



The 2015 Audi A3 Onboard Power Supply and Networking Systems

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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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This eSelf Study Program teaches 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



Reference

Power supply

Battery

The battery for the 2015 A3 is located in the engine compartment and is protected by a battery box. Battery size and type are dependent on engine version, trim and country specification. Standard batteries, EFB batteries and AGM batteries are used.

EFB

An EFB (Enhanced Flooded Battery) can be regarded as a heavy-duty wet-cell battery. The positive plate inside the battery is coated with an additional polyester mesh. This provides additional retention for the active battery material. The deep-cycle resistance is higher than that of conventional batteries. An EFB is charged in exactly the same way as a conventional battery.

In general, vehicles with gasoline engines are equipped with an EFB battery, while diesel engine equipped vehicles use an AGM battery.

AGM battery

In AGM (Absorbent Glass Mat) batteries, the battery electrolyte is held within a microporous glass matting. In addition to having higher deep-cycle resistance than an EFB battery, the AGM battery is noted for its leak-proof construction. Special charging procedures may be required for an AGM battery.

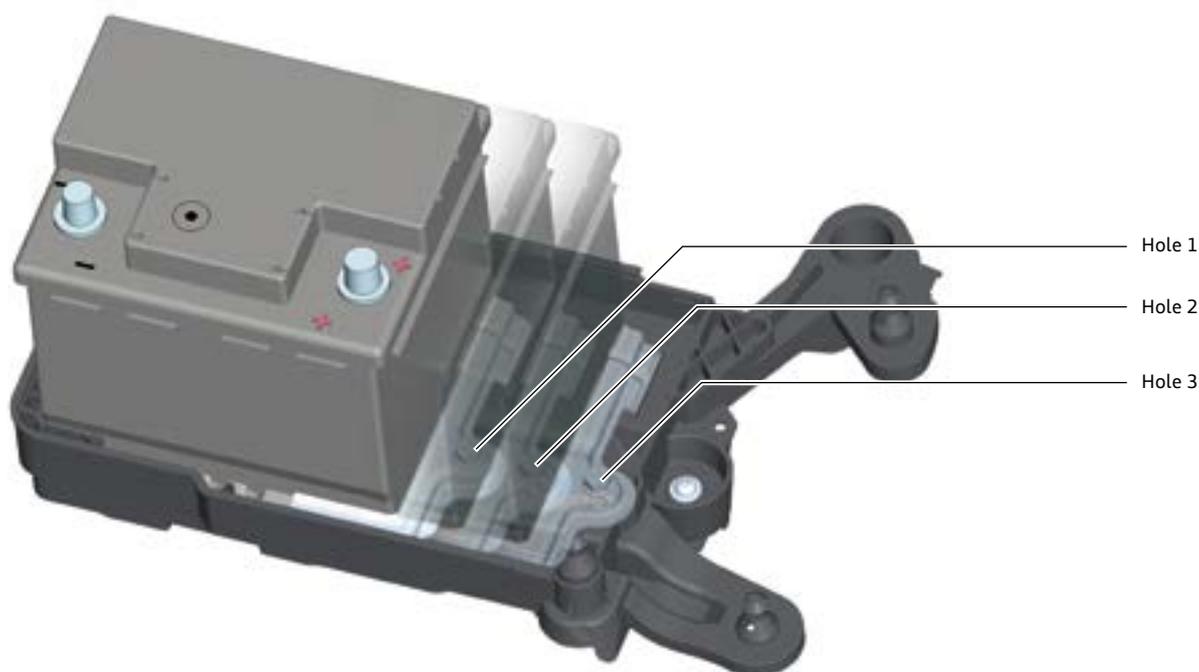
The following batteries are used in the 2015 Audi A3 dependent on engine type:

Standard batteries	EFB	AGM batteries
<ul style="list-style-type: none">▶ 44 Ah/220 A▶ 51 Ah/280 A▶ 60 Ah/280 A▶ 61 Ah/330 A▶ 72 Ah/380 A	<ul style="list-style-type: none">▶ 59 Ah/280 A▶ 69 Ah/360 A	<ul style="list-style-type: none">▶ 58 Ah/340 A▶ 68 Ah/380 A

Battery housing

There are three different lengths of battery retaining points to accommodate the different battery sizes.

Hole	Battery housing length
1	8.3 in (212 mm)
2	9.7 in (247 mm)
3	10.9 in (278 mm)



Fuses, relays and jump start terminal

The positive terminal on the battery and the jump start terminal on the engine compartment bulkhead are used for charging the battery and jump starting.

Battery ground terminal and Battery Monitoring Control Module J367

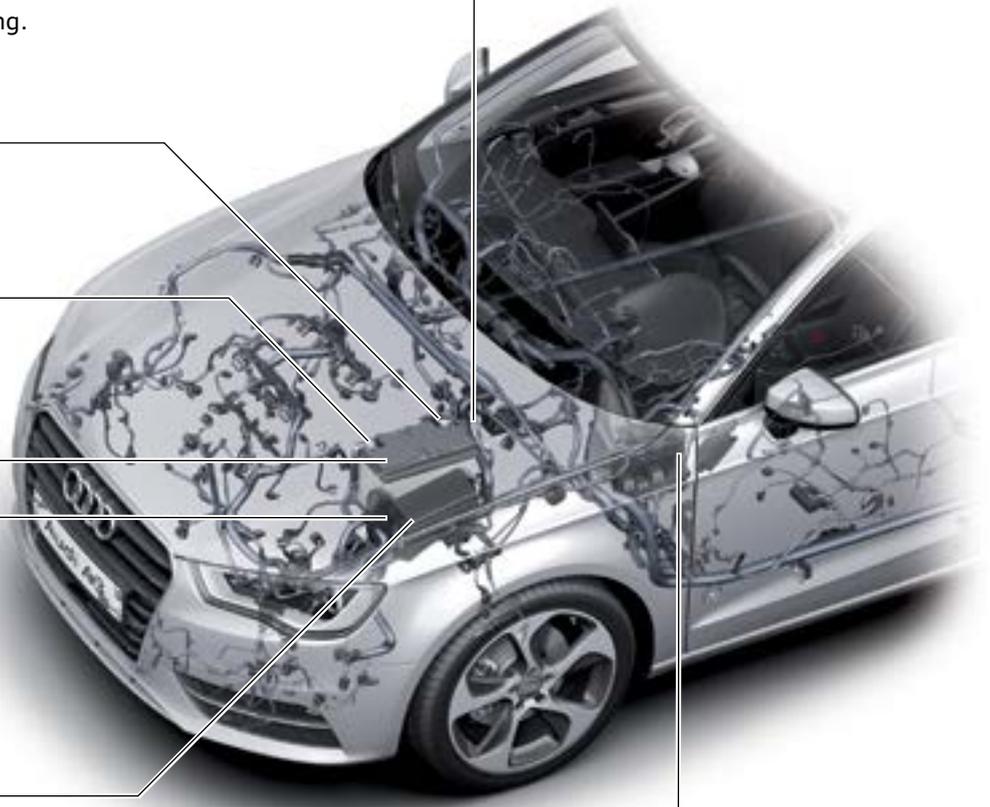
Battery positive

Battery A

Fuse rail in the E-box with fuses identified by "SA" in the Wiring Diagrams.

E-box with fuses and relays identified by "SB" in the Wiring Diagrams.

Jump start terminal on the engine bulkhead

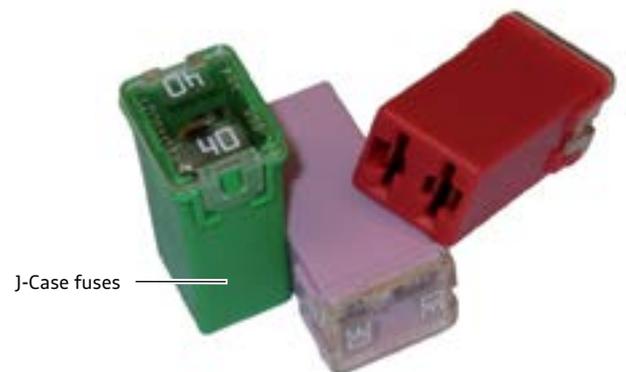


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Fuse holder and relay carrier under the instrument panel with the designation "SC" in the Wiring Diagrams

In addition to standard fuses, the space-saving mini-fuses and circuit breakers (thermal fuses), a new J-Case fuse is being used. As with other fuses, they are identifiable by their color.

