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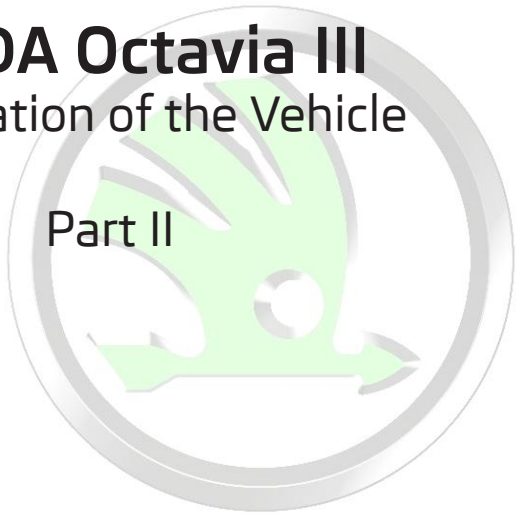
ŠKODA Octavia III

Presentation of the Vehicle

Part II



Self-study programme

SP97_37

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You will find the instructions for assembly and disassembly, repairs, for diagnostics plus detailed user information in the VAS diagnostic instruments and in the on-board literature.

Editorial closing date was in 12/2012.
This Book is not subject to updating.

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1. Airbag System

1.1 Airbag Control System

Airbag Control Unit

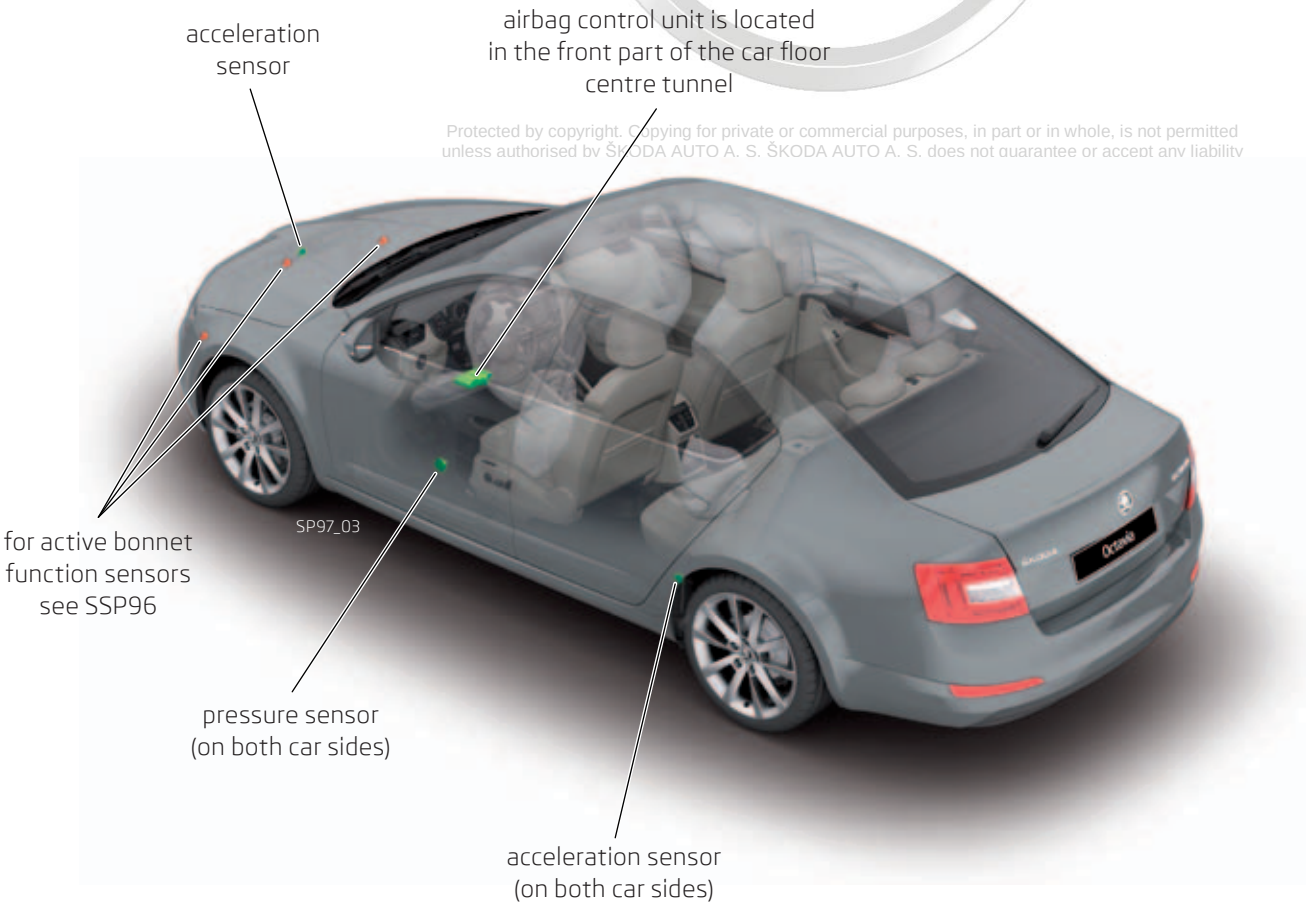
The airbag system is controlled by the airbag control unit with integrated sensors (see page 6 of this Book), up to eight external sensors are further connected to the control unit via power harness.

External Sensors

The five sensors below belong to the airbag system:

- acceleration sensor located at the vehicle front end
- two pressure sensors placed in the right-hand and left-hand front doors
- two acceleration sensors located in the root of the left-hand and right-hand C-pillar

The remaining three sensors belong to the engine cover hinge system for the active bonnet function, see the SSP96 Book.



Sensors integrated into the control unit

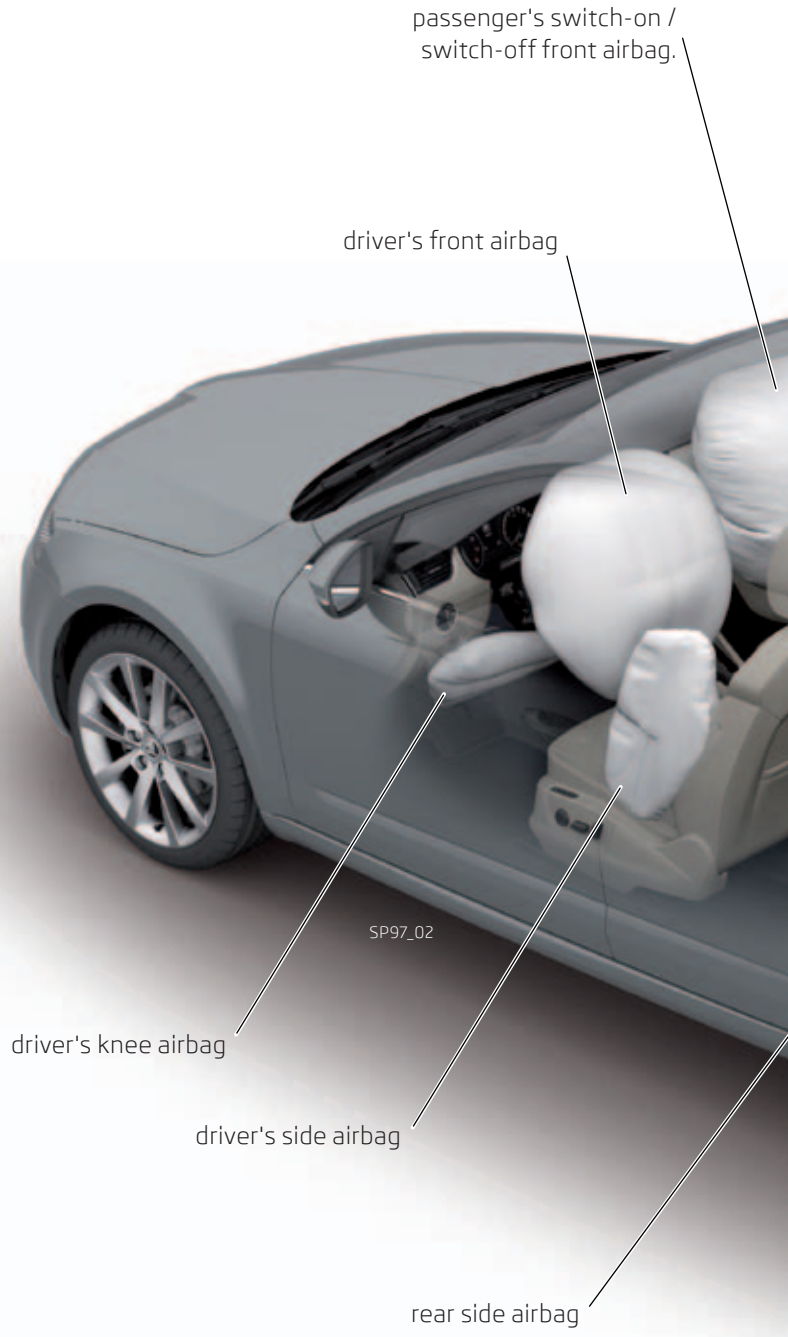
The sensors below constitute a part of control unit:

- front impact acceleration sensor, (it measures the acoustic component as well)
- side impact acceleration sensor

Airbag activation

Activation of relevant airbags will be decided by the control unit both upon the programmed algorithm that evaluates the signals from external sensors and upon the signals from the sensors integrated in the actual control unit.

