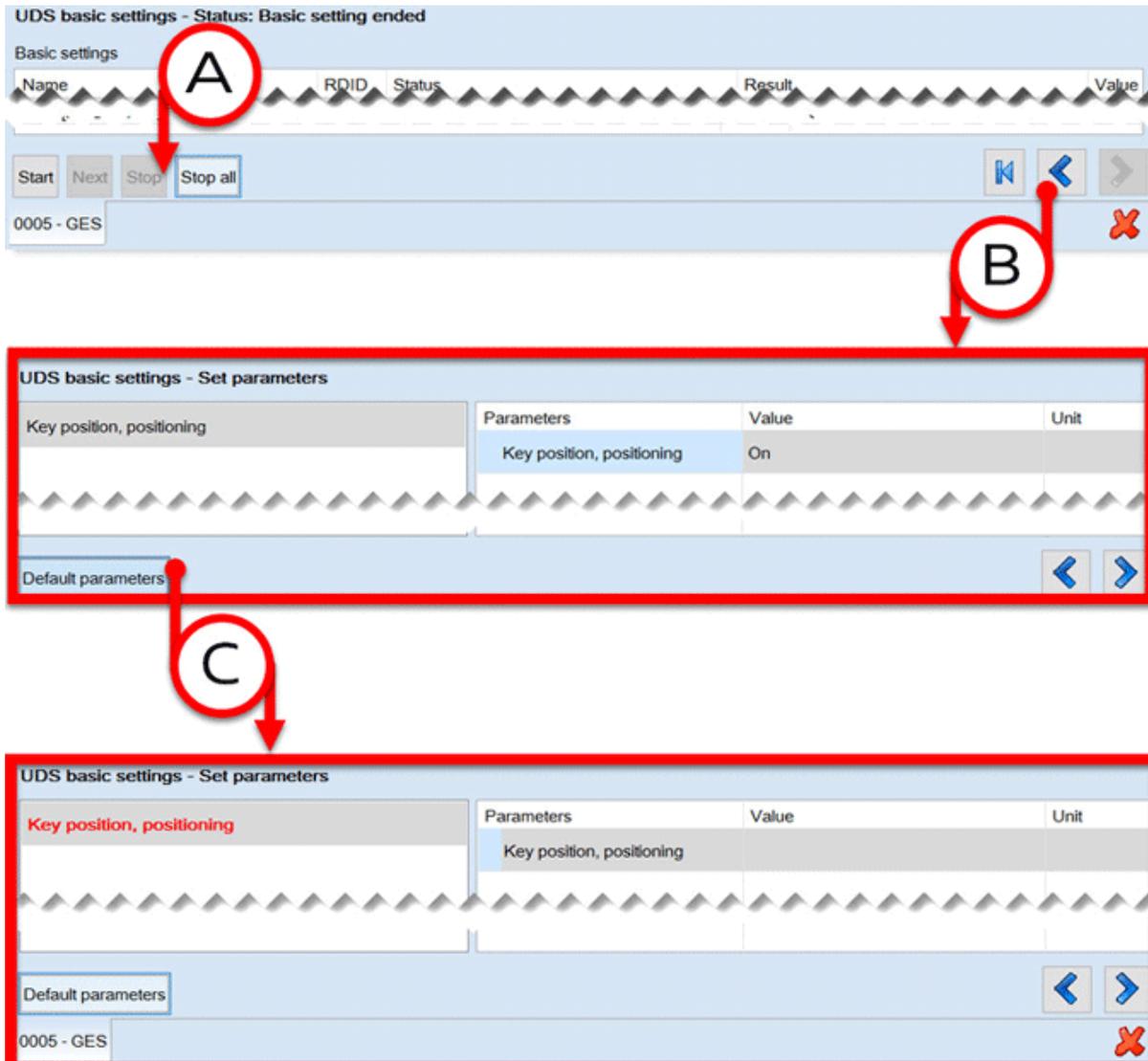
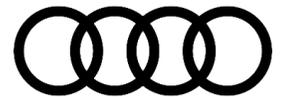


Figure 9. Deactivate the Basic Settings for “Key position, positioning”.

Section 3: Verify Adaptation Of The Key And Remote To Vehicle Immobilizer

1. Access the basic settings menu of address word 0009 Central Electrics:
 - In the Control modules view of GFF, right click control module 0009 “Central Electrics” to access this modules options (Figure 10A).
 - In the options menu, click “Guided Functions”, to access the Guided Functions menu (Figure 10B).
 - Highlight the “...Read MVB” option of the Guided Functions menu, then click “Perform” (Figure 10C).



