



The 2015 Audi Q3 Introduction

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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.

This eSelf Study Program provides a basic knowledge of the design and functions of new models, new automotive components or technologies.

It is not a Repair Manual! All values given are intended as a guideline only.

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



Note



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Introduction

As the most recent and compact addition to the Audi SUV series, the Audi Q3 caters to the demands of a modern, urban world while offering all the authentic plus-points of an SUV (Sports Utility Vehicle). It complements the successful Audi SUV family started with the launch of the Audi Q7.

The Audi Q3 stands out by virtue of its sporty, muscular appearance and its modern, coupe-like styling, and yet it is an authentic SUV through and through. This concept makes the Audi Q3 appealing to more than one target group because it meets a wide variety of customer requirements.

The Audi Q3 is not what you would consider a "smaller sibling of the Q5 and Q7", but a vehicle with a very distinctive identity. It has the rugged character of a fully-fledged A-segment SUV coupled with a coupe-like styling unmatched in this segment — and yet it has all the hallmarks of an Audi. The Audi Q3 is compact, flexible and functional and therefore is also a good option for people who do a lot of city driving.

The growing number of Audi model series has also led to a growing number of production sites. While the Audi Q3 is an all-new addition to the model range, the production facility in Martorell, Spain and is also a new addition to the Audi production network.

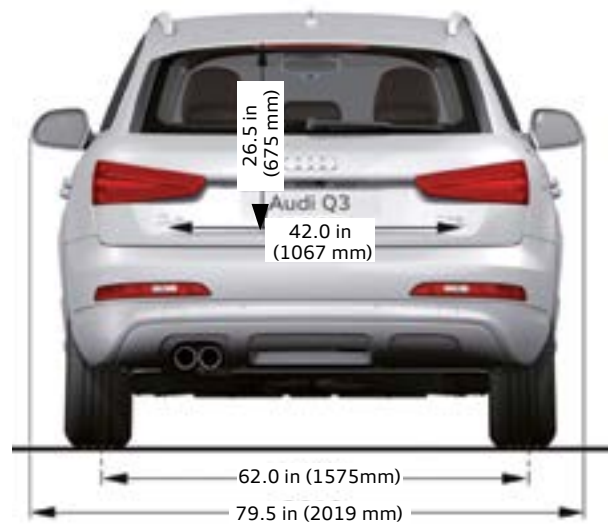


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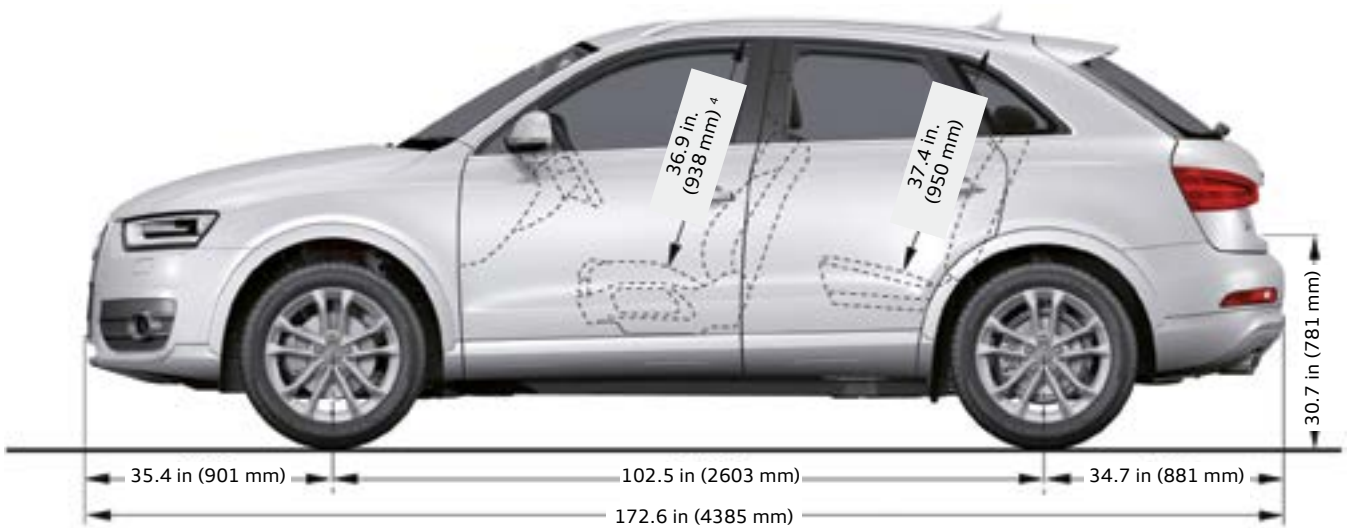
Dimensions



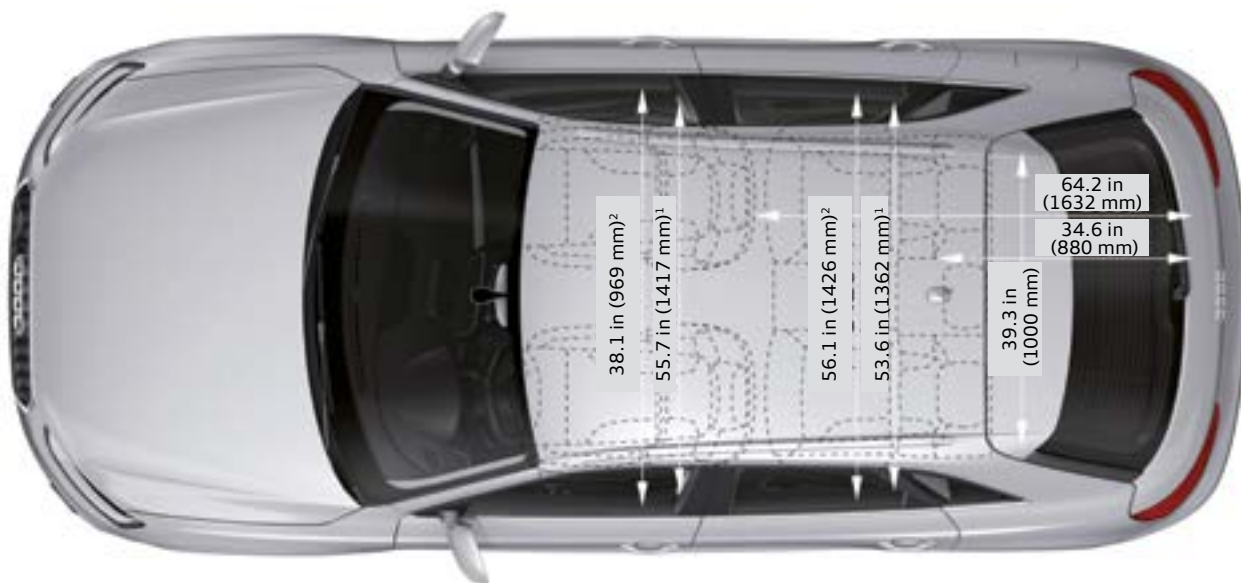
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| | | | |
|---|--|----------------------------------|--------------------------------------|
| Length | 172.6 in (4385 mm) | Cabin width, front | 55.7 in (1417 mm) |
| Width | 72.1 in (1831 mm) | Cabin width, rear | 53.6 in (1362 mm) |
| Height | 62.6 in (1590 mm) | Headroom, front | 36.9 in (937 mm) |
| Track width, front | 61.9 in (1572 mm) | Headroom, rear | 37.4 in (950 mm) |
| Track width, rear | 62.0 in (1575 mm) | Through-loading width | 42.0 in (1067 mm) |
| Wheelbase | 102.5 in (2603 mm) | Load sill height | 30.7 in (781 mm) |
| Trailer load with brake at a gradient of 8% | 2204 lb (1000 kg) | Trunk capacity | 16.2/48.2 cu ft (460/1365 liters) |
| Curb weight | FWD: 3494 lb (1585 kg) quattro: 3682 (1670kg) | Fuel tank capacity | 16.9 gal (64 liters) |
| Max. gross weight | 4651.7 lb (2110 kg) | Drag coefficient in c_w | 0.32 |

¹⁾ width, shoulder room

²⁾ width, elbow room

³⁾ without a roof antenna, vehicle height is reduced by 0.7 in (18 mm)

⁴⁾ maximum headroom

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

Body

Overview

The Audi Q3 body was developed with the focus on lightweight design coupled with a high standard of vehicle safety. The high quality of the materials in the Audi Q3 offers not only advantages in terms of weight reduction, but also provides the basis for meeting the highest standards of vehicle safety.



Doors and lids







The vehicle doors are made of lightweight steel with double sealing lines and sealed joined areas. Vehicle weight was kept to a minimum by using a hood and rear lid made from aluminum.

The body including the doors, hood and rear lid weighs approximately 932 lb (423 kg). The body cell without doors and lids accounts for approximately 668 lb (303 kg) of that total.



602_099

Key:

- | | | | |
|---|-----------------------------|---|--------------------------------------|
|  | Mild steels |  | Ultra-high-strength steels |
|  | High-strength steels |  | Ultra-high-strength hot-formed steel |
|  | Modern high-strength steels |  | Aluminum panels |

Body structure

The main joining method used during Q3 body construction is resistance spot welding. There are approximately 4000 spot welds in the body cell of the Q3.

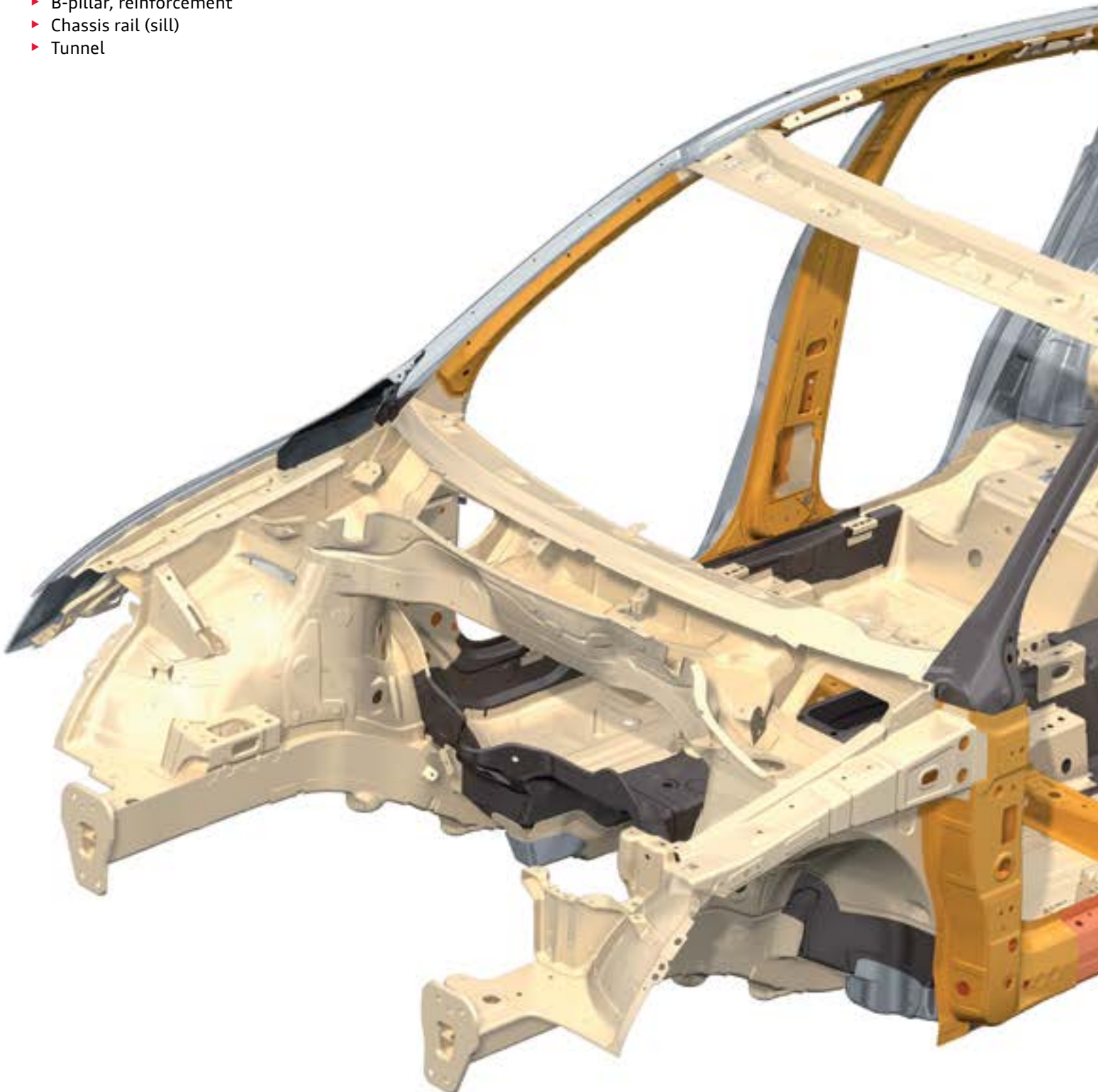
High strength bonding processes are also used in body areas with critical requirements for passive safety, comfort and vibration reduction.

New adhesives are used for sealing and corrosion protection in addition to bonding in the Q3. For example, a special expanding adhesive is used in the plenum chamber which eliminates the need for additional sealing compounds.

In total, approximately 243 ft (74 m) of adhesive is used in the body cell.

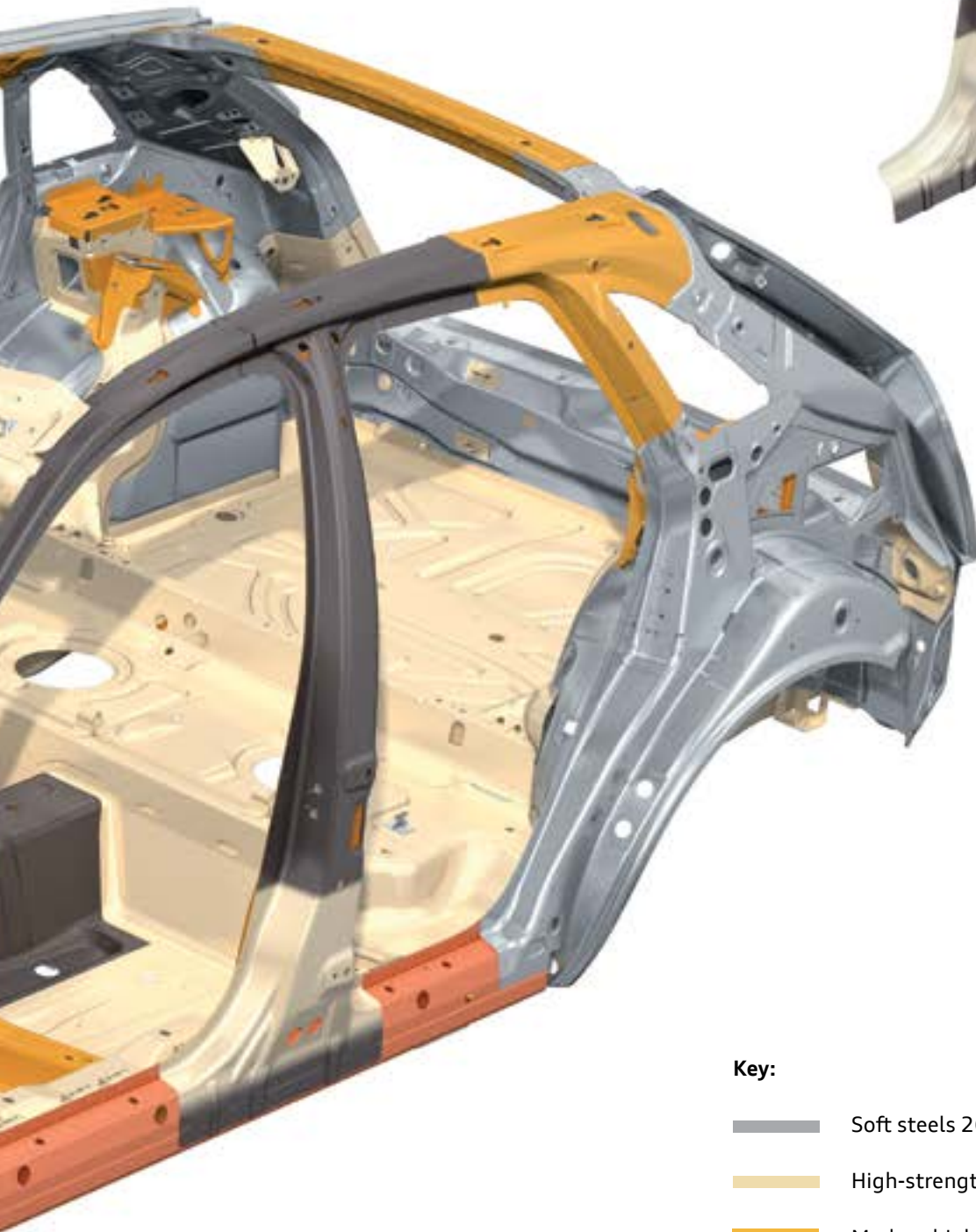
Ultra-high-strength hot-formed steel components

- ▶ Bulkhead (tunnel bridge)
- ▶ A-pillar, top
- ▶ B-pillar, reinforcement
- ▶ Chassis rail (sill)
- ▶ Tunnel



B-pillar, inner panel






The B-pillar of the Audi Q3 is partially tempered in the shaping process. This imparts ultra-high-strength properties to the steel in the top and bottom sections and only high-strength properties to the steel in the mid-section. This allows the forces exerted on the vehicle body during a side impact to be effectively absorbed.



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602_100

Key:

-  Soft steels 26%
-  High-strength steels 42%
-  Modern high-strength steels 15%
-  Ultra-high-strength steels 4%
-  Ultra-high-strength hot-formed steels 13%

Panorama glass sunroof

A panorama glass sunroof is standard for the Q3. It has an opening front glass element and a fixed rear glass element.

Operating components

The operating components of the roof system are housed in the interior light module above the rear view mirror. The roof is operated by a four-way, two stage switch. The roof moves in the same direction the switch is moved. The roof can be moved to any position using the first stage of the switch.

It is designed as an externally guided roof system. This means the front glass panel slides over the rear glass panel. This design provides increased headroom inside the passenger compartment.

With the second stage, the panel moves automatically into its end position. Pushing the switch raises the roof to the tilt position while pulling on the switch closes it.



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Bumper system

The front bumper and cover are designed to conform with all applicable safety requirements, provide protection to pedestrians, and be easy to repair. The supporting element is the chrome frame around the radiator grille. The frame is inserted into the mounting boxes of the plastic frame during bumper assembly.

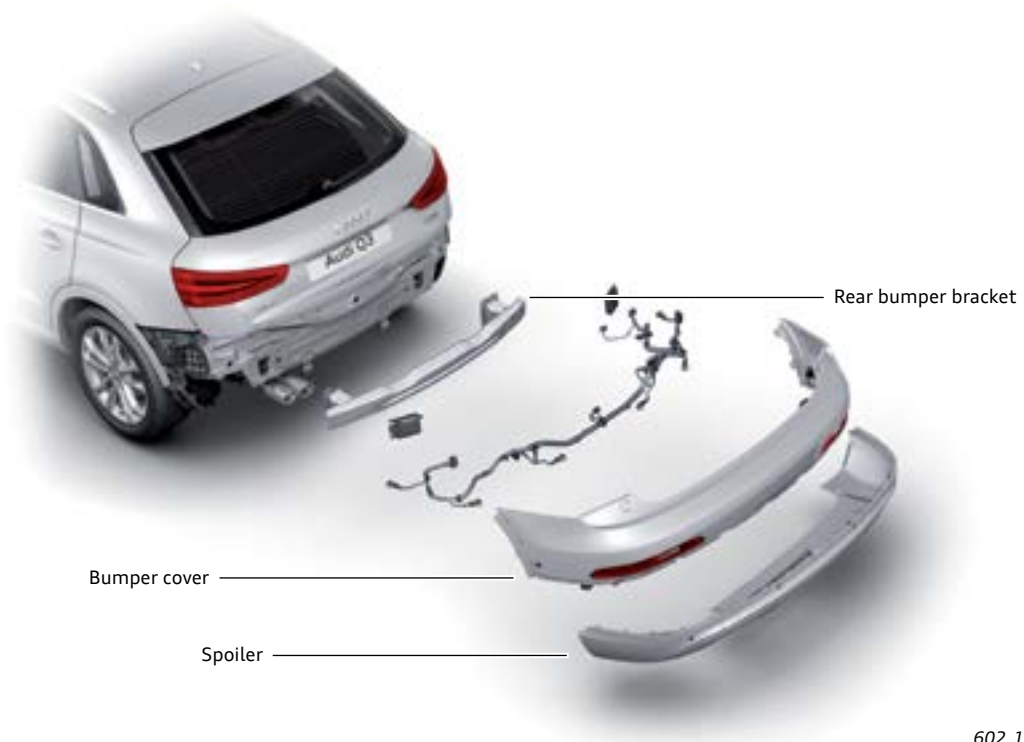
The three part bumper cover and the front spoiler are attached to the radiator grille. This multi-part design allows individual components to be replaced so minor damage can be repaired with a minimum of expense.

The rear bumper bracket (rebar) is made from aluminum. The cover has two components. There is a bumper cover and an additional lower spoiler and integrated diffuser for the exhaust tail pipes. The pre-assembled parts are attached to the body by guide pieces so it mounts flush to the body at the sides.

The wrap-around tailgate necessitated relocating some of the tail lights to the bumper cover. These lights are integrated in the cover together with the sensors for the optional Audi side assist and the antennas for the keyless entry system. The parking aid sensors are attached to the spoiler portion of the assembly.



