The 2019 Audi Q3 Introduction

eSelf-Study Program 990893

Audi Academy

Audi of America, LLC
Service Training
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Always check Technical Bulletins and the latest electronic service repair literature for information that may supersede any information included in this booklet.

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The eSelf-Study Program (eSSP) teaches a basic understanding of the design and mode of operation of new models, new automotive components or new technologies.

It is not a repair manual! Figures are given for explanatory purposes only and refer to the data valid at the time of preparation of the SSP.

For further information about maintenance and repair work, always refer to the current technical literature.

Note

Reference

Introduction

The Audi Q3 is a family SUV with all-round talent. In the second generation, it is not only more self-confident in its appearance, but also much more useful thanks to the generous amount of space it has to offer, comprehensive variability and many practical details.

Infotainment solutions from the luxury class network this compact SUV with its environment. New assist systems support the driver when parking, in town and when driving long distances.

Compared with its predecessor, the new Audi Q3 has grown in virtually all dimensions. Its wheelbase, which has been stretched by 3.0 in (77.0 mm) makes the Q3 more spacious and at the same time, extremely versatile.

Driver assist systems

Adaptive cruise control up to 124 mph (200 km/h). Peripheral view camera system for displaying 360° view of the surroundings and cross-traffic assist available.

Engines

At market launch, a 4-cylinder 2.0l TFSI engine delivering 228 hp will provide power to the quattro drive system via an 8-speed automatic transmission.

Light

LED headlights and taillights are standard on the new Audi Q3. LED lights illuminate the road at a high color temperature, while offering a low power consumption rate and long service life.

The available Full LED headlights on Q3 Premium Plus and Prestige include a unique DRL signature. This lighting element can be seen in any time of day, providing an unmistakable presence on the road.

Infotainment

The Audi sound system is standard equipment while the Bang & Olufsen sound system with 3D sound is optionally available.

MMI touch response with a high resolution touchscreen integrated into a black panel is now standard equipment.

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Power transmission

Power transmission to the wheels via an 8-speed automatic transmission and standard quattro all-wheel drive. The quattro system features an electro-hydraulically controlled drive coupling on the rear final drive.

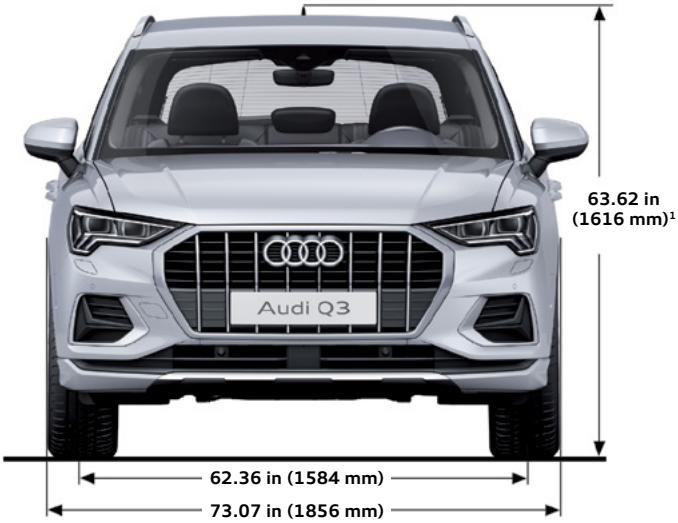
Body/interior

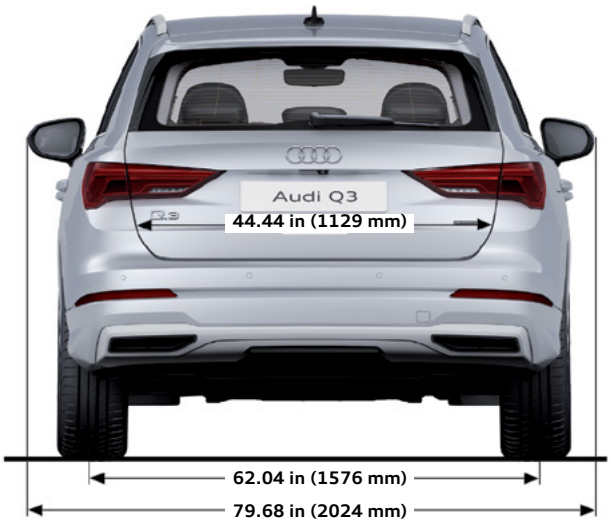
Adjustable rear seat bench with variable backrest angle is standard. Variable luggage compartment floor; rear shelf can be stored under luggage compartment floor.

Displays and operation

The operating and display concept of the SUV has been overhauled from the ground up - Audi has done away with the analog instruments. Standard equipment includes a digital instrument cluster with a 10.25-inch screen which the driver operates using the multifunction steering wheel. With the top-of-the-line MMI navigation plus, the displays appear in the optional Audi virtual cockpit, which offers many additional functions.

Dimensions





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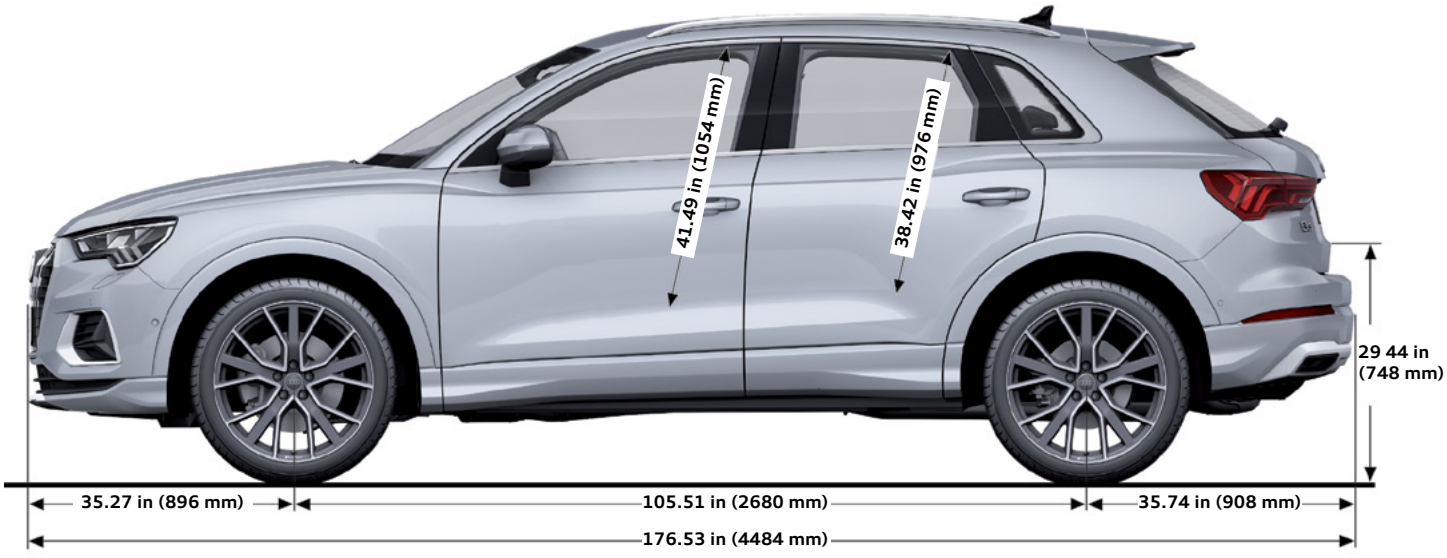

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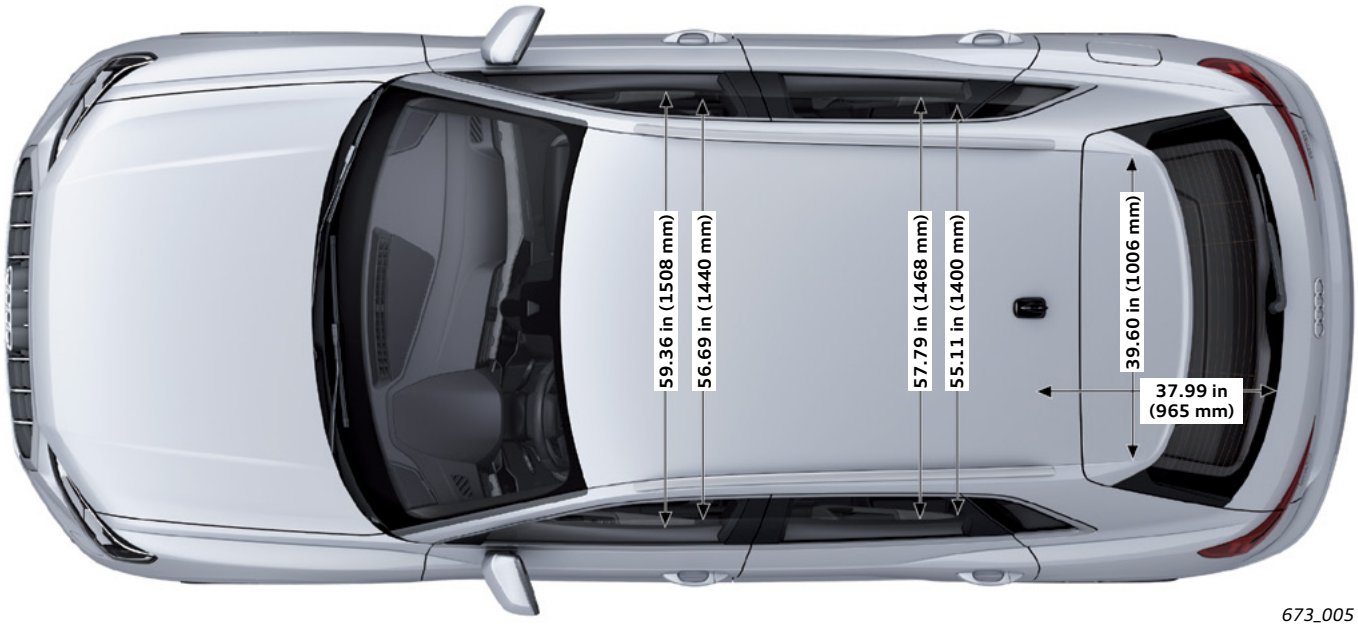

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Exterior dimensions and weights	
Length	176.53 in (4484 mm)
Width (not including mirrors)	73.07 in (1856 mm)
Width (including mirrors)	79.68 in (2024 mm)
Height	63.62 in (1616 mm)[1]
Front track	62.36 in (1584 mm)
Rear track	62.04 in (1576 mm)
Wheelbase	105.51 in (2680 mm)
Unladen weight	3582.50 lb (1625 kg)
Maximum gross weight	4894.25 lb (2220 kg)

Interior dimensions and other specifications	
Front cabin width	59.36 in (1508 mm)[2]
Front shoulder width	56.69 in (1440 mm)[3]
Rear cabin width	57.79 in (1468 mm)[2]
Rear shoulder width	55.11 in (1400 mm)[3]
Load sill height	29.44 in (748 mm)
Luggage compartment capacity	18.71 cu ft (530 l)[4]/ 53.85 cu ft (1525 l)[5]
Drag coefficient	0.318 C_w
Capacity of fuel tank	15.85 gal (60 l)

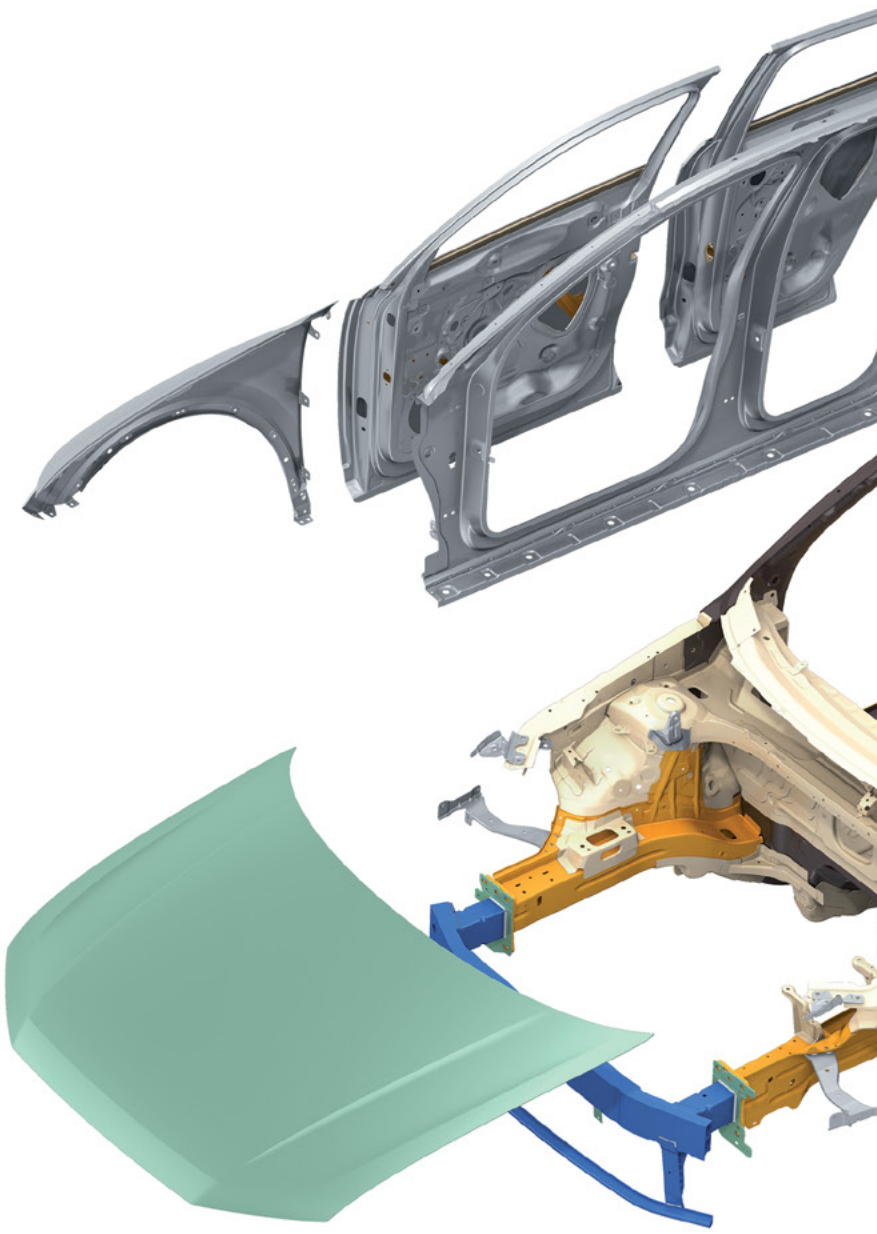
[1]Including roof antenna
[2]Elbow room width
[3]Shoulder room width
[4]Seat bench in rearmost position, load up to top edge of backrest
[5]With rear seat backrest folded down, load up to roof

Body

Overview

The 2019 Q3 is based on the MQB A2 matrix. It includes a frame structure of several ultra-high strength components formed by the tunnel, the upper and lower footwell cross members, side member (sill panel) and rear cross member. The ultra-high strength seat cross member provides additional support at the side.

Die-quenched panels and ultra-high strength steel (hot-formed) are also used for the body structure. Thanks to these die-quenched panels and particularly to the ultra-high strength hot-formed components, it was possible to increase the torsional rigidity of the Audi Q3 body.



Key:

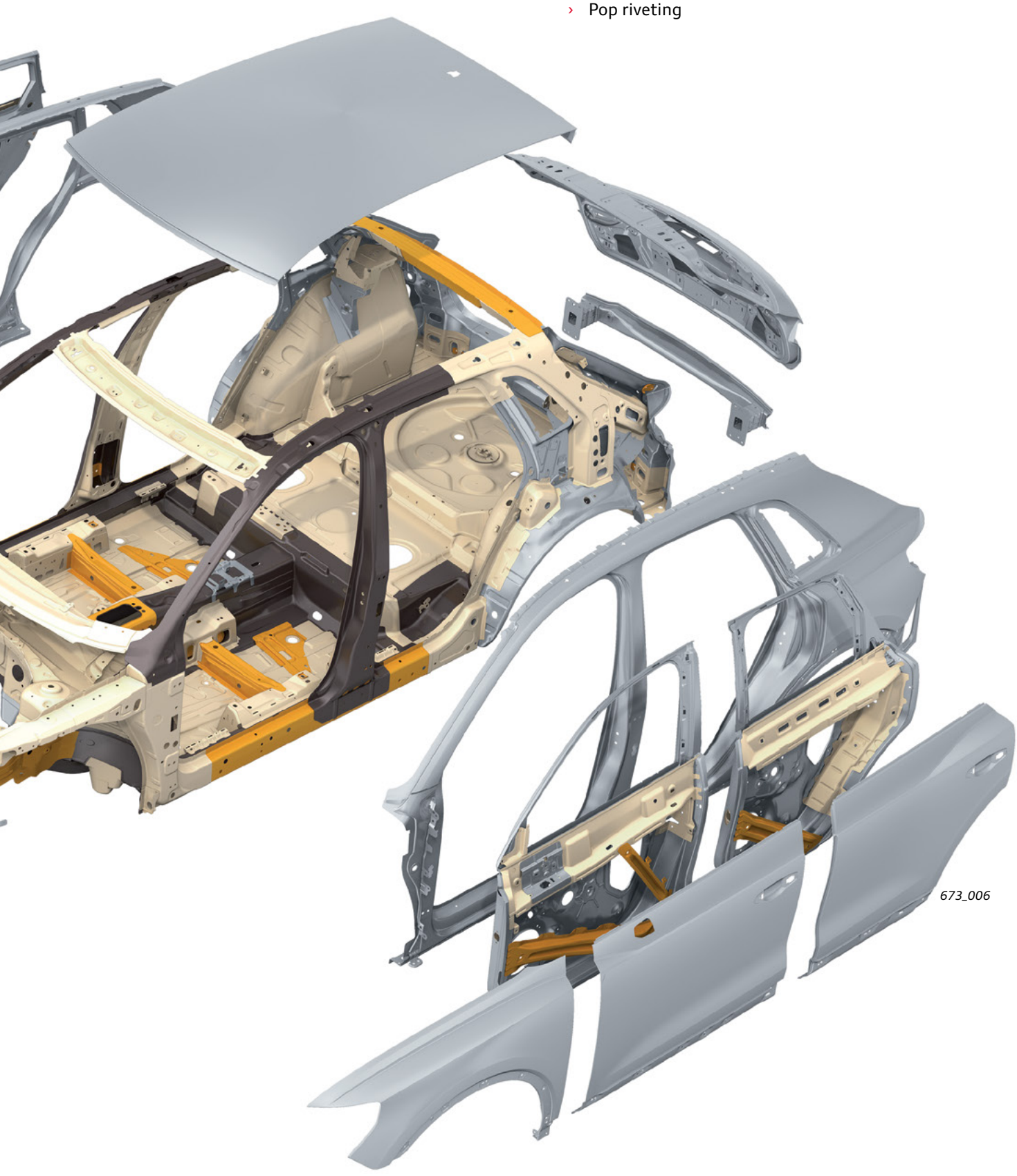
- Sheet aluminum
- Aluminum section
- Ultra-high-strength steel (hot-formed)
- Modern high-strength steel
- High-strength steel
- Soft steel

Joining techniques

The main joining method used for the construction of the Audi Q3 body is resistance spot welding. Resistance spot welding is combined with a high-strength bonding process in the areas of the vehicle body where stringent requirements for vibration comfort and passive safety apply.

The following joining techniques are also used:

- MAG welding
- Laser welding for steel
- Laser soldering/brazing
- MIG soldering/brazing for steel
- Seaming
- Bonding
- Flow-drill screws
- Pop riveting



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General body repairs

Rear lid

An electrically operated rear lid is standard equipment on the 2019 Audi Q3. The left and right spindle drives for the rear lid are identical. The installation brackets have a marking to ensure the spindle is installed in the correct position.

Brackets for electric rear lid *673_008*

Power latching system

The rear lid also has a power latching system. When the rear lid is closed and the microswitch in the rear lid lock detects that the striker plate is in the initial catch, Rear Lid Closing Aid Motor V382 pulls the rotary latch in the rear lid lock further into the main catch via a Bowden cable.

Damper weight

A damper weight, designed to minimize any vibrations transmitted to the rear lid from the final drive components is installed on all models.

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Rear spoiler

The main purpose of the roof spoiler on the rear of the Audi Q3 is aerodynamics. The spoiler reduces aerodynamic drag and in conjunction with the side dynamic trim, optimizes turbulence behind the vehicle. This in turn reduces dirt build-up on the rear window.

The aerodynamic trim panels are located by clips that position them in the top section of the spoiler and are additionally secured by adhesive strips. The spoiler itself is retained with four bolts.

The high-level brake light is installed in the spoiler. The spoiler may also house AM and FM antennas depending the infotainment equipment installed.

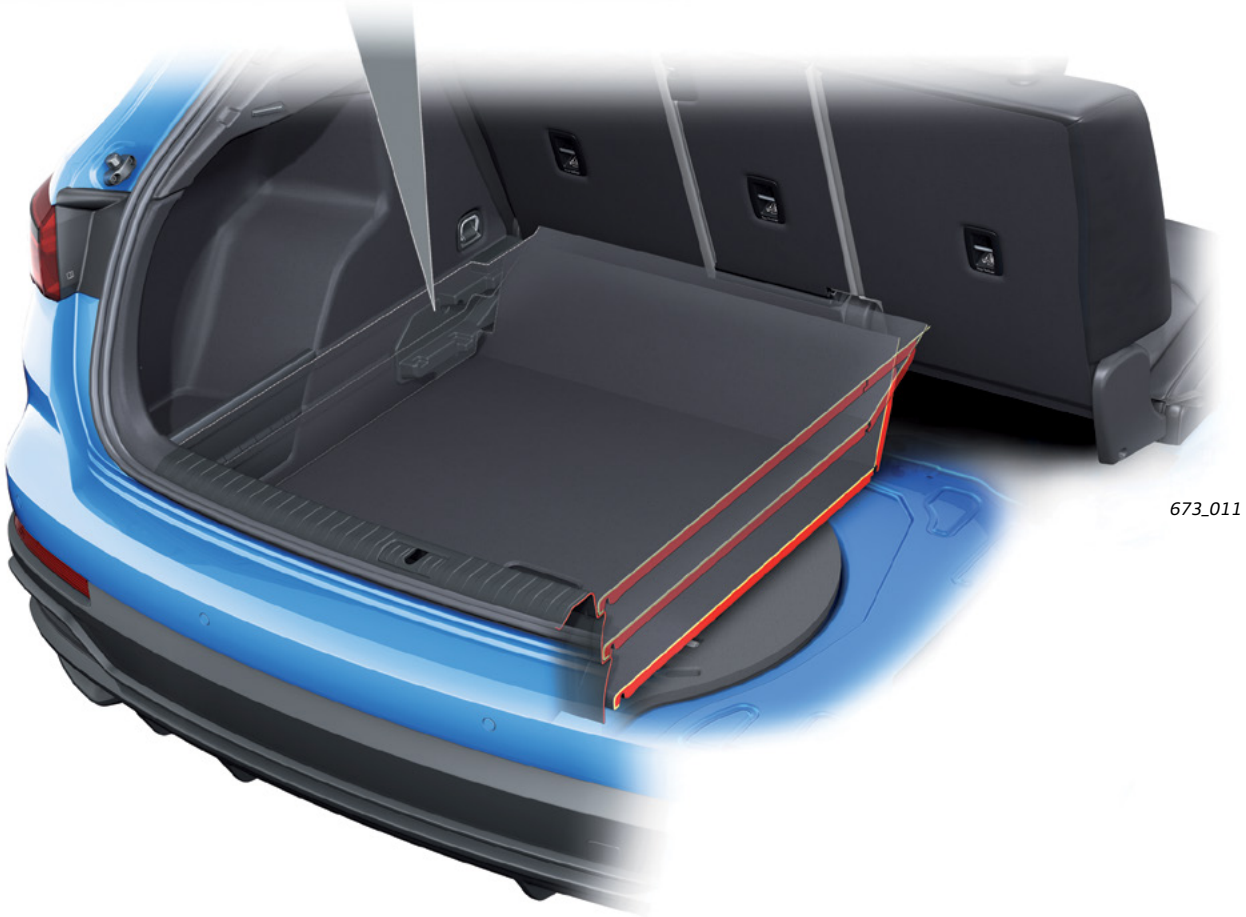
Luggage compartment

The size of the luggage compartment is variable. Moving the rear bench seat forward up to 5.5 in (150 mm) and using the 7-level seat back angle adjustment allows the luggage compartment volume to be adjusted as required.

