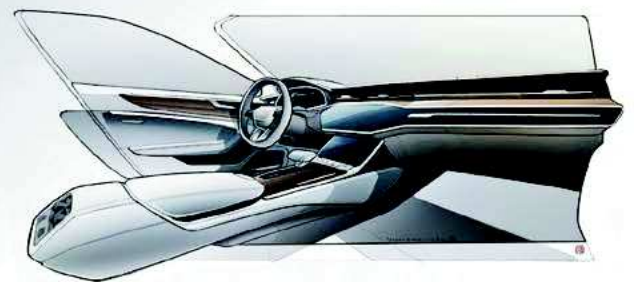


# Introduction

The 2nd generation of the Audi A7 is a special example of the new Audi design language. Viewed from any perspective, the wider low-set grill and the athletic lines exude sportiness and progressiveness. Flared wheel arches accommodating up to 21 inch rims hint at Audi A7 quattro genes.

The full range of Audi connect services has been adopted from the Audi A8 to make the Audi A7 a fully networked Gran Turismo model in the Audi portfolio. With a total of 39 driver assist systems, the Audi A7 is a perfect companion on the road.



669\_002

## Learning objectives of this eSelf-Study Program:

Once you have completed this eSelf-Study Program, you will be able to answer questions on the following topics:

- > The engine available at market launch.
- > 48 Volt electrical system.
- > New running gear features.
- > New power transmission features.
- > New features of the infotainment systems.

## Overview

The impressive appearance of the Audi A7 is due mainly to its dynamic and elegant character and a completely new interior design. Like the Audi A8, the Audi A7 is based on Mild Hybrid Electric Vehicle (MHEV) technology.

### Engine

3.0 ltr. V6 TFSI engine with twin-scroll turbocharger

- > Maximum power: 335 hp (250 kW)
- > Maximum torque: 369 lb ft (500 Nm)

### Driver assist sensors

Control Module for Adaptive Cruise Control J428 is installed in the top left corner of the grill.  
Laser Distance Regulation Control Module J1122 is installed in the top right corner of the grill.

### Audi laser light

The Audi laser light is used and an auxiliary high beam supplementing the LED high beam. The laser spot is activated in addition to the LED high beam at road speeds over approximately 37 mph (60 km.h). This allows the high beam distance to be virtually doubled.



## Displays and operation

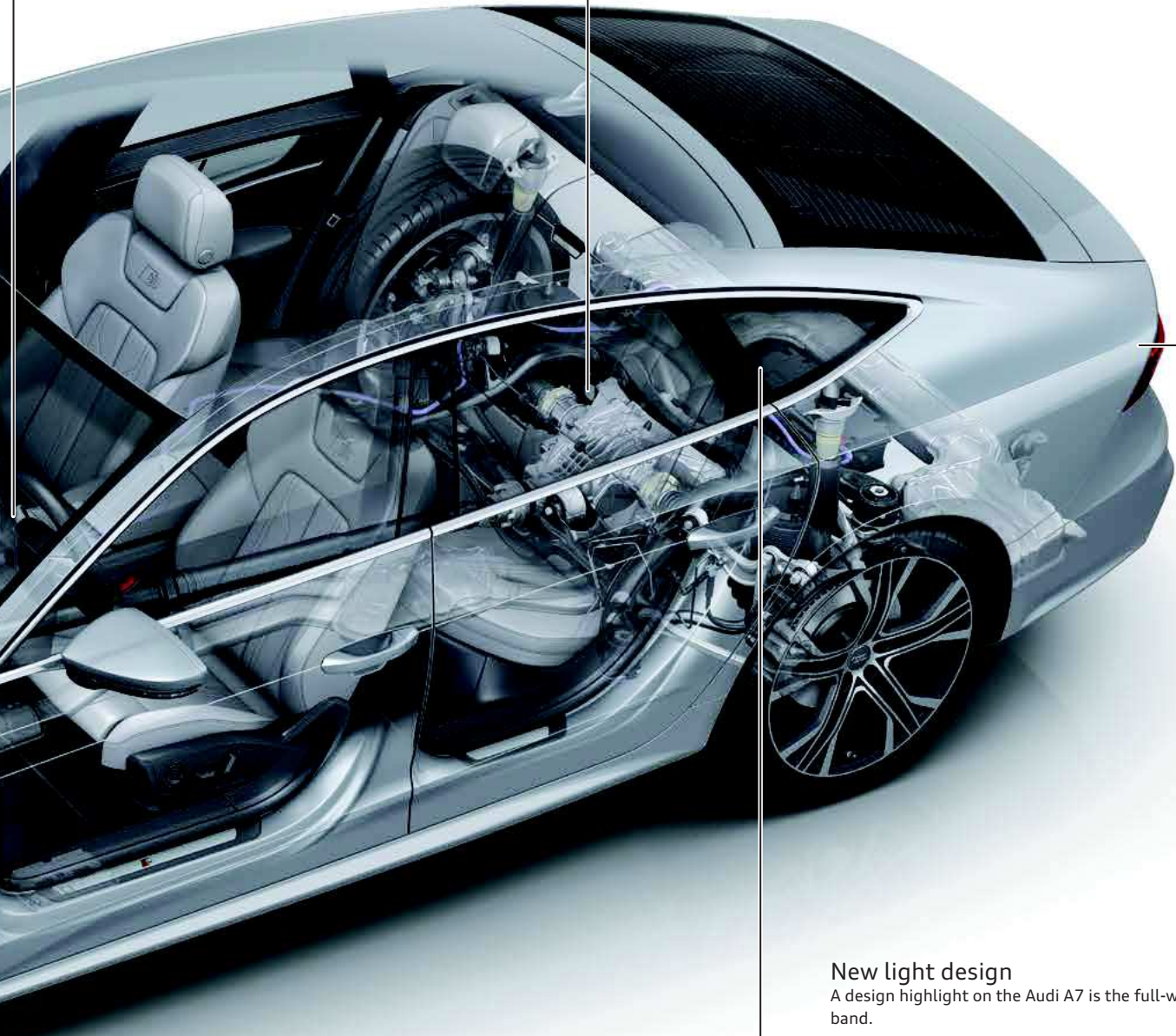
The operating and display concept on the Audi A7 uses an MMI touch response system with two touchscreens, a switch module (optional) and a light switch module with haptic and acoustic feedback. Also integrated are intelligent handwritten letter input with full-word and multi-finger recognition. An Audi virtual cockpit with full HD resolution and a head-up display are optionally available.

## Power transmission

Power transmission on the Audi A7 is exclusively via an automatic transmission. New features include the following:

- > quattro with ultra technology
- > 7-speed dual clutch transmission OHL
- > New selector mechanism featuring shift-by-wire technology

For further information, refer to the section starting on page 26.



## New light design

A design highlight on the Audi A7 is the full-width tail-light band.

## Electrical system

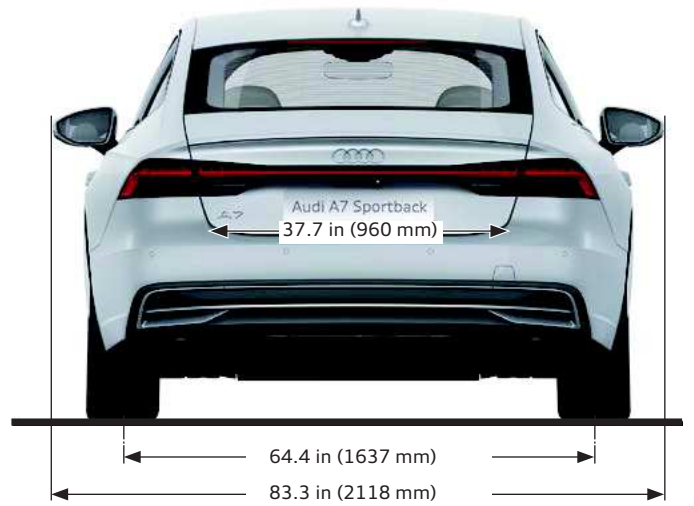
The Audi MHEV technology is based on a newly developed 48 Volt main electrical system which also supplies power to the 12 Volt electrical subsystem. The 48 Volt electrical system is powered by a belt-driven starter generator (BSG) which is connected to the engine's belt drive. A lithium-ion battery, located underneath the luggage compartment floor, is used to store power.

669\_003

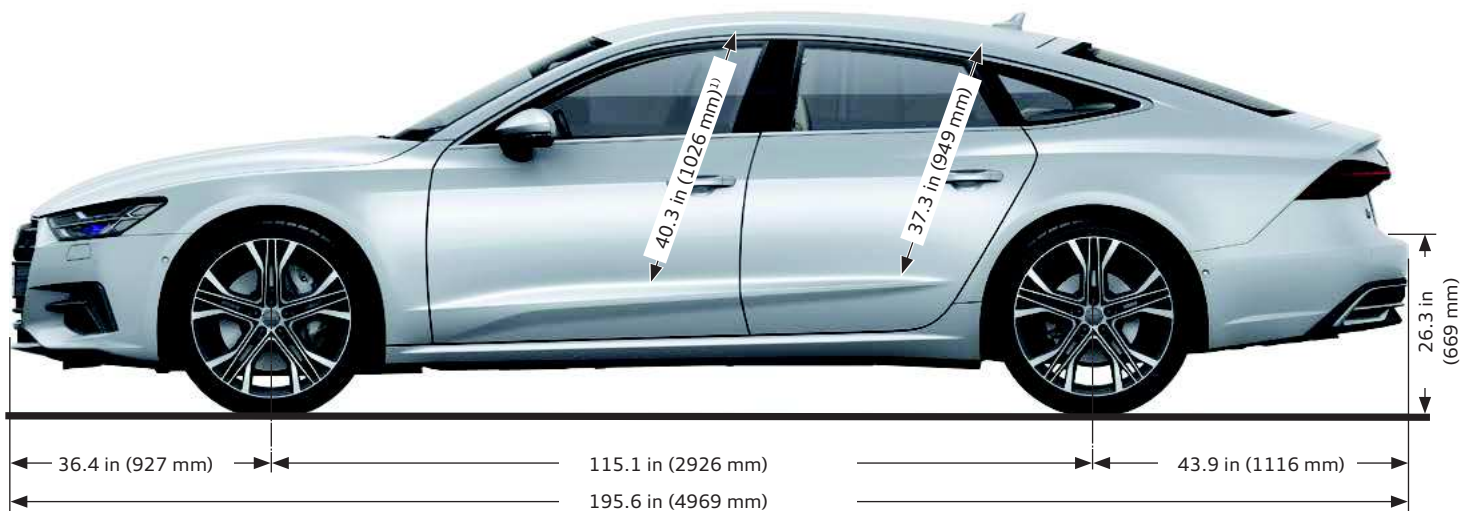
# Dimensions



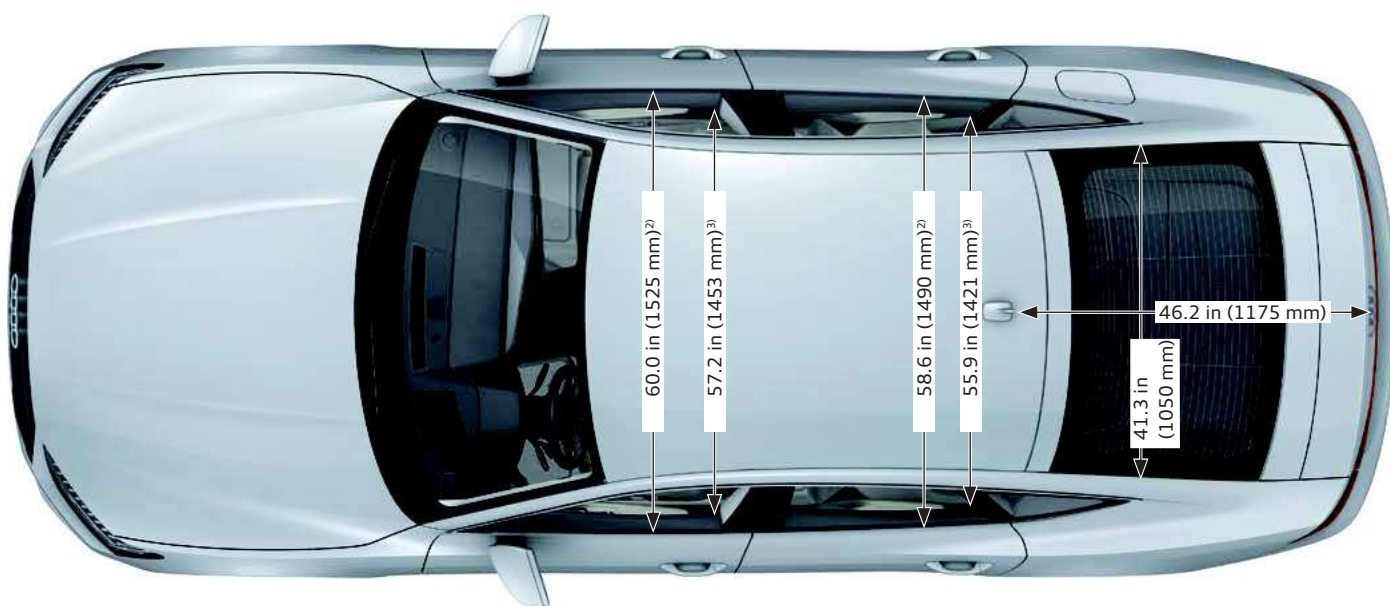
669\_004



669\_005



669\_006



669\_007

## Exterior dimensions and weights

Length	195.6 in (4969 mm)
Width (not incl. mirrors)	75.1 in (1908 mm)
Width (incl. mirrors)	83.3 in (2118 mm)
Height	55.9 in (1422 mm)
Front track	64.9 in (1651 mm)
Rear track	64.5 in (1637 mm)
Wheelbase	115.1 in (2926 mm)
Unladen weight	4001 lb (1815 kg)

## Interior dimensions and other specifications

Front cabin width	60.0 in (1525 mm) <sup>2)</sup>
Front shoulder width	57.2 in (1453 mm) <sup>3)</sup>
Rear cabin width	58.6 in (1490 mm) <sup>2)</sup>
Rear shoulder width	55.9 in (1421 mm) <sup>3)</sup>
Load sill height	26.3 in (669 mm)
Luggage compartment capacity	18.8 cu ft (535 l)
Drag coefficient cw	0.27
Capacity of fuel tank	19.2 gal (73 l)

<sup>1)</sup> Maximum headroom

<sup>2)</sup> Elbow room width

<sup>3)</sup> Shoulder room width

All dimensions given refer to the unladen weight of the vehicle.

# Body

## Overview









Like its predecessor, the body of the Audi A7 is a composite construction using various materials. In addition to various grades of steel, die-cast aluminum is used for the front suspension turret and for the node castings on the rear roof frame. An aluminum reinforcement plate is located on the D-pillar.

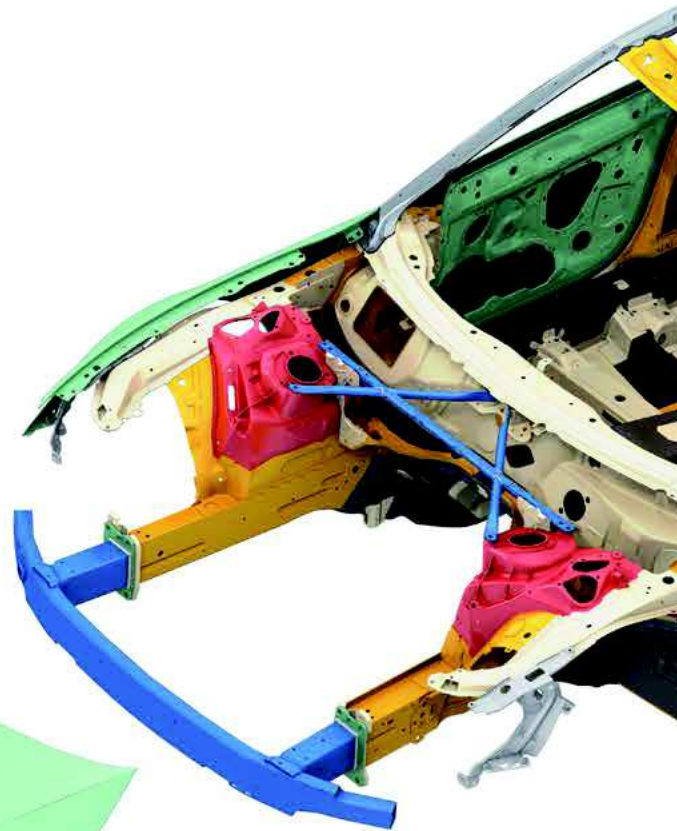
The bumper carriers with crash boxes, the body brace and the reinforcement struts on the underbody are manufactured from extruded aluminum profiles and the attachments from sheet aluminum.

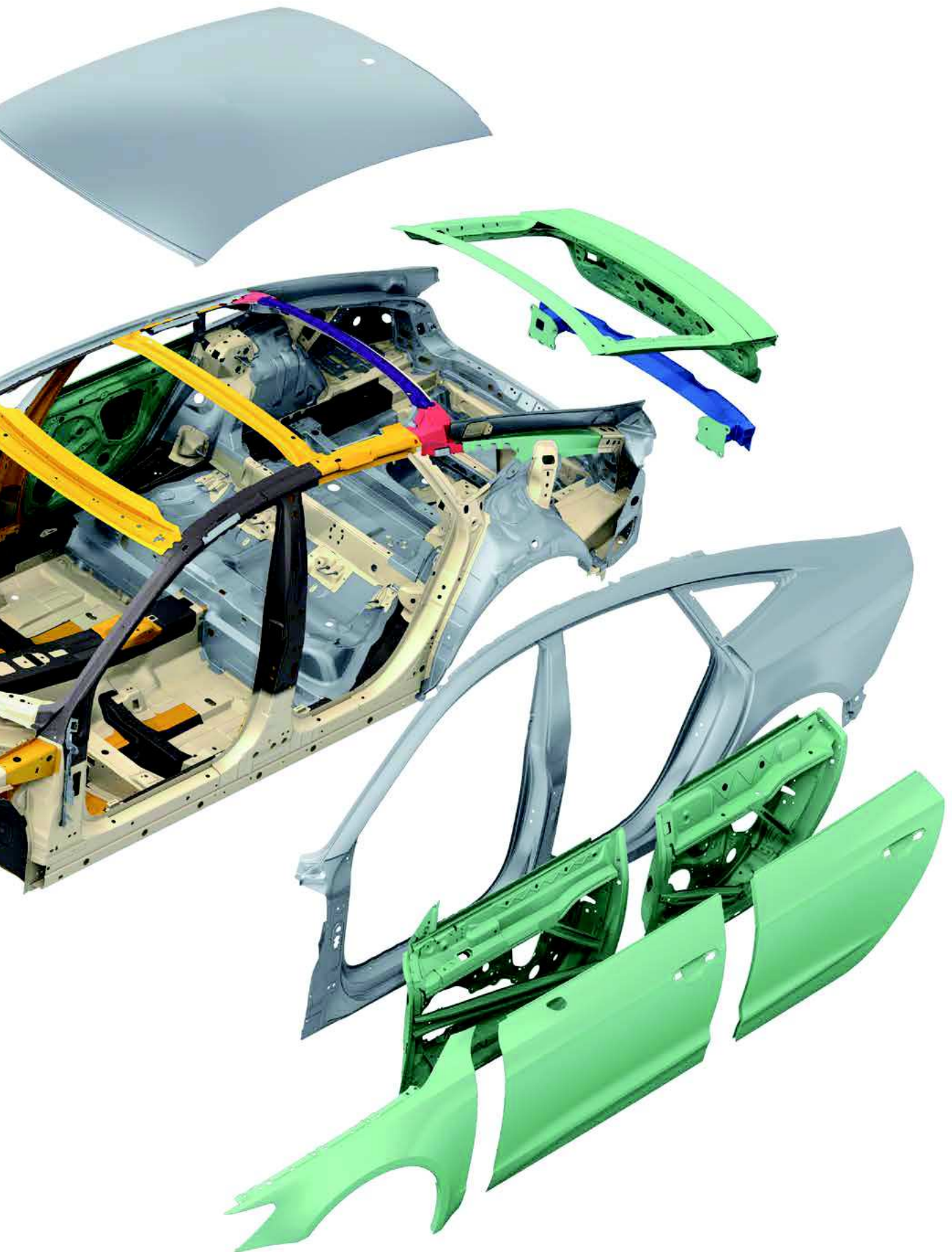
The upper shell of the rear roof frame is made of a new type of steel/plastic composite material.