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602_105

Occupant protection

The Q3 has the following occupant protection equipment

- ▶ Airbag Control Module
- ▶ Driver and passenger front airbags
- ▶ Front side airbags (head/thorax airbag)
- ▶ Front airbag crash sensors
- ▶ Sideguard curtain airbags
- ▶ Side impact sensors in the front doors
- ▶ Rear side impact sensors
- ▶ Front inertia reel safety pyrotechnic tensioners
- ▶ Safety belt warning for all seats
- ▶ Front passenger seat occupancy detection sensor

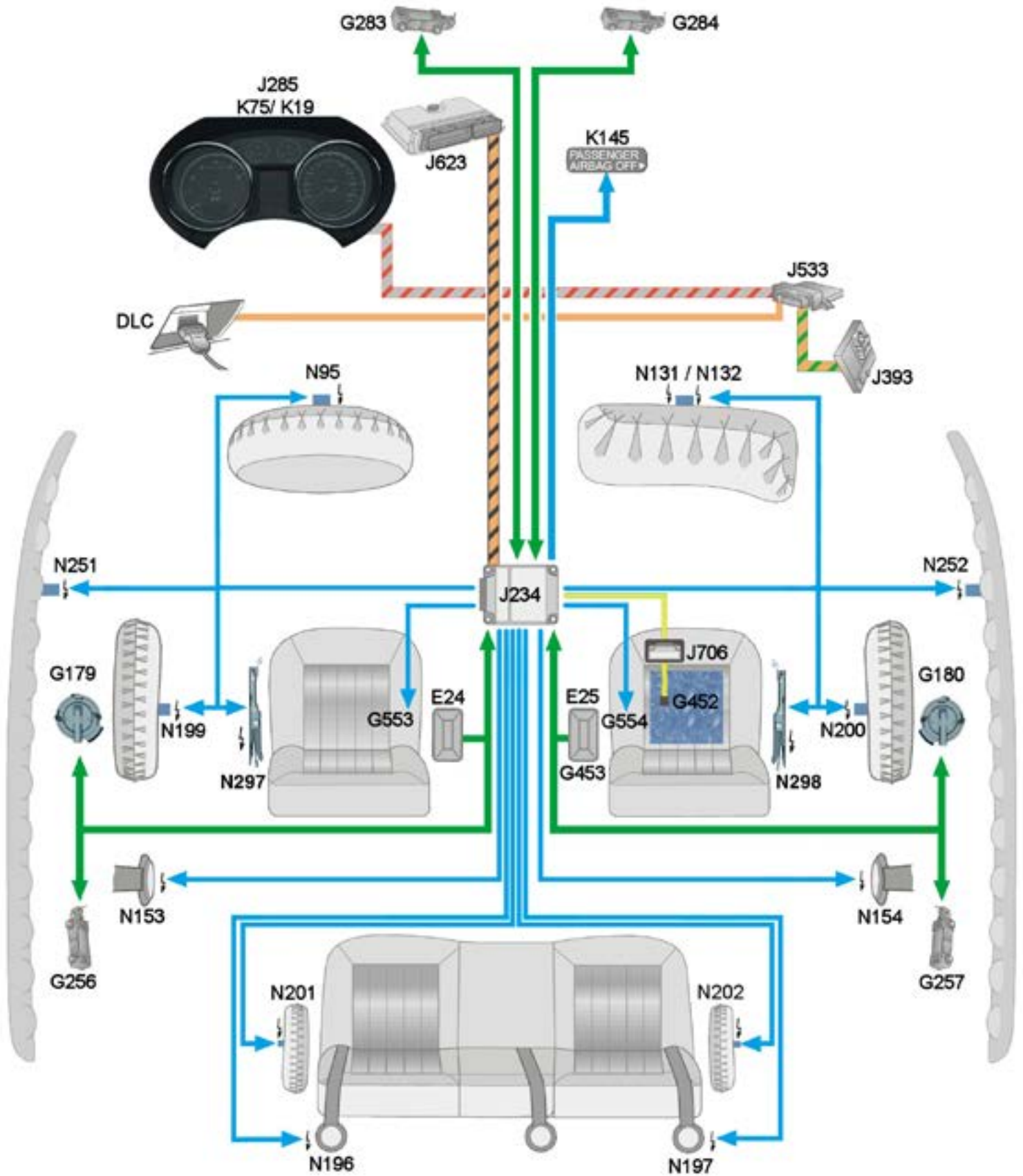


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Key to illustration on following page:

| | | | |
|------|--|------|---|
| E24 | Driver Seat Belt Switch | K19 | Seat Belt Indicator Lamp |
| E25 | Front Passenger Seat Belt Switch | K75 | Seat Belt Indicator Lamp |
| E258 | Driver Side Rear Seat Belt Switch | K145 | Front Passenger Airbag Disabled Indicator Lamp |
| E259 | Passenger Side Rear Seat Belt Switch | | |
| G452 | Front Passenger Seat Occupant Sensor | N95 | Driver Airbag Igniter |
| G179 | Driver Side Airbag Crash Sensor | N131 | Front Passenger Airbag Igniter 1 |
| G180 | Front Passenger Side Airbag Crash Sensor | N132 | Front Passenger Airbag Igniter 2 |
| G256 | Driver Side Rear Side Airbag Crash Sensor | N153 | Driver Seat Belt Tensioner Igniter 1 |
| G257 | Passenger Side Rear Side Airbag Crash Sensor | N154 | Front Passenger Seat Belt Tensioner Igniter 1 |
| G283 | Driver Front Airbag Crash Sensor | N196 | Driver Side Rear Seat Belt Tensioner Igniter |
| G284 | Passenger Side Front Airbag Crash Sensor | N197 | Passenger Side Rear Seat Belt Tensioner Igniter |
| G553 | Driver Seat Position Sensor | N199 | Driver Thorax Airbag Igniter |
| G554 | Passenger Seat Position Sensor | N200 | Front Passenger Thorax Airbag Igniter |
| J234 | Airbag Control Module | N202 | Passenger Side Rear Thorax Airbag Igniter |
| J285 | Instrument Cluster Control Module | N251 | Driver Head Curtain Airbag Igniter |
| J393 | Comfort System Central Control Module | N252 | Front Passenger Head Curtain Airbag Igniter |
| J533 | Data Bus on Board Diagnostic Interface | N297 | Driver's Seat Belt Tensioner Igniter 2 |
| J706 | Passenger Occupant Detection System Control Module | N298 | Front Passenger Seat Belt Igniter 2 |
| | | T16 | Data Link Connector |

System overview



Legend:

- Powertrain CAN bus
- Diagnosis CAN bus
- Input signal
- Convenience CAN bus
- Output signal

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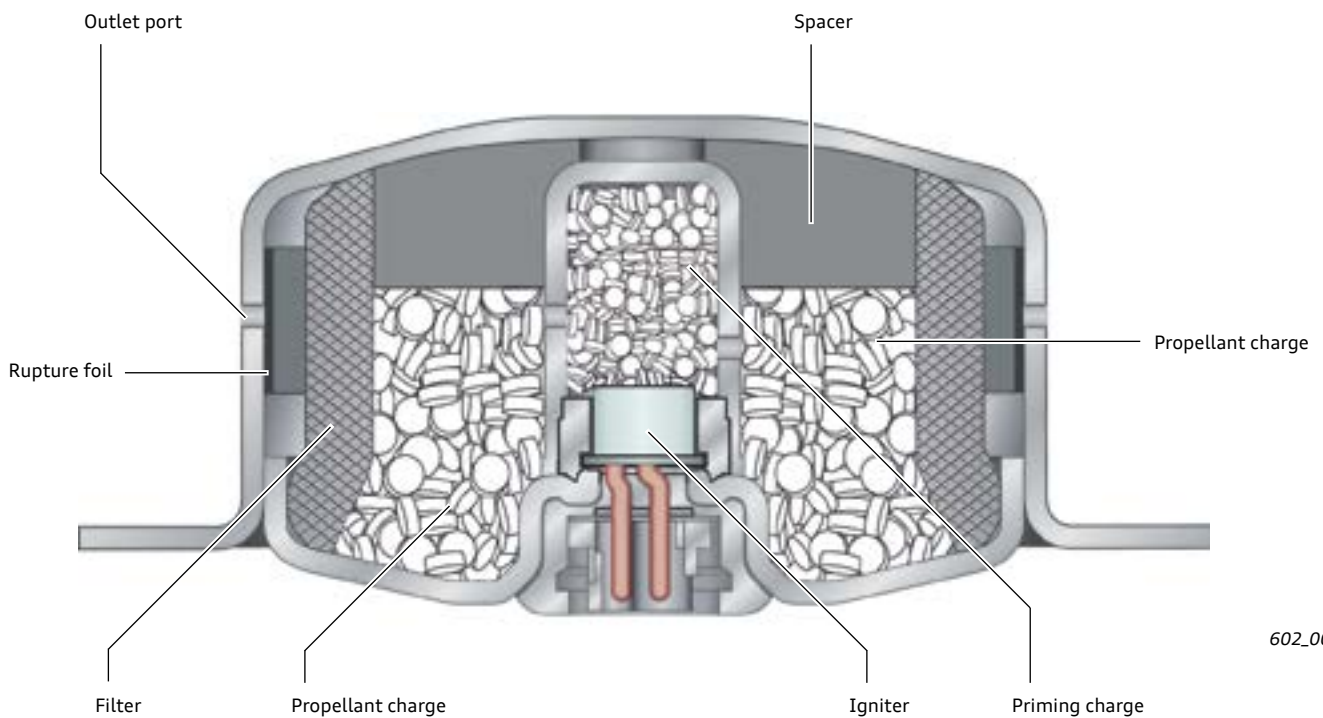
Front airbags

The driver's front airbag is a single stage unit that uses a solid propellant while the passenger side front airbag uses a hybrid gas generator.

Driver Airbag Igniter N95

N95 is activated by Airbag Control Module J234 which ignites the priming charge. The priming charge then ignites the actual airbag propellant.

If the developing gas pressure exceeds a defined threshold due to combustion of the propellant charge, the rupture foil opens the outlets admitting the gas to the airbag. The airbag unfolds and is inflated.



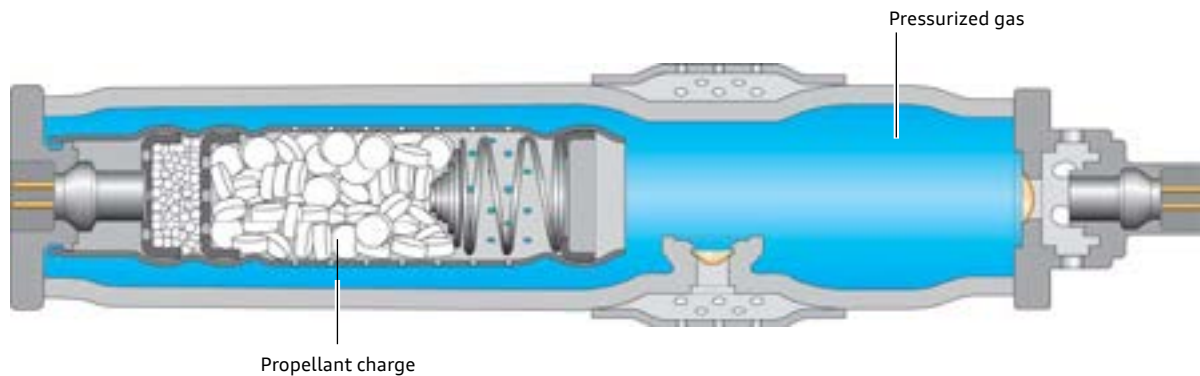
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Front Passenger Airbag Igniter 1 N131 and Front Passenger Airbag Igniter 2 N132

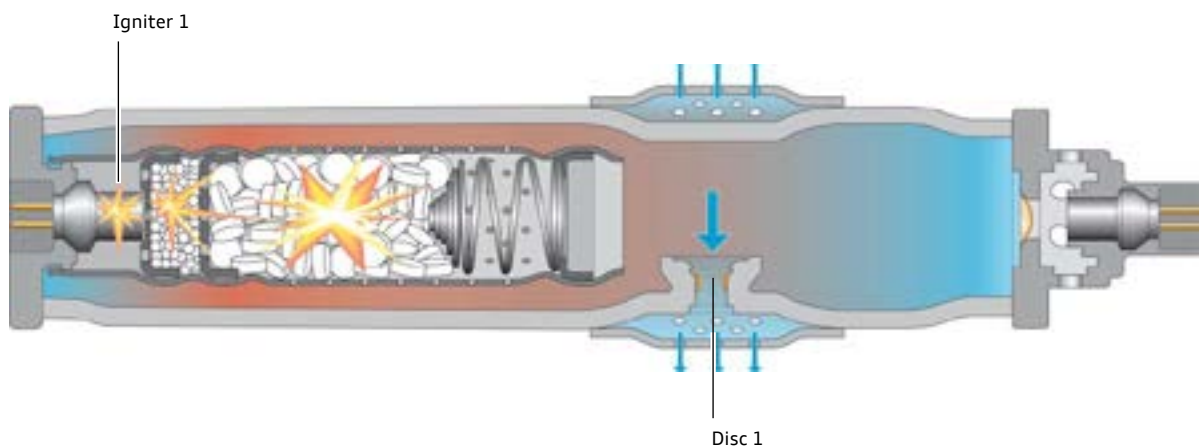
Like the driver airbag, the front passenger airbag is equipped with an adaptive gas generator. It is a single-stage hybrid gas generator with a second discharge port.

This type of gas generator allows variable degrees of inflation of the front passenger airbag. The Airbag Control Module J234 determines the interval between activation of the two igniters based on accident severity and front passenger seating position.

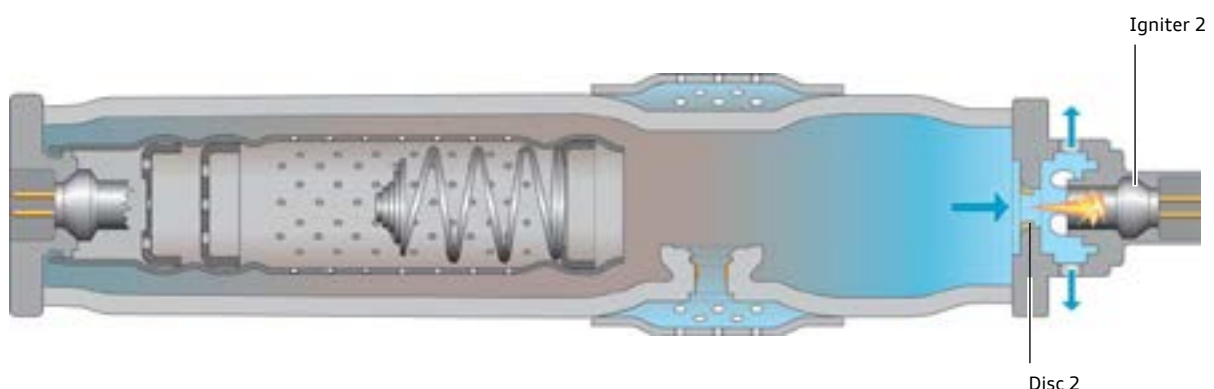
The pyrotechnic propellant charge is integrated in the pressurized gas bottle. The gas (95% argon and 5% helium) is kept at a pressure of approximately 5081 psi (400 bar.)



The ignition charge fired by igniter 1 ignites the actual propellant charge. This causes the pressure inside the pressurized gas bottle to increase until rupture disc 1 bursts. The gas mixture inflates and unfolds the airbag.



After a defined time period has elapsed, the airbag control module J234 activates igniter 2. A targeted pressure pulse from igniter 2 causes rupture disc 2 to burst. Some of the remaining gas discharged from the pressurized gas bottle now dissipates into the atmosphere and no longer into the airbag.



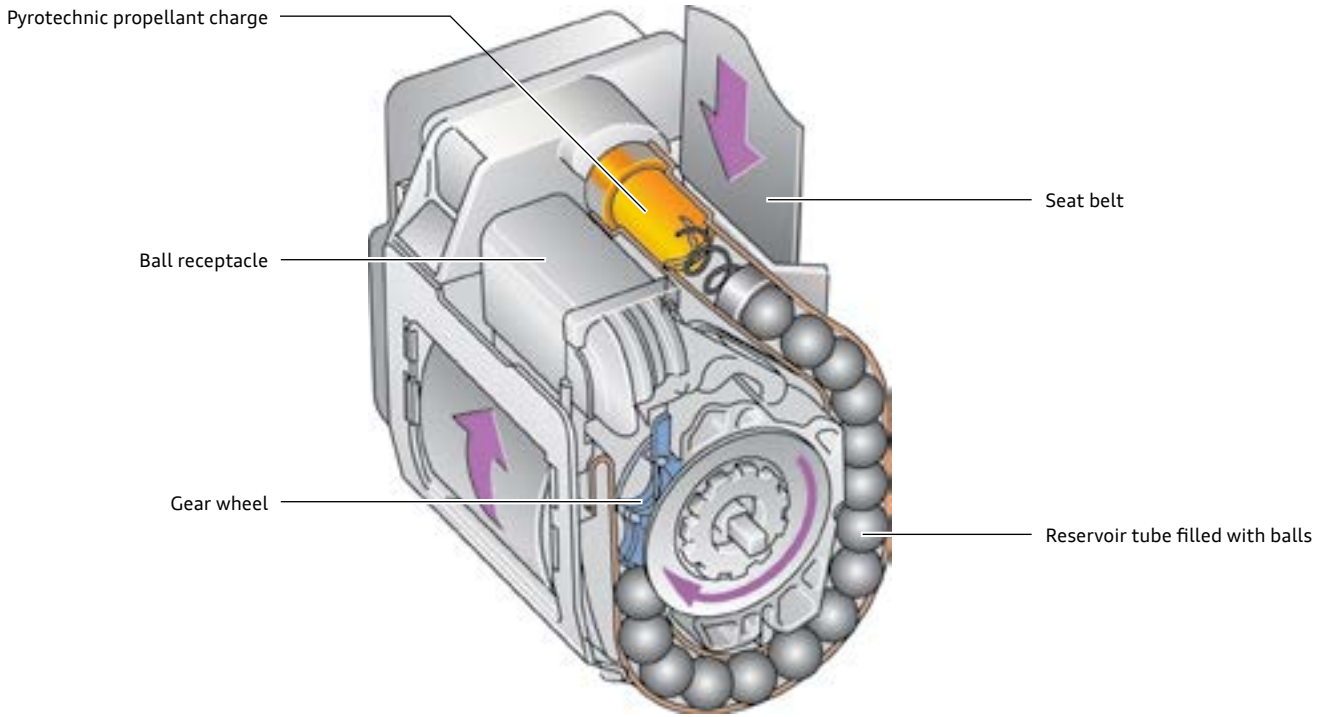
Inertia reel belts

The Audi Q3 is equipped with pyrotechnic safety belt tensioners in the front seats. The familiar ball-type safety belt tensioners are used.

The safety belt tensioners are driven by balls stored in a reservoir tube. In the event of a crash, the propellant charge is ignited by the airbag control module.

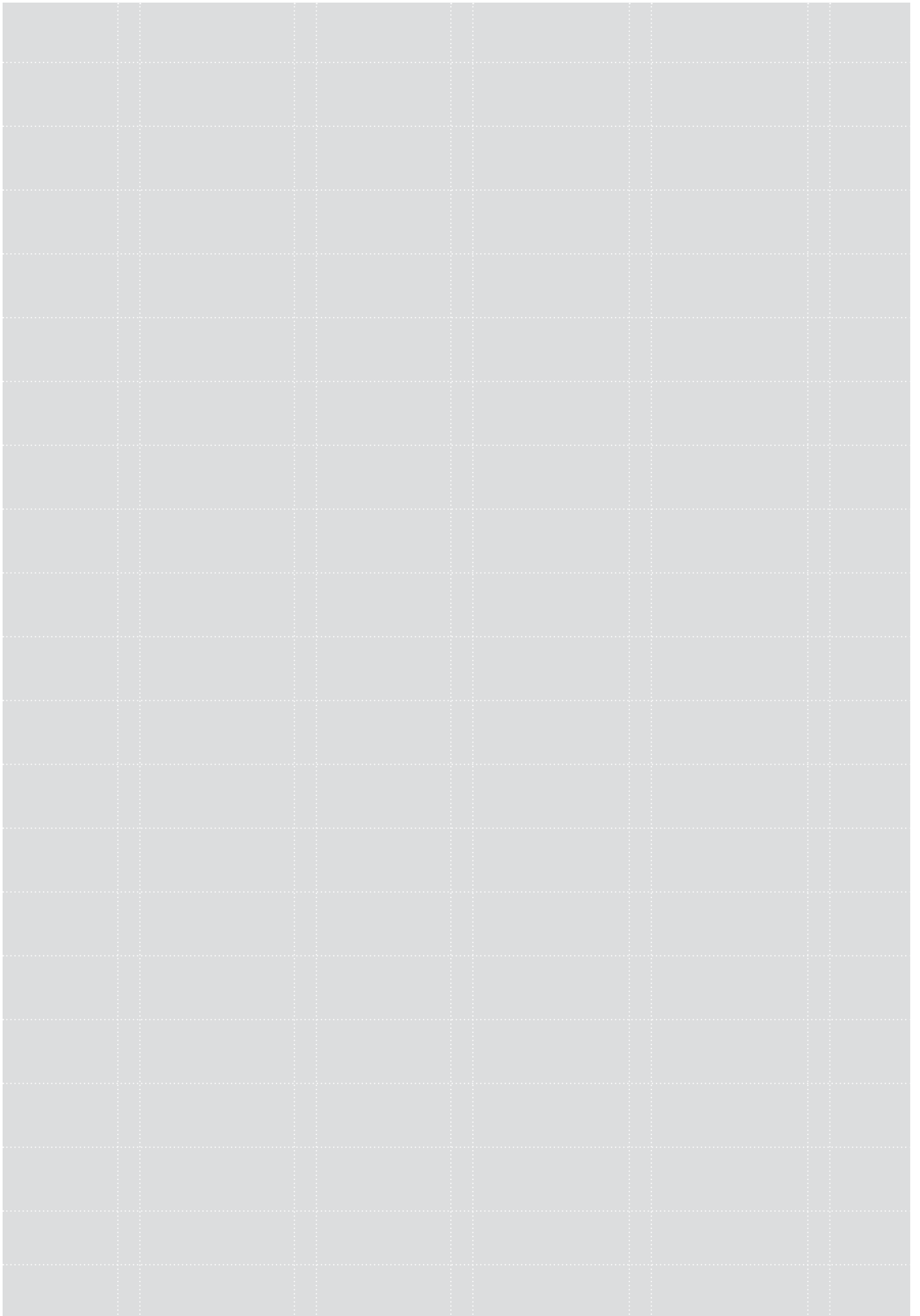
If the propellant charge is ignited, the expanding gases set the balls in motion, driving them around a gear wheel into the ball receptacle.

The safety belt reel is coupled to the gear wheel and also rotated by the balls, tightening/tensioning the safety belt. This type of safety belt does not have the pyrotechnic belt force limiter.



602_011

Notes



Engine

The 2.0l TFSI engine

Technical features

- ▶ 1st generation EA888 engine without AVS
- ▶ Four-valve cylinder head with continuously variable intake camshaft timing
- ▶ Volume-controlled oil pump
- ▶ Weight reduced exhaust gas turbocharger housing
- ▶ Intake manifold with flaps
- ▶ Cylinder head with Integrated Exhaust Manifold (IEM)
- ▶ Die cast aluminium oil pan top section (including aluminium bolts)



602_009



Reference

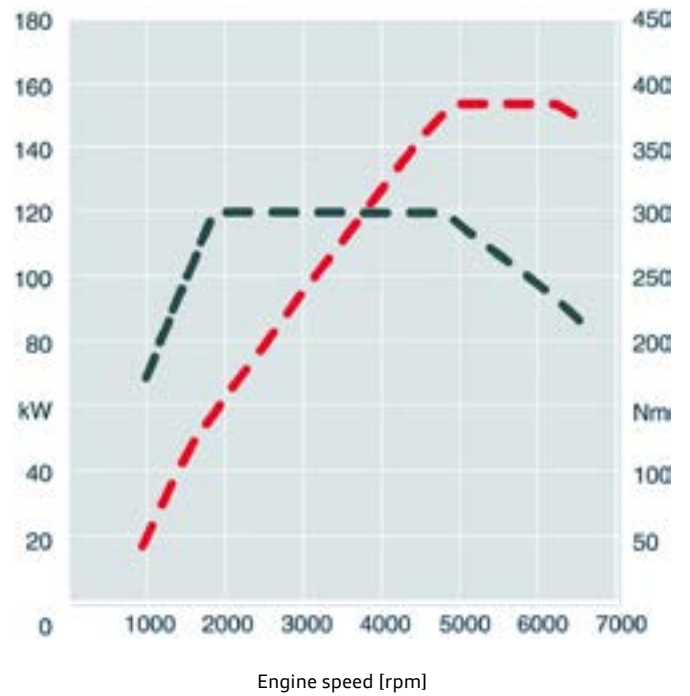
For further information about the design and operation of the 2.0l TFSI engine, refer to Self-Study Program 921703 "Audi 2.0L Chain-driven TFSI Engine".

Specifications

Torque-power curve

2.0l TFSI engine with engine code CCTA

- - - Power in kW
- - - Torque in Nm



602_010b

| Engine code | CCTA |
|----------------------------------|--|
| Type | Four-cylinder inline engine |
| Displacement | 121.1 cu in (1984 cc) |
| Power output | 200 hp (150 kW) @ 5100 - 6000 rpm |
| Torque | 207 lb ft (280 Nm) @ 1700 - 5000 rpm |
| Number of valves per cylinder | 4 |
| Bore in mm | 3.25 in (82.5 mm) |
| Stroke in mm | 3.70 in (92.8 mm) |
| Compression ratio | 9.6 : 1 |
| Powertrain type | 6-speed automatic transmission |
| Engine management | Bosch MED 17.1 |
| Fuel | Premium unleaded (sulphur-free) 95 RON |
| Emissions standard | SULEV |
| CO ₂ emission in g/km | 174 |

Transmission

6-Speed Automatic Transmission 09G/09M

The Japanese automatic transmission manufacturer AISIN Co. LTD in conjunction with Audi engineers has adapted a six-speed automatic transmission for the front wheel drive and quattro versions of the Q3.

The transmission is adapted for use with different engines and vehicles by varying:

- ▶ The number of disc pairs for clutches and brakes
- ▶ The adaptation of the ATF pressure on the clutches and brakes
- ▶ The configuration of gear pairs, planetary gear sets (four instead of three planetary gears), shafts and bearings
- ▶ The reinforcement of housing components
- ▶ The ratio of the final drive and the intermediate drive
- ▶ The size of the torque converter
- ▶ The torque converter characteristic curve of the torque boost (conversion factor or conversion boost)
- ▶ The selector lever
- ▶ The ignition key removal lock

The transmission sets new standards in dynamics and efficiency through:

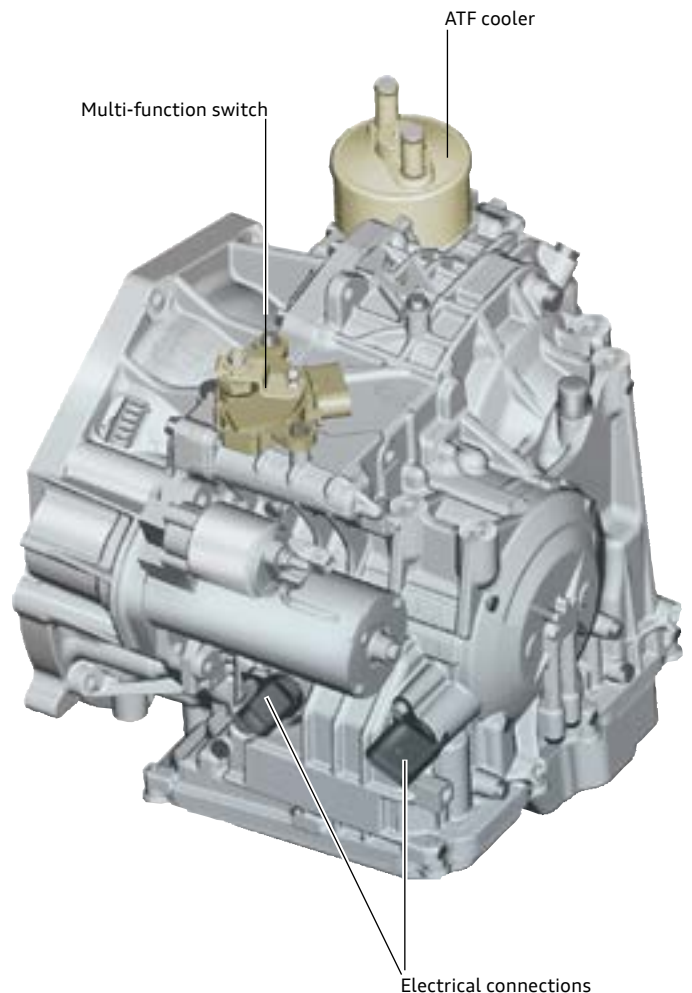
- ▶ Low weight
- ▶ High overall transmission ratio spread
- ▶ Compact dimensions of the transmission
- ▶ High speed of shifting
- ▶ High level of shifting comfort

In addition to using conventional planetary gearsets, the 09G and 09M transmissions use a Lepelletier gear arrangement.

