ŠkodaRoomster

Presentation of the vehicle part II

Self-study programme

ŠkodaRoomster brings many new elements and solutions to vehicles in the category of the MPV. Its interior, divided in „**Driving room**“, the driver and front passenger compartment, and „**Living room**“, a variable area for the passengers and the luggage, creates an idependent ambiance on each of the five seats.

The driver and front passenger are seated safely at the front in a dynamic cockpit and it does not occur to them that they are sitting in a car, which is classified as outdated and awkward according to the present standards of the vehicle class.

Behind the front seats however another world begins. A generously measured „habitat“ is at the disposal of the passengers, which can be adapted easily and fast to the individual needs if required.

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You will find instructions for the assembly, disassembly, repairs, diagnostics and detailed user information in the service manuals, in the diagnosis unit VAS 5051/5052 and in the on-board manual.

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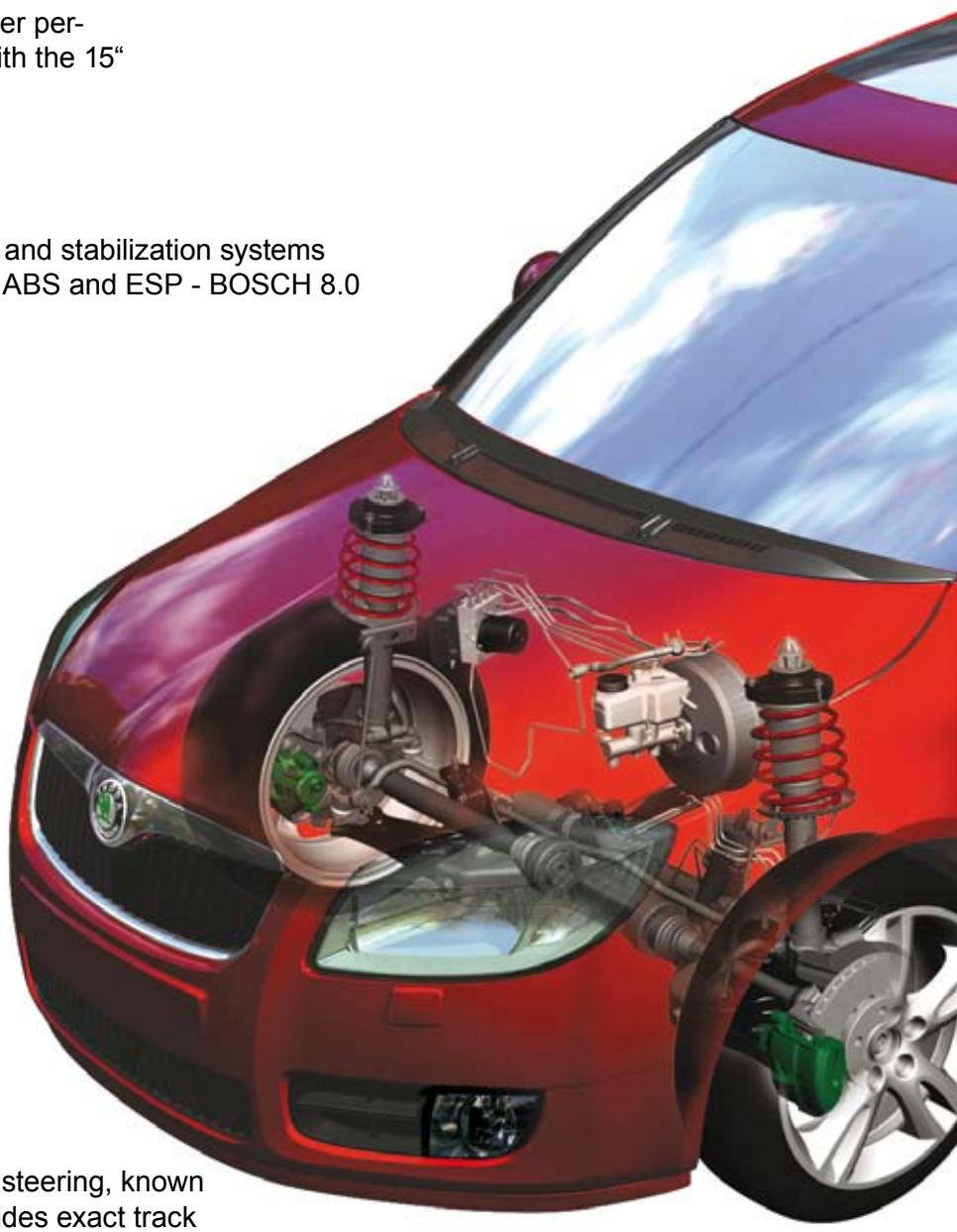
Description of chassis

The chassis of the **Škoda**Roomster consists mainly of components, which were already used for previous Škoda vehicle models.

The chassis of the **Škoda**Roomster is available in two variants. The basic variant is the 14“ chassis for low power output engine types, higher performance engine types are equipped with the 15“ chassis.

• Brake pad - wear inspection

• Brake and stabilization systems ABS, MABS and ESP - BOSCH 8.0



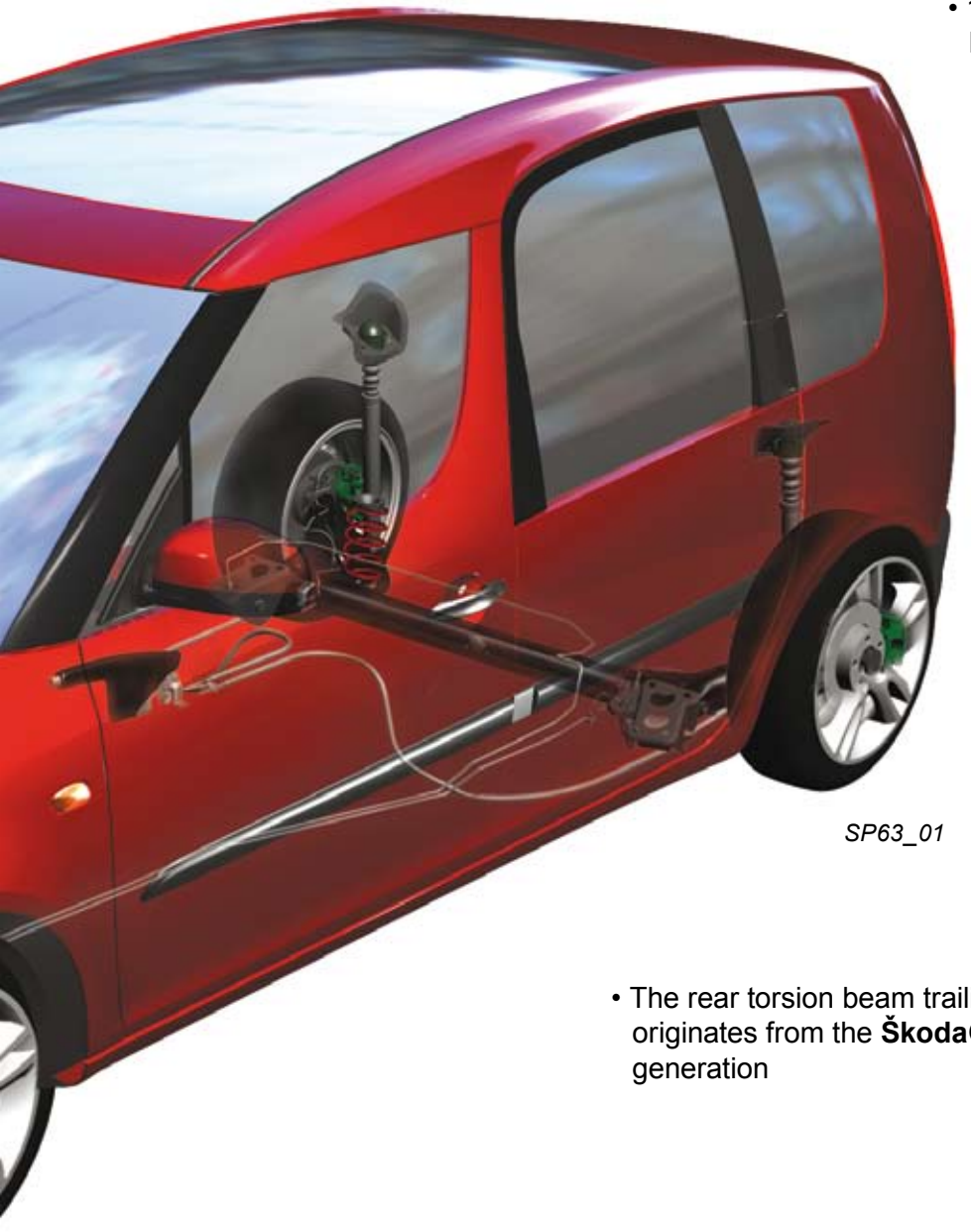
• Dual circuit brake system diago nally divided (X - allocation of brake circuit)

• The electrohydraulic power steering, known from the **Škoda**Fabia, provides exact track guidance

• Brake booster with progressive brake pressure increase (dual rate characteristic)

• Tire pressure inspection

• 14“, 15“ and 16“ wheels with light alloy rims



• Disc brakes at the front and rear axle

SP63_01

• The rear torsion beam trailing arm axle originates from the **Škoda**Octavia of the first generation

• The suspension front axle (McPherson), with which the **Škoda**Roomster is equipped, is based on the front axle of the **Škoda**Fabia.

Front axle

The front axle fitted into the **Škoda**Roomster was taken over from the model series **Škoda**Fabia and thus has the proven driving characteristics as well as the characteristic highlights of this front axle:

- single wheel suspension of the front wheels with McPherson suspension strut distinguishes itself by a good driving stability and driving dynamics
- weight-optimized axle elements (consoles of the assembly carrier are made out of aluminum cast iron parts)
- double-row angular ball bearing integrated into the wheel hub
- disc brakes with internal ventilation

Note:
The assembly carrier for the vehicles with petrol engines is adapted to the shape of the exhaust system for installation reasons.

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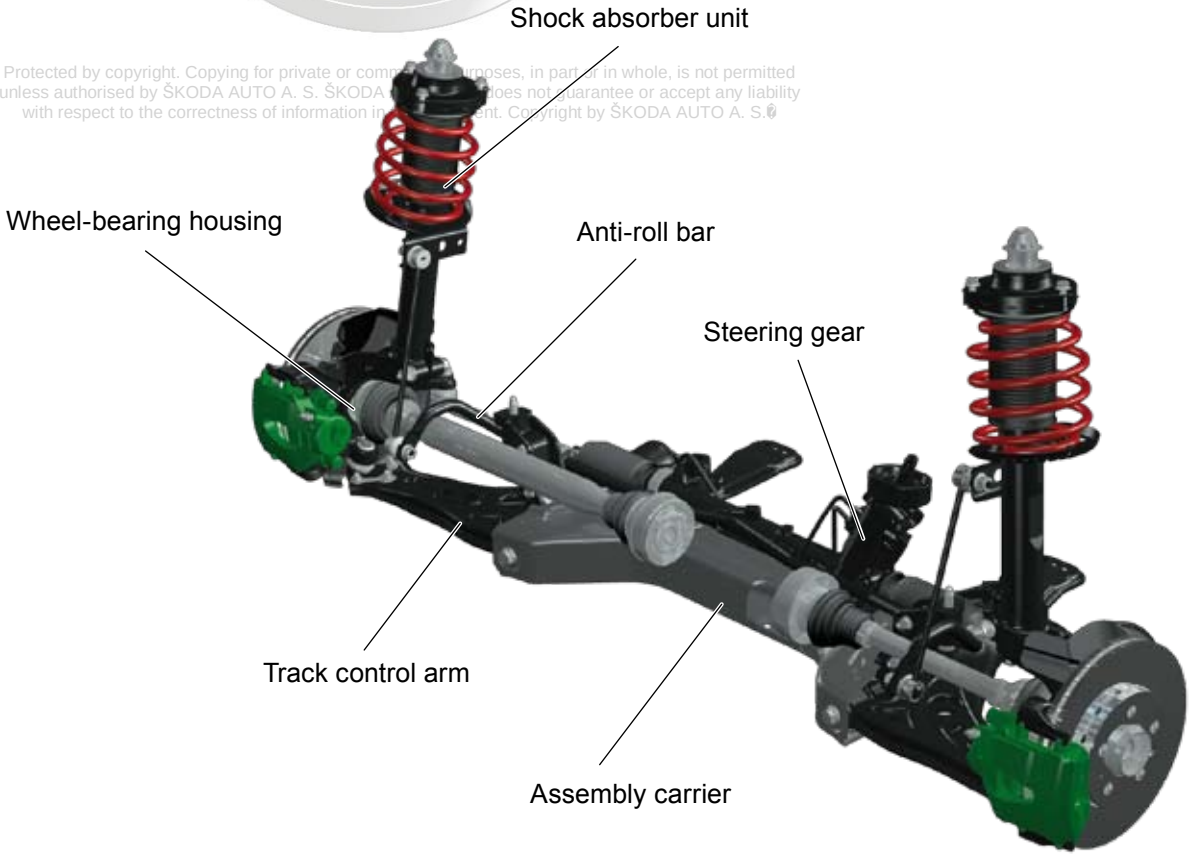

