



# Installation Instructions

## APS Advance Rear View Camera

v1.2 (26.09.2023)

## Contents

<b>1</b>	<b>Liability Exclusion</b>	<b>3</b>
<b>2</b>	<b>Copyright</b>	<b>4</b>
<b>3</b>	<b>General notes</b>	<b>4</b>
<b>4</b>	<b>Safety Instructions</b>	<b>5</b>
<b>5</b>	<b>Requirements for the intended use</b>	<b>5</b>
<b>6</b>	<b>How to connect a cable to another</b>	<b>6</b>
<b>7</b>	<b>Note Cable Inscription/Color</b>	<b>7</b>
<b>8</b>	<b>Assembly Instructions</b>	<b>8</b>
<b>9</b>	<b>Assembly Note</b>	<b>9</b>
<b>10</b>	<b>Disassembly tailgate covering</b>	<b>10</b>
<b>11</b>	<b>Disassembly trunk covering passenger's side</b>	<b>11</b>
<b>12</b>	<b>Disassembly covering driver's side</b>	<b>12</b>
<b>13</b>	<b>Disassembly button / Assembly rear view camera</b>	<b>13</b>
<b>14</b>	<b>Cable routing tailgate to main unit</b>	<b>14</b>
<b>15</b>	<b>Dissassembly main unit</b>	<b>16</b>
<b>16</b>	<b>Connection cable set</b>	<b>17</b>
<b>17</b>	<b>Coding with Coding Interface</b>	<b>19</b>
<b>18</b>	<b>Coding Interface</b>	<b>19</b>
<b>19</b>	<b>Bus rest</b>	<b>20</b>
<b>20</b>	<b>Connection/Troubleshooting cable set</b>	<b>20</b>

# 1 Liability Exclusion

Dear Customer,

Our cable sets are developed according to the connection- and circuit diagrams of the corresponding car manufacturers. Before the serial production, the cable sets will be adjusted and tested on an original vehicle. Therefore, the integration into the vehicle electronics follows the guidelines provided by the car manufacturer. Our installation instructions correspond to what is common in the vehicle electric/electronic regarding the required pre-understanding and the accuracy of the description in text and picture. They have proven its worth in practice hundreds of times.

If you should experience any difficulties while installing one of our products, we are available to provide support via phone or email. Additionally, we offer you to execute the installation in our workshop in Bad Segeberg.

Costs, arising from third parties assigned with the installation of our products, are not being covered by us. We will only compensate the proven costs of the assembly and the costs of the disassembly of the defective product, if it turns out that there is an issue with our product. We limit the reimbursement of costs up to 110 Euro gross and reserve the right to verify the claim in our workshop in Bad Segeberg. The costs for shipping will be refunded if the claim is justified.

We made the experience, that every professional workshop that is equipped with the necessary diagnostic devices, the diagnostic software and the manufacturer's circuit diagrams, is able to find any possible defects in one of our products in a short period of time. The assembly and disassembly including troubleshooting the issue should therefore only take up to 60 minutes.

We also made the experience, that many professional workshops are not able to cope with the manufacturer's circuit diagrams and can't read common wiring schemes, which results in the calculation of several hours for the simplest installations. You will understand the fact, that we can neither take the risk of finding a reliable workshop for you, nor can we finance the training of the employees of your trusted workshop.

Costs, arising from purchasing missing parts or replacements for defective parts from other suppliers, are covered by us up to the amount that the subsequent delivery would have caused (saved expenses). According to the legal warranty law, there would be no reimbursement right, if there was no deadline for the subsequent fulfilling set or the deadline for a subsequent fulfilling hasn't expired.

That being said, if you have any problems during the installation or operation of one of our products call us, write us an email, send us the product or come by our workshop in Bad Segeberg with your vehicle. We are certain, that we can find a solution for any kind of concern.

Kind regards,  
Your Kufatec GmbH & Co. KG Team

## 2 Copyright

Our installation and operation instructions, installation plans, software and other written and/or pictured documentations are protected by copyright.

The publication or distribution of these documentations is only permitted with a written approval of Kufatec GmbH & Co. KG.

## 3 General notes

While developing this product, your personal safety combined with the best operating service, modern design and an up-to-date production technique was especially taken into account.

Unfortunately, despite the utmost care injuries and/or damages might occur due to improper installation and/or use.

Therefore, please read the following instruction manual fully and thoroughly and keep it!

All articles of our production line pass through a 100% check – for your safety and security.

We reserve the right to carry out technical changes which serve the improvement at any time.

Depending on each product and purpose, it might be necessary to check each country's legal regulations before installing and starting it.

In case of warranty claims, the product has to be sent back to the seller in the original packaging with the attached bill of purchase and detailed defect's description. Please, pay attention to the manufacturers return requirements (RMA). The legal warranty directions are valid.

The warranty claim as well as the operating permission becomes invalid due to:

- unauthorized changes to the device or accessories which have not been approved or carried out by the manufacturer or its partners
- opening the casing of the device
- repairing the device on one's own
- improper use/operation
- brute force to the device (drop, willful damage, accident etc.)

During the installation, please pay attention to all safety relevant and legal directions. The device should only be installed by trained personnel or similarly qualified people.

**In case of installation problems or problems concerning the functionality of the device, limit the time to approx. 0.5 hours for mechanical or 1.0 hours for electrical troubleshooting.**

To avoid unnecessary costs and time loss, send in an immediate support request via the Kufatec contact form (<http://www.kufatec.de/shop/de/infocenter/>).

In case of, let us know the following:

- Car chassis number/vehicle identification number
- Five-digit part number of the device
- Exact description of the problem
- Steps you have taken to solve the problem

## 4 Safety Instructions

The installation should only be performed by trained personnel. Only perform installations while in a voltage-free state. For example, disconnect the battery. Please pay attention to the instructions provided by the manufacturer.