The advantage of the Lepelletier arrangement is its simple, space-saving and lightweight design. It combines a simple planetary gear set with a subsequent Ravigneaux arrangement. This makes six speeds possible with only five shifting elements



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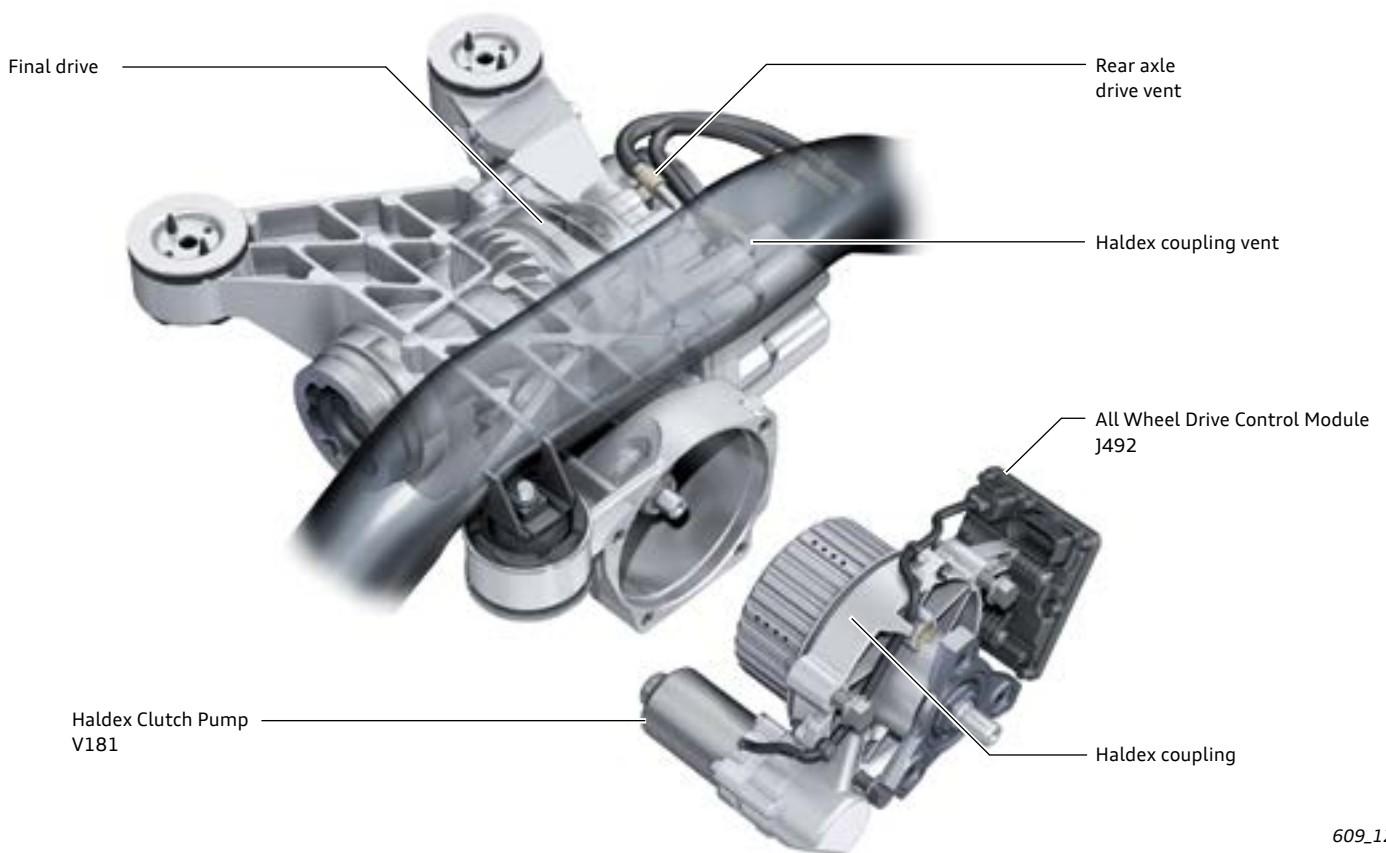
Haldex coupling

The drive train components of the Audi Q3 quattro are based on proven technology and include the new 5th generation Haldex coupling on quattro models.

The most notable feature of the 5th generation Haldex coupling is a new pressure control system. The hydraulic pressure required for the Haldex coupling is produced by a pump with centrifugal governor. The new Haldex coupling is 3.7 lb (1.7 kg) lighter than the 4th generation coupling.

An electric motor drives a six axial piston pump. The pistons are pushed against an inclined thrust plate. When the pump cylinder rotates, the pistons execute an axial stroke and move the Haldex oil to the pressure side of the pump.

Rear axle drive OCQ



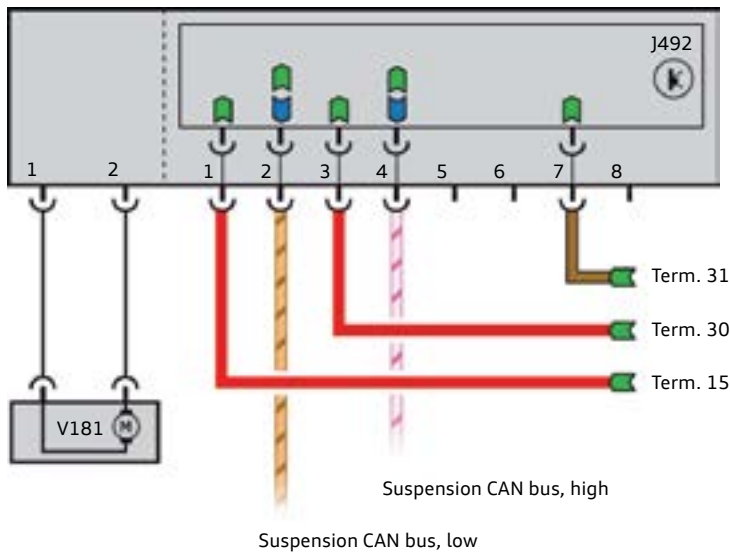
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Reference

For more detailed information about the operation of the 5th generation Haldex coupling, please see eSelf-Study Program 990143, *The 2015 Audi A3 Introduction*.

Function diagram



J492: All Wheel Drive Control Module
V181: Haldex Clutch Pump

609_136

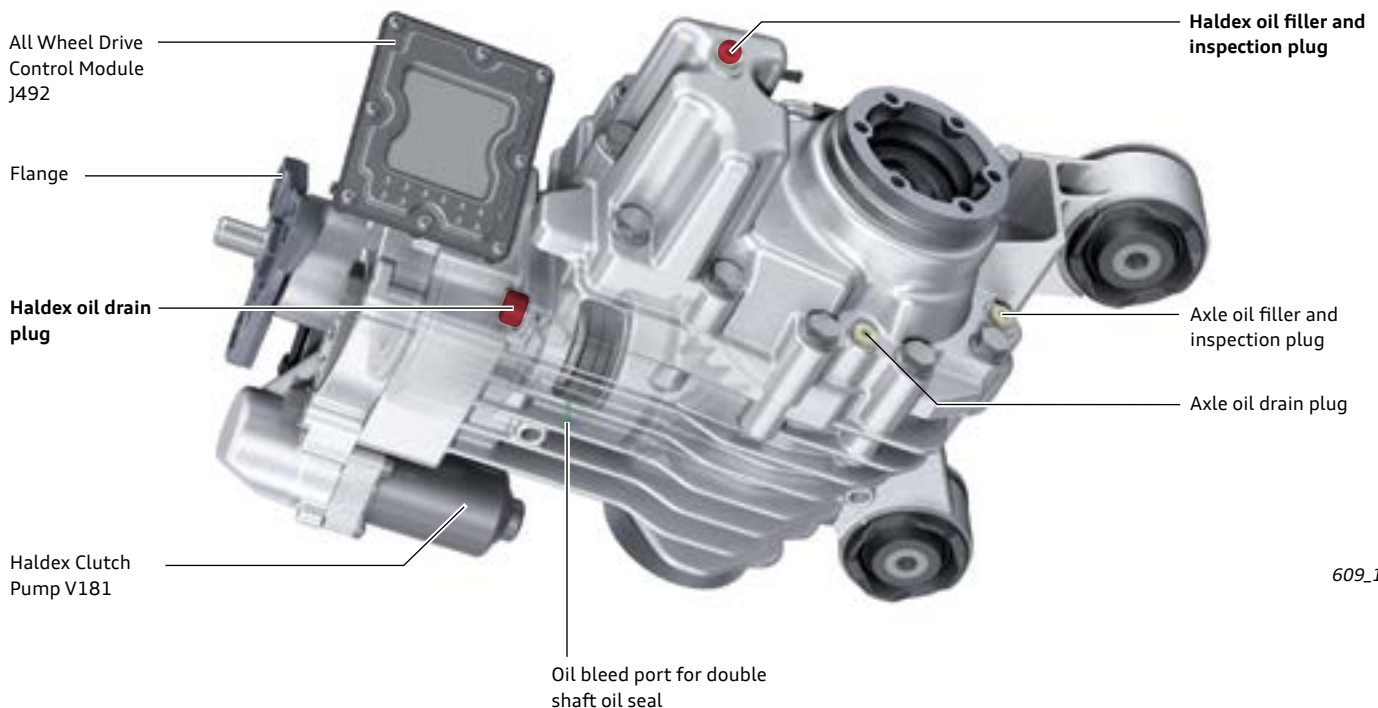
All Wheel Drive Control Module J492 communicates with ABS/ESP Control Module J104 and Power Steering Control Module J500 over the Suspension CAN bus.

It communicates with Transmission Control Module J217, Instrument Cluster Control Module J285, and Engine Control Module J623 via Data Bus On Board Diagnostic Interface J533.

Service

All Wheel Drive Control Module J492, Haldex Clutch Pump V181 and flange for the propeller shaft are replaceable.

Various seals for the housing are also replaceable. Please refer to the current repair literature for the latest information.



609_137

Oil change intervals

The Haldex oil must be changed every 3 years, regardless of mileage. The axle oil is not subject to a change interval.



Note

Haldex oil and rear axle oil are NOT the same. Do not mix them up during service work or irreparable damage to components will occur.

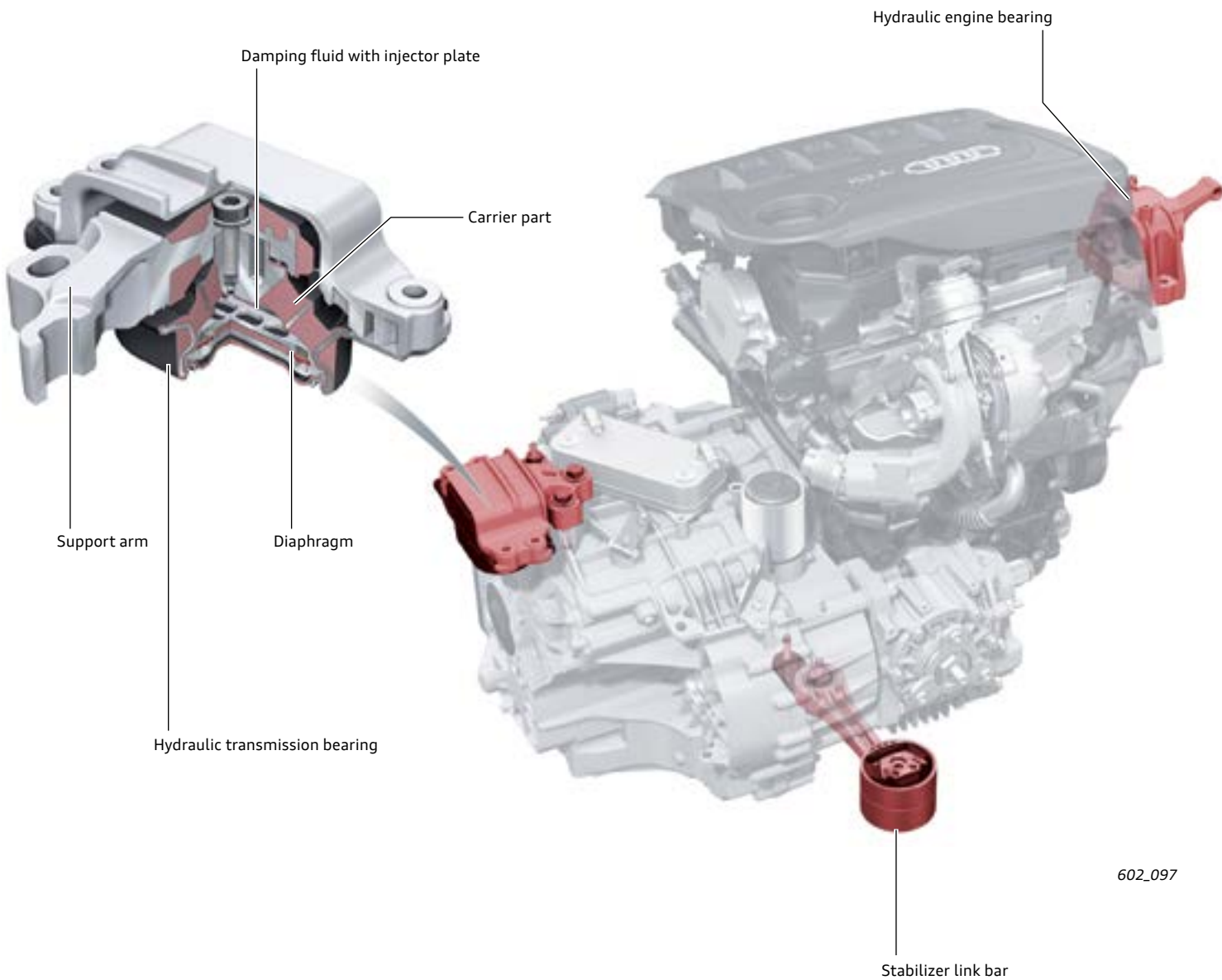
Engine/transmission mounting

The engine/transmission mounting is a key factor in reducing unwanted noise and vibration transfer to the passenger compartment.

The hydraulic damping in the bearings essentially reduces low frequency engine/transmission movements to optimize occupant comfort.

The engine torque is absorbed by the stabilizer link rod, which is designed as an elastomer bearing and connected directly to the gearbox and vehicle body via the subframe.

Overview



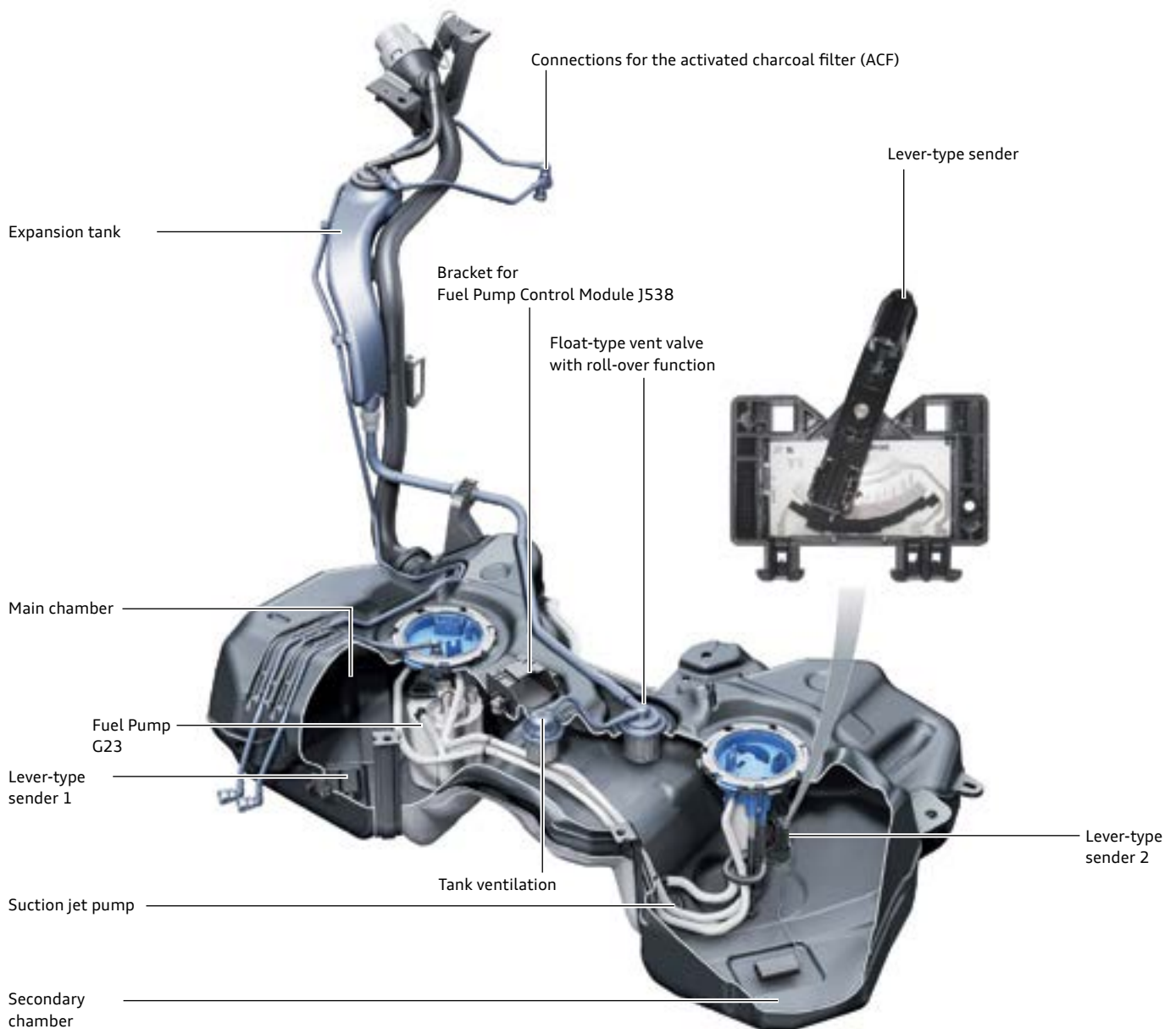
Fuel system

The Q3 has a 16.9 gal (64.0l) saddle-type fuel tank. The fuel tank version for the North American market will also have the required ORVR system (not shown.)

A lever-type sender in each of the main and secondary chambers ensures a high display accuracy. A three-wire thick film sensor is used. The additional wire supplies a redundant signal which is used to arithmetically eliminate contact resistance factors created by the use of aggressive fuels. Consequently, resistance is no longer a factor affecting the accuracy of the display.

The lever-type sensor is mounted to the bottom-supported swirlpot of the fuel delivery unit. Fuel supply is regulated according to demand. Only the actual amount of fuel needed is made available. Brushless, electrically commutated fuel pumps are used.

Fuel tank and fuel level sender



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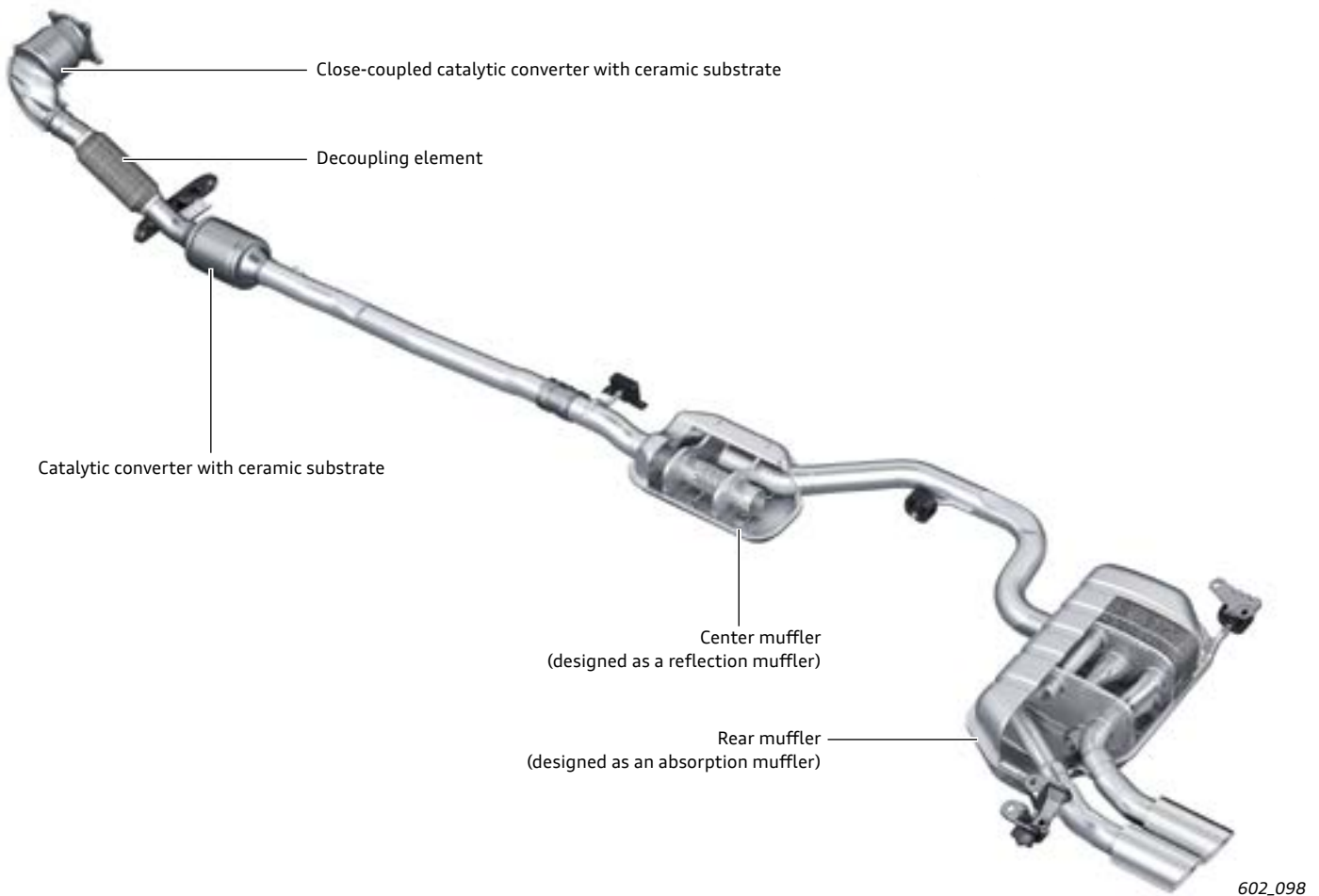
Exhaust system

The overall weight of the exhaust system was kept low through the use of high grade stainless steel, low wall thickness pipes and lightweight mufflers.

Due to its low weight and low exhaust backpressure, the overall catalytic converter and silencer system significantly reduces CO₂ emissions.

Both ceramic and metal catalytic converter substrates are used in the exhaust gas after treatment system. To reduce structure-borne sound, the shells of the rear silencer have reinforcing beads.

The 2.0l TFSI engine



Running gear

Overview

A fundamental goal in the development of the suspension system for the Audi Q3 was to set new standards in driving experience in this premium SUV segment.

To achieve this, use is made of a newly designed MacPherson strut front axle with aluminium wishbones and a multi-link rear suspension.

A vehicle weight distribution of 58% on the front suspension, the wide front and rear vehicle tracks, and the use of larger diameter wheel and tire combinations enhances the excellent driving characteristics of the Q3.

Versions

Only the standard suspension version will be available at the launch of the Q3.



602_043

Front suspension

The front suspension of the Q3 is based on the transverse platform (MQB) used throughout the Group.

A key new development is the control arm rear bearing. It is a major factor contributing to outstanding steering response and agility. Minimal bearing motion in the transverse direction provides a high camber thrust rate and optimal cornering stability.

The front axle configuration in combination with the design of the rubber bearings results in neutral handling at the limit of adhesion with a slight understeer.

A large positive caster angle and wheel offset provides excellent straight line stability.