The permanent conditions are common activation of both front airbags and knee airbag in case of front impact as well as common activation of side airbag and head airbag in case of side impact (in case the car is not equipped with the head airbag, this condition is invalid and the side airbag is activated separately). It is further the pyrotechnic belt pretensioners that are always activated together with airbags. In case of side impact, the pretensioners and airbags are activated on the impacted side only.



1.2 Airbag Overview

The airbag system in ŠKODA Octavia III model is composed of the elements below:

- 9x airbag

  1) driver's front airbag
  2) passenger's front airbag – of switch-on / switch-off type
  3) driver's knee airbag
  4) driver's side airbag
  5) passenger's side airbag
  6) rear left-hand seat side airbag
  7) rear right-hand seat side airbag
  8) left-hand seat head airbag
  9) right-hand seat head airbag

- the airbag control unit with integrated impact sensors
- external impact sensors
- airbag system indicator lamp in the instrument panel
- passenger airbag cut-off switch
- passenger airbag off light
- wiring harness
- belt pretensioners, and - depending on the outfit level - with PRE-CRASH system, see page 10 of this Book

Passenger's front airbag deactivation

The passenger's front airbag can be switched off, it can be deactivated using the switch located in the glove compartment inside the passenger's dashboard. The switch is controlled by the ignition key.

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The off-state of passenger airbag is indicated on the central panel of the dashboard by the illuminated orange text OFF completed with pictogram. (The indicator lamp goes on after the ignition activation to remain on permanently). It indicates the ON state by illuminating the text "ON" completed with pictogram, the indicator lamp goes off once 65 seconds have lapsed since ignition activation.

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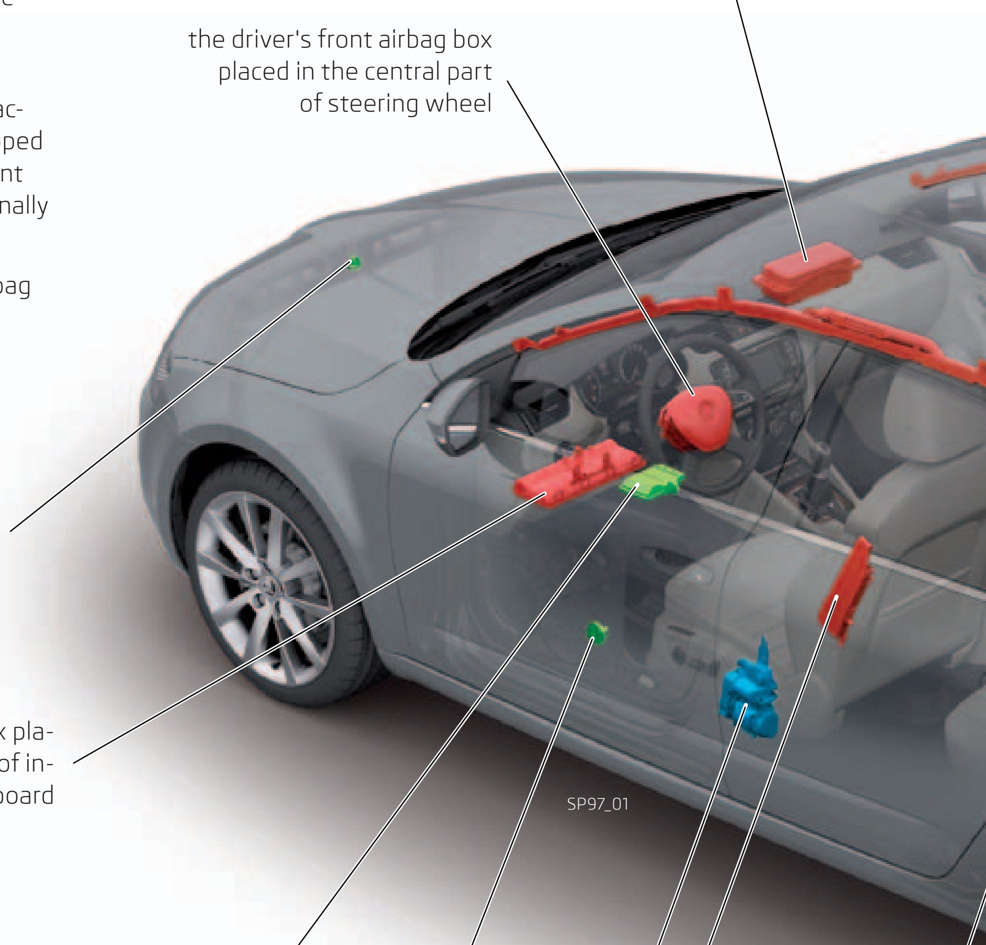
1.3 General System Overview

The picture shows the modules of all airbags in the car ŠKODA Octavia III that are marked in red.

The airbag control unit and the quintuple of external sensors are represented in green.

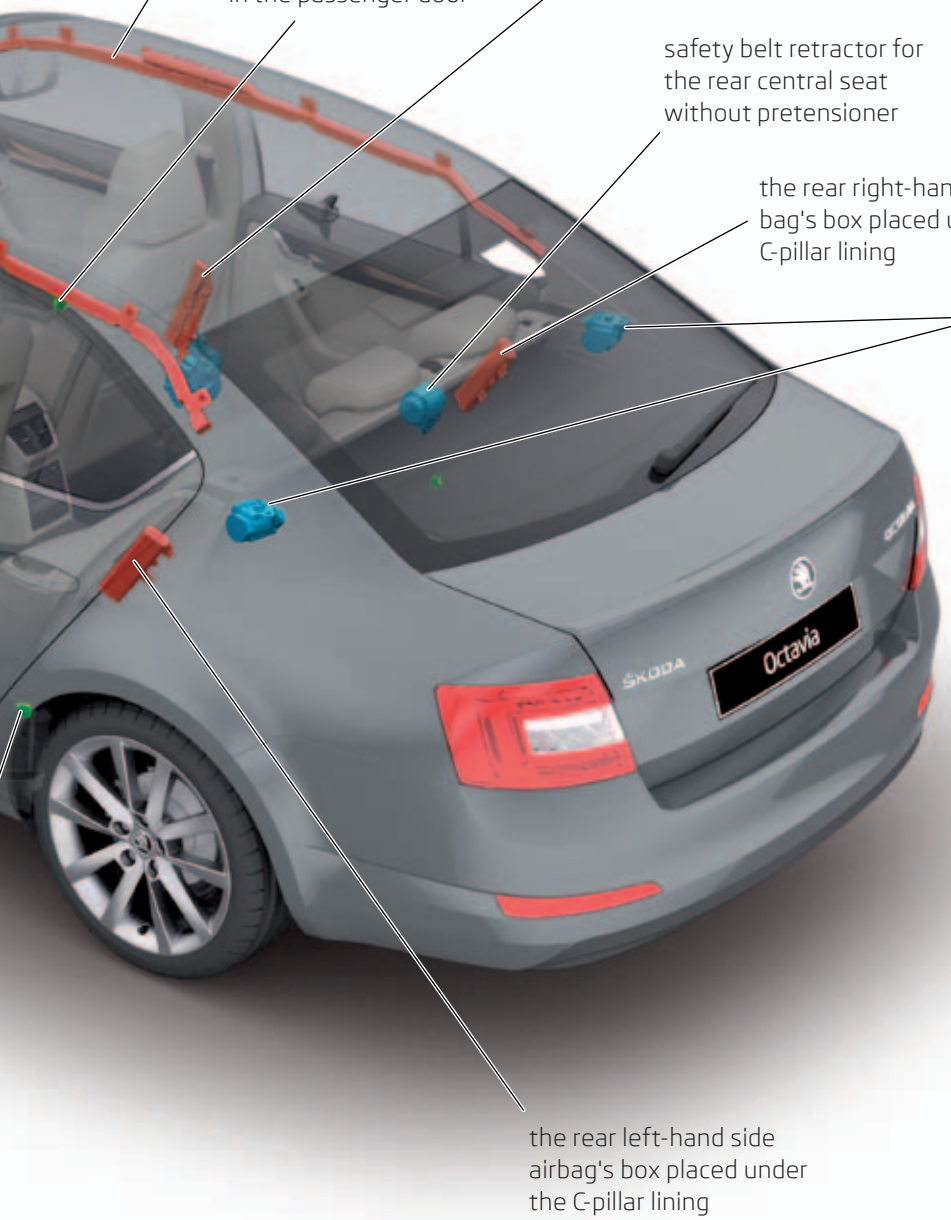
The blue colour is used for the belt retractors. The front seat retractors are equipped with pyrotechnic pretensioners. The front seat retractors can be equipped additionally with PCB system.