- Never use bolts or nuts from the car's safety devices for installation. If bolts or nuts from the steering wheel, brakes or other safety devices are used for installation of the device, it may cause an accident.
- Use the device with a DC 12V negative ground car. This device cannot be used in large trucks which use a DC 24V battery. If it is used with a DC 24V battery, it may cause a fire or accident.
- Avoid installing the device in places that would restrict you from driving safe or where it could damage the car's other fittings.
- This device should only be used in combination with the mentioned vehicles. Only connections described within this instructions guide are allowed or required to use for installation.
- For damages caused by faulty installation, unsuitable connections or inappropriate vehicles, Kufatec GmbH & Co. KG assumes no liability.
- We advise you that these devices process data from the MOST – protocol of the vehicle. As the supplier of this device we don't know the overall system you are working with. If your device causes damage, due to other changes made to the vehicle, Kufatec GmbH & Co. KG assumes no liability.
- Kufatec GmbH & Co. KG supplier does not guarantee the use of the product for changes within a new vehicle series.
- If the car manufacturers don't agree with the installation of our device by reason of warranty, Kufatec GmbH & Co. KG assumes no liability. Please, check conditions and warranty before you begin the installation.
- Kufatec GmbH & Co. KG reserves the right to change the device specifications without notice.
- Subject to errors and changes.

## 5 Requirements for the intended use

**Only use this device in its intended area.**

**In case of unprofessional installation, improper use or modification, the permission for the operation and the warranty claim will expire.**

## 6 How to connect a cable to another

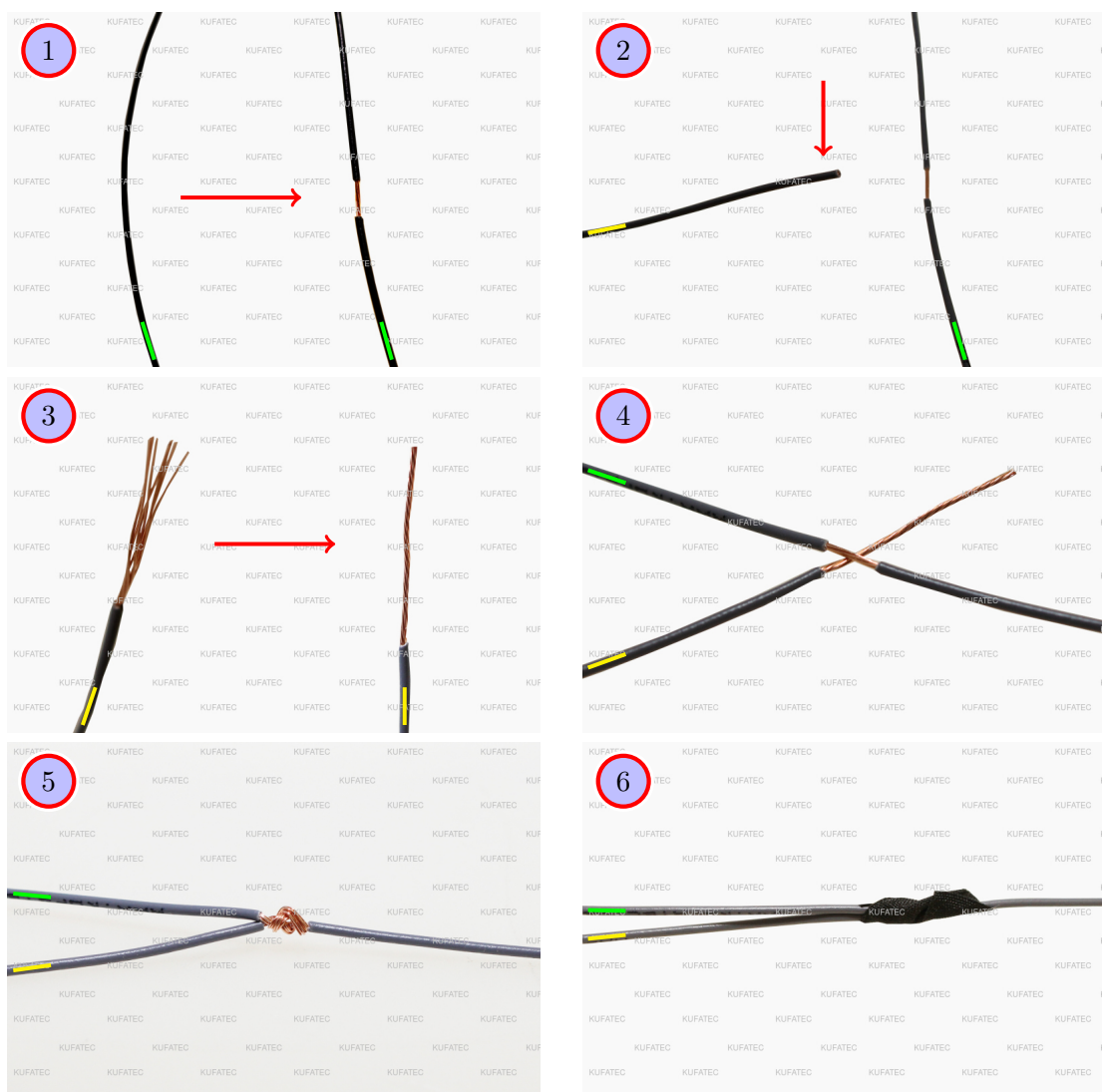


Figure 1: How to connect a cable to another

Table 1: How to connect a cable to another

No.	Work step	Note
1	Take the cable of the vehicle, to which you want to connect, (green marked here) and strip the insulation at one point with a suitable tool (cable stripper/cutter knife).	
2	Now take the cable of the cable set, which you want to connect, (yellow marked here) and strip the insulation at the end.	
3	Twirl the wires of the stripped cable together.	
4	Place the end of the cable you want to connect under the stripped point of the cable of the vehicle...	
5	... and wrap the cable you want to connect around the cable of the vehicle.	
6	Lastly, stick insulating tape around the connection point. Make sure that the isolation is put onto the connection professionally to prevent corrosion.	