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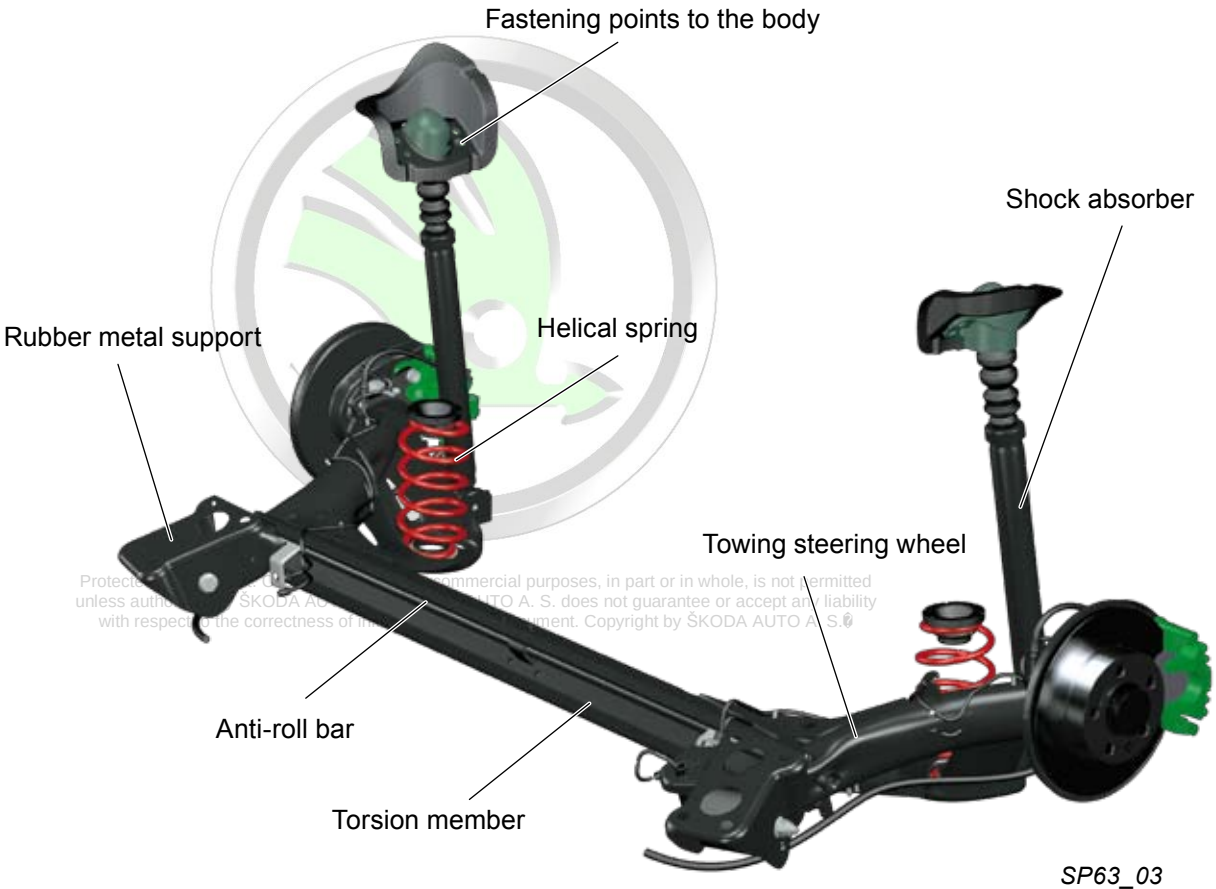
Depending on the engine type the steering knuckle variants for 14“ or 15“ chassis are installed.

Rear axle

The rear axle of the **Škoda**Roomster is also a proven design, which was used for the first time for the **Škoda**Octavia of the first generation.

It is a torsion beam trailing arm axle, which consists of two towing steering wheels connected with transverse torsion members. The axle is placed at the front side (in driving direction) on both sides into the rubber metal supports, with which the axle is fastened to the body.

The helical springs are fixed at the bottom in two steel supports fastened to the towing steering wheels. At the top the helical springs are attached to the frame side rail of the body. Thus the noise transfer into the passenger compartment is reduced. The shock absorbers are accommodated behind the helical springs (in the driving direction).



SP63_03

Note:
The rear axle is equipped with disc or drum brakes depending on the customer choice, except for the engine types 1.2 l/47 KW - MPI and 1.4 l/51 KW - TDI PD, which are always fitted with drum brakes.

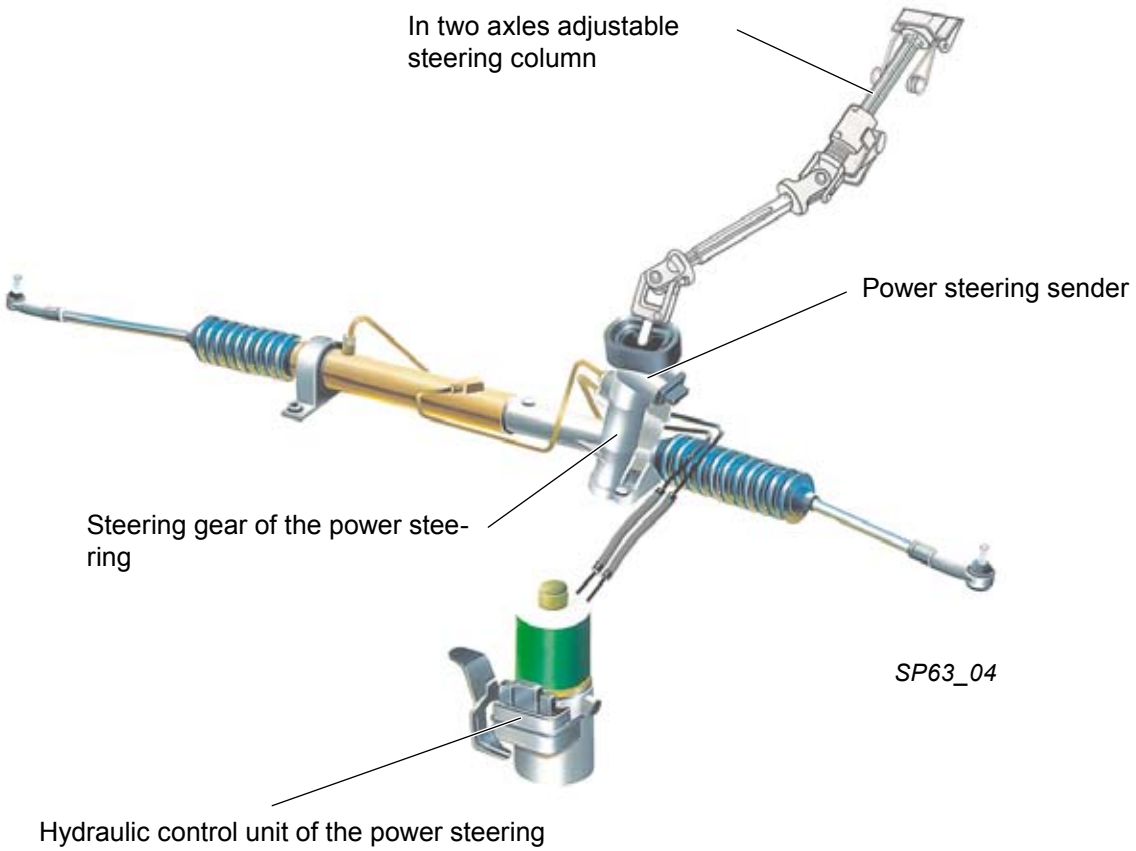
Steering

The steering as well as the front axle of the **Škoda**Roomster was taken over from the model Fabia. It is an electrohydraulic rack pinion power steering, which offers an exact track guidance to the car at higher speeds as well as a high measure of driving convenience during the parking procedures.

In case of the electrohydraulic power steering, the hydraulic pump is driven with the electric motor and thus remains independent of the engine gear.

The variable steering rigidity which depends on the driving speed and the steering rotating speed contributes to the increase in safety and driving convenience. This means that the reinforcement effect is higher e. g. during parking procedures and lower in case of fast driving on the motorway. For this purpose a sender is accommodated above the steering body that transmits the information about the speed of the steering wheel rotation to the power steering control unit.

The details about the driving speed are transmitted by the CAN bus line.



All car variants **Škoda**Roomster are equipped in series with the electrohydraulic power steering.

Note:
You will find detailed description for the function of the electrohydraulic power steering in the SSP34.

Brake system

A dual circuit diagonally divided brake system (X arrangement) is used for the **Škoda**Roomster.

The electronic brake and stabilization systems offered for the **Škoda**Roomster were developed by the company BOSCH. This is the eighth generation of these systems (BOSCH 8.0):

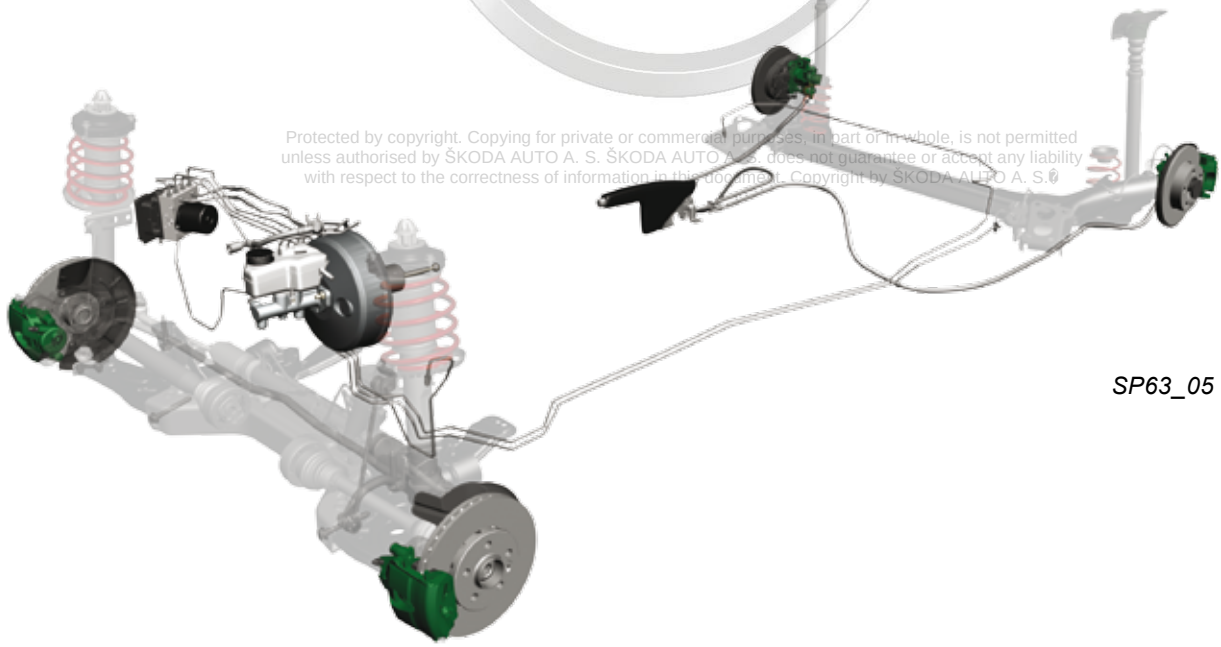
- ABS BOSCH 8.0
- MABS BOSCH 8.0
- ESP BOSCH 8.0

For the vehicles without ABS, MABS or ESP a standard load regulator is used similar to the model Fabia.