The main joining technologies used are (for steel) spot welding and laser welding on the sill panels, laser soldering on the roof/water channel and (for steel aluminum composite materials) punch riveting with adhesive bonding.

### Key:

-  Sheet aluminum
-  Die-cast aluminum
-  Aluminum section
-  Ultra-high-strength steel (hot-formed)
-  Modern high-strength steel
-  High-strength steel
-  Soft steel
-  Composite steel/plastic

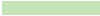









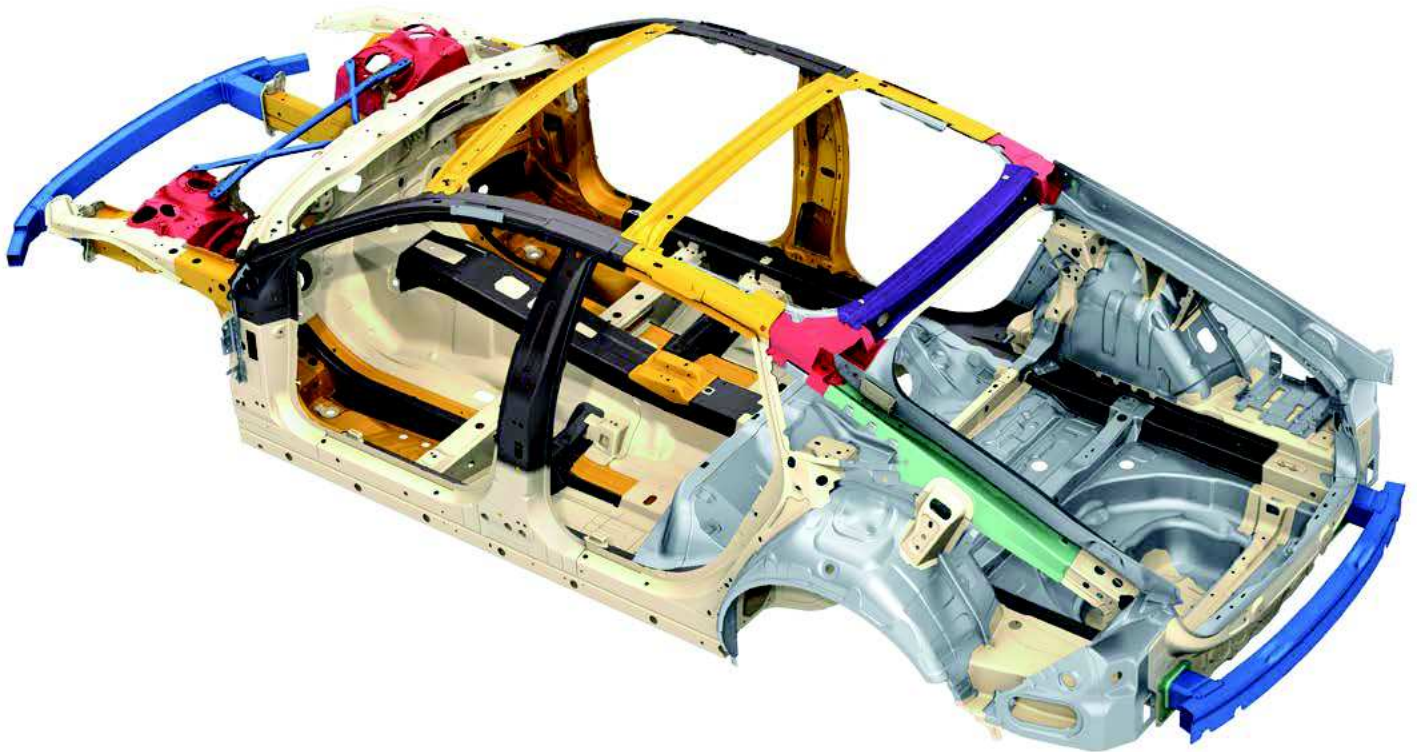


## Body structure

The high torsional strength and crash safety of the body structure on the Audi A7 is achieved by the intelligent mixture of different high-strength to ultra-high-strength types of sheet steel.

### Key:

-  Sheet aluminum
-  Die-cast aluminum
-  Aluminum section
-  Ultra-high-strength steel (hot-formed)
-  Modern high-strength steel
-  High-strength steel
-  Soft steel
-  Composite steel/plastic

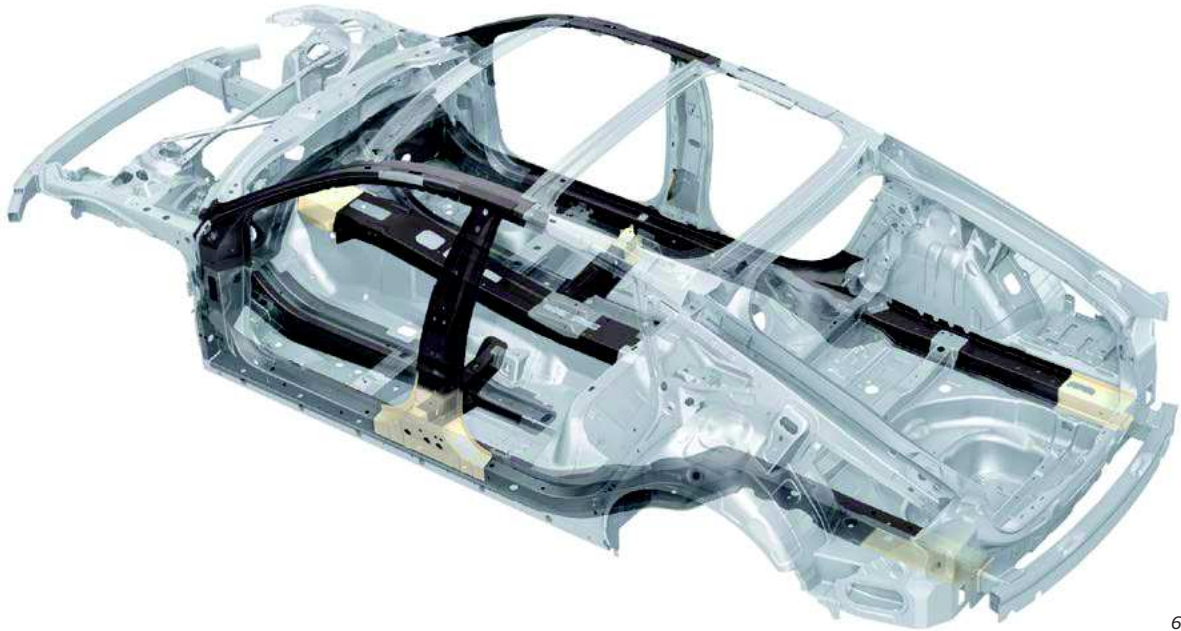


669\_118



The number of ultra-high-strength hot-formed sheet steel parts in the passenger compartment has been increased. Some of these steel parts are hardened; others consist of tailored blanks with variable wall thicknesses.

They are used in the lower area of the bulkhead, the side members, the rear seat cross members, the top section of the tunnel, the rear longitudinal members, the B-pillars and the A-pillars.

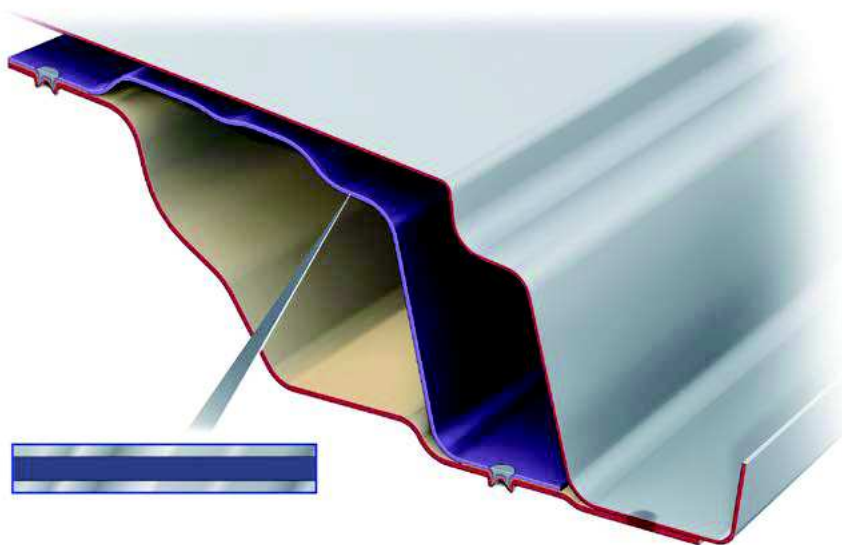


669\_119

### Composite steel/plastic material

One of the innovations and a special feature is the use of composite steel/plastic material for the top section of the rear roof cross member. In this material, a 0.4 mm thick plastic sheet is combined with 0.2 mm thick steel sheets to form a composite sheet. The rigidity and flexural strength is similar to comparable steel parts, while the weight is significantly lower.

In the production process, the semi-finished product is deep-drawn just like a regular steel sheet and the two halves of the roof cross member are joined by punch riveting and adhesive bonding. Punch rivets and additional adhesive are also used to join the aluminum cast nodes at the sides.



669\_120

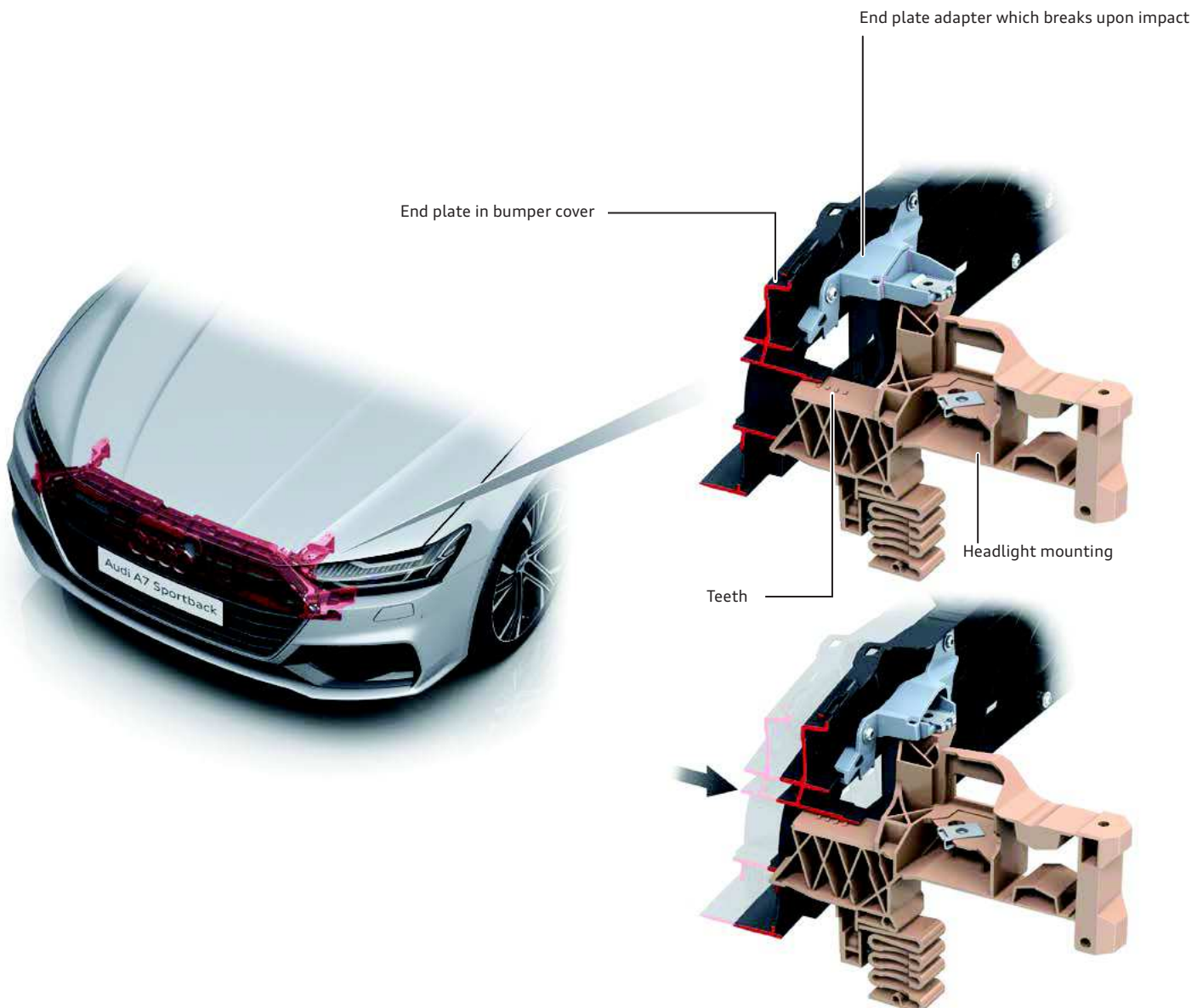
## Body assembly

### Front bumper

To minimize the risk of a pedestrian sustaining knee injuries in the event of a collision with the Audi A7, a mechanism is integrated in the end plate of the front bumper cover to prevent the bumper cover from springing back against the pedestrian's knee.

This mechanism pushes the end plate into the headlight mounting where it latches onto a set of teeth which hold it there. Because damage can occur to the detent mechanism (for example, if the teeth are blunt or broken), both parts must be replaced after an accident. Replacement is intended to ensure that the mechanism functions properly should another pedestrian accident occur.

The connection between the end plate and the headlight mounting is made by an end plate adapter which is designed to break on impact. This end plate adapter is the first part to break in small impacts, for example, when parking. In this case, the end plate does not latch onto the headlight mounting. The end plate and the headlight mounting can continue to be used; only the adapter has to be replaced.



669\_130

## Instrument panel

The appearance and design of the A7 instrument panel is similar to the 2019 A8 but its structure is fundamentally different. The air outlets do not swivel electrically and do not have the movable covers. Because the trim on the

passenger side surrounds the MMI screen and forms a single unit with the top panel, the procedure for disassembling the instrument panel is different to the Audi A8. Always follow the instructions in the most recent service literature.



669\_133

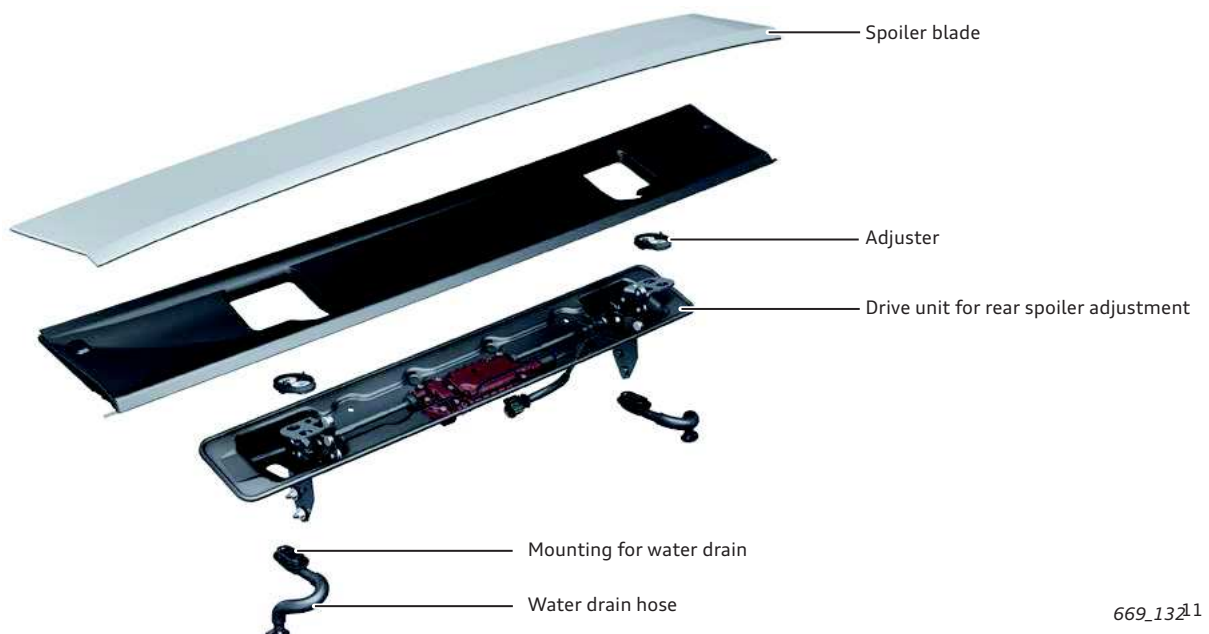
## Rear spoiler

Like its predecessor, the Audi A7 has a retractable spoiler in the rear lid. At speeds above approximately 75 mph (120 km/h), Rear Spoiler Motor V52 automatically extends the spoiler blade. The spoiler is automatically retracted when the speed drops below approximately 50 mph (80 km/h). A button in Front Information Display Control Head 2 J1060 can also be used to operate the spoiler manually. To retract the spoiler at speeds up to 12 mph (20 km/h), the button in J1060 must be held until the spoiler is fully retracted. The following corresponding messages appear on the MMI display J685: "Press and hold to retract rear spoiler manually" and "The rear spoiler is retracted." At speeds above 12 mph (20 km/h) the button only needs to be pressed briefly.

Two Hall sensors monitor whether the spoiler has reached the end positions. One of the sensors measures the end position of the extended rear spoiler while the other counts the number of drive motor revolutions while the spoiler is being retracted.

Adjusters allow the height of the spoiler blade to be aligned vertically (z axis) in relation to the rear lid and side panel. Elongated holes are used for alignment in the longitudinal and transverse directions (x and y axes).

Drain hoses on the right and left ensure that water can be channeled out of the drive unit for the rear spoiler adjustment. Since molded hoses are used, the markings on both sides must align with each other when the hoses are installed on the mountings.



669\_1321

## Panoramic glass sunroof

The Audi A7 can be equipped with a panoramic glass sunroof which spans the entire width of the roof. A piece of glass trim is permanently installed in front of the moving sunroof panel.