The entire system is linked with the airbag control unit through the wiring harness.



Pre Crash Basis System

The front seat belt retractors in ŠKODA Octavia III are equipped with PCB system. When the car performs dynamical manoeuvres the system fixes passengers in the front seats by pretensioning the reversible safety belts to release the belts later again. For more information on this function see page 10 of this Book.



Safety belts with pyrotechnic pretensioners

Pyrotechnic belt pretensioners are activated at the moment of impact earlier or at the same time as the airbags. The belt is retracted to prevent undesirable movement of passenger's body against the activated airbag that would otherwise be allowed by the excessive play between the safety belt and the passenger. The force that re-strains the movement after pyro-technic final tensioning is defined by the actual mechanical design of the pretensioner.

Pyrotechnic belt pretensioning is used in ŠKODA Octavia III. Charge detonation is activated by the signal from the airbag control unit here. In case of side impact the pretensioner on the adjacent side of impact are activated.

2. Pre Crash Basis (PCB) System

The Pre Crash Basis system is intended to stabilize passengers on the car's front seats under the critical driving situations. The system is active from the speed above 30km/hr.

reversible pretensioner of the Pre Crash Basis system

pyrotechnic pretensioner is activated in common with the activation of airbags (see page 9 of this Book)

Reversible safety belt pretensioners

The system is based on the reversible safety belt pretensioners that provide improved fastening of driver and passenger in their seats when the car performs dynamic manoeuvres. For example, when the car yaws or inclines abruptly or in sudden deceleration.

Activation of the Pre Crash Basis system takes place in parallel with activation of the reversible tightening system's motors that are integrated into the belt retractor mechanism. In ŠKODA Octavia III, the front seat safety belts are equipped with this system.

Safety belt with reversible tightening allows 1000 pull-up cycles through the activation by PCB system. The complete belt retractor module must be replaced with new module then.

Closing of the door windows and the panoramic sunroof

PCB activation further makes all the four door windows to be closed partly to an opening of 55 mm. The sunroof is closed totally. Closing of windows is activated under the dangerous transverse driving dynamics (the car yaws to sides), the car crew is protected by this measure against articles that may penetrate into the car (for example, tree branches).

Two levels of system sensitivity

Depending on the extent of critical driving situation two system sensitivity levels are applied.

- Sensitivity 1 - partial tensioning of belts
- Sensitivity 2 - full tensioning of belts

To prevent the sport driver from being disturbed by the belt activation and by the movement of windows, the first level can be deactivated. However, the higher level remains active permanently.

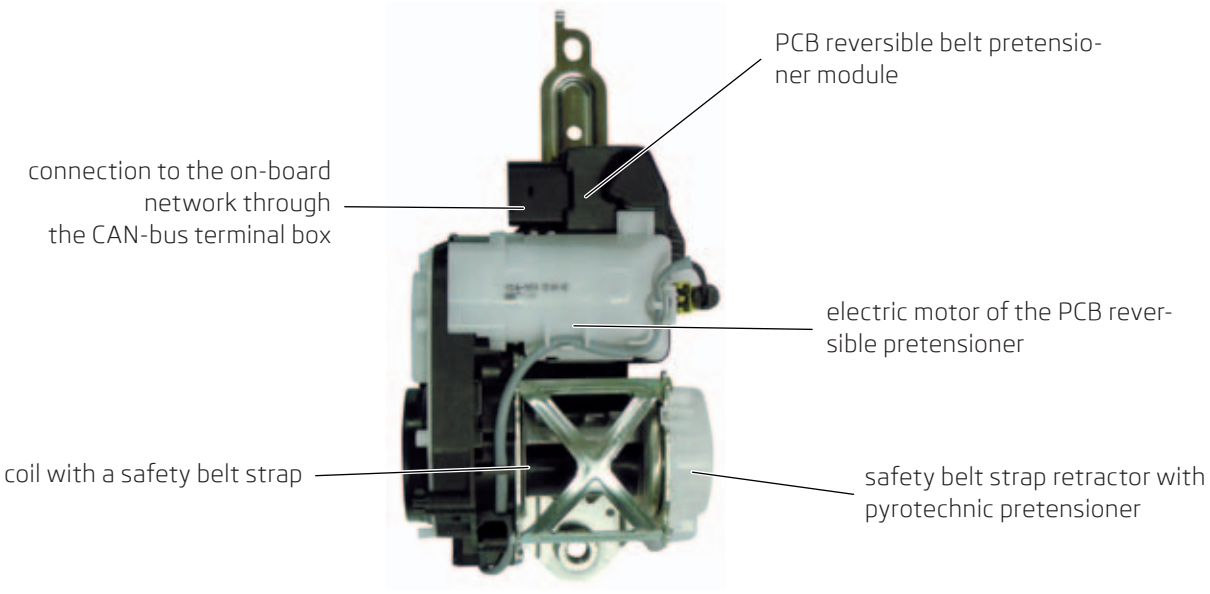
System deactivation

The Pre Crash Basis system (Sensitivity 1) can be deactivated by the car crew in the following manners:

- By deactivating the ASR system (with button)
- By selecting the SPORT driving profile (with button)
- By deactivating the function using the Infotainment menu

When deactivating the passenger airbag, neither the PCB system is active for this seat.

Reversible PCB pretensioner forms a common unit with the pyrotechnic pretensioner and safety belt retractor.



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Pre Crash Basis**system** is controlled by the airbag control unit. The entire system is composed of the following elements that can be divided into two groups, see the tables below:

PCB SENSORS the Pre Crash Basis system sensor elements table	description
airbag control unit	the master control unit for PCB system
ESC control unit	In case the car is not equipped with ESC unit, the car also cannot be fitted with PCB
passenger's front airbag deactivation system	in case the passenger's front airbag is off the PCB system for this seat is turned off as well
ASR mode deactivation button	If ASR system is to be deactivated then also PCB system will be inactive
driving mode button	the first stage PCB system can be deactivated by changing the driving mode to SPORT mode

PCB ACTUATING UNITS the Pre Crash Basis system actuating elements table	description
reversible safety belt pretensioners	in the car at the front seats
shutting the car side windows	shutting of all the four side windows to obtain an upper gap of 55 mm, side window shutting is activated under the transverse dynamics only
closing of the panoramic sunroof	complete shutting of sunroof under transverse dynamics from the tilt-back and rearward extension mode

3. Vehicle Lighting System

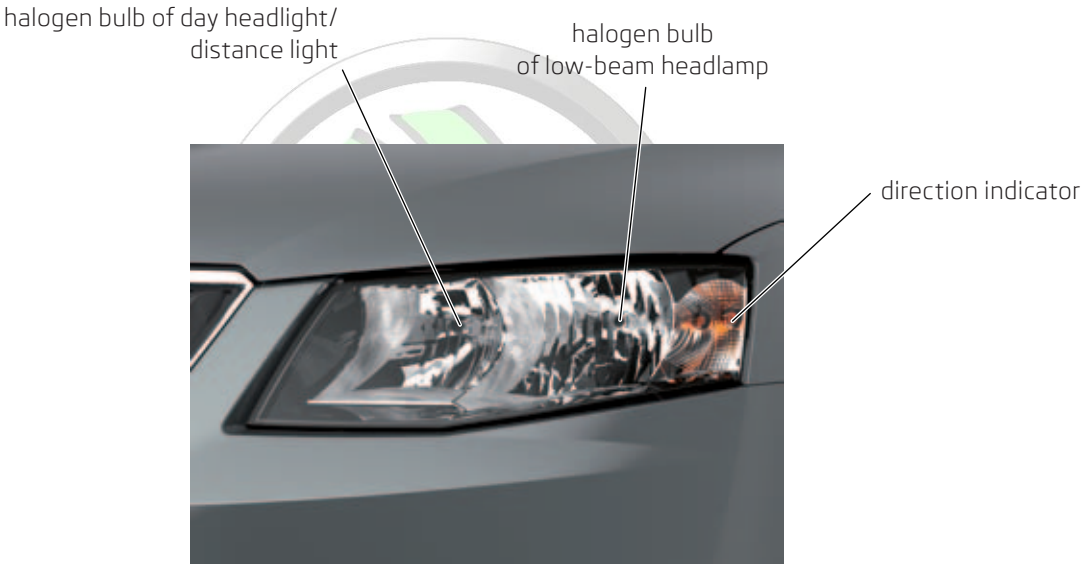
3.1 Front Headlamps

The front headlamps are prepared for the new ŠKODA Octavia III model in three variants:

- Halogen headlamp
- Bi-xenon AFS headlamp with halogen source for day headlight
- Bi-xenon AFS headlamp with LED source for the day headlight and position lamp

Halogen headlamp

The basic offer of the front headlamps consists in single-component headlamp with clear optics that is fitted with two halogen bulbs. Two-fibre halogen bulb for day headlights and distance lights **H15** and halogen bulb **H7** for low-beam headlamps. The headlamp is further equipped with direction indicator bulb **PWY 24W**.