## 7 Note Cable Inscription/Color

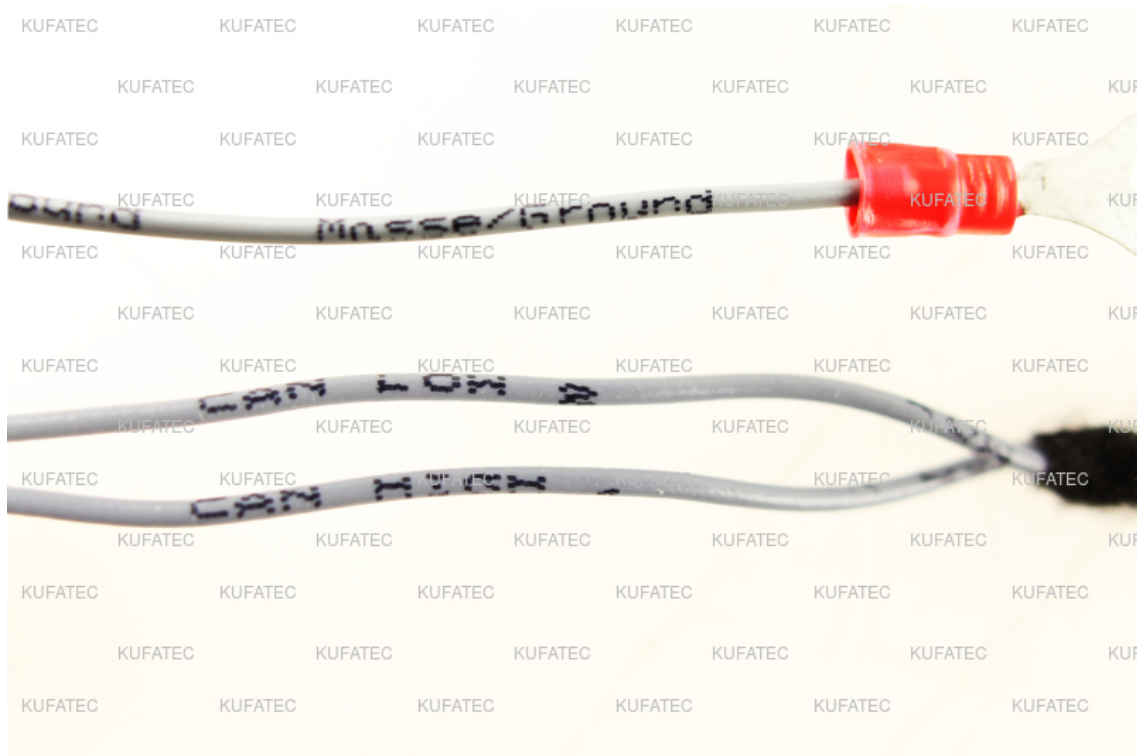


Figure 2: Cable Inscription

**If the cable set consists of colored cables, connect the cables according to the color. If all cables of the cable set have the same color, connect the cables according to the cable inscription.**

## 8 Assembly Instructions

The following illustration shows the cable routing as well as the position of the individual components.