The glass panel can either be tilted at the rear or it can slide open over the roof towards the rear. An electrically operated blind provides protection against bright sunlight.

The water drain hoses on the left and right are located at the rear end of the roof insert. A new feature is that, instead of being clipped into the sunroof frame, the water drain hoses are attached directly to the roof reinforcement at the top and the wheel housing at the bottom.



669\_131

## Selector mechanism

The Audi A7 uses the latest Audi selector mechanism design with full shift-by-wire (SBW) capability. This means that parking lock operation is also fully automatic. The term used for this is "park-by-wire" (PBW). There is no selector cable connecting the selector mechanism to the transmission.

With the introduction of this selector mechanism design to the C-series, all Audi models with longitudinal engines now use this technology and operating concept.

The selector mechanism has been completely redesigned for the C8 model range. It is much more compact, lighter and more cost-efficient while retaining the original functions.

The new selector mechanism (E313) is a single unit with the following components:

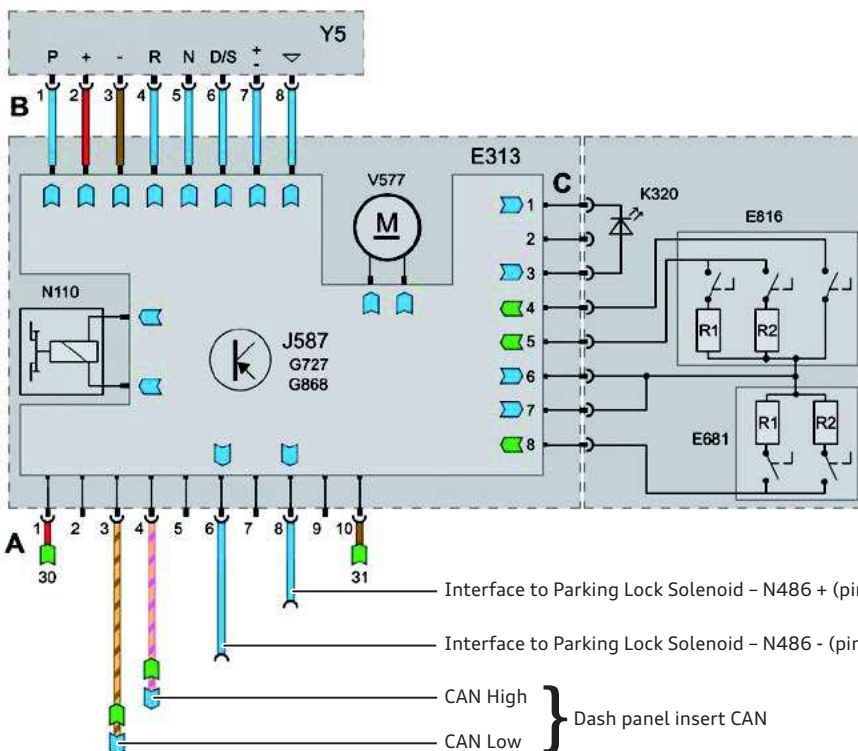
- > **J587** Selector Lever Sensor System Control Module
- > **G868** Transverse Selector Lever Lock Sensor
- > **G727** Selector Lever Position Sensor
- > **V577** Transverse Selector Lever Lock Motor
- > **N110** Shift Lock Solenoid

The complete unit must be replaced if one of these components is defective.



669\_073

### Function diagram – selector mechanism



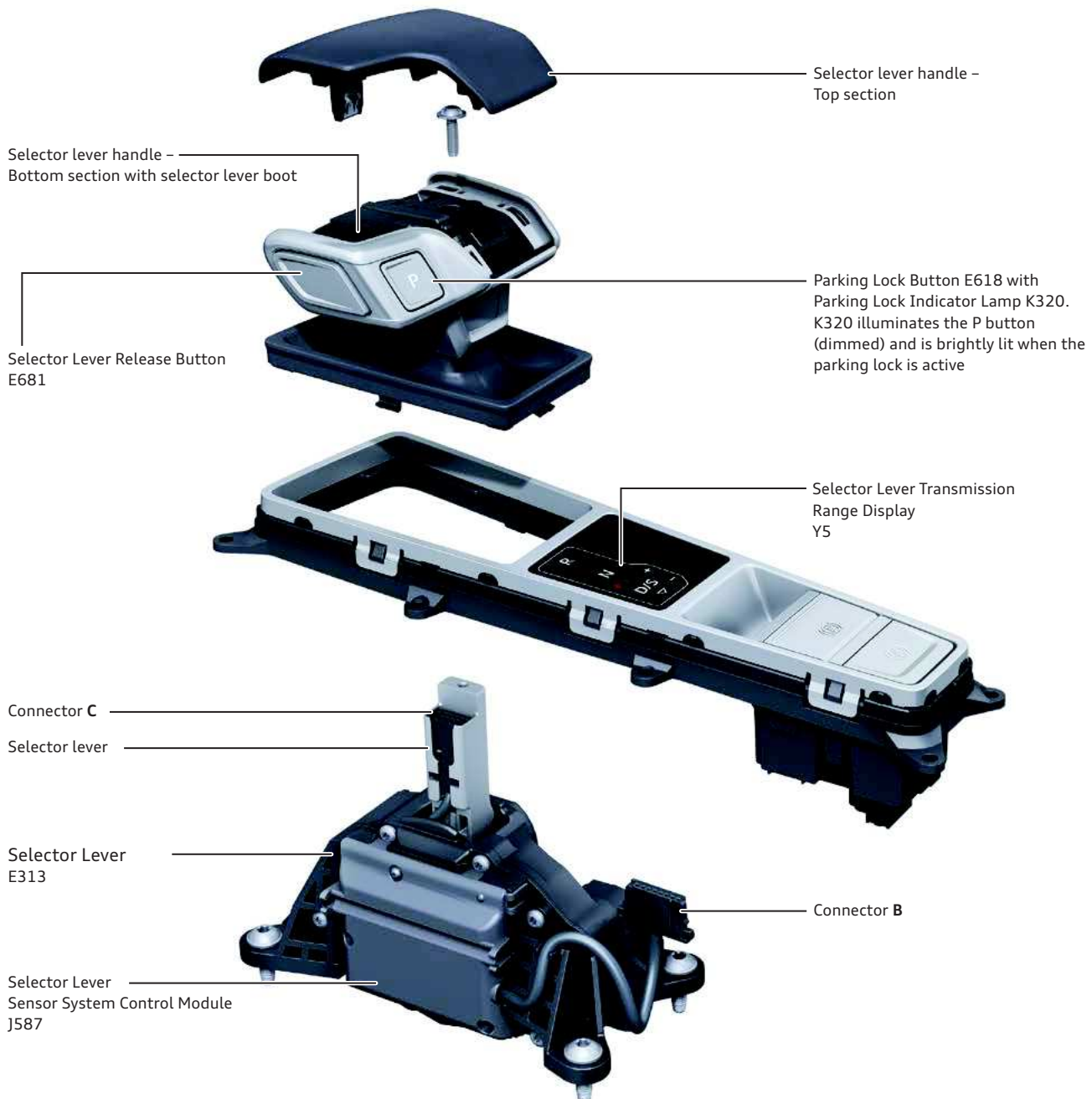
#### Key:

- E313** Selector Lever
- E681** Selector Lever Release Button
- E816** Parking Lock Button
- G727** Selector Lever Position Sensor
- G868** Transverse Selector Lever Lock Sensor
- J587** Selector Lever Sensor System Control Module
- K320** Parking Lock Indicator Lamp
- N110** Shift Lock Solenoid
- V577** Transverse Selector Lever Lock Motor
- Y5** Selector Lever Transmission Range Display
- A,B,C** Connectors

Interface to Parking Lock Solenoid - N486 + (pin A1)  
 Interface to Parking Lock Solenoid - N486 - (pin A2) } Only on DL382-series transmission

CAN High } Dash panel insert CAN  
 CAN Low }

669\_074



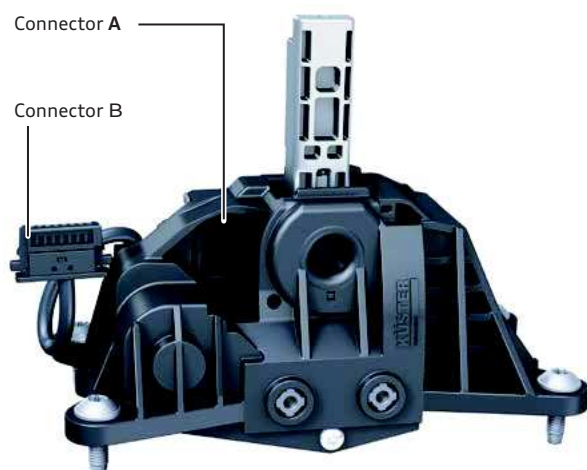
669\_075

### Selector mechanism versions

On vehicles with the 7-speed dual clutch transmission OHL, Selector Lever Sensor System Control Module J587 has two additional interfaces for controlling the Parking Lock Solenoid N486. Refer to the function diagram in [“669\\_074” page 28](#).

### Information exchange

Data is exchanged between the selector mechanism and the transmission via the gateway. J587 communicates via the CAN dash panel insert; Automatic Transmission Control Module J217 communicates via the FlexRay with Data Bus On Board Diagnostic Interface J533.



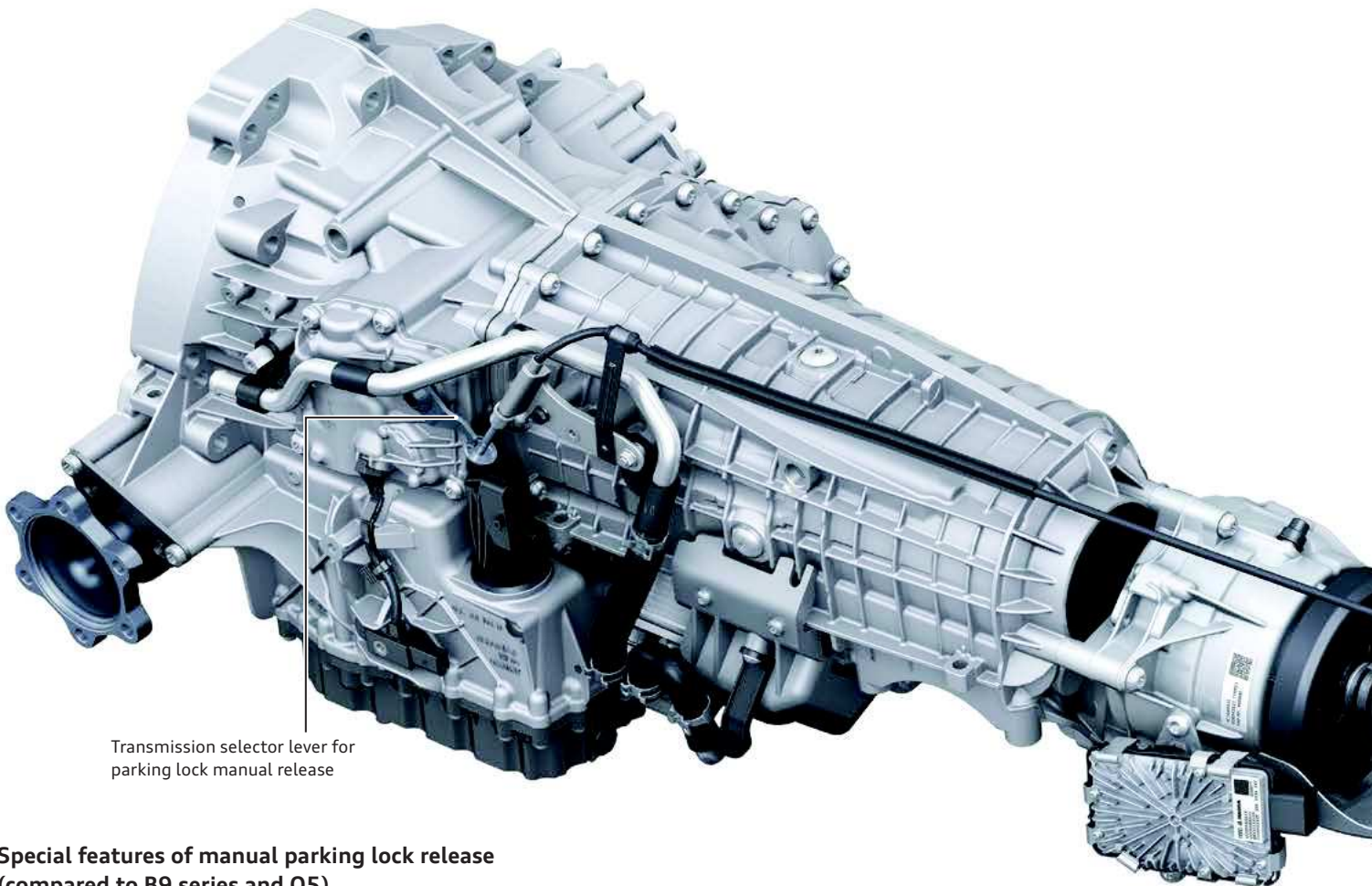
669\_076

## Parking lock manual release

The design and operating concept for the parking lock manual release mechanism have been largely adopted from the B9 series.

The new features and special characteristics are described below.

The design of the actuator unit and the wrench for the Audi A7 have been revised.



Transmission selector lever for parking lock manual release

### Special features of manual parking lock release (compared to B9 series and Q5)

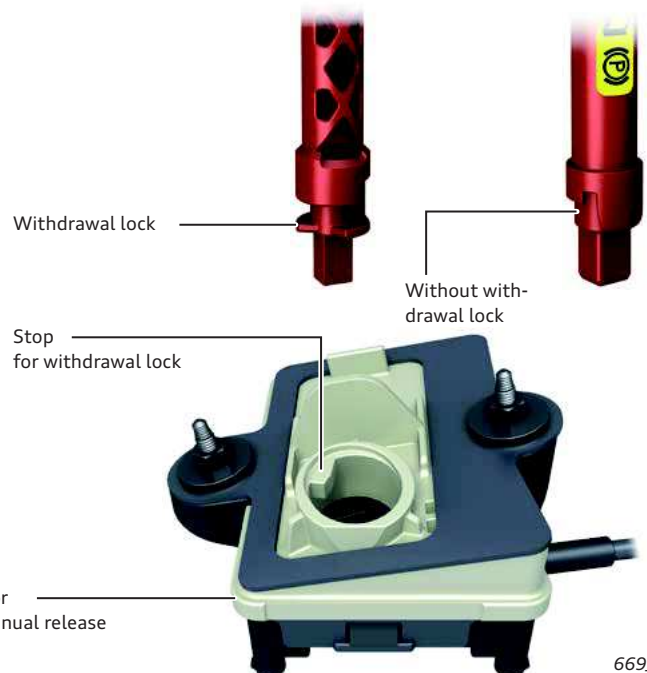
The position of the manual release lever on the transmission has been changed. This has enabled the optimization of the cable guide for the manual release mechanism, a reduction in operating force.

The wrench for the manual release mechanism has a withdrawal lock. In conjunction with the adapted stop in the actuator unit, the wrench can only be withdrawn approximately 5 mm (in order to release the lock) while in the actuated position (P-OFF). The wrench can then be turned back and withdrawn (P-ON position). This prevents the possibility of the wrench unintentionally being removed completely in the actuated position and of the manual release mechanism springing back.

**Note:** Starting at the beginning of 2018, the manual release mechanism with withdrawal lock will also be installed in B9-series vehicles and in the Audi Q5.

Wrench Audi A7

Wrench B9 series/Audi Q5



Actuator unit for parking lock manual release

# Electrical system and electronics

## Introduction

The electrical system and electronics of the 2019 are very similar to those of the 2019 A8.

Various CAN bus systems are used in the vehicle electrical system and network. The FlexRay bus system allows real-time data transfer between the running gear control modules and the driver assist system control modules. FlexRay allows all regulating systems to access the sensors.

In comparison to the previous bus architecture the bandwidth has grown by a factor of 20.

The electrical system of a typical sedan may consist of 1500 individual wires and weighs about 110 lb (50 kg). The weight of the electrical system in the A7 has been reduced despite the numerous new functions. This was done by using wire cross sections as small as possible. Further reduction was made by using an aluminum main battery cable.

The available HD matrix LED headlights are a statement of the new light design language of the Audi A7. Separated by narrow gaps, 12 light segments are next to each other and operate together digitally.

Audi offers two lighting interior packages for the Audi A7 :

- > The contour lighting package.
- > The contour ambient lighting package.

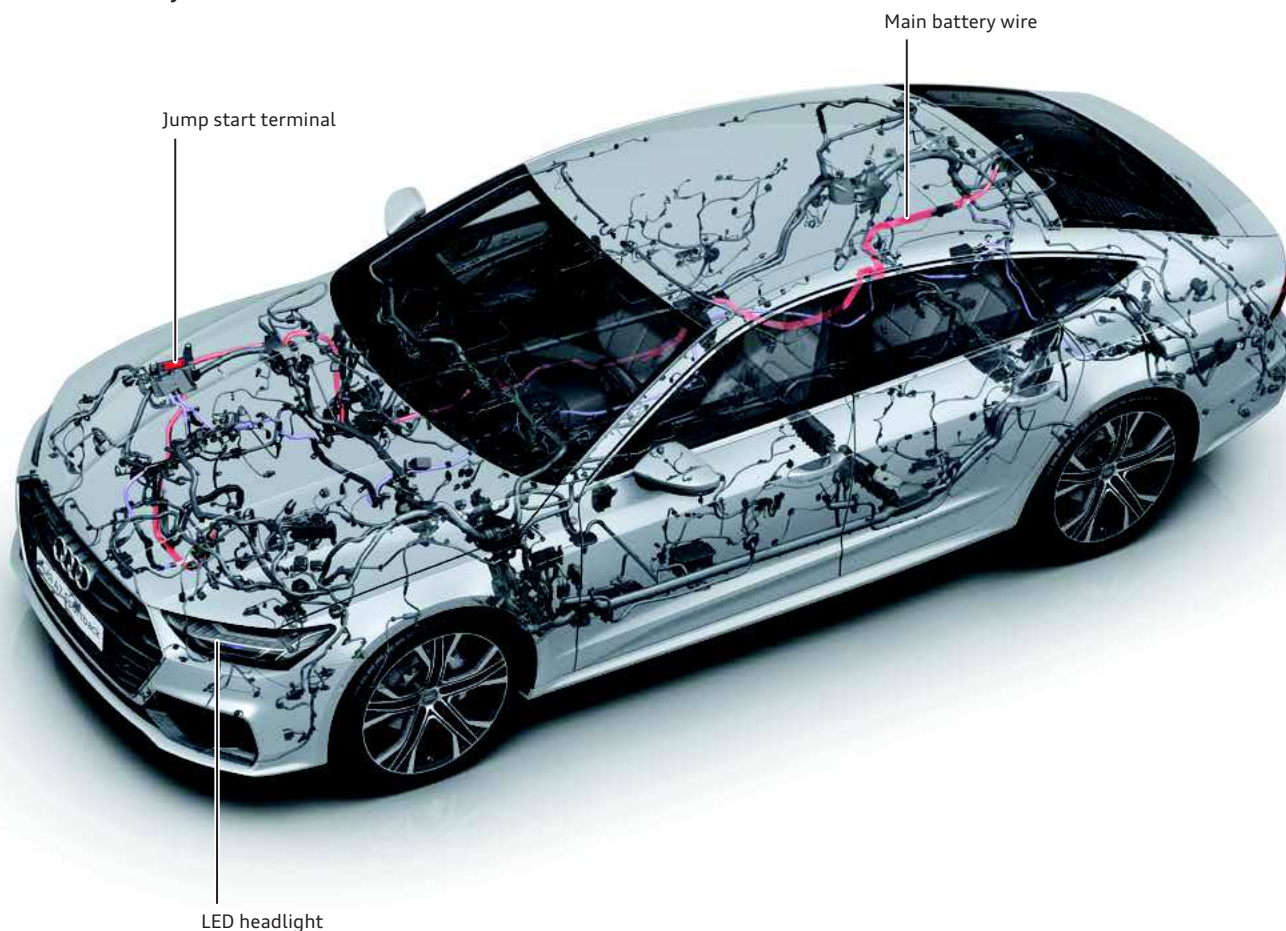
The ambient lighting in the instrument panel and the center console allows the architecture to "float". In the door, this increases the effect of space. Precise contour lighting runs along the center console and the door trim; the quattro badge is also illuminated.