Fuse rating	Color
20 A	blue
25 A	white
30 A	pink
40 A	green
50 A	red
60 A	yellow



J-Case fuses

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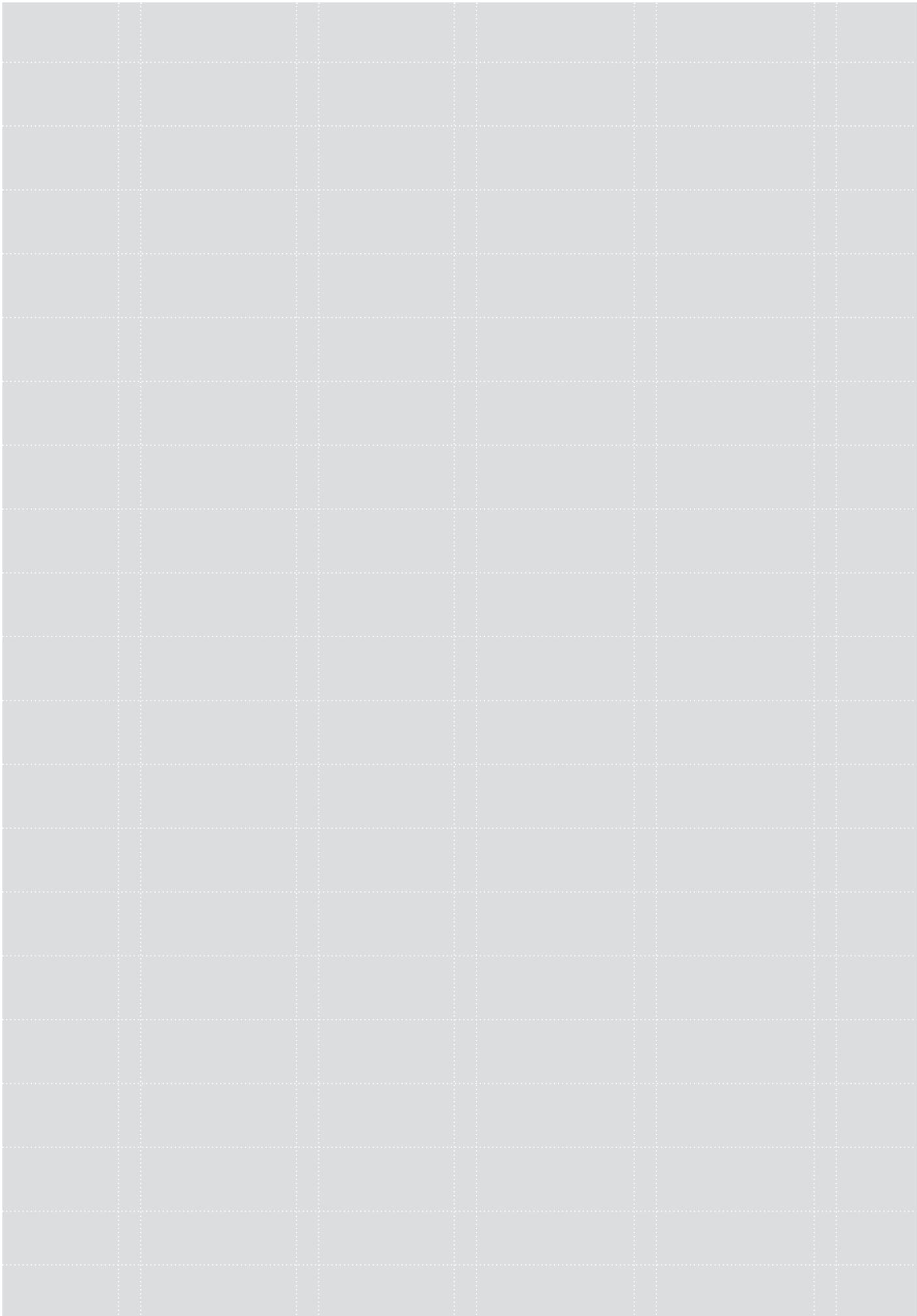
A new gripping tool is used to remove and install the J-Case fuse. It is stored in the cover of the E-box in the engine compartment.

Gripping tool for J-Case fuses



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Notes

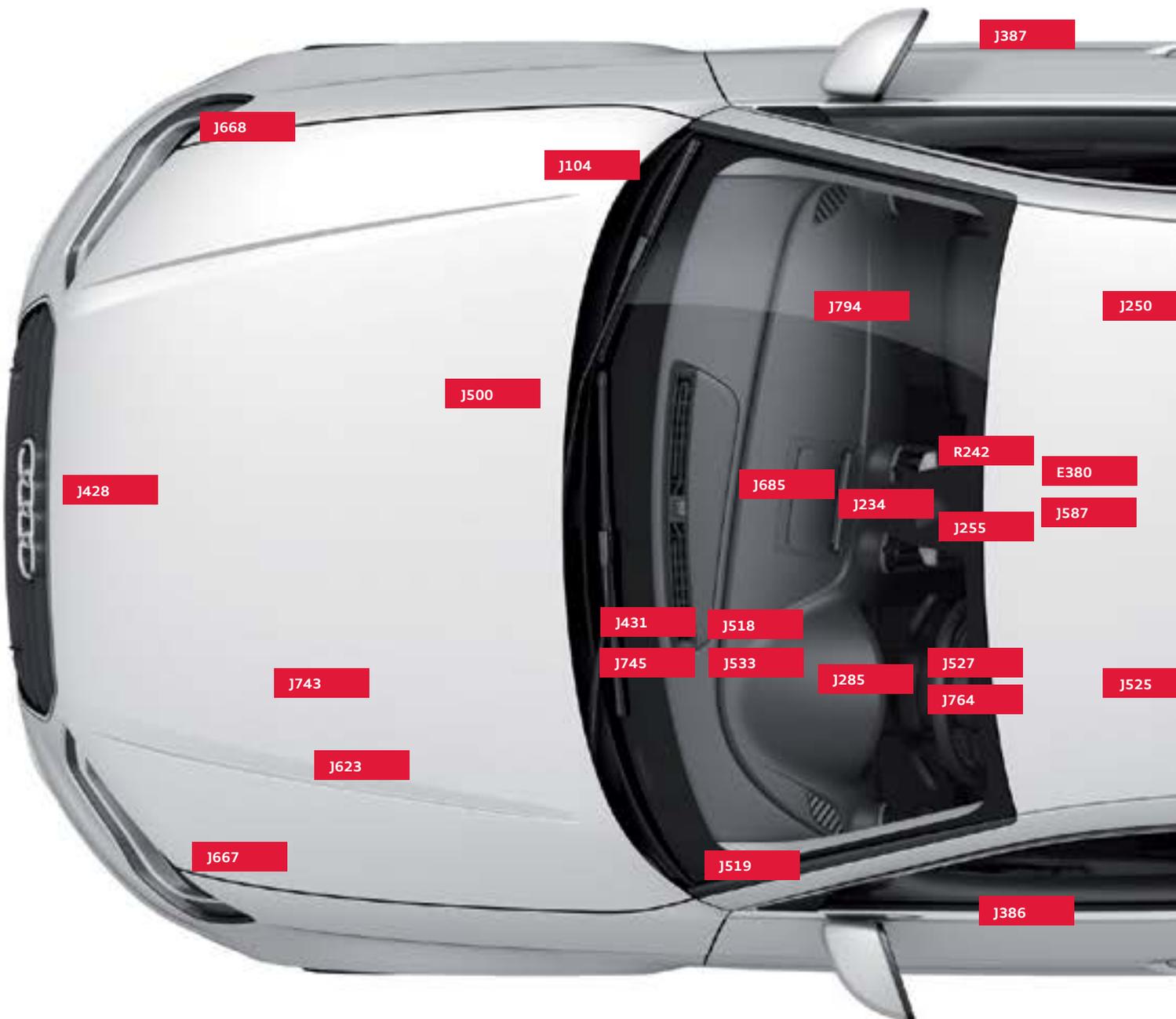


Networking

Installation locations of control modules

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

Always refer to the current service literature for complete details about control module locations as well as instructions for their removal and installation.



Key:

E380 Multimedia System Control Head

J104 ABS/ESP Control Module

J234 Airbag Control Module

J250 Electronic Damping Control Module

J255 Climatronic Control Module

J285 Instrument Cluster Control Module

J386 Driver Door Control Module

J387 Front Passenger Door Control Module

J428 Distance Regulation Control Module

J431 Headlamp Range 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 Digital Sound System Control Module*

J527 Steering Column Electronics Control Module

J533 Data Bus On Board Diagnostic Interface

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

J743 DSG Transmission Mechatronic

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

J794 Information Electronics Control Module 1

J926 Driver Side Rear Door Control Module

J927 Passenger Side Rear Door Control Module

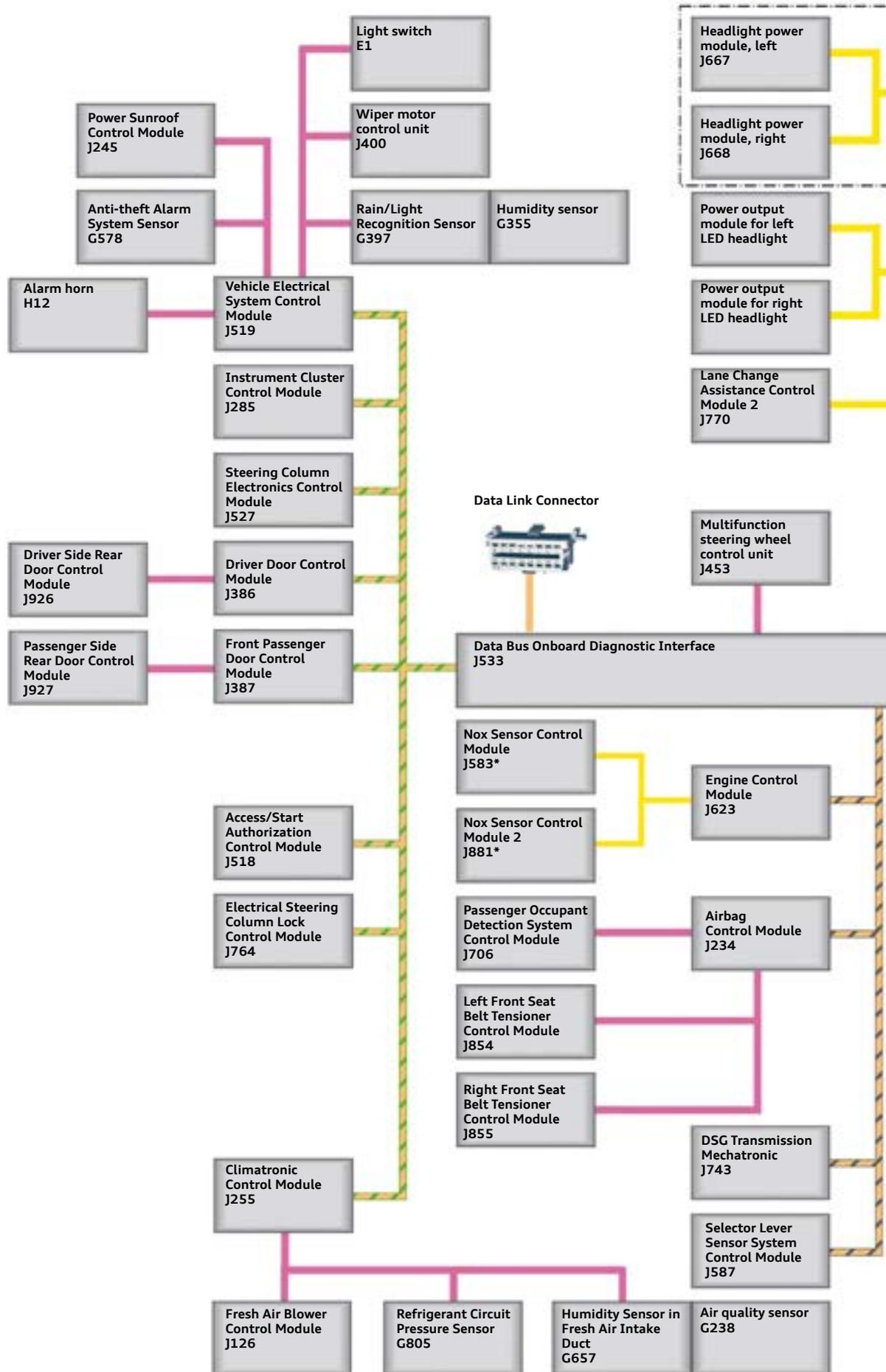
R242 Driver Assistance Systems Front Camera