Brake booster

Vehicles fitted with brake or stabilization systems ABS, MABS or ESP are equipped according to standard with brake booster with „dual rate“ function. This system was already used for the model Octavia. The designation „dual rate“ means that it is a brake booster with progressive brake pressure increase.
The brake booster is supplied by the company FTE and has a diameter of 8.5“.

Note: You will find detailed description for the function of the brake booster with „dual rate“ function in the SSP58.



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Note:
If the vehicle is equipped with the 15 „ chassis, the ABS system is always installed.

Note:
The vehicle variants intended for EEC countries are equipped in series with ABS.

Hydraulic control units for the brake and stabilization systems

The hydraulic control unit consists of:
- Hydraulic unit with hydraulic pump and electric motor
- Control unit

Hydraulic control unit ABS BOSCH 8.0 and MABS BOSCH 8.0

The hydraulic control units ABS BOSCH 8.0 and MABS BOSCH 8.0 are optionally installed in the vehicles **Škoda**Roomster.

The technical main highlights:

- Antilock braking system (ABS)
- Electronic braking force distribution (EBV)
- Engine brake torque control system (MSR)

Apart from the aforementioned functions the hydraulic control unit MABS BOSCH 8.0 additionally has the function traction control system (TCS). The function traction control system (TCS) is implemented via the engine control unit , i. e. without actively engaging the brake.

Hydraulic control unit ESP BOSCH 8.0

The hydraulic control unit ESP BOSCH 8.0 with the integrated brake pressure sender is supplied as a special equipment for the vehicle **Škoda**Roomster.

In comparison to the hydraulic control unit ABS BOSCH 8.0 or MABS BOSCH 8.0 this equipment additionally offers the functions:

- electronic stability program (ESP)
- Hydraulic brake assistant (HBA)
- Traction control system (TCS)*
- Electronic differential lock (EDL)

SP63_06

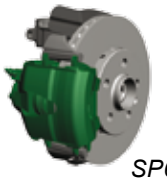
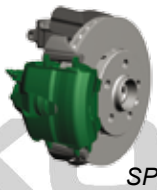
SP63_07

Note:
The hydraulic control unit ABS or MABS carries out fewer functions and is therefore smaller and easier in relation to the hydraulic control unit ESP.

* The control unit MABS BOSCH 8.0 is equipped in series with the function traction control system (TCS)
.

Brake assignment

The disc brakes of the **Škoda**Roomster for the front and rear axle are taken over from the model series Fabia. The drum brakes intended for the rear axle originate from the model **Škoda**Octavia Tour.

Engine	Front brake	Rear brake
1,2 l/47 kW - MPI 1,4 l/51 kW - TDI PD	14″ chassis FS - III Ø 256 mm x 22 mm  SP63_08	Ø 230 mm x 32 mm  SP63_10
1,4 l/63 kW - MPI	14″ chassis FS - III Ø 256 mm x 22 mm  SP63_08	Ø 230 mm x 32 mm  SP63_10
		C 38 Ø 232 mm x 9 mm  SP63_11
1,6 l/77 kW - MPI 1,4 l/51 kW - TDI PD* 1,4 l/59 kW - TDI PD 1,9 l/77 kW - TDI PD	15″ chassis C 54 - II Ø 288 mm x 25 mm  SP63_09	Ø 230 mm x 32 mm  SP63_10
		C 38 Ø 232 mm x 9 mm  SP63_11

* The variant with the disc brake at the front as well as at the rear is not possible.

Occupant protection

Airbag system

The airbag system intended for the **Škoda**Roomster offers front airbags for the driver and front passenger, two side airbags and for highest possible safety of the passengers optionally also two head airbags.

Note:
For the EEC countries all vehicles are equipped according to standard with two front and two side airbags.

Elements from the airbag system

The airbag system consists of:

- Airbags
- Crash sensors
- Central control unit for airbag
- Electrical installation
- Switch for switching off the front passenger airbags

Airbag volumes:

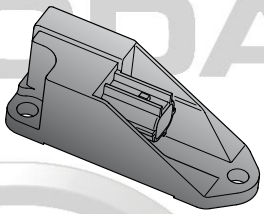
- Driver airbag: 64 l
- Front passenger airbag: 120 l
- Side airbag: 12 l
- Head airbag: 25.5 l

Note:
If necessary it is possible to deactivate the front passenger airbags (front as well as side airbag) by the switch accommodated on the right side of the dash panel

External crash sensors

Externally functioning crash sensors, based on the principle of negative vehicle acceleration (known e.g. from the models **Škoda**Octavia, **Škoda**Fabia), are used for the identification of the impact angle and the activation of the corresponding airbags.

The sensors of negative acceleration are used for detecting both frontal and side collisions.



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Airbag control unit

The vehicle is equipped with airbag control unit with integrated crash sensors (sensors for negative acceleration).
The signals coming from the external pressure sensors are evaluated by the airbag control unit and compared with the signals of the pressure sensors integrated in the airbag control unit. The force of the impact is evaluated by comparing these signals. If a high force is detected during an accident, the corresponding airbag is activated.

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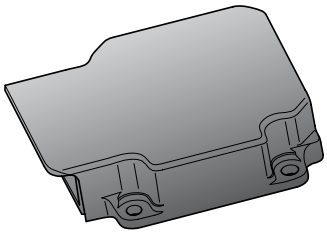


SP63_14

Restraint and safety systems

Seat belts

The **Škoda**Roomster is equipped with three point seat belts at the front as well as at all rear seats. New is the assembly of the three point seat belt also at the middle rear seat.

Its third point is anchored in the vehicle roof.

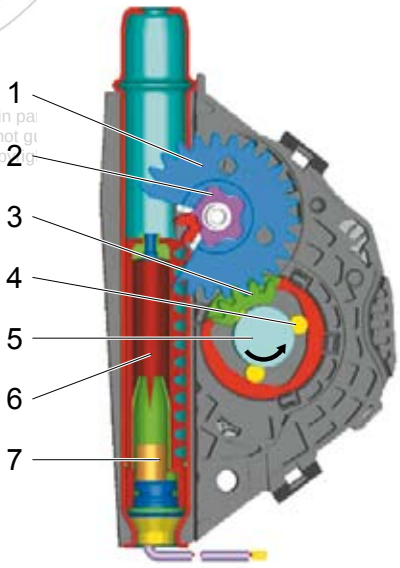
SP63_15

Seat belt tensioner

The seat belts at the front seats of the **Škoda**Roomster are equipped with seat belt tensioners, which function on the principle of a rack pinion

Function

- If the seat belt tensioner is triggered, the igniter ignites the the propellant charge of the gas generator (7).
- A pressure is generated in the piston chamber (6) and the piston (6) moves to the top.
- The piston (6) propels the gear pinion (2), which is connected with the gear pinion (1).
- During this movement the gear pinion (3) turns
- Thereupon the rollers (4) roll out of the roller cage and clamp the shaft (5) which is now turned.
- The belt band begins to pull in.
- After maximum tensioning the piston (6) is in its highest position.



SP63_53

Tensioning force limiter

In case of a severe accident it could be possible that the tensioning force of the seat belt would be so great that the belt could cause crush wounds or internal injuries to the passengers. For this reason the seat belt tensioners are equipped with the tensioning force limiter, in order to avoid exceeding the maximum tensioning force.

The tensioning force limiter used in the vehicle **Škoda**Roomster functions on the same principle as the limiter in the model **Škoda**Superb.

Blocking the seat belts

A further novelty for the restraint systems in the **Škoda**Roomster is fixing the locks of the rear seat belts directly within the seat frame.

SP63_47

The system ISOFIX

ISOFIX is an international designation for a uniform child fastening system in the vehicle.

The outside rear seats of the **Škoda**Roomster are fitted with the fastening eyes, which are fixed in the frame of the rear seats. With its aid the child seat is fastened in the vehicle.

SP63_59

TopTether system, further developed fastening of the child seat

In the **Škoda**Roomster the TopTether system is used for fastening the child seats.

The TopTether designation stands for the three point fastening of the child seat. The child seat is tensioned in the lower part according to the standard ISO-FIX fastening eyes. The upper part of the child seat is fastened with the seat belt and the fastening hook (a component of the child seat) above the upper section of the backrest to the fastening eye on the rear side of the backrest in the vehicle.

SP63_63

Fastening eye

Head restraints - Whiplash

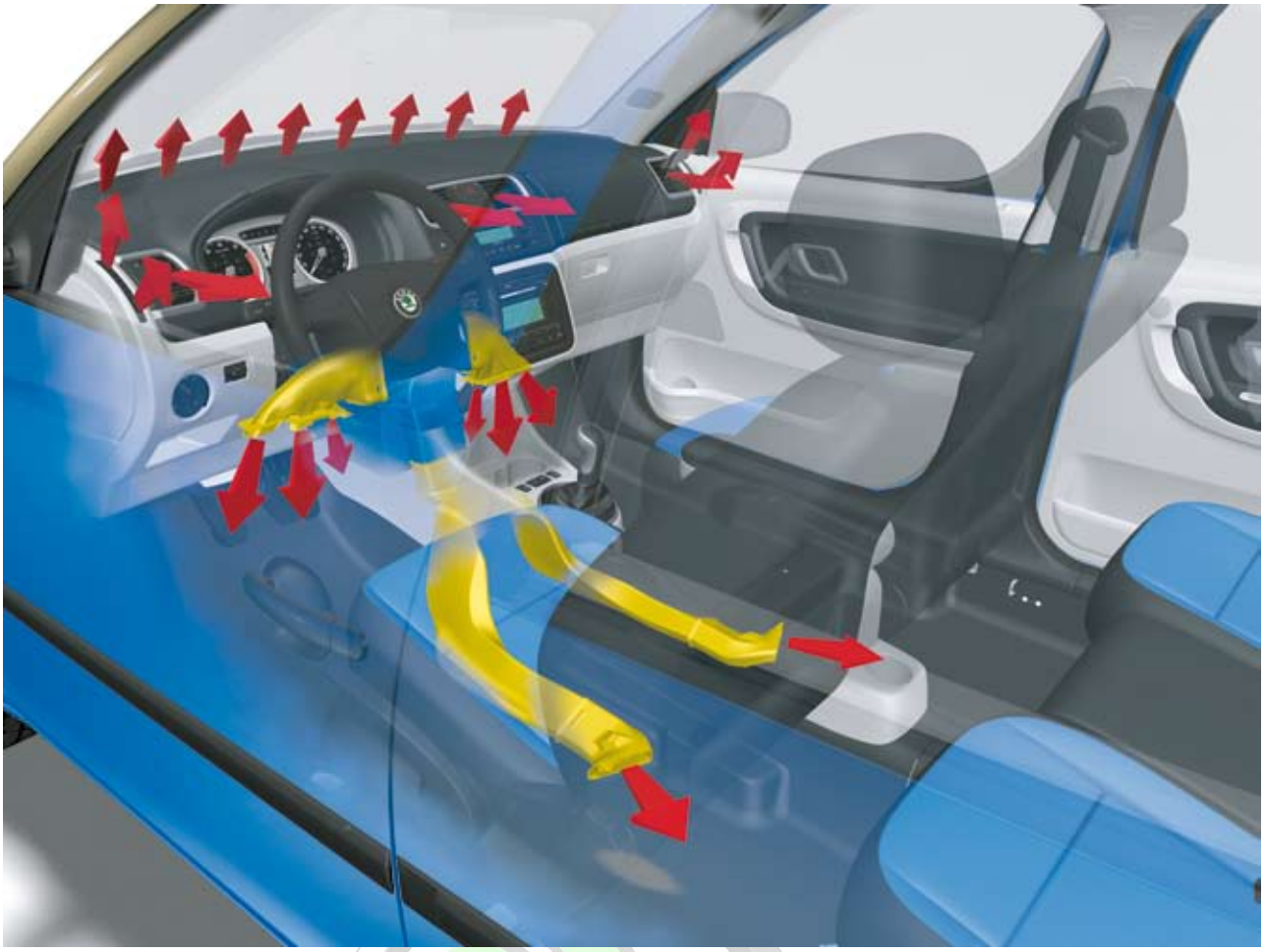
Newly designed head restraints are used on both front seats in the **Škoda**Roomster. The Whiplash - head restraint is an element of the passive safety, which improves the protection of the passenger spinal column in the case of vehicle impact from the rear.

