

9 Rearview Camera System

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9.1 System Overview - Rearview Camera

⇒ [“9.1.1 Overview - Rearview Camera System, through MY 2016”, page 186](#)

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9.1.1 Overview - Rearview Camera System, through MY 2016

The rear view camera system (KA2) assists the driver during back-up driving by providing the driver with an image of the traffic situation behind the vehicle via the Front Information Display Control Head - J685- .

The rear view camera system is switched on when engaging the reverse gear. The system can be activated manually by pressing the Parking Aid Button - E266- in the center console (optional).

The rear view camera system consists of the following components:

- ◆ Rearview Camera - R189-
- ◆ Rearview Camera System Control Module - J772-
- ◆ Information Electronics Control Module 1 - J794-
- ◆ Steering wheel with Steering Angle Sensor - G85-

Other control modules may be installed as optional equipment.

It is not permitted to install an auxiliary license plate for vehicles with rear view camera system as it could impair the function of the rear view camera system.

Fault Finding is performed using the “Guided Fault Finding”. Refer to Vehicle Diagnostic Tester .

1 - Data Bus On Board Diagnostic Interface - J533- under the Rear Bench Seat

2 - Front Information Display Control Head - J685- in Center of the Instrument Panel

3 - Information Electronics Control Module 1 - J794- inside the instrument panel

4 - Multimedia System Control Head - E380- in the Center Console

5 - CVBS cable from the Rearview Camera System Control Module - J772-

6 - CVBS cable from Rearview Camera - R189-

7 - Rearview Camera - R189- in the rear lid

8 - Rearview Camera System Control Module - J772- behind the right luggage compartment trim panel

9 - CAN bus, instrument cluster

10 - MOST Bus

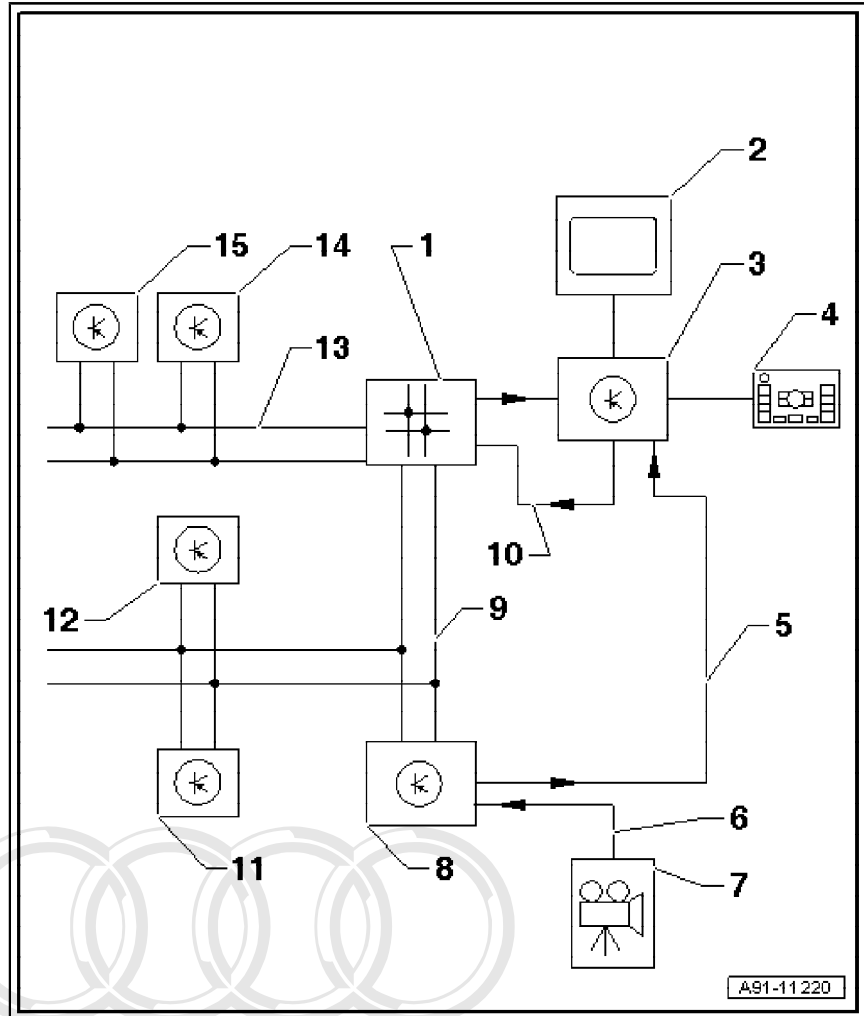
11 - Parking Aid Control Module - J446- behind the right luggage compartment trim panel