*Only on vehicles equipped with the Bang & Olufsen sound system option 9VS.

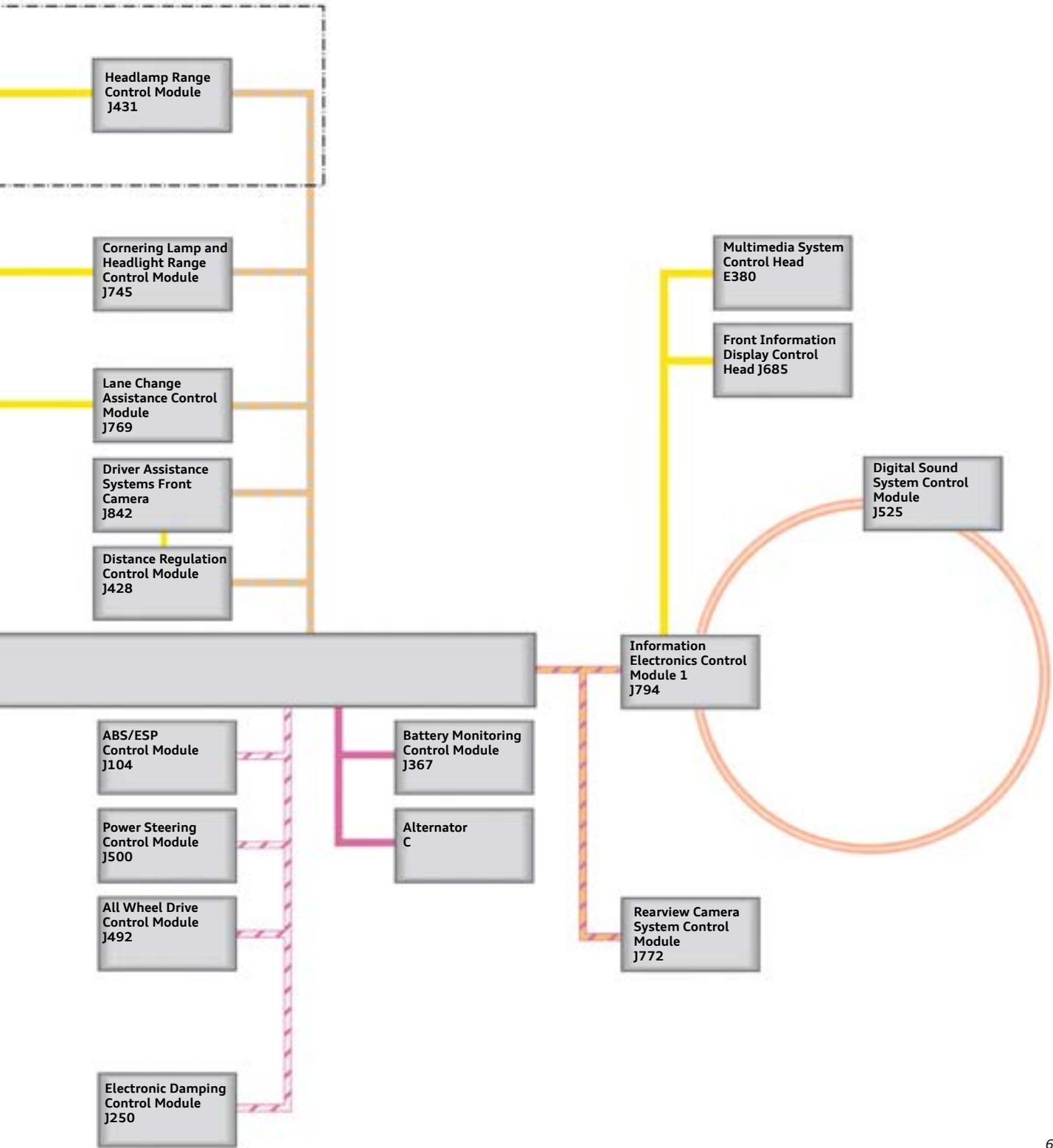
Topology

The topology shows all control modules with connectivity to the data bus system. Some of the control modules shown here are optional, country-specific equipment, or will be introduced at a later date. Be aware that all the modules shown will not be installed on every vehicle.



*2.0L TDI engine only

For example, Cornering Lamp and Headlight Range Control Module J745 would never be installed on the same vehicle as Headlamp Range Control Module J431.



Key:

- | | | |
|---|--|---|
|  Powertrain CAN bus |  Infotainment CAN bus |  LIN bus |
|  Convenience CAN bus |  Diagnostics CAN bus |  Sub-bus systems |
|  Extended CAN bus |  Suspension CAN bus |  MOST bus |

610_001_pkd

Overview of bus systems

Bus system	Cable color	Configuration	Max. data transfer rate	Characteristic
Powertrain CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
Convenience CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
Extended CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
Infotainment CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
Suspension CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
Diagnostics CAN bus		Electrical two-wire bus system	500 kbit/s	Not single-wire capable
MOST bus		Optical bus system	150 Mbit/s	Ring structure: an open circuit leads to total system failure
LIN bus		Electrical single-wire bus system	20 kbit/s	Single-wire capable
Sub-bus system (private bus)		Electrical two-wire bus system	500 kbit/s	Not single-wire capable

New features of the bus system

- ▶ The Convenience CAN and Infotainment CAN are high-speed systems on the 2015 A3.
- ▶ New MOST bus – MOST150 (MOST150 has replaced MOST50).
- ▶ Instrument Cluster Control Module J285 is a Convenience CAN participant.
- ▶ Data Bus On Board Diagnostic Interface J533 is the master of LIN slave Multifunction Steering Wheel Control Module J453.
- ▶ J533 is not a MOST bus participant.
- ▶ Information Electronics Control Module 1 J794 is the system and diagnostic manager for the MOST 150 bus.
- ▶ Information Electronics Control Module 1 J794 is connected to the MMI operating unit and display through a sub-bus system.

Optical data bus system MOST150

History

This data bus system is named after the "Media Oriented Systems Transport (MOST) Cooperation". This group is made up of various automobile manufacturers, their components suppliers and software companies, who joined forces to create a standardized high-speed data transfer system. It was used for the first time in the 2004 Audi A8.

The term "Media Oriented Systems Transport" denotes a network that unlike the CAN data bus, sends address oriented messages to specific users. This technology is used by Audi to transfer data within the Infotainment system.

MOST150

The MOST150 bus is used for the first time by Audi in the new 2015 A3. It is six times faster than MOST25 and necessitated some modifications to MOST components.

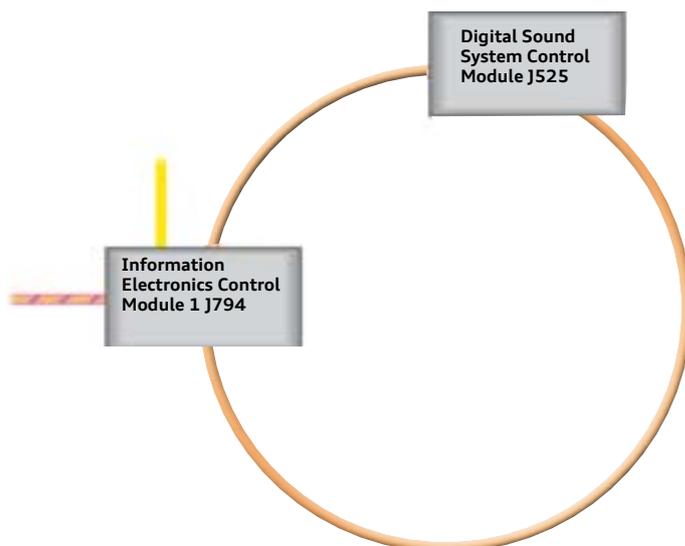
For instance, the transmitter and receiver units – Fiber Optical Transmitters (FOT) – had to be adapted. Other components, such as the optical connectors, the fiber optics and the electrical connections of the control units, are identical to those of the MOST25.

System manager

Two control modules participate on the MOST150 bus in the 2015 A3:

- ▶ Information Electronics Control Module 1 J794
- ▶ Digital Sound System Control Module J525

In the 2015 A3, Information Electronics Control Module 1 J794 functions as the system manager and diagnostic manager for the MOST150 system. This was previously done by Data Bus On Board Diagnostic Interface J533.