The seat backrest is split in a 40:20:40 configuration. To increase the variation options even more, there are three positions for the height of the luggage compartment floor. This is accomplished by unique supports on both sides of the luggage compartment side trim panels.

There are also supports on the same level at the rear in the lock carrier trim. In the lowest position, the luggage compartment floor sits on the luggage compartment floor lining. To lower the luggage compartment floor, it must be lifted by the handle at the rear, pulled back slightly and pushed back into the desired position at the front.

The rear shelf can also be stored under the luggage compartment floor when it is not needed.



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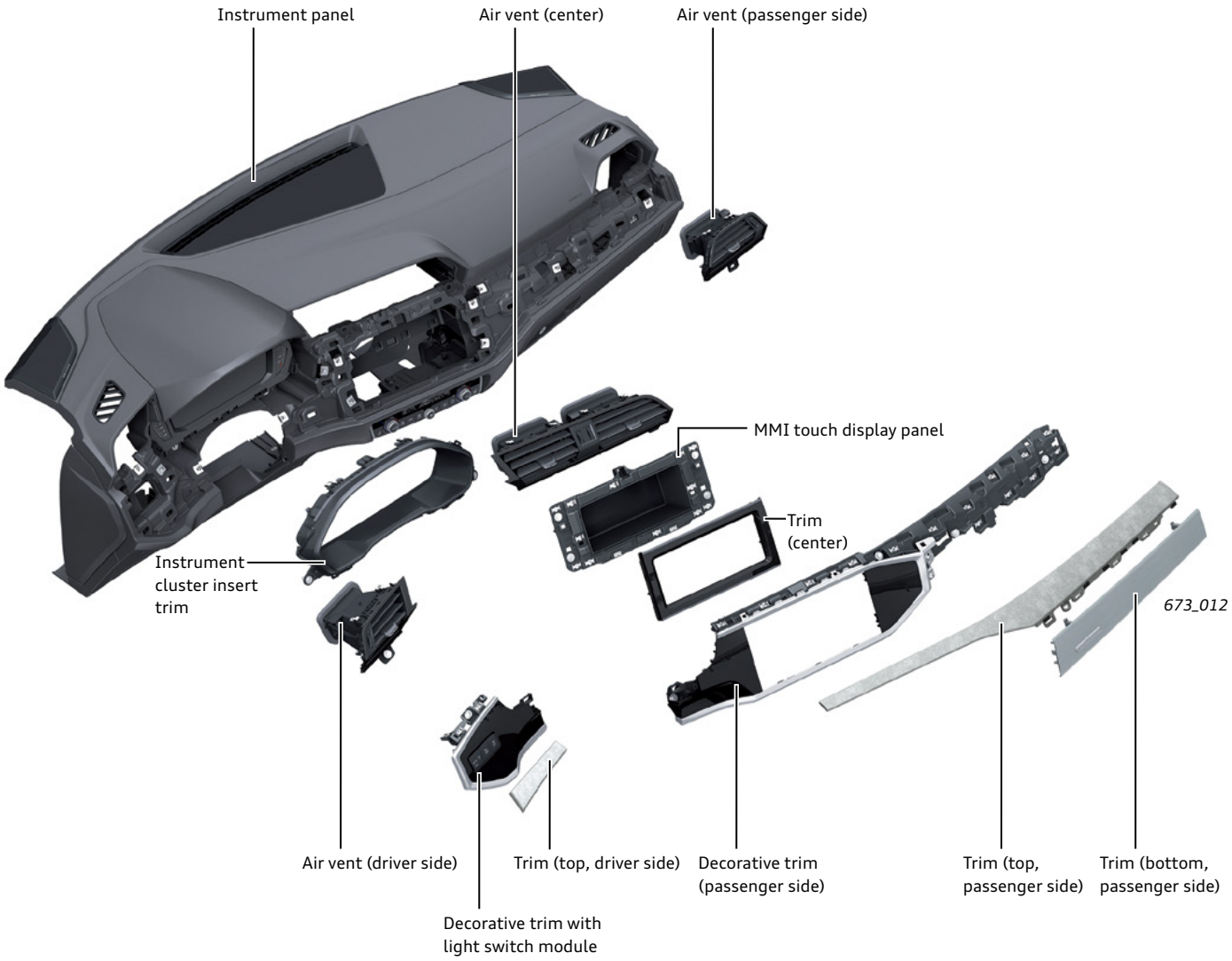
Instrument panel

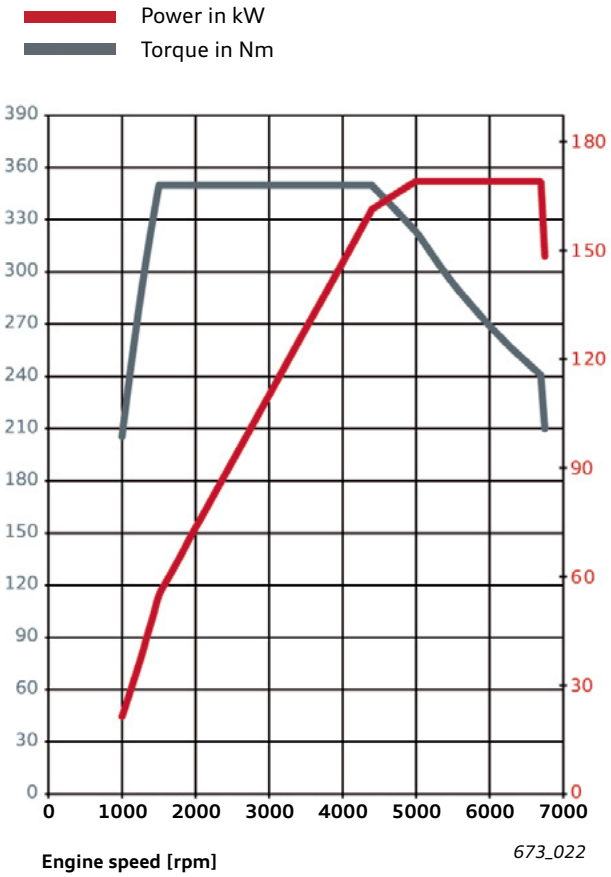
The instrument panel has a two-part horizontal design. The horizontally arranged air outlets are integrated in the upper section. The large central trim section is installed underneath. It surrounds the MMI touch display. Two decorative trim panels on the passenger side underline the horizontal layout. The lower one ensures that no securing elements are visible to the occupant.

Because it is constructed in layers. It may be necessary to remove more parts than initially expected to remove a component. Always follow the procedures described in ElsaPro.



Power unit

Engine with code DHHA

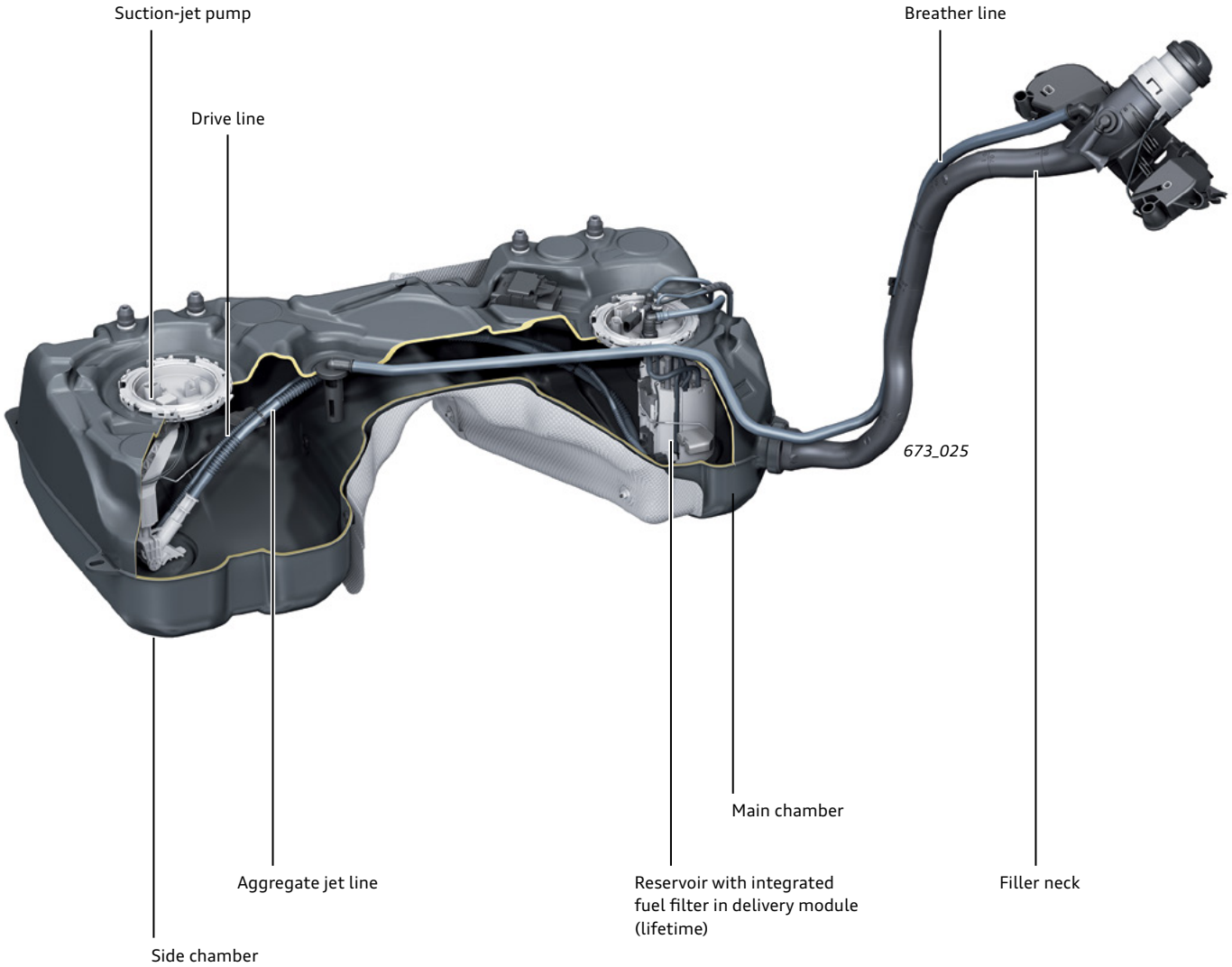


Features	Technical data
Engine code	DHHA
Type	Four-cylinder in-line engine
Capacity	121 cu in (1984 cc)
Stroke	3.65 in (92.80 mm)
Bore	3.24 in (82.50 mm)
Number of valves per cylinder	4
Firing order	1–3–4–2
Compression ratio	9.60
Power output	228 @ 5,000 - 6,700 rpm (170 kW @ 5,000 - 6,700 rpm)
Torque	258 @ 1700 - 4400 rpm (350 Nm @ 1700 - 4400 rpm)
Turbocharging	Turbocharger
Engine management	Continental Simos 18.1
Maximum injection pressure in bar	3525.9 psi (250 bar)
Emission control	Regulated cat. conv.
Emission standard	LEV III/Tier 3 30

Fuel tank

A molded two chamber saddle tank with a capacity of 15.8 gal (60 l) is used on the 2019 Audi Q3. When the vehicle is being driven, fuel is initially pumped into the main chamber by the suction-jet pump in the side chamber of the fuel tank, and from there to the engine.

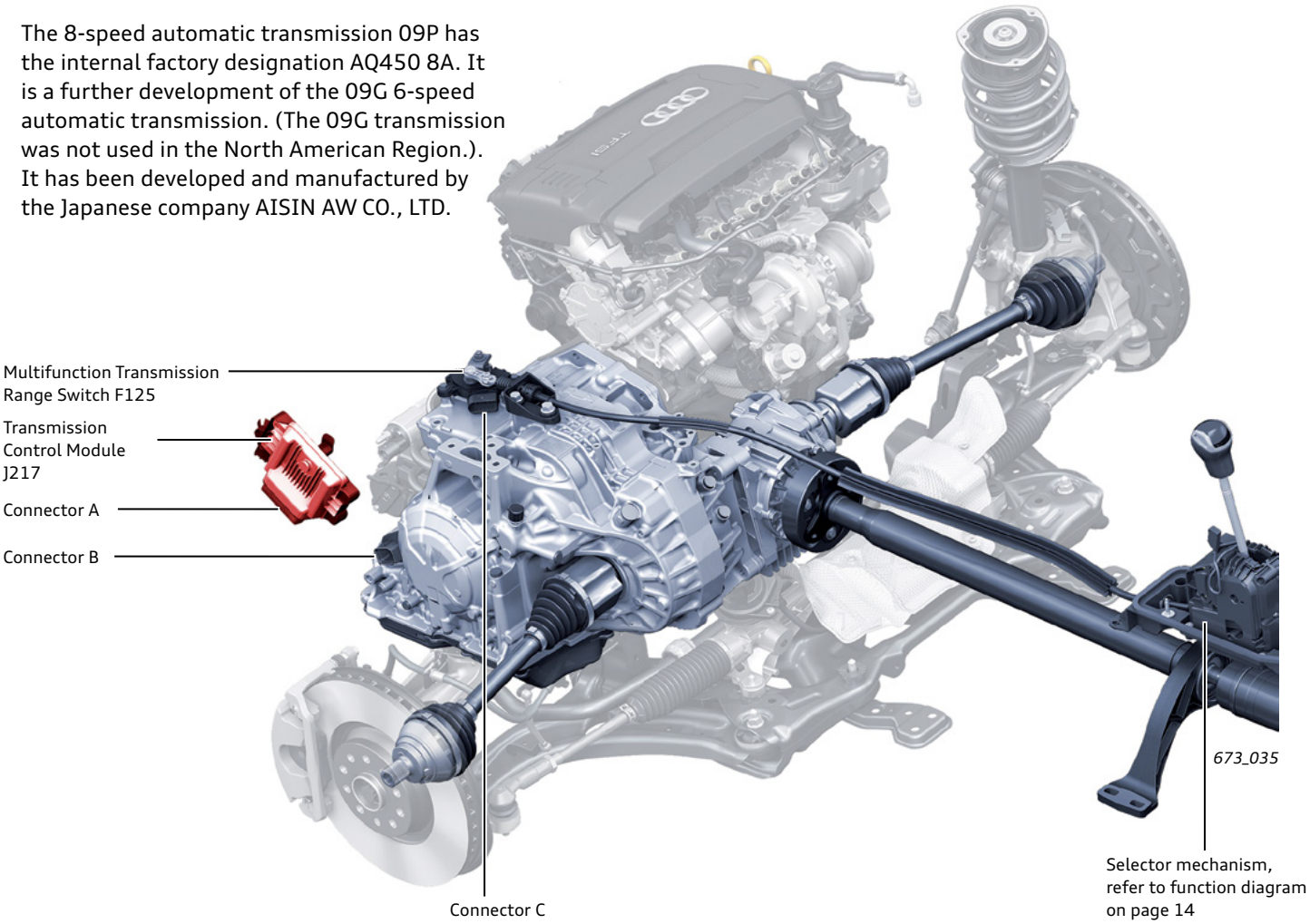
Fuel is pumped from the main chamber to the side chamber through the drive line (small diameter, high speed). This creates the Venturi effect and the fuel is conveyed from the side chamber to the main chamber via the aggregate jet line (large diameter, lower speed).



Power transmission

8-speed automatic transmission 09P

The 8-speed automatic transmission 09P has the internal factory designation AQ450 8A. It is a further development of the 09G 6-speed automatic transmission. (The 09G transmission was not used in the North American Region.). It has been developed and manufactured by the Japanese company AISIN AW CO., LTD.



Transmission Control Module J217 is located in the right front fender behind the wheel housing liner.

Multifunction Transmission Range Switch F125 is actuated by the selector lever cable and informs J217 of the gears selected.

The transmission planetary gear sets provide the eight speeds. These are selected by four multi-plate clutches, a brake band (B1), a multi-plate brake (B2) and a freewheel.

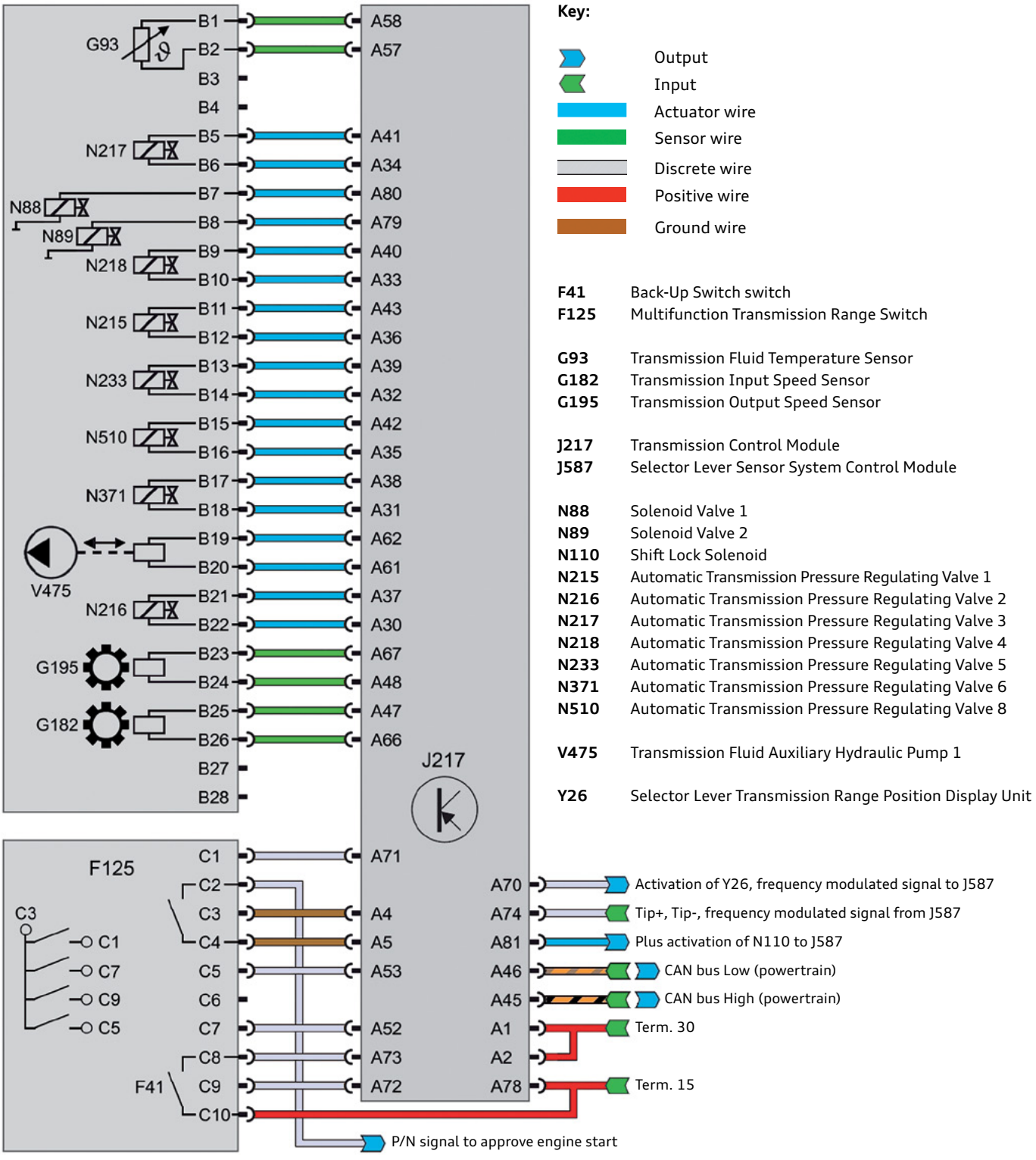
The 09P transmission is equipped with Transmission Fluid Auxiliary Hydraulic Pump 1 V475. This among other things, allows the vehicle to support the stop/start function.

Shift matrix: 09G transmission

Valve	N217	N218	N233	N371	N216	N88	
Shift element	Clutch 1	Clutch 2	Clutch 3	Clutch 4	Brake 1	Brake 2	Freewheel
1st gear	o	---	---	---	---	*	o
2nd gear	o	---	---	---	o	---	---
3rd gear	o	---	o	---	---	---	---
4th gear	o	---	---	o	---	---	---
5th gear	o	o	---	---	---	---	---
6th gear	---	o	---	o	---	---	---
7th gear	---	o	o	---	---	---	---
8th gear	---	o	---	---	o	---	---
Reverse gear	---	---	o	---	---	o	---

o used --- not used * in tiptronic mode, brake 2 locks the freewheel, engine braking can be used

Function diagram



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Key:

- Output
- Input
- Actuator wire
- Sensor wire
- Discrete wire
- Positive wire
- Ground wire

F41	Back-Up Switch switch
F125	Multifunction Transmission Range Switch
G93	Transmission Fluid Temperature Sensor
G182	Transmission Input Speed Sensor
G195	Transmission Output Speed Sensor
J217	Transmission Control Module
J587	Selector Lever Sensor System Control Module
N88	Solenoid Valve 1
N89	Solenoid Valve 2
N110	Shift Lock Solenoid
N215	Automatic Transmission Pressure Regulating Valve 1
N216	Automatic Transmission Pressure Regulating Valve 2
N217	Automatic Transmission Pressure Regulating Valve 3
N218	Automatic Transmission Pressure Regulating Valve 4
N233	Automatic Transmission Pressure Regulating Valve 5
N371	Automatic Transmission Pressure Regulating Valve 6
N510	Automatic Transmission Pressure Regulating Valve 8
V475	Transmission Fluid Auxiliary Hydraulic Pump 1
Y26	Selector Lever Transmission Range Position Display Unit

Shift matrix: Multifunction Transmission Range Switch F125

	P	R	N	D/S	X
C1	1	1	0	0	1
C7	0	1	1	1	1
C9	0	0	0	1	1
C5	1	0	1	0	1

Shift between D/S

673_037

The shift matrix of the multifunction switch indicates which contacts are connected in the corresponding gear.

Function diagram - selector mechanism

The 09P transmission is equipped with a multi-function switch that reports the selected gears to Transmission Control Module J217. Because of this, the selector mechanism functions are restricted to the P signal, the PWM signal for Tip + and Tip - and the detection of tiptronic mode.

Selector Lever Transmission Range Position Display Unit Y26 is activated with a frequency modulated signal transmitted via a discrete wire from Transmission Control Module J217. All functions and connections of the selector mechanism are checked and diagnosed by the TCM.