12 - Instrument Cluster Control Module - J285- in the instrument panel

13 - CAN bus, powertrain

14 - ABS Control Module - J104- in the engine compartment

15 - Steering Angle Sensor - G85- on steering column at Steering Column Electronic Systems Control Module - J527-



9.1.2 Overview - Rearview Camera System, from MY 2017

The rear view camera system (KA2) assists the driver during back-up driving for diagonal and parallel parking for trailer towing and watching cross traffic by providing the driver with an image of the traffic situation behind the vehicle via the Front Information Display Control Head - J685- .

The rear view camera system is switched on when engaging the reverse gear. The system can be activated manually by pressing the Parking Aid Button - E266- in the instrument panel (optional).

The rear view camera system consists of the following components:

- ◆ Rearview Camera - R189-
- ◆ The Rearview Camera System Control Module - J772- is integrated in the Rearview Camera - R189-
- ◆ Information Electronics Control Module 1 - J794-

◆ Front Information Display Control Head - J685-

Other control modules may be installed as optional equipment.

It is not permitted to install an auxiliary license plate for vehicles with rear view camera system as it could impair the function of the rear view camera system.

Fault finding is performed via "Guided Fault Finding". Refer to Vehicle Diagnostic Tester .

9.2 Component Location Overview - Rearview Camera System

1 - Rearview Camera System Control Module - J772- , through MY 2016

- ❑ Connector Assignment. Refer to ⇒ [Wiring diagrams, Troubleshooting & Component Locations](#).
- ❑ Removing and Installing. Refer to ⇒ ["9.5 Rearview Camera System Control Module J772 , Removing and Installing"](#), page 195 .
- ❑ Calibrating. Refer to ⇒ ["9.4 Rearview Camera System, Calibrating"](#), page 189 .

2 - Rack

3 - Rack

4 - Nut

- ❑ 3 Nm
- ❑ Quantity: 2

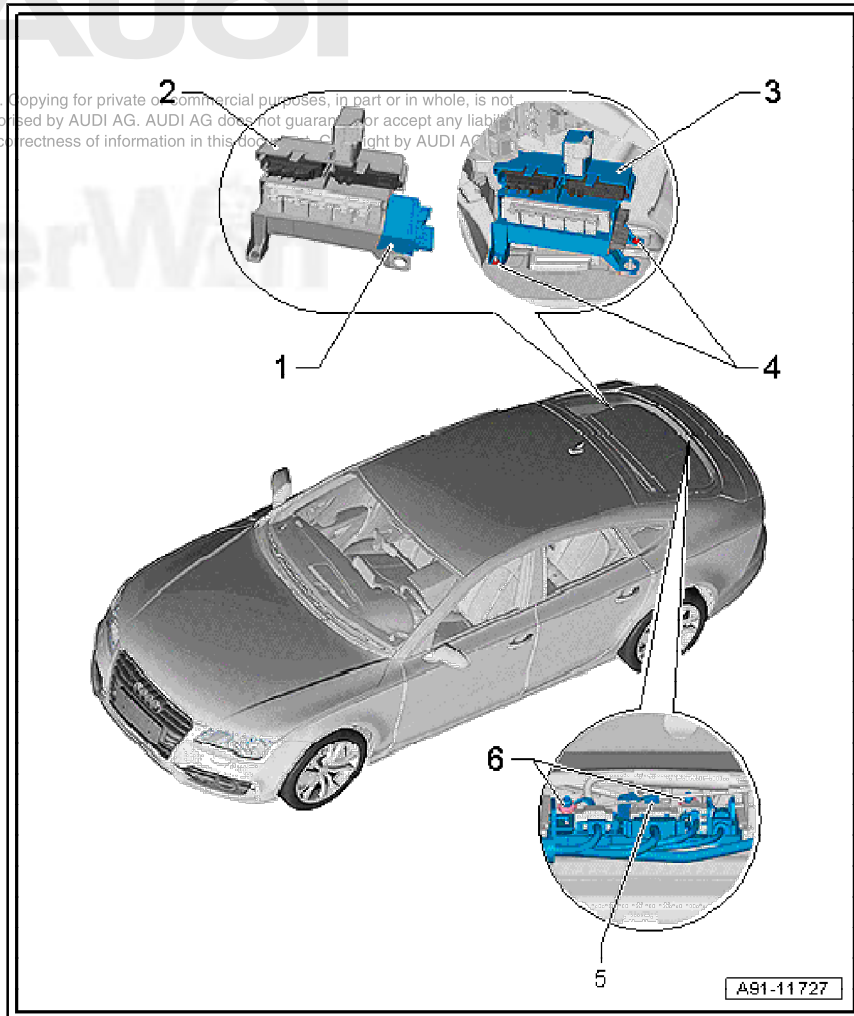
5 - Rearview Camera - R189- in Handle Button