610_069

Special tool VAS 6778

Diagnostics

The ring break diagnosis procedure is identical to that of the previous MOST bus system. However, the Address Word for the 2015 A3 is 5F.

Even though the ring break diagnosis procedure remains unchanged, a new special tool - VAS 6778 - must be used if there is a DTC in the optical system. This is due to the increased data transmission speeds.



610_074

Control modules

Brief descriptions

Vehicle electrics

Designation	Vehicle Electrical System Control Module J519
Equipment	Always installed
Installation position	Under the left side of the instrument panel
Tasks	<ul style="list-style-type: none">▶ Central locking master▶ Exterior light master▶ Interior light master▶ Antitheft alarm master▶ Activation of various relays▶ Activation of various convenience components:<ul style="list-style-type: none">▶ 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	<ul style="list-style-type: none">▶ Convenience CAN bus participant▶ J519 is the LIN master for:<ul style="list-style-type: none">▶ LIN 1 – Light Switch 1, 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.



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*.

Gateway

Designation	Data Bus On Board Diagnostic Interface J533 (Gateway)
Equipment	Always installed
Installation position	Under the left side of the instrument panel
Tasks	<ul style="list-style-type: none"> ▶ Networking gateway ▶ Diagnostic master (with the exception of MOST150) ▶ Energy management system control ▶ Master for multifunction steering wheel / optional equipment
Address Word	19
Data bus communication	<ul style="list-style-type: none"> ▶ All CAN bus system participant ▶ LIN master of Battery Monitoring Control Module J367 and alternator ▶ LIN master of multifunction Multifunction Steering Wheel Control Module J453
Special feature	Not a MOST bus user



610_010

Instrument cluster / DIS

Designation	Instrument Cluster Control Module J285
Equipment	Always installed Versions: <ul style="list-style-type: none"> ▶ Monochrome DIS with onboard computer, PR No.: 9S5 ▶ Color DIS with onboard computer, PR No.: 9S6
Installation position	Instrument Panel
Tasks	<ul style="list-style-type: none"> ▶ Display of information relevant to the driver ▶ Immobilizer master
Address Word	17
Data bus communication	Convenience CAN bus participant
Special feature	Convenience CAN participant for first time on an Audi model



610_011

Steering column electronics

Designation	Steering Column Electronics Control Module J527
Equipment	Always installed
Installation position	On the steering column
Tasks	<ul style="list-style-type: none"> ▶ Connects the steering column stock and the electrical components in the steering wheel to the vehicle electronics ▶ Terminal management master for vehicles without advanced key
Address Word	16
Data bus communication	Convenience CAN bus participant
Special feature	Transfers the LIN signals from J533 (Gateway) to Multifunction Steering Wheel Control Module J453 in models equipped with a multifunction steering wheel



J527

610_012

Heating / air conditioning

Designation	A/C Control Module J301 Climatronic Control Module J255
Equipment	<ul style="list-style-type: none"> ▶ Air conditioning system, PR No.: KH6 ▶ Climatronic, PR No.: 9AK
Installation position	In center of instrument panel
Tasks	Controlling: <ul style="list-style-type: none"> ▶ Temperature ▶ Blower ▶ Air distribution
Address Word	08
Data bus communication	<ul style="list-style-type: none"> ▶ Convenience CAN bus participant ▶ J301 is also the LIN master of Refrigerant Circuit Pressure Sensor G805 ▶ J255 is also the LIN master of Air Quality Sensor G238 and Humidity Sensor in Fresh Air Intake Duct G657
Special feature	All LIN slaves are connected to a LIN output.



610_015



610_016

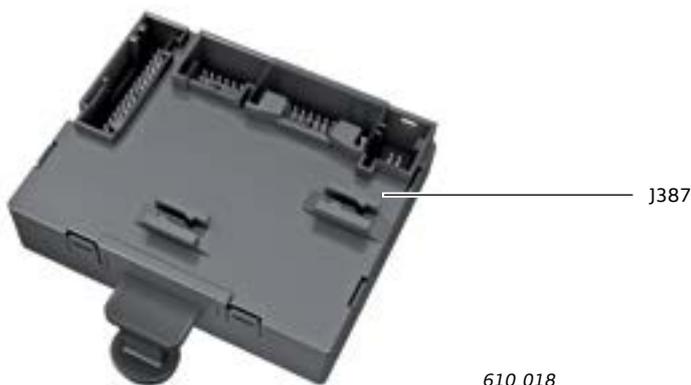
Door electronics, driver side

Designation	Driver Door Control Module J386
Equipment	Always installed
Installation position	In the driver's door
Task	Controlling the electrical and electronic components in and on the driver's door
Address Word	42
Data bus communication	<ul style="list-style-type: none">▶ Convenience CAN bus participant▶ In 5-door models it is connected to Driver Side Rear Door Control Module J926
Special features	<ul style="list-style-type: none">▶ J386 acts as the substitute master for the central locking system in the event of failure of Vehicle Electrical System Control Module J519▶ Activates the side marker lights in the driver's door mirror



Front passenger side door electronics

Designation	Front Passenger Door Control Module J387
Equipment	Always installed
Installation position	In the front passenger's door
Task	Controlling the electrical and electronic components in and on the front passenger's door
Address Word	52
Data bus communication	<ul style="list-style-type: none">▶ Convenience CAN bus participant▶ In 5-door models it is connected to Passenger Side Rear Door Control Module J927 via a LIN line
Special feature	Activates the side marker lights in the front passenger door mirror



Advanced key / keyless entry and start authorization

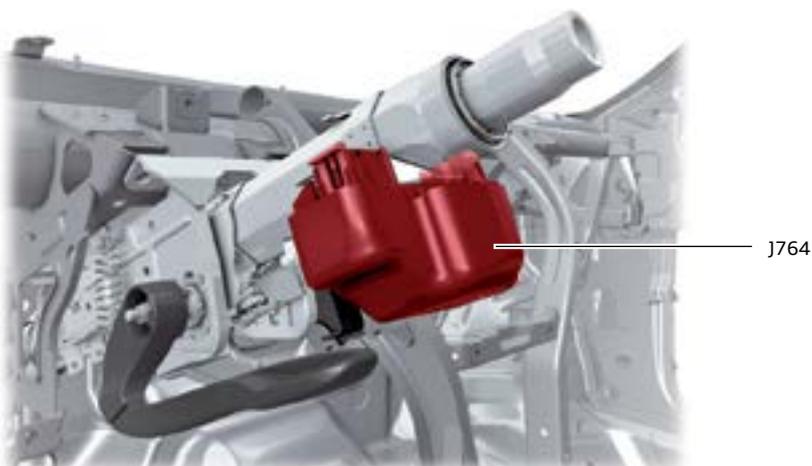
Designation	Access/Start Authorization Control Module J518
Equipment	Optional equipment, PR No.: 4F2
Installation position	Under the instrument panel
Tasks	<ul style="list-style-type: none"> ▶ Reads signals from both capacitive sensors ▶ Activation of the entry and start authorization antennas
Address Word	B7
Data bus communication	Convenience CAN bus participant
Special feature	External antennas connected to J518 are not installed in the doors but rather on the vehicle underbody near the 'B' pillars.



610_019

Electrical steering column lock

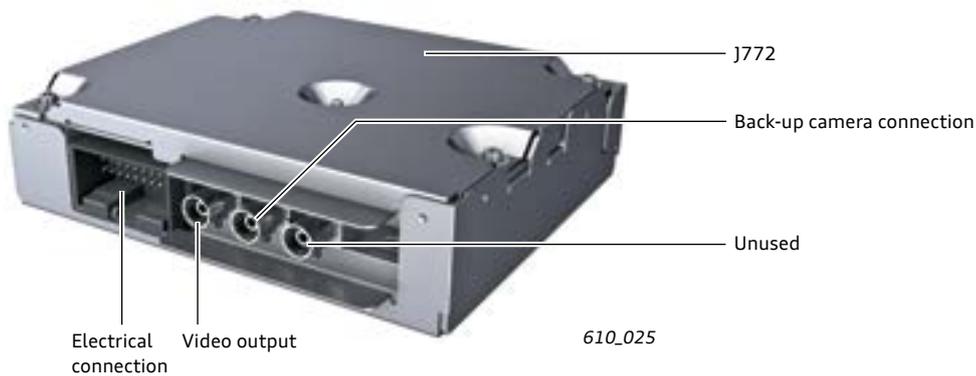
Designation	Electronic Steering Column Lock Control Module J764
Equipment	Optional advanced key, PR No.: 4I3
Installation position	On the steering column
Tasks	<ul style="list-style-type: none"> ▶ Locking and unlocking the steering column ▶ Terminal management master
Address Word	2B
Data bus communication	Convenience CAN bus participant
Special features	<ul style="list-style-type: none"> ▶ Can be replaced separately from the steering column ▶ Immobilizer participant ▶ Reads signals from the entry and start authorization button



610_020

Back-up camera

Designation	Rearview Camera System Control Module J772
Equipment	Optional equipment Version: <ul style="list-style-type: none"> ▶ Parking aid (front/rear) with back-up camera, PR No.: 7X2+KA2
Installation position	Behind the side trim on the right-hand side of the luggage compartment
Tasks	<ul style="list-style-type: none"> ▶ Converting and processing the raw images captured by the rearview camera ▶ Transferring the processed images to Information Electronics Control Module J794
Address Word	6C
Data bus communication	Convenience CAN bus participant
Special features	<ul style="list-style-type: none"> ▶ Video connections are mechanically encoded ▶ Only two of the three connections are used



Audi adaptive cruise control

Audi pre sense front

Designation	Distance Regulation Control Module J428
Equipment	Optional equipment for vehicles with: <ul style="list-style-type: none"> ▶ Stronic, PR No.: 8T3 ▶ pre sense front, PR No.: 7W2
Installation position	Behind center of front grille below license plate mount
Tasks	<ul style="list-style-type: none"> ▶ Radar scanning of traffic ▶ Controlling speed and distance
Address Word	13
Data bus communication	CAN-Extended bus participant
Special feature	Independent braking to a standstill behind a vehicle driving ahead and independent restarting (ACC Stop & Go)



Infotainment

Designation	Information Electronics Control Module 1 J794
Equipment	Versions: <ul style="list-style-type: none"> ▶ MMI Radio, PR No.: I8B ▶ MMI Navigation plus, PR No.: I8F, 7UG
Installation position	In the glove compartment
Task	Controlling the infotainment systems
Address Word	5F
Data bus communication	Infotainment CAN bus participant
Special features	J794 is the system manager as well as the ring break diagnostics master for the MOST bus



J794
(MMI navigation plus with Audi connect module shown)

610_026

Sound amplifier*

Designation	Digital sound package control unit J525
Equipment	Installed on all vehicles Bang & Olufsen sound system
Installation position	Under the driver's seat
Task	Activation of the speakers
Address Word	47
Data bus communication	MOST bus participant



J525

610_027

*The sound amplifier for vehicles equipped with the Audi sound system is integrated with Information Electronics Control Module 1 J794.