The narrow and precise placement of the light bands traces the entire interior architecture, thereby underlining the entire interior concept.

The contour lighting can be set to 30 different colors and follows the color profiles in the Audi drive select driving dynamics system.

White light accents also shine from the bass speakers in the doors if the Bang & Olufsen Advanced Sound System with 3D sound is installed. Illuminated sill panel trim (standard with the design selection and S line sports package) round off the interior lighting program.

Overview of electrical system and vehicle electrics



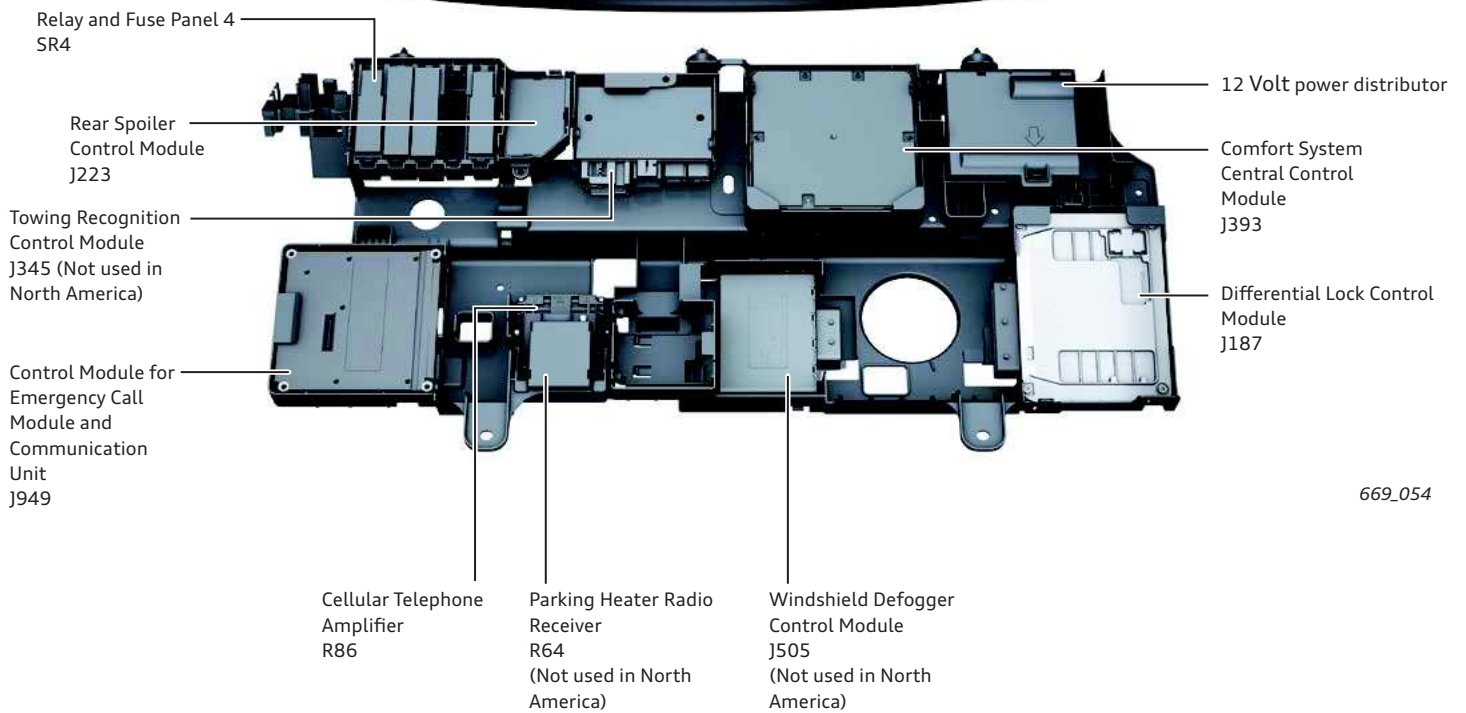


## Control module rack

The installation of many control modules is now on a control module rack installed in the underbody of the luggage compartment. Depending on the options installed in the vehicle, the following modules may be located there:

- > Relay and Fuse Panel 4 SR4.
- > Rear Spoiler Control Module J223.
- > Comfort System Central Control Module J393.
- > A 12 Volt power distributor.
- > Control Module for Emergency Call Module and Communication Unit J949.
- > Cellular Telephone Amplifier R86.
- > Differential Lock Control Module J187.

## Installation location



669\_054

## Instrument cluster

Two different instrument clusters are used for the Audi A7:

- > The analog instrument cluster, also known as the TOP instrument cluster.
- > The Audi virtual cockpit.

The customer is able to personalize both versions in a personal profile. The profile used is then allocated to the vehicle key/Audi connect key (or Audi connect key card) currently in use.

When the vehicle is unlocked, the profile last active with the key used to unlock the vehicle is loaded and displayed on the instrument cluster.

## Brief description

### Instrument Cluster Control J285

- > Equipment:
  - > Always installed.
- > Installation location:
  - > In instrument panel.
- > Address word:
  - > 0017.
- > Data bus communication:
  - > Dash panel insert CAN node.
- > MOST bus node.
  - > Connected to Information Electronics Control Module 1 J794 via an LVDS wire.
- > Special features:
  - > Component protection system node.
  - > The instrument cluster is not integrated in the immobilizer.
  - > The number and color of the bar graph displays for coolant temperature and fuel level are the same for both instrument cluster types.

### Analog instrument cluster



### Audi virtual cockpit



## Windshield Projection Head Up Display Control Module J898

Windshield Projection Head Up Display Control Module J898 projects vehicle information into the driver's field of vision. The display seems to appear at a distance of about 6 ft (2 m) away from driver - it appears to be floating above the hood.

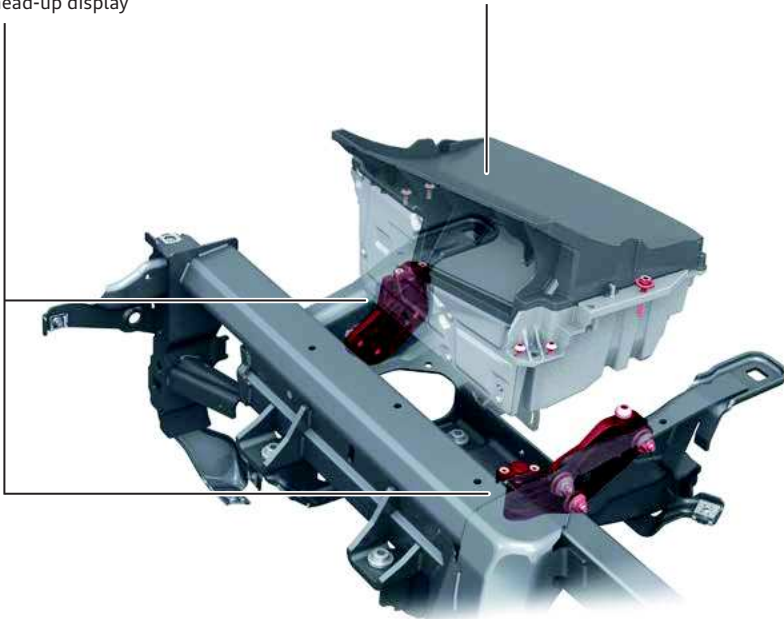
Special windshields are required on vehicles with the head-up display.

### Brief description

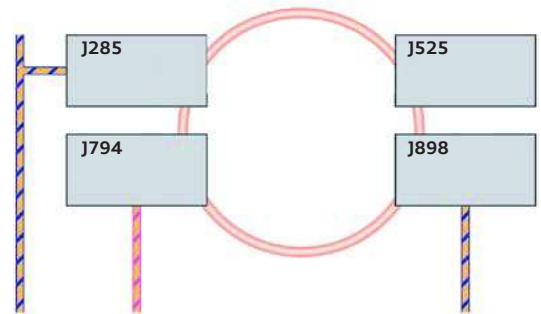
- > Address word:
  - > 0082
- > Incorporation in data bus systems:
  - > J898 is both a node of the dash panel insert CAN and the MOST data bus.
- > Special features:
  - > J898 is not a participant of the immobilizer nor of the component protection system.
- > Handling in service:
  - > The windshield must be removed before J898 can be removed.
  - > J898 is positioned in both outer brackets for head-up display; the brackets must not be removed during service.
  - > No calibration board is used when J898 is renewed in service.

Brackets for head-up display

J898



### Order of MOST bus ring nodes






669\_206

#### Key:

- J285 Instrument Cluster Control Module
- J525 Digital Sound System Control Module
- J794 Information Electronics Control Module 1
- J898 Windshield Projection Head Up Display Control Module

#### Wiring colors:

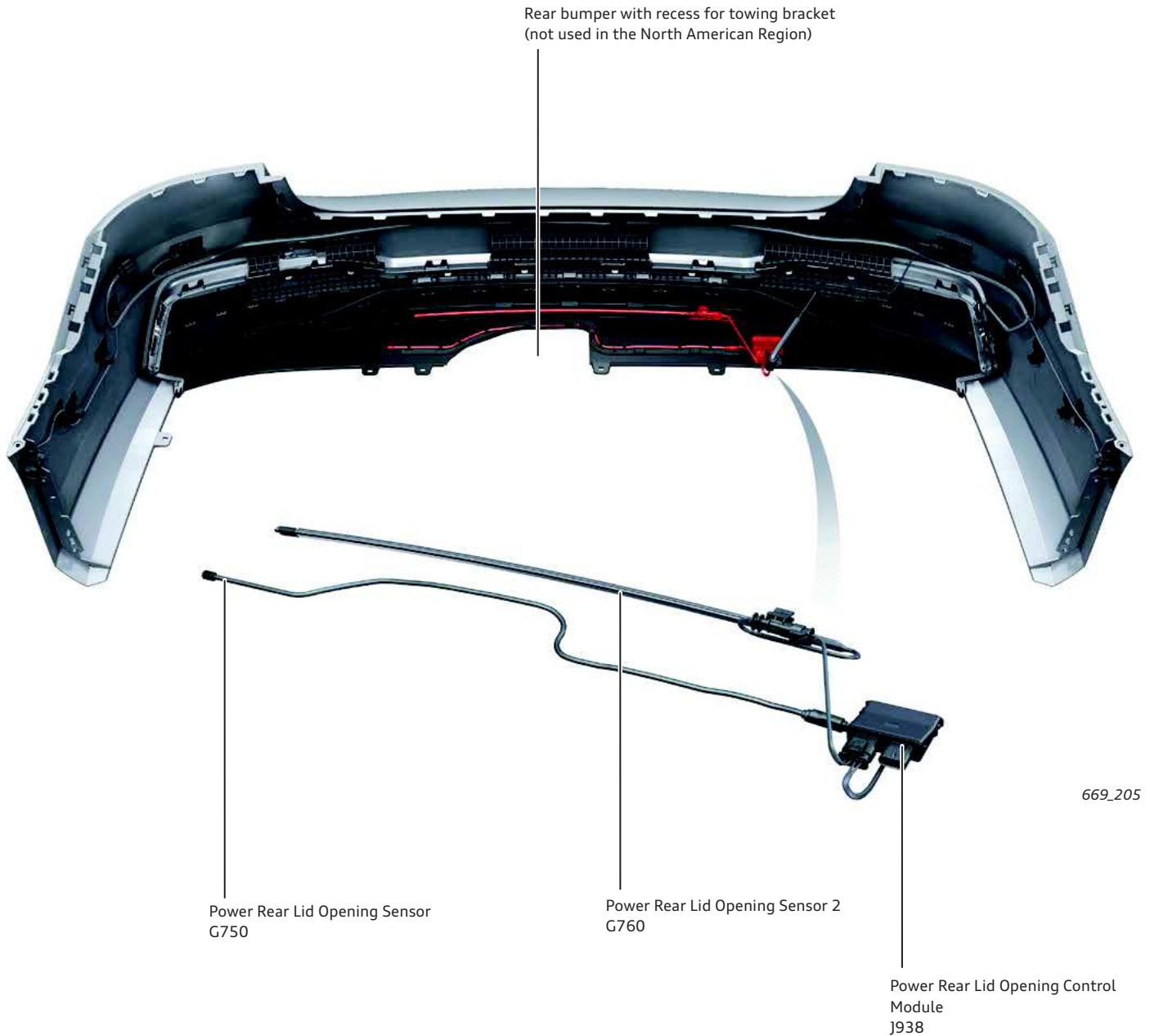
-  Infotainment CAN
-  Dash panel insert CAN
-  MOST bus

669\_203

## Convenience key with sensor-operated rear lid opening

On Audi A7 vehicles equipped with the convenience key with sensor-operated rear lid opening, the customer can open and close the rear lid with a foot gesture.

Both sender wires run along the rear bumper horizontally.



## Exterior lighting

### Headlights

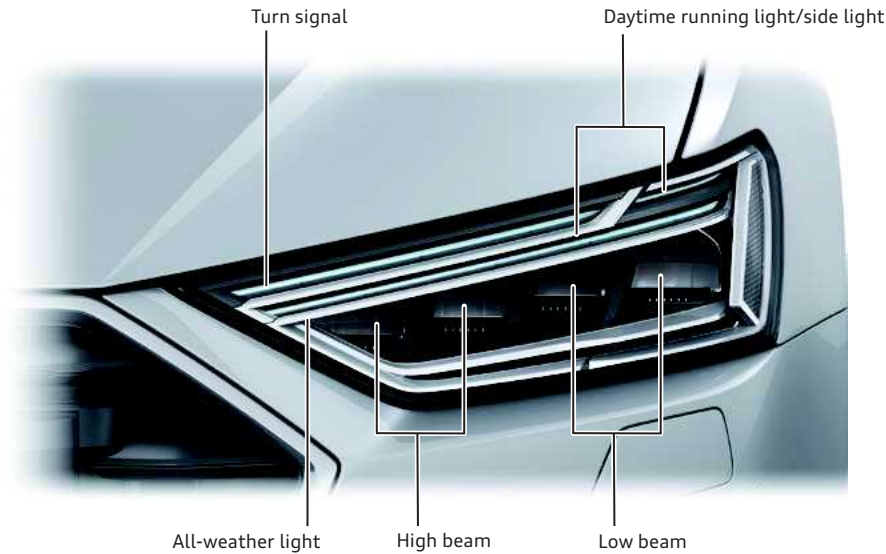
Three types of headlights are available for the 2019 A7. They are geometrically identical, but vary in both design and lighting functions.

The following versions are offered:

- > LED headlights.
- > Matrix LED headlights.
- > Matrix LED headlights with laser high beams.

### LED headlights (PR No.: 8IT + 8G1)

The illustration shows the left headlight in the European version.



669\_186

### Lighting functions

- > Daytime running light.
- > Side light.
- > Low beam.
- > High beam.
- > All-weather light.
- > Turn signal.
- > Side marker light (not illustrated).

### Special features of the lighting functions

If the switch is set to "side lights" or "OFF" and the vehicle exceeds a speed of 6 mph (10 km/h), the "AUTO" position is automatically selected. During a turning procedure, the daytime running lights are switched off.

### Service

Both the control module installed on the outside of the headlight housing and the headlight range control motor can be replaced in the event of a defect. In the event of damage to the upper and inner headlight attachments, repair tabs can be attached to the headlight housing. It is not possible to replace individual lights.

### Equipment

The LED headlights can be combined with the high beam assist as an option. A headlight washer system is also available optionally.

### Headlight range adjustment

The LED headlights are equipped with automatic dynamic headlight range adjustment.

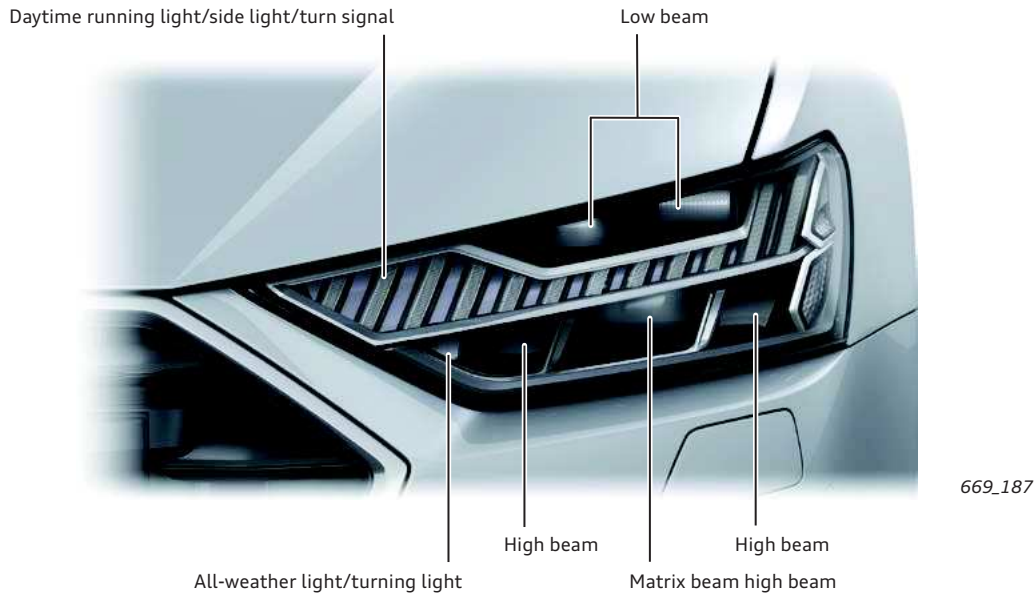


#### Note

Matrix beam functionality will not be available at launch.

## Matrix LED headlights (PR No.: 8IT + 8G5)

The illustration shows the left headlight in the European version.



### Lighting functions

- > Daytime running light
- > Side light
- > Low beam
- > Matrix beam high beam
- > All-weather light
- > Turning light
- > Dynamic turn signal
- > Highway light
- > Side marker light (not illustrated)

### Special features of the lighting functions

If the switch is set to "side lights" or "OFF" and the vehicle exceeds a speed of 6 mph (10 km/h), the "AUTO" position is automatically selected. The daytime running lights are switched off during the turn signal procedure, and the side lights are active in the turn signal dark phase and dimmed when the turn signals are active.