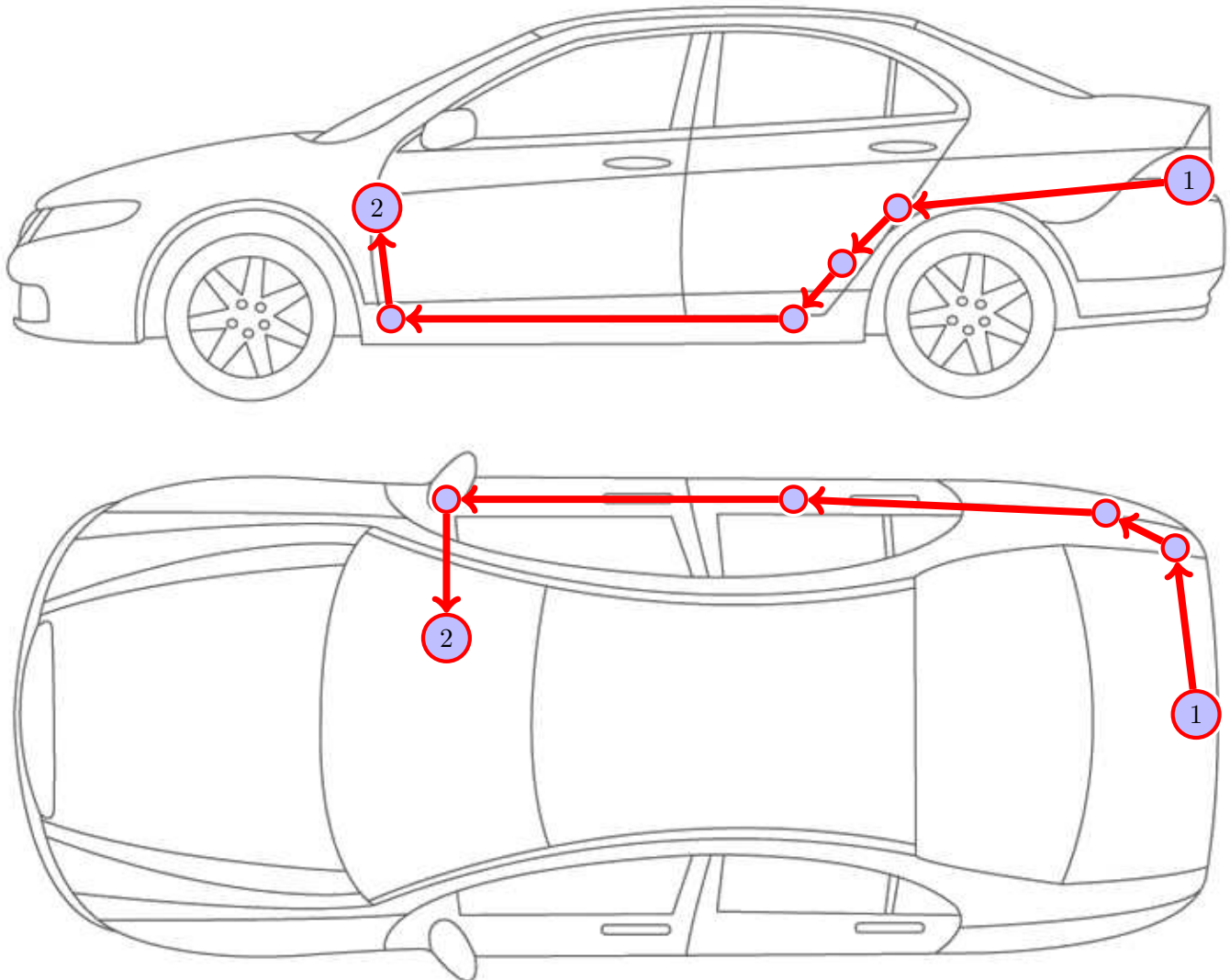


Figure 3: Vehicle overview

- 1 Rear view camera
- 2 Connection main unit / CAN Bus

Please be aware that this overview is only for **illustration purposes**. Always lay the cable set in the **most convenient and shortest way** possible. For a detailed description of the cable routing, please refer to the relevant sections of the following manual.

## 9 Assembly Note

### Important note for the assembly

- The vehicle used for the assembly instruction was a **Audi A1 GB**. We would like to point out, that the disassembly of the individual parts can vary depending on the type of vehicle. Please make sure to keep that in mind.

### Note for assembling the vehicle

- **Before you start assembling the vehicle, the system must first be tested for proper function.**

## 10 Disassembly tailgate covering

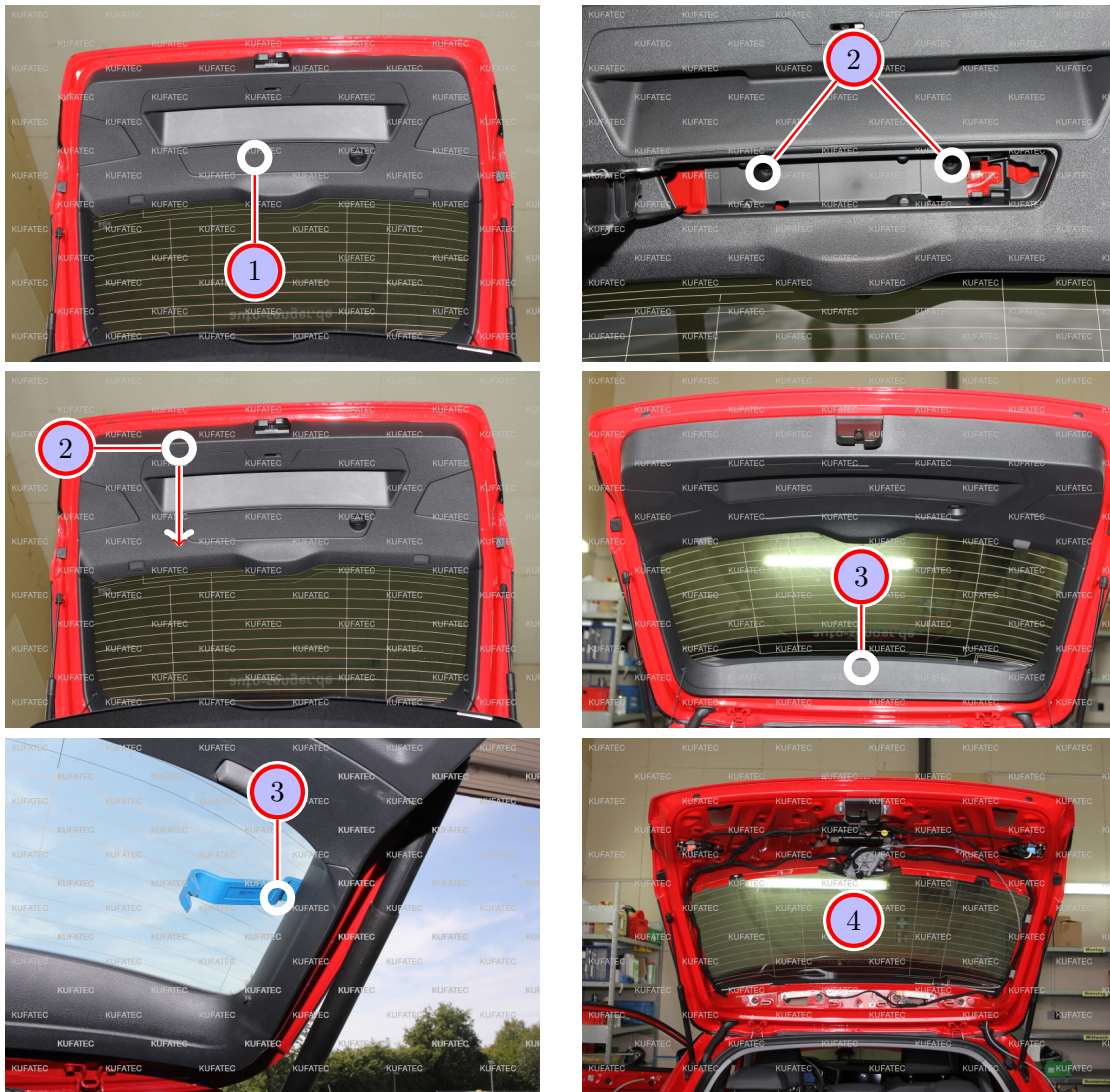


Figure 4: Disassembly tailgate covering

Table 2: Instructions to disassemble the tailgate covering

No.	Work step	Note
1	Open the compartment for the warning triangle in the tailgate and remove the warning triangle.	
2	Loosen and remove the two screws that are located in the compartment.	2xT25
	Loosen the upper tailgate covering by using an assembly lever and carefully pull it down.	
3	Loosen the lower tailgate covering by using an assembly lever as well.	
4	The covering can now fully be removed.	
	<b>Note: If the vehicle has an electric tailgate, the plug connection of the tailgate button has to be disconnected before the covering can be removed from the vehicle.</b>	