E313 Selector Lever has the following components:

F319 Selector Lever Park Position Lock Switch

J587 Selector Lever Sensor System Control Module

G727 Selector Lever Position Sensor

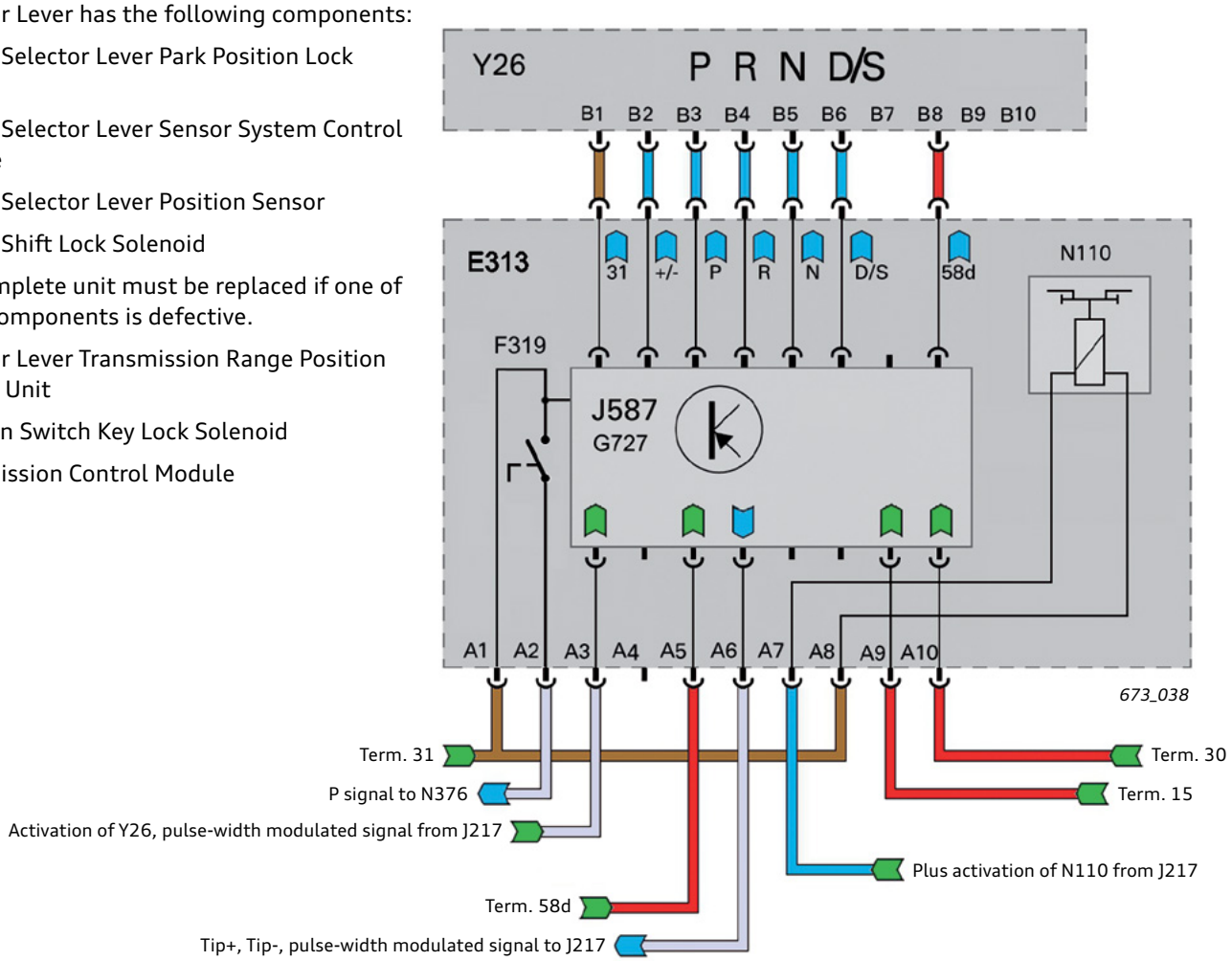
N110 Shift Lock Solenoid

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

Y26 Selector Lever Transmission Range Position Display Unit

N376 Ignition Switch Key Lock Solenoid

J217 Transmission Control Module



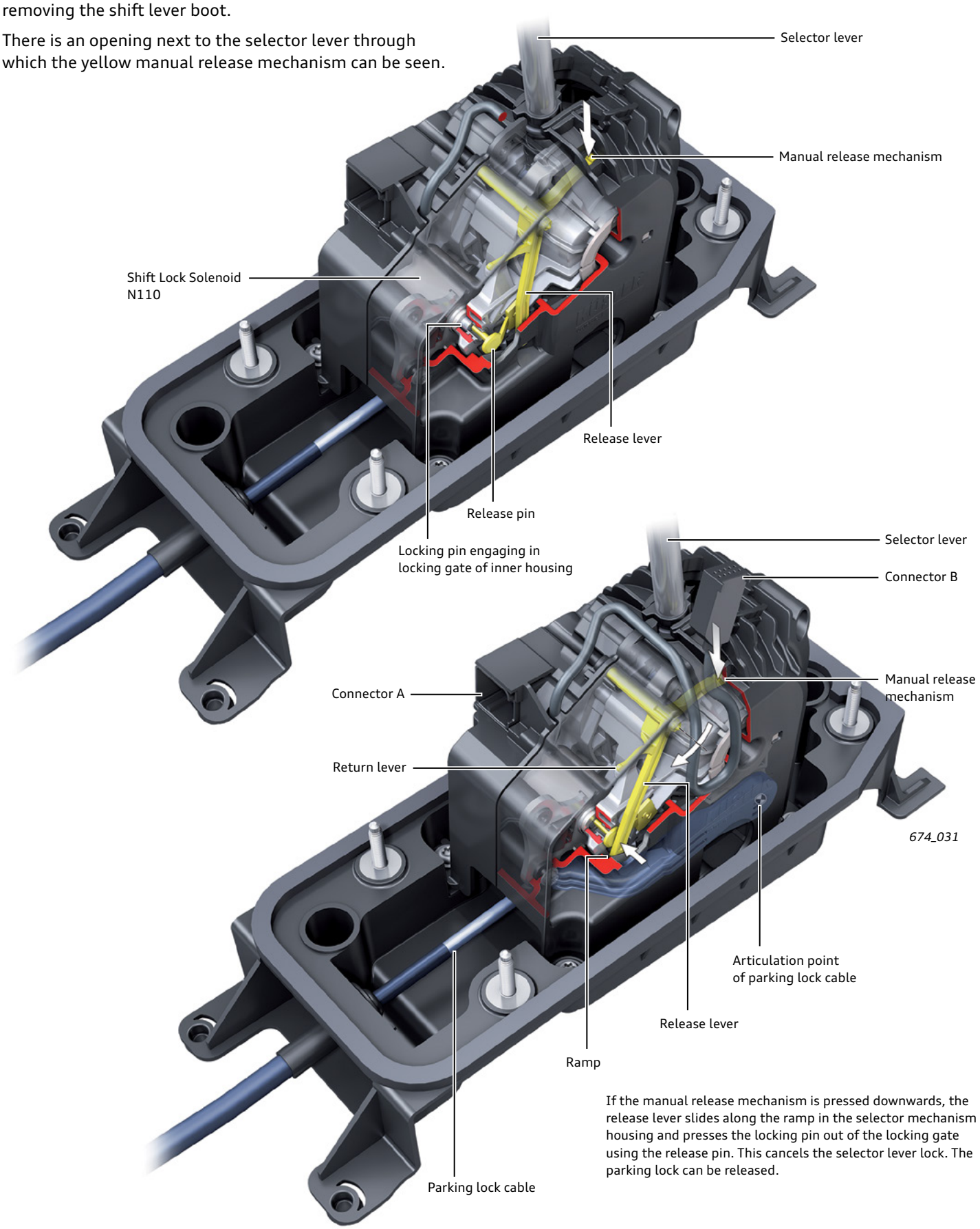
Key:

- Output
- Input
- Actuator wire
- Discrete wire
- Positive wire
- Ground wire

Parking lock manual release

In the event the selector lever lock malfunctions, Shift Lock Solenoid N110 malfunctions or the vehicle voltage is too low, the parking lock can be released manually after removing the shift lever boot.

There is an opening next to the selector lever through which the yellow manual release mechanism can be seen.



If the manual release mechanism is pressed downwards, the release lever slides along the ramp in the selector mechanism housing and presses the locking pin out of the locking gate using the release pin. This cancels the selector lever lock. The parking lock can be released.

Note

Before the manual release mechanism for the parking lock is operated, the vehicle must be secured to prevent it from rolling away.

Functions influencing transmission control system

Audi drive select

As is other Audi models, different driving modes can be selected via the Audi drive select button or through the MMI.

When the ignition is switched on, the vehicle is always restarted in the most recently selected drive mode and in transmission position D. The only exception to this is when offroad mode is selected.

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drive select button

offroad

In offroad mode, the transmission control system assists driving in rough terrain by using adapted functions. D is shown as the transmission position. Gear selection follows a fixed shift program. The gears are shifted late. Transmission position S is not available, but manual shifting is possible in tiptronic mode (manual mode M).

Automatic upshifting of the transmission is deactivated in tiptronic mode. The engine revs up to the rpm limit without shifting up. This prevents unwanted continuous up-and-down shifting.

The deactivation of automatic upshifting allows the engine to stop on a hill at maximum revs. Even if traction is lost briefly, the gear is held to ensure that the full drive torque is available when the wheels regain full traction.

The deactivation of automatic upshifting allows the full braking effect of the engine to be utilized when driving downhill. To protect the engine against over-revving, the transmission shifts up before a defined engine speed is reached.

If the ignition is switched off and then on again, the vehicle is restarted in auto mode and in transmission position D.

comfort

The transmission control system operates in a similar way to **auto** mode.

auto

Transmission position **D:**
Shift point selection is performed with an emphasis on comfort.

Transmission position **S:**
In transmission position **S**, the system is in sport mode. Shift points are selected with an emphasis on a sporty driving style; they are adapted to the engine power range. The shift times are short and result in perceptible shifts.

dynamic

If **dynamic** mode is selected, Transmission Control Module J217 activates the sport program (transmission position **S**). In **dynamic** mode, it is possible to shift to **D** at any time.

individual

In individual mode, the driver can freely select the setup irrespective of other vehicle systems.

The menu item **Drive system** covers the engine, transmission and start/stop system. Via this menu item, the options **balanced** or **dynamic** can be selected.

These options correspond to the Audi drive select modes as follows:

- **Balanced** corresponds to the Audi drive select mode **auto**
- **Dynamic** corresponds to the Audi drive select mode **dynamic**

Start/stop system

The start/stop system can help to save fuel and therefore reduce CO_2 emissions. To achieve this, the system switches the engine off automatically when the vehicle comes to a halt for example, at traffic lights. As soon as the engine has been switched off by the start/stop system, the start/stop operation indicator lamp appears in the instrument cluster.

The transmission positions P, N or D must be selected so that the start/stop function can be performed. If all requirements[2] for start/stop operation are fulfilled, the engine is switched off when the brakes are applied with sufficient pressure and the vehicle's speed drops below 4 mph (7 km/h)[1].

If the driver takes his foot off the brake pedal before the vehicle comes to a stop, the engine is restarted and the indicator lamp goes off. If the driver keeps his foot on the brake pedal, the engine remains switched off until the vehicle comes to a stop and is only switched back on when the brake pedal is released.

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Special features of the steering wheel tiptronic function

The "tiptronic in D/S" function with which manual shifts can be performed at any time is available.

The D/S symbol lights up Selector Lever Transmission Range Position Display Unit Y26 and the gear indicator M 1 - 8 appears in the instrument cluster.

If the vehicle remains in a normal, constant driving state for a period of about 8 seconds[1], the transmission shifts back into position D or S.

The countdown of approximately 8 seconds[1] is stopped in the following cases:

- Sporty driving style
- Cornering
- Overrun
- Selection of another gear with the steering wheel tiptronic

The transmission can be immediately switched from manual mode M back to transmission position D or S by activating Tip+ for a period longer than 1 second[1] (long pull +).

Adaptive cruise control

Adaptive cruise control interacts with the automatic transmission by regulating the vehicle's longitudinal movement.

If regulation in the longitudinal direction is active, the vehicle's speed is regulated and the distance to the vehicle in front may also be regulated. The vehicle can be brought to a halt and also set in motion again.

Gearshifts are performed depending on the vehicle's speed. The power flow to the engine is interrupted while the vehicle is stationary by opening the clutches.

Service

Towing the vehicle

- Maximum towing speed: 31 mph (50 km/h)
- Maximum towing distance: 31 mi (50 km)

Transmission warning/indicator lamps

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If the red warning lamp appears in the instrument cluster, the driver is instructed not to drive any further.

673_043

If the yellow indicator lamp appears in the instrument cluster, it is generally possible to continue driving the vehicle. A corresponding driver message informs the driver of what to do.

Diagnosis

The electric and electronic components of the automatic transmission can be diagnosed using the VAS Scan Tool under Address Word 0002.

[1]The stated values are approximate. They may vary depending on the vehicle version.
[2]Information about requirements for the start/stop system can be found in the Owner's Manual.

Reference
For detailed and up-to-date information on the warning and indicator lamps, refer to the Owner's Manual.

Running gear

Overview

The running gear for the 2019 Audi Q3 has been completely redesigned compared to the previous model. The basis for this was the modular transverse matrix (MQB).

MacPherson struts are used at the front and multi-link suspension at the rear.

The electro-mechanical parking brake and power steering are similar to other Audi models.

Running gear versions	Features
Running gear with steel suspension and non-variable damping for North America (1JN)	This running gear is used in vehicles for the North American market. Compared to the standard running gear, the ride height is 18.5 mm higher on the front axle and 13.5 mm higher on the rear axle.

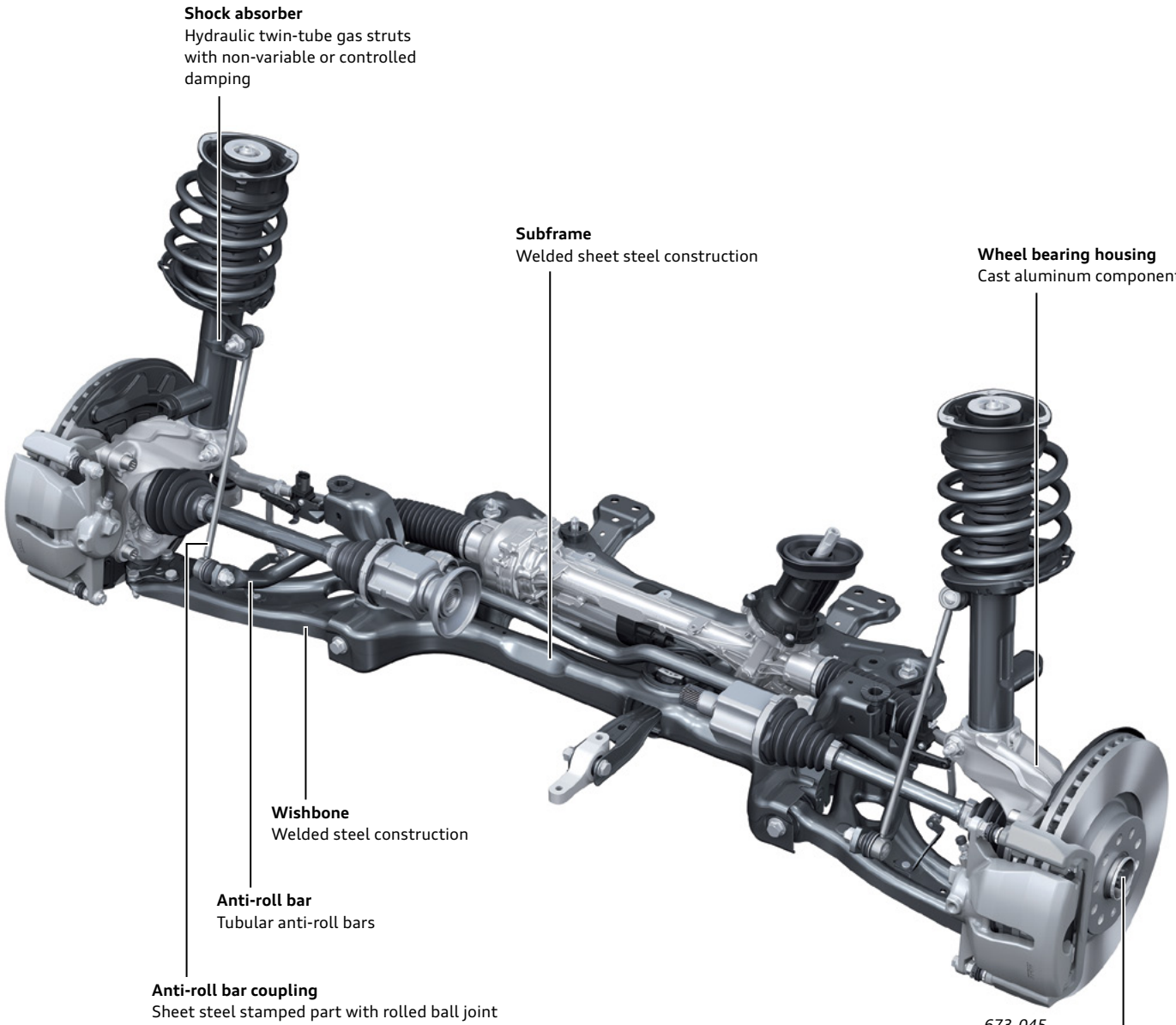
673_044

Axles

Front axle

A particular emphasis was placed on the lightweight construction. This is based on the MQB platform, which has already been the basis for developing other Group models.

Two plastic covers secured to the wishbones from below with rivets help the vehicle to achieve its good drag coefficient.

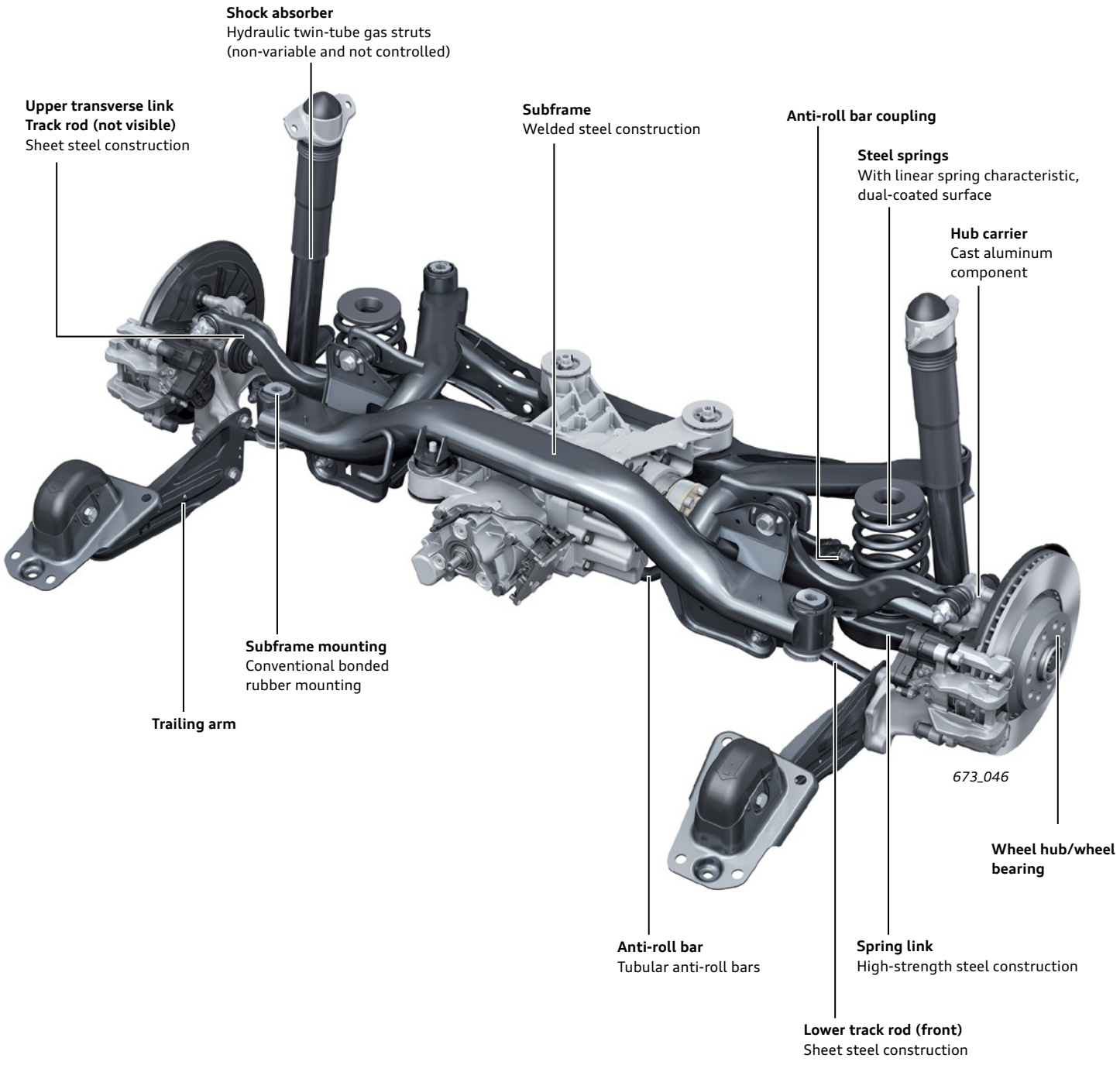


Rear axle

The rear axle is based on the proven multi-link suspension design principle already used on the Audi A3. Its basis is the MQB platform.

Running gear alignment

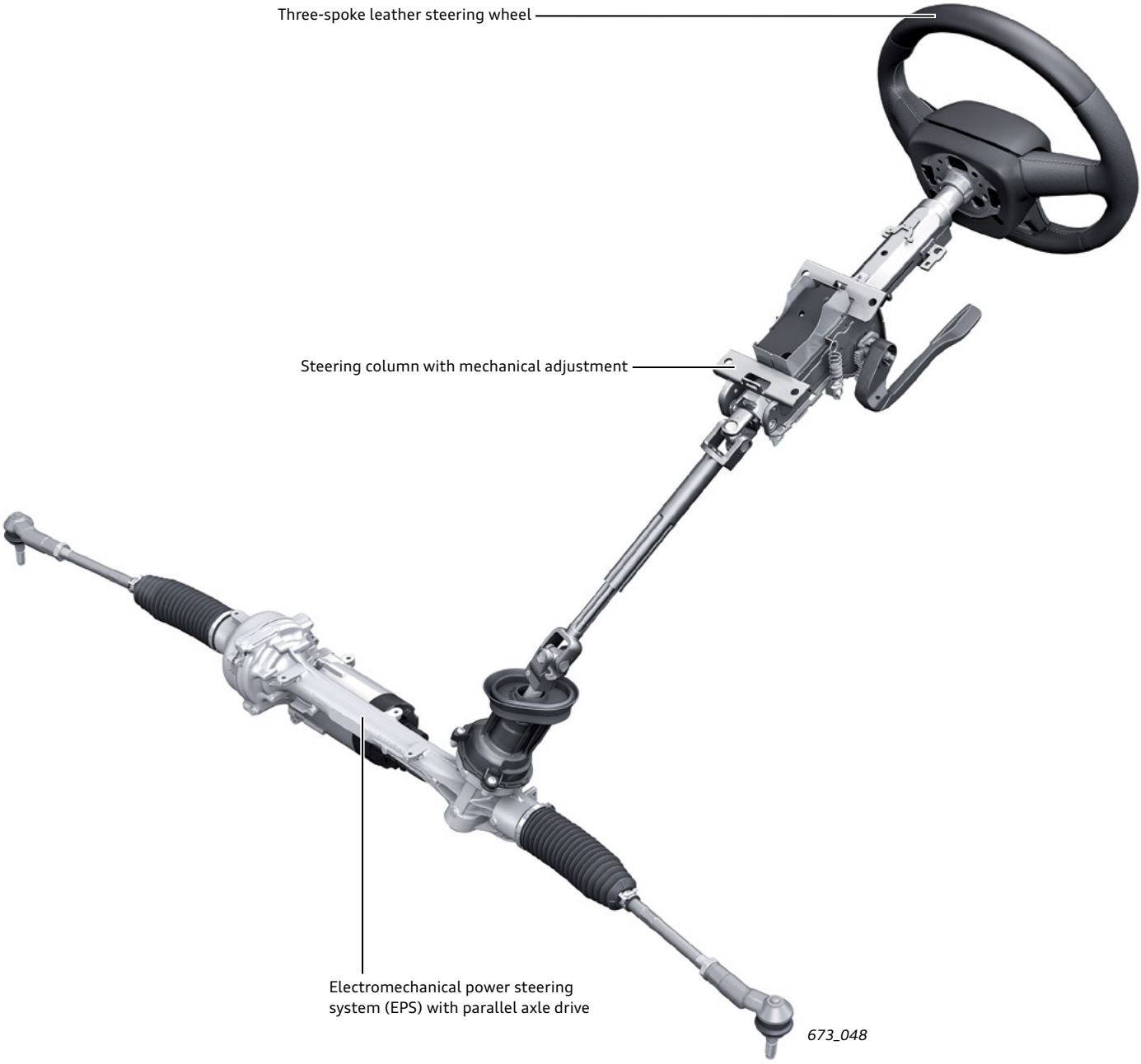
On the front axle, the toe settings for each wheel can be adjusted at the track rods. The camber values can be equalized by shifting the sub-frame. Toe and camber can be adjusted individually on the rear axle.