For the design of the head restraints a material with high energy absorption is used, which minimizes the risk of injury to the spinal column in case of contact of the head with the head restraint.

SP63_52

Air distribution in the vehicle

The temperature and the air distribution in the vehicle are regulated by setting the air distribution flaps, through which either warmed up or cooled down air flows.



SP63_58

Three variants of the ventilation and heating system can be selected for the **Škoda**Roomster.

- **Climatronic** (fully automatic air conditioning system and heating)

- **Climatic** (semiautomatic air conditioning system and heating)

- **Heating and ventilation system**

Climatronic

To ensure the optimal temperature conditions in the interior of the vehicle for each situation, the vehicle **Škoda**Roomster is equipped with fully automatic air conditioning system Climatronic.

All flaps for air distribution are used via control motors.

The module of the Climatronic air conditioning system has a fresh air flow flap, which throttles the air supply when increasing the speed. Thus the quantity of the supplied air remains constant at different speeds.

The fresh air flow flap and the re-circulating air flap are separated.

Climatronic - Operating unit

SP63_16

Climatic

Climatic enables an automatic temperature setting in the vehicle interior with manual actuation of the distribution flaps - semiautomatic air conditioning system. This air conditioning system was taken over from the model series **Škoda**Fabia.

The fresh air flap and the re-circulating air flap as well as the temperature flap are operated via control motors.

The flaps for air distribution are operated manually via rotating actuators and torsion shafts, similar as for the **Škoda**Fabia.

Climatic - Operating unit

SP63_17

The heating and ventilation system

The heating and ventilatation system in the **Škoda**Roomster is identical to the system used in the **Škoda**Fabia.

The temperature and distribution flaps are actuated manually with rotating actuators via torsion shafts.

Only the re-circulating air flap is operated with a control motor.

Heating - Operating unit

SP63_18

Note:
It is not possible to operate the re-circulating air flap proportionally; therefore only the positions re-circulating air mode on or off can be set

Dust and odour filter

The heating and air conditioning systems are provided with the dust and odour filter in order to prevent harmful or unpleasant smelling air particles from penetrating into the vehicle.

The heating and ventilation system is equipped with a dust filter.

The Climatronic and Climatic systems are also equipped with the dust filter, which has an additional odour filter function. In order to perform this function, the filter fleece is layered with activated charcoal.

SP63_19

Note:
When changing the filter it is possible to use, on request from the customer, every filter independent of whether the vehicle is equipped with the Climatronic or Climatic system or only with the heating system.

Interior

The interior of the **Škoda**Roomster distinguishes itself through high seat variability, extensive luggage compartment, panoramic roof window and many storage areas.

Absolute novelty amongst all past Škoda models are the variable rear seats

Rear seats - Vario**Flex**

A flexible system of the rear seat setting - VarioFlex was developped in order to ensure a high measure of comfort of the passengers in combination with sufficient loading capacity.

The Vario**Flex** system offers:

- three separated seats
- longitudinal adjustable external seats
- convenient setting of the backrests
- Possibility to fold back the backrests
- Possibility to fold forward the seats (coil up)
- Possibility to remove the seats
- crosswise adjustable external seats (with removed middle seat)

SP63_20

Structure of the Vario**Flex** seats

The rear seats of the **Škoda**Roomster were designed in such a way that they offer a high variability and at the same time fulfill the necessary properties such as firmness, rigidity, functionality as well as the parameter which influences the comfort of the passengers e g. shape.

Basic structure of the Vario**Flex** seats:

- Frame
- Foam material parts
- Covers
- Plastic parts
- Head restraints

SP63_21

Variability of the Vario**Flex seats**

The Vario**Flex** rear seats offer together with the technical solution for the luggage compartment a high utility to the passengers. The variability of the interior in the rear of the **Škoda**Roomster makes it possible to adapt to the individual needs of the user at any time.

The external seats movable in longitudinal direction make it possible to enlarge the luggage compartment by moving the seats 80 mm forward. At the same time it is also possible to enlarge the area for the occupants in the rear (more knee area) by moving the the seats 70 mm to the rear.

SP63_22

The size of the luggage compartment can also be influenced by the setting of the backrests, although the principal purpose of this function is to increase the comfort of the occupants on the rear seats. The setting of the backrests is performed gradually in the range 7.5° forward and 6° backward.

SP63_23

The backrests of the rear seats can be folded back to the seat surface. Thus a loading area for long luggage can be created.
The middle seat when folded back is used as beverage holder by means of a plastic element and as armrest for the passengers at the external seats.

SP63_24

After adjustment of the seats in the rear position and folding back of the backrest to the seat surface the whole seat can be folded forward. In this position the seat is secured with a hook at the front head restraints. This arrangement gives the possibility to create a luggage compartment with even floor, in order to make it possible to transport larger luggage items.

SP63_25

After folding the seats forward and unlocking the front locks, the seats can be removed from the vehicle. A large luggage compartment is created through this arrangement.

SP63_26

All aforementioned variants can be combined randomly among themselves and thus the interior can be adapted to various different needs.

SP63_27

If less than 5 occupants are transported, the Vario**Flex** system offers the possibility of removing the middle rear seats, moving the external seats forward and after unlocking the front locks to move the seats 110 mm forward in the center and in such a way to form an interior arrangement with 4 seats, which improves the seat comfort at the rear seats.

SP63_28

A special holder (optional) in the luggage compartment makes it possible to transport bicycles in the interior.

SP63_29

Note:
Although the seats were designed with regard to maximum safety of the passengers, it is necessary, particularly when using the variability of the interior, to pay attention to safety and to avoid the risk of injury to the occupants e. g. due the load not being secured or dangerous.

The fuse boxes and relay places in the electrical system

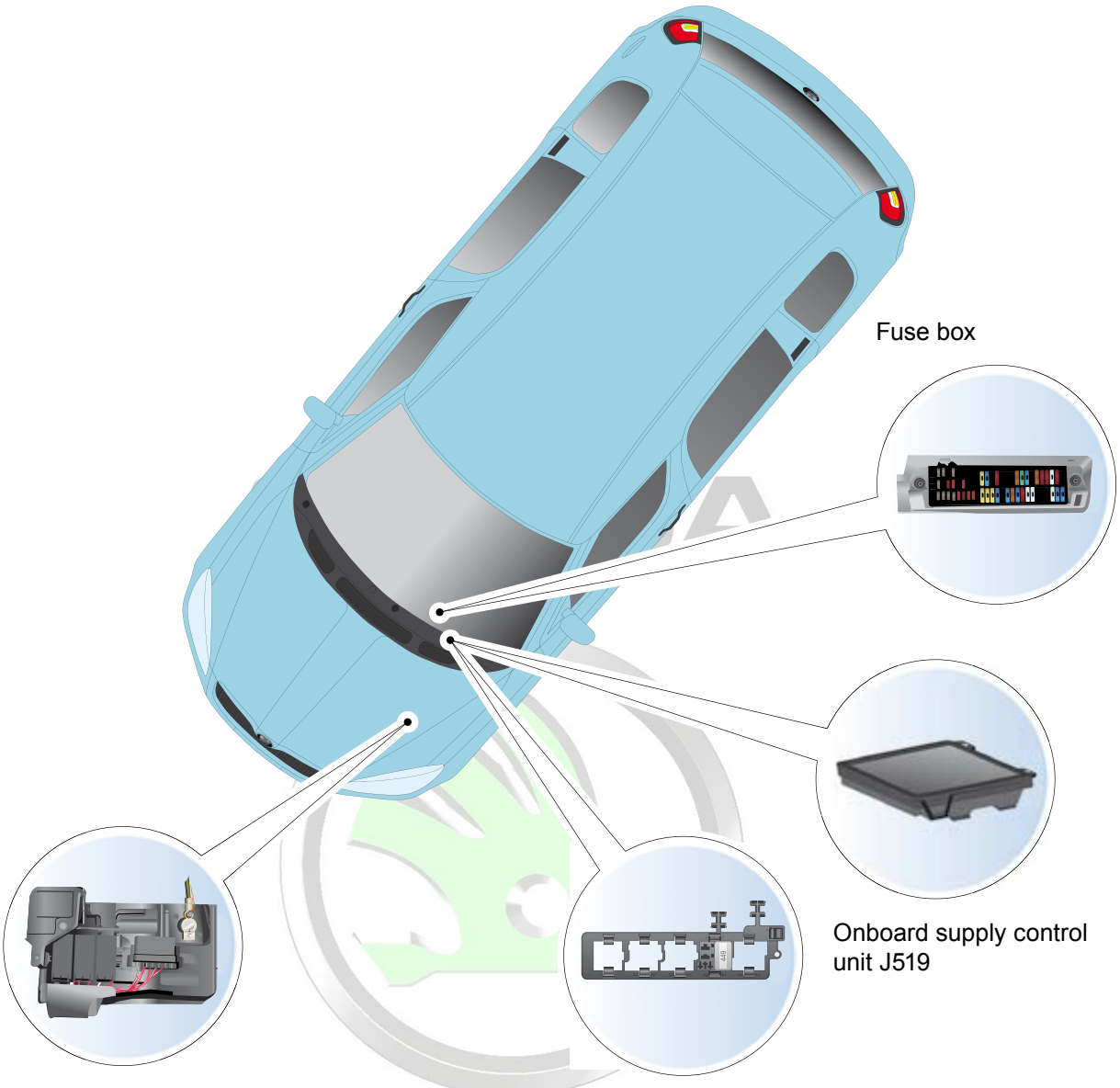
The electrical system in the **Škoda**Roomster is decentrally structured.

Due to different installation conditions the fuse and relay boxes are located in different places in the vehicle.

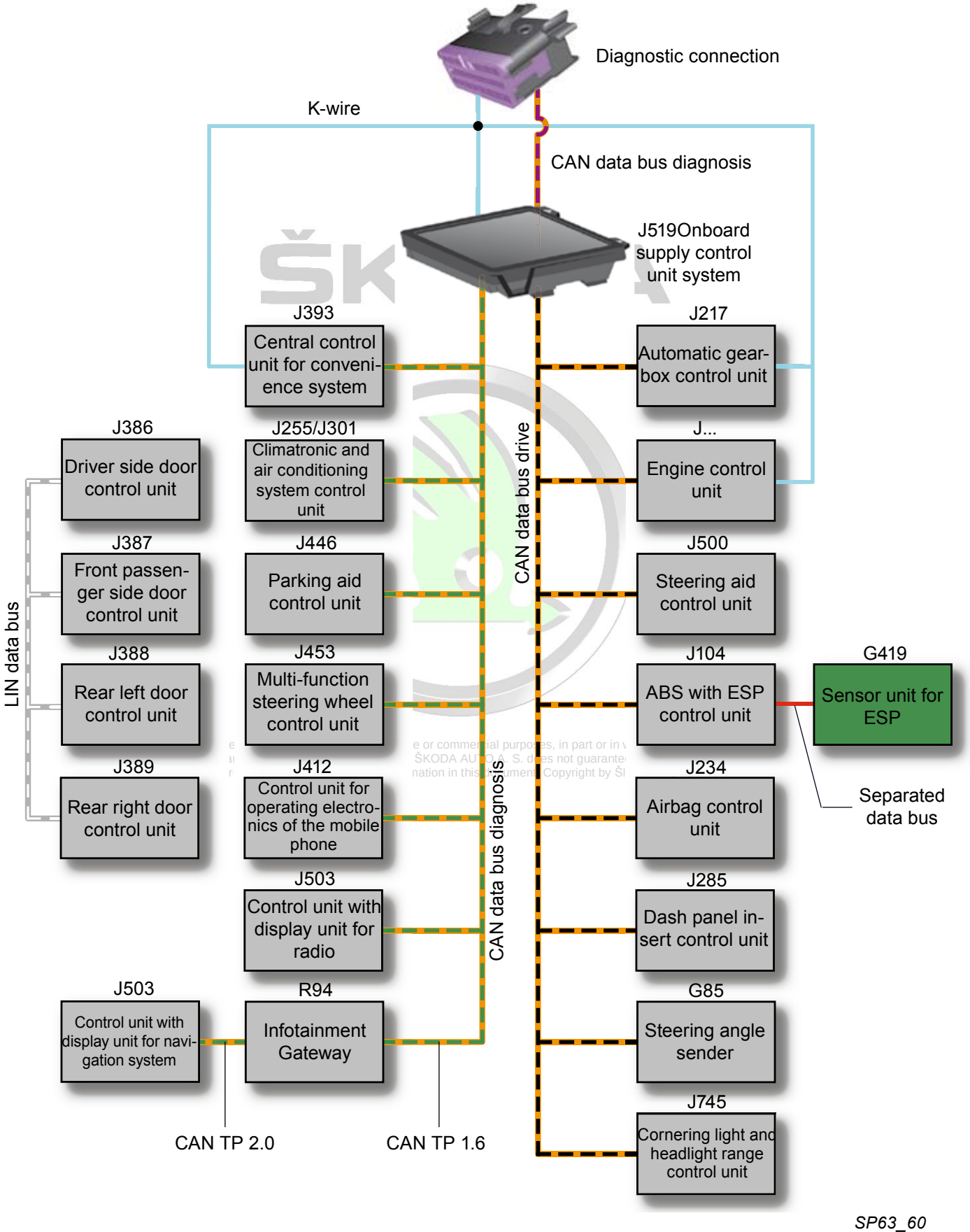
These components are decentrally assigned. This means that they are in the proximity of the components and function groups belonging to them.