Front halogen headlamp bulb specification	
low-beam headlamp	H7 12V 55W
day headlights (position lamps*), distance light	H15 12V 15/55W two-fibre
front direction indicator	PWY 24W 12V

* 15W fibre of H15 bulb has also the position lamp function, the bulb's power is reduced by BCM unit for this mode. The position lamp mode is active simultaneously with activated low-beam headlamp or in the parking mode.

Bi-xenon AFS headlamp with halogen source for day headlight

We designate the bi-xenon headlamp with a Bi (double) prefix since it has both the distance light and the low-beam headlamp function and one common xenon bulb is a light source for both the modes.

SP97_12

The road lighting modes (low-beam headlamp/distance light) are altered by the electromagnetic mechanism that constitutes a part of the optical headlamp Bi-module.

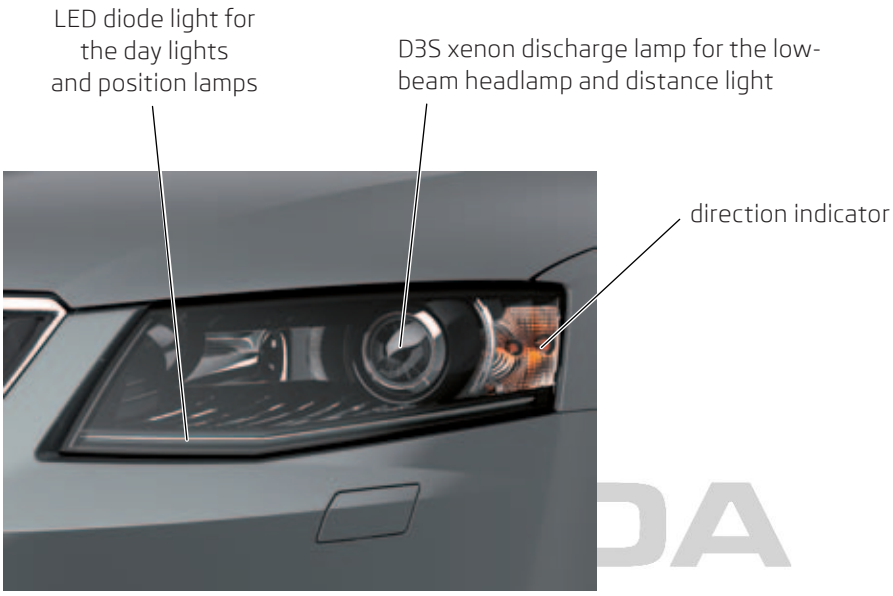
Xenon discharge lamps require high-voltage power supply though, when compared to the halogen bulbs, they offer higher luminous flux, lower energy consumption as well as longer life.

Front halogen headlamp bulb specification	
day headlight / position* lamp	**P21/5W 12V two-fibre**
low-beam headlamp / distance light	**D3S xenon discharge lamp**
front direction indicator	**PWY 24W 12V**

* Position lamp implemented by 5W fibre of P21/5W 12V bulb is deactivated by activated xenon light (dim light mode). Position lamp is active only in the parking mode or in the case that xenon discharge lamp becomes faulty.

Bi-xenon AFS headlamp with LED source for the day headlight and position lamp

In the third variant of front headlamp, the day lights are secured using a light conductor and two high-performance LED diodes instead of a bulb.



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Front halogen headlamp bulb specification	
day headlight / position* lamp	**2x LED diode**
low-beam headlamp / distance light	**D3S xenon discharge lamp**
front direction indicator	**PWY 24W 12V**

* By activating the main Bi-xenon headlamp the LED diode switches into the position light mode and the LED diode brightness is dimmed by the LTM electric ballast (luminous flux and consumption are reduced).

SP97_19

LED control LTM module has a role of signal generator with PWM pulse width modulation –. PWM signal is used to regulate the LED diode power.

3.2 Front Headlamp Controls

What is placed on the front headlamp body are the controls to operate the Bi-xenon headlamp and LED diode (for graphical view they are represented in colours on the picture):

- LED – LTM control module /LED-Treibermodul/ (in red)
- AFS executive unit – to control the motors that swivel the headlamp – see the adaptive headlamp system, page 20 of this Book (in blue)
- EVG electronic ballast with voltage changer for discharge lamp heating assures quick start, prolonged life of xenons and their automatic deactivation in case of discharge lamp defect (in green)

The front headlamp with a fitted xenon discharge lamp and LED diode contain three control elements, see picture, in case the headlamp is fitted with halogen bulb instead of LED diode then it does not contain the LTM module to control LED. The basic headlamp version that is fitted with halogen bulbs (page 13) does not contain any of these three control elements.

3.3 Fog Headlamps with Corner Function (Turn-Signal Lamps)

Fog headlamps are located within the spoiler of the bumper's bottom part and they are fitted with halogen bulb **H8**. Fog headlamps are static - they have no swivelling mechanism.
Aside from their standard lights into fog, the fog headlamps also provide the Corner function that is executed by illumination of either the right-hand or the left-hand fog headlamp depending on the steering wheel turning direction or by switching on the direction indicators on the relevant side. When shifting the reverse gear both the front fog headlamps go on in the Corner mode. If fog headlamps are on the Corner function is overridden.

SP97_6

Corner function is provided by the BCM on-board network control unit (J519).

Corner function activation conditions:

- car is started and it moves at max. speed of 40km/hr
- car's low-beam headlamps are on
- fog headlamps are not on

Fog headlamp goes on in Corner mode when a minimum of one of the conditions below is met:

- when steering wheel turning activation angle is exceeded
- by switching on the direction indicators on the required side
- by shifting reverse gear (both fog headlamps in Corner mode go on simultaneously)


SP97_10


SP97_11

The fog headlamps for ŠKODA Octavia III model are made in two designs - with either silver or black frame.

3.4 Rear Light Combination

Rear light combination of ŠKODA Octavia III model is fully integrated within fender. What we will find on the fifth door of Octavia III is a lamp of the third brake light and registration plate light. The light combination for ŠKODA cars is designed in a well-known shape of letter C. On top of the variant where the rear headlamp is fitted with bulbs, the headlamps are also delivered in the version with LED technology.

SP97_7

Rear headlamp with bulbs
Basic variant of the rear light combination is fitted with a hexad of bulbs.

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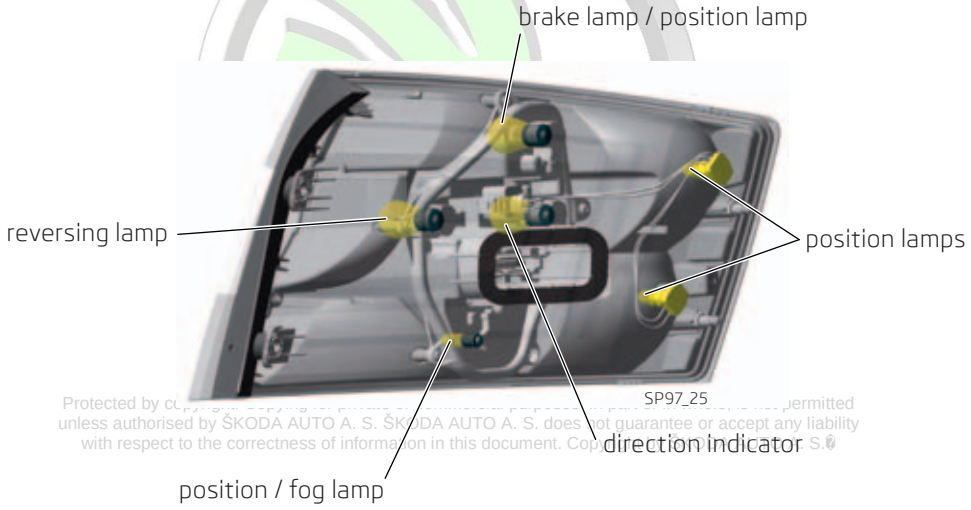

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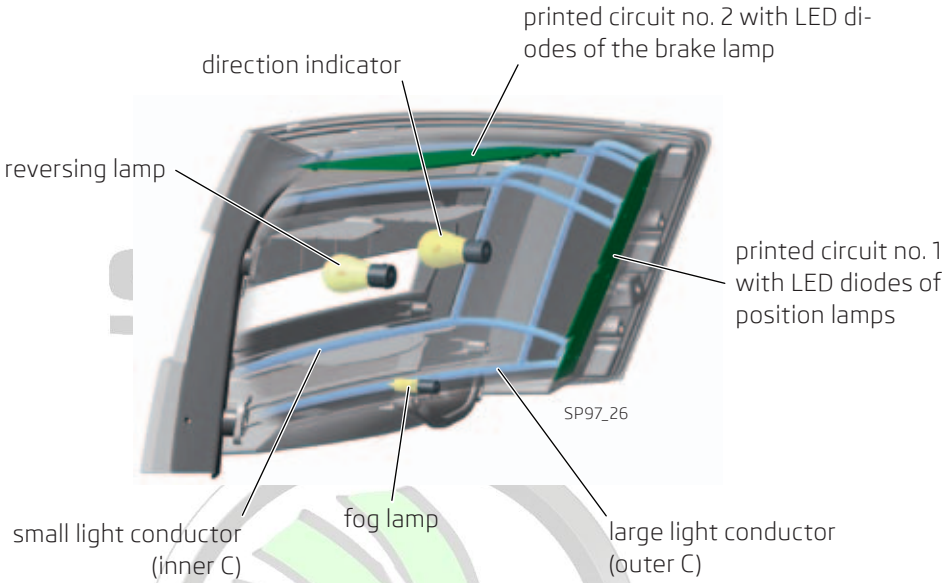
Rear headlamp with bulbs and LED diodes

The second variant of the rear light combination is fitted with three bulbs and twelve LED diodes. The position lamp's LED diodes are soldered to the printed circuit no. 1 to be consequently connected to two light conductors - small and big. Light conductors form double C (the light conductors on Figure SP97_26 are marked in blue). The second hexad of LED diodes is located on the printed circuit no. 2, the diodes are not linked to the inserted reflector and they have a role of brake lamp.