- ❑ From MY 2017 with Rearview Camera System Control Module - J772-
- ❑ Removing and Installing. Refer to ⇒ ["9.3 Rearview Camera R189 , Removing and Installing"](#), page 188 .

- ❑ Calibrating. Refer to ⇒ ["9.4 Rearview Camera System, Calibrating"](#), page 189 .

6 - Nut

- ❑ 6 Nm
- ❑ Quantity: 2



9.3 Rearview Camera - R189- , Removing and Installing

The Rearview Camera - R189- is inside the rear lid handle button. It permanently attached to the button.

If the Rearview Camera - R189- must be replaced, then the handle button must also be replaced.

Removing

- Turn off the ignition and all electrical consumers and remove the ignition key.

The Rearview Camera - R189- has a trailing cable. The vehicle wiring harness couplings are located in the rear lid.

- Remove the lower rear lid trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panels; Lower Rear Lid Trim Panel, Removing and Installing .
- Release and disconnect the connectors -1, 2, and 3- in the rear lid.

The Rearview Camera - R189- is firmly attached to the handle button.

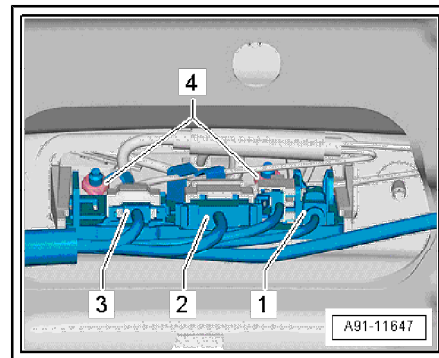
- Remove the nuts -4-.
- Pull the handle button with the Rearview Camera - R189- out of the retainer in the rear lid.

Installing

- Install in reverse order of removal.
- Close the rear lid.
- Perform a calibration. Refer to ⇒ ["9.4 Rearview Camera System, Calibrating", page 189](#) .

Tightening Specifications

- ◆ Refer to ⇒ ["9.2 Component Location Overview - Rearview Camera System", page 188](#)



9.4 Rearview Camera System, Calibrating

⇒ ["9.4.1 Calibration Tool VAS6350, Installing and Aligning", page 189](#)

⇒ ["9.4.2 Rearview Camera, Calibrating", page 191](#)

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9.4.1 Calibration Tool - VAS6350- , Installing and Aligning

Special tools and workshop equipment required

- ◆ Calibration Tool - VAS6350-
- ◆ Vehicle Diagnostic Tester

After performing service work on the vehicle, it may be necessary to calibrate the rearview camera system. In detail, this is the case after:

- ◆ Rearview Camera - R189- Removal and Installation
- ◆ Replacing the Rearview Camera System Control Module - J772- ; only for vehicles with Rearview Camera System Control Module - J772-
- ◆ Collision repairs on rear lid
- ◆ Changes to the axle alignment on the rear axle

Calibration Requirements

- ◆ The camera lens must be clean.
- ◆ The vehicle must be standing on a firm and level surface.

- ◆ There must be sufficient open space around the vehicle.
- ◆ The parking brake must be set.
- ◆ The steering wheel must be in the 0 position and the wheels must be straight.
- ◆ All doors and the rear lid must be closed.
- ◆ No one should be in the vehicle.
- ◆ The vehicle must not be loaded (curb weight).
- ◆ Connect the battery charger.
- ◆ Before each calibration: turn on the ignition.