The function of the overall system in the vehicle is controlled by a series of specialized control units.

The communication between the control units and other function groups of the electrical system is carried out by the CAN data bus.



The CAN data bus / The LIN data bus - network concept



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The linking of CAN data bus lines

CAN data bus diagnosis

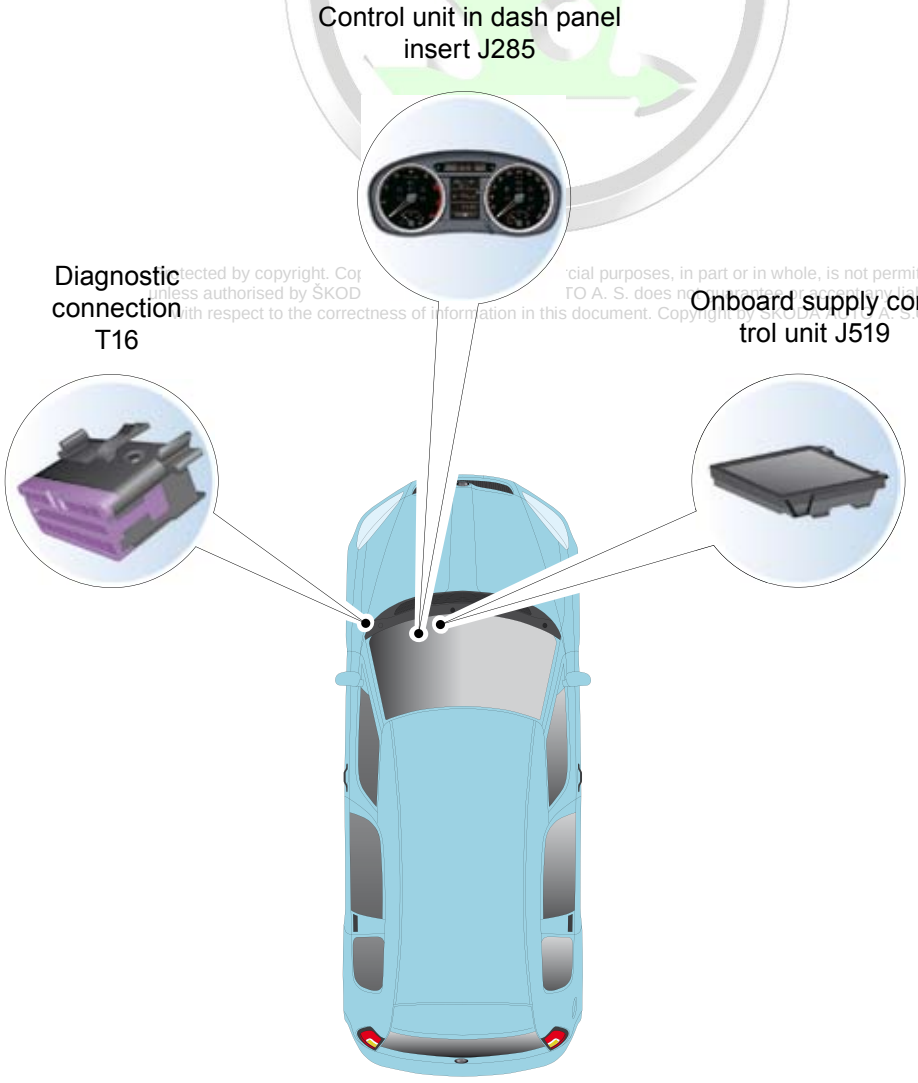
Transmission speed 500 kbit/s

Line colour

Can H - orange/purple
Can L - orange/brown

The CAN bus for diagnostic purposes serves as data exchange between the diagnosis unit VAS 5051/5052 and the Gateway unit, which are integrated in the onboard supply control unit system in the vehicle.

It is used here only for special development purposes. For communication with the diagnosis unit VAS 5051/5052 the Gateway unit uses the K-line.



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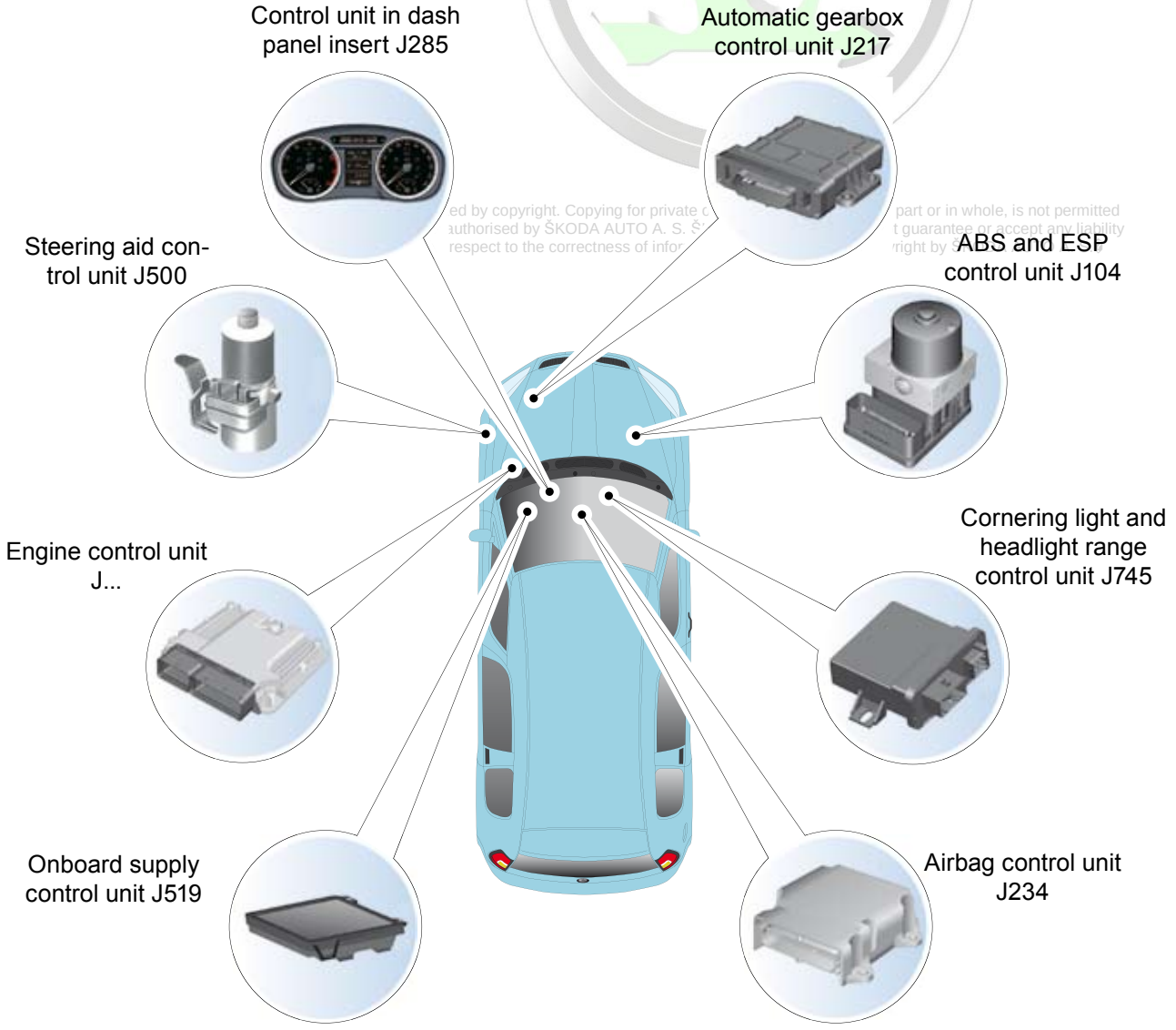
CAN data bus drive

Transmission speed 500 kbit/s

Line colour

Can H - orange/black
Can L - orange/brown



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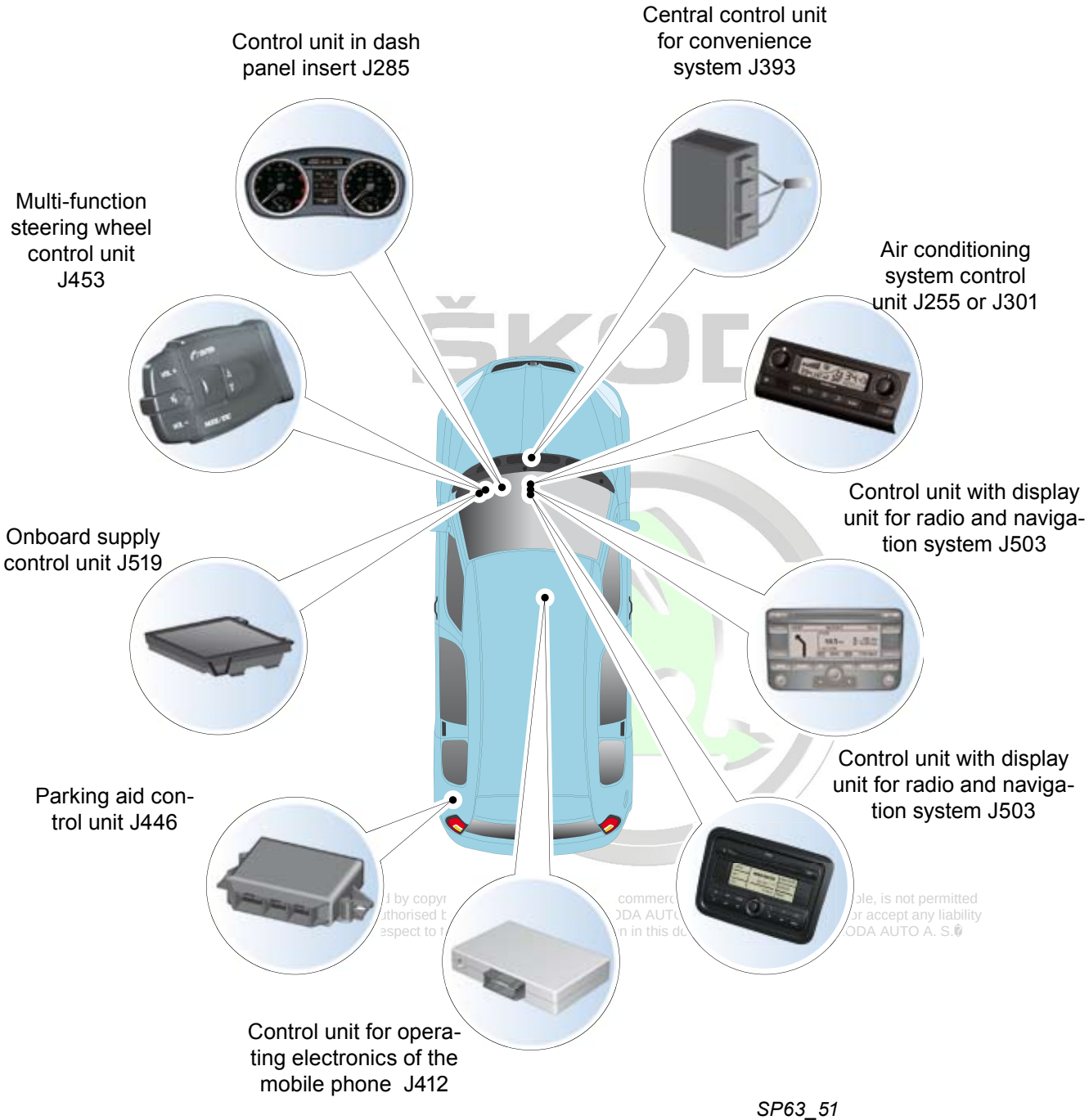
CAN data bus Convenience