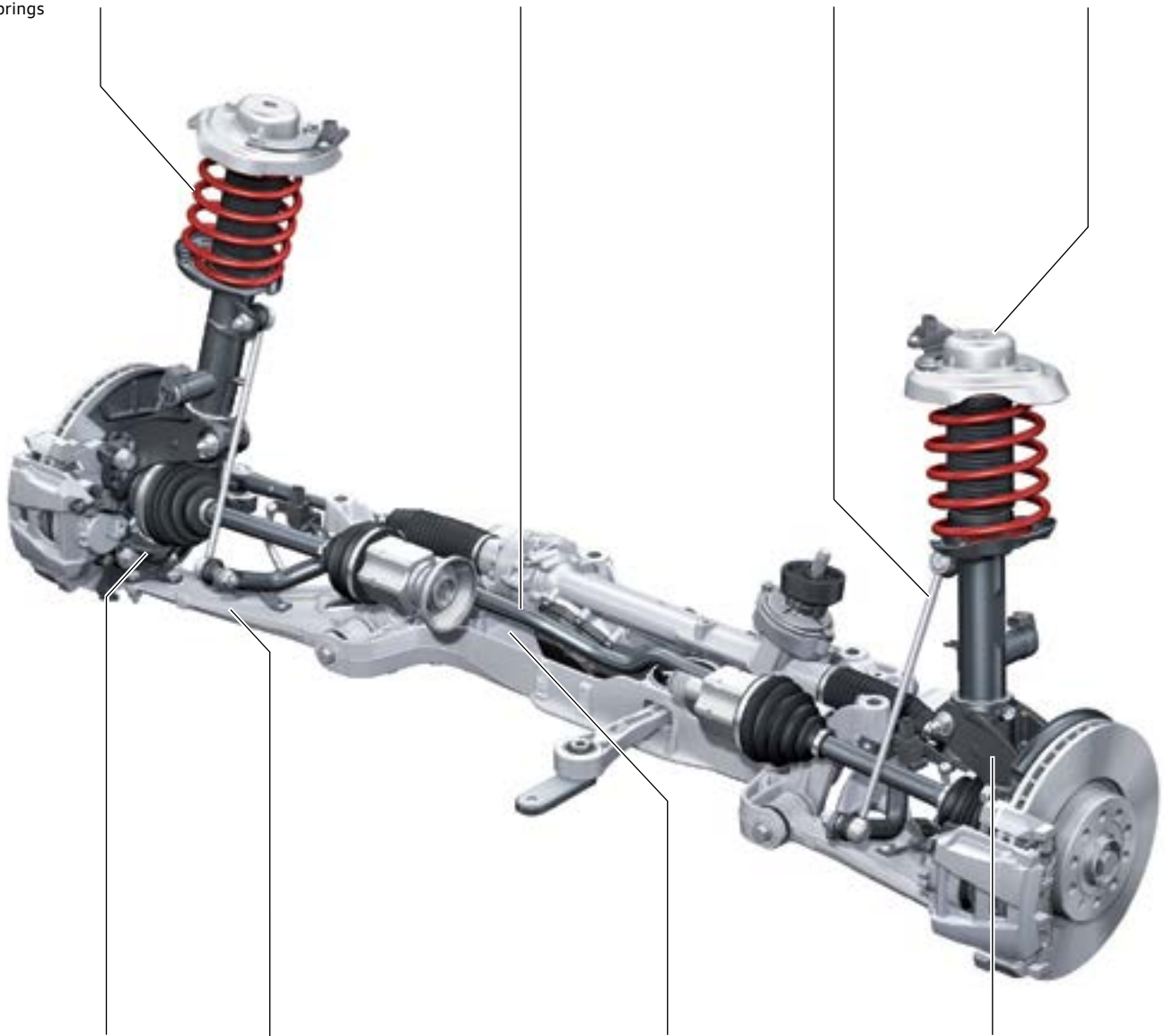
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Linear-rate steel springs with progressive-rate polyurethane auxiliary springs

Tube-type anti-roll bar

Anti-roll bar link

Coil-over suspension strut bearings with separate spring/damper mountings



The control arm and wheel carrier are connected by a ball joint.

Wishbone (forged aluminum part)

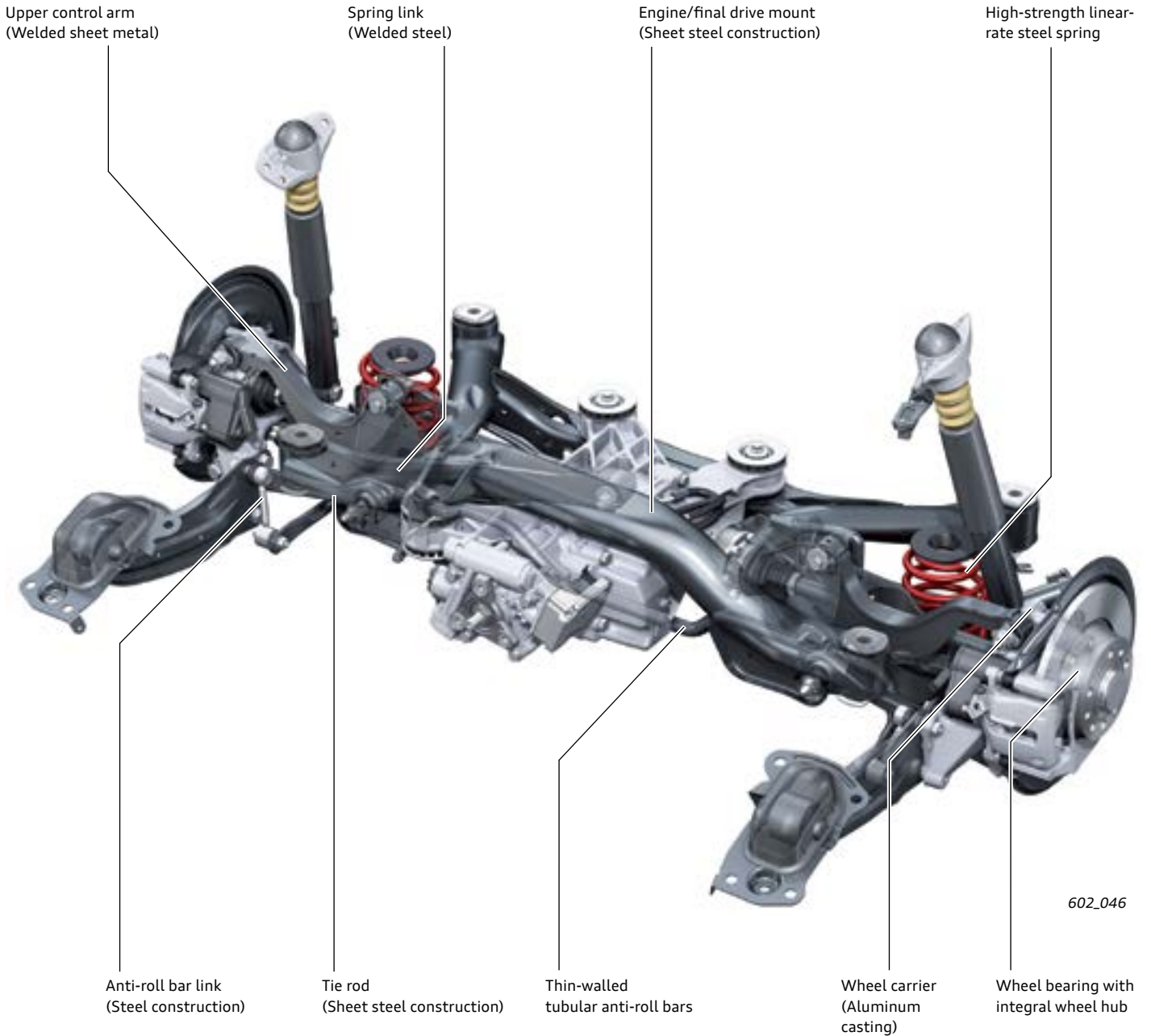
Three-piece engine/transmission mounting (aluminium chill casting)

Wheel carrier (nodular cast iron)

602_045

Rear suspension

The rear suspension components of the front wheel drive and quattro models are identical.



Suspension alignment

The front axle camber can be adjusted by equalization. Front toe can be adjusted individually. Toe and rear camber can be adjusted individually on the rear suspension.

Brake system

Overview

The Q3 uses a high performance ABS/ESP system by TRW specially designed to meet the demands of an SUV.

The use of an electromechanical parking brake allows the additional features of Hold Assist and speed dependent emergency braking to be available for the Q3.



602_049

Brake specifications

| | Front axle | Rear axle |
|----------------------------|---|---|
| Engine type | 2.0l TFSI | 2.0l TFSI |
| Brake type | 16" FN3 57/25/13.5 floating caliper brake | 16" CII 41 EPB aluminium floating caliper with actuators for the Electric Parking Brake (EPB) |
| Number of pistons | 1 | 1 |
| Piston diameter | 2.24 in (57 mm) | 1.61 in (41 mm) |
| Brake disc diameter | 12.3 in (312 mm), vented brake discs | 11.1 in (282 mm), solid brake discs |

Brake servo and master brake cylinder

An 11-inch single brake booster with a “single rate” characteristic is used on the Q3.

The aluminum tandem master brake cylinder with a 0.9 in (23.8 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.



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Brake application

The foot pedal assembly is a modular design to save weight. The pedals are manufactured from fiber-reinforced plastic while the brake pedal bearing assembly is manufactured as a sheet steel component with a weight saving shell design.



612_030

Service operations

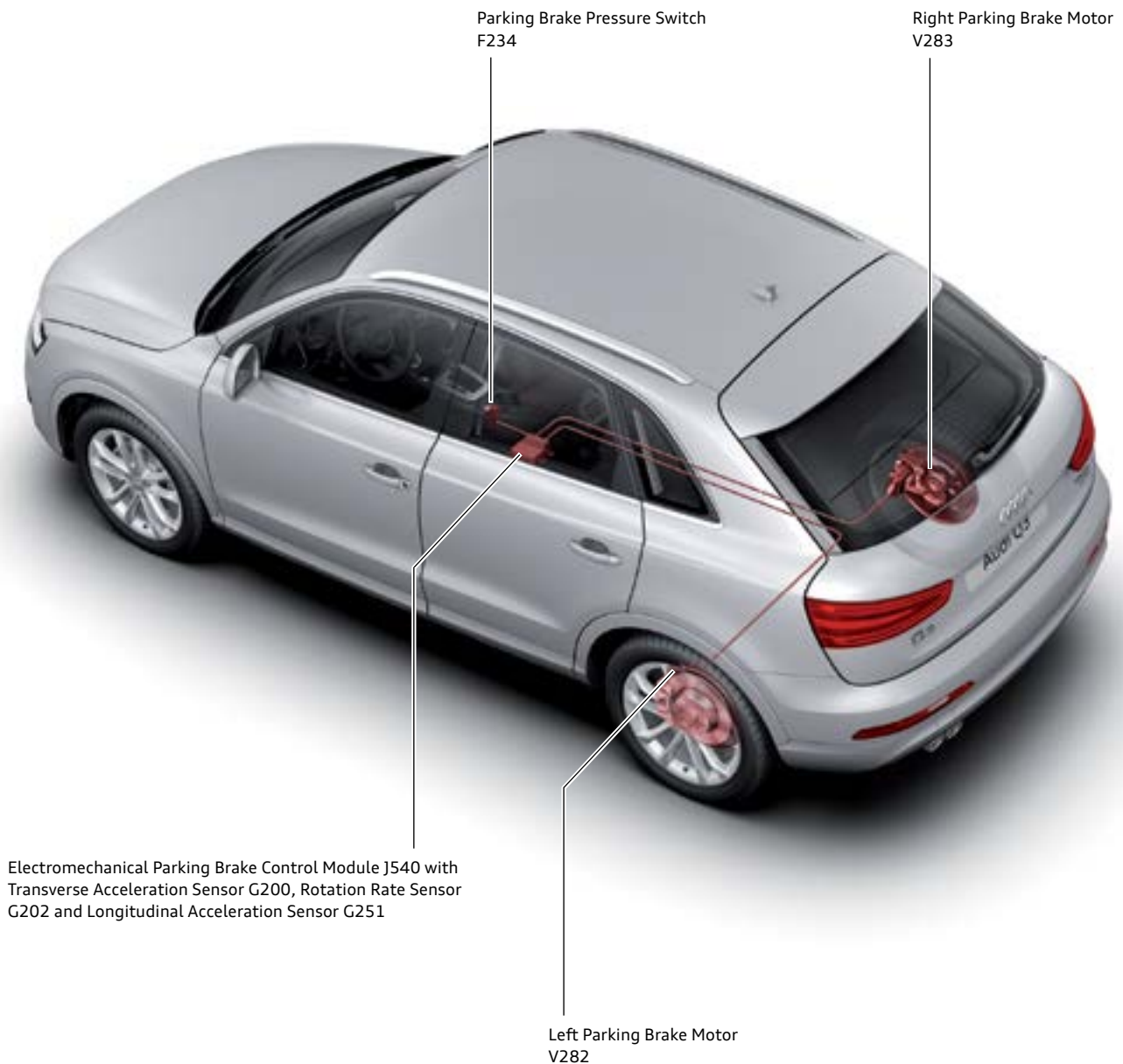
The service operations on the brake system are the same as for systems already in use on other Audi models.

Electro-mechanical parking brake (EPB)

Design and operation

The Q3 uses an electromechanical parking brake system similar those used in other Audi models.

In the Q3, Transverse Acceleration Sensor G200, Rotation Rate Sensor G202 and Longitudinal Acceleration Sensor G251 are integral with Electromechanical Parking Brake Control Module J540. These integrated sensors replace ESP Sensor Unit G419.



602_054

Service operations

If Electromechanical Parking Brake Control Module J540 is replaced, it must be coded online. After the online coding, the basic setting procedure must be carried out to calibrate Transverse Acceleration Sensor G200 and Longitudinal Acceleration Sensor G251.

ESP

Design and operation

The Audi Q3 uses an ABS/ESP system by TRW (TRW 450).

In addition to the basic functions EBD, ABS, ASR, EDL and ESP, the following additional functions have been implemented:

Standard features:

- ▶ Torque vectoring on vehicles with quattro drive
- ▶ Hydraulic Brake Assist
- ▶ Hydraulic brake booster
- ▶ Brake disc wiper
- ▶ Hydraulic brake fading compensation
- ▶ Driver steering recommendation (DSR)



602_055

Active wheel speed senders are used on the Audi Q3.



602_056

Service operations

The ABS/ESP Control Module and hydraulic unit can be separated for repair. The same condition applies here as to the other Audi models: control modules can be replaced individually but the entire ABS/ESP module must be replaced if hydraulic modules are faulty.

After replacing an ABS/ESP Control Module, it must be encoded online. Steering Angle Sensor G85 must be calibrated and initialized through Power Steering Control Module J500.

Several basic settings must then be configured. At the same time, the brake pressure, longitudinal acceleration, transverse acceleration and yaw rate senders are calibrated.

Steering system

Overview

The Q3 uses an electromechanical power steering system similar to that used in the A7 Sportback. When compared to conventional hydraulically boosted steering systems, the electromechanical system reduces fuel consumption and provides greater potential for optional equipment.



Mechanically adjustable steering column.
(approximately 2 in [50 mm] of vertical and
horizontal adjustment)

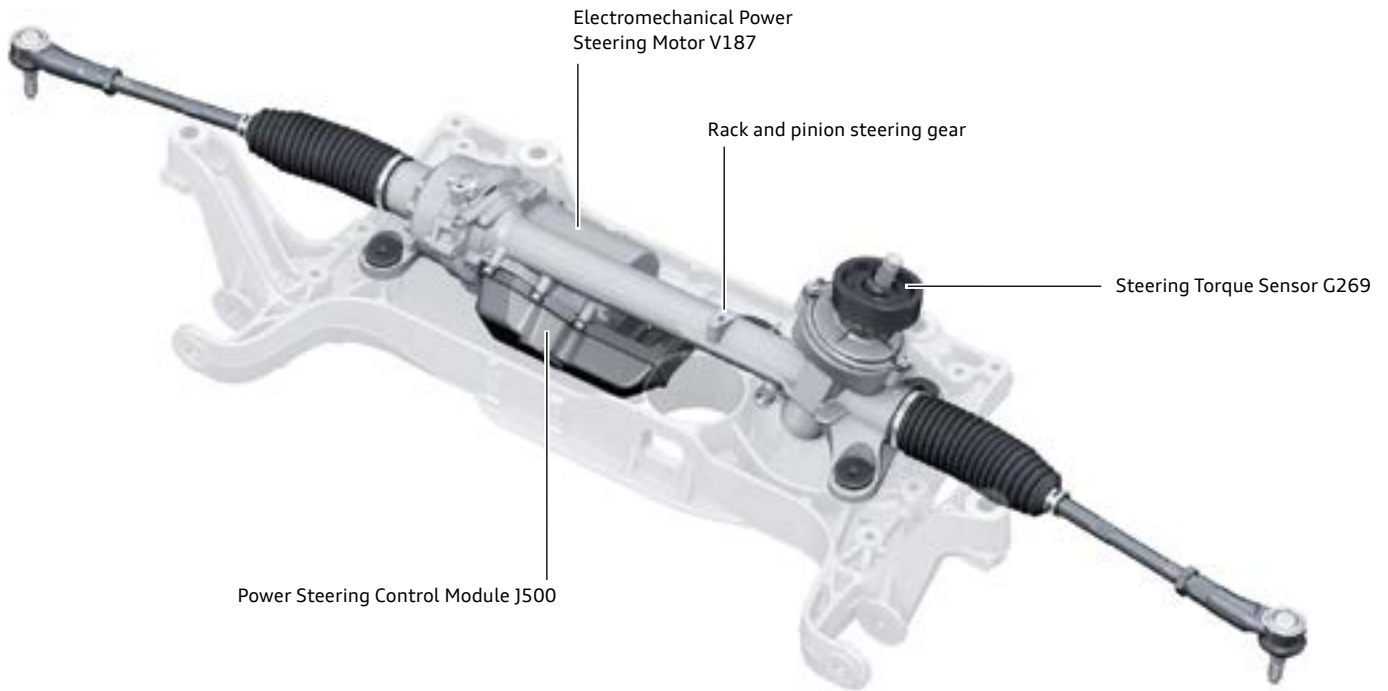
Electromechanical steering system with
axial parallel drive

602_057

Electromechanical steering

Overview

The compact unit consists of the actual steering gear, an electric motor for power assistance, a control module, a sensor for measuring steering torque and a sensor for monitoring the position of the electric motor rotor.



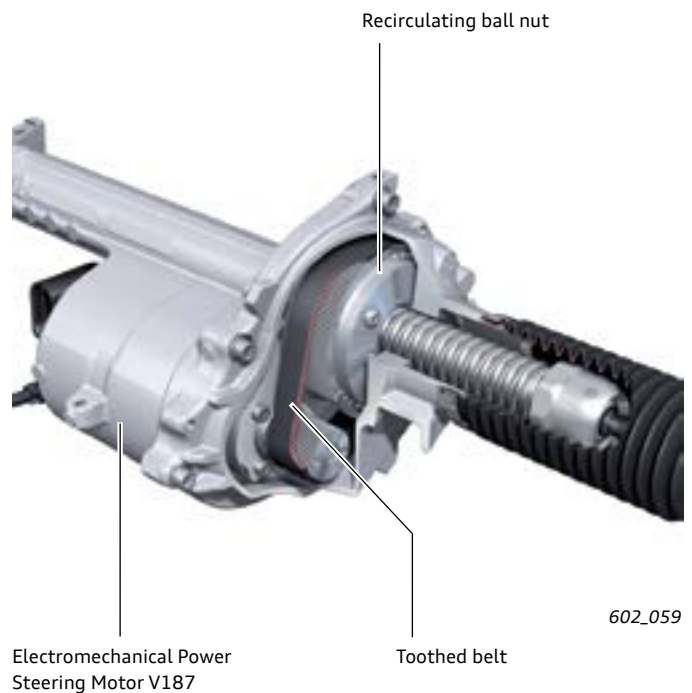
602_058

Drive

V187 is powered directly by Power Steering Control Module J500.

The rotational movement of the motor is converted to the linear movement of the steering rack by a recirculating ball nut assembly. The ball nut is driven by a toothed belt.

The current intensity with which the motor is activated regulates the amount of assist of the steering torque.



602_059

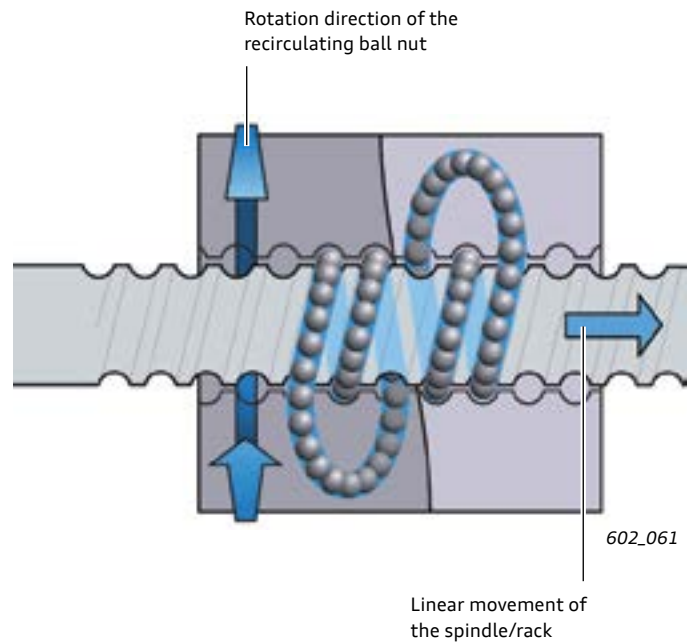
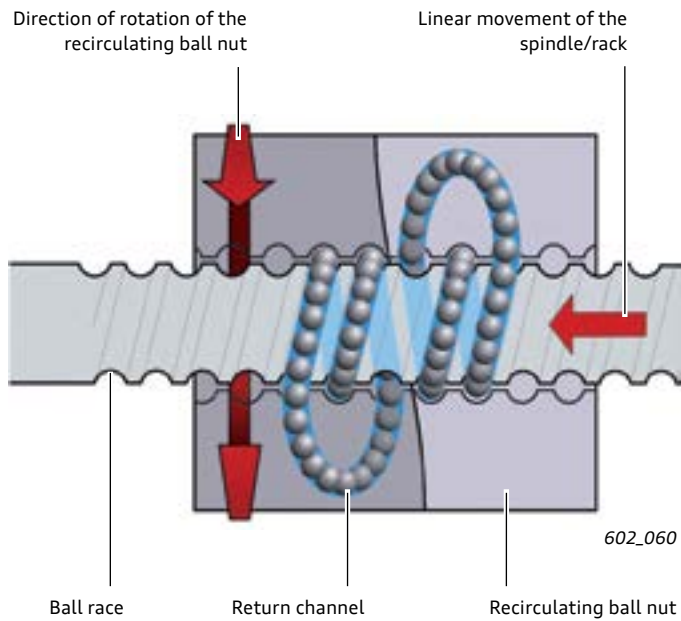


Reference

For detailed information about the general design and function of the steering gear, refer to eSelf-Study Program 990303, *The 2012 Audi A7 Running Gear and Suspension Systems*.

The recirculating ball nut is fixed in a longitudinal direction. If it is turned, there is a linear movement of the spindle in the direction of the arrow.

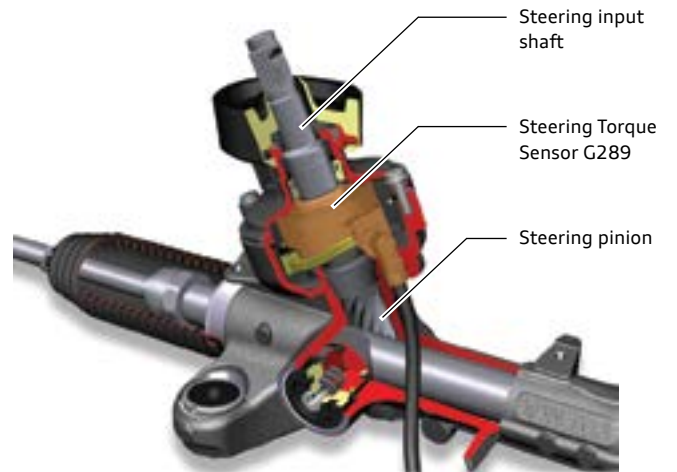
To restrict the contact among the ball bearings, “ball circuits” that are as short as possible are used. This is why the ball nut has individual circuits.



Steering Torque Sensor G289

Steering torque is measured by Steering Torque Sensor G289.

The steering input shaft and steering pinion are interconnected by a torsion bar. Turning the steering wheel results in minimal rotation of the torsion bar and also the input shaft relative to the steering pinion. The angle of rotation is measured by the the sensor and is a direct measure of steering torque.