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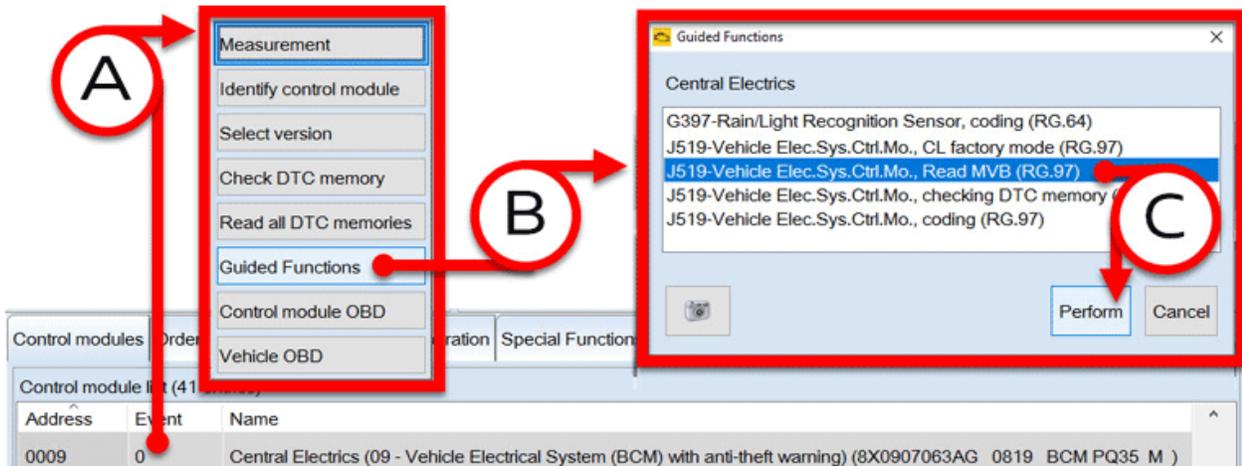


Figure 10. Read MVB.

2. Readout Value Block 91:

- In the Measured values selection menu, filter the available measured value IDs by entering 91 into the Filter text box (Figure 11A).
- Confirm the selection by clicking the Selection check box for IDs 91.1, 91.2, 91.3, and 91.4 (Figure 11B).
- Continue by clicking OK (Figure 11C).
- In the Read measured values menu, click Start Update (Figure 12A).

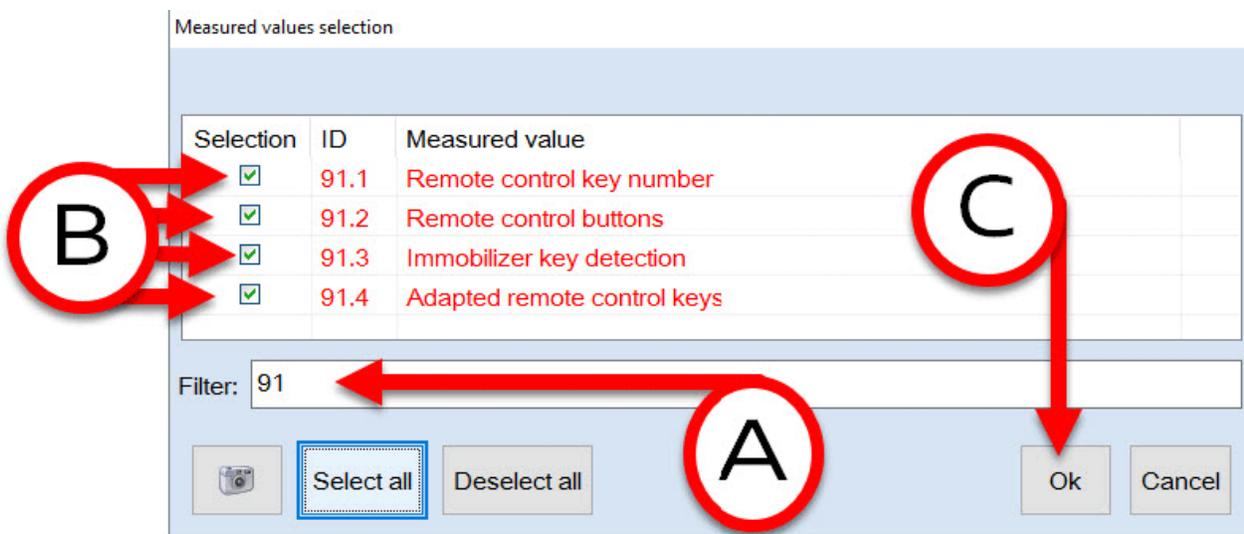
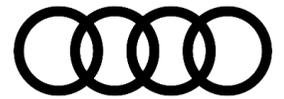


Figure 11. Readout Value Block.



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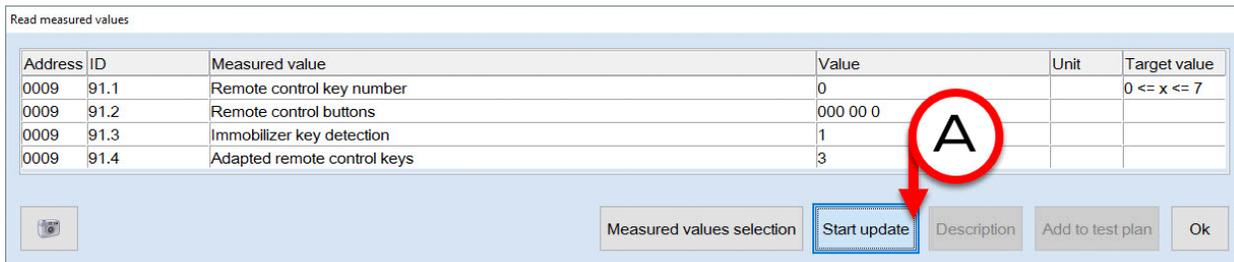


Figure 12. Read measured value menu “Start update”.