Steering system

The electromechanical power steering system (EPS) used on the 2019 Q3 is similar to the previous model but has been revised as part of the modular strategy (MQB). However, the differences in terms of design, operation and servicing requirements are minimal*.

The mechanically adjustable steering column (including steering lock) is similar to the previous model.



Reference

*For further information on the design and functions of the EPS with parallel axle drive, refer to eSelf-Study Program 990243 The 2015 Audi Q3 Introduction.

Steering wheels

Two versions of steering wheels are available. Both have a diameter of 14.76 in (375 mm).

Steering wheel	Equipment level
	Standard equipment
	Optional steering wheel. Available with the Sport Interior package on Premium plus and Prestige models.

Brake system

The brake system for the 2019 Q3 in the North American Region is designed for a minimum wheel size of 17”. TRW C60 floating caliper brakes are used on the front axle; the rear axle uses the FNc-M42 system.

The brake circuits are a diagonal split design. Brake pad wear indicators are standard equipment.

The third generation electromechanical parking brake (EPB) is similar to that of the Audi A3.

Brake system	Front axle	Rear axle
Engine	**2.0 ltr. TFSI**	**2.0 ltr. TFSI**
Minimum wheel size	17"	17"
Type of brakes	TRW C60 floating caliper brake	Continental FNc-M42/12/11 - EPB floating caliper brake
Number of pistons	1	1
Brake disc diameter	13.38 in (340 mm)	12.20 in (310 mm)
Brake disc thickness	1.18 in (30 mm)	0.86 in (22 mm)

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673_050

Reference

For further information on the design and functions of the electromechanical parking brake (EPB), refer to eSelf-Study Program 960143, The 2015 Audi A3 Running Gear and Suspension System.

Brake master cylinder and brake servo

An 11-inch single servo brake booster is used on the 2019 Q3.

The aluminum tandem master brake cylinder with a 1.0 in (25.4 mm) diameter provides the necessary performance with short brake pedal travel and a low pedal actuation force.

A non-contact Hall sensor is used to actuate the brake lights.

673_051

ESC

The 2019 Audi Q3 uses the MK100 ESC system. This is similar to the system of the Audi A3. In the North American Region, two versions are available.

1. Vehicles without adaptive cruise control.
2. Vehicles with adaptive cruise control.
   (Available only on Premium Plus and Prestige models).

On vehicles with adaptive cruise control the vehicle speed is regulated until the vehicle is stationary. This requires specific adjustments to the software and hardware to ensure that the vehicle also brakes and regulates comfortably at speeds less than 18.6 mph (30 km/h). The ESC hydraulic units are equipped with larger pumps so that they can build up pressure more quickly.

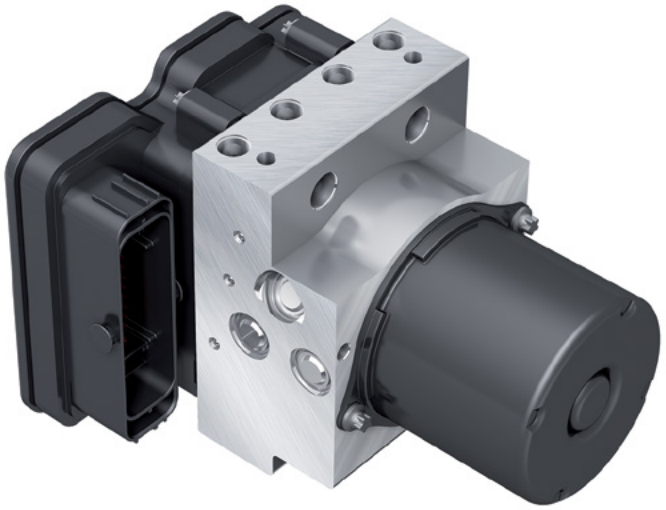
The Audi Q3 features active wheel speed sensors. The sensors on the rear axle can also detect the direction of rotation.

The driver can also choose between ESC standard mode and offroad mode. Offroad mode is activated by briefly pressing the ESC button (less than three seconds).

Regulating inputs are then only made at higher slip values. This allows for better traction in offroad conditions. Pressing the button for longer than three seconds switches off ESC regulation for the duration of the current ignition on cycle.

The control module and the hydraulic unit can be separated in service; the control module can be replaced individually. As is already the case for other Audi models, this work must be performed at an ESD workplace to prevent electrostatic discharge.

The ESC servicing requirements of the Audi Q3 are similar to those of the Audi A3.



ESC unit

673_052

Reference

For further information on the design and functions of the ESC, eSelf-Study Program 960143, The 2015 Audi A3 Running Gear and Suspension System.

Wheels and tires, tire pressure monitoring

The 2019 Q3 is equipped with 18” wheels with 235/55 all-season tires as standard equipment. Q3 S line models come with 19” wheels with 235/50 all-season tires as standard with 20” wheels with 244/40 summer tires as optional.

A space saving spare tire, tool kit and car jack are standard equipment.

Q3

18” 5-arm design wheels with 235/55 all-season tires

Q3 S line

19” 5-twin-spoke design wheels with 235/50 all-season tires

20” 5-twin-spoke module design wheels with 255/40 summer tires

Tire pressure monitoring

The 2019 Q3 uses the second generation tire pressure monitoring system. It functions based on information from the ABS Control Module. It is identical to the system used on the 2015 Audi A3 in terms of design, operation, driver information provided, service operations and diagnostics.

Electrics and electronics

Power supply

Battery, jump-start terminals, fuse and relay carriers

The vehicle battery is located in the engine compartment and is protected by an insulating blanket. The North American Region version of the Q3 will be equipped with a 72 Ah/280A battery and a 140A alternator.

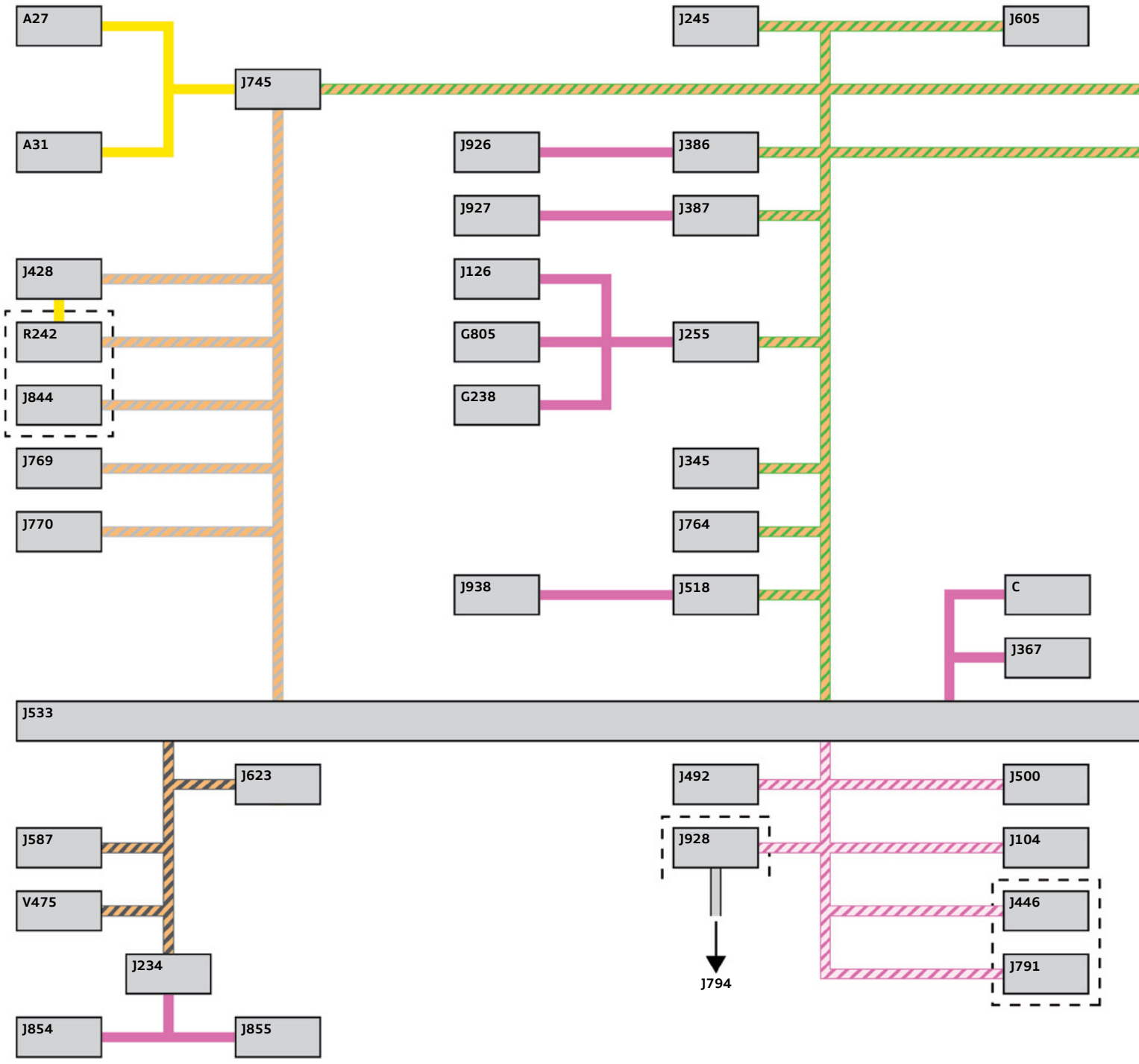
The battery positive terminal and the ground stud near the left-hand strut tower are used for battery charging and jump starting.

The fuses in the engine compartment electronics box (“SB”) and the fuses located behind the instrument panel on the left side of the vehicle (“SC”) are also accessible to the driver and are described in the Owner's Manual.

673_053

Networking

Topology



Key:

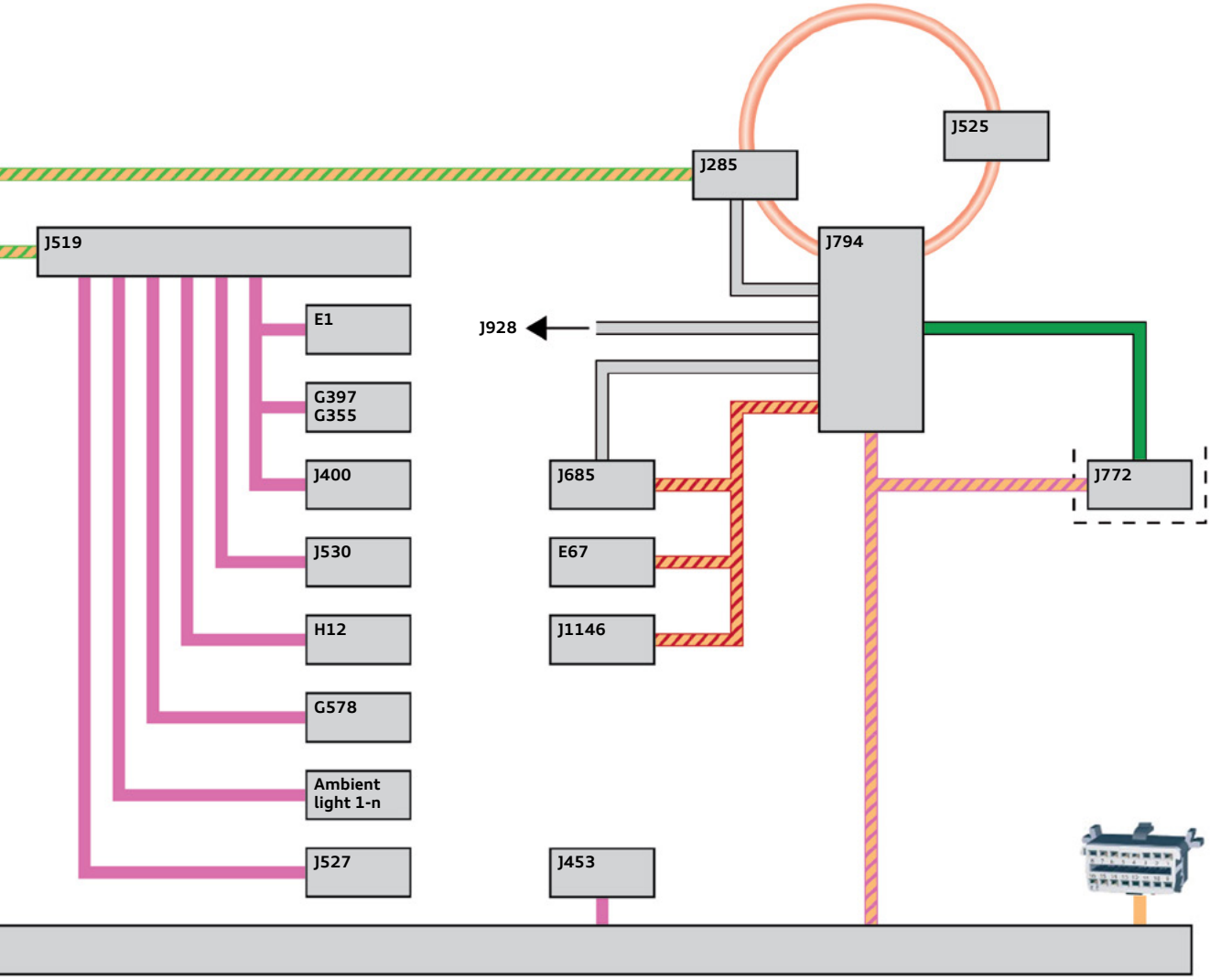
The topology shows all control modules which may be connected to the bus systems. Some control modules are the result of optional or country-specific equipment. Control modules marked “OR configuration” are never both installed in a vehicle; one of them (at most) may be installed, depending on the vehicle equipment.

All CAN bus systems used in the Audi Q3 are high-speed CAN systems with a data transfer rate of 500 kbit/s.

As on the Audi A3, the MOST 150 has replaced the MOST 25 on the Audi Q3.

- Powertrain CAN
- Running gear CAN
- Extended CAN
- Convenience CAN
- MIB CAN
- Infotainment CAN
- Diagnostics CAN
- Sub-bus systems
- LIN bus
- LVDS
- MOST bus
- Composite video
- OR configuration

A27	Right LED Headlamp Power Output Module 1
A31	Left LED Headlamp Power Output Module 1
C	Alternator
E1	Light Switch
E67	Driver Volume Control



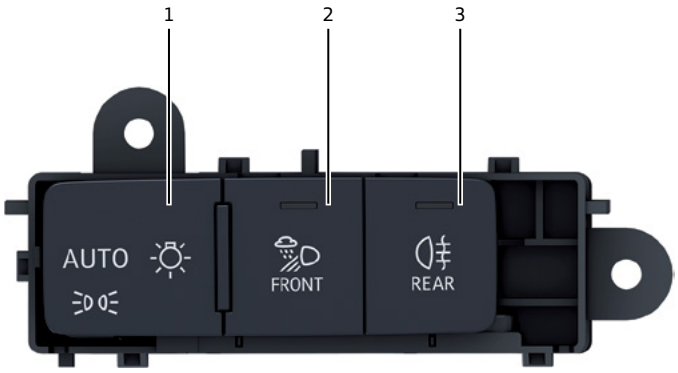
673_054

G238	Air Quality Sensor
G355	Humidity Sensor
G397	Rain/Light Recognition Sensor
G578	Anti-Theft Alarm System Sensor
G805	Refrigerant Circuit Pressure Sensor
H12	Alarm Horn
J104	ABS Control Module
J126	Fresh Air Blower Control Module
J234	Airbag Control Module
J245	Sunroof Control Module
J255	Climatronic Control Module
J285	Instrument Cluster Control Module
J345	Towing Recognition Control Module
J367	Battery Monitoring Control Module
J386	Driver Door Control Module
J387	Front Passenger Door Control Module
J400	Wiper Motor Control Module
J428	Adaptive Cruise Control Module
J446	Parking Aid Control Module
J453	Multifunction Steering Wheel Control Module
J492	All Wheel Drive Control Module
J500	Power Steering Control Module
J518	Access/Start Authorization Control Module
J519	Vehicle Electrical System Control Module
J525	Digital Sound System Control Module
J527	Steering Column Electronics Control Module
J530	Garage Door Opener Control Module
J533	Data Bus On Board Diagnostic Interface
J587	Selector Lever Sensor System Control Module
J605	Rear Lid Control Module
J623	Engine/Motor Control Module
J685	Front Information Display Control Head
J745	Cornering Lamp and Headlamp Range Control Module
J764	Electronic Steering Column Lock Control Module
J769	Lane Change Assistance Control Module
J770	Lane Change Assistance Control Module 2
J772	Rearview Camera System Control Module
J791	Parallel Parking Assistance Control Module
J794	Information Electronics Control Module 1
J844	Automatic High Beam Assist Control Module
J854	Left Front Seat Belt Tensioner Control Module
J855	Right Front Seat Belt Tensioner Control Module
J926	Driver Side Rear Door Control Module
J927	Passenger Side Rear Door Control Module
J928	Peripheral Camera Control Module
J938	Power Rear Lid Opening Control Module
J1146	Mobile Device Charger 1
R242	Driver Assistance Systems Front Camera
V475	Transmission Fluid Auxiliary Hydraulic Pump 1

Exterior lighting

Light switch

The light switch (E1) of the 2019 Q3 has been modified and now is similar to the new light switch of the 2019 Audi A8. The new design means the switch also has a new operating concept.



Light switch on Audi Q3 *673_056*

Operating concept

AUTO is activated automatically when Terminal 15 is activated. Various lighting functions can be selected when button 1 is pressed.

- AUTO - The lights adjust to their surroundings automatically. The daytime running lights, tail lights and license plate lights switch on permanently.
- Low beam - The low beam headlights are switched on as soon as Terminal 15 is active.

Button 2 can be used to activate the all-weather lights.

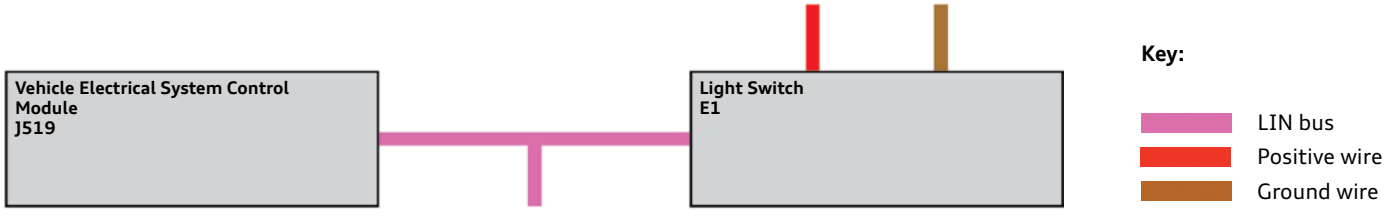
Button 3 switches the rear fog light on and off (A rear fog light will not be offered in the North American Region.)

The function selected is briefly displayed to the driver in the instrument cluster.

- Side marker light - The side marker lights can be switched off at speeds below 6.2 mph (10 km/h).
- OFF - All lighting functions can be switched off at speeds below 6.2 mph (10 km/h). If the vehicle exceeds a speed of 6.2 mph (10 km/h), AUTO is activated automatically.

Electrical system

The light switch is a LIN slave of Vehicle Electrical System Control Module J519 and requires only three wires: two for the power supply and the LIN wire to J519.



673_057

Headlights

There are two different headlight versions available for the 2019 Q3:

- Basic headlights with LED technology (ECE[1] and SAE[2])
- Full LED headlights (ECE[1] and SAE[2])

Standard LED headlights (PR No.: 8EX + 8G0/8G1 + 8VA)

A bulb is used for the turn signal in the basic headlight. All other lighting functions are produced by LEDs.

The illustration shows the left headlight in the ECE[1] version.

673_058

Lighting functions:

- Daytime running light (1)
- Marker light (1)
- Low beam (2)
- High beam (3)
- Turn signal (4) with PWY24W bulb
- Side marker light (not illustrated, SAE only[2])

Special features of the lighting functions

Turn signals during the day on SAE[2] vehicles:
The daytime running lights are switched off when the turn signals are activated.

Turn signals at night:
The marker lights remain on.

Coming home/leaving home function

When it is dark, the entry/exit lighting illuminates the area around the vehicle when the driver switches off the ignition, and opens the door. The entry/exit lighting only takes effect when it is dark and when the light switch is in the AUTO position. The function activates the low beam, the marker light and the tail light. On the SAE[2] version, the side marker light is also activated.

Headlight range adjustment

Vehicles with basic headlights have automatic static range adjustment. The vehicle level is calculated via a sensor on the rear axle. The headlight range control motors cannot be replaced.

Activation/service

The turn signal bulbs are activated directly by Vehicle Electrical System Control Module J519 and can be replaced if they fail. The LEDs for other functions are activated by Left and Right LED Headlamp Power Output Modules 1 and 2 - A27 and A31. The two output modules receive commands regarding the individual lighting functions and headlight range control from Cornering Lamp and Headlamp Range Control Module J745. J745 and modules A27 and A31 communicate using a Private CAN.

The output modules can be replaced in the event of a fault. In the event of damage to the upper and inner headlight attachment points, repair tabs can be attached to the headlight housings.

[1]ECE = for the European market
[2]SAE = for the North American market

Full LED headlights (PR No.: 8IT + 8G0/8G1 + 8VM)

All lighting functions are provided by LEDs on the Audi Q3 LED headlight.

The illustration shows the left headlight in the ECE[1] version.

673_059

Lighting functions:

- Daytime running light (1)
- Marker light (1)
- Turn signal (1)
- Low beam (2)
- High beam (3)
- All-weather light (4)
- Low beam (4), one-side
- Intersection light (4)
- Highway light (2), raised via headlight range control
- Static cornering light (4), one-side
- Maneuvering light (2 + 4), when reverse is selected
- Side marker light (not illustrated, SAE only[2])

Special features of the lighting functions

All lighting functions of the LED headlights are produced by LEDs.

Turn signals during the day:
The daytime running lights are switched off when the turn signals are activated.

Turn signals at night:
Transition turn signal = in the bright turn signal phase, the yellow LEDs are active; in the dark turn signal phase the white LEDs light up to marker light level.

Maneuvering light:
When reverse is selected, the low beams and the all-weather lights are activated. This is intended to make it easier for the driver to see potential obstacles.

Coming home/leaving home function

On vehicles with full LED headlights, the entry/exit lighting involves activating the low beam headlights and the marker lights. On the SAE[2] version, the side marker lights are also switched on. When it is dark, the entry/exit lighting illuminates the area around the vehicle when the driver unlocks the vehicle and after the ignition has been switched off and the driver's door has been opened. The entry/exit lighting only takes effect when it is dark and when the light switch is in the AUTO position.

Headlight range adjustment

The LED headlights are equipped with automatic dynamic headlight range adjustment. The vehicle level is calculated via a sensor on the rear axle. The headlight range control motors can be replaced.

Activation/service

The LEDs in the LED headlights are activated by the output modules A27 and A31. The two output modules receive commands regarding the individual lighting functions and the headlight range control from Cornering Lamp and Headlamp Range Control Module J745. Information is exchanged via a private CAN.

The output modules installed on the outside of the headlight housings can be replaced in the event of a fault. It is not possible to replace individual lights. In the event of damage to the upper and inner headlight attachments, repair tabs can be attached to the headlight housings.

[1]ECE = for the European market

[2]SAE = for the North American market

Tail lights

LED tail lights

On the LED tail lights, all lighting functions are performed by LEDs.