### Service

The control module installed on the outside of the headlight housing, the fan, and the output module for matrix headlight can be replaced in the event of a defect. Because the output module for matrix headlight is located inside the headlight, the ESD (electrostatic discharge) mat VAS 6613 must be used if the module is replaced. It is not possible to replace individual lights.

### Equipment

A headlight washer system is standard on vehicles with matrix LED headlights.

### Headlight range adjustment

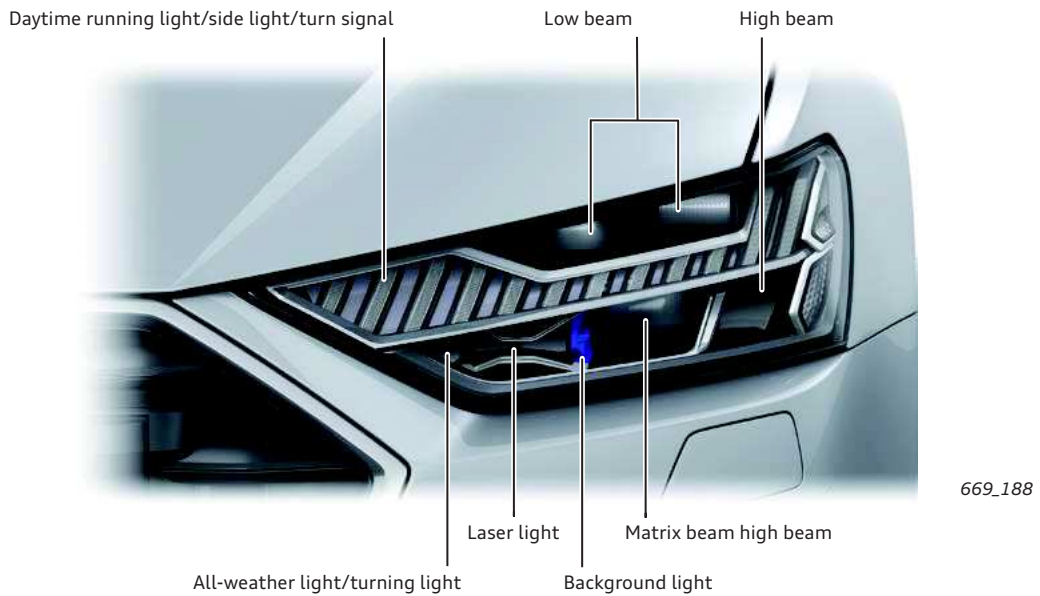
The matrix LED headlights are equipped with automatic dynamic headlight range adjustment.



#### Note

Matrix beam functionality will not be available at launch.

## Matrix LED headlights with laser high beams (PR No.: 8IZ + 8G5) European version shown.



### Lighting functions:

- > Daytime running light.
- > Side light.
- > Background light.
- > Low beam.
- > Matrix beam high beam.
- > Laser light.
- > All-weather light.
- > Turning light.
- > Intersection light.
- > Highway light.
- > Dynamic turn signal.
- > Side marker light (not illustrated).

### Special features of the lighting functions

If the switch is set to "side lights" or "OFF" and the vehicle exceeds a speed of 6 mph (10 km/h), the "AUTO" position is automatically selected. The daytime running lights are switched off during the turn signal procedure.

The side lights are active in the turn signal dark phase and dimmed when the turn signals are active.

The blue background light is activated together with the daytime running lights and the side lights but is switched off during the turn signal procedure.

### Service

The control module installed on the outside of the headlight housing, both fans, and the output module for matrix headlight can be replaced in the event of a defect. Because the output module for matrix headlight is located inside the headlight, the ESD (electrostatic discharge) mat VAS 6613 must be used if the module is replaced. It is not possible to replace individual lights.

### Headlight range adjustment

The matrix LED headlights with laser high beams are equipped with automatic dynamic headlight range adjustment.

### Equipment

A headlight washer system is standard on vehicles with matrix LED headlights.



#### Note

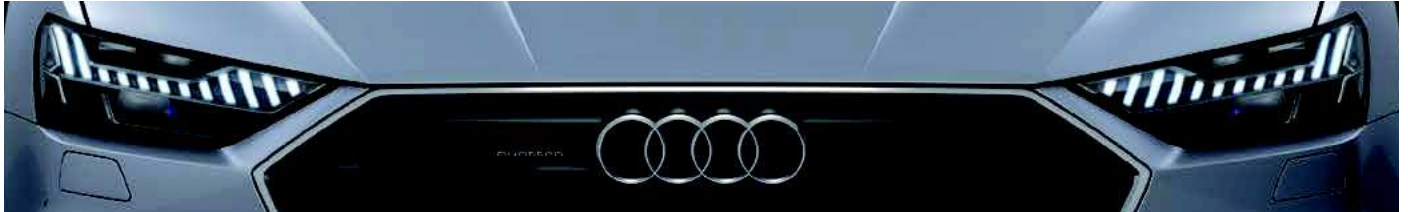
Matrix beam functionality will not be available at launch.

## Light signature

This set of images shows the most important lighting functions of a set of matrix LED headlights with laser high beams.

The laser high beams cannot be operated when the vehicle is stationary. The function is considered to be OK if there are no DTCs stored in the control module..

The illustrations show the lighting functions of a set of headlights in the European version.



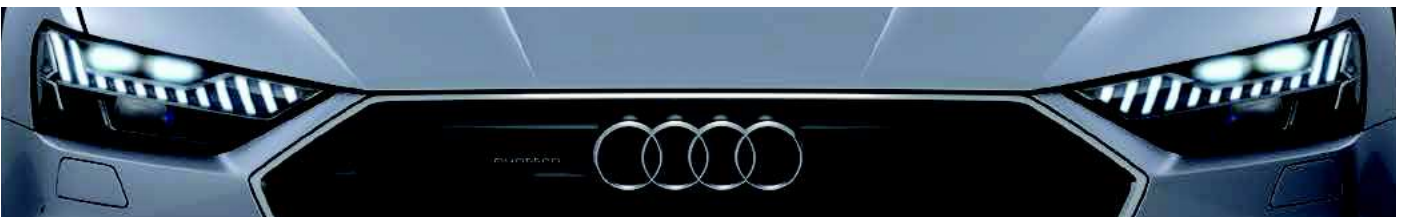
Daytime running lights

669\_189



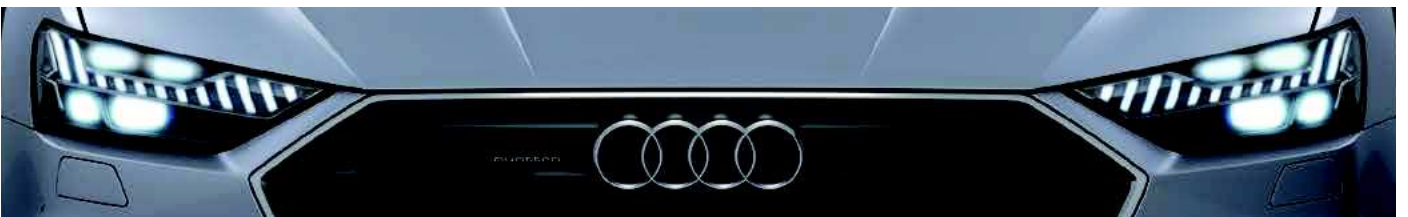
Turn signals

669\_190



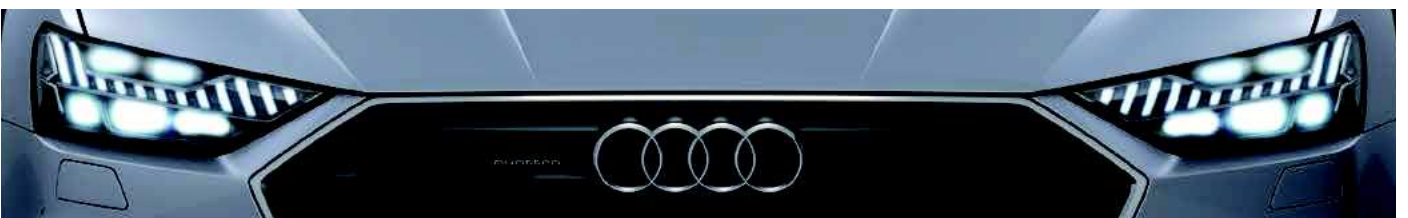
Low beams

669\_191



High beams

669\_192



High beams and laser high beams

669\_193

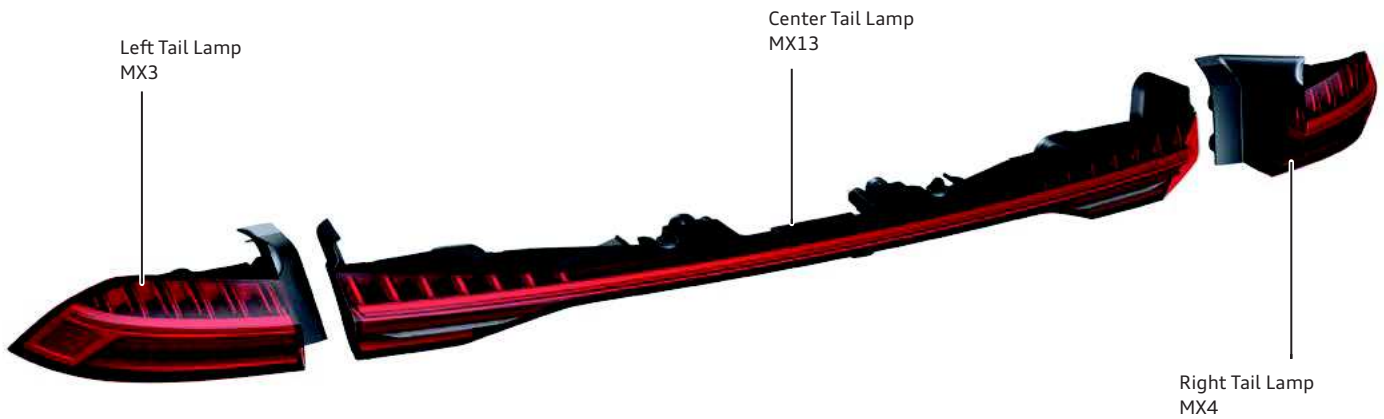


## Tail lights

### General description

The tail lights on the 2019 A7 are in three sections; two tail lights at the left and right sides and a light unit which covers the entire width of the rear lid.

In addition to the three tail lights, the Audi A7 also has a high-level brake light. Only LED lights are used.



669\_196

### Versions

The tail lights appear in the following two versions:

- > LED tail lights with dynamic turn signals.
  - > PR no.: 8SP.
- > LED tail lights with dynamic turn signals and dynamic tail light.
  - > PR no.: 8SQ.

The tail light versions are geometrically identical.

On the dynamic tail lights, the LEDs are activated at different moments as part of the "coming/leaving home" function. This allows an impressive light pattern to be presented when the vehicle is opened or locked with the central locking system.

### Activation

The tail lights are activated by Comfort System Central Control Module J393. On the 8SQ version, the tail lights are connected to J393 via a LIN data wire in addition to the discrete wires. The dynamic turn signal and dynamic tail light commands are sent via the LIN data wire.

## Light signature

All lighting functions of the tail lights are shown in these images to provide an impression of how the rear lighting of the Audi A7 looks.

As can be seen in the two bottom images, the Audi A7 is equipped with two back-up lights but only one centrally located fog light.



Tail lights

669\_197



Tail lights and hazard warning lights

669\_198



Tail lights and brake lights

669\_199



Tail lights and back-up lights

669\_201



Tail lights and fog light

669\_202

## Interior lighting

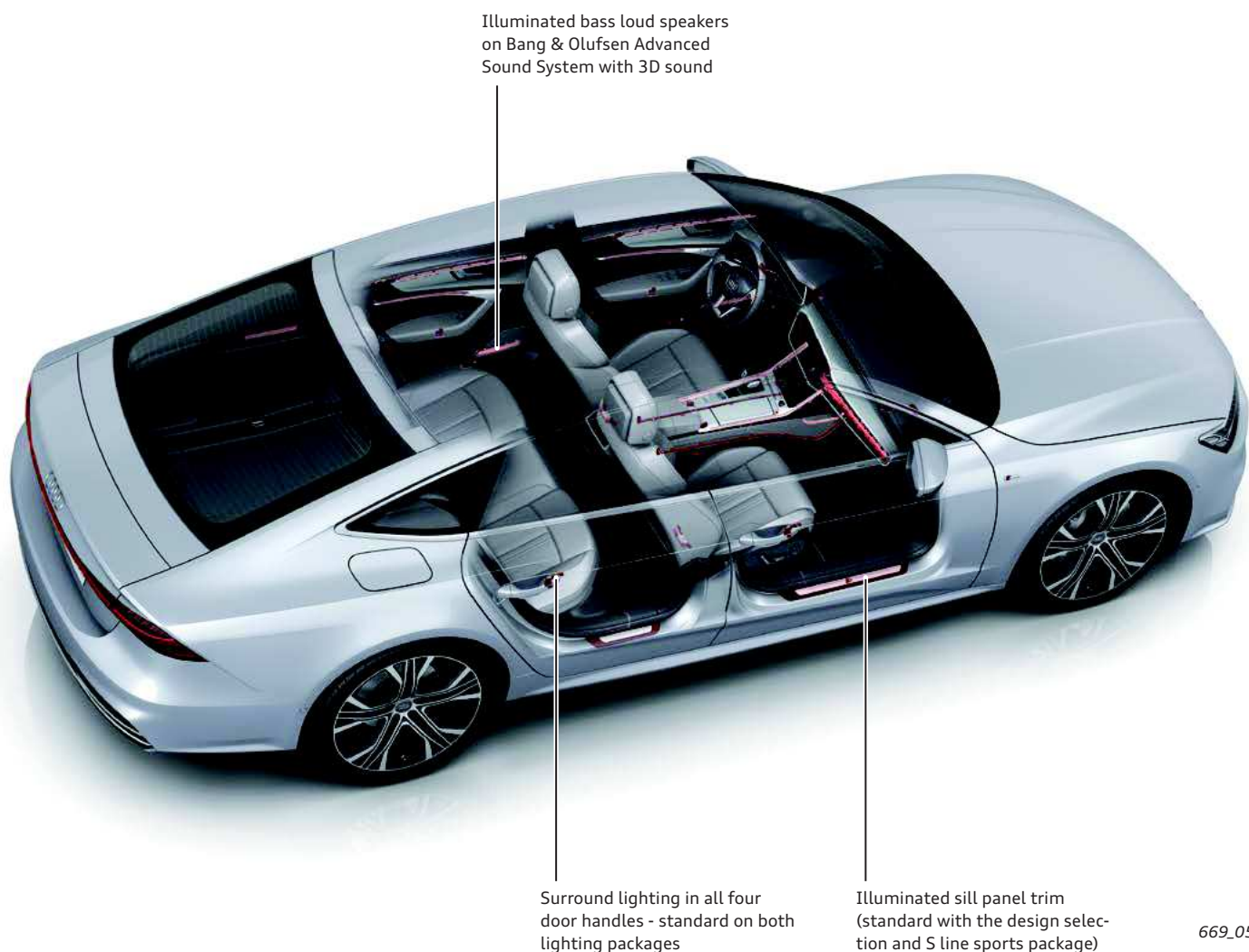
Audi offers three different interior lighting systems in the new Audi A7.

- > Basic interior lighting (PR no. QQ0).
- > Contour lighting package (PR no. QQ1).
- > Contour ambient lighting package (PR no. QQ2).

The ambient lighting package is used in the instrument panel, the center console and the doors.

The quattro badge or the Audi rings (on front-wheel drive vehicles) are illuminated in the instrument panel.

The contour lighting can be set to 30 different colors and can follow the color profiles in the Audi drive select driving dynamics system.



669\_056

## Interior lighting systems

### Basic interior lighting (PR no. QQ0)

The PR no. QQ0 is the basic equipment level. It features the following:

- > In the headliner:  
Front roof module, rear interior lights, make-up mirrors in sun visors.
- > In instrument panel and center console:  
Front footwell lighting, glove box light, illuminated center console storage compartment.
- > In the doors:  
Illuminated interior door handles, door exit lighting.

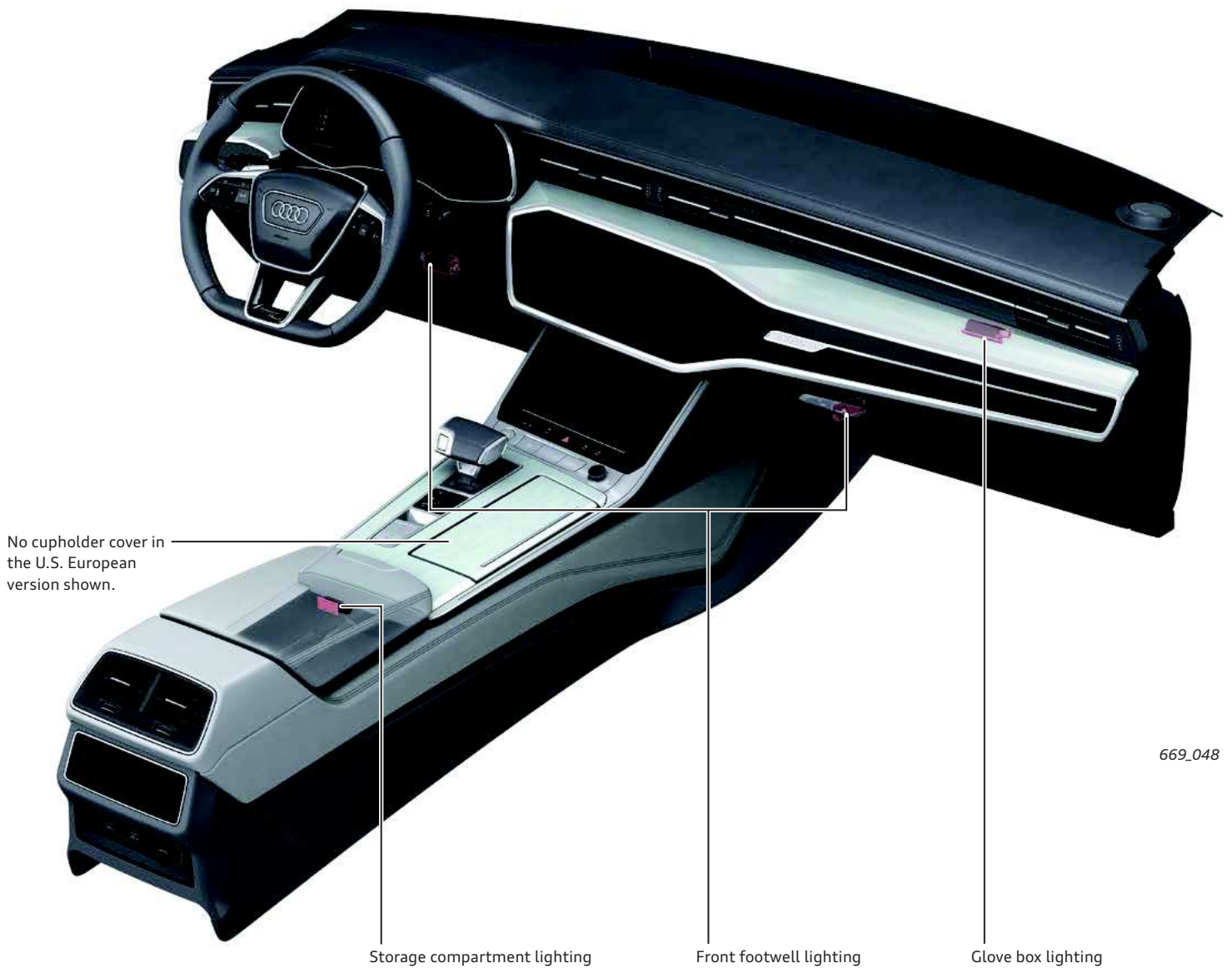
### Contour lighting package (PR no. QQ1)

In addition to the QQ0 equipment, the ambient lighting package (PR no. QQ1) also features:

- > Ambient lighting in the instrument panel (driver side, center, passenger side).
- > Door panel lighting in inside of doors.
- > Door surround lighting integrated in all exterior door handles.