The Calibration Tool - VAS6350- consists of the following parts:

- ◆ Calibration Tool - Wheel Center Mountings - VAS6350/1-
- ◆ Calibration Tool - Spacing Laser - VAS6350/2-
- ◆ Calibration Tool - Linear Laser - VAS6350/3-

Installed Calibration Tool - VAS6350- Overview

1 - Calibration Tool - Wheel Center Mountings - VAS6350/1-

2 - Calibration Tool - Wheel Center Mountings - VAS6350/1-

3 - Right Angle Bracket

- Calibration Tool - Spacing Laser - VAS6350/2-mount

4 - Plastic Foot

- Three on underside of calibration platform
- Adjustable for aligning horizontal position of calibration platform

5 - Calibration Tool - Linear Laser - VAS6350/3-

- On the calibration board
- Switching on and off. Refer to operating instructions.

6 - Calibration Tool - Spacing Laser - VAS6350/2-

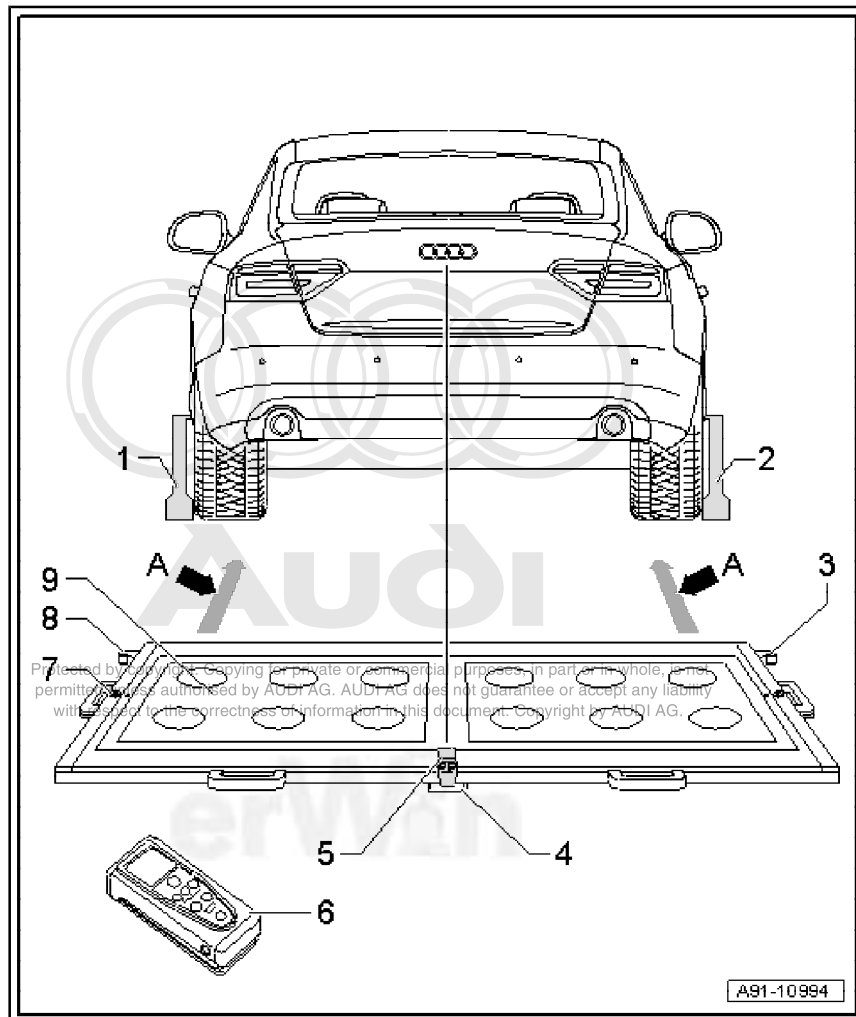
- On the calibration board
- Notes on operation. Refer to operating instructions.