SP97_17



Rear headlamp with bulbs	
brake lamp and position lamp	P21/4W two-fibre
position lamp	W5W (2x)
rear direction-indicator lamp	PY 21W
rear position light and fog headlamp	H21W
reversing lamp	P21W

Rear headlamp with bulbs and LED diodes	
stop light	LED (6x diode)
position lamp	LED (2x3 diodes) + 2x light conductor
rear direction-indicator lamp	PY 21W
rear fog lamp	H21W
reversing lamp	P21W

4 Adaptive Front Headlamp (AFS) System

4.1 System Characteristics

The adaptive AFS front headlamps of ŠKODA Octavia III model represent a comfort system of the intelligent swivelling headlamps.
The system is delivered exclusively in the combination with Bi-xenon headlamps.

The front adaptive headlamp system evaluates the following set of input parameters:

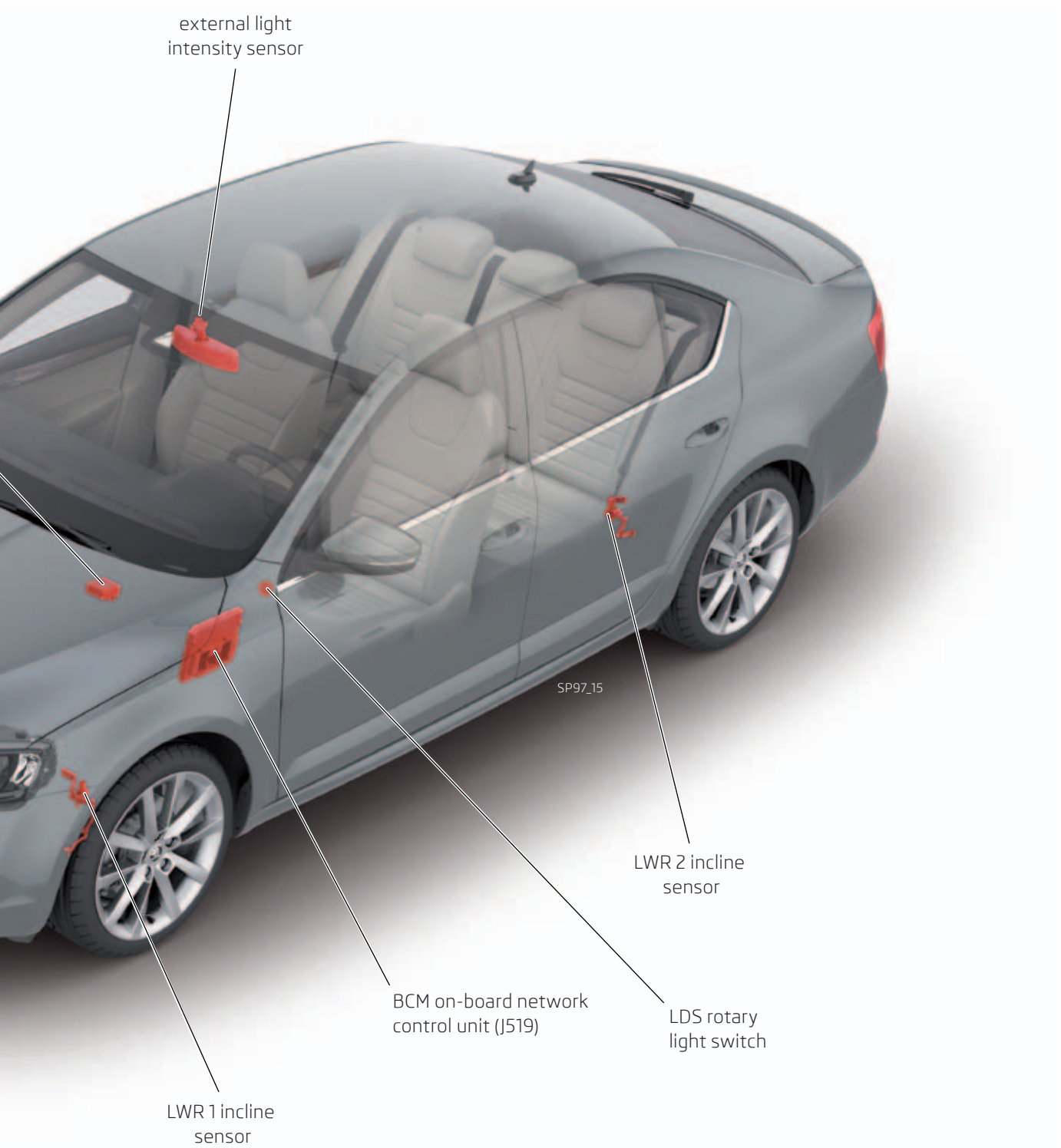
- vehicle speed (the actual speed -not the tachometric speed- is taken as the activating/deactivating speed)
- driving on curve (sensing of the steering wheel turning angle)
- longitudinal incline of vehicle (LWR sensors)
- outer light intensity (sensor on the inner rear-view mirror)
- rain (wiper movement for more than 2 minutes)
- fog lamp activation

Depending on the evaluation of these parameters the AFS system puts the geometry of the front headlamp light beam to relevant modes.

The modes are executed through the basic functions of AFS system:

- function of AFS light mode
- dynamic curve light function
- automatic headlamp tilt control function
- predictive dynamic headlamp tilt control function
- turn-signal light function – Corner

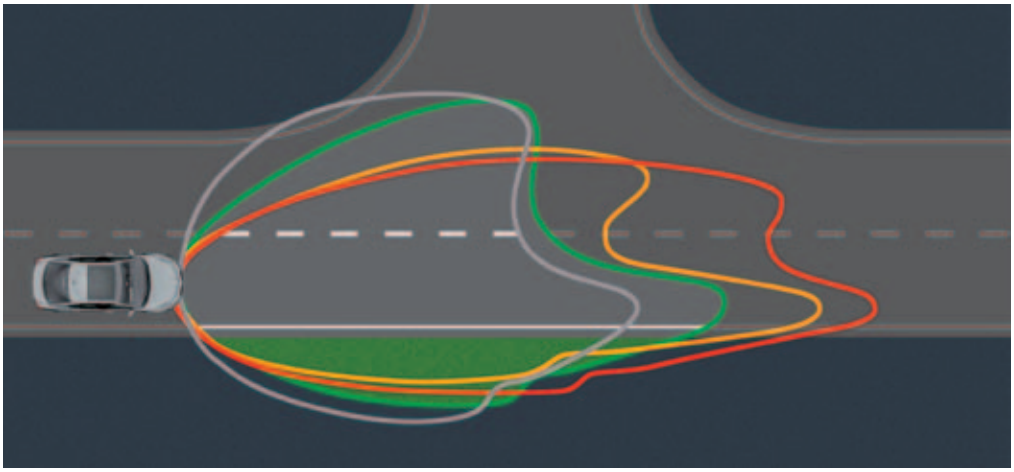
All the functions are activated at time.


external light intensity sensor
SP97_15
LWR 2 incline sensor
BCM on-board network control unit (J519)
LDS rotary light switch
LWR 1 incline sensor