Transmission speed 100 kbit/s

Line colour

Can H - orange/green
Can L - orange/brown

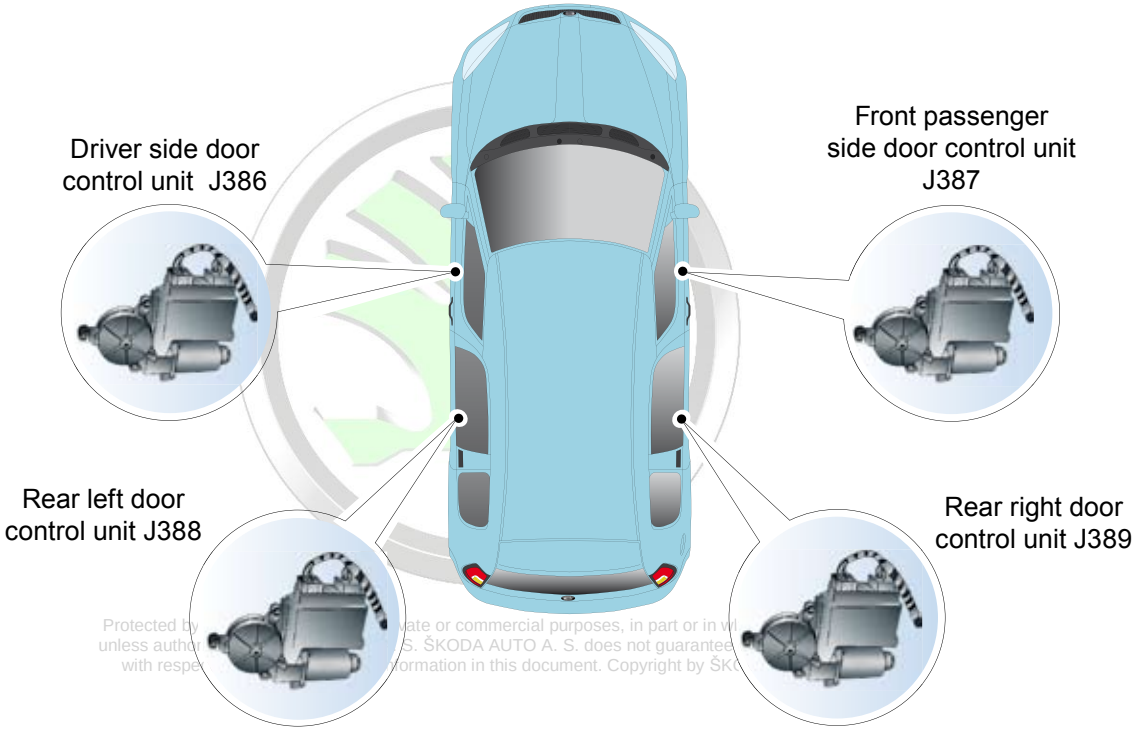


LIN data bus

Transmission speed 19.2 kbit/s

Line colour

LIN cable - grey/white



SP63_62

The swivelling front headlights

General characteristic

One of the novelties of the **Škoda**Roomster which was included for the first time within the context of the Škoda vehicle pallet are the swivelling front headlights and fog lights with the function „Corner light“.

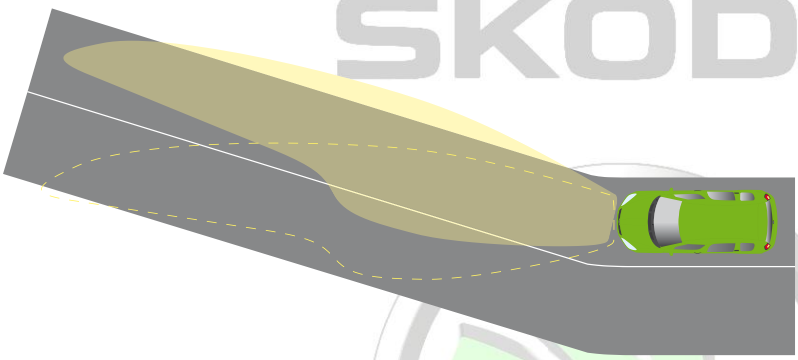
The swivelling of the low beam light improves clearly the lighting of the road and suppresses at the same time the glare of other road users and contributes thus to the increase of driving safety and driving convenience.

The complete system for the swivelling of the front headlights consists of the dynamic cornering light (swivelling front headlights) and of the turning lights (fog lights with the function „Corner light“).

Variant 1

Dynamic cornering light

The dynamic cornering light serves for lighting the curves with large bending radii and is performed by swivelling the light track of the main headlights. The swivelling of the light track is secured by the stepper motors, which are integrated in the main headlights.



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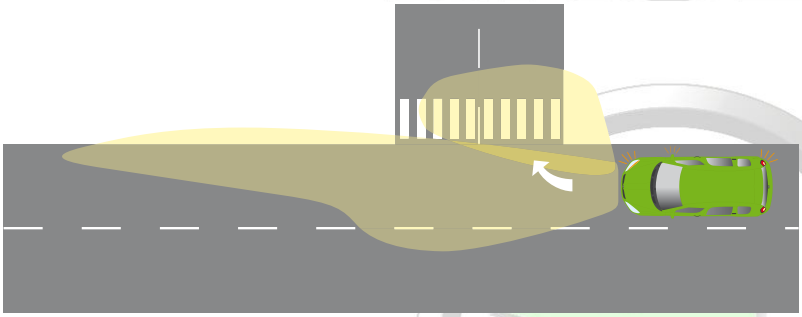
Variant 2

Turning lights

The turning lights are mainly intended for the lighting of the surrounding and next to the vehicle in a wide angle. This lighting is performed by switching on the front fog light. This lighting offers advantages particularly in curves with small radius, when turning at crossings and at places which are not situated on the road.

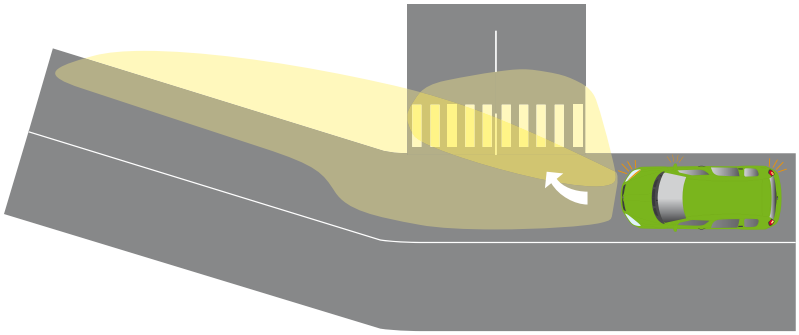


SP63_31

Variant 3

Dynamic cornering light + turning light

The combination of the dynamic cornering light and turning light forms a functional unit, which ensures an optimal lighting of the road, as well as the adjacent places.



SP63_32

Variants of the equipment of the system with swivelling headlights

For the **Škoda**Roomster the following variants of the system with swivelling headlights are offered

Variant 1	✗
Variant 2	✓
Variant 3	✓

Variants of the equipment for the main headlights

For the vehicle **Škoda**Roomster there are 3 variants of the main headlights:

1) Fixed headlight with the halogen reflector H4

SP63_33

2) Fixed bi-halogen headlights with DE module H7

SP63_34

3) Swivelling bi-halogen headlights with DE module H7

SP63_35

When desired the variants 1 and 2 with the fog lights with the function „Corner light“ can be supplemented. The variant 3 is installed in series in combination with the fog lights „Corner light“. The control unit LowAFS J745 is used to control the fog lights with the function „Corner light“, and/or the swivelling headlights.

Bi-halogen headlight with DE module H7

The designation **bi**-halogen means that it is a headlight with the halogen bulb, which is used for low beam as well as for main beam. The low beam or main beam is switched over by change-over of a diaphragm within the headlight.

DE-module is a dioptric and eliptic lens inside the headlight, which directs the light beam in the necessary shape and direction. A halogen bulb H7 and the diaphragm for the change-over of the low beam or main beam is integrated within DE modules.

Description of the system

The system for the automatic swivelling of the front headlights and for the change-over of the „Corner light“ fog lights is controlled with the control unit LowAFS J745. Based on the information about the angle of rotation and reason of the steering wheel rotation as well as the vehicle speed this equipment controls the swivelling of the main headlights and switches on the fog lights with the function of the turning light.

ISM module - swivelling headlight

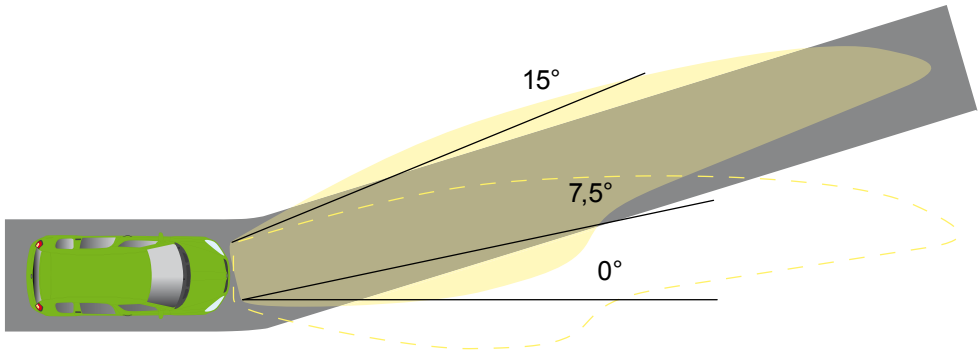
Function

An important component of the swivelling headlights is the so-called ISM module (Intelligent Step Motor). Its function is to turn the DE halogen module accommodated in the main headlight. The ISM module is equipped with electronics for the recognition of the central position of the DE module, as well as with electronics for communication with the control unit LowAFS J745 via the data bus LIN. The swivelling headlight in the **Škoda**Roomster is swivelled by the middle axle of the headlight in the angle range of 15° at the vehicle exterior and 7.5° at the inside. The inclination of the swivelling headlight is aligned in the same way as with the fixed headlights to the value of 1%.

Swivelling bi-halogen headlight

Function

As already mentioned, the halogen modules of the headlights are swivelled to the left or right by the stepper motors accommodated in the headlights The individual headlights turn however at a different speed. Since the angle range at the car exterior is 15° and at the inside 7.5°, the headlight at the inside of the curve is turned with twice as large a speed as the headlight at the exterior of the curve. The aim is that both modules at the same time reach their peripheral location, and there is no disturbing unlighted road range in front of the vehicle. Because the headlight module has a central position sensor, it is not necessary to have a special setting for swivelling headlights. The swivelling headlights are adjusted mechanically with the Regloscope, without the diagnosis units VAS, VAG being necessary. All variants of the headlights fitted into the ŠkodaRoomster are halogen headlights and the setting of their inclination is always manually ensured by the driver, depending on the vehicle load.