602_062

Electromechanical Power Steering Motor V187

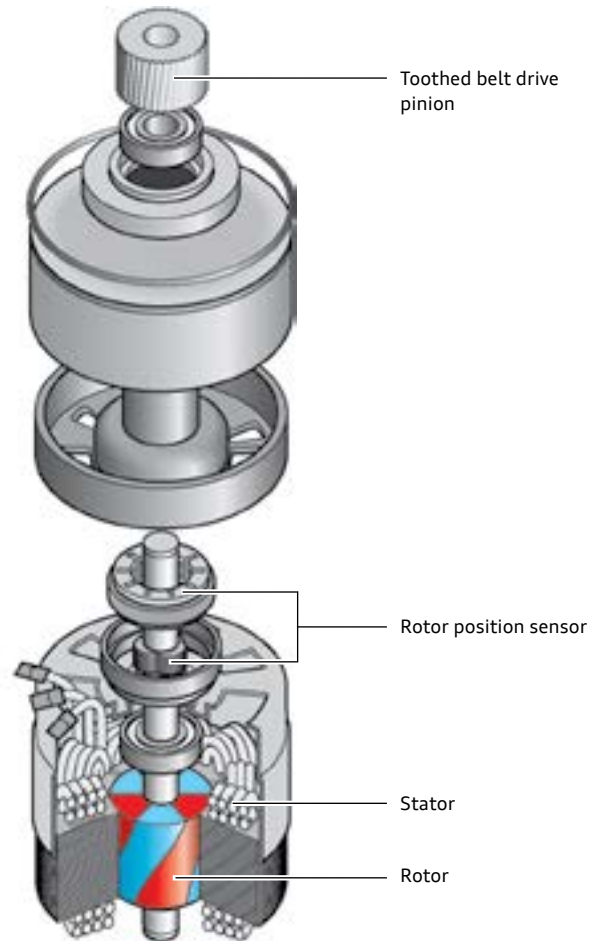
The Audi Q3 uses a permanently excited three-phase AC synchronous motor for steering assistance. This motor concept was chosen on the basis of the following key advantages:

- ▶ Synchronous motors are noted for their compact design and high performance.
- ▶ Permanent excitation eliminates the need for slip rings for transmitting the exciter current to the rotor.

The necessary phase voltages are calculated by the Power Steering Control Module and applied through the power output stages.

The stator has nine field coils arranged in groups of three and connected in series. They are energized by a sine-wave current. The three electric currents are phase offset relative to one another. The three magnetic fields generated produce a rotating magnetic field which induces a synchronous rotational movement in the rotor.

The rotor has six permanent magnets alternately arranged in a north/south direction. For smoother running, the six pole ring magnet is magnetized at an angle.

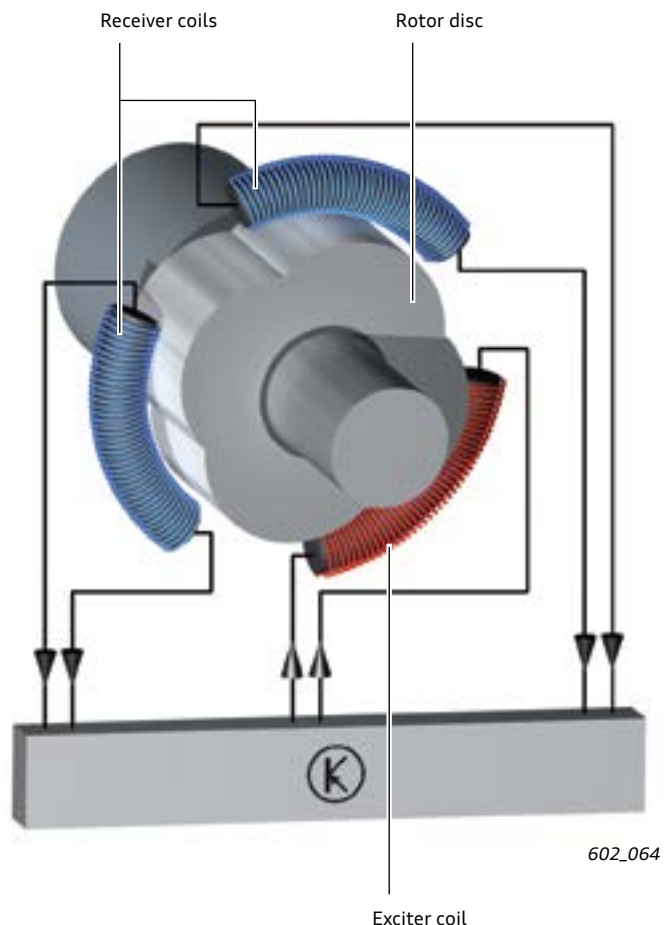


602_063

Rotor position detection

The rotor position sensor monitors the position of the rotor. The control module must know the exact position of the rotor to be able to calculate the phase voltages required for the rotating magnetic field (electronic sensor controlled commutation). The measured value of the rotor position sensor is also utilized to define the steering stops. To avoid hard mechanical stops, "soft" limits stops are implemented by the electromechanical steering system.

The exciter coil is supplied with a sine-wave exciter voltage. The alternating magnetic field which develops around the exciter coil acts upon the rotor disc. The rotor disc conducts the magnetic flux of the alternating magnetic field generated by the exciter coil to the receiver coils. This induces in the receiver coils an alternating voltage which is phase offset proportional to the position of the rotor disc relative to the exciter voltage.



602_064

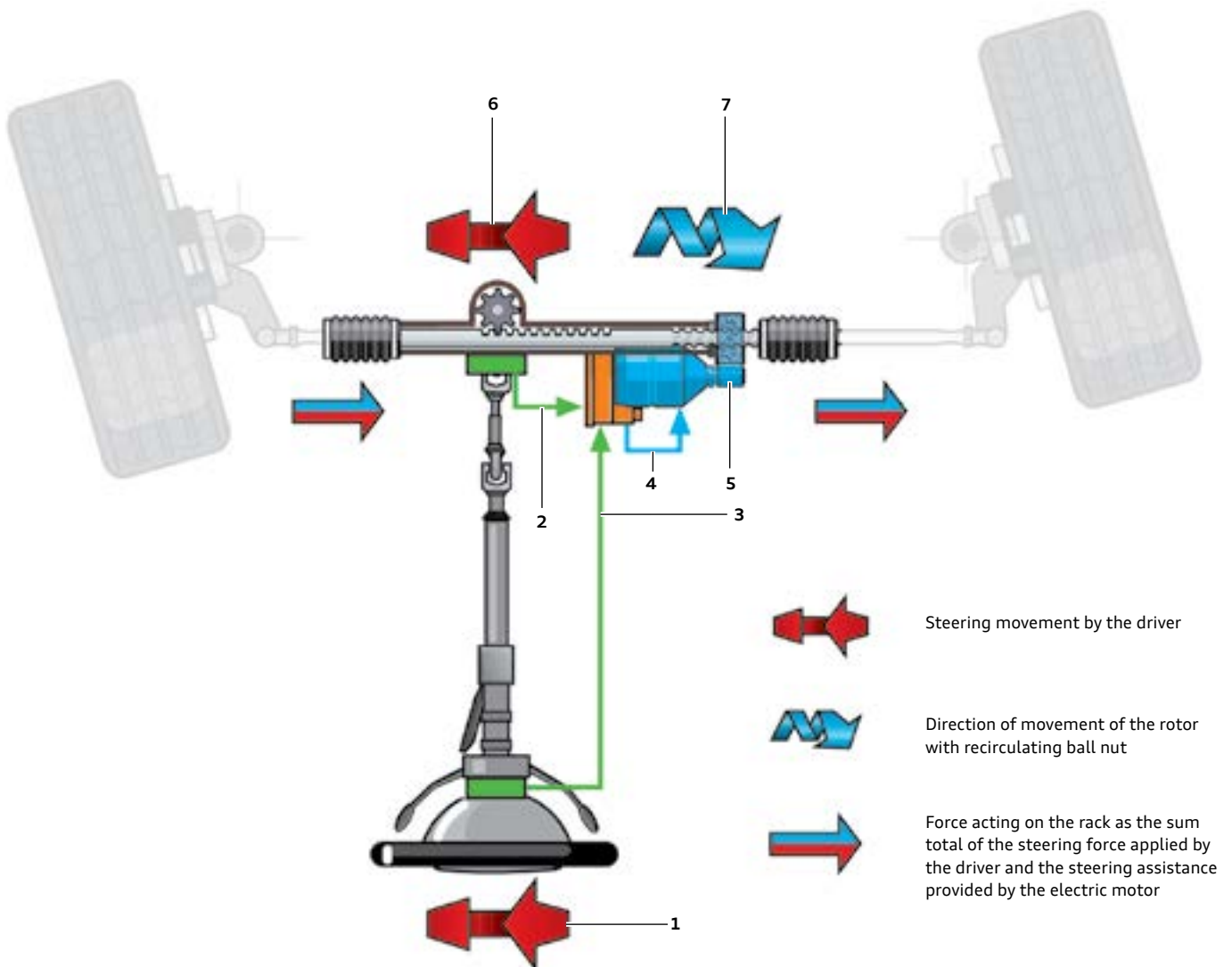
General functional principle

When the steering wheel starts to turn, the torsion bar connecting the steering input shaft to the steering pinion is rotated. This rotation is measured by the steering torque sensor and sent to the control module. At the same time, the control module receives more signals relevant to the operation of the steering system:

- ▶ the steering angle from the Steering Angle Sensor G85.
- ▶ the driving speed from the ABS/ESP Control Module
- ▶ RPM for the Engine Control Module.
- ▶ and the current position of Electromechanical Power Steering Motor V187 through its rotor position sensor.

The control module evaluates this information and calculates the electrical current and the phase shift required by Electromechanical Power Steering Motor V187. This is based on stored map in the control module. When the motor is activated, its torque is transmitted to the ball nut assembly by the toothed belt.

Depending on the drive current level, a defined amount of torque is provided for steering assistance. The resultant force acting on the steering rack is made up of the steering torque applied by the driver and the torque generated by the electric motor.



Key:

- 1 Steering movement by the driver
- 2 Signal from the steering torque sensor
- 3 Signal from the steering angle sensor
- 4 Activation of the electric motor
- 5 Recirculating ball nut drive
- 6 Steering torque applied by the driver
- 7 Steering torque applied by the electric motor

602_065

Additional functions

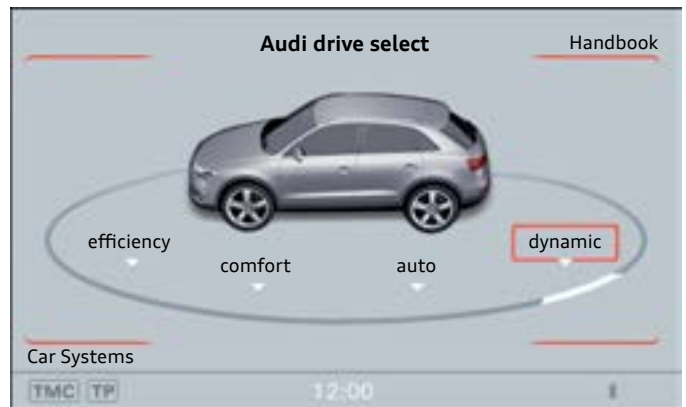
Various adjustments and functions are implemented by the electromechanical steering system in addition to its basic assist function. The driver is assisted in certain driving situations in the following ways:

- ▶ Speed-dependent power assisted steering (Servotronic) is standard.
- ▶ Return of the steering wheel to the straight-ahead position after steering lock has been applied is assisted by the "active reset" function. This enhances both directional stability and steering comfort.

- ▶ The "straight-ahead driving correction" function takes the strain off the driver when driving in a straight line against a constant, sustained crosswind or when driving on a cambered road surface. A corrective steering torque is generated by active steering assistance.
- ▶ The Audi Q3 also uses the "DSR" (driver steering recommendation) function implemented previously in the A7 Sportback in combination with ESP and electro-mechanical steering.
- ▶ Steering comfort is enhanced by implementing damped maximum steering locks.

Operation and driver information

The driver can choose between three different steering maps. Setting of the steering characteristic - from comfortable to sporty - is coupled to the setting in Audi drive select.



European version

602_066

Service operations

Protective boots and track rods are the only individual components that can be replaced at this time. In the event of other component failures, the entire steering unit must be replaced.

Power Steering Control Module J500 must be encoded online. Once the "encode control module" Test Plan has been initiated, the vehicle data record is downloaded. The software for the particular vehicle is loaded from a central database.

Within the encoding framework, the vehicle's equipment level is downloaded to the module.

Because the steering limit stops have not yet been stored in the new control module, coding must be followed by running the "Learn steering limit stops" Test Plan.

Steering wheels

The steering wheel and airbag have been systematically designed for lightweight construction. Weight has been reduced by approximately 1.1 lb (0.5 kg) by the use of ultra-lightweight magnesium in the steering wheel skeleton and fibre-reinforced plastic in the airbag. The multifunction steering wheels allow user-friendly operation of the driver information system including telephone, audio devices and onboard computer.

Two additional optional paddle switches allow gear changes to be performed manually on models with S tronic. The steering wheels come in two optional color versions matching the vehicle interior.

Overview



Option

Multi-function sports steering wheel of 3-spoke design

Option

Multi-function sports steering wheel of 3-spoke design including shift paddles

Wheels and tires / tire pressure indicator

Wheels and tires overview

The wheel/tire combinations used for the Audi Q3 ensure superb handling, comfort and driving stability for a vehicle of this class. All engine types are equipped with size 6.5J x 16 forged aluminium wheels even in the basic trim.



Standard 18" wheels

7J x 18 ET43
Lightweight aluminium wheel, brilliant silver finish
235/50 R18

Optional 19" wheel

8.5J x 19 ET36
5-Double-spoke-Offroad-Design
255/40 R19 all-season tires

Tire Pressure Monitoring System

The Q3 is equipped with the second generation tire pressure monitoring system. By evaluating the vibration characteristics of each wheel/tire, the new TPMS system is capable of determining and indicating which tire is experiencing pressure loss.

The system can also detect slow (gradual) pressure loss, as well as simultaneous pressure loss at several wheels.

Electrical system

Power supply

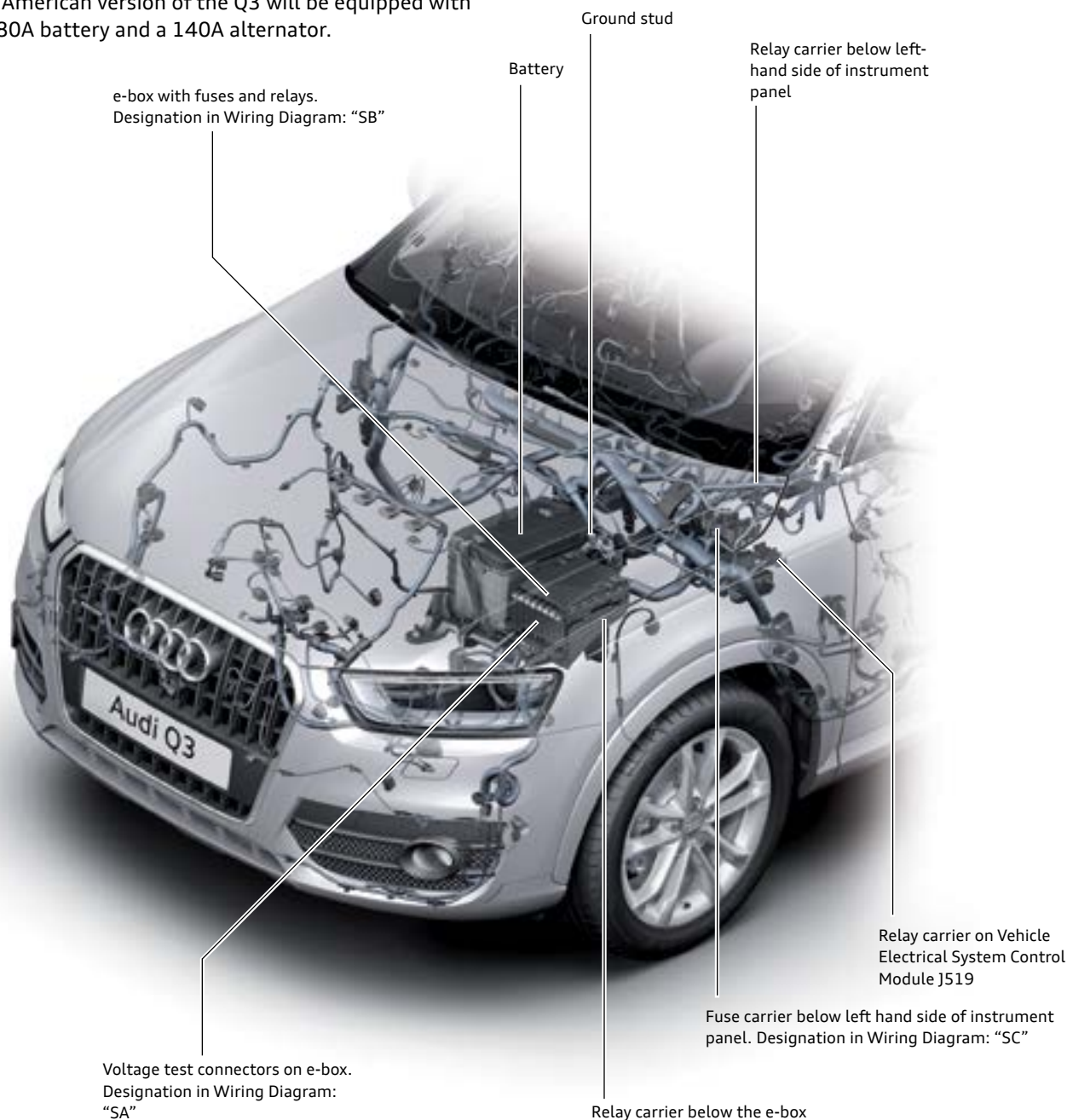
Battery

The vehicle battery is located in the engine compartment and is protected by an insulating blanket. Battery size, type and protection are dependent on engine, trim level and country version. All Q3 models will have an energy management system and a brake energy recuperation* function.

The North American version of the Q3 will be equipped with a 68Ah/ 280A battery and a 140A alternator.

Jump start points / fuses and relays

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



602_108

*Upon deceleration the energy created is lost. Brake energy recuperation recycles this energy to lighten the load on the engine. It can reduce fuel consumption by up to 3%.

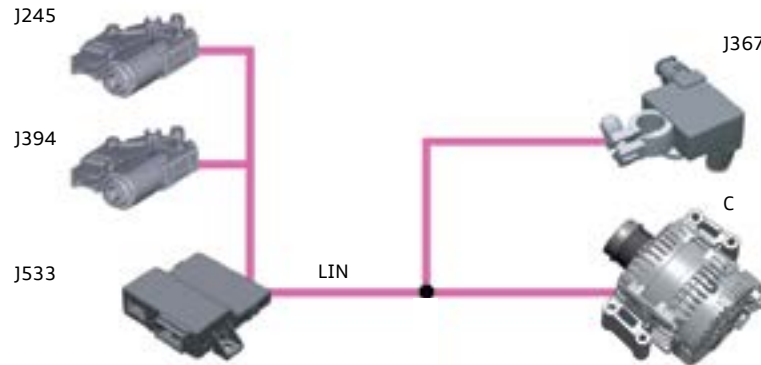
When coasting or braking, the car's alternator generates energy. Brake energy recuperation allows this energy to be stored. When accelerating or driving at a constant speed this stored energy is used so less energy is wasted in driving the alternator. This lowers fuel consumption and CO2 emissions.

Data Bus On Board Diagnostic Interface J533 (Gateway)

Two versions of J533 are used on the Q3 dependent on the Infotainment system. One version is for vehicles with an Infotainment CAN and a version for vehicles with an optical bus (MOST).

Depending on optional equipment, four LIN slave modules could be connected to J533:

- ▶ Power Sunroof Control Module J245
- ▶ Roof Shade Control Module J394
- ▶ Battery Monitoring Control Module J367
- ▶ Alternator C

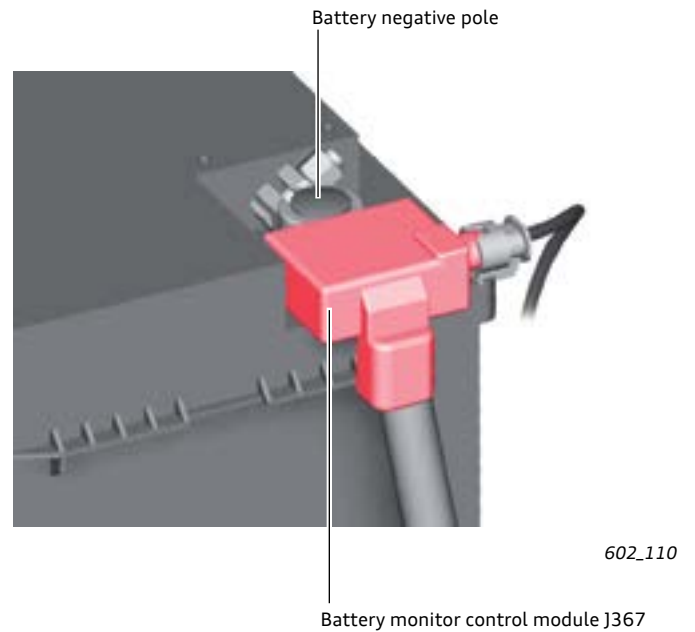


602_109

| Summary | | | |
|------------------------------|---|------------|---|
| Designation | Data Bus On Board Diagnostic Interface J533 | | |
| Installation position | Under instrument panel, driver footwell | | |
| Bus systems | Convenience CAN bus (always installed) | 100 kbit/s | Single-wire capable |
| | Powertrain CAN bus (always installed) | 500 kbit/s | Not single-wire capable |
| | Instrument Cluster CAN bus (always installed) | 500 kbit/s | Not single-wire capable |
| | Diagnostics CAN bus (always installed) | 500 kbit/s | Not single-wire capable |
| | Extended CAN bus (option) | 500 kbit/s | Not single-wire capable |
| | Infotainment CAN bus (dependent on infotainment version) | 100 kbit/s | Single-wire capable |
| | MOST bus (dependent on Infotainment version) | 22 Mbit/s | Ring structure (open circuit results in failure) |
| | LIN bus | 20 kbit/s | Single-wire bus system |
| Tasks | <ul style="list-style-type: none"> ▶ Networking gateway ▶ Diagnostic interface ▶ Transport mode (for transportation or long periods of non-use) ▶ Wake-up monitor (monitors bus standby mode or bus wake-up function) ▶ Energy management <p>LIN master for:</p> <ul style="list-style-type: none"> ▶ Battery Monitoring Control Module J367 (always installed) ▶ Alternator C (always installed) <p>▶ Control of the panorama glass sunroof and sunroof roller blind</p> <p>LIN master for:</p> <ul style="list-style-type: none"> ▶ Sunroof Control Module J245 (option) ▶ Roof Shade Control Module J394 (option) | | |
| Address Word | 19 | | |

Battery Monitoring Control Module J367

| Summary | |
|------------------------------|---|
| Designation | Battery Monitoring Control Module J367 |
| Installation position | on the negative terminal of battery |
| Tasks | Measurement of: <ul style="list-style-type: none"> ▶ car battery charging and discharge currents ▶ battery voltage ▶ battery temperature |
| Address Word | None, LIN slave, measured data and diagnostics via J533 Gateway |



Alternator C

| Summary | |
|------------------------------|--|
| Designation | Alternator C |
| Installation position | at bottom front right of engine, driven by poly V belt |
| Tasks | Charging the vehicle battery |
| Address Word | None, LIN slave, measured data and diagnostics via J533 (master) |



Power Sunroof Control Module J245 and Roof Shade Control Module J394

| Summary | |
|------------------------------|--|
| Designation | Power Sunroof Control Module J245 Roof Shade Control Module J394 |
| Installation position | in the roof area |
| Tasks | Opening and closing the sliding sunroof or the sunroof roller blind |
| Address Word | None, LIN slave, measured data, diagnostics and Output Check Diagnosis via J533 (master) |



Vehicle Electrical System Control Module 1 J519

Summary

Designation Vehicle Electrical System Control Module J519

Equipment Always installed

Installation position Under the left side of the instrument panel

Tasks

- ▶ Central locking master
- ▶ Exterior light master
- ▶ Interior light master
- ▶ Antitheft alarm master
- ▶ Activation of various relays
- ▶ Activation of various convenience components:
 - ▶ Seat heaters
 - ▶ Heated windshield washer nozzles
 - ▶ Windshield washer pump
 - ▶ Headlight washer system pump
- ▶ Reading various switch and button positions
- ▶ Reading various sensor values

Address Word 09

Data bus communication

- ▶ Convenience CAN bus participant
- ▶ J519 is the LIN master for:
 - ▶ LIN 1 – Light Switch E1, Wiper Motor Control Module J400, Rain/Light Recognition Sensor G397, Humidity Sensor G355
 - ▶ LIN 2 – Alarm Horn H12
 - ▶ LIN 3 – Power Sunroof Control Module J245, Anti-theft Alarm System Sensor G578

Special feature

LIN 1 is distributed to two pins on J519. J400 is connected to pin B30. E1, G397 and G355 – are connected to pin C28. This means that the control modules connected to pin C28 are also affected in the event of a short circuit to positive or negative at pin B30



J519

610_009

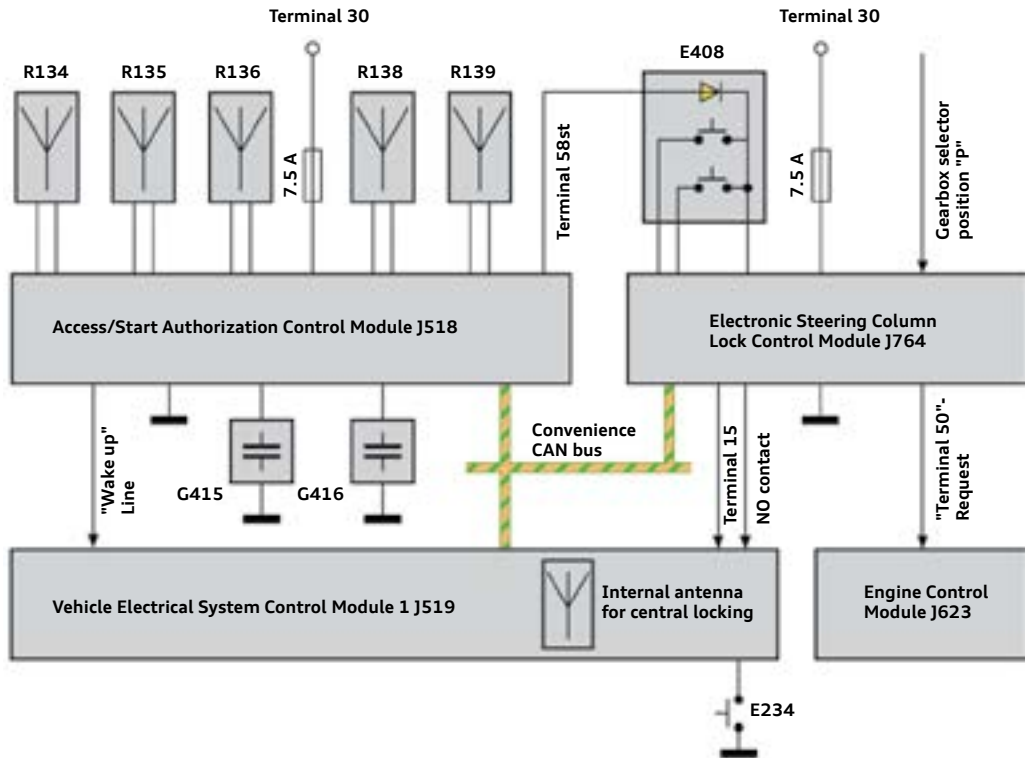
Reference



For a detailed description of Vehicle Electrical System Control Module J519, please see eSelf-Study Program 970343, *The 2015 Audi A3 Vehicle Electronics and Drivers Assistance Systems*.