4.2 AFS System Function Overview

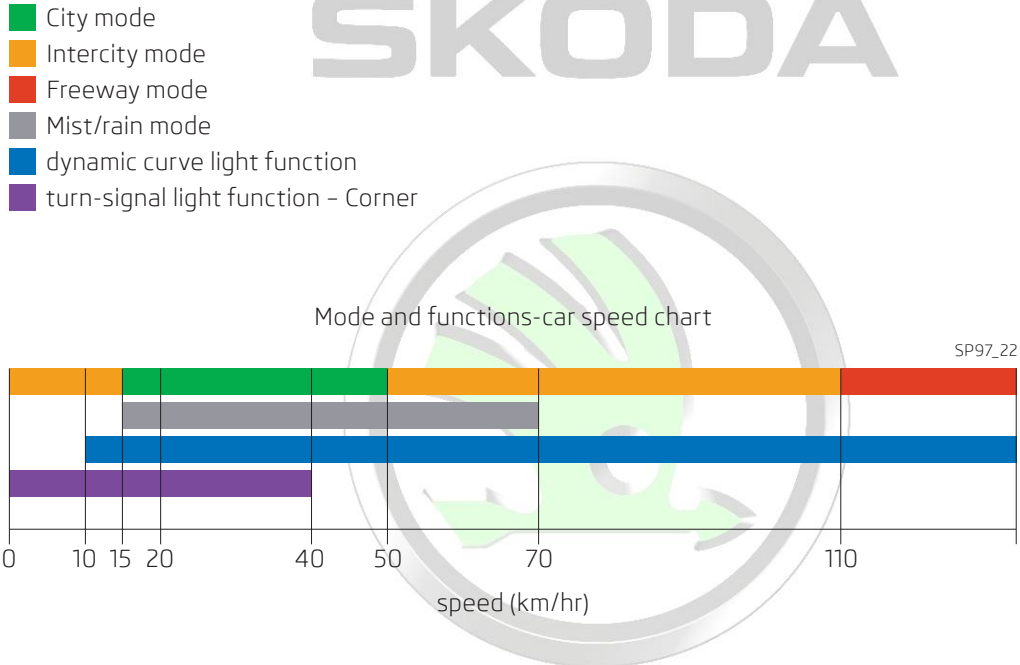
AFS light mode function

Depending on the vehicle speed, the light mode function sets suitable shape and focal distance of the light cone of the front Bi-xenon headlamps **for the low-beam headlamp mode**, it takes place by their swivelling. Swivelling of each headlamp is assured by a pair of stepper motors (one motor for the movement in X-axis, the other motor for the movement in Y-axis).



SP97_20

Comparison of individual light modes

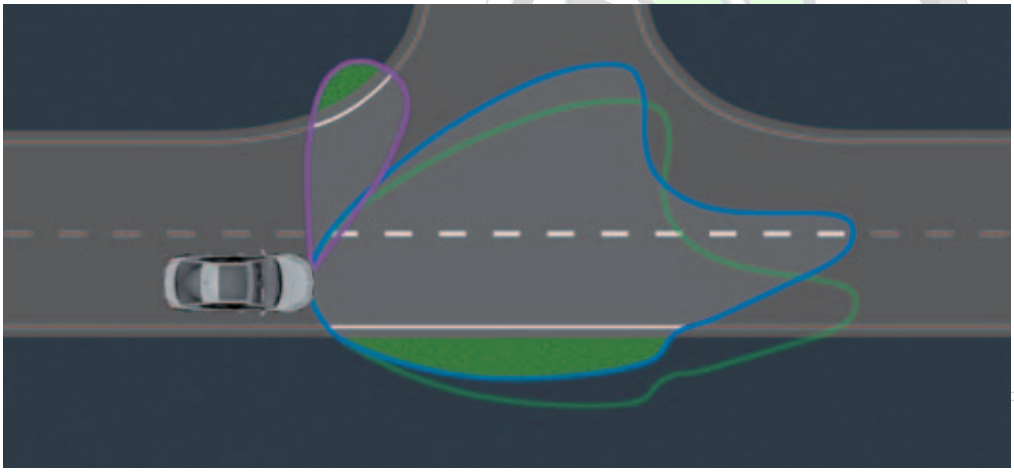


Mode and functions-car speed chart

SP97_22

Dynamic curve light function
The dynamic curve light is used to illuminate the small- and large-diameter curves and it is implemented by automatic swivelling the spot of light of the main headlamps. This function operates in dependence on the steering wheel turning angle and car speed. Light mode function is activated in parallel.

Turn-signal light function – Corner
There is also the Corner function operating together with the other functions of AFS system that illuminates the nearby vicinity in front of vehicle and the side where the vehicle is turning by relevant fog headlamp. For more details on Corner function see page 17 of this Book. The actual fog headlamp is static (non of its parts is swivelling.).



SP97_21

Dynamic curve light function and Corner function

- dynamic curve light function (headlamps are in the city mode)
- turn-signal light function – Corner

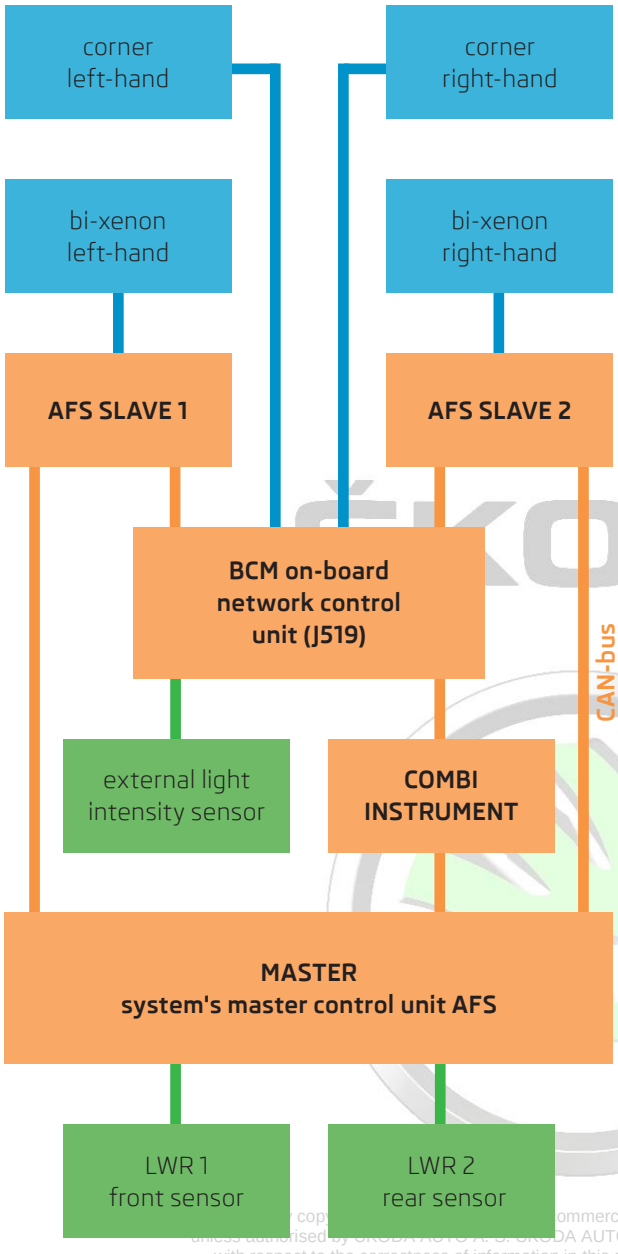
Automatic headlamp tilt control function with predictive dynamic control
This function controls headlamp swivelling in Y-axis in dependence on the car's longitudinal incline. Vehicle is equipped with two LWR sensors which are used to evaluate the vehicle's longitudinal incline. The stepper motor that swivels the Bi-xenon headlamp in the direction of Y-axis performs correction so that the initial headlamp's angle in relation to road is maintained even when axles are loaded unevenly.
The dynamic predictive headlamp incline control function assures that the headlamp incline is kept at its basic value or within the range defined by the specification when the chassis is dynamically inclined (acceleration/deceleration). Owing to the signals received from brakes and vehicle speed system the predictive control makes it possible to estimate the way the body will incline and thereby control the headlamp incline before the actual physical incline of the body.

4.3 AFS System Architecture Diagram

The master control unit **AFS Master** of the adaptive front headlamp system evaluates the signals from **LWR 1** and **LWR 2** car longitudinal incline sensors and it and the BCM on-board network control **unit** jointly control two slave AFS control units.

Slave control units **AFS Slave 1** and **AFS Slave 2** already control directly the swivelling motors of bi-xenon headlamps.

The Corner fog headlamp function is controlled by BCM unit.



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4.4 AFS System Activation Conditions

The front adaptive headlamp activation conditions follow:

Light mode function activation conditions:

- LDS headlamp rotary switch position is "Auto"
- the ambient light intensity is low – light sensor activates a full external lighting of the vehicle
- reverse gear not shifted
- the "Tourist light" function is not enabled
- car speed higher than 15 km/hr

Dynamic curve light function activation conditions:

- steering wheel turning angle
- car speed higher than 10 km/hr

This function is active simultaneously with the light mode function except for the "tourist light" mode

Deactivation

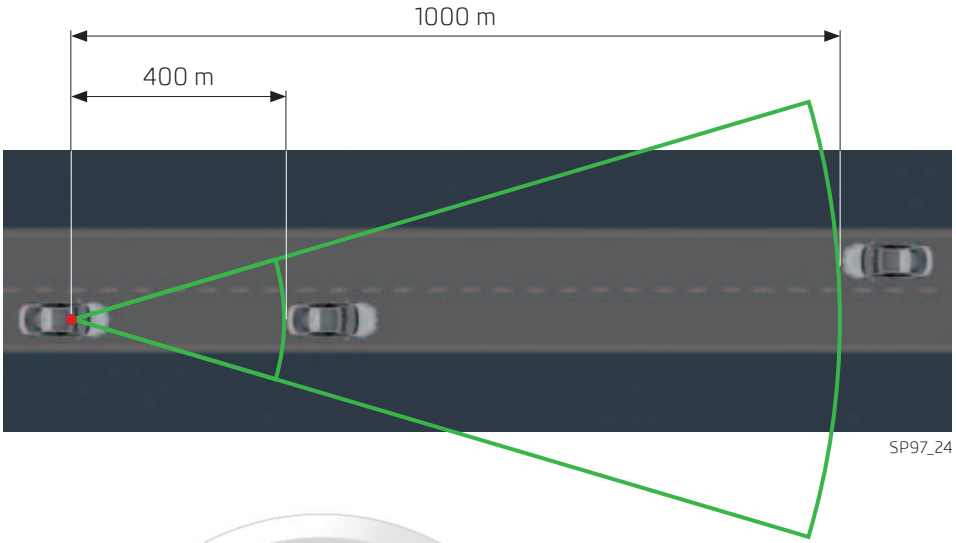
Both functions are deactivated by placing the LDS light rotary switch to the "low-beam headlamps" position. (Lawful condition for AFS system.)