## 11 Disassembly trunk covering passenger's side

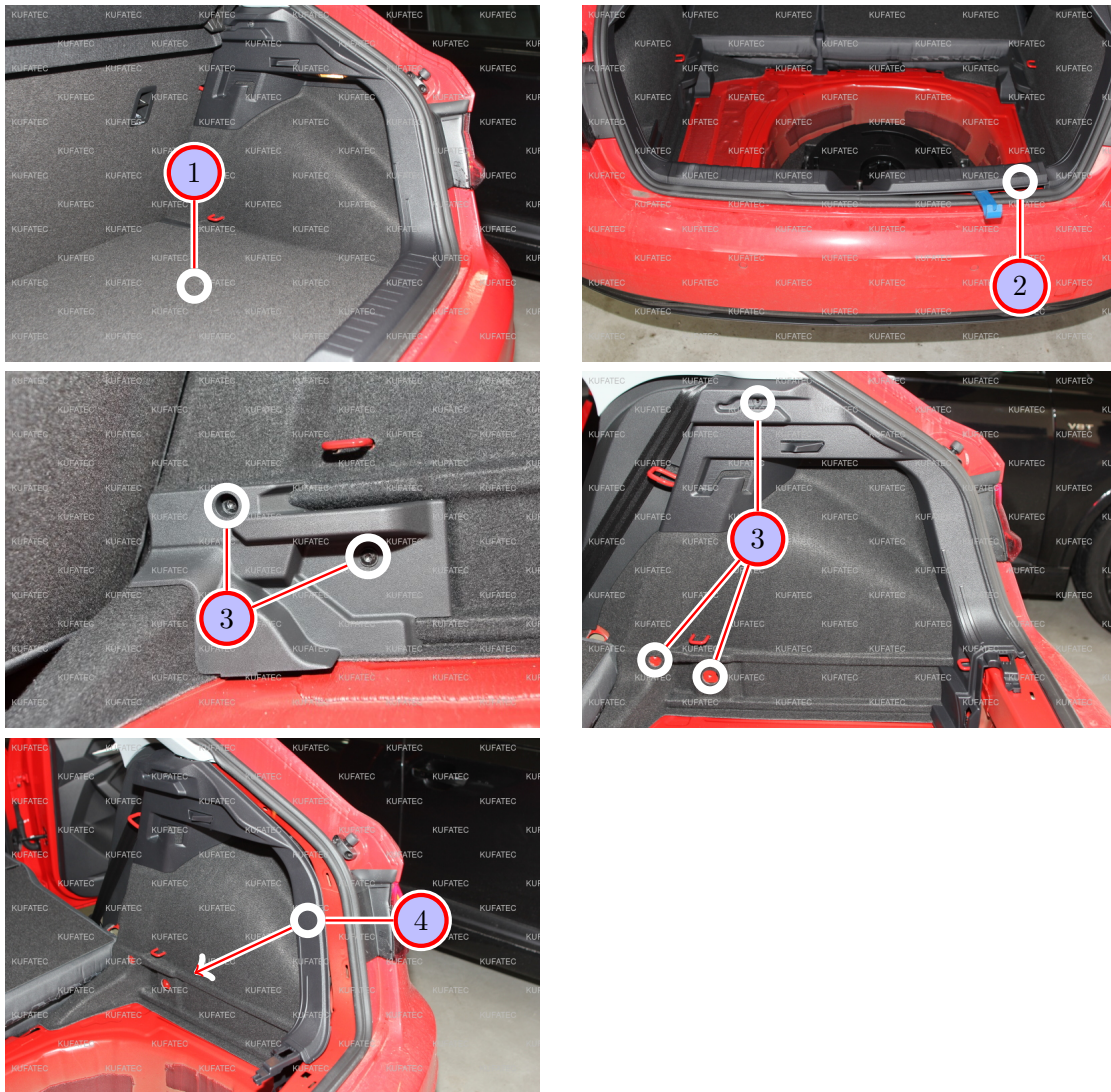


Figure 5: Disassembly trunk covering passenger's side

Table 3: Instructions to disassemble the trunk covering on the passenger's side

No.	Work step	Note
1	Loosen and remove the trunk floor.	
2	Loosen and remove the load sill guard by using an assembly lever.	
3	Loosen and remove the three marked screws. Two of the three screws are located down at the plastic cover.	2xT30
	The third screw is located up at the plastic cover.	1xT20
4	Loosen the side covering by using an assembly lever. The side covering can be carefully pulled to the side.	