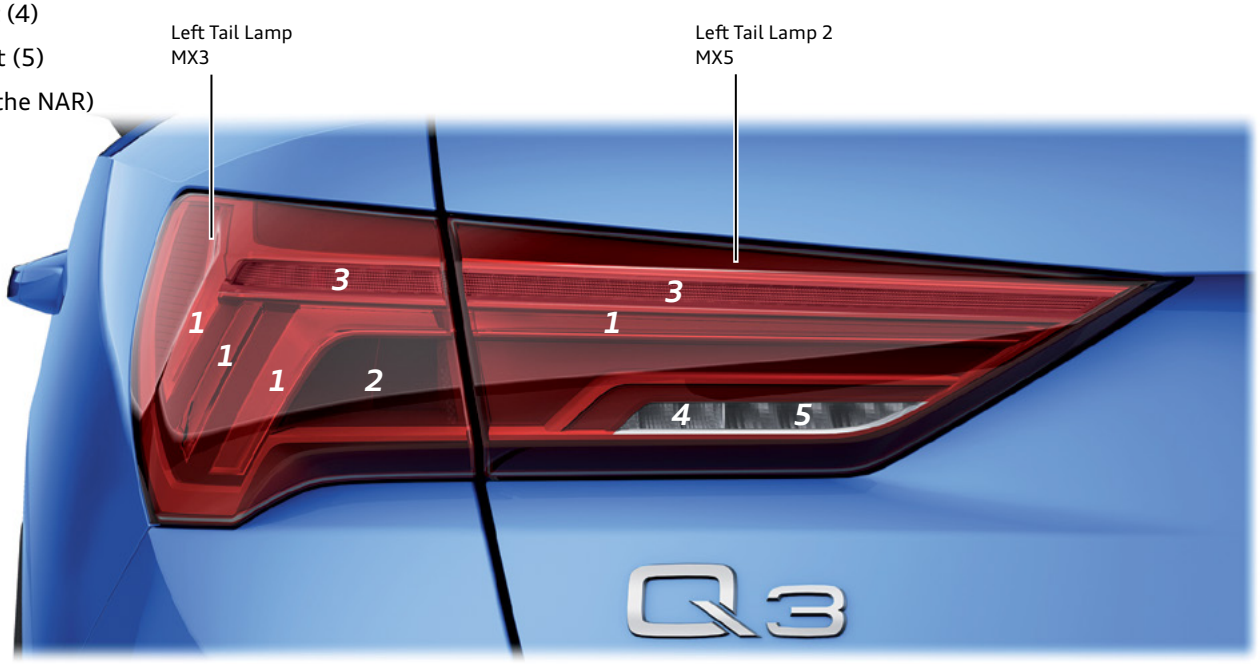
The turn signal display is sequential.

The illustration shows the left LED tail lights in the ECE[1] version.

Lighting functions:

- Tail light (1)
- Brake light (2)
- Dynamic turn signal (3)
- Back-up light (4)
- Rear fog light (5)

(Not offered in the NAR)



673_062

Activation/special features

All tail light functions are activated by Vehicle Electrical System Control Module J519.

Because the LEDs in the tail lights generate less heat, the rear lid tail lights are not switched off when the rear lid is opened.

Special features of SAE[2] version

The side marker light function for the SAE[2] version is performed via the tail light present in the side light, meaning that no additional side marker light is required.

Tail lights for the SAE[2] version do not have a rear fog light.

[1]ECE = for the European market

[2]SAE = for the North American market

High-level brake light

The high-level brake light is integrated into the rear spoiler and provides additional brake lighting via 18 LEDs. Its total power is 2.2 W.

It is not possible to replace individual parts of the high-level brake light. It must be replaced as a complete unit in the event of a fault.

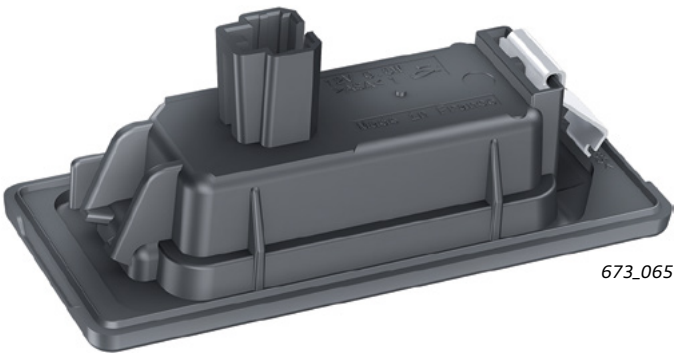
673_063

License plate lights

The license plate lights on the Q3 also use LED technology and have two LEDs each.

Like the high-level brake light, they are activated by Vehicle Electrical System Control Module J519. The license plate lights are retained by clips in the rear lid.

673_064



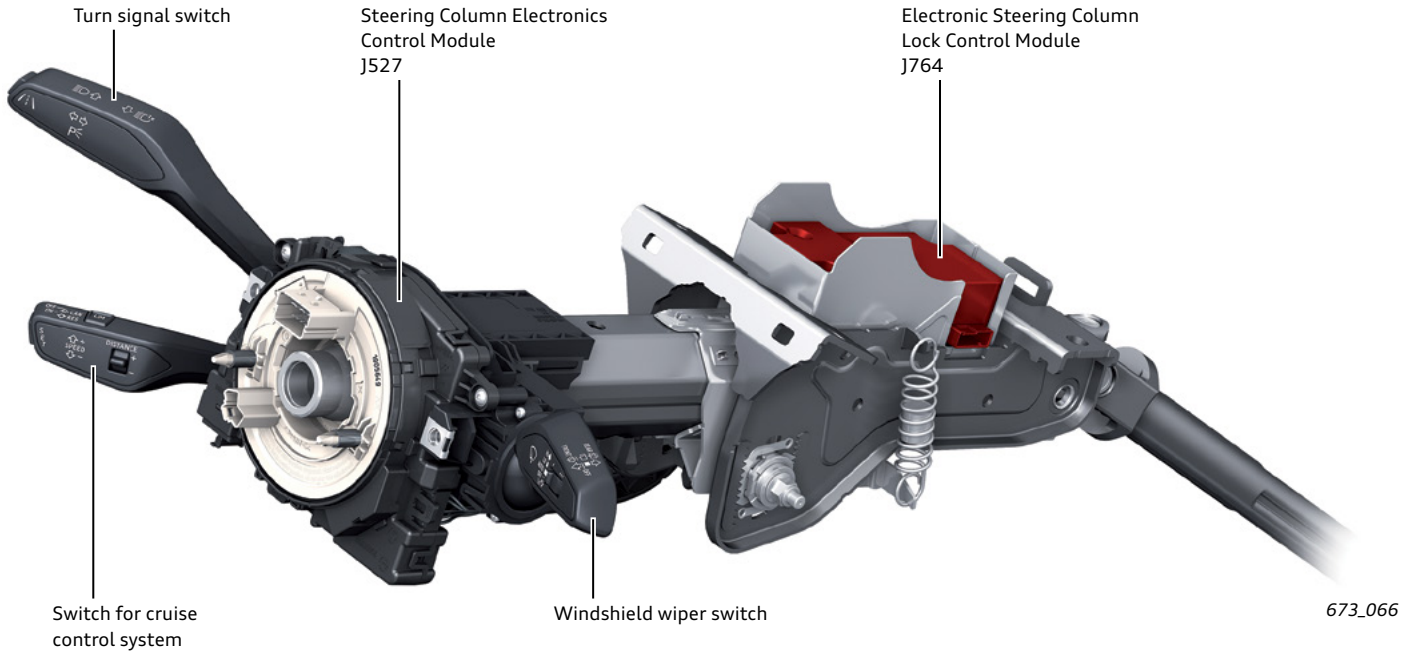
673_065

Convenience electronics

Steering Column Electronics Control Module J527

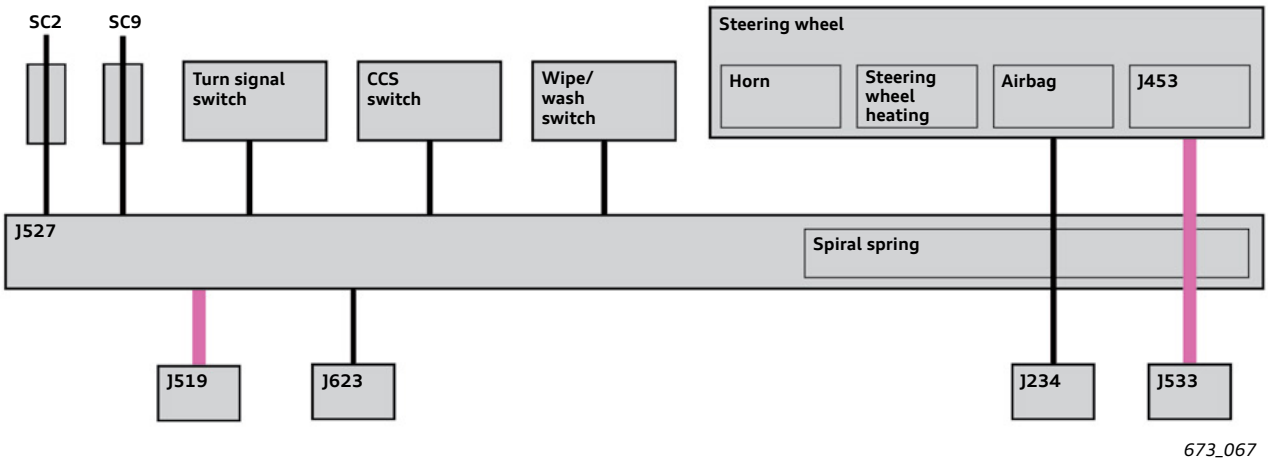
Unlike the first generation Q3, J527 does not participate in CAN data transfer.

J527 communicates with Vehicle Electrical System Control Module J519 and Data Bus On Board Diagnostic Interface J533 via the LIN data bus. However, the tasks and functions of J527 have not changed.



J533 is the LIN master for Multifunction Steering Wheel Control Module J453.

Signals from the driver's airbag and J453 are not processed by Steering Column Electronics Control Module J527.



Key:

LIN bus

SC2 Fuse 2 on fuse holder C
SC9 Fuse 9 on fuse holder C

J234 Airbag Control Module
J453 Multifunction Steering Wheel Control Module
J519 Vehicle Electrical System Control Module
J527 Steering Column Electronics Control Module
J533 Data Bus On Board Diagnostic Interface
J623 Engine/Motor Control Module

Interior lighting

There are three different equipment packages for the interior lighting. Different lighting colors can be selected with the optional contour/background lighting package.

	Standard equipment QQ0	Background lighting package QQ1	Contour/background lighting package QQ2
Front roof modules[1]	✓	✓	✓
Rear lighting[2]	✓	✓	✓
Make-up lights	✗	✓	✓
Illuminated door pockets (front/rear)	✗	✗	✓
Contour lighting for front/rear doors	✗	✗	RGB
Background fabric door panel lighting (front/rear)	✗	✓	RGB
Entry light (front)	✗	✓	✓
Interior door handle (front/rear)	✗	✓	✓
Door warning lamps	passive[3]	passive[3]	passive[3]
Cup holder	✗	✓	✓
Background lighting for front center console	✗	✓	RGB
Center console storage compartment (front)	✗	✓	RGB
quattro badge or Audi rings[4]	✗	✗	RGB
Glove box light	✓ B	✓ B	✓ B
Right luggage compartment light	✓	✓	✓

Key:

✗	Unavailable	✓ B	Lighting with bulb
✓	LED lighting, white	RGB	Available in 10 colors

[1]Including capacitive reading lights
[2]Including reading lights, mechanically operated via button
[3]Passive means that only a reflector is installed
[4]Right side, on instrument panel

Digital instrument cluster 9S0

The Audi Q3 features a 10.25 inch digital display instrument cluster as standard. It houses Instrument Cluster Control Module J285 and is the immobilizer master.

The instrument cluster is a network participant of the instrument cluster CAN and the MOST bus. J285 is a Terminal 30 control module and processes the signals from both fuel tank senders, the parking brake and data from the Anti-Theft Immobilizer Reader Coil D2

673_068

Audi virtual cockpit 9S8

The 2019 Audi Q3 can be equipped optionally with the Audi virtual cockpit (Pr. no.9S8). It offers additional features such as: displaying music tracks or large map images if Navigation plus is installed.

Its screen size (seen diagonally) is 12.3” and has three different views, one of which is a new, particularly sporty display of the instrument cluster’s content.

673_069

Illustration shows the 12.3” version

Sensor-operated rear lid opening

The Q3 can be ordered with a sensor operated rear lid that opens with a foot gesture.

The two sensor wires for Power Rear Lid Opening Sensor G750 and Power Rear Lid Opening Sensor 2 G760 are connected directly to Power Rear Lid Opening Control Module J938.

J938 is a LIN participant of Access/Start Authorization Control Module J518.

When a foot gesture has been made, J518 checks whether there is an authorized remote control key in the detection area. If the authorization is successful, rear lid opening is approved.

This occurs irrespective of whether the vehicle is locked or unlocked.

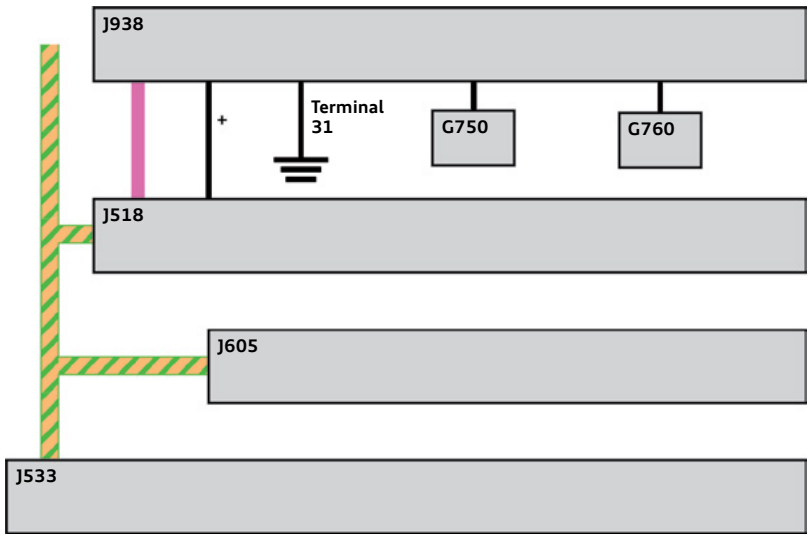
Rear Lid Control Module J605 is a participant of the convenience CAN data bus.

G750	Power Rear Lid Opening Sensor
G760	Power Rear Lid Opening Sensor 2
J518	Access/Start Authorization Control Module
J533	Data Bus On Board Diagnostic Interface
J605	Rear Lid Control Module
J938	Power Rear Lid Opening Control Module

Key:

LIN bus

Convenience CAN



673_071

Climate control

Overview

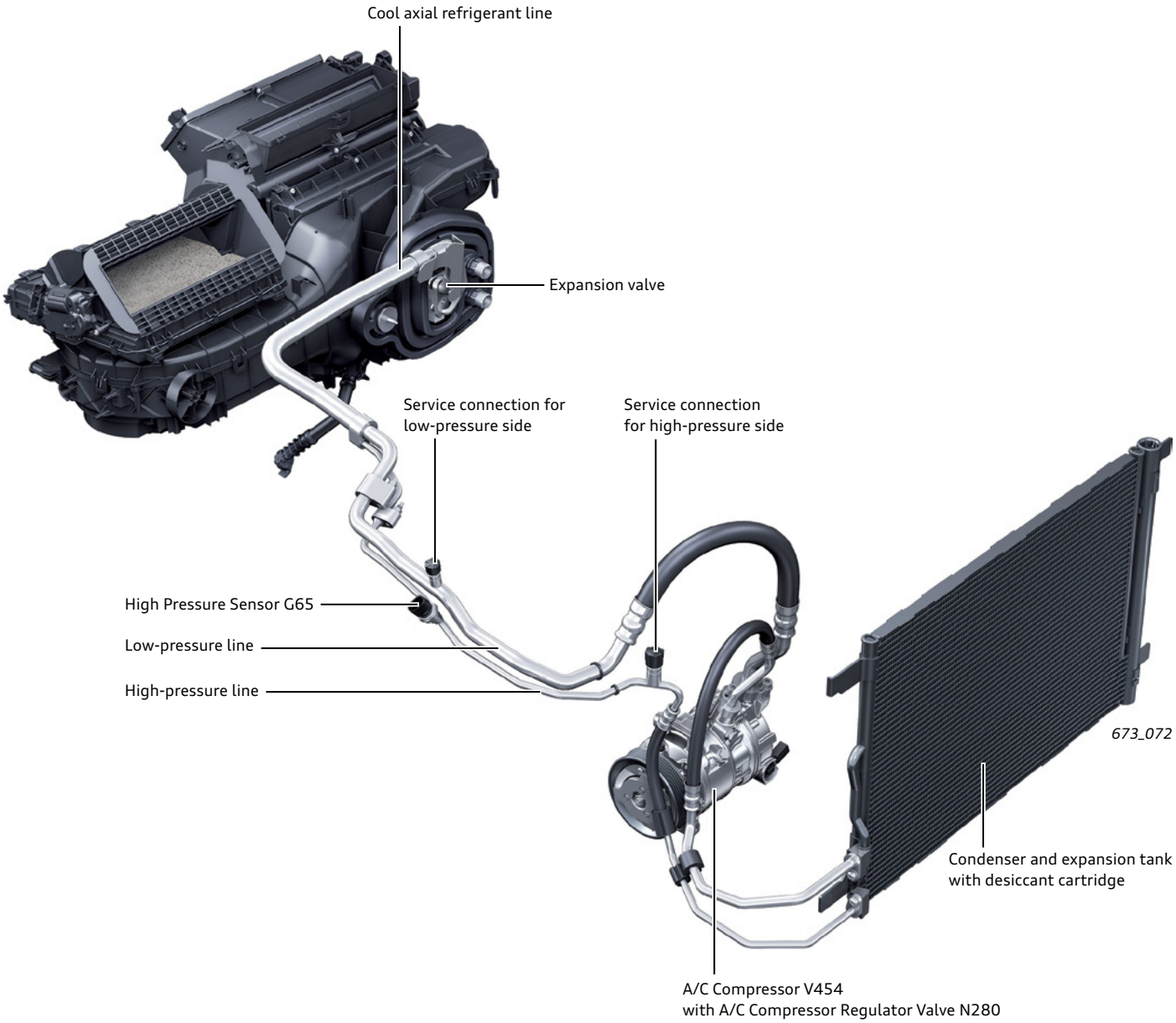
There are no fundamental changes to the climate control refrigerant or air distribution systems when compared to the 2019 Audi Q3. A two-zone system is standard equipment.

One new operational feature of the system is the control concept with the advent of the MMI touch response system. Some features may now be operated through the MMI screen.

However, most personal settings for the vehicle's climate control system are selected and adjusted via the relevant rotary controls and buttons located below the MMI display.

Design of the climate control system

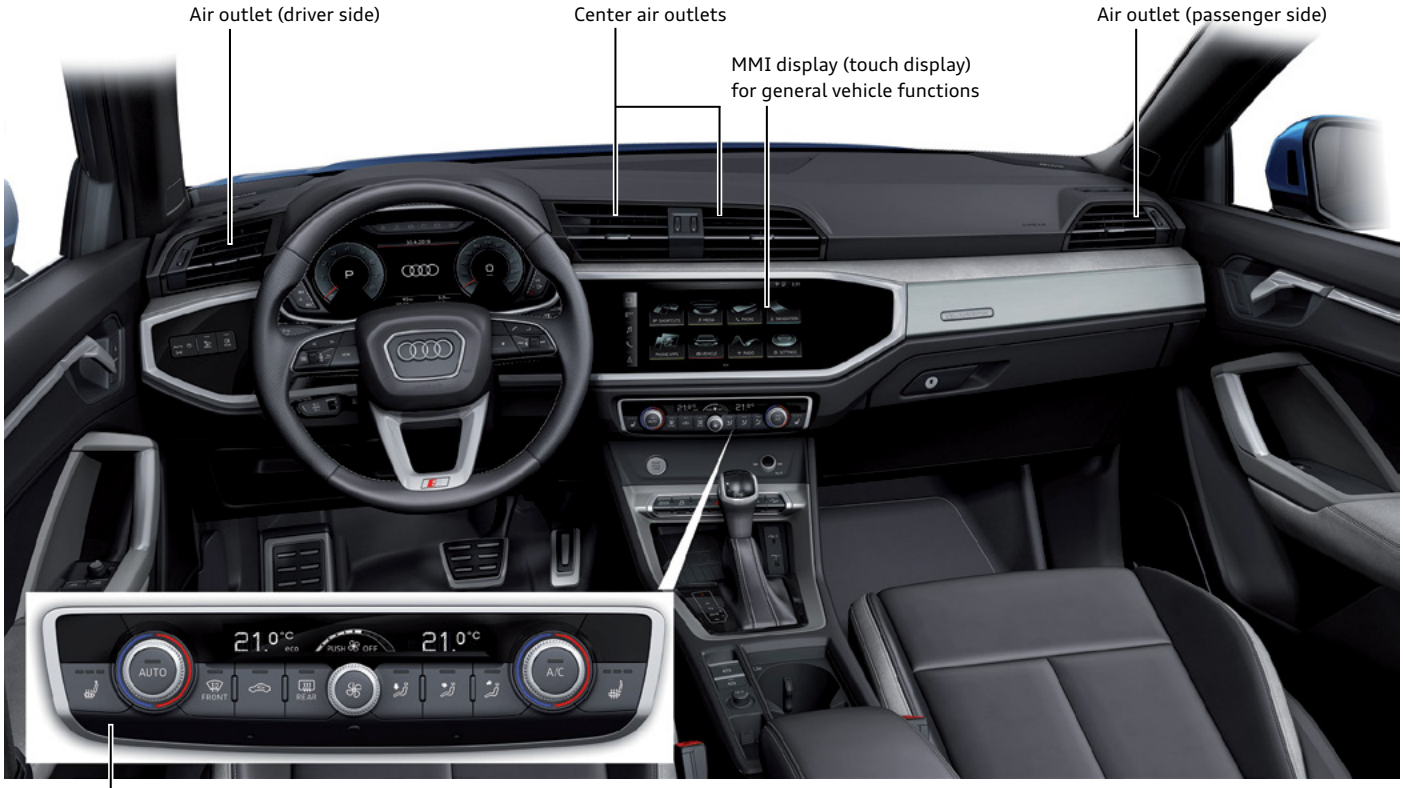
2.0 ltr. TFSI engine with refrigerant R1234yf



Overview of newly designed Audi Q3 instrument panel with MMI display, climate control and air outlets

The “Car” tile on the MMI display takes the user to the climate control settings. Depending on the vehicle equipment, the automatic air recirculation can be switched on there.

The individual climate control settings such as AUTO, temperature selection, blower speed, air distribution, defrost mode for the windshield and side windows, air recirculation and rear window heating are selected/ adjusted directly via the relevant controls under the MMI display.



673_073

Controls for 2-zone climate control

The climate control system keeps the vehicle interior at a driver-chosen temperature automatically by regulating the temperature, volume and distribution of the air therein.

In addition, the automatic air recirculation is regulated via air quality, sunlight and humidity sensors.