Advanced Key

The Audi Q3 can be equipped with an advanced key.

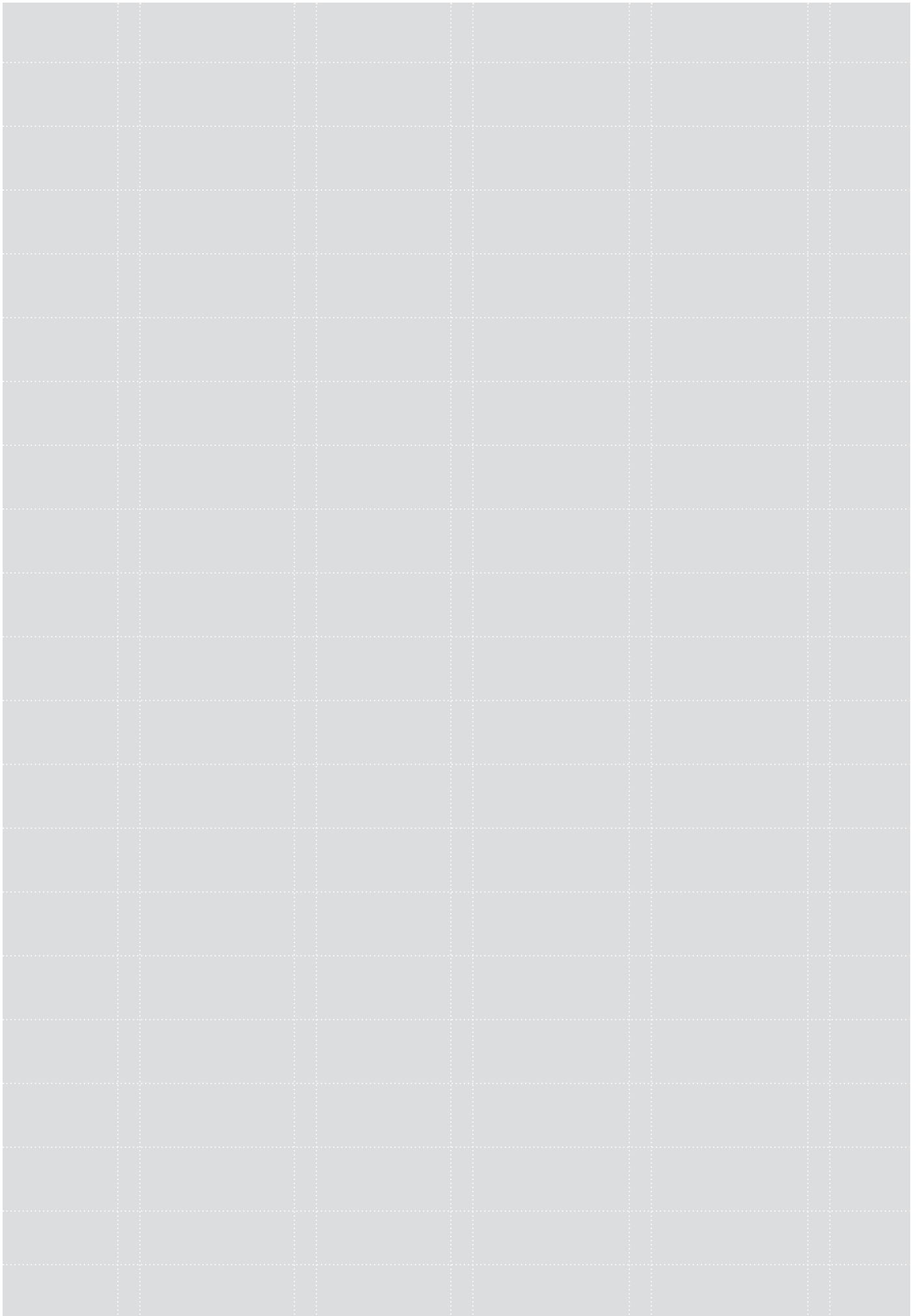


602_134

Key:

- | | | | |
|-------------|---|-------------|---|
| E234 | Release Button in Rear Lid Handle | R135 | Front Passenger Access/Start System Antenna |
| E408 | Access/Start Authorization Button | R136 | Access/Start System Antenna in Rear Bumper |
| G415 | Driver Exterior Door Handle Touch Sensor | R138 | Access/Start System Antenna 1 in Vehicle Interior |
| G416 | Front Passenger Exterior Door Handle Touch Sensor | R139 | Access/Start System Antenna 2 in Vehicle Interior |
| R134 | Driver Access/Start System Antenna | | |

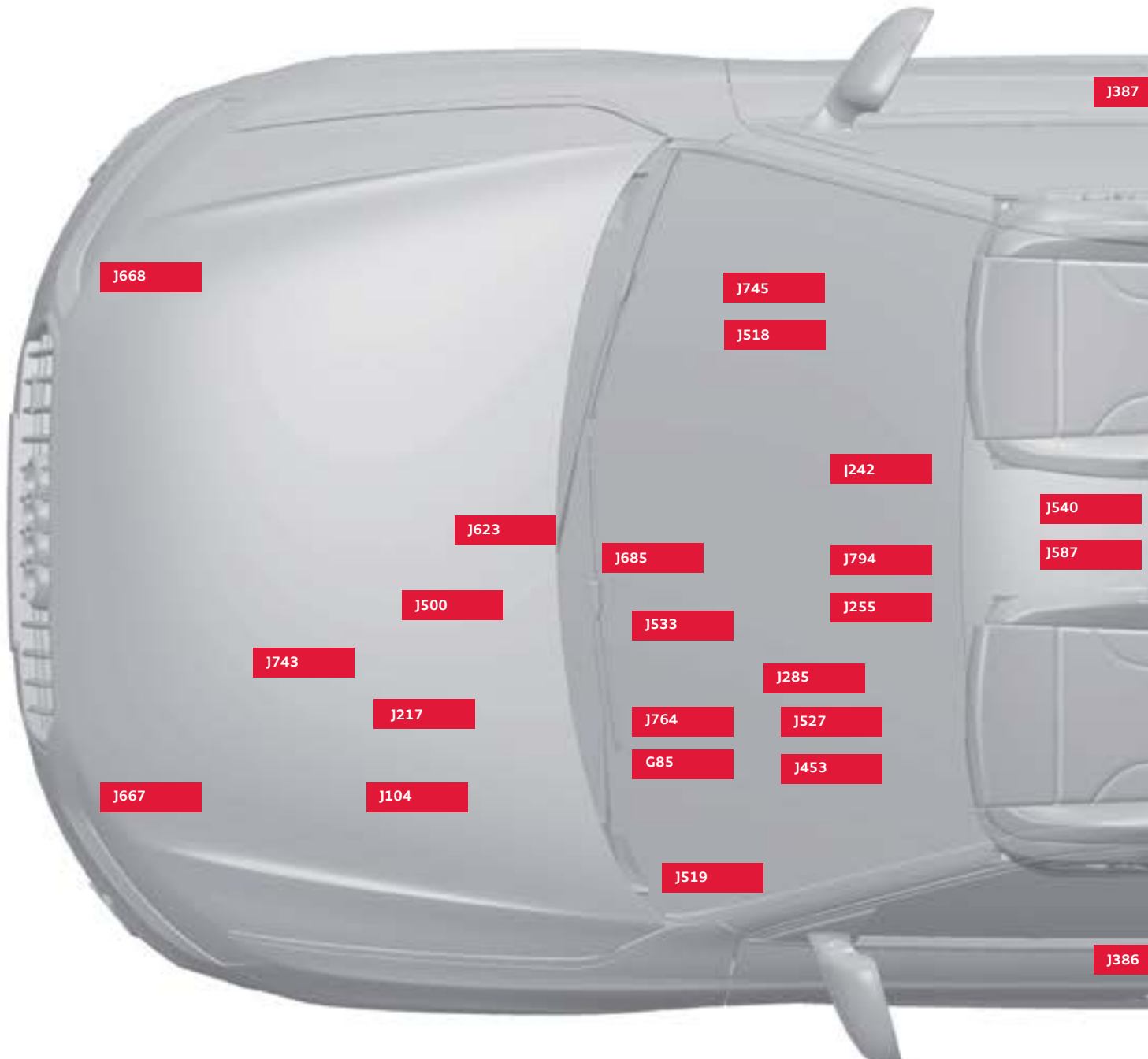
Notes



Control module locations

Some of the control modules shown in this overview may be optional and/or country specific.

Always refer to ElsaPro for details about control module locations and instructions for installation and removal.



Key:

G85 Steering Angle Sensor

J104 ABS/ESP Control Module

J217 Transmission Control Module

J234 Airbag Control Module

J255 Climatronic Control Module

J285 Instrument Cluster Control Module

J386 Driver Door Control Module

J387 Front Passenger Door Control Module

J388 Left Rear Door Control Module

J389 Right Rear Door Control Module

J453 Multifunction Steering Wheel Control Module

J492 All Wheel Drive Control Module

J500 Power Steering Control Module

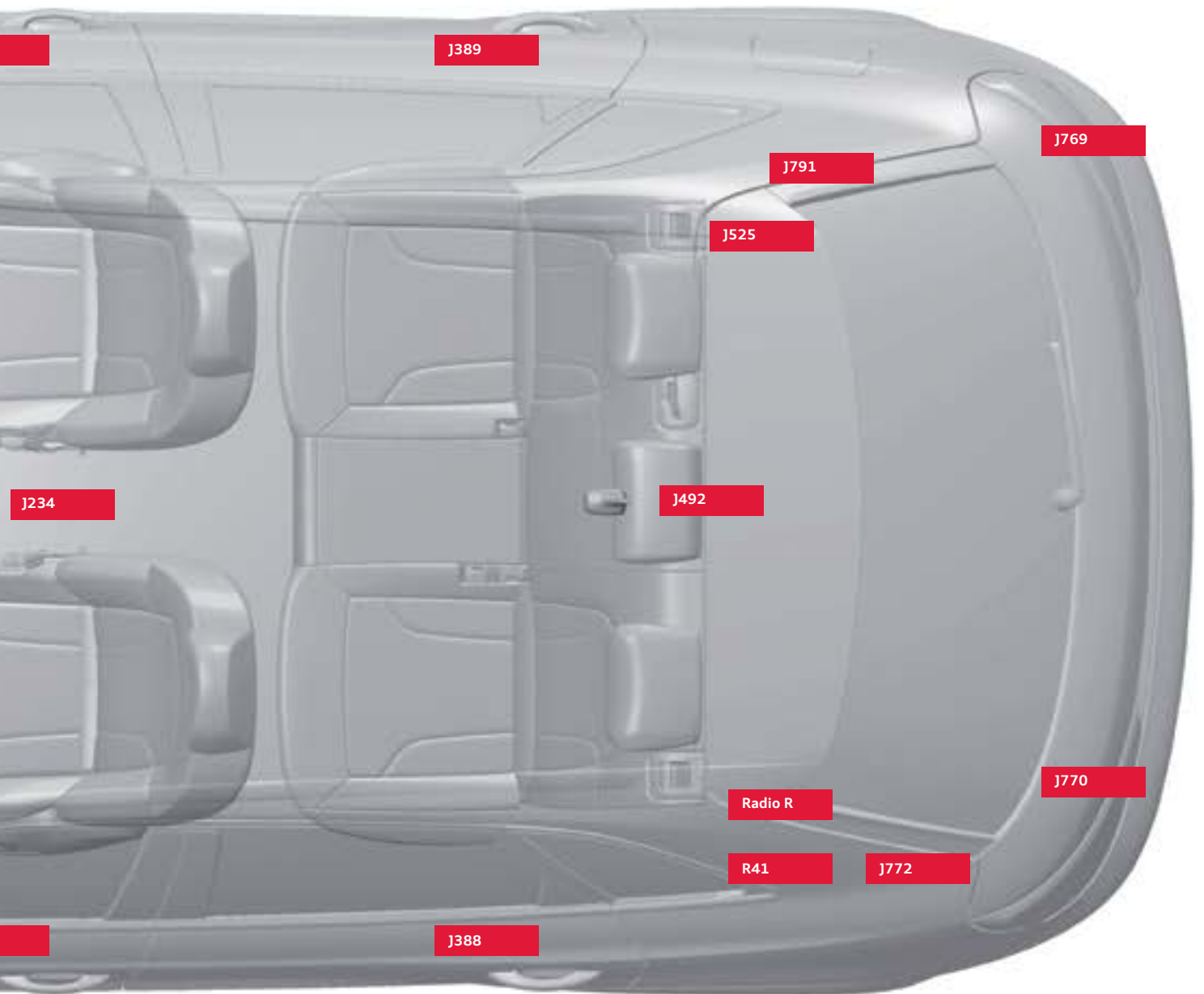
J518 Access/Start Authorization Control Module

J519 Vehicle Electrical System Control Module 1

J525 Vehicle Electrical System Control Module 1

J527 Steering Column Electronics Control Module

J533 Data Bus On Board Diagnostic Interface



602_092

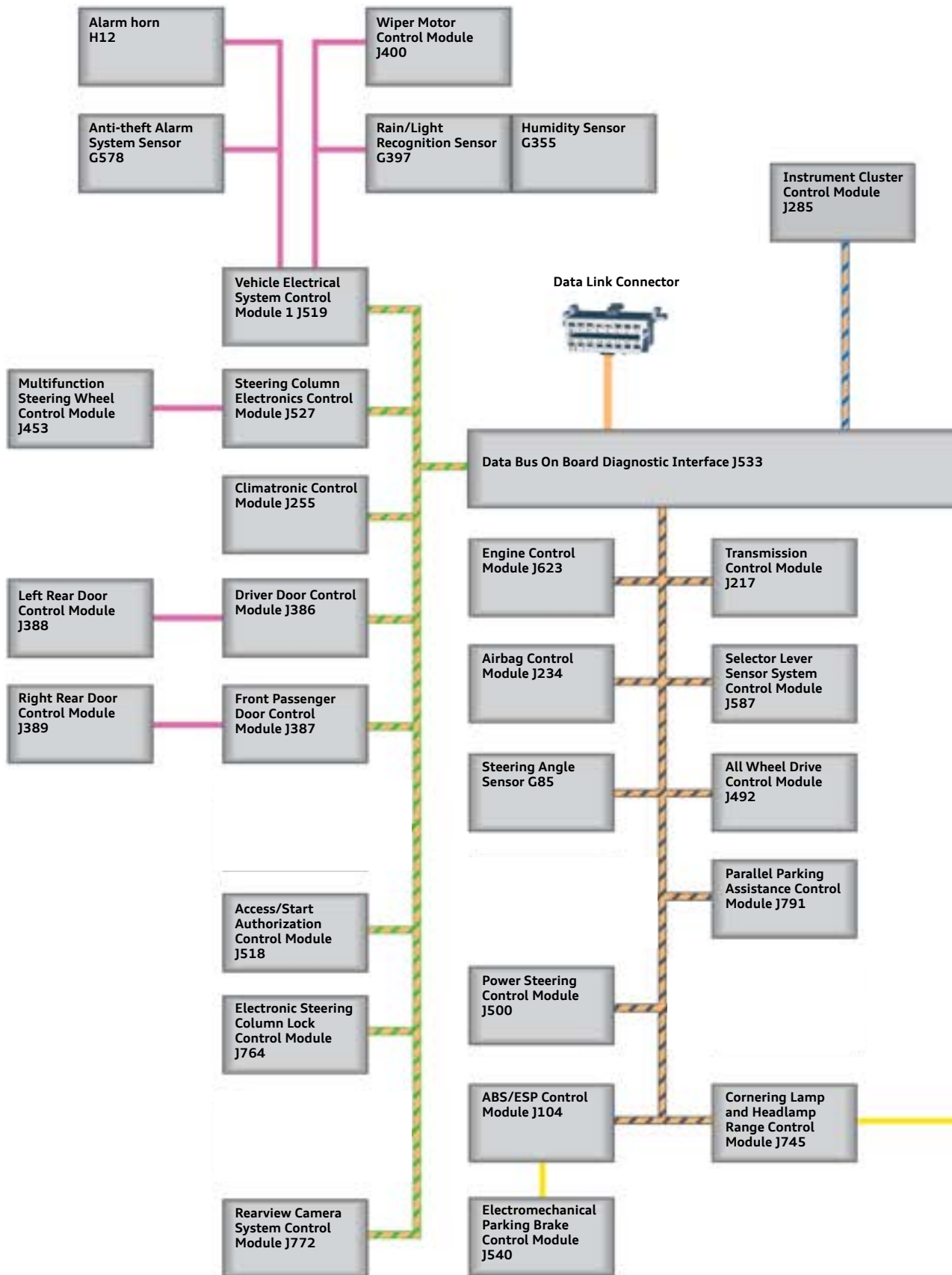
J540 Electromechanical Parking Brake Control Module
J587 Selector Lever Sensor System Control Module
J623 Engine Control Module
J667 Left Headlamp Power Output Stage
J668 Right Headlamp Power Output Stage
J685 Front Information Display Control Head
J745 Cornering Lamp and Headlamp Range Control Module
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

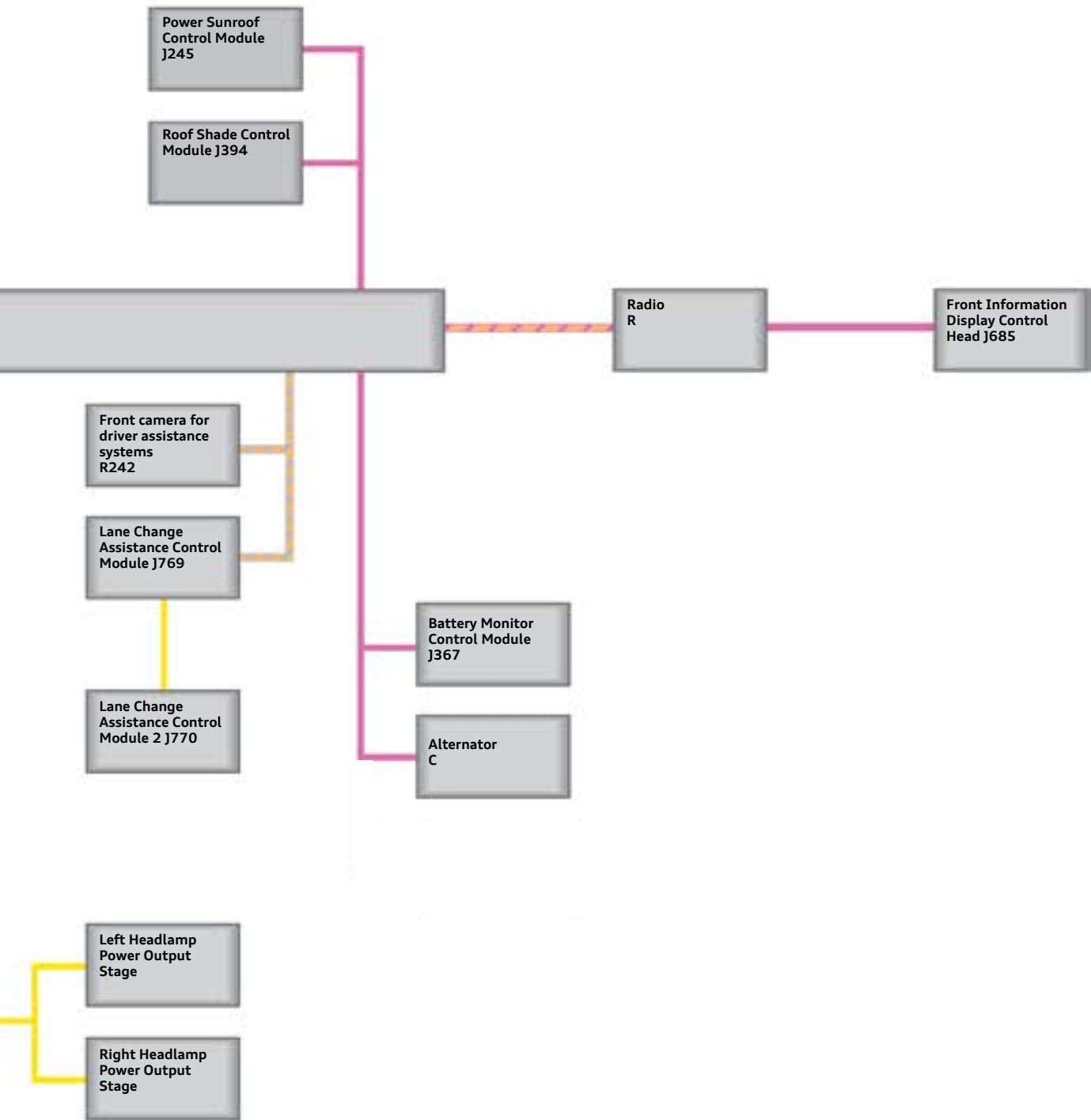
R Radio
R41 CD changer
R242 Driver Assistance Systems Front Camera