## 12 Disassembly covering driver's side

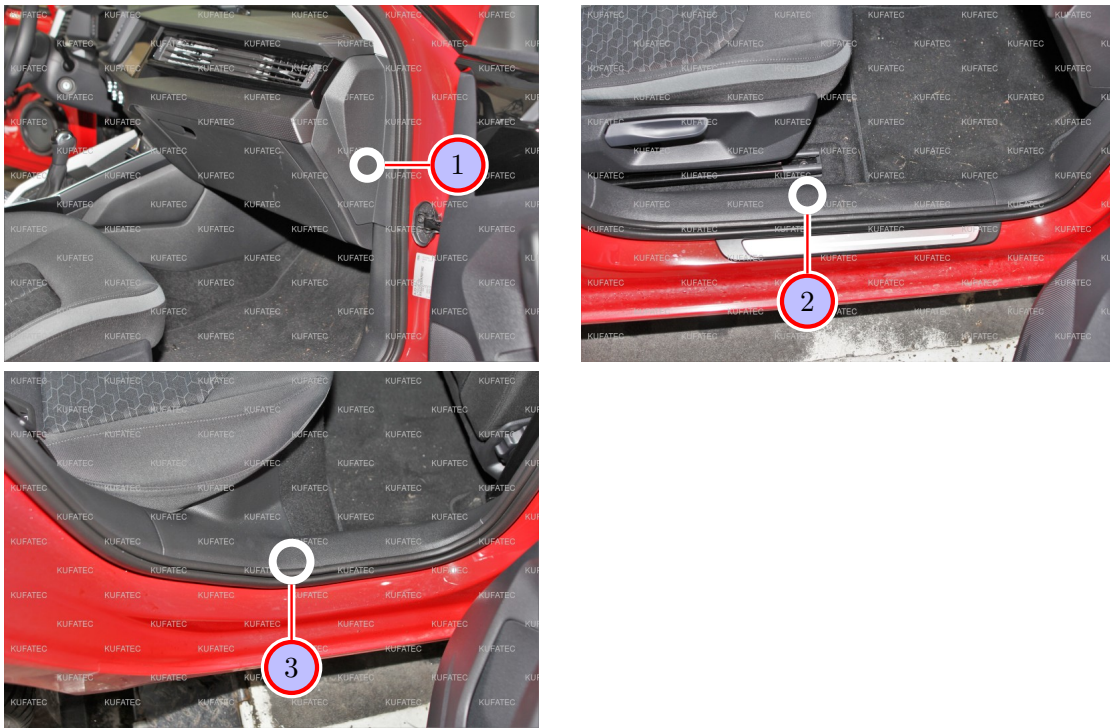


Figure 6: Disassembly covering driver's side

Table 4: Instructions to disassemble the covering on the driver's side

No.	Work step	Note
1	Remove the lateral cover of the dashboard by using an assembly lever.	
2	Loosen the sill trim/A-column covering in the front on the passenger's side by using an assembly lever. The covering can now fully be removed.	
3	Slightly loosen the back sill trim on the passenger's side by using an assembly lever.	

### 13 Disassembly button / Assembly rear view camera



Figure 7: Disassembly button / Assembly rear view camera

Table 5: Instructions to disassemble the button / assemble the rear view camera

No.	Work step	Note
1	Replace the factory-made tailgate button with the new button that has the rear view camera built in. The button is located centered in the tailgate behind the covering.	
2	Loosen the marked plug of the tailgate button as well as the marked latching noses around the button. The latching noses have to be loosened one by one. <b>Note: Be aware that the loosened latching noses snap back into their original position if they are let go. Permanently push against the button from below. Loosen all latching noses one by one afterwards.</b>	
3	Push the button out.	
4	Insert the new button with the built in rear view camera from the outside into the tailgate. Connect the loosened button plug to the new button afterwards.	

## 14 Cable routing tailgate to main unit



Figure 8: Cable routing tailgate to main unit

Table 6: Instructions to route the cable from the tailgate to the main unit

No.	Work step	Note
	<b>Note: Make sure that the video cable is not bend during the assembly and the routing of it in the vehicle.</b>	
1	Connect the two marked plugs of the cable set to the rear view camera.	
2	Lay the cables from the center of the tailgate along the original wire harness to the passenger's side and down to the rubber grommet afterwards.	
3	Loosen the rubber grommet by using an assembly lever and pull the cable through the rubber grommet by using a pulling tool.	
4	Slightly loosen the upper C-column covering by using an assembly lever.	
5	Pull the cable into the upper C-column covering. Pull the cable further down into the side covering and from there forward towards the back seat. Use a pulling tool to do so.	
6	Pull the cable set underneath the upper lateral cover down to the sill trim and to the B-column afterwards. Use a pulling tool to do so.	



Figure 9: Cable routing tailgate to main unit

Table 7: Instructions to route the cable from the tailgate to the main unit

No.	Work step	Note
1	Pull the cable out from behind the B-column covering and lay it under the sill trim forward to the A-column.	
2	Pull the cable set to the upper A-column covering.	