The 2-zone automatic air conditioner controls have the following functions:

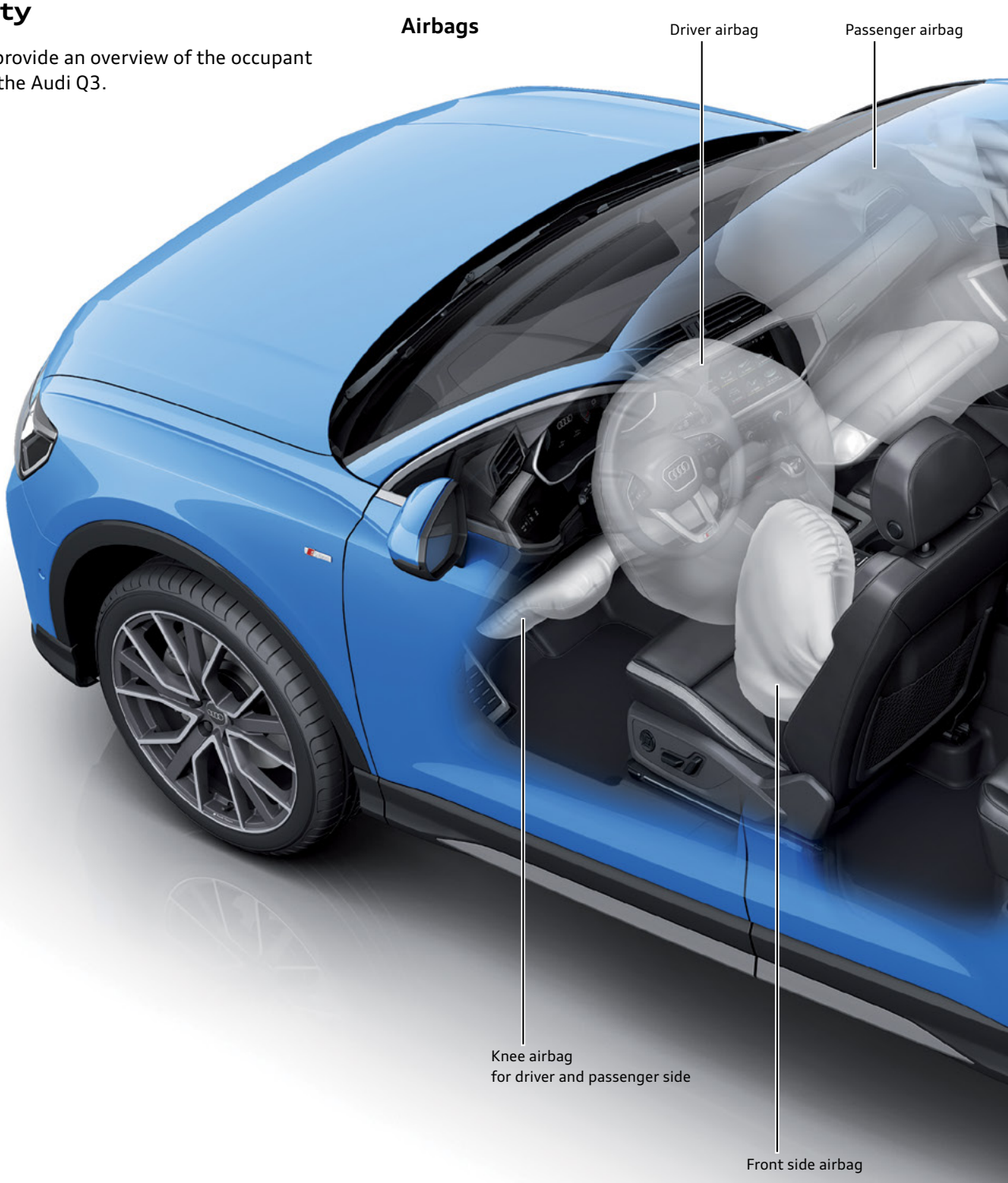
- Rotary temperature controls, front left and right seats can be adjusted separately
- A/C on/off button
- AUTO button
- Rotary control for blower speed
- Air distribution button (footwell, center and upwards)
- Windshield defrost mode button
- Air recirculation mode button
- Rear window heating button
- Seat heating buttons (left and right)

Safety and driver assist systems

Passive safety

The following pages provide an overview of the occupant protection system in the Audi Q3.

Airbags



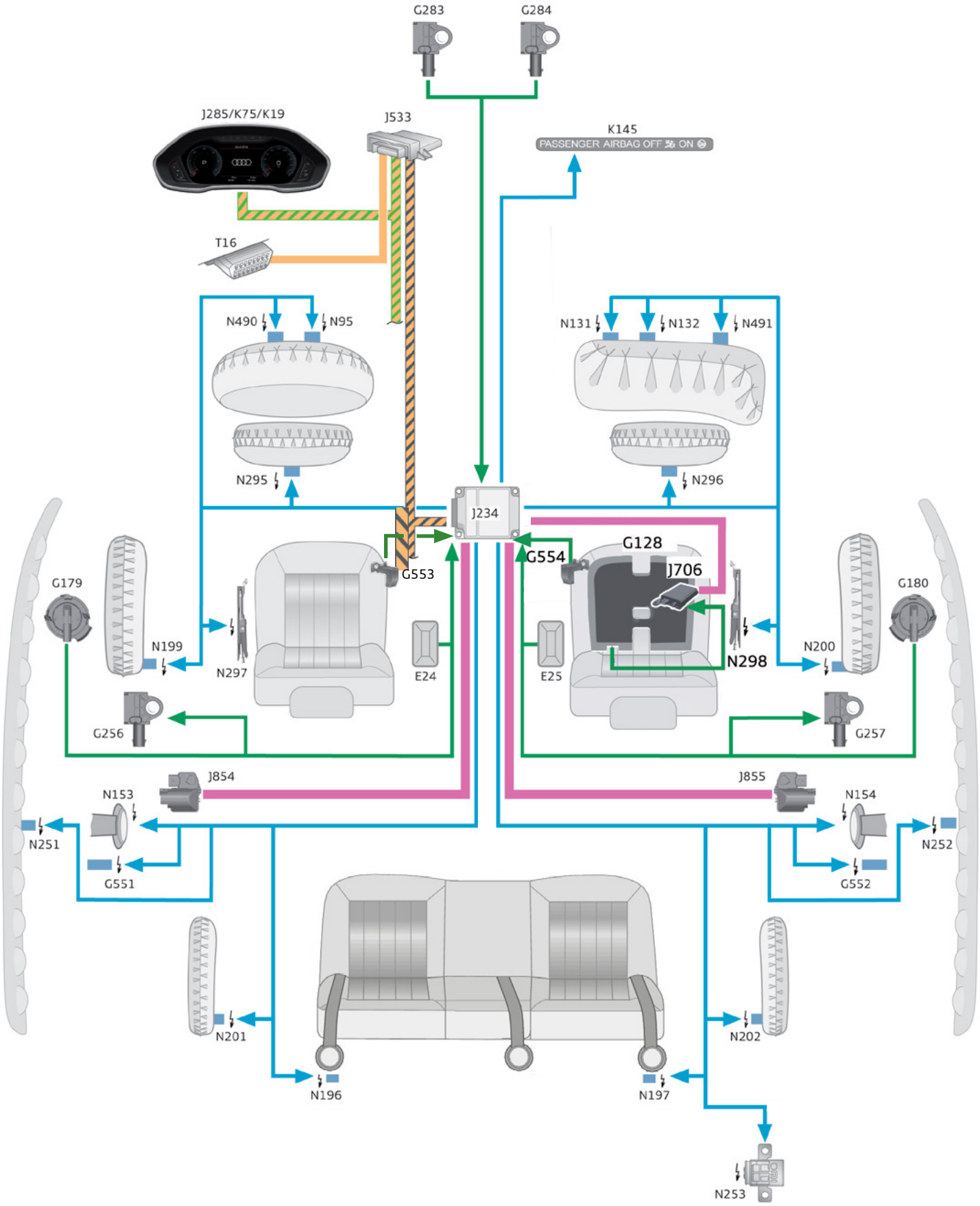
Components

- 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
- Front lap belt tensioners for driver and passenger sides
- Seat belt warning for front seats
- Seat-occupied recognition system in passenger seat
- Battery interrupt igniter, 12 Volt electrical system

673_076

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

System overview



673_077

Key to figure of System overview :

E24	Driver Seat Belt Switch
E25	Front Passenger Seat Belt Switch
G128	Passenger Seat Occupant Detection Sensor
G179	Driver Thorax Airbag Crash Sensor
G180	Front Passenger Thorax Airbag Crash Sensor
G256	Driver Side Rear Thorax Airbag Crash Sensor
G257	Passenger Side Rear Thorax Airbag Crash Sensor
G283	Driver Front Airbag Crash Sensor
G284	Passenger Side Front Airbag Crash Sensor
G551	Driver Belt Force Limiter
G552	Front Passenger Belt Force Limiter
G553	Driver Seat Position Sensor
G554	Front Passenger Seat Position Sensor
J234	Airbag Control Module
J285	Instrument Cluster Control Module
J533	Data Bus on Board Diagnostic Interface
J706	Passenger Occupant Detection System Control Module
J854	Left Front Seat Belt Tensioner Control Module
J855	Right Front Seat Belt Tensioner Control Module
K19	Seat Belt Indicator Lamp
K75	Airbag Indicator Lamp
K145	Front Passenger Airbag -Disabled- Indicator Lamp (both ON and OFF status of passenger airbag is indicated)
N95	Driver Airbag Igniter
N131	Front Passenger Airbag Igniter 1
N132	Front Passenger Airbag Igniter 2
N153	Driver Seat Belt Tensioner Igniter 1
N154	Front Passenger Seat Belt Tensioner Igniter 1
N196	Driver Side Rear Seat Belt Tensioner Igniter
N197	Passenger Side Rear Seat Belt Tensioner Igniter
N199	Driver Thorax Airbag Igniter
N200	Front Passenger Thorax Airbag Igniter
N201	Driver Side Rear Thorax Airbag Igniter
N202	Passenger Side Rear Thorax Airbag Igniter
N251	Driver Head Curtain Airbag Igniter
N252	Front Passenger Head Curtain Airbag Igniter
N253	Battery Interrupt Igniter
N295	Driver Knee Airbag Igniter
N296	Front Passenger Knee Airbag Igniter
N297	Driver Seat Belt Tensioner Igniter 2
N298	Front Passenger Seat Belt Tensioner Igniter 2
N490	Driver Airbag Release Valve Igniter
N491	Front Passenger Airbag Release Valve Igniter
T16	Data Link Connector

Key:

Connection for Passenger Seat Occupant Detection Sensor G128

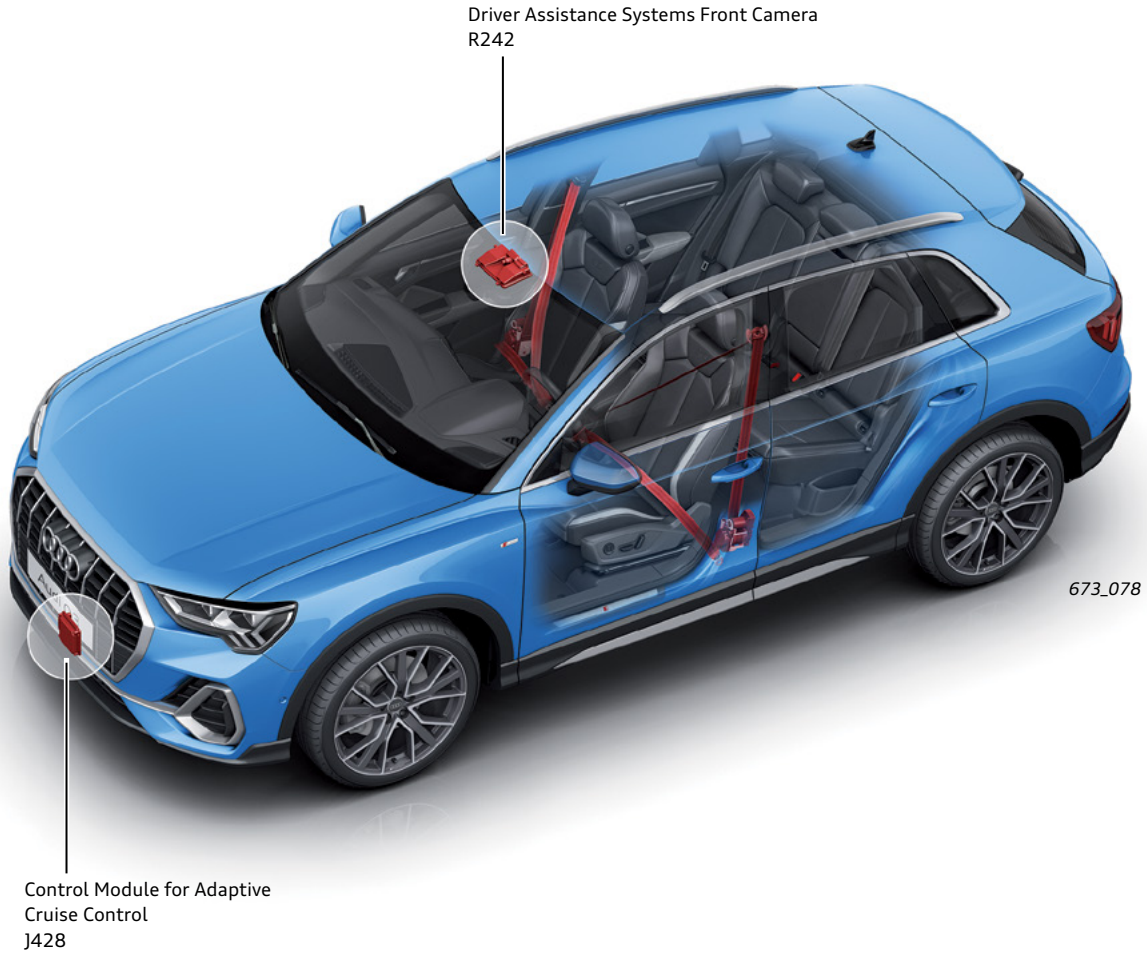
In vehicles for the North American region (NAR):

G128 is connected to Passenger Occupant Detection System Control Module J706 via a discrete wire. It communicates with Airbag Control Module J234 via a LIN.

Active safety

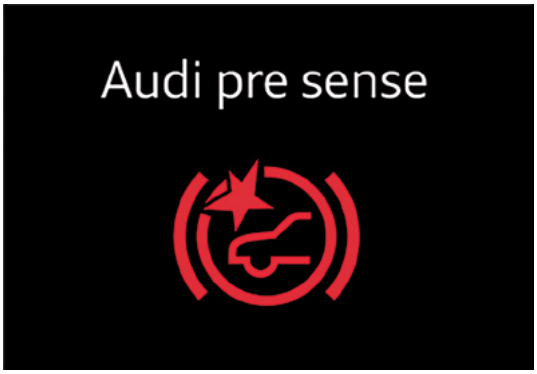
Audi pre sense

Audi pre sense basic and pre sense front are standard on all Q3 models.



It has the following features compared to other Audi models:

- If the ESC (electronic stabilization control) system is switched to “offroad” using ASR/ESP Button E256, Audi pre sense front remains available.
- The system is capable of detecting cyclists and react to them.
- It can detect pedestrians and cyclists moving in the same direction as the vehicle as well as pedestrians and cyclists who are crossing the vehicle’s path.
- The symbol for the visual pre-warning/intervention display has been standardized so it corresponds to other Audi vehicles, such as the 2019 Audi A8.



Visual pre-warning/ intervention display

673_079

Driver assist systems

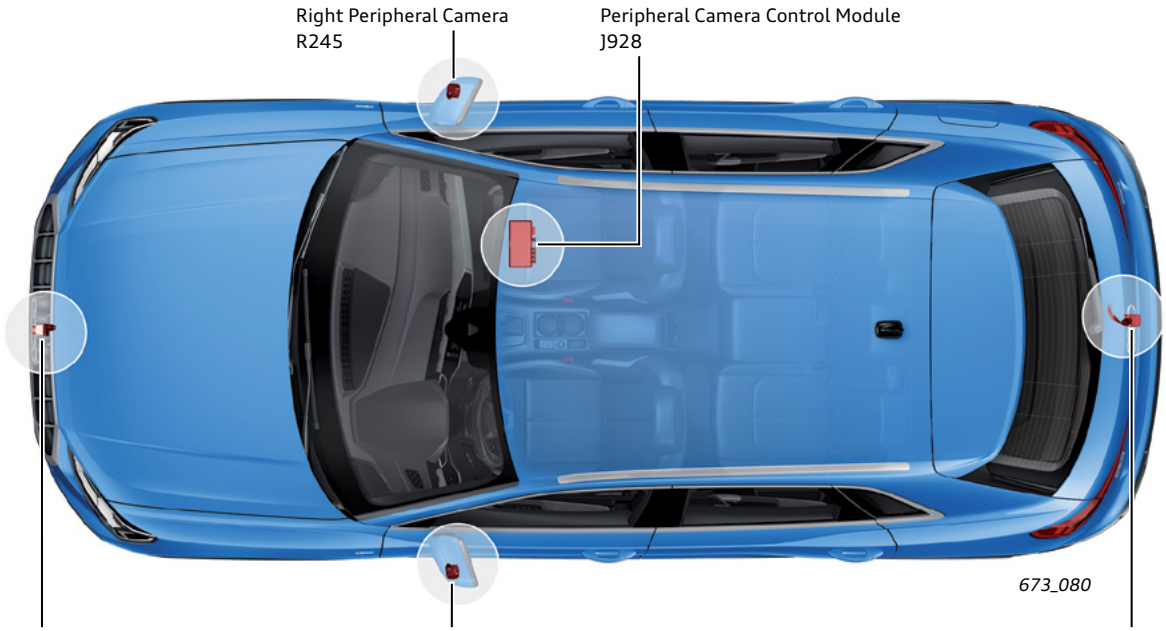
The following systems and functions are detailed in the next pages:

- Top view camera system
- Rear cross-traffic assist
- Hands-off detection
- Lane departure warning
- Adaptive cruise control
- Audi side assist
- Speed limiter

Top view camera system

For the first time, a top view camera system is available for the Audi Q3. The cameras help customers when they are maneuvering and parking the vehicle. The peripheral view camera function allows an image of the vehicle from above to be displayed. At speeds of up to 6.2 mph (10 km/h), it shows the immediate surroundings of the Audi Q3 on the MMI displays. The user can switch between various views.

Along with the virtual view from above, the back-up camera view and the 180° panorama view (front and rear), there is a detailed view of the front and rear wheels. This helps to avoid rim damage. It is also possible to display the wheels (either the front or rear wheels as pairs).



Calibration

The camera calibration process is the same as on other similarly equipped Audi models using calibration mats VAS 721 001. The advantage of this calibration procedure is that the four cameras can be calibrated quickly and all at once.

673_081

Rear cross-traffic assist

Description of function

The rear cross-traffic assist can warn the driver of a possible cross-traffic collision when backing up. With the help of the radar sensors, the system monitors the vehicle's rear side surroundings. Objects, such as cars approaching from the side at the rear, can be detected.

However, if they approach very quickly, they may not be detected in time. The system reacts to both pedestrians and cyclists if it detects them.

The two rear radar sensors are installed in the rear bumper (left and right).

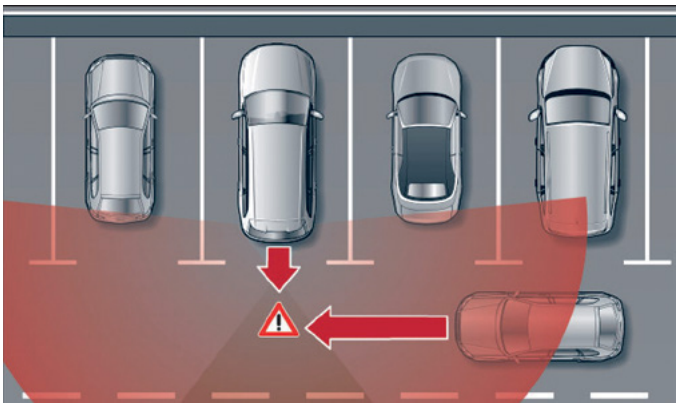


Illustration of detection area of rear radar sensors *673_082*

Requirements

- The system must be activated via the MMI.
- Reverse gear must be selected and the vehicle speed must not be greater than 6.2 mph (10 km/h).

Functions of rear cross-traffic assist

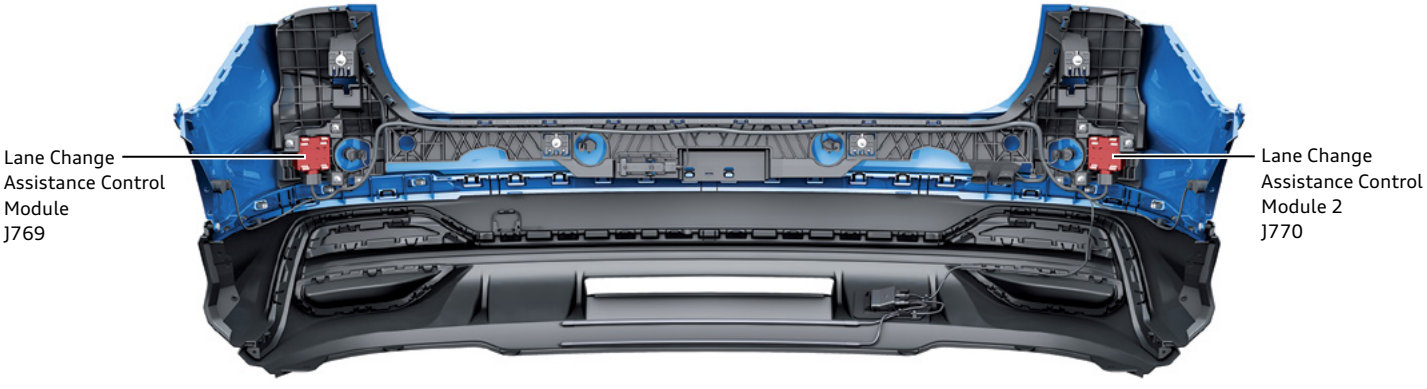
If an approaching vehicle is detected when the vehicle is backing up, the following warnings are given:

- An arrow from the direction of the approaching vehicle is shown on the MMI display. The arrow is only visible if the image from the rear peripheral camera or the top view camera is currently displayed. The parking aid must also be activated.
- Acoustic signal, made as a continuous tone.
- Automatic brake jolt if no driver reaction has yet been detected.

Lane Change Assistance Control Modules J769 and J770 are responsible for the cross traffic assist function. J769 is the master control module and is installed behind the bumper cover on the right hand side of the vehicle.

673_083

Lane Change Assistance Control Module 2 J770



673_084

Note

If the indicator lamps  or a crossed-through arrow are shown as driver messages, the system is unavailable.

Hands-off detection

By evaluating the steering torque sensor, the system can draw conclusions to whether the driver's hands are on the steering wheel or not.

Hands-off detection when lane departure warning is active

When the lane departure warning is switched on and active, hands-off detection is only active at the moment of the steering intervention. No hands-off detection is performed if no intervention is required to keep the vehicle in its lane.

Lane departure warning

New feature

With the previous assist system (Audi active lane assist), the driver could select "early" or "late" steering input. Because the functions have been redistributed, these settings are no longer present.

The steering input setting "late" from the Audi active lane assist is now the lane departure warning.

R242 Driver Assistance Systems Front Camera

673_086

Description of function

The lane departure warning helps drivers stay in their lane. This is possible because Driver Assistance Systems Front Camera R242 can detect lane markings. If the vehicle nears a detected lane marking and is at risk of leaving its lane, the system warns the driver with a correcting steering input and may also vibrate the steering wheel. This happens if a lane change is made without using the turn signals.

The system operates at speeds above approximately 40 mph (65 km/h). If the turn signal is on when a lane marking is crossed, the system does not intervene as it assumes that the lane change is intended.

If the side assist system is active in addition to the lane departure warning, increased steering torque is used to warn the driver and avoid an impending collision. This warning is given if the turn signal is on and the system has detected a danger from the rear or in the blind spot.

Note

At speeds of approximately 6.2 mph (10 km/h) and below, the hands off detection may work slowly or not at all.

The lane departure warning is activated/deactivated via the button on the end of the turn signal lever.

However, both the lane departure warning and the lane assist are activated/deactivated when the button is pressed. The system is always active if the ignition is switched off and then on again. This means that the lane departure warning can only be deactivated for one driving cycle.

The steering wheel vibration can be switched on and off. This setting remains in place after the ignition is switched off and on again.

Button for activating lane departure *673_085*

Meaning of displays

The lane departure warning is on, but not ready to give warnings.

673_087

The lane departure warning is on and currently only able to give warnings on the right.

673_088

The vehicle is at risk of leaving its lane on the left.
A steering intervention is currently being made along with, possibly, a steering wheel vibration.

673_089

The lane departure warning is ready to give warnings if at least one lane marking is detected. In this case, the system will only intervene on that side.