Electronic Stabilization Program ESP

Designation	ABS/ESP Control Module J104
Equipment	Always installed
Installation position	▶ On the right side of the engine compartment near the bulkhead
Tasks	<ul style="list-style-type: none"> ▶ Anti lock braking system ABS ▶ Electronic Stabilization Program ESP ▶ Traction Control System TCS ▶ Electronic Differential Lock EDL ▶ Electronic transverse lock ▶ Post collision brake assist ▶ Electro-mechanical parking brake EPB
Address Word	03
Data bus communication	Suspension CAN bus participant
Special features	<ul style="list-style-type: none"> ▶ The control module can be replaced separately from the valve block using ESD protective mat VAS 6613 ▶ The electro-mechanical parking brake is integrated in the ABS control module. Address Word 53 for electro-mechanical parking brake has been deleted.



Power steering

Designation	Power Steering Control Module J500
Equipment	Always installed
Installation position	Connected to the steering gear
Tasks	<ul style="list-style-type: none"> ▶ Power steering ▶ Servotronic – speed-dependent power steering ▶ Corrective steering intervention in combination with Audi active lane assist ▶ Corrective steering intervention in combination with ESP
Address Word	44
Data bus communication	Suspension CAN bus participant
Special features	<ul style="list-style-type: none"> ▶ Control module with power steering motor and Steering Angle Sensor G85 can only be replaced together with the steering gear ▶ G85 has no separate data bus connections; data is transferred via Power Steering Control Module J500

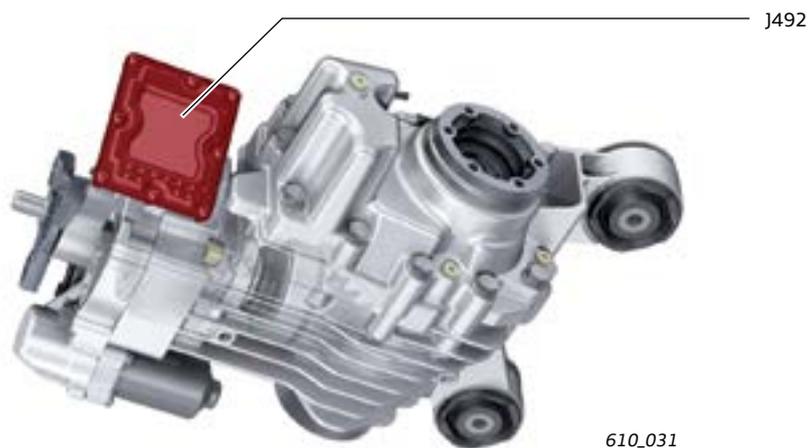


Reference

For detailed descriptions of the suspension components refer to eSelf-Study Program 960143, *The 2015 Audi A3 Running Gear and Suspension*.

All-wheel drive

Designation	All Wheel Drive Control Module J492
Equipment	Standard equipment with quattro drive train
Installation position	Connected externally to the rear axle gear
Task	Control of the Haldex coupling according to the driving situation
Address Word	22
Data bus communication	Suspension CAN bus participant
Special feature	The control can be replaced separately without removing the rear axle gear



Parking aid

Designation	Parallel Parking Assistance Control Module J791
Equipment	Optional equipment Version: ▶ Parking aid plus, PR No.: 7X2
Installation position	Behind instrument panel on left side
Tasks	Reads signal from ultrasound sensors and issues audible or visual warnings
Address Word	76
Data bus communication	Suspension CAN bus participant
Special feature	Address Word changed from 10 to 76 . Will only control front and rear acoustic sensors on vehicles for the North American region.



Audi magnetic ride

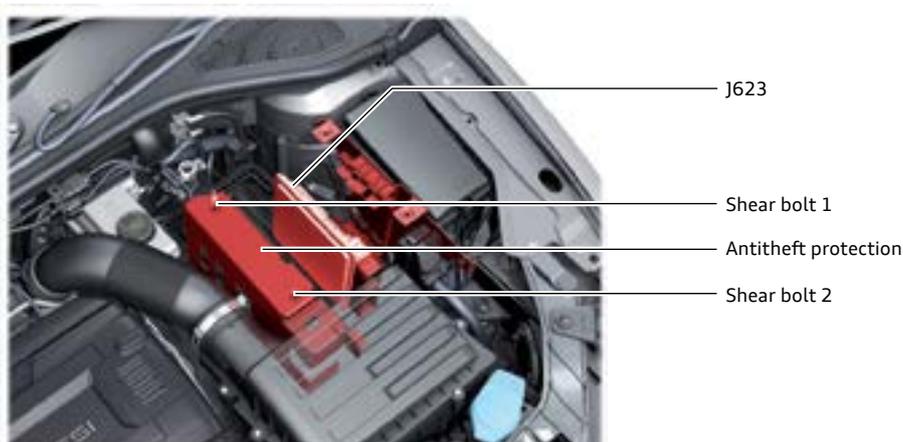
Designation	Electronic Damping Control Module J250
Equipment	Optional equipment, PR No.: 2H7
Installation position	Under the right-hand front seat
Task	Adaptation of the damping characteristic
Address Word	14
Data bus communication	Suspension CAN bus participant



610_033

Engine control

Designation	Engine Control Module J623
Equipment	Always installed
Installation position	In the engine compartment between battery and E-box
Task	Controlling the engine operating characteristics
Address Word	01
Data bus communication	Powertrain CAN bus participant
Special features	<ul style="list-style-type: none"> ▶ Engine Control Modules have differing terminating connectors depending on engine version installed ▶ Immobilizer participant ▶ Vehicles with an anti-theft alarm have an anti-theft device (sheet metal cover with shear bolts) over the ECM



610_034

Airbag / Audi pre sense basic

Designation	Airbag Control Module J234
Equipment	<ul style="list-style-type: none"> ▶ Always installed ▶ Audi pre sense basic, PR No.: 7W1. Optional Audi pre sense front, PR No.: 6K3
Installation position	On the center tunnel in front of the center console
Tasks	<ul style="list-style-type: none"> ▶ Deployment of the airbags ▶ Audi pre sense
Address Word	15
Data bus communication	<ul style="list-style-type: none"> ▶ Powertrain CAN bus participant ▶ J234 is the LIN master for front left and right Seat Belt Tensioner Control Modules J854 and J855. ▶ In vehicles specified for the North American market, J234 is the LIN master for Passenger Occupant Detection System Control Module J706



610_035

S tronic

Designation	DSG Transmission Mechatronic J743
Equipment	Always installed on vehicles with S tronic
Installation position	On the transmission
Task	Controlling the dual clutch transmission
Address Word	02
Data bus communication	Powertrain CAN bus participant
Special feature	Dual clutch transmission 09D (6-speed) is used.



610_036

Transmission selector lever sensors

Designation	Selector Lever Sensor System Control Module J587
Equipment	All vehicles with S tronic
Installation position	On the selector lever housing
Tasks	<ul style="list-style-type: none">▶ Signalling the selector lever position▶ Signalling the tiptronic commands
Address Word	81
Data bus communication	Powertrain CAN bus participant
Special feature	The control module can only be replaced together with the selector lever



Headlight range control on vehicles with bi-xenon headlights

Designation	Headlamp Range Control Module J431
Equipment	All vehicles with bi-xenon headlights, PR No.: 8IG
Installation position	Behind left side of instrument panel
Task	Dynamic headlight range control
Address Word	55
Data bus communication	CAN-Extended bus participant



610_039

Headlight range control on vehicles with LED headlights

Designation	Cornering Lamp and Headlamp Range Control Module J745
Equipment	On all vehicles with: <ul style="list-style-type: none"> ▶ LED headlights, PR No.: 8IT
Installation position	Behind the instrument panel on the left side
Task	<ul style="list-style-type: none"> ▶ Dynamic headlight range control ▶ Controlling the light profiles ▶ Controlling the adaptive light
Address Word	55
Data bus communication	CAN-Extended bus participant
Special feature	It is connected to the power modules for the left and right headlights via a private CAN bus



Audi side assist

Designation	Lane Change Assistance Control Module J769 Lane Change Assistance Control Module 2 J770
Equipment	Optional equipment, PR No.: 7Y1
Installation position	<ul style="list-style-type: none"> ▶ In the rear right bumper J769 ▶ In the rear left bumper J770
Task	<ul style="list-style-type: none"> ▶ To scan the peripheral area behind and to the side of the vehicle ▶ To activate the warning lights in the door mirrors
Address Word	3C
Data bus communication	<ul style="list-style-type: none"> ▶ J769 (master) CAN-Extended bus participant ▶ J770 (slave) connected to J769 via private CAN participant
Special feature	The control modules are mounted in the bumper cover. The system must be calibrated after removal and installation.