## 15 Dissassembly main unit

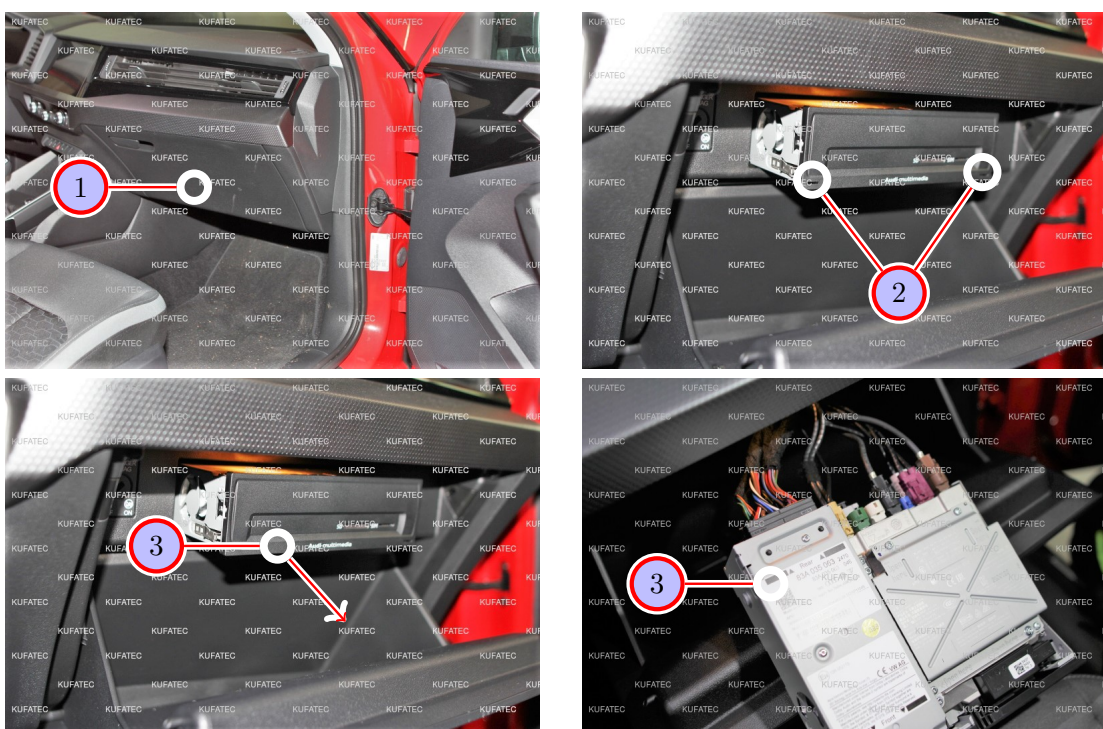


Figure 10: Disassembly main unit

Table 8: Instructions to disassemble the main unit

No.	Work step	Note
1	Open the glove compartment.	
2	Unlock the main unit by inserting release hooks into the marked positions.	
!	<b>Note: Make sure to insert the release hooks with the correct side into the main unit.</b>	
3	Carefully pull the main unit out of the assembly shaft.	