7 - Level

- On the calibration board
- for checking the horizontal position

8 - Left Angle Bracket

- Calibration Tool - Spacing Laser - VAS6350/2- mount




9 - Calibration Board

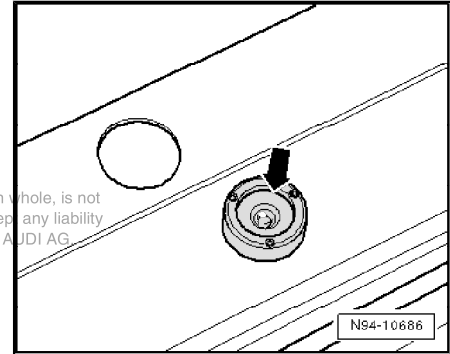
- Between the mounts on the calibration board and the Calibration Tool - Wheel Center Mountings - VAS6350/1- -dimension A- 1.47 m through 1.90 m

Calibration Board Alignment

- Position the calibration platform behind the vehicle at a distance of 1.47 m to 1.90 m to the rear wheels, see dimension -A- in the illustration ⇒ [page 190](#) .
- Bring the -VAS6350- into a horizontal position.
- To do so, twist plastic feet under calibration device so that air bubble in level is located exactly in the center of the indicator -arrow-.

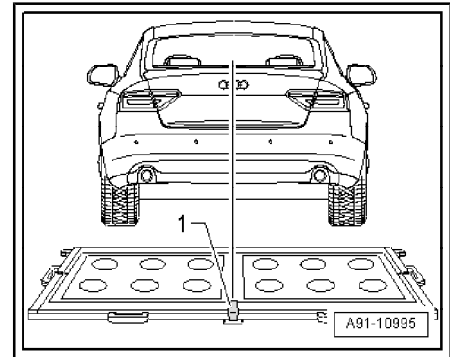
 **WARNING**

Make sure light does not reflect off the calibration platform.
Reflections affect the Rearview Camera - R189- and may make it impossible to perform the calibration.



- Switch on the -VAS6350/3A- -1- on the calibration board and adjust the entire -VAS6350- so that the laser beam hits the center of vehicle rear above the Audi rings.
- Make sure the Audi rings are centered on the rear. Correct the laser beam accordingly.

Continue calibrating the Rearview Camera - R189- . Refer to ⇒ ["9.4.2 Rearview Camera, Calibrating"](#), [page 191](#) .



9.4.2 Rearview Camera, Calibrating

- Set-up requirements. Refer to ⇒ [page 189](#) .
- Connect the Vehicle Diagnostic Tester .

-VAS6350/1- Installing

- Check the dimension of the holes.
- Equip the -VAS6350/1- appropriately. Use spacer pieces.
- To do so, secure three wheel bolt adapters in the hole circle to each -VAS6350/1- .
- Place the paddle on both -VAS6350/1- and secure them using a clamping screw.
- Place the -VAS6350/1- onto the wheel bolts on the rear wheels.

The -VAS6350/1- are positioned by the “O rings” in the adapters and held in place.

 **Note**

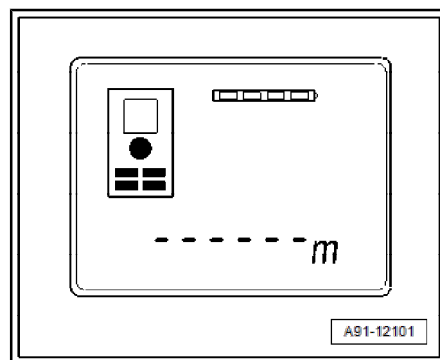
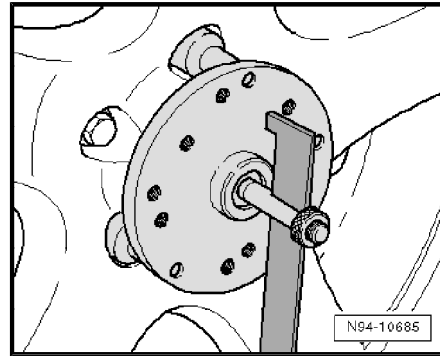
Attach the -VAS6350/1- onto the wheels so that any installed “anti-theft” wheel mounting bolts are not connected to the -VAS6350/1- .

- Adjust the paddle with aid of lock bolts so that they move freely just above the floor. Make sure that the paddle is easily accessible.
- Install and align the -VAS6350- . Refer to [⇒ “9.4.1 Calibration Tool VAS6350 , Installing and Aligning”, page 189](#) .