Topology

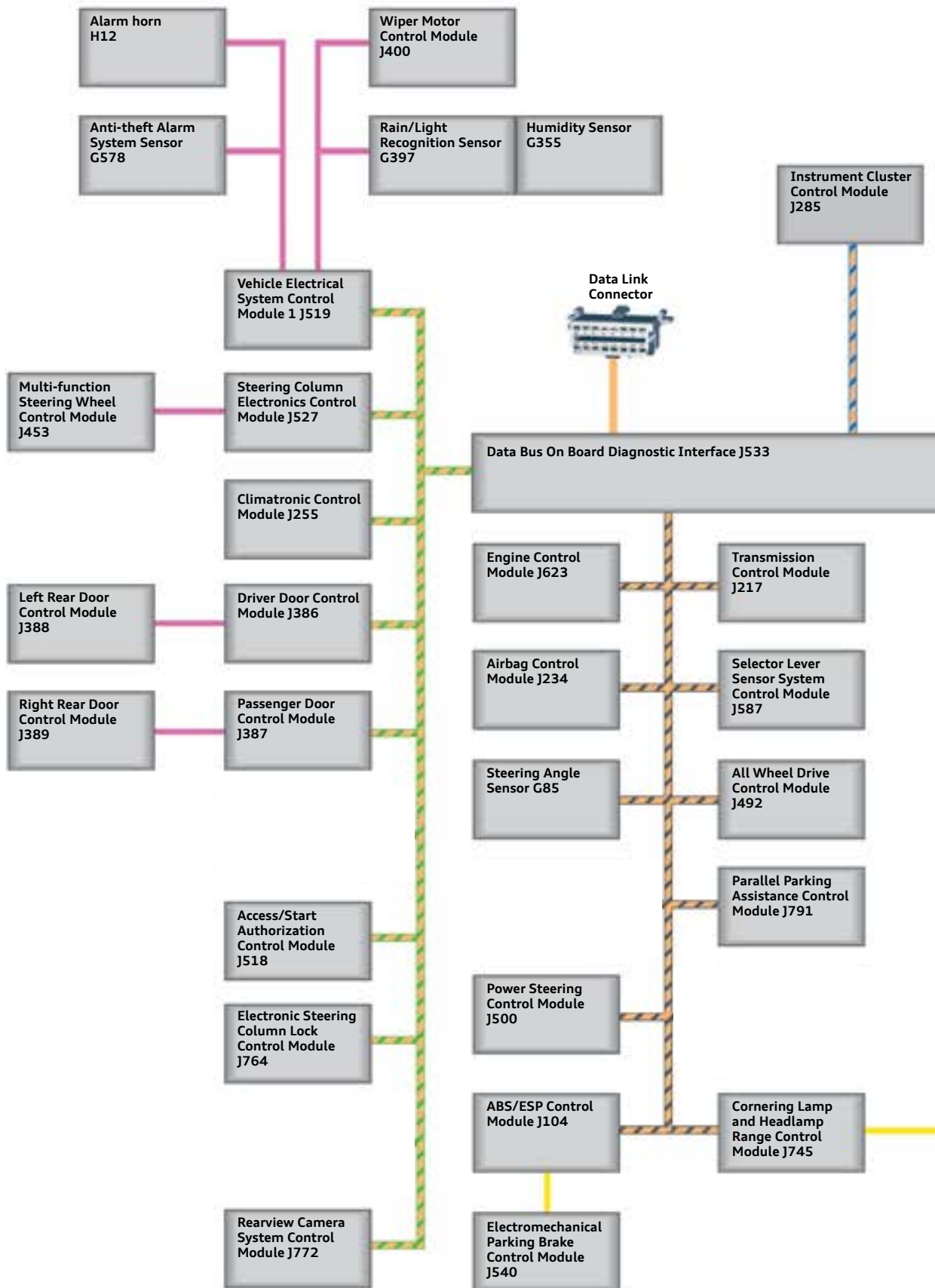
Models with infotainment CAN bus



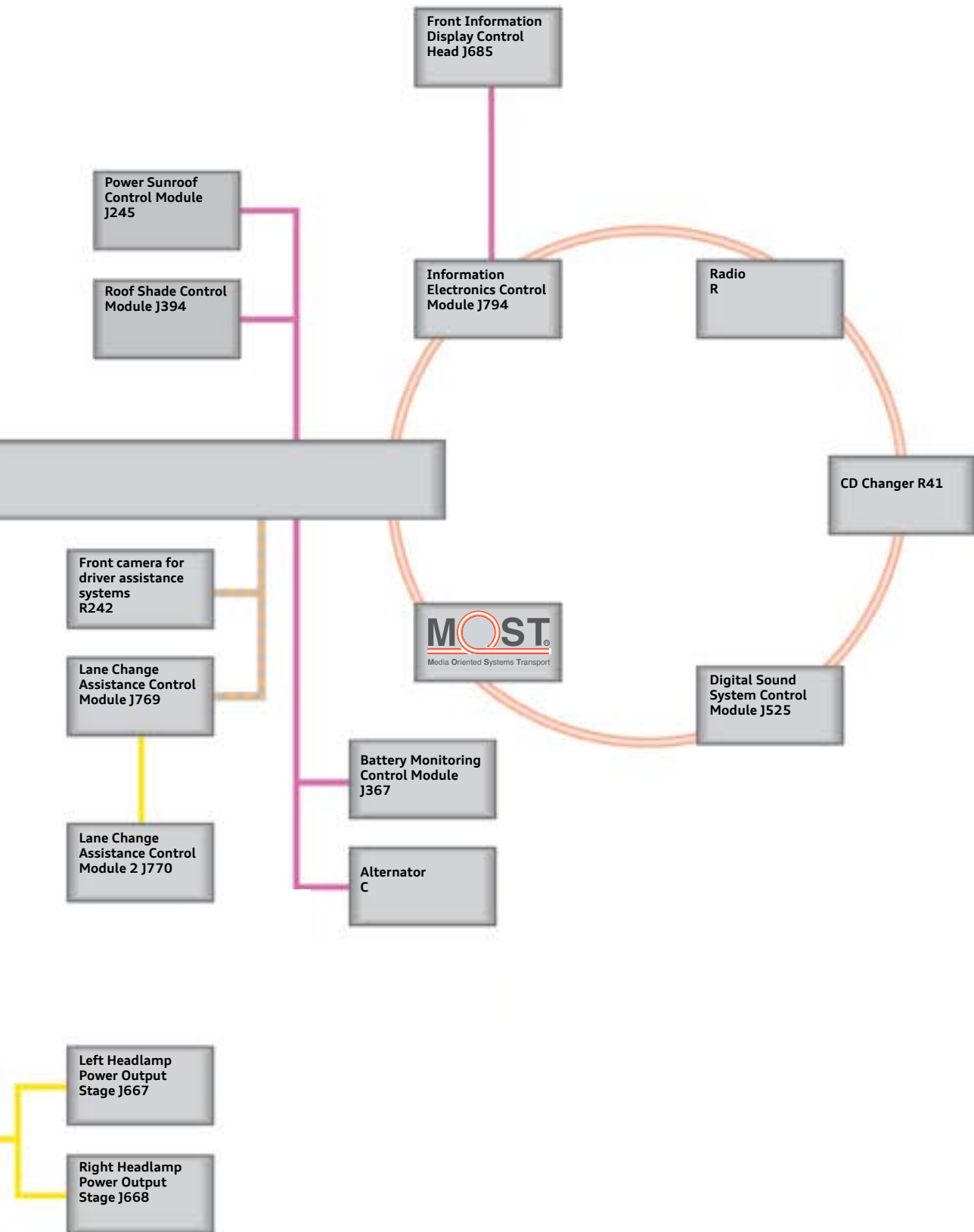
- Key:**
-  Powertrain CAN bus
 -  Infotainment CAN bus
 -  LIN bus
 -  Convenience CAN bus
 -  Diagnostics CAN bus
 -  Sub-bus systems
 -  Extended CAN bus
 -  Instrument cluster CAN bus



Models with MOST bus



- Key:**
- Powertrain CAN bus
 - Convenience CAN bus
 - Diagnostics CAN bus
 - Instrument cluster CAN bus
 - Extended CAN bus
 - MOST bus
 - LIN bus
 - Sub-bus systems



Exterior lighting

Xenon plus HID headlights

The Q3 comes equipped with Xenon plus headlights. The daytime running lights and side light are provided by LEDs via a plastic optical fiber cable. The two LEDs are mounted on the LED module. They cannot be replaced separately. In the event of a fault, the LED module can be replaced.



602_094

| Light functions | Illuminants used | Power |
|--|--|------------------|
| Daytime running light Parking light | 2 LEDs with plastic optical fibers (dimmed to approx. 25 %) | approx. 10 watts |
| Low beam Cornering light High beam | Gas discharge lamp D3S | 35 watts |
| Turn signal | Bulb PY24W | 24 watts |
| Fog light (integrated in the bumper, not shown) | Bulb H11 | 55 watts |

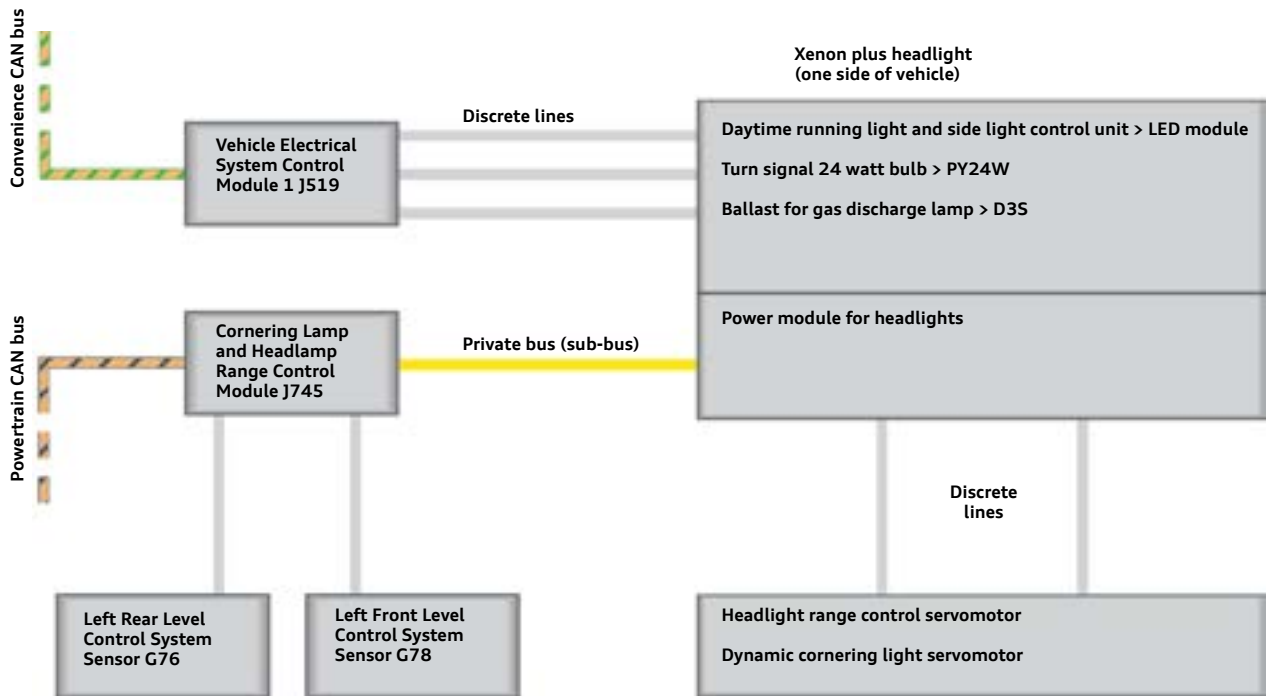
Daytime running light and side light

Both LEDs for the daytime running light are operated at 100% of their capacity.

The daytime running light is disabled when the turn signals are activated.

Dynamic headlight range control

Schematic diagram of the activation mechanism for Xenon plus headlights



602_116

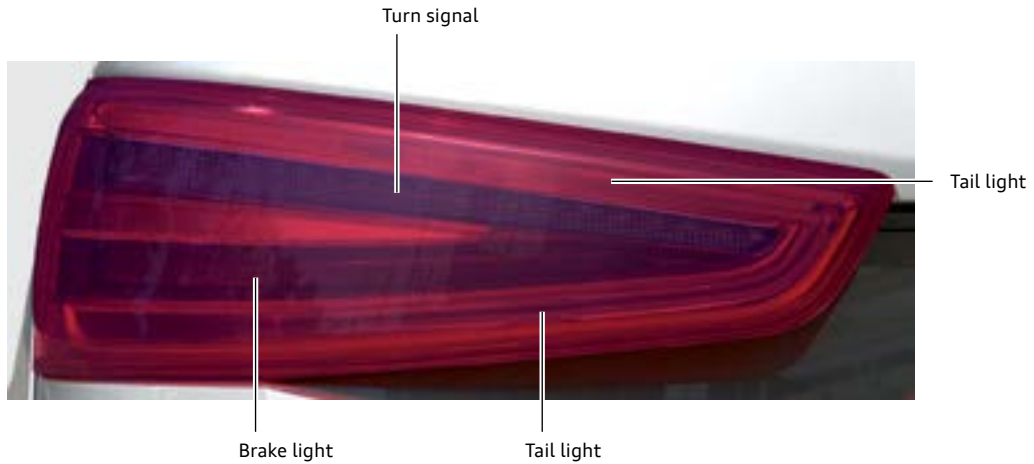
Tail lights

The Q3 for the North American market will be equipped with LED tail lights. Some of the lights will be installed in tailgate while additional lights will be installed in the lower bumper cover.

The tail lights are activated by Vehicle Electrical System Control Module 1 J519. The tail lights in the tailgate are disabled when it is in the raised position. The tail lights in the lower bumper spoiler are then illuminated.

None of the component parts of the LED tail lights in the tailgate can be replaced.

LED tail light



602_118

| Light functions | Illuminants used | Activation mechanism | Power |
|-----------------|------------------------------------|----------------------|-------------------|
| Tail light | 2 LEDs with plastic optical fibres | 100% | approx. 2 watts |
| Brake light | 18 red LEDs | 100% | approx. 3.5 watts |

Additional tail lights

Additional tail lights in the Audi Q3 are needed because the tail lights also swing up when the tailgate is opened. They are integrated in the bumper and accommodate the back-up light and rear tail light functions, as well as the turn signal and the tail/brake light when the tailgate is open.

The additional tail lights can be removed to replace the bulbs from the rear bumper. A close-out cover which provides access to the light retaining bolts is integrated in the bumper cover for this purpose.



602_119

| Light functions | Illuminants used | Activation mechanism | Power |
|---------------------------|------------------|------------------------|----------|
| Tail light ¹⁾ | Bulb W16W | dimmed to approx. 30 % | |
| Brake light ¹⁾ | | 100 % | 16 watts |
| Turn signal ¹⁾ | Bulb W16W | 100 % | 16 watts |
| Rear fog light | Bulb W16W | 100 % | 16 watts |
| Back-up light | Bulb W16W | 100 % | 16 watts |

¹⁾ active only when tailgate is open

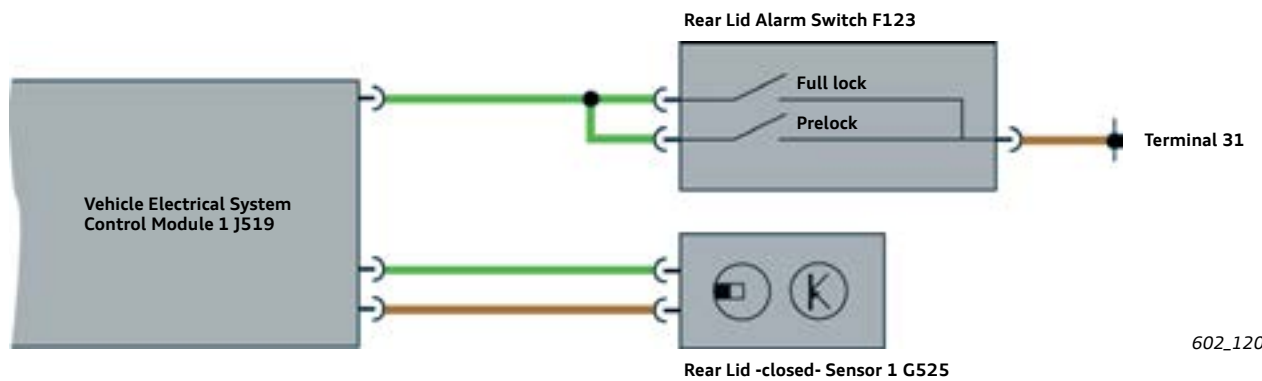
Additional tail light activation

The tail lights in the tailgate are deactivated when it is raised. Their functions are taken over by the additional tail lights in the lower bumper cover.

To reliably detect an open tailgate, Rear Lid Alarm Switch F123 and Rear Lid -closed- Sensor G525 are evaluated. F123 has two microswitches in the tailgate lock. G525 is a Hall sensor integrated in the rear lock plate cover.

J519 not only evaluates the operating states of both switches, but also the time between the signals generated by both switches. If the time lag is too long between both signals when closing the tailgate, the additional tail lights are not deactivated for safety reasons.

Schematic diagram of the circuit



High mounted brake light

The high mounted brake light is integrated in the rear spoiler. It has a total of 48 LEDs. The component parts of the light cannot be replaced. If a fault occurs, the complete LED module must be replaced after first removing the rear spoiler.



602_122

License plate lights

The license plate lights of the Q3 are also LED units. Each light unit has two LEDs. They are activated by J519.



602_123

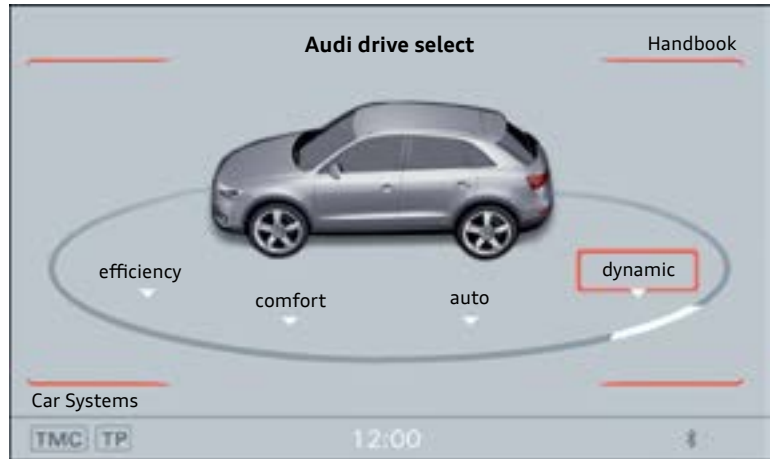
Audi drive select

The Q3 can be optionally equipped with Audi drive select. The customer can choose between three operating modes: comfort, auto and dynamic.

Audi drive select can be set using a button on the instrument panel or through the MMI controls under the CAR menu. The current operating mode is shown on the MMI display.



602_135



European version shown

602_136

Controllable systems

The system is operated using the buttons in the center console



Operation via CAR menu in Radio Media Center (RMC) or MMI



Accelerator/engine

Variable characteristic



Servotronic

Variable steering torque




602_137

Functional characteristics

Engine

| | comfort | | auto | | dynamic | |
|------------------|----------|----------|----------|----------|---------|--------|
| | D | S | D | S | D | S |
| Engine | | | | | | |
| Power/ torque | normal | normal | normal | normal | normal | normal |
| Load change | balanced | balanced | balanced | balanced | sparty | sparty |

Drive-independent vehicle systems

| | comfort | auto | dynamic |
|---|-------------|----------|---------|
| Steering | | | |
|  | comfortable | balanced | sparty |

Climate control

Energy efficiency

The fully automatic two-zone air conditioning system regulates nominal temperature, air distribution and air flow rate depending on sunlight intensity, interior and exterior temperature. It also has a humidity sensor. A dew point sensor and a windshield temperature sensor are integrated in the base of the mirror to detect impending fogging and to enhance climate comfort through passenger compartment humidity management.

| Equipment | Automatic climate control system |
|----------------------------------|---|
| Climate zones | Two-zone system |
| Interior filtering | Dust and pollen filter without activated charcoal |
| Manual air circulation | yes |
| Automatic air circulation | yes |
| Sunlight photosensor | yes |
| Air quality sensor | yes |
| Cabin humidity sensors | yes |
| Seat heating levels | 3 |
| Glove compartment cooling system | yes |

Climatronic Control Module J255

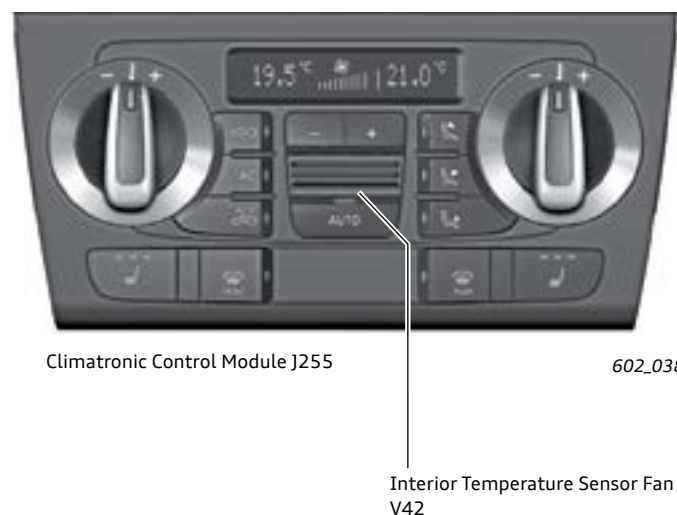
In addition to controlling all functions of the climate control system, J255 also houses the controls for the heated front seats. They can be activated on three output levels.

J255 receives information from the following sensors::

- ▶ Air Quality Sensor G238
- ▶ Sunlight Photo Sensor G107
- ▶ Humidity Sensor G355

Air from the passenger compartment is drawn into the interior temperature sensor by Interior Temperature Sensor Fan V42. If repairs are needed, V42 can be removed and replaced separately.

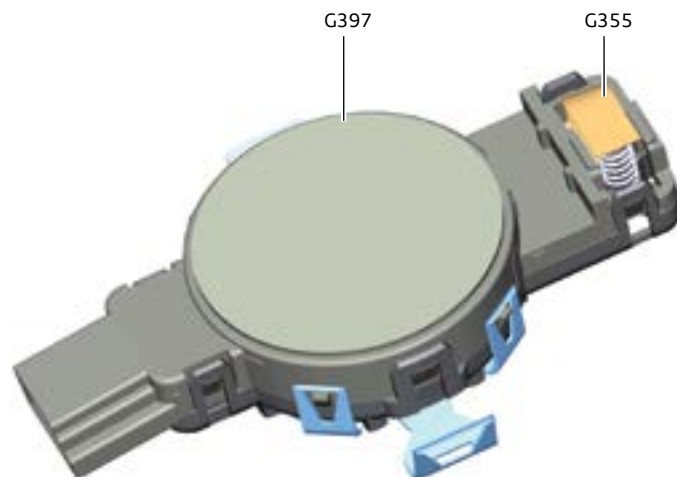
The control module is held in place by clips and can be easily removed with special tools.



Humidity management with combined rain, light and humidity sensor

The Q3 uses Humidity Sensor G355 to measure the passenger compartment relative humidity and the windshield temperature.

In vehicles with automatic light control and Climatronic, G397 and G355 are combined in a single unit.



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Note

New sensors are delivered with a transport protection cover which must be removed prior to installation.

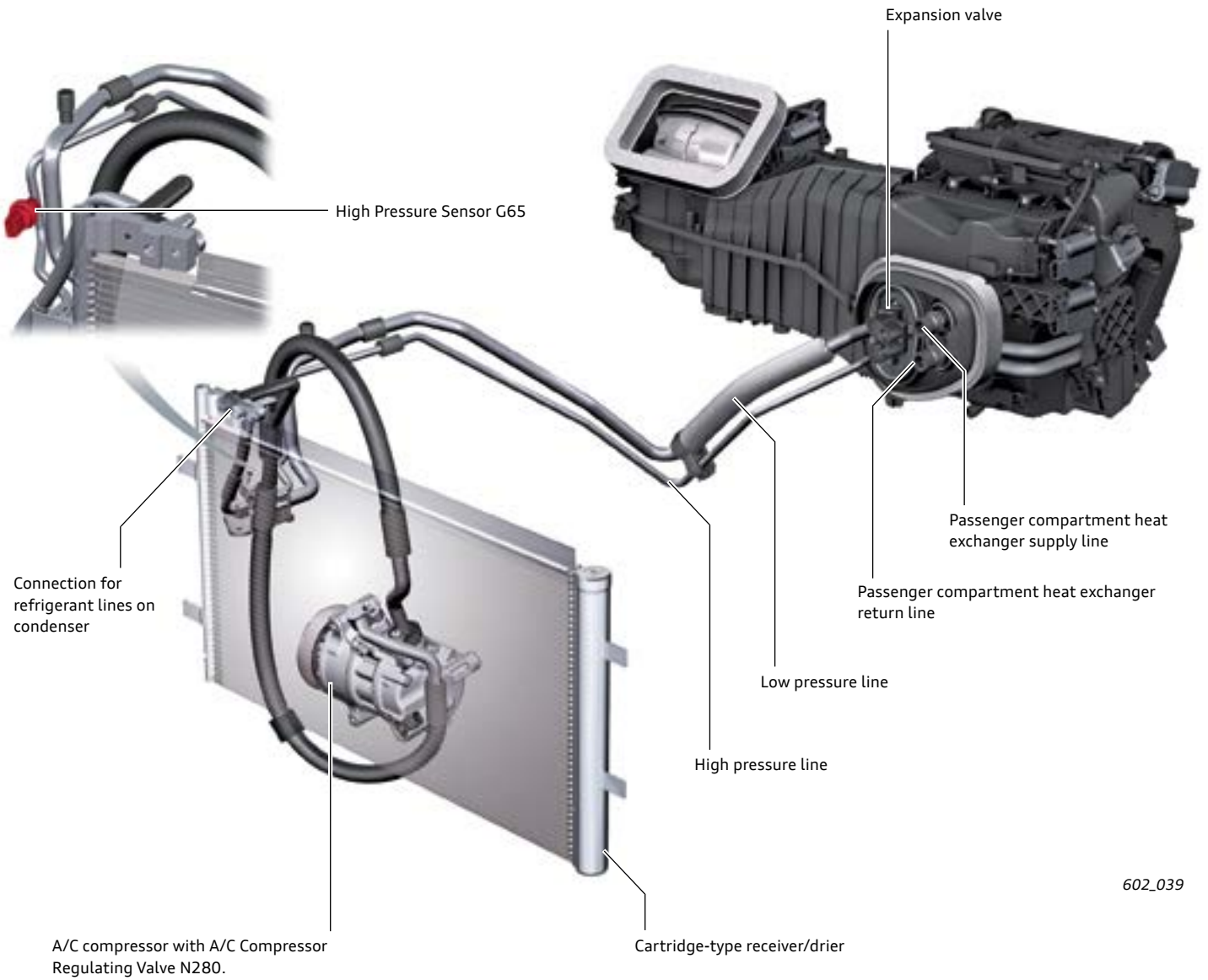
Refrigerant circuit

The refrigerant circuit of the Q3 is designed for R134a refrigerant. The circuit is controlled by a six piston compressor, A/C Compressor Regulating Valve N280 and an expansion valve. The receiver/drier is mounted on the condenser and features a removable cartridge.