SP97_98

5 Distance Light Assistant (FLA)

5.1 System Characteristics

The Distance Light Assistant function allows driver a safer and more comfortable ride under reduced visibility. The distance lights go off and on automatically depending on the actual traffic situation. With the FLA function on, driver can also switch manually between the distance light mode and the low-beam headlamp mode. Activated automatic system does not release the driver from his/her duty to further check switching of the light modes.



The Distance Light Assistant's camera scans the area ahead of car at the angle of 30°. FLA control unit that is a part of the camera is capable of distinguishing both the oncoming cars as well as the cars moving in the same direction.
The distance of cars in which the Distance Light Assistant switches the distance lights over to the dim lights is not constant and it depends on the lighting of oncoming cars or the cars driving ahead of us in the same direction.

The limit (the lowest possible) distances for the oncoming car are 1 km, for the car driving in the same direction 400 metres.

Model situation:

On a freeway at the night traffic we are coming closer to the slower car, FLA camera detects the red lights from the rear lamps of such car, FLA control unit evaluates the light spectrum as a car that moves in the same direction and in sufficient distance in such a manner as to prevent glaring of the slower car's driver, FLA control unit switches distance lights over to the low-beam mode and once we get ahead of the slower car FLA Assistant reactivates the distance lights.
When running off the freeway slow the vehicle so that its speed drops below 30 km/hr, the FLA Assistant function is placed into the passive mode, distance lights are tilted down automatically depending on the speed condition (see page 28 for Active and Passive FLA Mode).

5.2 Sensor System

The sensor system of the Distance Light Assistant is represented by:

a) separate FLA camera – Fig. SP97_22 or
b) MFC multi-function camera (in case the vehicle is equipped with such camera) – Fig. SP97_23

In both of these cases the sensor system is located in front of the inner rear-view mirror. The camera scans the area ahead of vehicle through the windshield that should be free from impurities for the correct function of the camera.

Separate camera of the Distance Light Assistant – FLA

In case the vehicle is equipped with MFC multi-function camera – this camera is also used as the sensor for the Distance Light Assistant function
(see page 56 of this Book)

5.3 Distance Light Assistant Function Activation Conditions

Capitalisation

- LDS light rotary switch in AUTO
- driver activates FLA function using the control lever under steering wheel, (FLA indicator lamp on the instrument panel goes on)

SP97_75

Deactivation

- FLA function is deactivated by placing LDS switch from AUTO into another mode
- driver deactivates FLA function using the control lever under steering wheel, (FLA indicator lamp on the instrument panel goes off)

Active and passive FLA mode

Distance Light Assistant operates in two modes:

- active mode in which the distance lights are turned on and off automatically
- passive mode in which the automatic light switching function is overridden, however, FLA function still remains active

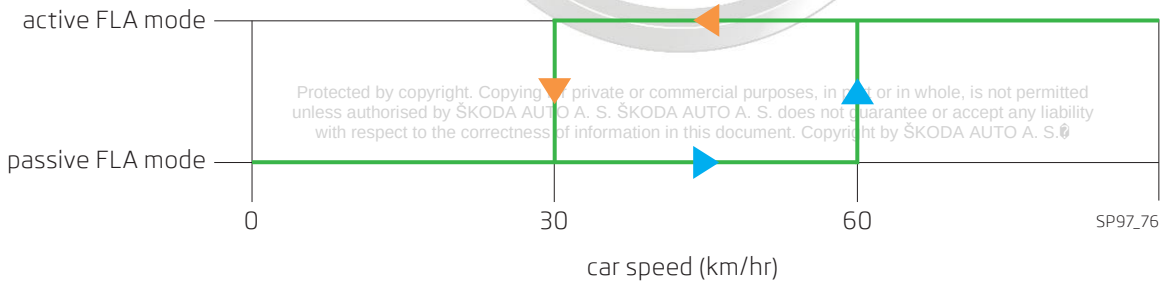
Mode switching depends on the car speed:

- FLA system is switched over into active mode at a single excess of a speed of 60 km/hr
- FLA system is switched over into passive mode when speed drops below 30 km/hr*

* In case the speed drops below 30 km/hr with simultaneously active distance lights the system's transition into the passive FLA mode will also cause the distance lights to go off simultaneously.

The second variable that intervenes the switching process of active / passive mode is reduced visibility (night) / extinction of reduced visibility.

The Distance Light Assistant active and passive mode chart depending on the vehicle speed:



SP97_76

start of the active FLA mode

transition into the passive FLA mode

In following situations it is recommended to switch over to the manual control of distance lights:

- unfavourable climatic conditions (fog, heavy rain, snowing)
- the road where the traffic in the opposite direction is partially obscured
- when meeting the poorly illuminated participants of the road traffic (cyclists, and so on.)
- sharp curves
- steep downgrade / climb
- driving in the poorly illuminated municipalities
- driving near the heavily reflective surfaces

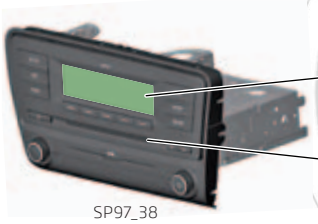
6 MIB- Infotainment's Modular Architecture

MIB is a module group in MQB architecture (see SSP96, page 6) representing a family of the modular system of radios, navigation systems and other multimedia devices developed for the cars manufactured in the Group.

6.1 Basic Vehicle Series ŠKODAOctavia III

The multimedia information system for ŠKODA Octavia III is available in three basic modular series that differ from each other by the used display and different set of functions that can be offered by the infotainment of each series:

-MIB**ENTRY:** Radio with monochromatic display + basic infotainment functions

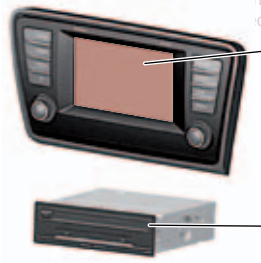


SP97_38

monochromatic display

in case the system is equipped with CD drive it is then placed under the radio display on the dashboard's central panel

- MIB **STANDARD:** Radio with colour TFT display of 5.8" in size plus the touch control + 2D navigation

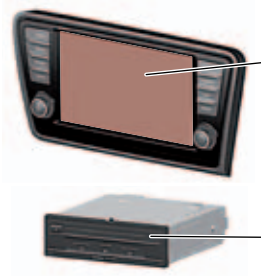


SP97_39

5.8" colour display

CD drive is located in the upper part of passenger's glove compartment

-MIB **HIGH:** Radio with colour TFT display of 8" in size plus the touch control + 3D navigation



SP97_40

8" colour display

DVD drive is located in the upper part of passenger's glove compartment

6.2 Overview of Available Functions and Outfits of Individual Infotainments

The ENTRY, STANDARD and HIGH modular series can be delivered in the outfits below:

basic outfit				
MIB ENTRY		**MIB STANDARD**		**MIB HIGH**
Blues	**Swing**	**Bolero**	**Amundsen**	**Columbus**
Monochromatic display		5.8" colour display		8" colour display
AM/FM		AM/FM		AM/FM
4x loudspeaker		8x loudspeaker		8x loudspeaker
AUX IN + USB		AUX IN + USB		AUX IN + USB
	CD drive	CD drive		DVD drive
	1x SD slot	1x SD slot	2x SD slot	2x SD slot
		Touch display		Touch display
			2.5 D navigation	3D navigation
			Bluetooth	Bluetooth
				64 GB of internal memory
				Voice command

outfit on request				
MIB ENTRY		**MIB STANDARD**		**MIB HIGH**
Blues	**Swing**	**Bolero**	**Amundsen**	**Columbus**
8x loudspeaker				
	Bluetooth	Bluetooth		
	Phone box	Phone box		Phone box
		Voice command		
		Apple connectivity		Apple connectivity
		DAB		DAB
		Canton sound system		Canton s. system

7 Radios and Navigation

7.1 Broadcast Signal Propagation Technology

AM - Amplitude Modulated signal
The oldest system of radio broadcasting by an Amplitude Modulation signal. It has a markedly worse audio quality caused by a limited band width, which is optimized mainly for speech. The benefit of this modulated signal is its long reach. The radio can thus receive it from the distance of hundreds or thousands of kilometres.