SP63_54

Operating conditions

The headlights are swivelled depending on the steering wheel rotation when carrying out the following functions:

- engine runs
- vehicle speed is higher than 3 km/h
- the low beam / main beam is switched on
- the reverse gear is not engagedIf

All of these conditions are fulfilled, the headlights are swivelled to the necessary side.

Standstill and Reverse travel

In accordance with the law the swivelling headlights may swivel only while driving forward. As soon as the vehicle is stationary or is driven backwards, it is given information about the driving speed or shifting of the reverse gear. If the vehicle is in one of these positions, the swivelling headlights are put into the so-called zero position that means they are directed forward parallel with the longitudinal axis of the vehicle.

Reference step

After starting the engine, the headlights perform a so-called reference step. Thus the headlights are synchronized and adjusted to the zero position. Thereby it is not important if the headlights are switched on or not.

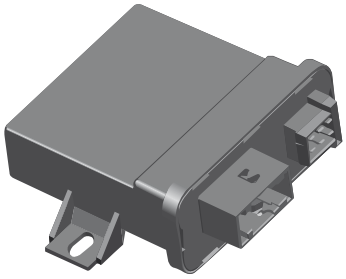
Interruption of the swivelling

If an interruption of the headlight swivelling is detected, the headlight is inclined, in order to avoid the glare of the oncoming vehicles. This is achieved by an adaptation of the signal of the headlight beam control.

Control unit LowAFS

Function

The control unit LowAFS J745 is located in the vehicle interior and is connected to the CAN bus drive. The control unit LowAFS J745 carries out the communication with the ISM modules accommodated in the headlights by means of the subordinated LIN data bus and controls directly the turning light.



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The control unit LowAFS J745 evaluates the following input information:

- Angle and direction of the steering wheel rotation
- Vehicle speed
- Switching on turn signal lights
- Switching on reverse lights
- Engine speed
- Switching on headlights (low beam or main beam)
- Switching on fog lights
- Signal of headlight beam control

Due to this information the control unit LowAFS J745 controls the functions of the swivelling headlights and turning lights:

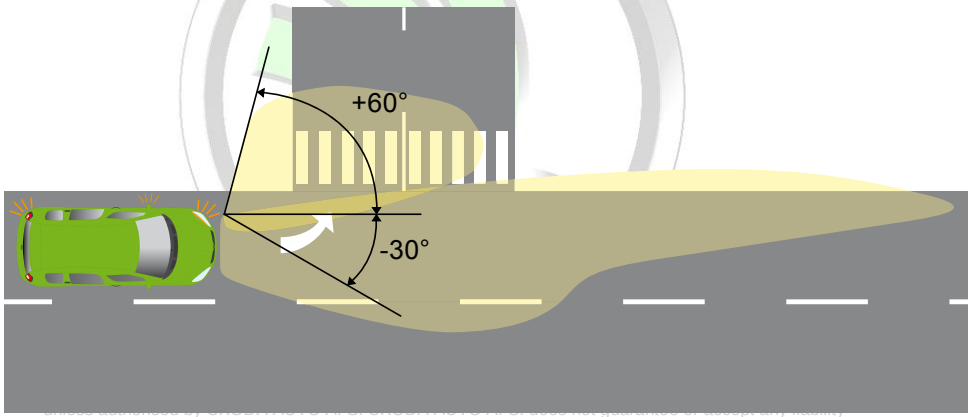
- Swivelling of the left/right main headlight
- Control of the inclination of the left/right main headlight
- Switching on the left/right turning light (fog light)

Fog light with the „Corner light“ function

Function

The fog headlight with the integrated function „Corner light“ is located in the front bumper of the **Škoda**Roomster. Apart from its fog light function it serves also as turning light and lights up the area in the angle range from -30° to + 60°.
If the headlight is switched on as fog light, the function of the turning light is suppressed.
The inclination of the turning light is set in the same way as for the fog lights to the value of -2%.

SP63_56



SP63_55

Operating conditions

The fog light with the integrated „Corner light“ function is controlled dependent on the information about the steering wheel rotation and the switching on of the turn signal lights at the appropriate side under these conditions:

- engine runs
- vehicle speed max. 40 km/h
- the low beam / main beam is switched on
- the fog light is not switched on
- the reverse gear is not engaged
- the warning lights are not switched on
- the turn signal to the right/left was switched on
- the limit angle of the steering wheel rotation for the switching on of the turning light was exceeded

If all these conditions are fulfilled, the right fog light is switched on when switching on the right turn signal light or during the steering wheel rotation in the direction towards the right in such a way that the steering wheel exceeds the limit angle (applies identically to left side).

Priority of the turn signal lights

If one of the turn signal lights is switched on and the steering wheel is turned simultaneously to the other side (i. e. the signals contradict each other), the turn signal light has priority and the corresponding fog light is switched on.

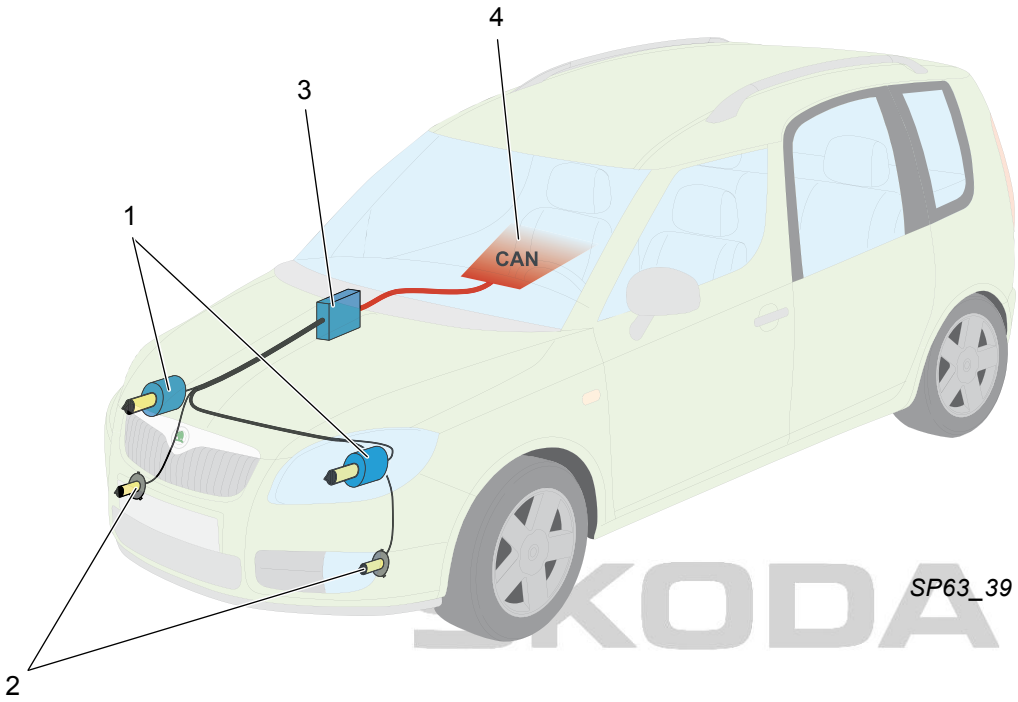
Reaction when reversing

After shifting to reverse gear the function „Corner light“ is suppressed.

Control of turning lights

The fog lights with the „Corner light“ function are controlled with the pulse duration modulation of the power output signal so that the lights light up and go out gently and the dazzling effect of sudden lighting up or going out is suppressed.

Overview of the main components of the system



1 - Main headlight/DE halogen module with ISM module
2 - Fog light with the integrated „Corner light“ function
3 - Control unit LowAFS
4 - Connection to the CAN-Bus

Multi-function module below the steering wheel

The frequently used functions of the car radio, and/or the telephone can be performed without the driver having to remove his hands from the steering wheel with the multi-function module which is located below the steering wheel in the **Škoda**Roomster similar as with the multi-function steering wheel. This contributes to the increase of comfort and safety when steering.

The multi-function module is accommodated at the left side of the steering column trim panel. The electronics for the evaluation of button actuation or the rotation of the rolling knob is integrated in the module. Communication and diagnostics are performed by the CAN bus convenience.

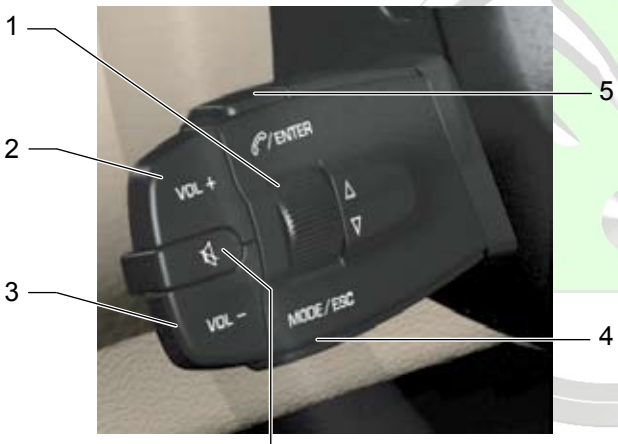
The multi-function module is active, i.e. operational and can transmit instructions to the car radio and/or the telephone if the ignition is switched on.

SP63_42

Variants of the multi-function module

On customer‘s request two variants of the multi-function module are offered. Variant **A** only for radio operation and variant **B** for operation of the radio and mobile phone.

Variant **A**
Radio operation



SP63_41

Variant **B**
Radio and mobile phone operation

SP63_40

Function

Variant **A**

Button	Car radio	CD
1	Stored transmitter forward △ back ▽	Title search forward △ back ▽
2	Increase volume **VOL +**	
3	Decrease volume **VOL -**	
4	Frequency search back <<	Reading the previous CD <<
5	Frequency search forward >>	Reading the following CD >>
6	Muting	

Variant **B**

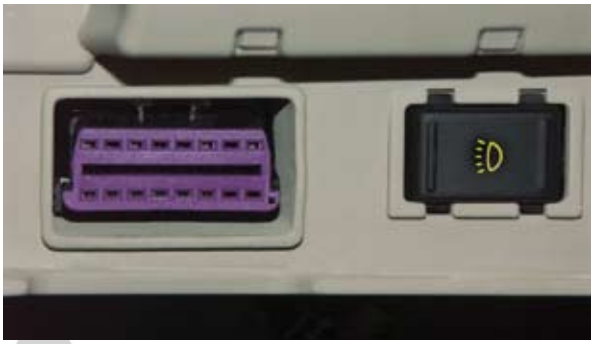
Button	Car radio	CD	Mobile phone
1	Stored transmitter forward △ back ▽	Title search forward △ back ▽	Scroll through with the rolling knob
2	Increase volume **VOL +**		
3	Decrease volume **VOL -**		
4	Switching over between radio and mobile phone **MODE/ESC**		
5	Without function		Receive, accept a call, entry in telephone menu, confirmation of menu selection / **ENTER**
6	Without function		Activation and deactivation of the voice control

Daylight function

The **Škoda**Roomster offers again the function daylight. This is a function, with which the parking light and/or low beam is switched on automatically, without having to switch on the light switch.
This function is activated by switching on the daylight switch.

If the switch is switched on, the ignition is on and the engine is not running, the parking light including the official registration plate light is lit up.
If the ignition is switched on and the engine runs, the low beam including the lighting of the official registration plate light up.

For the daylight function the lighting of the vehicle interior is not activated and also the possibility of switching over to main beam is suppressed.



SP63_65

For standard operation of the vehicle lighting, the light switch must be switched on.

Tyre pressure monitor

To increase the active safety the **Škoda**Roomster is equipped with an automatic pressure monitoring of the air filling in the tyres.

The tyre circumference depends on the air pressure in the tyre.

The tyre air pressure is supervised by the software, which is a component of the ABS control unit.
The ABS control unit compares the peripheral speeds of all 4 wheels and it determines the drop in air pressure of the tyres from the determined values and their deviations

In case the air pressure in the tyre drops more than 20%, this fact is accompanied by the lighting up of a warning light in the instrument cluster and simultaneously by a brief acoustic signal

SP63_43

Instrument cluster

For the **Škoda**Roomster three variants of the instrument cluster are offered. The individual variants differ depending on the vehicle equipment.

The instrument clusters are based on the functions of the **Škoda**Fabia instruments, whose further development they represent.