The high and low pressure service valves are located on the right hand side of the engine compartment above the side member.

High Pressure Sensor G65 sends its data by PWM signals to Climatronic Control Module J255.

Design



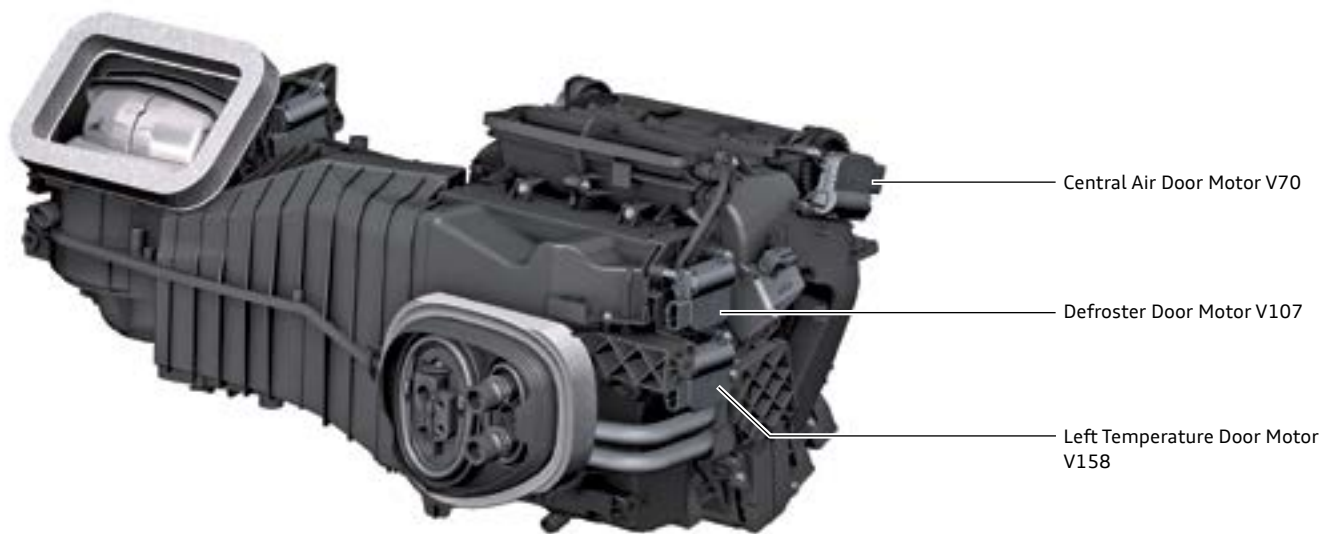
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Air conditioner housing

The air conditioner housing of the has the following features:

- ▶ A condensate drain that flows to the outside through the center tunnel on the front passenger side.
- ▶ The passenger compartment heat exchanger can be replaced without removing the instrument panel or center console.
- ▶ The dust and pollen filter can be accessed from the front passenger footwell.

Design

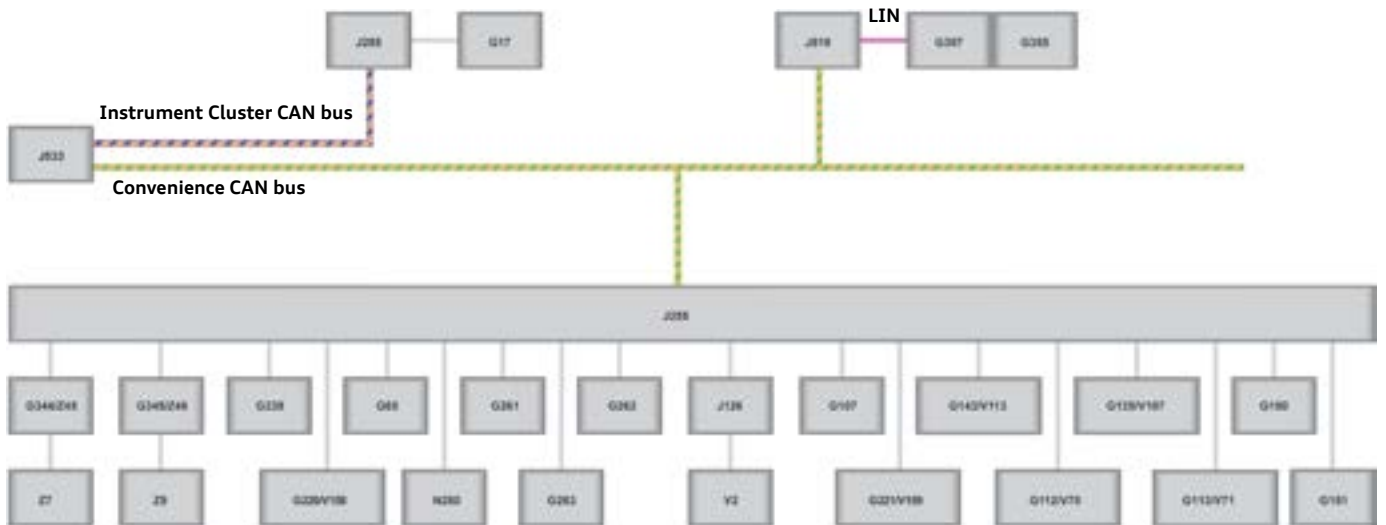


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Networked components

A/C Control Module J301 communicates with Vehicle Electrical System Control Module 1 J519 and Instrument Cluster Control Module J285 via the CAN data bus.

The heated front seats are operated via Front Seat Heating Control Module J774. J774 is wired directly to the J519 and therefore does not communicate over the data bus.



602_042

Key:

- | | | | |
|------|---|------|--|
| C18 | Windshield Antenna Suppression Filter | J9 | Rear Window Defogger Relay |
| G17 | Outside Air Temperature Sensor | J59 | Load Reduction Relay |
| G65 | High Pressure Sensor | J126 | Fresh Air Blower Control Module |
| G92 | Temperature flap control motor potentiometer | J255 | Climatronic Control Module |
| G107 | Sunlight Photo Sensor | J285 | Instrument Cluster Control Module |
| G112 | Central Door Motor Position Sensor | J301 | A/C Control Module |
| G113 | Back Pressure Door Motor Position Sensor | J519 | Vehicle Electrical System Control Module 1 |
| G135 | Defroster Door Motor Position Sensor | J533 | Data Bus On Board Diagnostic Interface |
| G143 | Recirculation Door Motor Position Sensor | N24 | Fresh Air Blower Series Resistor with Fuse |
| G150 | Left Vent Temperature Sensor | N280 | A/C Compressor Regulator Valve |
| G151 | Right Vent Temperature Sensor | V2 | Fresh Air Blower |
| G192 | Footwell Vent Temperature Sensor | V70 | Central Air Door Motor |
| G220 | Left Temperature Door Potentiometer/Actuator | V71 | Defroster Door Motor |
| G221 | Right Temperature Door Potentiometer/Actuator | V107 | Defroster Door Motor |
| G238 | Air Quality Sensor | V113 | Recirculation Door Motor |
| G261 | Left Footwell Vent Temperature Sensor | V158 | Left Temperature Door Motor |
| G262 | Right Footwell Vent Temperature Sensor | V159 | Right Temperature Door Motor |
| G263 | Evaporator Vent Temperature Sensor | Z1 | Rear Window Defogger |
| G344 | Left Front Seat Temperature Sensor | Z7 | Driver Backrest Heating Element |
| G345 | Right Front Seat Temperature Sensor | Z9 | Front Passenger Backrest Heating Element |
| G355 | Humidity Sensor | Z45 | Left Front Seat Heating Element |
| G397 | Rain/Light Recognition Sensor | Z46 | Right Front Seat Heating Element |
| G645 | Air Distribution Door Motor Position Sensor | | |

Signal processing

In the Q3, virtually all sensor and actuator signals are read and processed by the Climatronic Control Module. The exceptions are: Outside Temperature Sensor G17 and Humidity Sensor G355.

Humidity Sensor G355 sends its data to Vehicle Electrical System Control Module 1 J519 on a LIN bus. The data is then transmitted to Climatronic Control Module over the Convenience CAN bus.

Instrument Cluster Control Module J285 processes the temperature signal from G17. Its value is transmitted to the Climatronic Control Module via the CAN bus.

Infotainment

Overview of versions

The Q3 will have two infotainment options available.

The standard equipment infotainment system features the concert radio. The MMI Navigation plus system is optional.

The concert radio is based on the Radio Media Center (RMC) infotainment platform. The MMI Navigation plus system is based on the MMI 3rd generation plus (MMI 3G Plus) infotainment platform.

The following table shows the key standard and optional equipment features.

| Concert radio (North America) | MMI Navigation plus (optional) |
|---|--|
|  |  |
|  |  |
| 6.5" TFT color monitor with 400 x 240 pixel resolution | 7" TFT color monitor with 800 x 480 pixel resolution |
| AM/FM radio with phase diversity | 3D hard drive navigation system |
| Car menu | AM/FM radio with phase diversity and background tuner |
| CD drive (MP3, AAC, WMA) | Car menu |
| 1 SD card reader (for SDHC cards with up to 32 GB of memory) | DVD drive (Audio/Video, MP3, AAC, WMA, MPEG4) |
| | 2 SD card readers (for SDHC cards with up to 32 GB of memory) |
| AUX In socket | 20 GB jukebox |
| Audi sound system (10 x 180 watts) | Audi music interface (AMI) |
| | Basic sound system (4 x 20 watts) |
| | Bluetooth interface for HFP and A2DP (9ZX) |
| | Premium speech dialogue system |
| Bluetooth interface for HFP and A2DP (9ZX) | 1 SIM card reader |
| Digital radio SDARS | Digital radio SDARS |
| CD changer (MP3) | CD changer (MP3) |
| Audi Sound System | Audi Sound System |
| | BOSE Surround Sound (optional) |

MMI displays

(Front Information Display Control Head J685)

The concert radio (RMC) has a 6.5" TFT display with 400 x 240 pixel resolution.

MMI Navigation plus has a 7" TFT display with a maximum resolution of 800 x 480 pixels.

The displays are connected to Information Electronics Control Module 1 J794 by a 4-pin connector. Two of the

four wires are used for image transfer by LVDS (Low Voltage Differential Signaling). One wire is used for data transfer by LIN bus. The fourth wire is a ground connection. Power is supplied to the display through a separate connector.

This MMI display for vehicles in the North American market are fixed in position and do not fold into the instrument panel.



Concert radio display

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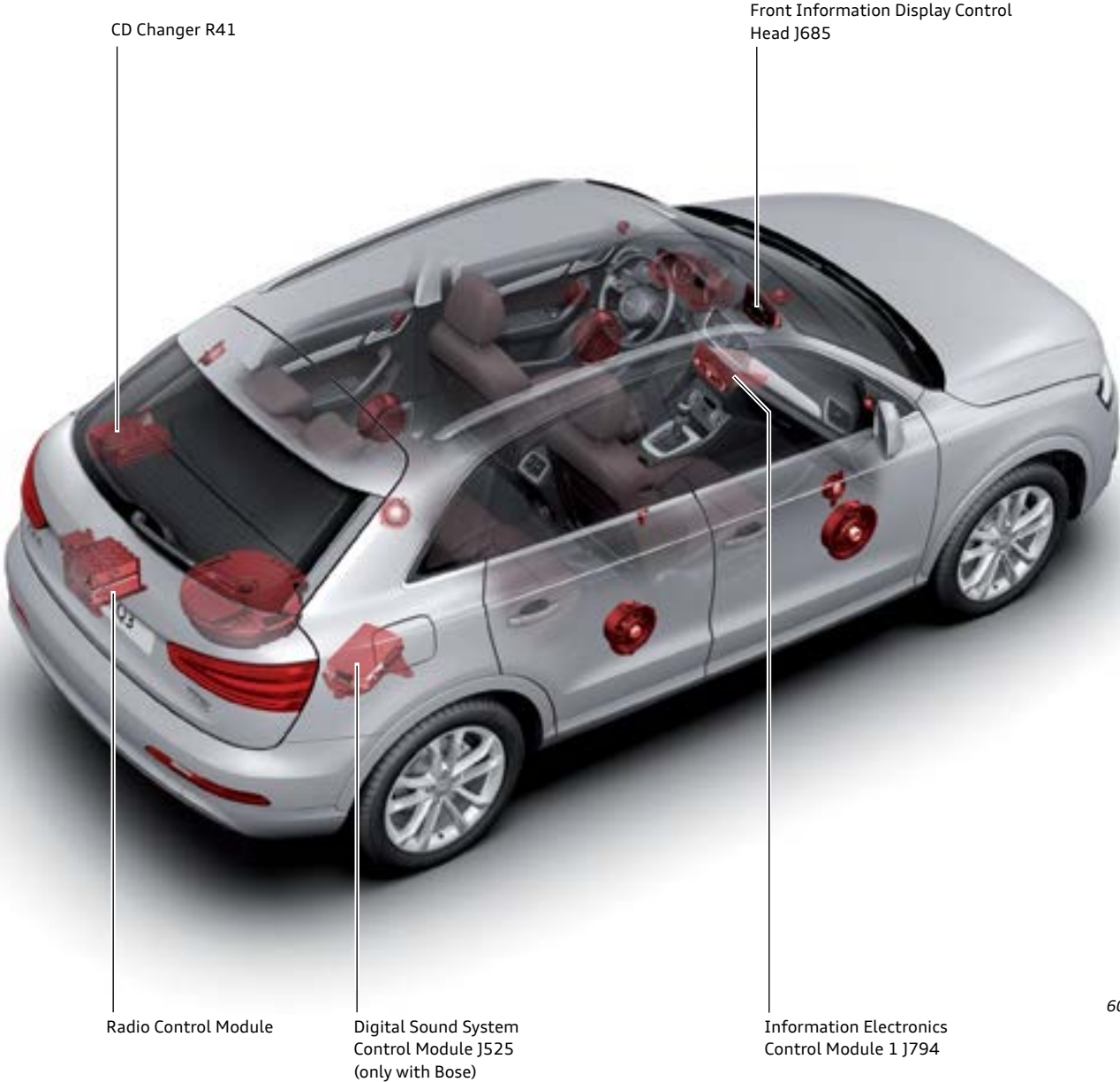


MMI Navigation plus display

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Installation locations of control modules

Audi Q3 with MMI Navigation plus



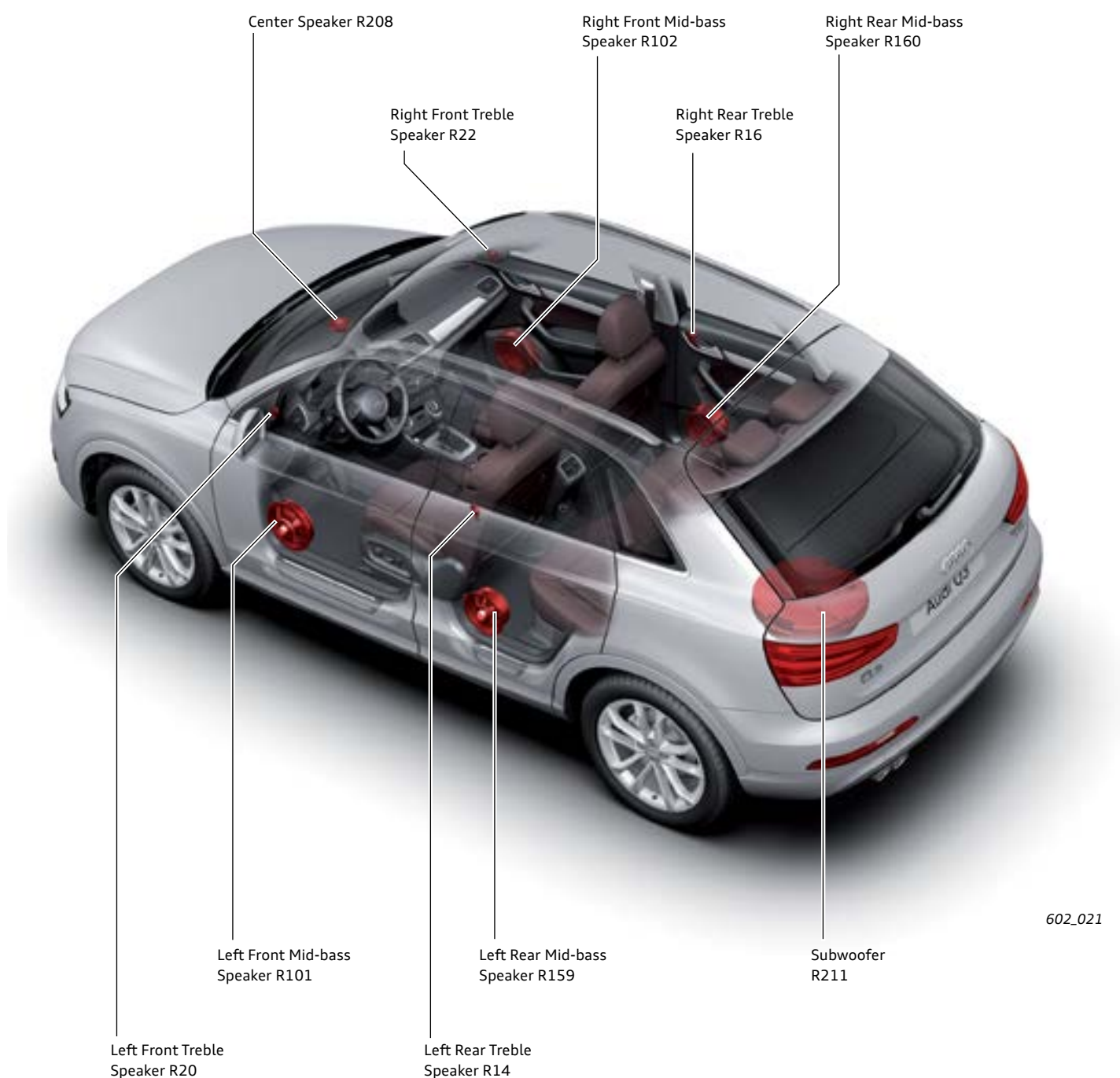
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Sound systems

The Audi sound system is standard equipment for the Q3. The audio amplifier delivers a total power output of 180 watts distributed to 10 speakers.

If the concert radio is installed in the vehicle, the audio amplifier is integrated with Information Electronics Control Module 1 J794.

Q3 with standard Audi sound system

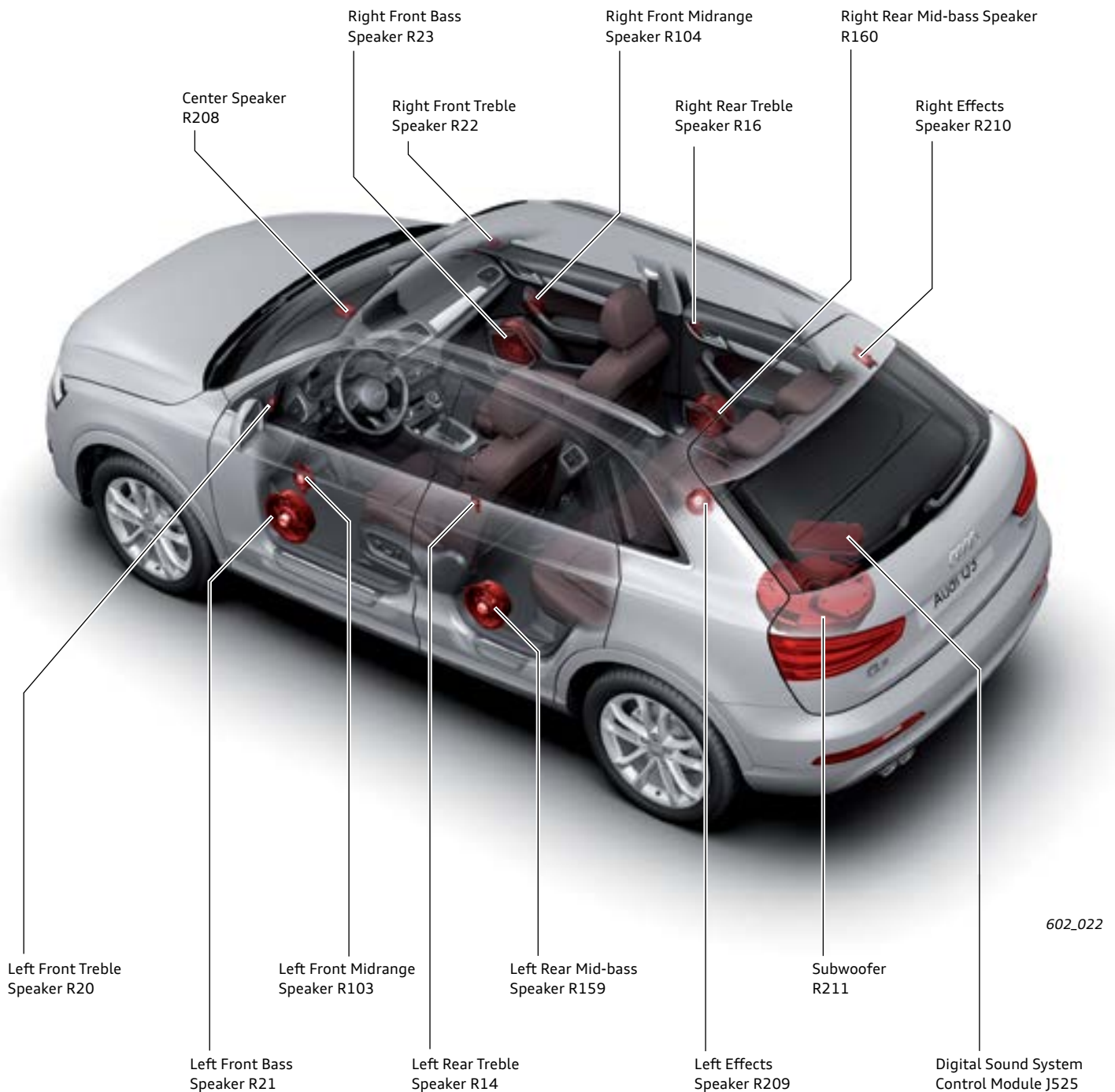


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Audi Q3 with BOSE Surround Sound

The optional BOSE Surround Sound System has 14 speakers and delivers a total power output of approximately 465 watts.

The BOSE audio amplifier (Digital Sound System Control Module J525) is installed in floor of the trunk.



602_022

Antenna overview

Most of the antennas for the Q3 are integrated in the rear window. Only the telephone and navigation antennas are located in Roof Antenna R216.



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Overview of rear window antennas with amplifiers



602_023

¹⁾ integrated in rear spoiler

Service

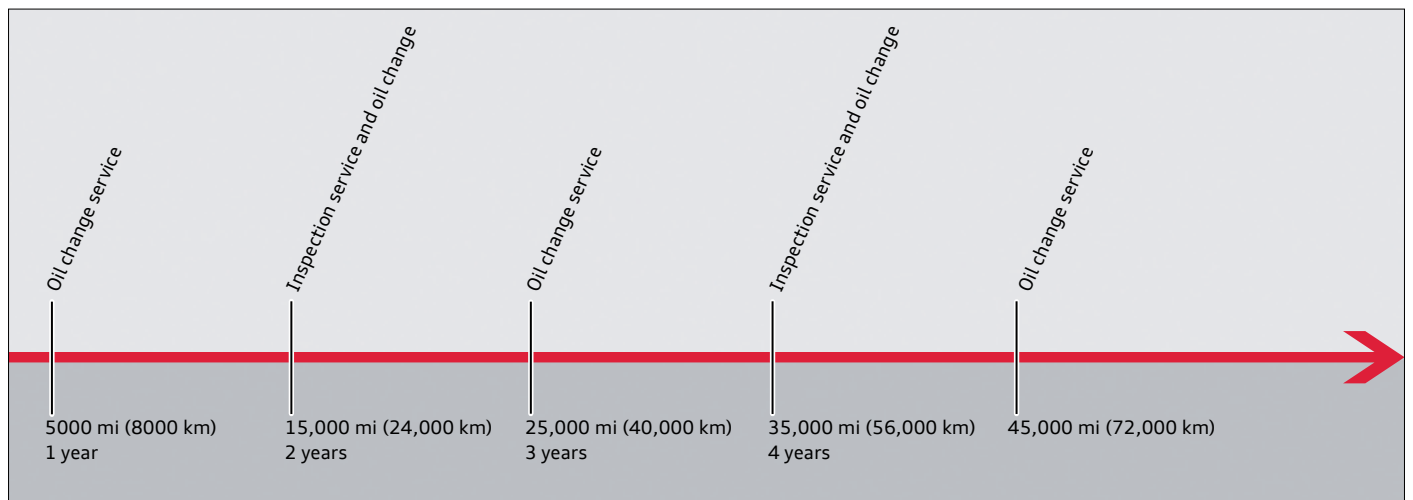
Service interval overview for North American region

Service recommendations can be viewed through the MMI.

- ▶ Oil change service
- ▶ Mileage based service events
- ▶ Time based service events



The first recommended oil change for Q3 in the North American region is at 5000 mi (8000 km) or at one year from the date of delivery. An oil change and inspection service is recommended at 15,000 mi (24,000 km). Oil change service is recommended 10,000 mi (16,000 km) thereafter with. See the chart below.



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