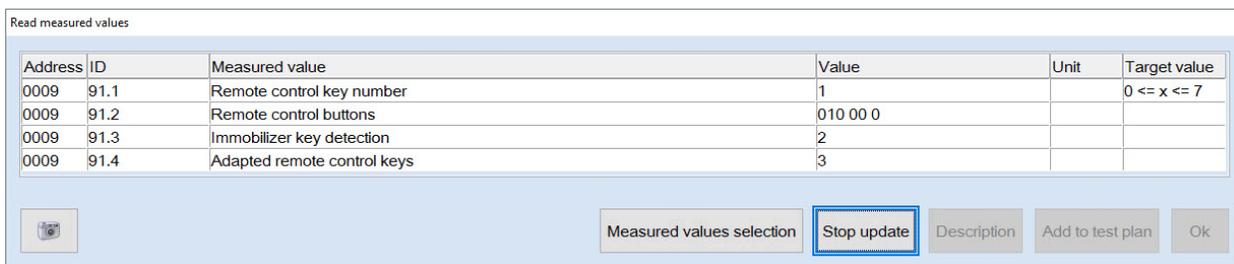


Figure 13. Read measured value menu.

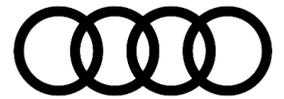
3. Check the measured values against your vehicles configuration:

91.1 – Key Number In Use:

- Press a button on the remote control.
- The value will update showing you which key number is being identified.
- Using Figure 13 as an example, you can see the system has identified key number 1.

Note:

When possible, keys of this system should be readapted to their current position. Example: When adapting a new key to the vehicle, because a key has been lost, check and note each existing keys number (this scenario assumes that key 1 has been identified, and the customer lost key 2). When prompted to hold key 1 on the coil you would hold the key with remote control key number 1 to the coil. When prompted to hold key 2 on the coil, you would hold the new replacement key to the coil.



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91.2 – Key Remote Button Pressed:

- Press a button on the remote control.
- One of the bits will change from 0 to 1 based on what button you have pressed. See Figure 14 for decoding.
- Using Figure 13 as an example, you can see the system recognized that the lock button was pressed.

A	B	C	D	E	F
0	0	0	0	0	0

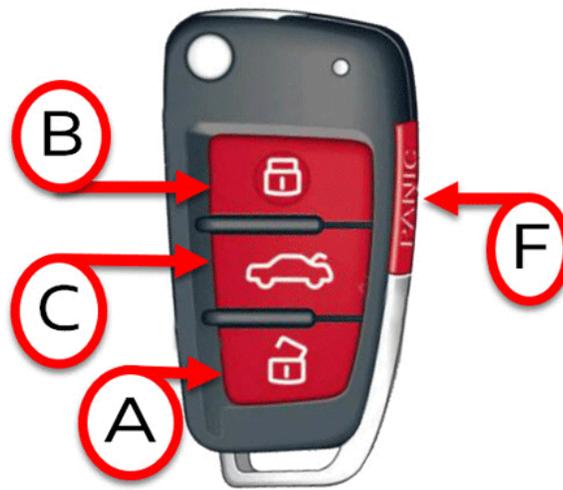


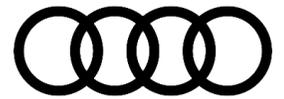
Figure 14. Decoding.

91.3 – Key Number Used For Immobilizer Authentication:

- When the Start/Stop button is pressed, the system authenticates only one key. If there are multiple keys in the vehicle, they will all respond, but only one ID will pair to the immobilizer.
- To check the pairing of a key to the immobilizer you must only have one key in the vehicle. The vehicle must be switched off and locked for a period of one minute. Unlock the vehicle, then press the engine start button. You will see the LED of the key flash, indicating a data transfer between the vehicle and the key. Once this has been completed, read out the measured value. If the LED does not flash on the key, a recheck of the immobilizer's authentication has not occurred.
- Using Figure 13 as an example, you can see the immobilizer is authenticated against key number 2.

91.4 – Total Number Of Keys Currently Adapted To The Immobilizer:

- Number of individual keys that are currently adapted to the vehicles immobilizer.
- Using Figure 13 as an example, you can see there are three keys adapted to this vehicle.



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Warranty

This TSB is informational only and not applicable to any Audi Warranty.

Additional Information

All parts and service references provided in this TSB (2046196) are subject to change and/or removal. Always check with your Parts Department and service manuals for the latest information. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

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