Audi active lane assist (lane departure warning system)

Designation	Driver Assistance Systems Front Camera R242
Equipment	Optional equipment ▶ Audi active lane assist, PR No.: 7Y5
Installation position	On the windshield, above the base of the interior rear-view mirror
Task	Scanning and imaging of traffic, traffic signs and lane markers
Address Word	A5
Data bus communication	CAN-Extended bus participant
Special feature	R242 now has all software needed for active lane assist operation



Exterior lighting

Light switch

For the 2015 A3, Light Switch E1 is a LIN slave of Vehicle Electrical System Control Module J519. The operating concept has been adopted from other Audi models.

Designation	Light Switch E1
Equipment	Always installed
Installation position	Left side of instrument panel
Task	To indicate the driver's preferred light setting to Vehicle Electrical System Control Module J519
Address Word	None, LIN slave, measurement values and diagnostics J519



610_045

Function

Rotary switch:

0 Lights off (in some countries the daytime running light is switched on automatically when ignition is switched on).

AUTO The automatic daytime running light is switched on and off depending on the light sensor

 Parking light

 Low beam

Upper control panel*

 Fog light

 All-weather light in vehicles with LED headlights

Lower control panel**

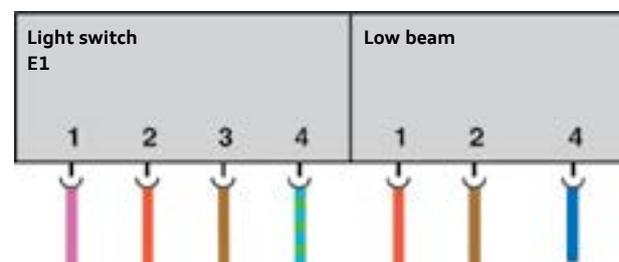
 Rear fog light

Electrical connections and circuit

Vehicle Electrical System Control Module J519 reads the four positions of the rotary switch, button operations and the position of the instrument lighting controller (where applicable) via the LIN circuit. All commands for the switch lighting and the warning lamps of the individual functions are sent to the light switch by J519.

A redundancy wire is used to determine the plausibility of the switch positions. In the event of a short circuit or open circuit in the LIN or redundancy lines, the emergency light function is activated by J519 (low beams are switched on) and a DTC is entered in J519.

Headlamp Range Control Adjuster E102* is integrated in the light switch housing but is a separate component. Its information is transmitted to the headlight range control servomotors via a discrete line.



610_046

Connections of E1:

- Pin 1 LIN
- Pin 2 Terminal 30
- Pin 3 Terminal 31
- Pin 4 Redundancy line

Connections of E102:

- Pin 1 Terminal 30
- Pin 2 Terminal 31
- Pin 4 Activation of the headlight range control servomotors

*These components are not installed on the 2015 Audi A3 at this time.

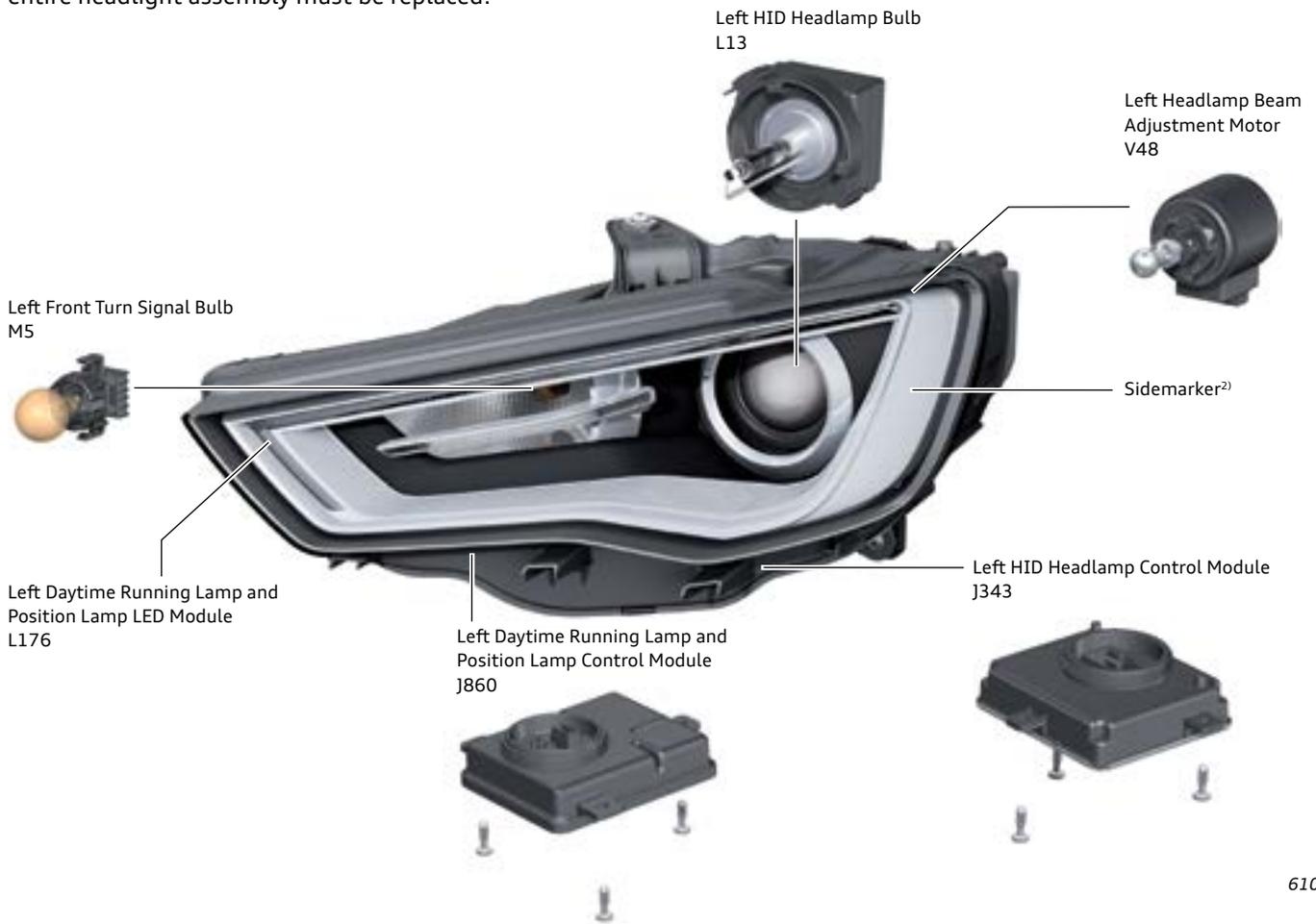
** Available on S3 models only

Headlights

Bi-xenon headlight

PR no.: 8IG

The component parts of the bi-xenon headlight shown can be replaced with the exception of the LED module for Daytime Running Lights. In the event a DRL failure, the entire headlight assembly must be replaced.



610_048

Light functions	Illuminants used	Power
Daytime running light	2 LEDs with plastic optical fibres	18 watts
Parking light	dimmed to approx. 25 %	
Low beam	Gas discharge lamp D3S	35 watts
High beam (change-over by shutter)		
Turn signal	Bulb PSY24W	24 watts
Sidemarkers ²⁾	LED	0.6 watts

Activation mechanism

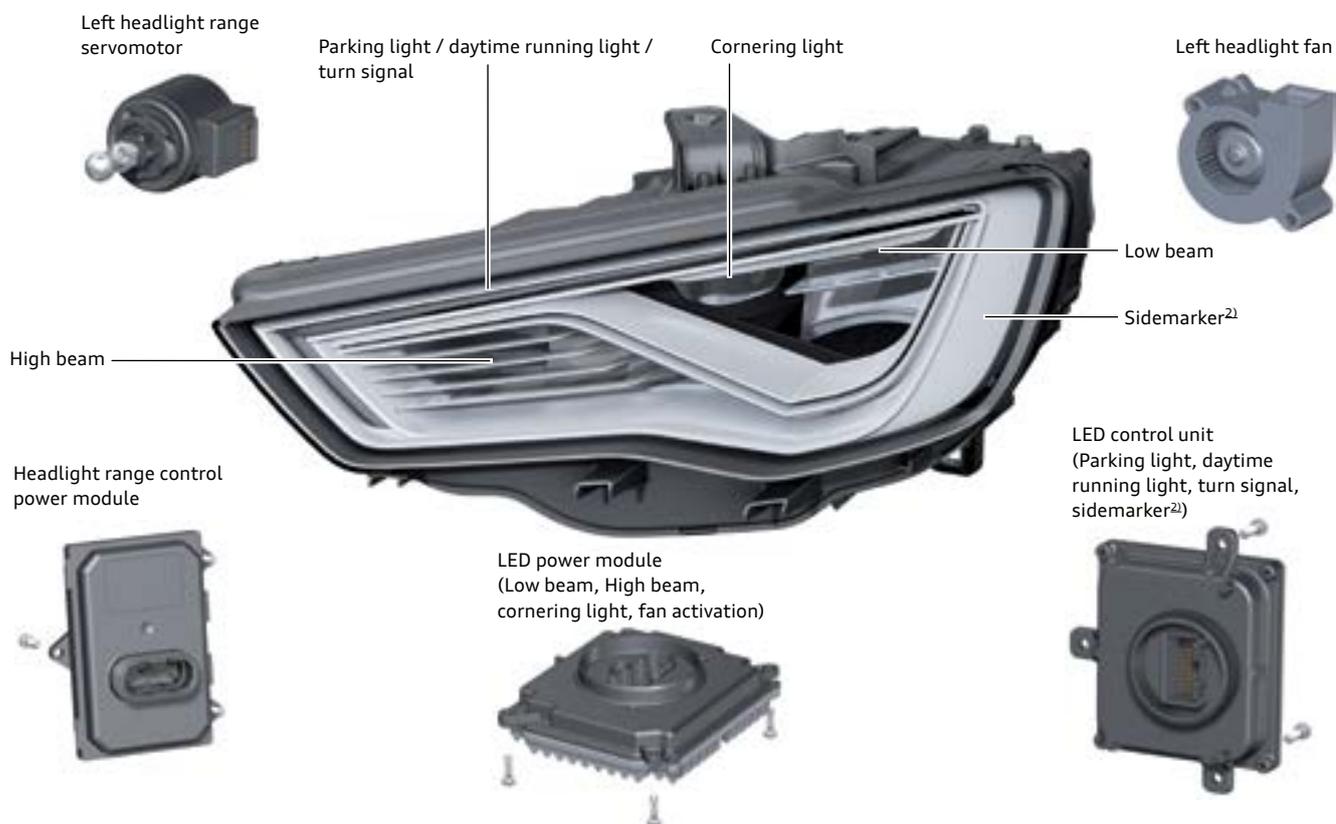
The functions of the bi-xenon headlights are activated by Vehicle Electrical System Control Module J519. The Daytime Running Light for the side on which a turn is being made are switched off for the duration of the turn signal activation.