Distance Measurement

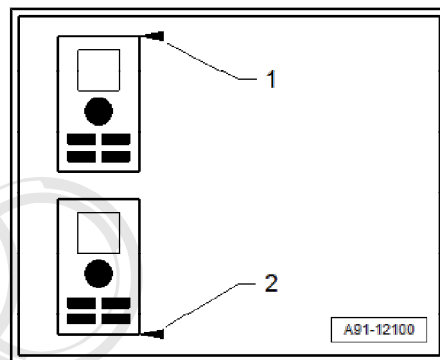
- Switch on the -VAS6350/2- .

The following display appears.



The display shows how to stop the -VAS6350/2- . Press the corresponding button.

- 1 - Attach with front edge
- 2 - Attach with rear edge



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- Hold the -VAS6350/2- -2- flush in the bracket on one side of the calibration board (attach with rear edge). The -VAS6350/2- -2- must sit securely on the bracket.
- Press the measuring button briefly.

The laser turns on.

- The laser beam from the -VAS6350/2- -2- must hit the lower, enlarged section of the paddle -1-.

If this is not the case, correct the paddles accordingly via clamping screws on the -VAS6350/1- .

- Use one hand to secure the -VAS6350/2- in the bracket on the -VAS6350- while the laser beam is visible on the paddle.
- Then press the measuring button for distance measurement briefly.
- Write down the value.
- Repeat this measurement on the other side of the -VAS6350- in the same way for the rear wheel.

The distance value must be the same on both sides.

If values are not identical:

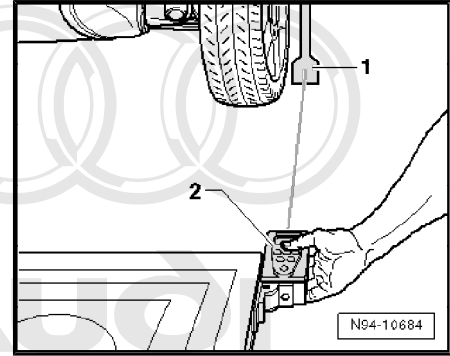
- Align the -VAS6350- long enough so that both sides are identical.

Pay attention when aligning the -VAS6350- , that the -VAS6350/3- from the -VAS6350- strikes the center of the Audi rings and the indicator of the level remains centered. Adjust if necessary.

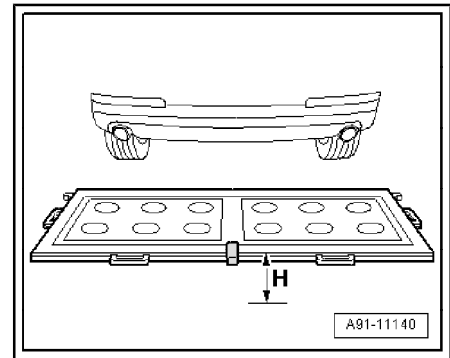
Dimension Measurement -H-

- Measure the height of the -VAS6350- , dimension -H- (top edge platform - floor).

Make sure the -VAS6350/2- is adjusted correctly (attach with front edge).



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The display shows how to stop the -VAS6350/2-. Press the corresponding button.

- 1 - Attach with front edge
- 2 - Attach with rear edge

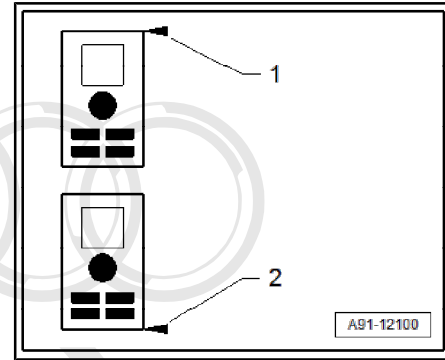
Enter the height and distance dimensions into the Vehicle Diagnostic Tester in "millimeters".

Performing Calibration

Vehicle Diagnostic Tester is attached.

- Select the **Diagnostic** mode and start the diagnostics.
- Select the tab **test plan**.
- Select **select individual tests** and choose the following sequence.
 - ◆ Body
 - ◆ Electrical Equipment
 - ◆ 01 - OBD-capable systems
 - ◆ 6C - rearview camera system/J772
 - ◆ 6C - rearview camera system control module, functions
 - ◆ 6C - Calibration, (Repair Group 91)

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WARNING

Make sure light does not reflect off the calibration platform.

Reflections affect the Rearview Camera - R189- and may make it impossible to perform the calibration.