The basic variants of the instrument clusters are equipped only with two analogue pointers (speedometer and rev counter). The fuel gauge was replaced with a digital display (bar diagram) in the central display. The indicator of the coolant temperature is not applicable. The original two small side displays were replaced with a central display.

The control unit J285 and the immobilizer control unit J362 are integrated in the instrument cluster.

Further changes to the instrument cluster of the **Škoda**Fabia:

- new warning lights for the tyre pressure inspection, DPF warning light, AFS warning light (swivelling headlight)
- Immobilizer of the 3rd and 4th generation was integrated
- 2 characteristics of the TOG sensor (temperature and oil temperature sender) were integrated
- for the High-Line variant the language can be set in the main menu
- the cover glass is fastened with clips (in case of damage of the cover glass it is not necessary to replace the whole instrument cluster. The cover glass is supplied as a separate spare part)

Variants of the version

Low-Line

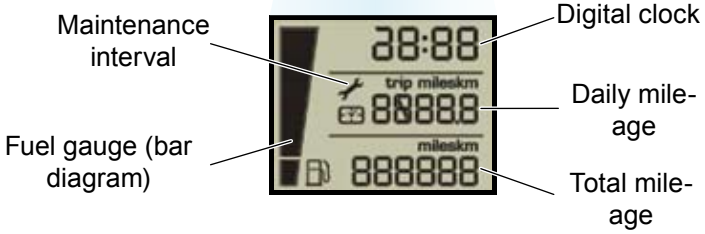
Low-Line is the base variant of the instrument cluster which offers the following indicators and warning lights:

Analogue displays:
- Rev counter
- Speedometer

Digital displays:
- Fuel gauge (bar diagram)
- Digital clock
- Total and daily mileage
- Maintenance interval

Warning lights:
- Temperature / coolant quantity
- Immobilizer
- Fuel supply
- Engine oil level / pressure
- Brake pad thickness
- Recharging
- Fog lights
- Rear fog light
- Main beam
- Low beam
- electrohydraulic power steering

SP63_44



- EPC engine electronics (petrol engine)
- Glow plug system (diesel engine)
- Turn signal lights at trailer
- Electronic stabilisation system ESP/TCS
- Brake system ABS
- Brake system / Brake fluid volume / locking brake operated
- Airbag system
- Fasten seat belts
- Left / right turn signal light
- AFS cornering light
- RKA tyre pressure
- Diesel particle filter DPF (diesel engine)
- Door open
- Warning system for exhaust OBD

Low Line AG

The version is identical to the base variant, however it has additionally the warning light of the shiftlock function - selector lever lock of the automatic gearbox.

Mid-Line

Mid-Line is the middle variant of the instrument cluster. In addition to the base variant it has the following warning elements

- MFA onboard computer, in the center of the central display
- Warning light for fluid level of headlight washer system

This variant differs optically from the base variant with the silver linings around the analogue indicators.

SP63_45

Mid-Line WBA

The Mid-Line WBA version is identical to the variant Mid-Line, however it has additionally the digital display WBA - display of the automatic gearbox.

High-Line

High-Line is the variant with superior equipment of displays and functions It originates from the Mid-Line version and has additionally the following functions:

Analogue displays:
- Fuel gauge
- Coolant temperature display

Digital displays:
- DOT Display (white, 64 x 88 Points) instead of segment display in the middle window
- Segment display (white) in the upper middle window instead of the warning lights

Warning lights, which are replaced with displays of symbols and texts in DOT display:
- Fuel supply
- Temperature / coolant quantity
- Pressure / loss of engine oil
- Fluid level of window wiper
- Washing system
- Door open
- Diesel particle filter DPF (diesel engine)
- Immobilizer
- Brake pad thickness BVA
- shiftlock (shows the blocking of the selector lever for automatic gearbox)

Warning lights and symbols in the instrument cluster

Warning light	Function/malfunction	Low-Line	Mid-Line	High-Line
	Turn signal lights (to the left)	X	X	X
	Turn signal lights (to the right)	X	X	X
	Main beam	X	X	X
	Low beam	X	X	X
	Rear fog light	X	X	X
	Alternator	X	X	X
	Fog lights *	X	X	X
	Cornering lights *	X	X	X
	Electrohydraulic power steering	X	X	X
EPC	EPC fault light (petrol engine)	X	X	X
	Glow plug system (diesel engine)	X	X	X
	Turn signal system for vehicles towing a trailer *	X	X	X
	Coolant temperature/coolant level	X	X	Piktogramm + Text im DOT Display
	Electronic immobiliser	X	X	Piktogramm + Text im DOT Display

Warning light	Function/malfunction	Low-Line	Mid-Line	High-Line
	Fuel level	X	X	Pictograph + text in DOT display
	Pressure / insufficient engine oil	X	X	Pictograph + text in DOT display
	Brake pad wear *	X	X	Pictograph + text in DOT display
	Open door *	X	X	Pictograph + text in DOT display
	Windshield washer fluid level *		X	Pictograph + text in DOT display
	Control system for exhaust	X	X	X
	Electronic stability programme TCS/ESP *	X	X	X
	Reifenfülldruckwerte tyre inflation pressure *	X	X	X
	Antilock brake system (ABS)*	X	X	X
	Braking system / Quantity of brake fluid / put on the locking brake	X	X	X
	Airbag system	X	X	X
	Diesel particle filter (diesel engine)*	X	X	Pictograph + text in DOT display
	Belt warning light *	X	X	X
	Shiftlock (locking the selector lever on automatic gearbox *	X	X	Pictograph + text in DOT display

* The warning light is only indicated for some variants of the vehicle equipment

The **Škoda**Roomster offers the customers two variants of car radios and one navigation system. In order to satisfy all customers, the car radios are divided into high and low category.

Car radio Beat

SP63_38

The car radio Beat is a representative of the base class, it is a so-called 1-DIN equipment and is the basic model amongst the car radios for the **Škoda**Roomster.

Technical basic parameter:

- Power output 4 x 20 W
- Tuner with RDS and FM/AM reception range
- Memory for storing up to 30 stations
- Possibility to connect a hands-free system for mobile phone
- Possibility to connect an external CD playing device

Car radio Dance

SP63_37

The high class of the car radios for the **Škoda**Roomster is represented by the radio Dance. This so-called 2-DIN car radio offers the user a whole series of useful functions, e.g. the possibility of the displays via the mode Climatronic.

Technical basic parameter:

- Power output 4 x 20 W
- Tuner with RDS and FM/AM reception range
- Memory for storing up to 36 stations
- Possibility to play the CD in the format CD audio, CD-R, CD-RW, multi-session and MP3
- integrated CD player for 1 CD
- Possibility to connect an external CD changer
- Possibility to connect a hands-free system for mobile phone
- if the vehicle is equipped with the parking aid, the car radio shows a schematic representation of the distance to the obstacle.
- Outside temperature and date
- Possibility of operating via multi-function module below the steering wheel

Satellite navigation system Lowline

SP63_36

The radio navigation system Lowline provides the user with the exact and current information about the traffic conditions in the surrounding. Thus it contributes to the increase of comfort when travelling and to the safety on the roads.

Technical basic parameter:

Operating mode of the navigation:

- Schematic representation of information for route guidance on the DOT display in the instrument cluster
- linguistic and visual route guidance (representation of the map and the symbols on the display)
- Route guidance by means of navigation symbols (arrows)
- indicates the arrival time at the destination and the remaining travel duration
- indicates to the driven road, if possible the next road (also on DOT display in the instrument cluster)
- indicates the remaining distance (km) up to the specified destination
- indicates the distance to the announced change of direction (also on DOT display in the instrument cluster)
- Warnings about traffic obstacles (TM announcements) + dynamic destination navigation (DX navigation)
- Function CORRIDOR*

Mode of operation for radio:

- Waveband ranges FM + TP and AM
- 18 memory spaces per waveband range FM and 12 memory spaces per waveband range AM
- RDS-EON-PTY (expanded RDS functions)
- Traffic messages (TIM)
- Function GALA (adaptation to the volume in line with the driving speed)
- Playing audio CDs in the drive of the equipment
- integrated CD playing device enables the playing of CDs in the MP3 format and assists ID3 tags (information about the album, the interpreter etc.)

General data:

- monochromatic display with green background lighting
- Connection to DOT display in the instrument cluster
- controllable also via the multi-function steering wheel

Supplementary equipment:

- CD changer for 6 CDs
- Input for hands-free telephone system

*** CORRIDOR is a function, which enables the equipment to transfer the data after calculation of the route to the internal memory and to keep the vehicle on the selected route, without the navigation CD being in the drive. If the vehicle leaves the fixed corridor, the driver is requested to insert the navigation CD in order to calculate again the changes of the route and the route guidance.This function enables a playing of audio or MP3 CDs directly in the drive of the equipment while driving.**

List of Self-Study Programmes so far

No.	Title
1	Mono-Motronic
2	Central locking
3	Anti-Theft Alarm
4	Working with current flow diagrams
5	ŠKODA FELICA
6	ŠKODA-Vehicle safety
7	Principles of ABS - not published
8	ABS-FELICIA
9	Immobilizer with transponder
10	Air conditioning in vehicles
11	FELICIA Air conditioning
12	1.6-ltr. Engine with MPI
13	1.9-ltr. Naturally aspirated diesel engine
14	Power-assisted steering
15	ŠKODA OCTAVIA
16	1.9-ltr. TDI engine
17	OCTAVIA Convenience electronic system
18	OCTAVIA Manual gearbox 02K/02J
19	1.6-ltr./1.8-ltr. Petrol engines
20	Automatic gearbox - fundamentals
21	Automatic gearbox 01M
22	1.9-ltr. 50 kW SDI/1.9-ltr. 81 kW TDI
23	1.8-ltr. 110 kW turbo petrol engine 1.8-ltr. 92 kW petrol engine
24	OCTAVIA - CAN databus
25	OCTAVIA - CLIMATRONIC
26	OCTAVIA - Vehicle safety
27	OCTAVIA - 1.4-ltr. Engine and Gearbox 002
28	OCTAVIA - ESP
29	OCTAVIA - 4x4
30	Petrol engine 2.0-ltr. 85 kW/88 kW
31	OCTAVIA - Radio/navigation system
32	ŠKODA FABIA
33	SKODA FABIA - Vehicle electrics
34	ŠKODA FABIA - Power-assisted steering
35	Petrol engines 1.4-ltr. - 16 V 55/74 kW
36	ŠKODA FABIA - 1.9-ltr. TDI Unit injection
37	5-Speed manual gearbox 02T and 002
38	ŠkodaOctavia - Model 2001
39	Euro-On-Board-Diagnosis
40	Automatic gearbox 001
41	6-Speed manual gearbox 02M
42	ŠkodaFabia - ESP
43	Exhaust emission
44	Extended Maintenance Interval
45	1.2-ltr. 3-cylinder Petrol Engines
46	ŠkodaSuperb; Presentation of the vehicle part I
47	ŠkodaSuperb; Presentation of the vehicle part II
48	ŠkodaSuperb; 2.8-ltr./142 kW V6 Petrol Engine
49	SkodaSuperb; 2.5-ltr./114 kW TDI V6 Diesel engine
50	ŠkodaSuperb; Automatic Gearbox 01V

No.	Title
51	2.0-ltr./85 kW Petrol Engine with balance shaft transmission and 2-stage switching intake manifold
52	ŠkodaFabia;1.4-ltr. TDI Engine with Unit injection system
53	ŠkodaOctavia; Presentation of the vehicle
54	ŠkodaOctavia; Electrical Components
55	FSI Petrol engines; 2.0-ltr./110 kW and 1.6-ltr./85 kW
56	Direct manual gearbox
57	Diesel engine 2.0-ltr./103 kW TDI Unit injector 2.0-ltr./100 kW TDI Unit injector
58	ŠkodaOctavia; Chassis and electromechanical power-assisted steering
59	ŠkodaOctavia RS, 2.0-ltr./85 kW FSI turbo petrol engine
60	2.0-ltr./103 kW 2V diesel engine; diesel particle filter system with additive
61	Satellite navigation systems in Škoda vehicles
62	**Škoda**Roomster; Presentation of the vehicle part I
63	**Škoda**Roomster; Presentation of the vehicle part II

S00.2002.63.20 GB **Technical status 05/06**