The ambient lighting QQ1 consists of white LED modules.

### Instrument panel with QQ0 features



## Contour ambient lighting package (PR no. QQ2)

In addition to the equipment in the QQ1 package, the multi-colored contour ambient lighting package (PR no. QQ2) also features:

- > Illuminated door pockets front/rear.
- > Contour lighting for front/rear doors.
- > Ambient door panel lighting for front/rear doors.
- > Ambient lighting for front center console.
- > Contour lighting for front center console.
- > Contour lighting with illuminated quattro badge or illuminated Audi rings (on front-wheel drive vehicles) in the dash panel on the passenger side.
- > Ambient lighting in the instrument panel.

The color of all lighting exclusive to QQ2 can be adjusted. This is done separately for contour and ambient lighting.

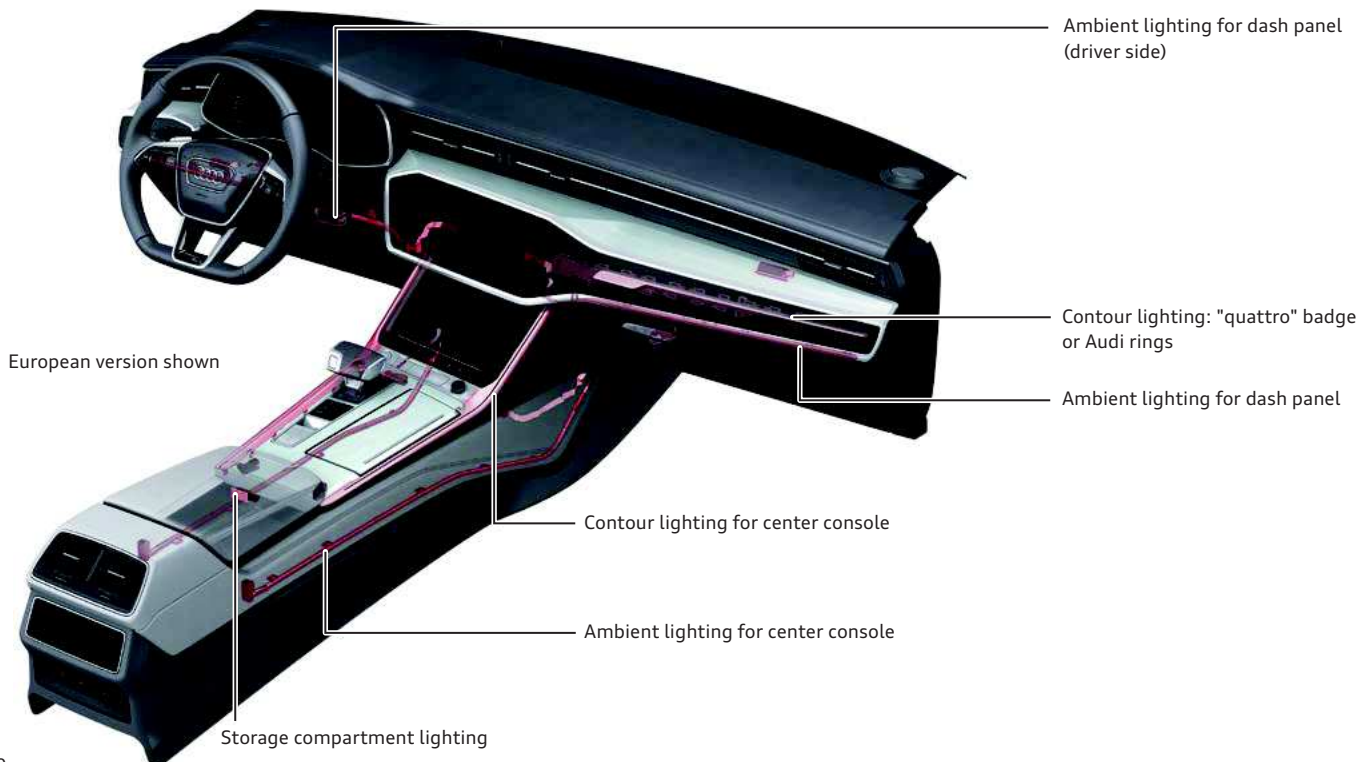
The door pocket lighting can again be changed, but does not have capacitive sensor control.

### Door trim with QQ2 features



669\_049

### Instrument panel with QQ2 features





> **Exit warning system**

- > On all four doors.
- > In a situation evaluated as potentially dangerous, the LEDs light up in red. In addition, the LEDs for the lane change warning assist system in the relevant exterior mirror are activated.
- > The exit warning system remains ready to give warnings for approximately three minutes after the ignition is switched off.

Light strip for exit warning system

669\_051



> **Illuminated bass speakers**

- > White light accents also shine from the bass speakers in the doors if the Bang & Olufsen Advanced Sound System with 3D sound is installed.

Illumination for bass speakers

669\_052



> **Luggage compartment lighting**

- > Two LED light strips are used to illuminate the luggage compartment on the Audi A7.

Luggage compartment lighting  
(installed on both sides of luggage compartment)

669\_053

# Climate control

## Overview

### Fragrance diffuser system

As with the 2019 A8, the fragrance diffuser system with two different fragrance types is offered for the Audi A7. The fragrances are kept in cylindrical vials in Fragrance Diffuser System Functional Unit GX43. A small blower distributes the fragrance from the vial into the outer front air outlets. In addition to the fragrance type, four levels of intensity can be selected.

### Air ionization system

An air ionization system is used to improve the air quality. The air ionization system works by negatively charging air particles to a limited extent. They are distributed in the vehicle interior via the side and front air outlets. These negatively charged ions attract dust and similar very small particles. As a result, the air in the vehicle interior is cleaner.



669\_200

### Back massage

A back massage function is offered for the front seats of the Audi A7.

The following seven massage programs can be selected.

- > Wave
- > Circles
- > Stretch
- > Rest
- > Shoulder
- > Activation
- > Revitalization

## Controls in front of vehicle

The climate control system of the 2019 A7 is managed by Vehicle Electrical System Control Module J519. Therefore, Climate Control Module J255 is not installed in the vehicle. Communication between J519 and the climate control components is done via a LIN bus system.

The occupant operation of the system is now done through two new touch pad devices installed in the center console. Climate control functions can also be accessed through the MMI via the CAR menu.

The MMI display can be used, depending on the options installed to select the following functions and their settings:

- > Ionization
- > Perfume
- > Steering wheel heating
- > Synchronization for driver/passenger side
- > Climate control for rear passengers
- > Climate control (A/C MAX, A/C OFF, A/C eco)

### 3-zone air conditioning

Rear A/C Display Control Head E265 is used to operate the 3-zone climate control for the rear passenger compartment of the A7.

The seat heating can be set on this operating unit in addition to the temperature and the blower speed.

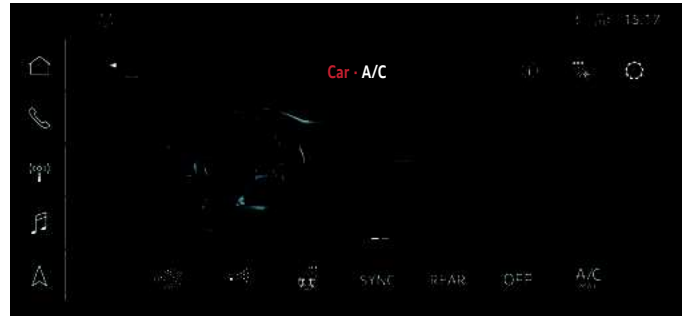
### 4-zone air conditioning

The optional operating and display unit for Rear A/C Display Control Head E265 is equipped with a sensory surface and is operated by touch.

The following settings can be made:

- > Temperature
- > Blower speed
- > Air distribution
- > Automatic A/C
- > A/C on/off
- > Seat heating

## Overview of MMI display (climate control operation)



669\_046

## Climate controls in rear of vehicle

Depending on the equipment version, two different operating units may be available in the rear.

- > 3-zone air conditioning:  
Rear operating unit with digital temperature display and buttons for seat heating.
- > 4-zone air conditioning:  
Rear touch operating unit including air conditioner regulation and seat heating, permanently installed in the center console.



669\_114

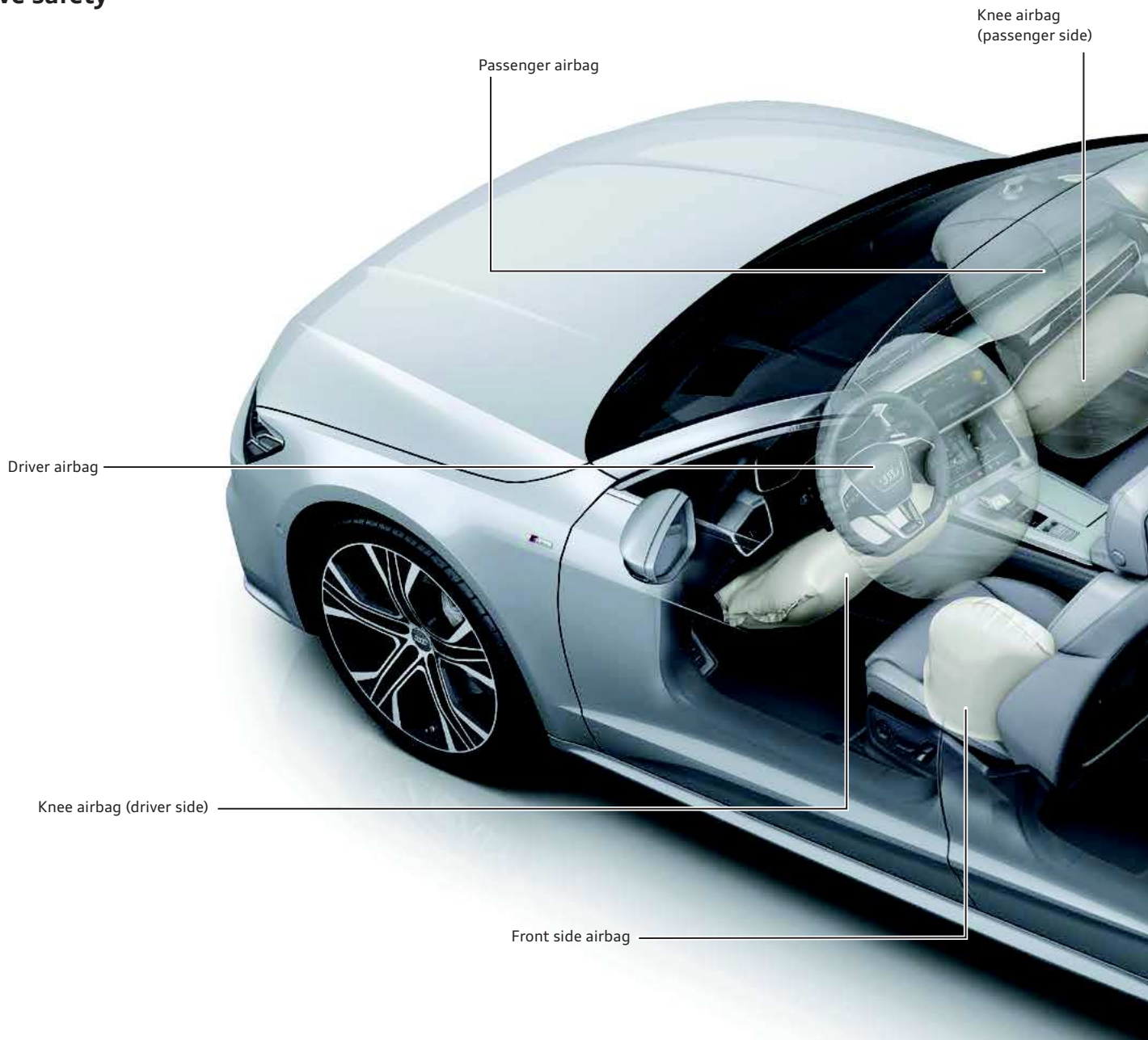


669\_115



# Safety and driver assist systems

## Passive safety



## Components

- > Airbag control module
- > Adaptive driver airbag
- > Adaptive passenger airbag (two-stage passenger airbag)
- > Front side airbags
- > Side airbags for seat row 2
- > Curtain airbags
- > Knee airbags
- > Crash sensors for front airbags
- > Crash sensors for side impact detection in doors
- > Crash sensors for side impact detection in C-pillars
- > Front belt retractors with pyrotechnic belt tensioners
- > Front belt retractors with electric belt tensioners
- > Front belt retractors with switchable belt force limiters
- > Belt retractors for seat row 2 with pyrotechnic belt tensioners for driver and passenger side
- > Belt retractors for seat row 2 with electric belt tensioners for driver and passenger side
- > Front lap belt tensioners for driver and passenger sides
- > Seat belt warning for all seats
- > Seat-occupied recognition system in passenger seat
- > Seat-occupied recognition system for seat row 2
- > Front passenger airbag warning lamp (OFF and ON)
- > Seat position detection for driver and passenger
- > Battery isolator, 12 Volt electrical system
- > Battery isolator, 48 Volt sub-system
- > Battery isolator, high-voltage system



669\_042



**Note**

The images in the "Passive safety" chapter are schematic diagrams and are provided to aid understanding.

# Driver assist systems

## Introduction

This topic includes short descriptions of the five most important innovations in the 2019 Audi A7. All of these innovations made their debut in the 2019 Audi A8. The innovations concern new hardware which continues to pave the way for autonomous driving, a new and innovative operating concept and new driver assist systems.

Further information on all the new features can be found on the following pages and more detailed information is available in eSelf-Study Program [990393, The 2019 A8 Driver Assistance Systems](#).

## Driver assist system innovations in the 2019 Audi A7

### Driver Assistance Systems Control Module J1121

J1121 is the first step toward reducing the number of control modules for driver assist systems. With an eye on the major vision of autonomous driving, Audi is gradually moving away from a decentralized approach of several individual control modules to an approach with a powerful central computer. There are four versions of J1121 for the 2019 A7. The version installed depends on the driver assist systems in the vehicle.

### Profile master for driver assist systems

The profile master is a new operating concept that specifies the activation conditions for the different driver assist systems. A total of eight driver assist systems participate in the profile master system. The customer can choose between three profiles: maximum, individual and basic. The maximum setting switches all participating systems on. With the individual setting, the customer decides which systems to activate and with basic, a maximum of two permanently specified systems are switched on.

### Lane departure warning and adaptive cruise assist

ACC and Active lane assist “early” comprise a new system called Adaptive cruise assist.

The lane departure warning warns the driver if there is a risk of inadvertently leaving the current lane. However, the adaptive cruise assist offers the customer combined longitudinal and lateral guidance for the vehicle at speeds between 0 to 155 mph (0 to 250 km/h).

### Laser Distance Regulation Control Module J1122

Laser Distance Regulation Control Module J1122 is a combination radar sensor and laser scanner. It replaces the two long range radar sensors that previously implemented the longitudinal regulation functions of adaptive cruise assist.

The laser scanner is installed at the front of the vehicle, has a scanning angle of approximately 145 degrees and can detect objects up to approximately 262 ft (80 m). A significant strength of the laser scanner is that its measurement precision is not dependent on the distance of the target object.

### Intersection assist

The intersection assist helps the driver to avoid collisions with road users crossing the vehicle’s path. The intersection assist works between speeds of 0 to 19 mph (0 to 30 km/h). However, a brake application is only made at speeds of up to 6 mph (10 km/h). The intersection assist is very similar to the rear cross-traffic assist. The main difference is that the intersection assist performs its task in front of and not behind the vehicle.

# Driver Assistance Systems Control Module J1121

## Introduction

The 2019 Audi A7 will have a J1121 control module. This is because Audi pre sense front, which requires J1121 for its functions, has been specified as standard equipment .

Driver Assistance Systems Control Module J1121 is now the master control module for all driver assist systems for which calculations were previously performed by Driver Assistance Systems Front Camera R242.

The front camera still captures the area in front the vehicle. However, the images from the camera are processed by J1121.

J1121 has taken over the following functions:

- > High beam assist.
- > Camera-based traffic sign recognition.
- > Lateral vehicle guidance (lane departure warning and lane guidance by the adaptive cruise assist).
- > Emergency assist.

It remains the master control module for the following driver assist systems:

- > Surround view cameras (Peripheral Camera Control Module J928 is no longer installed).
- > Intersection assist (introduced in the 2019 Audi A8).



669\_091

Driver Assistance Systems Control Module J1121 has another designated name. The second designation is zFAS control module. This comes from technical development and has established itself in general usage. zFAS is the

abbreviation of the German term for "driver assist systems central control unit" (zentrales Steuergerät für Fahrerassistenzsystem).

## Versions of the J1121

Four versions of J1121 are available. The version installed depends on which driver assist systems are chosen by the customer when the vehicle is ordered.

The J1121 in the 2019 Audi A7 has the same part number as that of the 2019 Audi A8: 4N0.907.107. The versions can only be differentiated by the index letters following the part number.



Control module version A/A0

669\_092



Control module version C/D

669\_093

### All location table for driver assist systems – Control module version

The following table shows which version of the control module is required (at least) by the different driver assist systems. The lowest version of the control unit is A0, the highest at the launch of the Audi A7 is version C. The higher versions are always backward-compatible, meaning that, version C is also suitable for all assist systems with an X in the columns for A0, A and B.

The following table includes a fifth version of J1121. This is version D, which also includes the software for the traffic jam pilot. The traffic jam pilot will be introduced at a later date.

## Allocation table for driver assist systems regarding J1121 versions

Control module version	zFAS not required	Version AO	Version A	Version B	Version C	Version D
Parking system plus	X					
Back-up camera	X					
Audi side assist	X					
Exit warning system	X					
Rear cross-traffic assist	X					
Night vision assist	X					
Audi active lane assist		X				
High beam assist		X				
Emergency assist		X				
Camera-based traffic sign recognition			X			
Intersection assist				X		
Adaptive cruise assist				X		
Surround view cameras					X	
Curb warning					X	
Maneuver assist					X	
Parking pilot					X	
Garage pilot					X	
Traffic jam pilot						X



### Note

The options listed in gray are not available at launch.