9.5 Rearview Camera System Control Module - J772- , Removing and Installing

⇒ "9.5.1 Rearview Camera System Control Module J772 Removing and Installing, through MY 2016", page 195

⇒ "9.5.2 Rearview Camera System Control Module J772 Removing and Installing, from MY 2017", page 196

9.5.1 Rearview Camera System Control Module - J772- Removing and Installing, through MY 2016

The Rearview Camera System Control Module - J772- -1- is located behind the right luggage compartment trim panel.



Note

If replacing the control module, select the "Replace control module" function for the corresponding control module. Refer to Vehicle Diagnostic Tester .

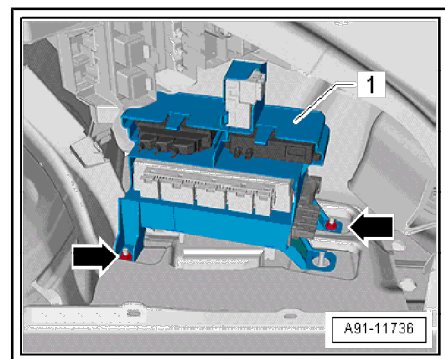
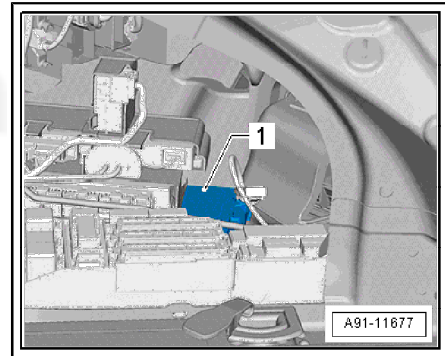
Removing

- Turn off the ignition and all electrical equipment and remove the ignition key.
- Remove the right luggage compartment side trim panel. Refer to ⇒ Body Interior; Rep. Gr. 70 ; Luggage Compartment Trim Panel; Luggage Compartment Side Trim Panel, Removing and Installing .

The bracket must be removed first in order to be able to remove the Rearview Camera System Control Module - J772- . It is attached with screws to the relay and fuse panel inside the luggage compartment on the right side. The relay and relay panel in the luggage compartment on the right side must first be removed. Refer to ⇒ Electrical Equipment; Rep. Gr. 97 ; Relay Panels, Fuse Panels and E-Boxes; Component Location Overview - Relay Panels, Fuse Panels and E-Boxes .

Removing the bracket

- Unlock and disconnect all of the connectors from the control modules.
- Remove the nuts -arrows- and remove the bracket -1- along with the control modules from the luggage compartment recess.



The Rearview Camera System Control Module - J772- -1- is only clipped into the bracket -2-.

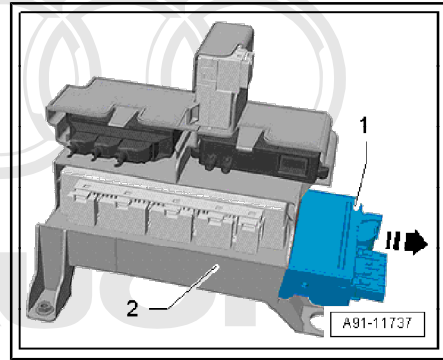
- Release and disconnect the connectors from the Rearview Camera System Control Module - J772- -1-.
- Press the retainer downward and remove the Rearview Camera System Control Module - J772- -1- from the bracket -2-.

Installing

- Installation is identical in reverse order of removal.
- Perform a calibration.

Tightening Specifications

- ◆ Refer to
⇒ ["9.2 Component Location Overview - Rearview Camera System", page 188](#)



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9.5.2 Rearview Camera System Control Module - J772- Removing and Installing, from MY 2017

The Rearview Camera System Control Module - J772- is located in the Rearview Camera - R189- and cannot be replaced separately.



If replacing the control module, select the "Replace control module" function for the corresponding control module on the Vehicle Diagnostic Tester ⇒ Vehicle diagnostic tester.

Removing

- Turn off the ignition and all electrical equipment and remove the ignition key.
- Remove the Rearview Camera - R189- . Refer to
⇒ ["9.3 Rearview Camera R189 , Removing and Installing", page 188](#) .

Installing

- Install the Rearview Camera - R189- . Refer to
⇒ ["9.3 Rearview Camera R189 , Removing and Installing", page 188](#) .
- Perform a calibration. Refer to
⇒ ["9.4 Rearview Camera System, Calibrating", page 189](#) .