Left and Right Low Beam Headlamp Reflector Motors V294 and V295 are used to change over between low and high beam operation.

LED headlights

PR no.: 8IT

All light functions are performed by LEDs. No fog lights are fitted in models equipped with LED headlights. The all-weather light function is available as a substitute.



Light functions	Illuminants used	Power
Daytime running light	4 LEDs (1x 3 LED chip, 1x 1 LED chip)	14 watts
Parking light	dimmed to approximately. 15 %	
Low beam	9 LEDs (2x 5 LED chip, 2x 2 LED chip)	41 watts
High beam	8 LEDs (2x 4 LED chips)	36 watts
Cornering light	4 LEDs (2x 2 LED chips)	18 watts
Turn signal	4 yellow LEDs (1x 3 LED chip, 1x 1 LED chip)	16 watts
Sidemarker ²⁾	LED	0.6 watts

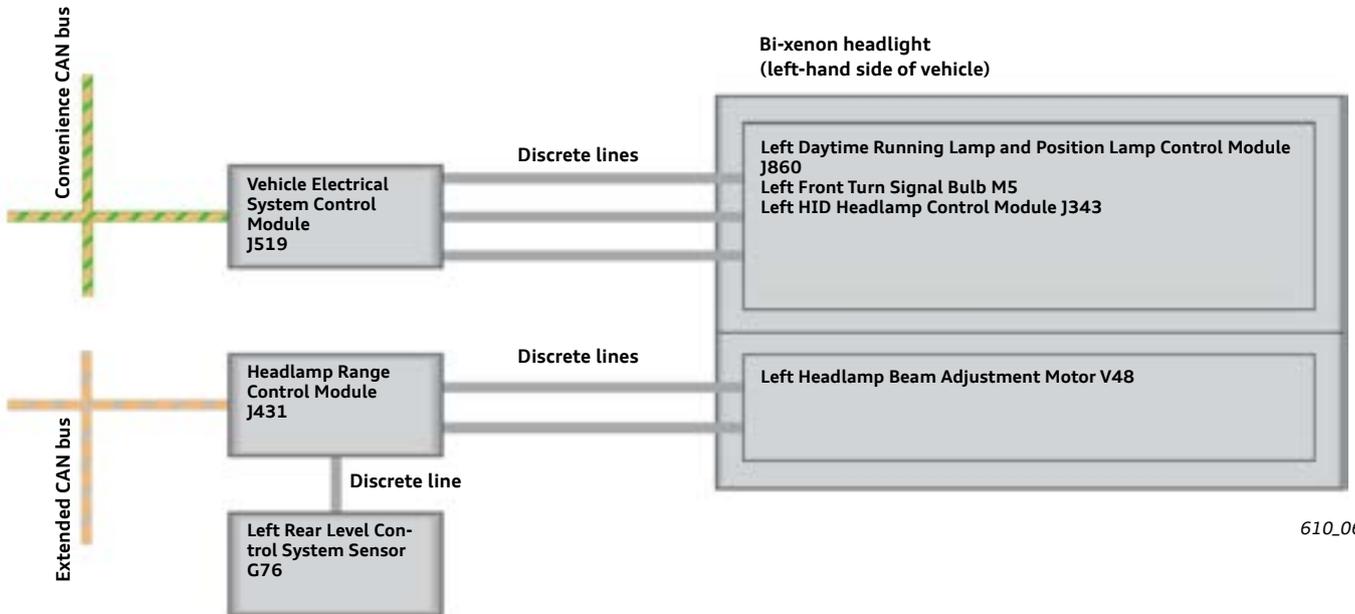
Headlight range control

Dynamic headlight range control

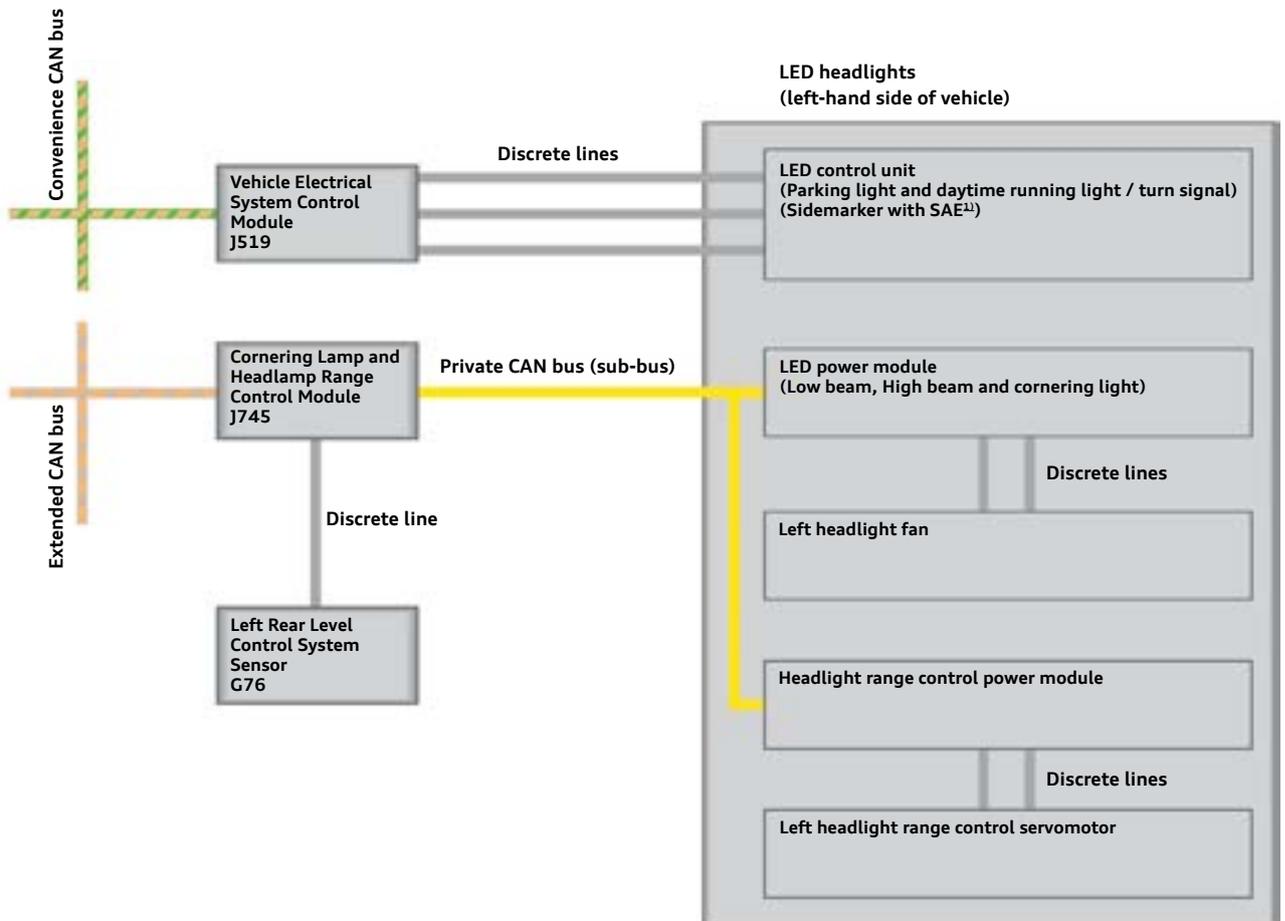
Vehicles with gas discharge headlights or LED headlights are equipped with a dynamic headlight range control system. Depending on the altitude and movement of the vehicle, headlight range control servomotors V48 and V49 correct the range of the headlights.

The headlight range control configurations described below are available for the bi-xenon headlights and the bi-xenon headlights with adaptive light.