## 16 Connection cable set

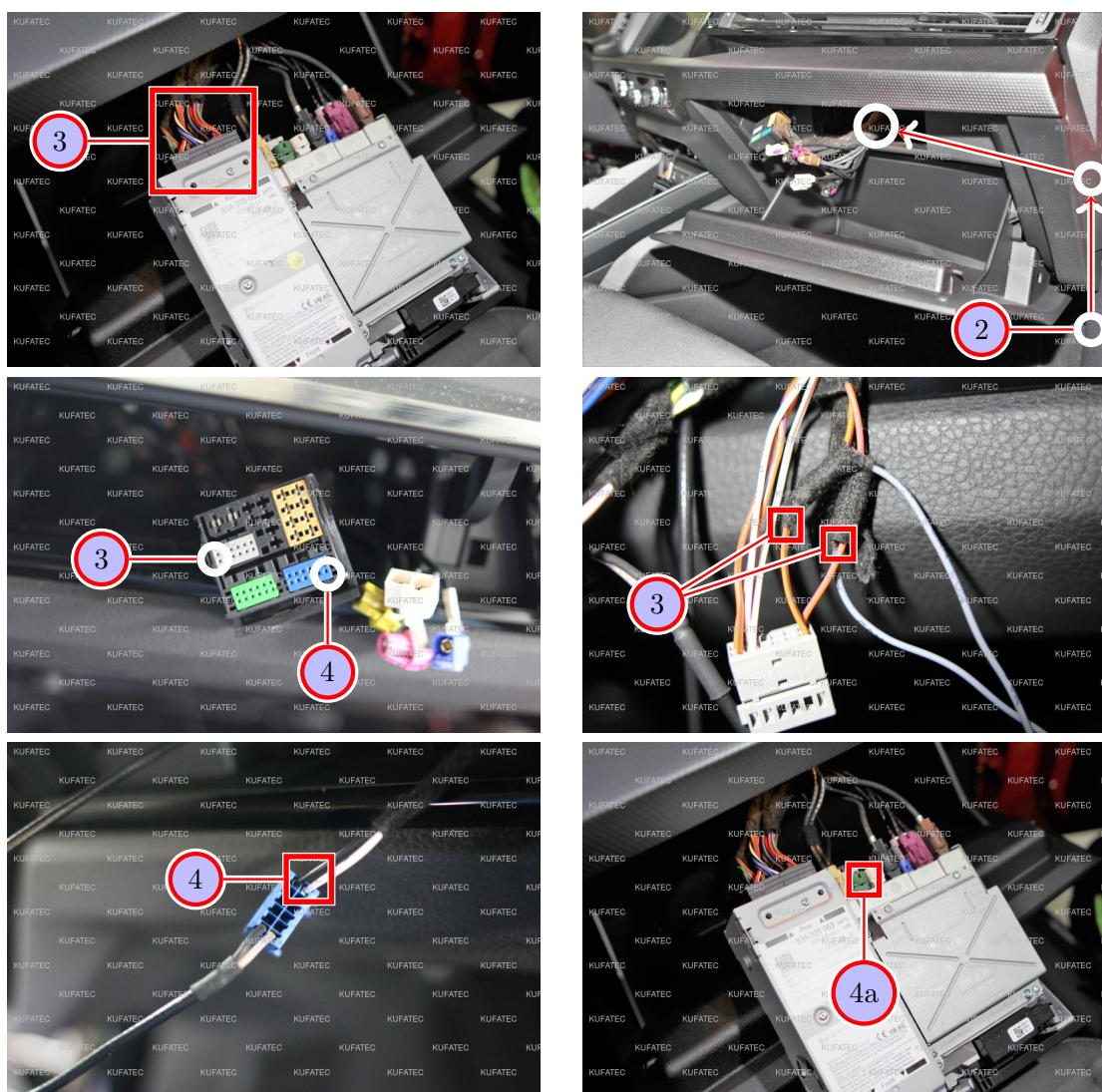


Figure 11: Connection cable set

Table 9: Instructions to connect the cable set

No.	Work step	Note
1	Loosen the marked Quadlock plug that is located on the left side of the main unit.	
2	Pull the cable from the A-column to the assembly shaft of the main unit. Use a pulling tool to do so. Lay the cable set from the assembly shaft (main unit) to the Quadlock plug.	
3	Loosen the <b>grey</b> plug insert out of the Quadlock plug. Connect <b>CAN High + Low</b> as follows: Connect <b>CAN High</b> with the cable in <b>Pin 6</b> Connect <b>CAN Low</b> with the cable in <b>Pin 12</b>	
4	<b>Version 1 Connection video cable for vehicles up to model year 2020</b> Loosen the <b>blue</b> plug insert out of the Quadlock plug. Pin the <b>video cable</b> into the plug insert as follows: Pin the <b>transparent cable</b> in <b>Pin 6</b> Pin the <b>black cable</b> in <b>Pin 12</b>	
4a	<b>Version 2 Connection video cable for vehicles as of model year 2021</b> Connect the video cable to the green FAKRA plug on the back of the main unit (diagnostic address 5F).	

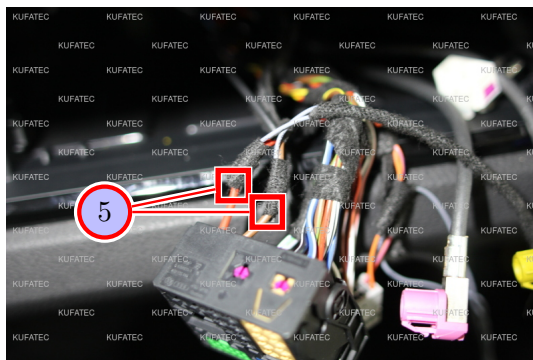


Figure 12: Connection cable set

Table 10: Instructions to connect the cable set

No.	Work step	Note
5	Connect ground and steady plus to the Quadlock plug as follows:	
	Connect <b>steady plus (K1.30)</b> with the cable (red) in <b>Pin 18</b>	
	Connect <b>ground</b> with the cable (brown) in <b>Pin 17</b>	
	Note: The white line is not needed and can be tied back.	

## 17 Coding with Coding Interface

### Instructions for using the Coding Interface

- **Important note:** For vehicles as of model year 2019 (VW, Audi, Skoda, Seat), the hood must be opened before coding. It must remain open during the entire coding process.
- Switch on the ignition. Please make sure that the **engine is not started**. Wait approximately 30 seconds and plug the Coding Interface into the diagnostic interface (OBD II plug) of the vehicle. The diagnostic interface is situated in the driver's footwell on the left side above the foot rest.
- On a coding dongle with one LED, as soon as the coding has been started, there will be one red LED which will illuminate permanently. As soon as the LED turns off, the coding has been executed and the Interface must be removed. Depending on the vehicle or retrofit, the coding can take up to three minutes.
- On a coding dongle with two LEDs, as soon as the coding has been started, there will be one red and one green LED which will illuminate. During the coding process, the green LED flashes or rather flickers. As soon as the red LED turns off and only the green LED illuminates permanently, the coding has been executed and the Interface must be removed. Depending on the vehicle or retrofit, the coding can take up to three minutes.

## 18 Coding Interface

- **Dongle for executing the coding:** In order to carry out the coding for the vehicle, the following dongle is required: Article number 40264 (included in the scope of delivery for the complete set 43270/43270-1).

### Note for assembling the vehicle

- **Before you start assembling the vehicle, the system must first be tested for proper function.**

## 19 Bus rest

### Final work / bus rest

- **Important note:** After the coding has been completed, you need to wait for the bus rest.
  - **Proceed as follows:**
    - Switch off ignition and close all doors.
    - Close up the car by remote control.
    - Leave the car for about 10 minutes.
- Important:** Make sure that the key is not inside or nearby the car if it is equipped with keyless go system.

## 20 Connection/Troubleshooting cable set

### From rear view camera tailgate 8-pole H9 to:

- **CAN High + Low / grey plug insert Quadlock plug**
  - Pin 8 to cable orange/brown (CAN Low)
  - Pin 4 to cable orange/violet (CAN High)
- **Power supply**
  - Pin 5 to cable brown in Pin 17
  - Pin 1 to cable red in Pin 18 (Steady plus (KL.30) / Quadlock plug)

### From rear view camera tailgate FAKRA socket to:

- **Blue plug insert Quadlock plug - Vehicles up to model year 2020**
  - Video cable (transparent) in Pin 6
  - Shielded cable (black) in Pin 12
- **Main unit - Vehicles as of model year 2021**
  - Green FAKRA plug

## List of Figures

1	How to connect a cable to another . . . . .	6
2	Cable Inscription . . . . .	7
3	Vehicle overview . . . . .	8
4	Disassembly tailgate covering . . . . .	10
5	Disassembly trunk covering passenger's side . . . . .	11
6	Disassembly covering driver's side . . . . .	12
7	Disassembly button / Assembly rear view camera . . . . .	13
8	Cable routing tailgate to main unit . . . . .	14
9	Cable routing tailgate to main unit . . . . .	15
10	Disassembly main unit . . . . .	16
11	Connection cable set . . . . .	17
12	Connection cable set . . . . .	18

## List of Tables

1	How to connect a cable to another . . . . .	6
2	Instructions to disassemble the tailgate covering . . . . .	10
3	Instructions to disassemble the trunk covering on the passenger's side . . . . .	11
4	Instructions to disassemble the covering on the driver's side . . . . .	12
5	Instructions to disassemble the button / assemble the rear view camera . . . . .	13
6	Instructions to route the cable from the tailgate to the main unit . . . . .	14
7	Instructions to route the cable from the tailgate to the main unit . . . . .	15
8	Instructions to disassemble the main unit . . . . .	16
9	Instructions to connect the cable set . . . . .	17
10	Instructions to connect the cable set . . . . .	18