## Profile master for driver assist systems

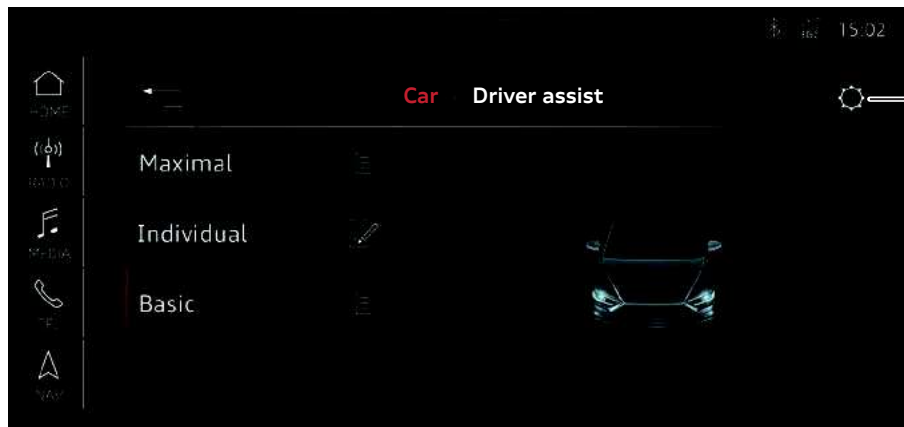
Some of the driver assist systems offered in the Audi A7 can be switched on and off in the profile master for driver assist systems. Other driver assist systems which the driver switches on and off specifically while the vehicle is moving continue to use the classic controls. These include, for example, the parking aid and the adaptive cruise assist.

### Overview of all driver assist systems participating in the profile master system

- > Lane change warning.
- > Emergency assist.
- > Rest recommendation.
- > Exit warning system.
- > Night vision assist.
- > Distance warning.
- > Intersection assist.
- > Audi pre sense.

### The three profiles for the profile master for driver assist systems

- > **Maximum:**  
All systems in the vehicle participating in the profile master system are switched on.
- > **Individual:**  
The customer can specify which individual driver assist systems are switched on.
- > **Basic:**  
Only two systems are switched on: Audi pre sense and the emergency assist. If neither system is installed, the "Basic" profile is replaced with the "All off" profile.



This sprocket symbol allows all the driver assist systems installed in the vehicle to be configured. This does not apply to the systems participating in the profile master system.

669\_094

### Displaying the profile master for driver assist systems

The customer can access the profile master for driver assist systems in two different ways:

- > By selecting the basic function "Car" and then "Driver assist systems" after pressing the home button.
- > By pressing the profile master button, which is located in a row of buttons in the center console.

The profile master disappears from the display again after 5 seconds if the second method is used and if no touch input was detected on the upper touch display in that time.



Profile master button

669\_095

## Audi side assist

### Description of function

The lane departure warning on the Audi A7 is an independent system. This function was previously known as Audi active lane assist with the steering input set to "late".

The lane departure warning warns the driver if the vehicle is at risk of leaving its current lane when the corresponding turn signal has not been activated. If the turn signal is not activated, the system assumes that the driver does not intend to leave the lane.

The lane departure warning can be given in three different ways:

- > By steering input from the system towards the middle of the lane.
- > By a steering wheel vibration (this warning can be switched off on the MMI).
- > By coloring the lane demarcation line red in the function displays.

The lane departure warning is switched on and off on the lower touch display. If the lane departure warning is switched off, it can be seen as a red bar above the function's symbol. If the lane departure warning is switched off, it only applies for one Terminal 15 cycle. It is active again the next time the ignition is switched on, regardless of whether it was on or off when the ignition was switched off.



Lane departure warning switched on

669\_096



Lane departure warning switched off

669\_097

### Lane departure warning - optical warning

In the two images below, the optical warning "vehicle is at risk of leaving the lane towards the right" is shown. The image below on the left shows the warning as it can be seen in the driver assist view; the image on the right shows how it appears in the speedometer.



669\_098



669\_099

### Master control module

The master control module for the lane departure warning is Driver Assistance Systems Control Module J1121. Version A0 of J1121 is sufficient for this function.



#### Note

The steering assist button on the end of the turn signal lever is not relevant to the lane departure warning. It is only used to activate and deactivate the lane guidance system of the adaptive cruise assist.



## Adaptive cruise assist

### Description of function

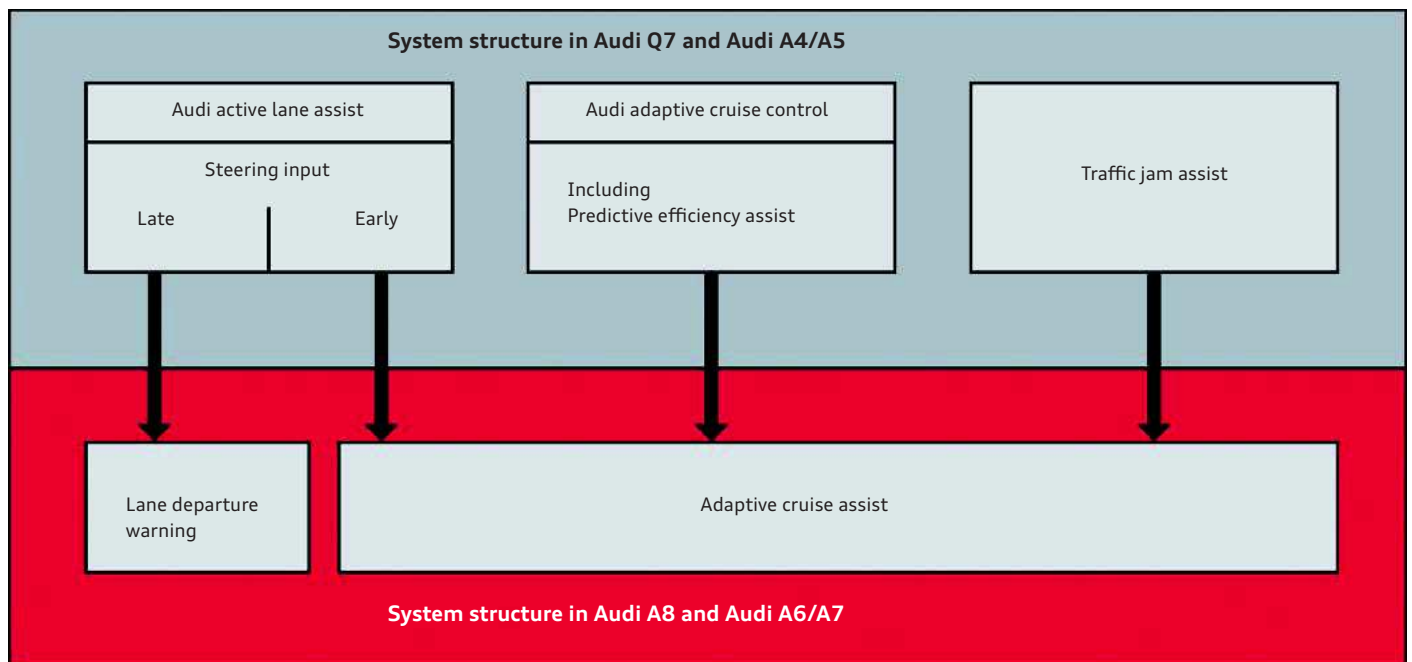
Adaptive cruise assist offers combined longitudinal and lateral guidance at speeds between 0 to 155 mph (0 to 250 km/h). Longitudinal guidance refers to accelerating and braking and lateral guidance refers to steering the vehicle. Because the longitudinal and lateral guidance has been merged in the adaptive cruise assist, the driver assist systems "Audi adaptive cruise control (ACC)" and "Audi active lane assist (AALA)" can not be ordered for the 2019 Audi A7.

The function of the Audi active lane assist with "early" steering input, the so-called "lane guidance", has been integrated into the adaptive cruise assist. The section with "late" steering input has become an independent system with the new designation "lane departure warning".

The lane guidance can be switched off on the adaptive cruise assist so that only longitudinal guidance remains active. If lane guidance is switched off, the vehicle behaves as it would previously have done when driving with adaptive cruise control. However, it is not possible to deactivate longitudinal guidance on the adaptive cruise assist when lane guidance is active at the same time.

### Restructuring of the longitudinal and side regulating systems

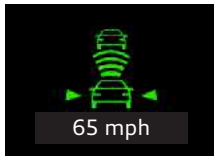
Audi has fundamentally restructured the functions of the Audi adaptive cruise control and the Audi active lane assist for the introduction of the new Audi C and D segment models. This has created the lane departure warning and the adaptive cruise assist. This restructuring is shown by the diagram below. It is a comparison of the systems in the Audi Q7 and Audi A4/A5 with those in the Audi A8 and Audi A6/A7 .



669\_100

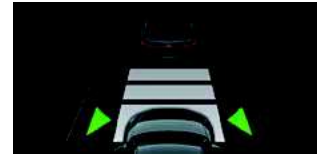
## Displays and operation

There have been changes to the function symbols and displays for the vehicle side guidance systems. If lane guidance is active in the adaptive cruise assist, this is



669\_101

shown by green triangles on the left and right of the vehicle. If two white triangles appear, lane guidance is switched on but not active. If no triangles are visible, lane guidance is switched off.



669\_102

The adaptive cruise assist is activated via the operating lever previously used for ACC. This operating lever can be used to set the desired speed and distance, as with ACC.



Adaptive cruise assist operating lever

669\_103

The steering assist button on the end of the turn signal lever is only used to switch lane guidance on and off. The lane departure warning has its own on/off button. This is located in the virtual row of buttons on the lower touch display.



Turn signal lever with steering assist button.

669\_104

## Hardware and sensors

Both a long range radar sensor and a laser scanner are installed on the Audi A7 to implement the longitudinal regulation functions of the adaptive cruise assist.



Long range radar sensor

669\_105

Combining the strengths of two types of sensor means that the longitudinal regulation functions perform better than they would if two sensors of the same type were used.



Laser scanner

669\_106

## Master control module

The master control module for the adaptive cruise assist function is Control Module for Adaptive Cruise Control J428. However, the adaptive cruise assist's basic functions (longitudinal and side regulating function) are

implemented by different control modules. The master for longitudinal regulation functions is Control Module for Adaptive Cruise Control J428 and the master for side regulation functions is Driver Assistance Systems Control Module J1121.

## Right Adaptive Cruise Control Sensor G259 and Control Module for Adaptive Cruise Control J428

The layout and functions of Right Adaptive Cruise Control Sensor and Control Module for Adaptive Cruise Control J428 correspond to those of the 2019 A8. Even though the locations are different than those of the A8, the adjustment process is not affected. For aesthetic reasons, the sensor has a trim cover similar to the random of the laser scanner.



Right Adaptive Cruise Control Sensor G259 and Control Module for Adaptive Cruise Control J428

669\_087

## Laser Distance Regulation Control Module J1122

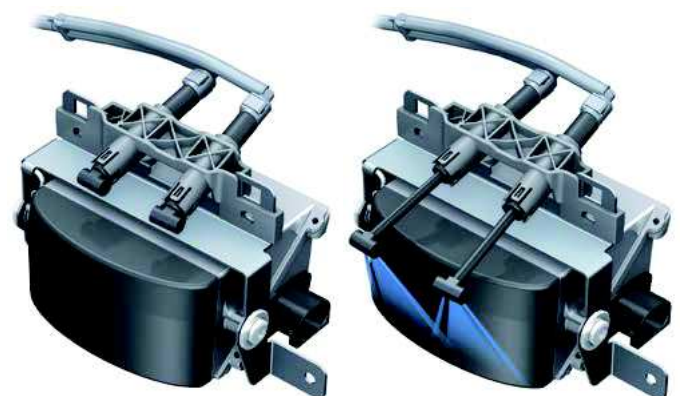
Laser Distance Regulation Control Module J1122 is installed on the right side of the grill next to the Audi rings and symmetrical to the radar sensor. There are no significant differences to the layout and function of the laser scanner on the 2019 A8. The servicing needs and adjustment process are identical.

The location of the scanner washer jets is new compared to the 2019 A8.



Laser Distance Regulation Control Module J1122

669\_088



New position of washer jets for laser scanner when compared to the 2019 A8

669\_089



### Reference

For further information on the radar sensor and the laser scanner, please refer to eSelf-Study Program [990393, The 2019 A8 Driver Assistance Systems](#).

## New lane guidance features

With the introduction of the adaptive cruise assist, the lane guidance is, for the first time, operational until the vehicle is stationary. This only applies if all the requirements for the lane guidance have been met. With Audi active lane assist, it is only available at 40 mph (65 km/h) and above.

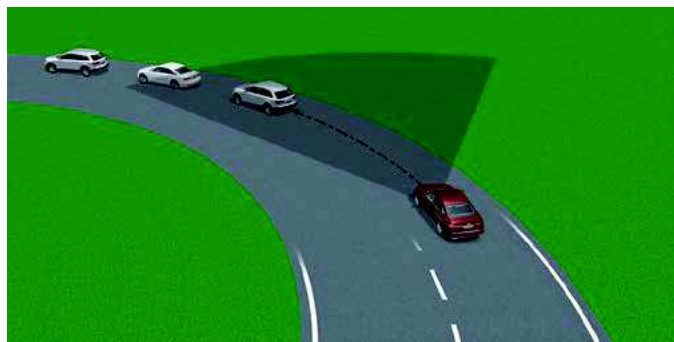
Because of the lowering of the activation speed to zero, Audi looked for further objects/structures which could also be used to facilitate a lane guidance system. The Audi active lane assist only allowed lane guidance on the basis of road markings.



669\_107

The following objects/structures can now be used for lane guidance at low speeds:

- > An Armco barrier following the course of the road.
- > A transition from the road to the area surrounding the road which offers sufficient contrast.
- > A curb following the course of the road.
- > Vehicle(s) ahead.



669\_108

## Roads without a central lane markers

The system still assumes that the road has two lanes if its width exceeds a defined minimum. If this is assumed, lane guidance can be implemented on the basis of the detected right lane marking and a virtual center line. Calculating the progression of the virtual center line is done by Driver Assistance Systems Control Module J1121.

As an alternative to the right lane marking, lane guidance can also, at lower speeds, be performed using one of the structures specified above.



669\_109

## New predictive efficiency assist features

A new feature for predictive efficiency has been added to the 2019 A7. It gives the option for the vehicle's longitudinal guidance not only to regulate to a speed set by the driver, but also to adapt that speed automatically to the speed limits detected by the camera-based traffic sign recognition system. In addition, it is possible to adjust the vehicle's speed for an upcoming corner as well as to reduce the vehicle's speed before a traffic circle which will then be driven through. The focus of the function is a predictive driving style focused on fuel saving via longitudinal regulation.

On the Audi A7, the predictive efficiency assist can also adjust the speed when the vehicle is approaching an intersection with stop signs and all other requirements for this have been met. In this case, the system automatically reduces the vehicle's speed to 9 mph (15 km/h). Continuing to brake the vehicle remains the responsibility of the driver. As with the adaptive cruise assist, the entire predictive efficiency assist function is a driver assist system. The driver alone remains responsible for controlling the vehicle at all times.

## Emergency assist

### Description of function

The emergency assist is designed for situations in which the driver is affected by a medical emergency and is therefore no longer able to drive the vehicle.

The job of the emergency assist in this situation is to assume longitudinal and lateral guidance of the vehicle and then to brake the vehicle to a controlled stop in its lane. If the vehicle is approaching another road user too fast, the vehicle is braked more forcefully in an attempt to avoid an impending collision. If a collision can no longer be avoided, the system attempts to reduce the severity of the collision.

The emergency assist activates itself if the system does not detect any driver activity in a specified period of time. The driver activity is established from his/her steering behavior and the longitudinal guidance the vehicle is receiving: active acceleration and braking.

When the emergency assist is active, a sequence of measures is set in motion in the vehicle. These have been implemented to protect the driver and to keep the risk of collision as low as possible.

The following measures are initiated during the braking procedure:

- > Activation of the hazard warning lights to warn other road users.
- > Full tensioning of the seat belt during the process of braking to a final standstill.
- > Automatic closure of the windows and the panoramic sunroof.

Once the vehicle has come to a stop, the following measures are initiated.

- > Transmission position "P" is selected.
- > Vehicle doors are unlocked.
- > Interior lighting is switched on.
- > An emergency call is made.

The second main job of the emergency assist is to take various measures to attempt to get an inactive driver to reassume the task of driving the vehicle. It could be the case that the driver is simply distracted and is no longer assuming the task of driving the vehicle as a result, even though he/she would have no problem doing so.

To do this, the system takes the following measures before and also during the braking procedure:

- > Display of text notifications in the instrument cluster.
- > Emitting acoustic signals.
- > Giving a brake jolt.
- > Giving a strong emergency brake jolt.
- > Tensioning the driver's seat belt.
- > Muting the infotainment system's audio output.

If the driver is able to reassume the task of driving the vehicle, he/she can do so in the following ways:

- > Actively taking over the steering again.  
-or-
- > Pressing the brake pedal.  
-or-
- > Pressing the accelerator pedal.

If the emergency assist detects that the driver is once again active, it deactivates itself and ends its longitudinal and lateral guidance.

The emergency assist can be activated more than once in one Terminal 15 cycle.

## Intersection assist

### Description of function

Intersection assist helps the driver to avoid collisions with road users crossing the vehicle's path. These road users can be normal vehicles, buses or lorries, but also cyclists or motorbike riders.

The intersection assist provides assistance in the following traffic situation:

The red vehicle (equipped with the intersection assist) is standing at an intersection and wishes to drive straight across it. To do so, the driver needs to pay attention to the traffic coming from both the left and right on the main road. On both sides, the crossing traffic consists of a car and a bicycle. If the driver of the red vehicle were now to move off, the intersection assist would activate and would, depending on the current estimation of the danger level, warn the driver or apply the brakes.

Intersection assist works at speeds between 0 and 19 mph (0 and 15 km/h).

The intersection assist is very similar to the rear cross-traffic assist. It corresponds to a front cross-traffic assist, but has been renamed to intersection assist.

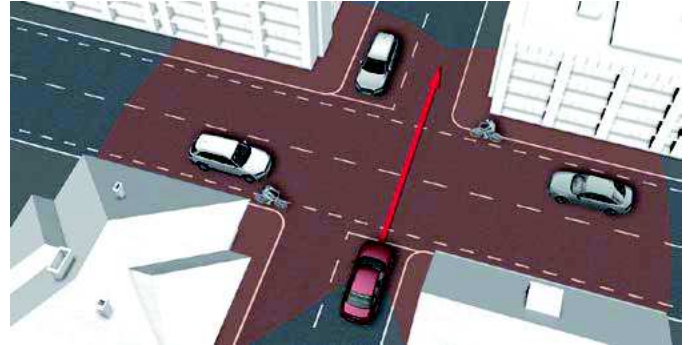
### Sensors

The vehicle requires two additional radar sensors for the intersection assist. These are located on the front left and right sides behind the front bumper. The front radar sensors are very similar to the two rear radar sensors.

In service, they are referred to as:

- > Control Module for Left Front Object Detection Radar Sensor J1088.
- and-
- > Control Module for Right Front Object Detection Radar Sensor J1089.

If a cyclist or motorbike rider is detected by the system, the same warnings are given as with a vehicle.



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### Master control unit

The master control module for the intersection assist function is Driver Assistance Systems Control Module J1121. A minimum of control module version B is required.