The system is **passive** if:

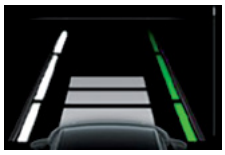
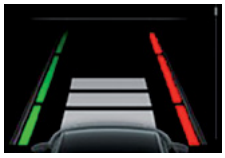
- The turn signal is on.
- The activation speed of approximately 40 mph (65 km/h) has not been reached.
- The driver's steering activity is too high.
- The lane departure warning previously made two hands-off inputs.
- No lane has been detected.

If the system does **not** detect lanes, it may be for the following reasons:

- The lane is either too narrow or too wide.
- The lane is dirty.
- Snow or moisture are preventing detection.
- Road work is preventing detection.
- The camera is restricted due to glare or oncoming lights.

Note
If an indicator lamp (white or yellow vehicle with lane markings) is shown as a driver message when the driver attempts to activate the lane departure warning, the system is **not** available. The reason is also shown in text form.

System status, description, displays and symbols for the lane departure warning

System status	Description	Displays	Symbols
OFF			No display
ON	Both lane markings not detected or system is currently passive.		
ON	Both lane markings detected.		
ON	Right lane marking detected, warnings can therefore only be given for right, no intervention.		
ON	Both lane markings detected. Steering intervention on right side as vehicle is at risk of leaving lane on right.		
ON	Only right lane marking detected. Steering intervention on right side as vehicle is at risk of leaving lane on right.		

Warnings

If a lane departure warning intervention lasts longer than 10 seconds, the driver's attention is drawn by a tone and the message "please drive in the middle of the lane". This may occur when driving through a long corner.

Display concept for lane departure warning

	Driver assist display	Function symbol display
Lane departure warning	**Lines** off/white/green/red	**Lines** off/white/green/red

673_096

Audi side assist

Audi side assist monitors traffic approaching from behind the vehicle and the blind spot. If the driver intends to change lane, the system warns if a collision risk is detected. The warning is given by a bright flashing light in the exterior mirror housing. The rear radar sensors are known as mid-range sensors. Mid-range sensors have a range of approximately 76.5 yd (70 m).

Long-range sensors have a range of approximately 219 yd (200 m). Short-range sensors have a range of a few yards.

The following control modules are responsible for the lane change warning in the Audi Q3:

- Lane Change Assistance Control Module J769
- Lane Change Assistance Control Module 2 J770

Active warning Audi side assist in left exterior mirror

673_090

Limitation

The rear radar sensors do not provide an exit warning feature in the Audi Q3. The exit warning system function from the MLB platform has not been implemented for MQB vehicles. Vehicles on this platform have rear radar sensors, but not the exit warning system. Rear radar sensors on MLB platform vehicles are supplied with power directly from Terminal 30 (battery). This is not the case on the MQB platform; the control modules are participants of Terminal 15. The control modules are not energized when the ignition is switched off. As a result, it is not possible to implement the exit warning system.

MQB platform:

The Audi A3 and Q3 are vehicles of the modular transverse matrix. On these vehicles, the engine is installed transversely (at right angles to the direction of travel).

Adaptive cruise control

Description of function

The adaptive cruise control regulates both the vehicle's speed and its distance to the vehicle in front. The system brakes or accelerates depending on how the vehicle detected ahead is being driven.

If no vehicle is detected, the function works like a conventional cruise control system, meaning that the set speed is kept constant insofar as the laws of physics and regulation accuracy allow.

The vehicle can be brought to a halt and also set in motion again. However, the brake must be held to ensure that the system remains active, otherwise it is switched off after approximately 3 seconds.

Operation

The system is operated via the ACC operating lever, as on the previous systems (cruise control system and adaptive cruise control).

Radar sensor

New feature for the 2019 Audi Q3:

› The time gaps used for setting the distance warning have been changed/increased.

Lane Change Assistance Control Module J428 and Right Adaptive Cruise Control Sensor G259

Note
For safety reasons, the adaptive cruise control is only active if the driver's seat belt is fastened and all the doors and the hood are closed. If the vehicle comes to a standstill for a few seconds, the adaptive cruise control is also not active.

Infotainment and Audi connect

Introduction and overview of versions

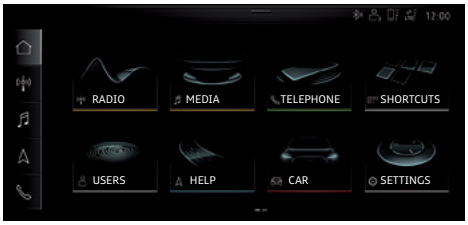
The Audi Q3 features the MIB2+ version of the modular infotainment matrix infotainment system. Customers can choose between two MMI versions:

› MMI radio plus
› MMI navigation plus

The MMI radio plus and MMI navigation plus are both MIB2+ High devices.

The two systems can be distinguished in the following ways:

› The MMI radio plus is equipped with an 8.8” display as standard.
› The MMI navigation plus system has a 10.1 inch display and features 3D navigation.

MMI radio plus (I8V + 7Q0)	**MMI navigation plus (I8T + 7UG)**
	
8.8” touch display with 1280 x 720 pixels	10.1” touch display with 1540 x 720 pixels
Digital instrument cluster (9S0)	Audi virtual cockpit (9S1)[1]
	3D navigation system on SSD (7UG)
AM/FM radio	AM/FM radio
1x USB-A charging socket (UE4)	1x USB-A charging socket (UE4)
1x SDXC card reader	1x SDXC card reader
Bluetooth interface (9ZX)	Bluetooth interface (9ZX)
	UMTS/LTE data module (EL3)[2] including Audi connect
Audi sound system (9VD)	Audi sound system (9VD)
SDARS (SiriusXM)	SDARS (SiriusXM)
Audi smartphone interface with 1x USB-C and 1x USB-A (UI2)	Audi smartphone interface with 1x USB-C and 1x USB-A (UI2)
Audi phone box including wireless charging (9ZE)	Audi phone box including wireless charging (9ZE)
	Audi virtual cockpit plus (9S9)
Bang & Olufsen Premium Sound System with 3D sound (9VS) (Available on Premium Plus, Standard on Prestige)	Bang & Olufsen Premium Sound System with 3D sound (9VS) (Available on Premium Plus, Standard on Prestige)
	Audi connect plus services

MIB2+ versions

The Audi Q3 is equipped with generation 2+ of the modular infotainment matrix.

MIB2+ Standard

On MIB2+ Standard, Information Electronics Control Module 1 J794 is easy to recognize because its SD card reader is on the left.

The control module is used for the MMI radio and the MMI radio plus and has the following features:

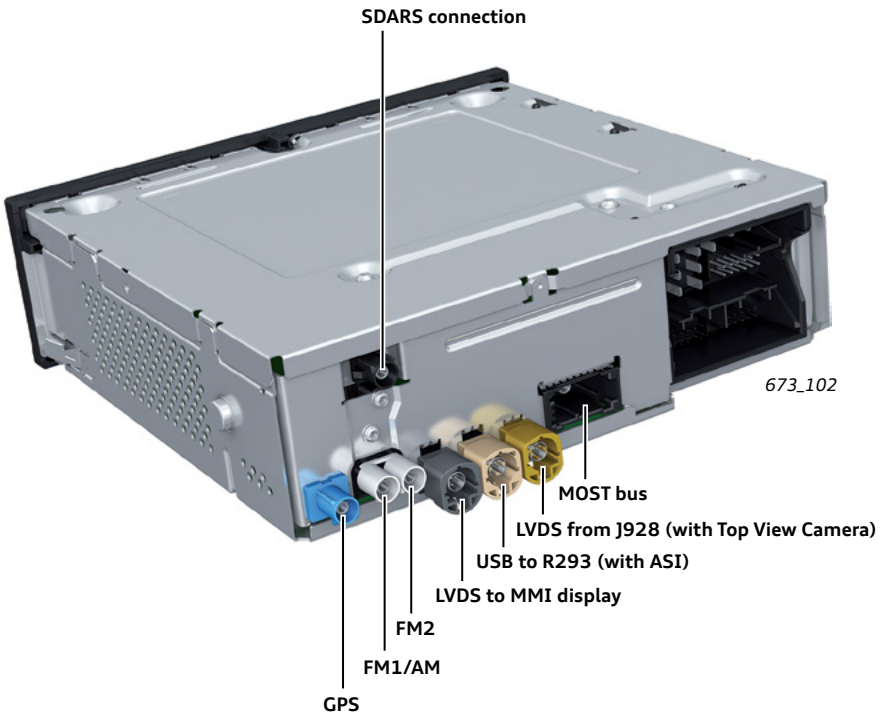
- Radio with phase diversity, FM dual tuner (very high frequency) and AM tuner (medium wave)
- Audi smartphone interface with 1x USB-A and 1x USB-C socket (UI2)
- Bluetooth interface for HFP and A2DP
- Basic speech dialogue system
- Image output with 1280 x 720 pixels for MMI touch display (only connected on MMI radio plus)
- 1 USB charging socket (type A)
- 1 SDXC card reader
- SDARS (SiriusXM)
- GPS receiver[1]

The customer can order the following additional equipment for the MMI radio plus:

- Audi virtual cockpit 10.25” (9S1)
- Audi phone box (9ZE)
- Bang & Olufsen Premium Sound System with 3D sound and 680 W (9VS)

Main menu on MMI radio plus *673_100*

Front of J794 on MIB2+ Standard *673_101*



673_102

[1]The GPS antenna is only installed if the vehicle is equipped with the garage door opener (FC2).

MIB2+ High

On MIB2+ High, Information Electronics Control Module 1 J794 can be recognized by its SD card reader on the right.

This control module is used for the MMI navigation plus; it has the following features as standard:

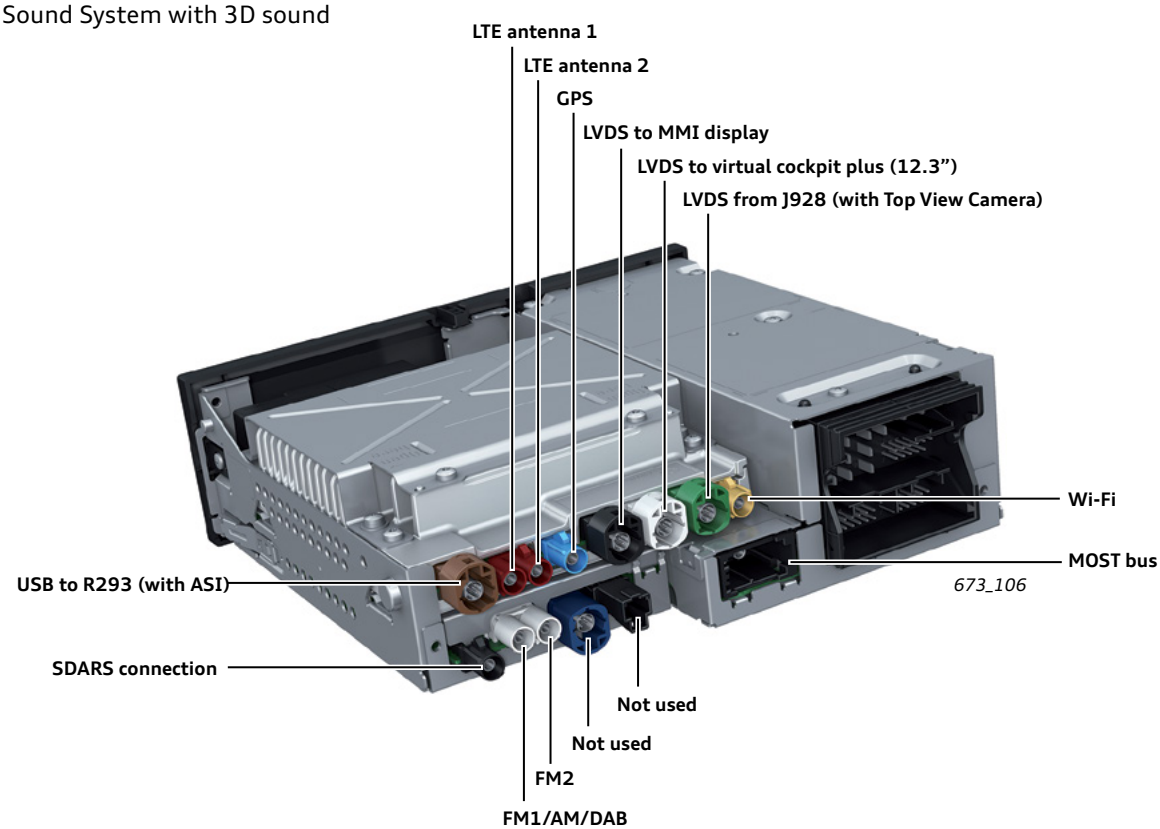
- Radio with phase diversity, FM dual tuner (very high frequency) and AM tuner (medium wave) and background tuner
- 3D navigation with data on SSD with improved 3D city center models (7UG)
- Navigation with online routing
- LTE-enabled mobile network module (EL3), possible data transfer rates of up to 300 Mbit/s for:
  - Six month/6GB license period including Wi-Fi hotspot with a possible data transfer rate of up to 150 Mbit/s
- Bluetooth interface for HFP, A2DP and MAP
- Speech dialogue system
- Image output with 1520x720 pixels for MMI touch display
- 1 USB charging socket (type A)
- 1 SDXC card slot
- Audi virtual cockpit 10.25” (9S1), compulsory item
- Audi smartphone interface with 1x USB-A and 1x USB-C socket (UI2)
- Audi sound system with 180 W (9VD)
- SDARS (SiriusXM)

MMI display J685 with MMI navigation plus *673_103*

Front of J794 for MIB2+ High *673_104*

The customer can order the following additional equipment:

- Audi connect plus services with Six months/6GB license period (depending on country)
- Audi virtual cockpit plus 12.25” (9S9)
- Audi phone box (9ZE)
- Bang & Olufsen Premium Sound System with 3D sound and 680 W (9VS)



673_106

MMI display

Depending on vehicle equipment, two displays are used on the 2019 Audi Q3.

The displays differ in terms of the following features:

- 8.8” display: 1280 x 720 pixels
- 10.1” display: 1540 x 720 pixels

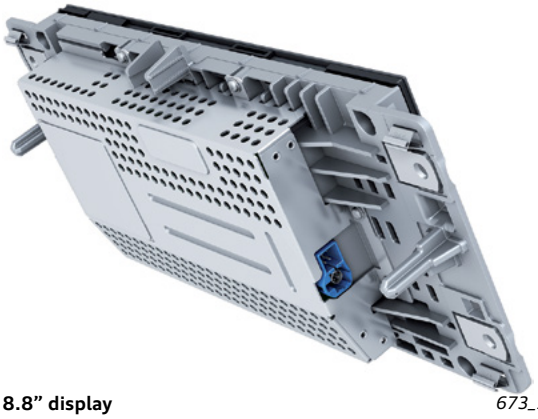
The versions can be distinguished by the color of their connector:

- 8.8” display has a blue connector
- 10.1” display has a black connector

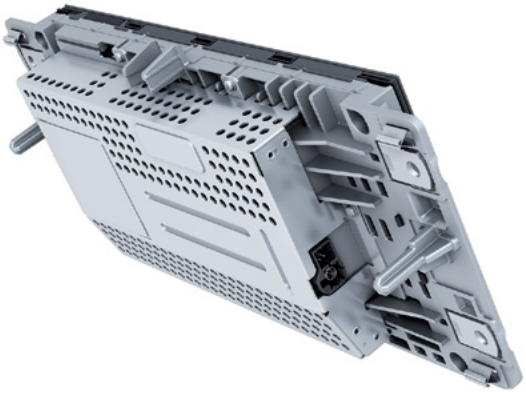
For service work, both displays are known as Front Information Display Control Head J685. They are diagnosed via Information Electronics Control Module 1 J794.

Images are transferred between J685 and J794 via an LVDS connection.

The screenshot function and engineering menu are operated by touching the display in the same way as on the 2019 Audi A8.



8.8” display *673_107*



10.1” display *673_108*

Button combinations for service

In the past, button combinations of the MMI operating units were used for certain functions, such as recording the current display on the MMI (screenshot). Other activation options have been introduced for the new touch display (MMI touch response). Procedures for service are given below.

System reset

To restart (reset) the MMI, press and hold the Driver Volume Control E67 for at least 10 seconds.

Driver Volume Control E67 *673_133*

Engineering menu

To access the engineering menu, touch the MMI display J685 at the top right with two fingers for at least three seconds.

Touch location for engineering menu *666_045*

Screenshot

To make screenshots of both touch displays, touch the MMI display J685 with two fingers at the bottom in the center for at least three seconds.

Five images are stored in J794 at the same time. Two images are stored for each touch display; one screenshot of the screen display and one of the control areas. The fifth screenshot shows the image sent from J794 to the Audi virtual cockpit.

The display view flashes briefly to confirm that the screenshot has been saved.

The saved screenshots can be downloaded from J794 and copied to an SD card using the VAS Scan Tool through Guided Functions. This can be done via the selection “005F - Information electronics 1, functions”, “005F - Basic setting” and, in the program sequence, via the option “Write analysis data on SD card”.

Touch location for screenshot *666_046*

USB connection

The 2019 Q3 has four standard USB ports – two in front, and two in rear. In front, one USB-C port supports fast charging and data connection, and one USB-A port supports charging and data connection. In rear, two USB-A ports support charging for passengers.

673_109

USB hub on UI2

Audi phone box

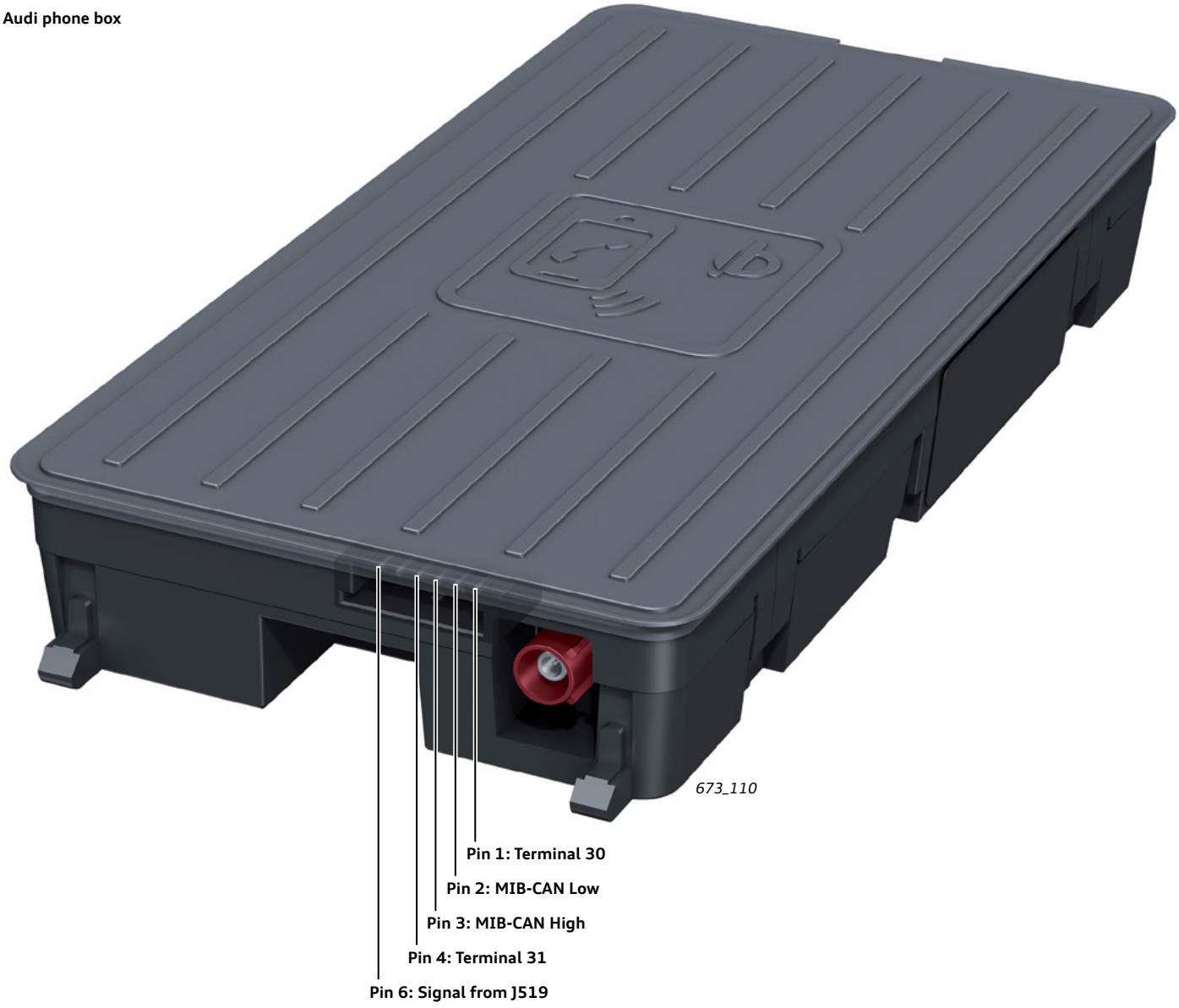
The Audi phone box (Mobile Device Charger 1 J1146) is fundamentally the same as the device for the 2019 Audi A8.

One version (9ZE) in available for the North American Region. It features an external antenna connection. Charging status information is displayed in the MMI. The compensor belonging to the charging unit is designated as Cellular Telephone Amplifier R86.

Unlike the 2019 Audi A8, there is an additional wire in the Audi phone box connector. This wire, which is connected to pin 6, connects J1146 to Vehicle Electrical System Control Module J519.

The reason for this is that wireless charging needs to be briefly interrupted when the keyless start authorization system is searching for the key so the charging frequency does not negatively affect the key search. For this reason, J519 sends voltage signals to J1146.

Audi phone box



Reference

For further information on the Audi phone box, please refer to eSelf-Study Program 990293, The 2019 Audi A8 Infotainment and Audi Connect Systems.

Audi sound system

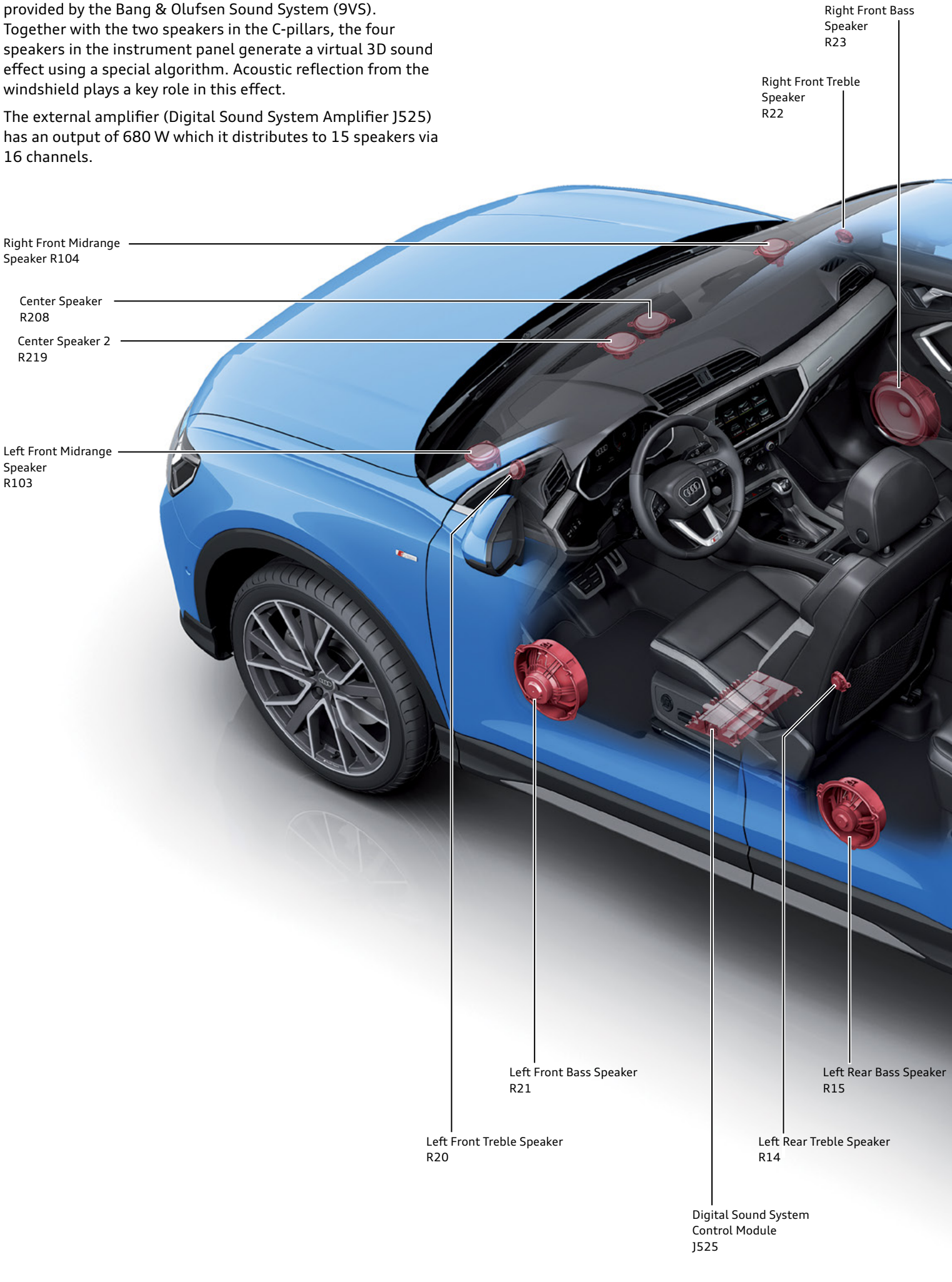
The standard Audi sound system (9VD) generates 180 W via ten speakers. The system also features a center speaker in the instrument panel, a treble speaker in each rear door and a subwoofer in the spare tire well.