Schematic diagram of the activation mechanism for bi-xenon headlights



Schematic diagram of the activation mechanism for LED headlights



Tail lights

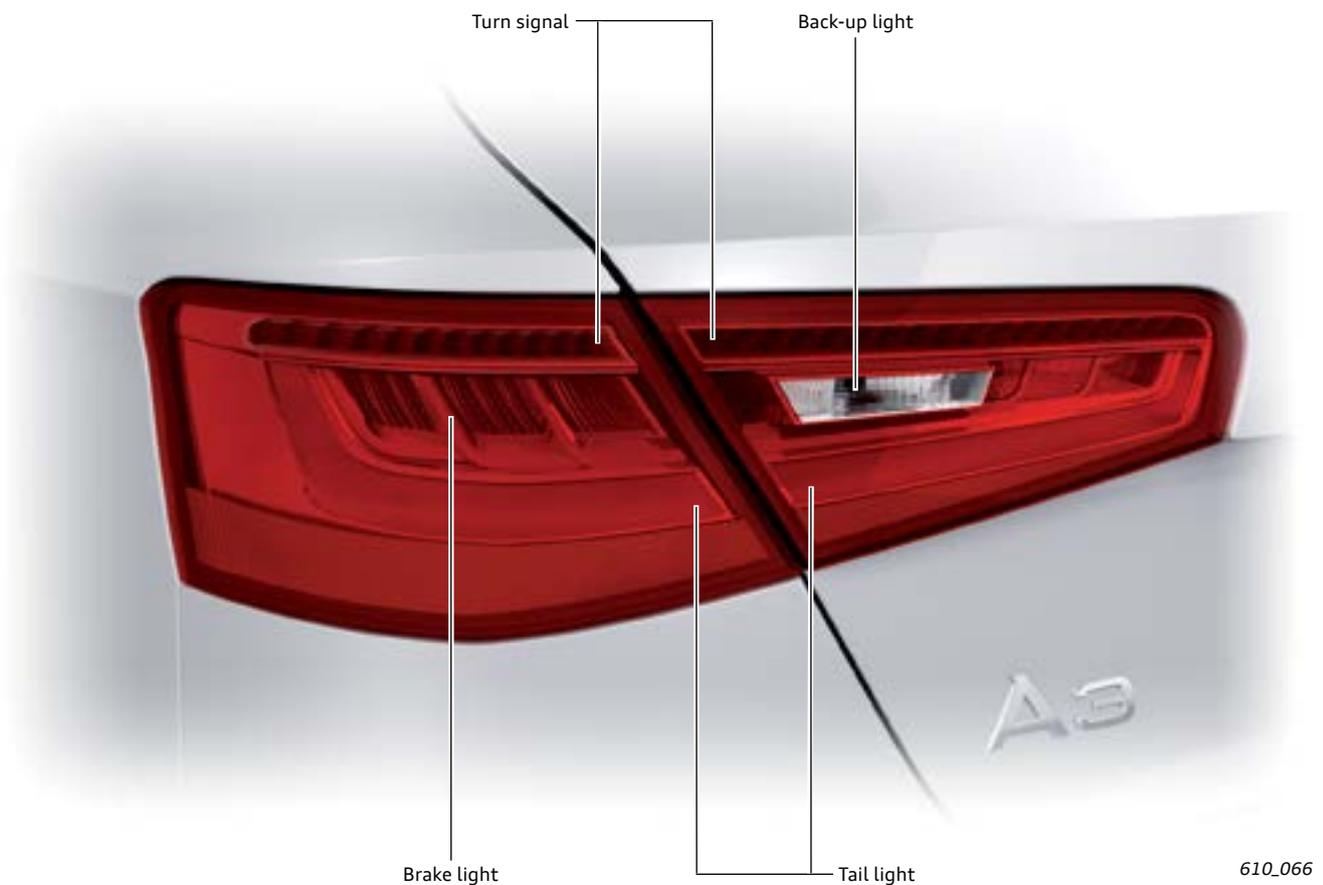
LED tail light

PR no.: 8SK

LED tail lights are standard equipment on the Audi A3 for the North American region. They are activated by Vehicle Electrical System Control Module J519.

The tail lights are also activated if the vehicle is equipped with a Coming Home / Leaving Home function. The rear fog light and the reversing light are deactivated when the rear hatch is opened.

The bulbs of the rear hatch light can be accessed via a service flap. LEDs cannot be replaced. If faulty, the tail light in question must be replaced.



Light functions	Illuminants used	Activation mechanism	Power
Brake light	9 LEDs	100 %	approx. 3.5 watts
Tail light	2 LEDs with plastic optical fibres	100 %	approx. 2 watts
Turn signal	20 LEDs	100 %	approx. 3.5 watts
Back-up light	Bulb H6W	100 %	6 watts

High-mounted brake light

The high-mounted brake light is attached to the rear window. It has a total of 48 LEDs. The component parts cannot be replaced. If defective, the entire module must be replaced.

The component parts of the high-level brake light cannot be replaced. If faulty, the complete component must be replaced. This is only possible after removing the rear spoiler.



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High level brake light
M25

License lights

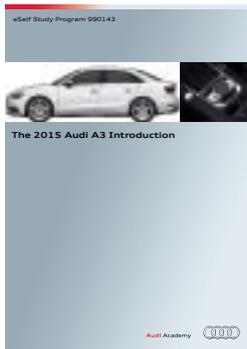
The license plate lights for the 2015 A3 sedan feature LED technology. Both lights house two LEDs. As with the high-mounted rear brake light, they are activated by Vehicle Electrical System Control Module J519.



610_068

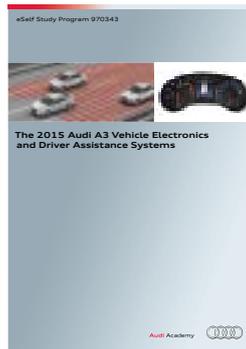
eSelf Study Programs

For further information about the technology of the The 2015 Audi A3, refer to the following eSelf Study Programs.



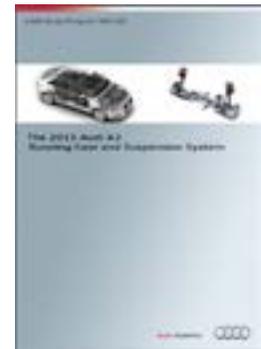
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SSP 990143
The 2015
Audi A3 Introduction



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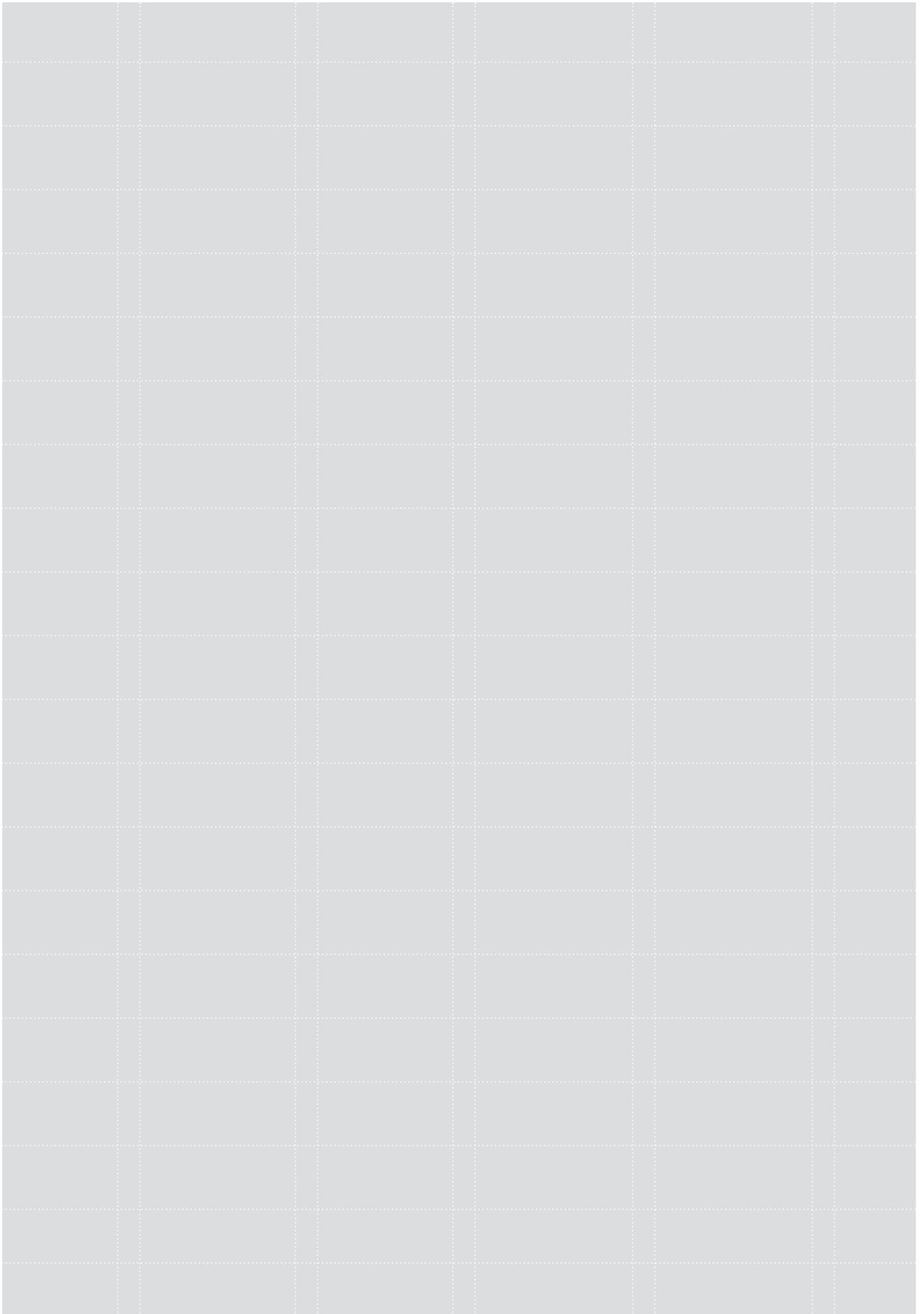
SSP 970343
The 2015 Audi A3 Vehicle
Electronics and Drivers
Assistance Systems



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SSP 960143
The 2015 Audi A3 Running
Gear and Suspension Systems

Notes



Knowledge Assessment

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

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

From the [accessaudi.com](http://www.accessaudi.com) Homepage:

- ▶ Click on the “ACADEMY” tab
- ▶ Click on the “Academy site” link
- ▶ Click on the Course Catalog Search and select “970243 - The 2015 Audi A3 Onboard Power Supply and Networking”

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.



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