## Surround view cameras

The surround view cameras are now in their third generation. The first two generations of the surround view cameras required Peripheral Camera Control Module J928. The software for the 3rd generation surround view camera function is now integrated in Driver Assistance Systems Control Module J1121 along with the software for other driver assist systems. The surround view cameras require a J1121 control module of version C.

All four surround view cameras transmit their images to J1121 via shielded LVDS wires. J1121 then generates the vehicle view desired by the customer from the camera images. The vehicle view is transmitted to Information Electronics Control Module 1 J794 via two screened LVDS wiring pairs as a Full HD image. The image is shown on the upper touch display.

If the vehicle has both the parking system plus and the surround view cameras as optional equipment, 6th generation ultrasonic sensors are used to meet the requirements of the surround view camera system.

The data from these ultrasonic sensors can only be read by J1121 (version C). In this case, J1121 is the master control module for the surround view cameras and also the parking system plus.

If the vehicle has the parking system plus but not the surround view cameras as optional equipment, 5th generation ultrasonic sensors are used. The data from these can only be read by Vehicle Electrical System Control Module J519. In this case, J519 is the master control module for the parking system plus.

Assist systems for parking			Ultrasonic sensors		Master control module
Parking system plus	Back-up camera	Surround view cameras	5th generation	6th generation	
X	-	-	X	-	J519
X	-	-	X	-	J519
X	X	-	X	-	J519
X	X	-	X	-	J519
X	-	X	-	X	J1121

Possible combinations of different assist systems for parking at the launch of the Audi A7.

The installation position of the surround view camera in the exterior mirrors have been changed to extend their range. They are located further outwards in the exterior mirrors of the Audi A7 and no longer "look" vertically downwards, but are tilted outwards. This allows the side detection area to be enlarged, which allows the area around the vehicle to be detected better.

With the third generation of the surround view cameras, two more two dimensional vehicle views are available:

- > Simultaneous view of the front left and front right wheels.  
-and-
- > Simultaneous view of the rear left and rear right wheels.

A three dimensional view of the vehicle is available to customers for the first time with the third generation surround view cameras.

The viewing angle of the vehicle is not specified by the system, but can be freely chosen by the customer via the touchscreen. It is still possible to choose between three different preset viewing angles via three virtual buttons in the row of buttons.

# Infotainment and Audi connect

## Introduction and overview of versions

The Audi A7 features the MIB2+ version of the modular infotainment matrix infotainment system. Customers can choose between three MMI versions:

MMI radio plus, MMI navigation and MMI navigation plus.

All three versions are based on the 2+ High version of the modular infotainment matrix; MIB2+ High for short.

The MMI navigation and MMI navigation plus versions may be equipped with Audi connect, depending on the country. However, they differ regarding the services available.

The license period is three years after the vehicle's first registration. It can be renewed after this time has elapsed.

Depending on the country, the following Audi connect infotainment services may be available with MMI navigation:

- > Navigation data update (4 times per year online or via SD card via myAudi portal)
- > Online routing
- > Individual news
- > Online traffic information
- > Twitter
- > Weather
- > Fuel prices
- > Parking information
- > Travel information
- > Destination entry via myAudi app

MMI navigation plus may, depending on the country, have the following additional Audi connect infotainment services:

- > Connected radio (no license period limits, but separate data package required)
- > Google Earth
- > Google POI search via speech control
- > 3D city models
- > Messages (text message dictation) and e-mail
- > Traffic sign information
- > Hazard alerts

If the vehicle is equipped with Audi connect vehicle-related services (IW3), the following services may be available, depending on the country:

- > Audi emergency call (license period: 10 years)
- > Online roadside assistance (license period: 10 years)
- > Audi service request (license period: 10 years)
- > Vehicle status report (for example, Mileage, fuel tank level, etc.) (license period: 3 years)
- > Remote locking/unlocking (license period: 3 years)
- > Parking position (license period: 3 years)

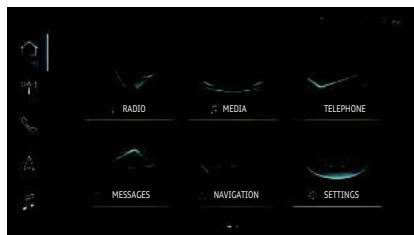


### Reference

For further information on MIB2+, please refer to eSelf-Study Program [990293 The 2019 A8 Infotainment and Audi Connect Systems](#).



## MMI navigation (I8V + 7UG)



## MMI navigation plus (I8T + 7UG)



8.8" touch display with 1280 x 720 pixels	10.1" touch display with 1540 x 720 pixels
8.6" touch display with 1280 x 660 pixels	8.6" touch display with 1280 x 660 pixels
3D navigation system on SSD (7UG)	3D navigation system on SSD (7UG)
7" display in instrument cluster with driver information system (9S7)	Audi virtual cockpit (9S8)
AM/FM radio	AM/FM radio Connected radio (Internet radio)
Satellite radio (Sirius) (QV3)	Satellite radio (Sirius) (QV3)
Audi music interface with 2 USB sockets, 1 SDXC card reader and, depending on country, 1 SIM card reader (UF7)	Audi music interface with 2 USB sockets, 1 SDXC card reader and, depending on country, 1 SIM card reader (UF7)
Audi Sound System 9VD	Bang and Olufsen 9VS
Bluetooth interface (9ZX)	Bluetooth interface (9ZX)
UMTS/LTE data module (EL3) including Audi connect (IT1/IT3)	UMTS/LTE data module (EL3) including Audi connect (IT1/IT3)
Emergency call & Audi connect vehicle-related services (IW3)	Emergency call & Audi connect vehicle-related services (IW3)
<b>Optional equipment</b>	
Single DVD drive (7D5) (Optional)	Single DVD drive (7D5) (Optional)
Audi music interface in rear with 2 USB sockets (UF8)	Audi music interface in rear with 2 USB sockets (UF8)
Audi smartphone interface (IU1)	Audi smartphone interface (IU1)
Audi phone box including wireless charging (9ZE)	Audi phone box including wireless charging (9ZE)
	Audi phone box, light (for wireless charging only) (9ZV)
Audi sound system (9VD)	
	Bang & Olufsen Premium Sound System with 3D sound (9VS) (Standard)
	Bang & Olufsen Advanced Sound System with 3D sound (8RF) (Optional)

## Sound

The following sound systems are available for the Audi A7 :

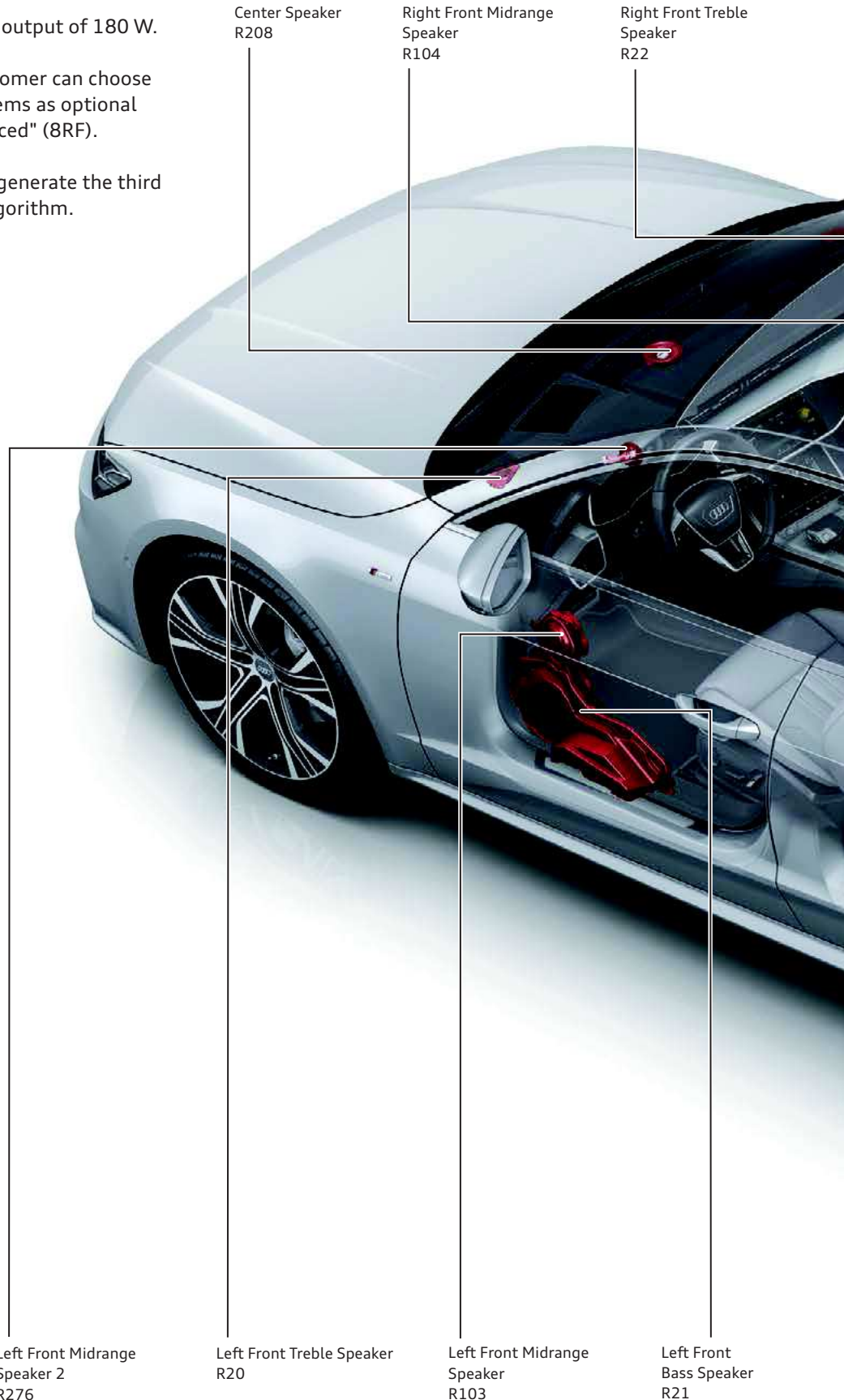
- > Audi sound system (9VD).
- > Bang & Olufsen Premium Sound System with 3D sound (9VS).
- > Bang & Olufsen Advanced Sound System with 3D sound (8RF).

These can be combined with the MMI versions in different ways (refer to the overview of versions on [page 92](#)).

The Audi sound system has a total power output of 180 W.

With MMI navigation and above, the customer can choose between two Bang & Olufsen Sound systems as optional equipment: "Premium" (9VS) and "Advanced" (8RF).

Both Bang & Olufsen sound systems can generate the third dimension of 3D sound using a special algorithm.



## Bang & Olufsen Premium Sound System with 3D sound (9VS)

The Bang & Olufsen Premium Sound System (9VS) provides the customer with a 15-channel sound system. It can reach a total power output of 705 W.

The premium sound system requires two speakers to generate the 3D sound. They are installed in the A-pillars.



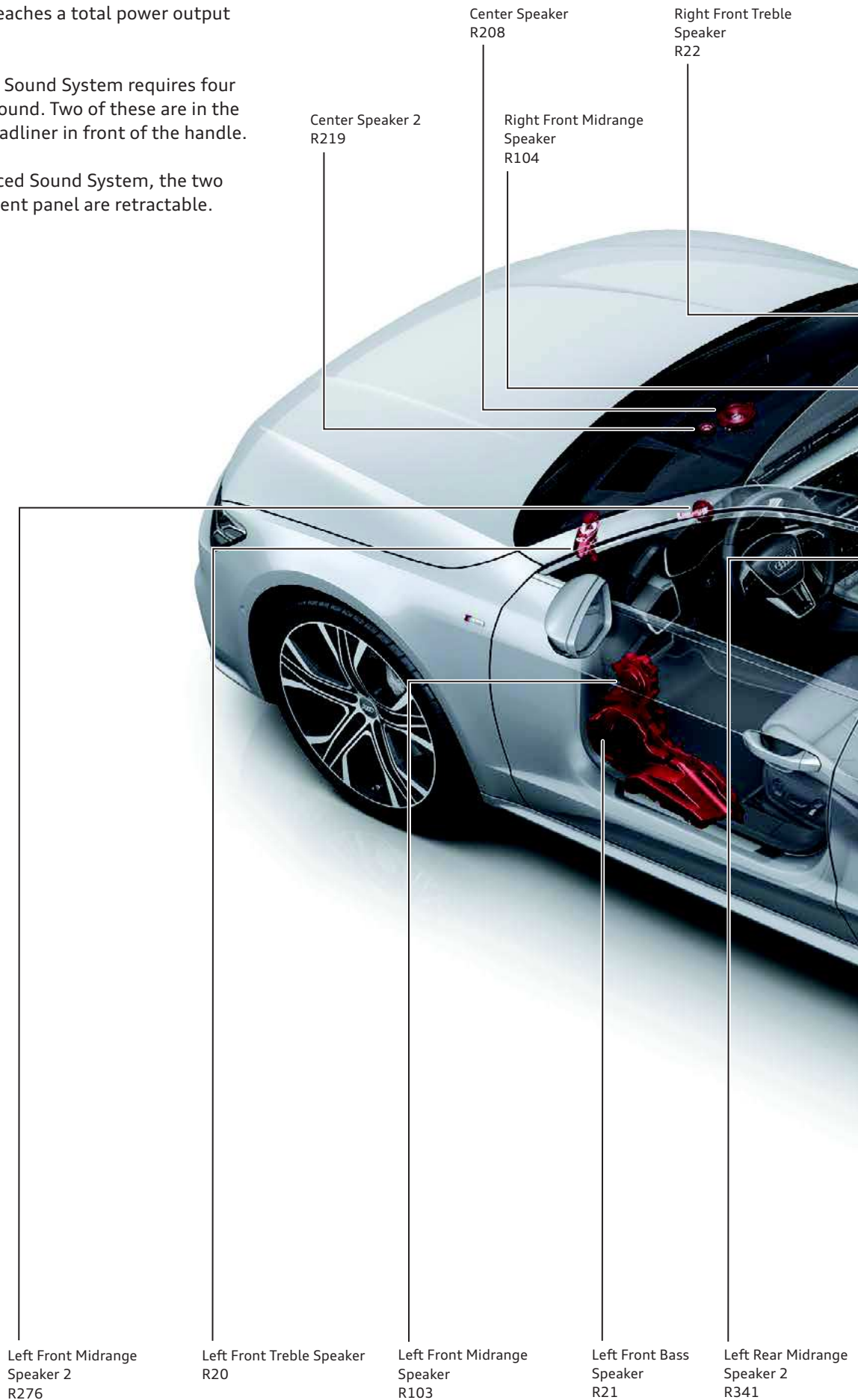
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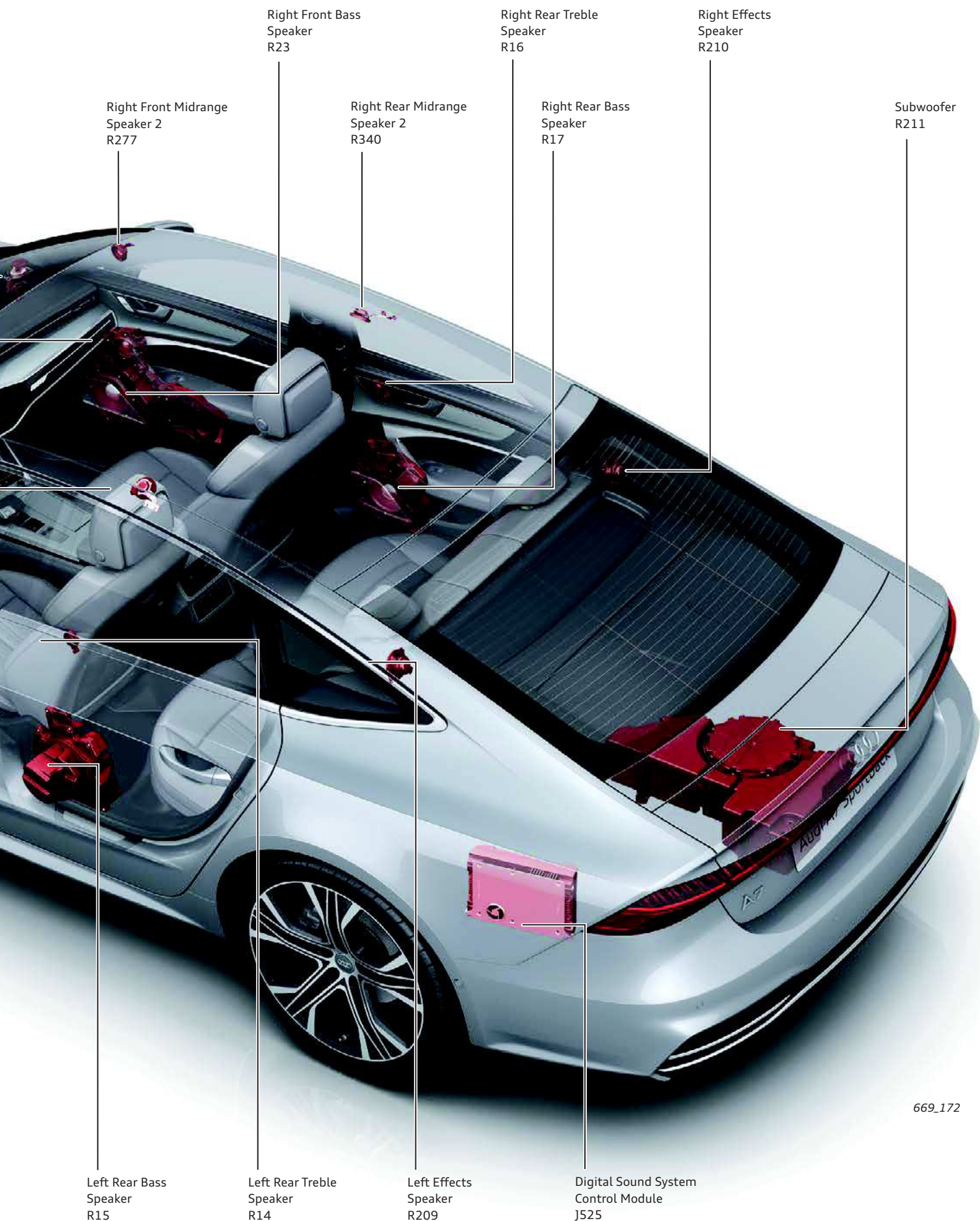
## Bang & Olufsen Advanced Sound System with 3D sound (8RF)

The best sound quality experience for customers is provided by the Bang & Olufsen Advanced Sound System. This system has 19 channels and reaches a total power output of 1820 W.

The Bang & Olufsen Advanced Sound System requires four speakers to generate the 3D sound. Two of these are in the A-pillars and two are in the headliner in front of the handle.

On the Bang & Olufsen Advanced Sound System, the two treble speakers in the instrument panel are retractable.





Right Front Bass  
Speaker  
R23

Right Rear Treble  
Speaker  
R16

Right Effects  
Speaker  
R210

Right Front Midrange  
Speaker 2  
R277

Right Rear Midrange  
Speaker 2  
R340

Right Rear Bass  
Speaker  
R17

Subwoofer  
R211

Left Rear Bass  
Speaker  
R15

Left Rear Treble  
Speaker  
R14

Left Effects  
Speaker  
R209

Digital Sound System  
Control Module  
J525

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