Right Rear Treble Speaker R16
Right Rear Bass Speaker R17
Subwoofer R211
Audi Q3
673_112

Bang & Olufsen Premium Sound System with 3D sound

The best sound quality experience for Audi Q3 customers is provided by the Bang & Olufsen Sound System (9VS). Together with the two speakers in the C-pillars, the four speakers in the instrument panel generate a virtual 3D sound effect using a special algorithm. Acoustic reflection from the windshield plays a key role in this effect.

The external amplifier (Digital Sound System Amplifier J525) has an output of 680 W which it distributes to 15 speakers via 16 channels.

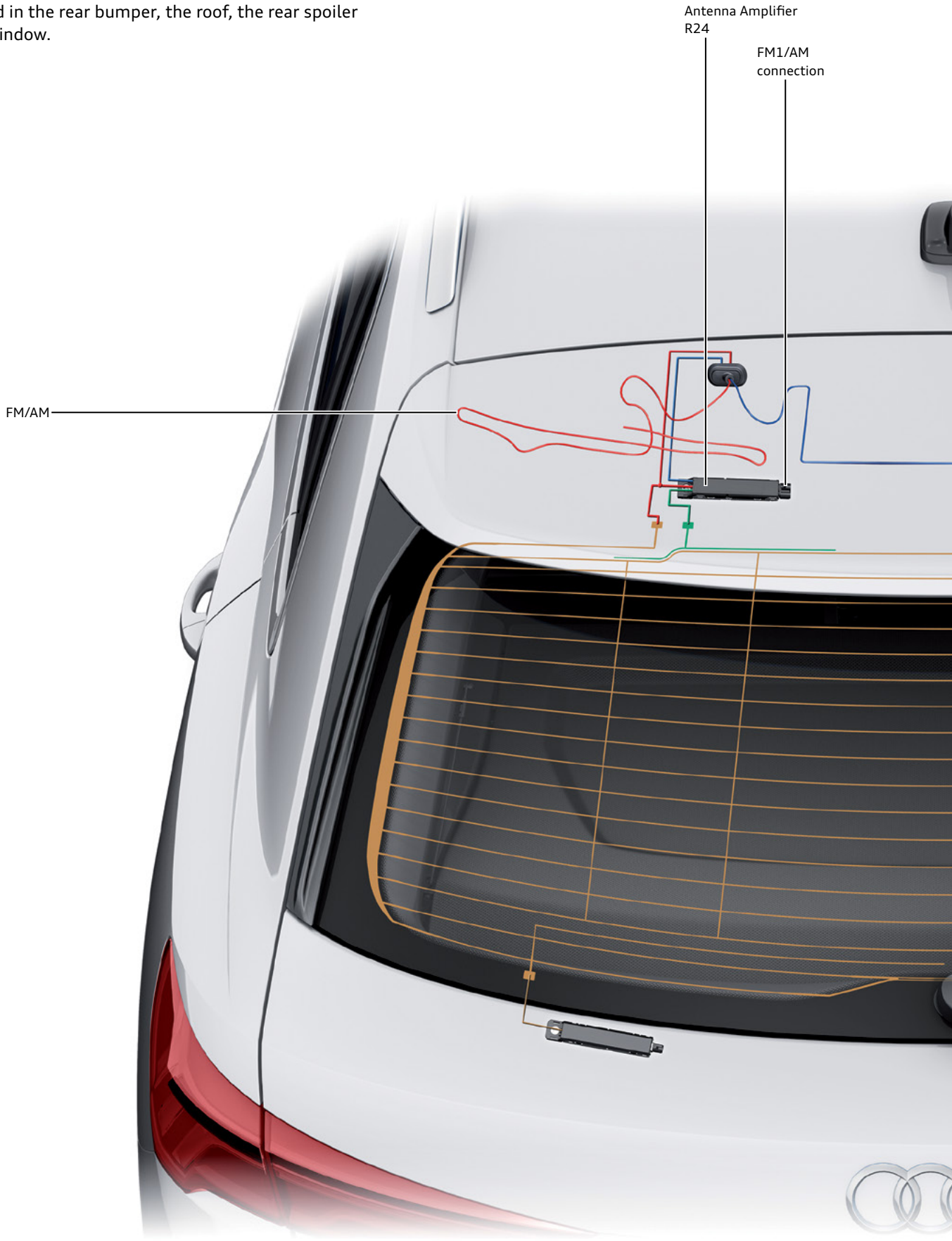


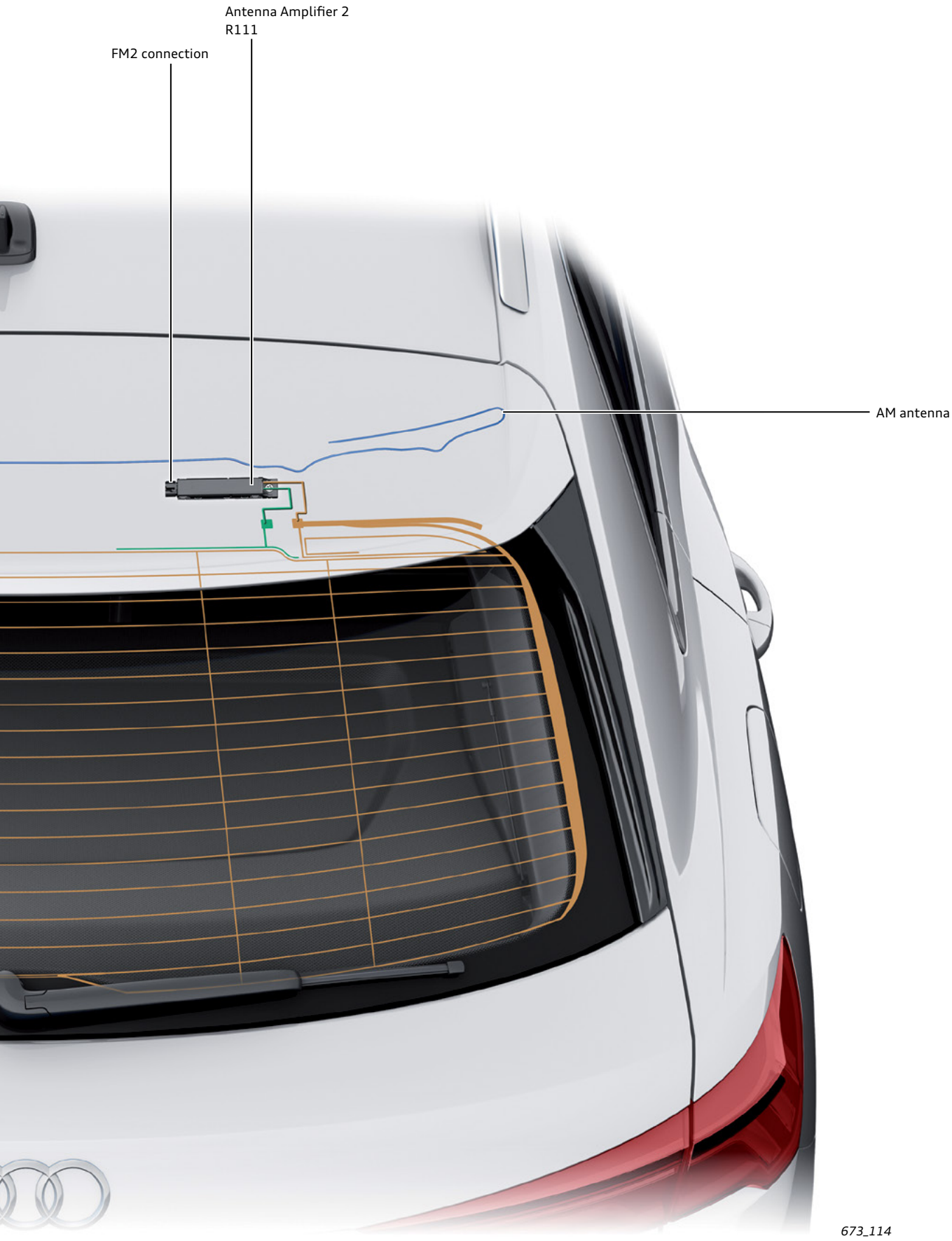

Right Rear Treble Speaker
R16
Right Effects Speaker
R210
Right Rear Bass Speaker
R17
Left Effects Speaker
R209
Subwoofer
R211
Audi Q3
Q3

673_113

Antennas

In the Audi Q3, the mobile telephone, GPS and radio antennas are located in the rear bumper, the roof, the rear spoiler and the rear window.





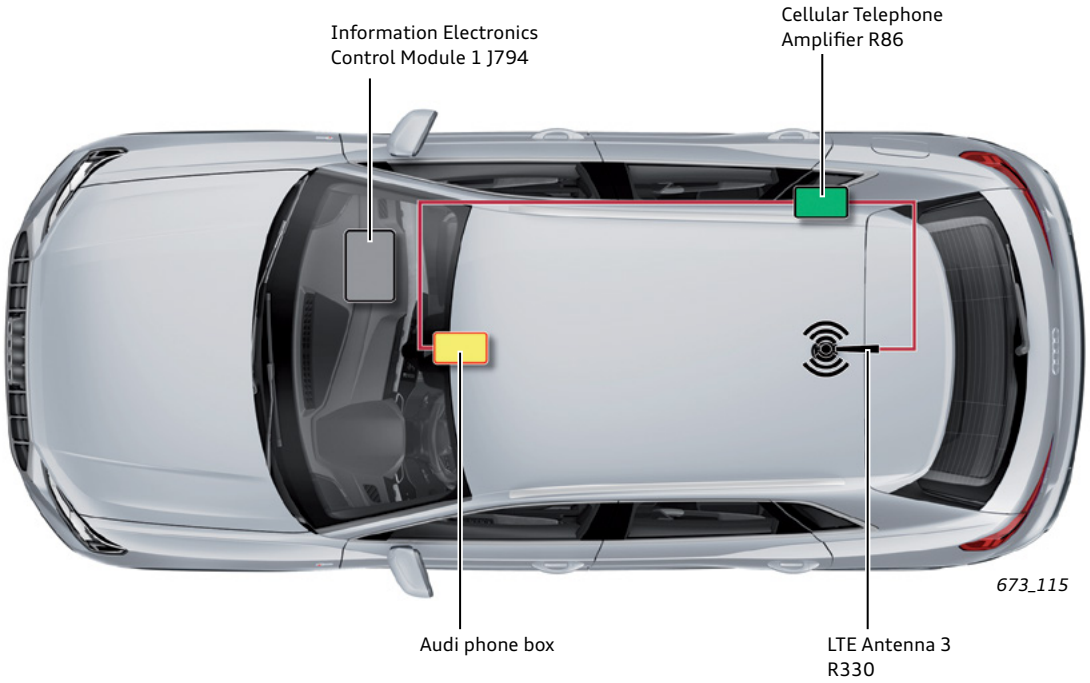
Reference

The roof antenna is identical to the one on the 2019 Audi A8. For details, please refer to eSelf-Study Program 990293, The 2019 Audi A8 Infotainment and Audi Connect Systems.

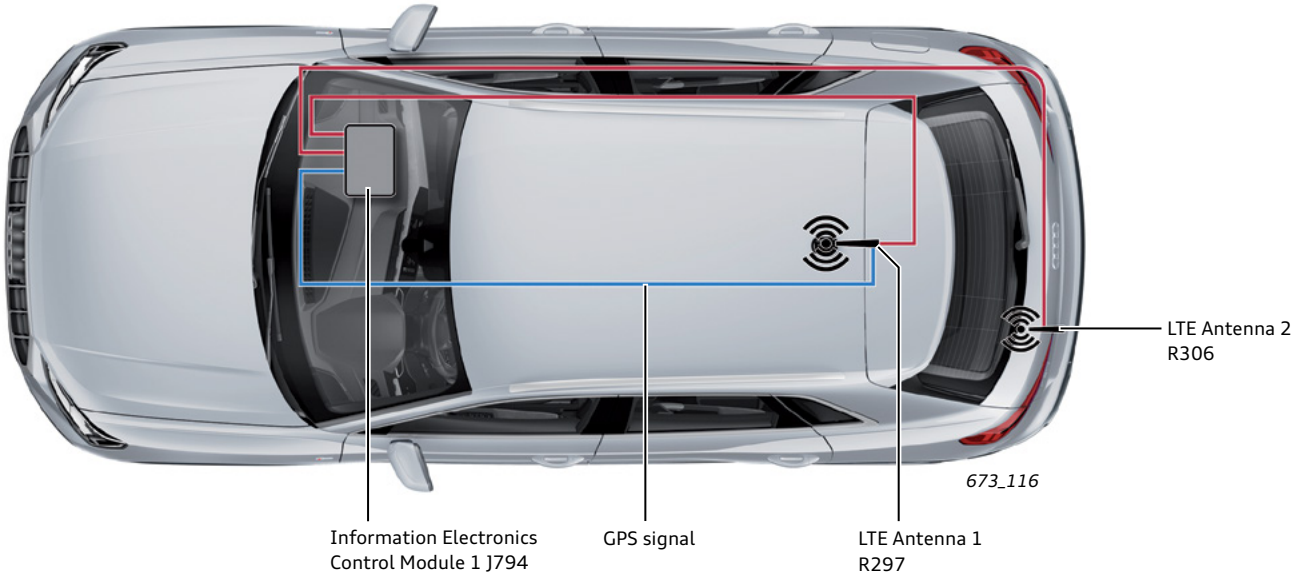
Mobile phone antennas

The mobile phone antennas for the Audi Q3 are installed in different locations depending on vehicle equipment.

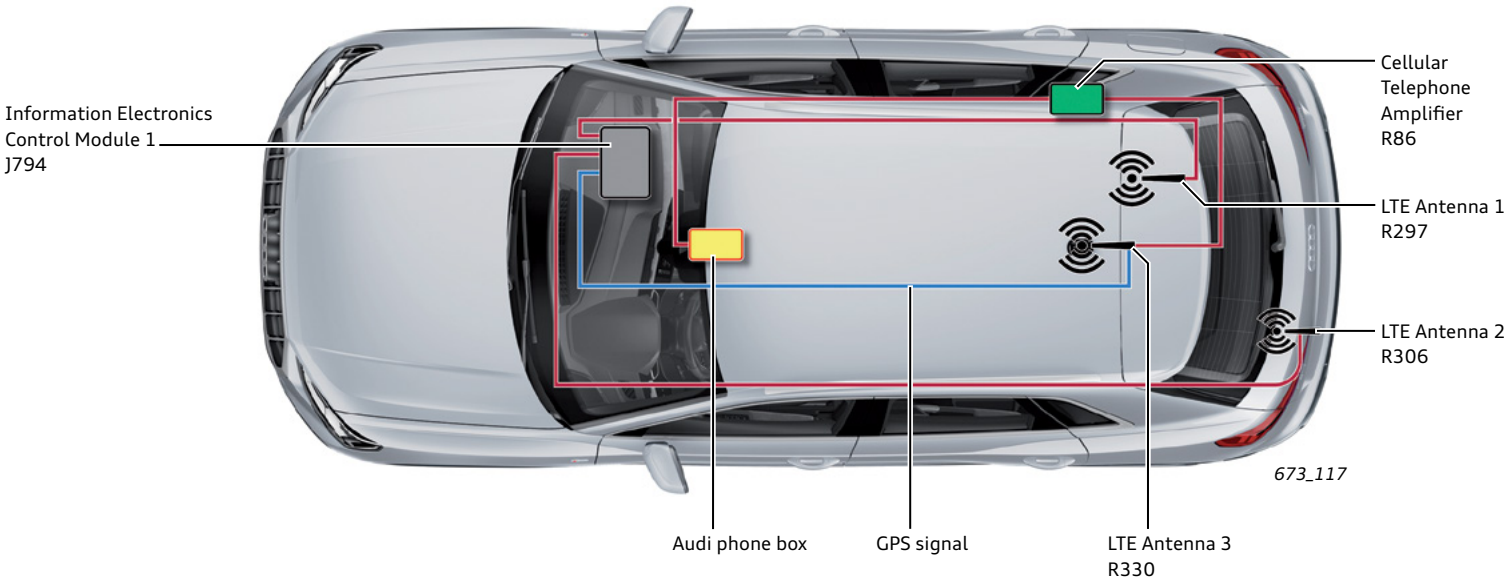
Mobile phone antenna for vehicles with Audi phone box (9ZE)



Mobile phone antennas for vehicles with Audi connect infotainment services (EL3)



Mobile phone antennas for vehicles with Audi connect infotainment services and Audi phone box



Audi connect

Introduction

The Audi Q3 with MMI navigation plus is equipped with Audi connect as standard.

In the Audi Q3, a distinction is made within the Audi connect services between infotainment and vehicle-related services. The infotainment services are designed primarily for the customer's comfort and entertainment needs.

The infotainment services are operated via Information Electronics Control Module 1 J794.

J794 is equipped with its own embedded SIM card so that all Audi connect services and the Internet in general can be used without the use of external SIM cards.

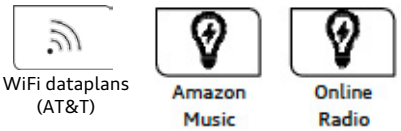
Audi offers its customers a complementary six-month Prime Plus unlimited subscription. Dealership personnel must complete the Audi connect key user registration process at delivery in order to initiate this free trial. For more information, refer to the following website: https://www.audiusa.com/technology/intelligence/audi-connect

PRIME
(free 6 month trial, then all-inclusive paid subscription)

Navigation and Infotainment

PLUS
(free 6 month trial)

WiFi



Seamless Mobility

Using the Audi connect services

There is a significant change in the use of the Audi connect services in MIB2+: there is no longer an Audi connect menu and the majority of services are accessed via the corresponding function.

For example, fuel prices are now shown directly in the navigation function.

Fuel price display *666_089*

A small number of services which cannot be easily assigned to a specific function are shown separately in the main menu. Examples of these are the “News” and “Weather” services.

If desired, the customer can set shortcuts for these separately provided services on the left side of the MMI display.

MMI menu with Audi connect services *666_099*

Inspection and maintenance

MY 2019 Audi Q3 Maintenance Intervals - USA

Service intervals in miles												
	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	110K	120K
Minor Maintenance (Every 1 year)[1]	X		X		X		X		X		X	
Standard Maintenance (Every 2 years)[2]		X		X		X		X		X		X
Additional Maintenance Items	Refer to the Additional Maintenance Items Table below											

1) First minor maintenance service at 10,000 miles or 1 year after delivery, whichever occurs first. Minor maintenance services thereafter occur at intervals of 20,000 miles or every 2 years after the last minor maintenance service, whichever occurs first.

2) First standard maintenance service at 20,000 miles or 2 years after delivery, whichever occurs first. Standard maintenance services thereafter occur at intervals of 20,000 miles or every 2 years after the last standard maintenance service, whichever occurs first.

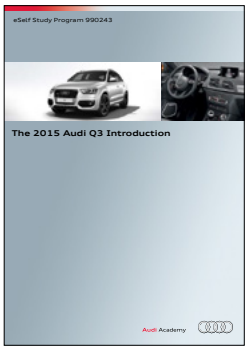
Note

The intervals shown in this table are based on vehicles operating under normal conditions. In case of severe conditions, such as extremely low temperatures, excessive dust, etc., it is necessary for certain operations to be carried out in between the given intervals. This applies particularly to engine oil changes and the cleaning or replacing of the air cleaner filter element. Always check Audi ServiceNet for the latest information regarding service and maintenance.

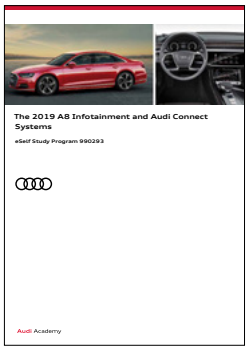
Appendix

eSelf-Study programs

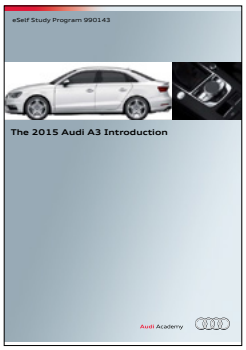
For more information about the technology of the Audi Q3, please refer to the following eSelf-Study programs.



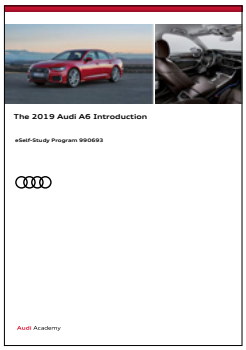
SSP 990243
The 2015 Audi Q3 Introduction



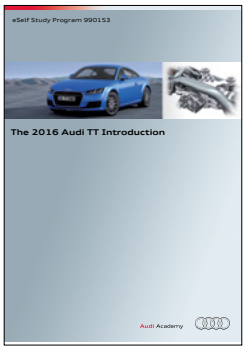
SSP 990293
The 2019 Audi A8 Infotainment and Audi Connect Systems



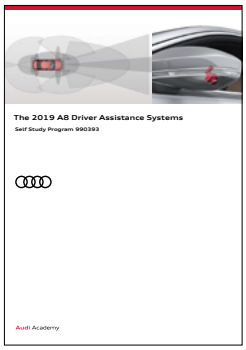
SSP 990143
The 2015 Audi A3 Introduction



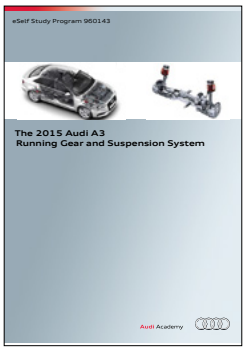
SSP 990693
The 2019 Audi A6 Introduction



SSP 990153
The 2016 Audi TT Introduction



SSP 990393
The 2019 Audi A8 Driver Assistance Systems



SSP 960143
The 2015 Audi A3 Running Gear and Suspension System.

Knowledge assessment

An On-Line Knowledge Assessment (exam) is Available for this eSelf-Study Program.

The Knowledge Assessment is required for Certification credit.

You can find this Knowledge Assessment at: **www.accessaudi.com**

From the accessaudi.com Homepage:

› Click on the "App Links"

› Click on the "Academy site CRC"

Click on the Course Catalog Search and select 990893 - The 2019 Audi Q3 (Type 3) Introduction"

Please submit any questions or inquiries via the Academy CRC Online Support Form which is located under the "Support" tab or the "Contact Us" tab of the Academy CRC.

Thank you for reading this eSelf-Study Program and taking the assessment.

990893

Audi of America, LLC
2200 Ferdinand Porsche Drive
Herndon, VA 20171