FM - Frequency Modulated signal
The currently most common broadcasting system on the basis of the Frequency Modulation signal. The FM signal is much more robust than the AM signal, thus effectively resisting various forms of interferences. The FM has a much larger band width, which allows transmitting a stereo signal and even basic data information (RDS) under certain circumstances.

DAB – Digital Broadcast Technology
DAB is a digital radio technology for the ground surface broadcasting of radio stations.
Compared with the frequency modulation FM signal they greatly improve the provided data information and the quality of listening.

The DAB signal is much less subject to interferences and mutual interferences of individual stations. The signal of the individual radios is broadcast in the so-called multiplexes, which contain more radio data flows.

The DAB technology is much better in utilizing the reserved band with a larger number of stations. The DAB is characterized with a stable quality. If the signal is too weak or interfered, the transmission becomes step-interrupted.

7.2 Multi-Tuner Systems for Quality Radio Signal Reception

Car ŠKODA Octavia III can be equipped with one of the quintuple of car radios that have the following number of tuners for the radio signal reception:
Blues, Swing, Bolero, Amundsen or Columbus **radio.**

number of tuners for radio signal reception					
Radio/navigation	**Blues**	**Swing**	**Bolero**	**Amundsen**	**Columbus**
AM tuner*	**1**	**1**	**1**	**1**	**2**
FM tuner**	**2**	**2**	**2**	**3**	**3**
DAB tuner***	**-**	**-**	**1**	**1**	**2**

* The MIB radios have highly sensitive AM tuner with effective rejection of interference from adjacent channels and they simultaneously combine a number of further processes to improve the audio quality of AM transmission.
The Columbus multimedia system has a total of two AM tuners one of which providing an uninterrupted audio transmission while the other assures updated state of the list of AM stations within the receiver's reach.

** All infotainments are always equipped with **a minimum of two FM tuners.** A two- or multi-tuner reception of FM signal together with the advanced algorithms for the received signal processing and with two external FM antennas lead to significant improvement of the auditory quality.
By using FM tuners, the user may also be offered the actual choice of radio stations in a form of automatically updated list.

*** **DAB tuners are delivered to the infotainments on request**
The DAB radio automatically tunes to all the available stations – multiplexes – and writes out their list, thus providing the user with a comfortable control. The DAB can include additional data information resembling RDS, which is extended with pictures or off-line web sites. A device equipped with a DAB tuner can apply the Seamless feature to switch between the DAB/FM signals without affecting the sound. The electronic system thus automatically selects the most suitable source of signal without the user's interference.

7.3 Blues and Swing Radio (MIB Entry)

Radio **Blues** and **Swing** represent the basic equipment level of the infotainment for ŠKODA Octavia III model.
Both radios have monochromatic display.
When compared to Blues model, the Swing radio is extra equipped with CD drive and the slot for SD card.

Blues radio

SP97_41

Swing radio

SP97_42

Radio	Blues	Swing
Display	Monochromatic (white letters on a black background) TFT type, 310 × 70 px resolution	
Data inputs	Aux-In USB input – –	Aux-In USB input CD drive SD slot
Supported audio formats	MP3, WMA, CD-DA	MP3, WMA, CD-DA
Tuner	AM/FM tuner	AM/FM tuner
Car menu	Visualization and setting of the car's comfort functions	
Radio amplifier's power output	4x20 W	4x20 W
Optional outfit	– –	Bluetooth Phonebox

7.3.1 New Radio Control Logic

It is for the first time that new radio function and menu control logic is used in Octavia III model.
(As compared to the existing system in ŠKODAcars.)
The menu is scrolled by rotating the right-hand wheel and the item is selected by its pressing. The items are displayed in a two-line structure. Grey menus or items are inactive, i.e. unavailable. The "Back" button on the radio panel is used for a return move in the menu

7.4 Bolero Radio and Amundsen Radio Navigation (MIB Standard)

The radios in the MIB Standard class infotainments are equipped with a colour touch display, the radios have CD drive and SD slot / slots. Radios are physically divided into two components:

- display unit
- central unit with CD drive and SD slot / slots.

In a car we can find the display as standard on the dashboard's central panel and it is used to display and control the MIB functions. The central unit with a CD drive and slot (or slots) for SD cards is located in the top section of passenger's glove compartment.

Bolero radio

SP97_43

Amundsen navigation

SP97_44

Radio	Bolero	Amundsen
Display	Capacitive colour TFT touch display supporting "Multitouch" with 5.8" diagonal, 400×240 pixel resolution (WQVGA), 127×76.6 mm in size, proximity sensor	
Data inputs	Aux-In USB input CD drive SD slot	Aux-In USB input CD drive 2x SD slot Bluetooth audiostreaming
Supported audio formats	MP3, WMA, CD-DA, AAC, OGG, FLAC	
Supported image formats	JPG, JPEG, PNG, BMP, GIF	
Tuner	AM/FM tuner	AM/FM tuner
Navigation	–	2D and 2.5D visualization
Wireless connection	–	Bluetooth
Car menu	Visualization and setting of the car's comfort functions	
Radio amplifier's power output	4x20 W	4x20 W
Optional equipment	DAB Sound system Canton Voice command Apple connectivity Bluetooth	DAB Canton sound system Voice command Apple connectivity

7.5 Columbus Radio Navigation (MIB High)

Just the same as in MIB Standard, the infotainment model MIB High – **of Columbus navigation** is physically divided into the separate display and central unit.
Central unit is equipped with DVD drive and SD slots.
The arrangement of units is the same as in the MIB Standard series - the display on the dashboard's central panel and the central unit covering DVD drive and slots for SD cards in the top part of passenger's glove compartment.
The Columbus navigation system is also newly equipped with a capacitive touchscreen display.
It supports so called "Multitouch" – it registers touch in more points at time.

Columbus navigation

SP97_45

SP97_74

DVD drive and SD slots are located in the upper part of passenger's glove compartment

Radio	Columbus
Display	Capacitive colour TFT touch display supporting "Multitouch" with 8" diagonal, 800×480 pixel resolution (WQVGA), 175×105.4 mm in size, proximity sensor
Data inputs	Aux-In USB input DVD drive SD slot Bluetooth audiostreaming Apple (audio, video connector MEDIA-IN)
Supported audio formats	MP3, WMA, CD-DA, AAC, OGG, FLAC
Supported video formats	MPEG, WMV, DivX, Xvid
Supported image formats	JPG, JPEG, PNG, BMP, GIF
Tuner	AM/FM tuner
Navigation	2D, 2.5D, 3D (City model of selected towns), spoken street names during manoeuvres, real visualization of the junction during a passage, low fuel warning – navigation option to the nearest/selected petrol station
Wireless connection	Bluetooth
Car menu	Visualization and setting of the car's comfort functions
Map sources	The map sources are stored in the internal memory of the device
Internal memory	64 GB
Special functions	Mediatheque (administration of files in the internal memory), voice command, picture viewer, video player, Gracenotes database
Radio amplifier's power output	4x20 W
Optional equipment	2x DAB tuner Canton sound system Road sign recognition

7.5.1 Columbus Navigation Internal Memory

Columbus navigation is equipped with internal memory of SSD disc type with 64 GB storage. 12 GB part of storage capacity is freely accessible for users. The remaining 52 GB of the memory are reserved for the navigation data and Gracenotes database.

7.6. Connecting External Sources of Audio and Video Signal and External Memories

The audio, image and video files can also be played in a car by employing the external devices that can be connected via the following infotainment connectivities:

- USB input
- AUX-IN input
- MEDIA-IN input (Mitsumi connector)
- input for memory SD cards
- the drive for CD and DVD discs
- wireless Bluetooth connection

USB device connection conditions:

- Specification 2.0 USB device
- FAT16, FAT32 format

SD card connection conditions:

- SD card of SD, SDHC, SDXC, MMC specification
- FAT16, FAT32, NTFS, exFAT format

Radio	Blues, Swing	Bolero, Amundsen	Columbus
AUX-IN	●	●	●
USB	●	●	●
MEDIA-IN	–	●	●

● Standard equipment ● Outfit on request – Impossible

7.6.1 USB and AUX-IN Connectivity

Pair of **USB** connectors (to connect external memories) and connector **AUX-IN** (through which the source of analogue audio signal can be connected) is placed in ŠKODA Octavia III for all the infotainment variants on the right-hand side of the central panel's bottom part under the air conditioning control system.

SP97_45

7.6.2 MEDIA-IN Connectivity

It is possible to equip the car with MEDIA-IN connector instead of USB and AUX-IN connectors.

SP97_46

Connection of Apple device through MEDIA-IN
The Apple family device can also be connected using the MEDIA-IN connector. The interconnecting cable for Apple device that is included in the ŠKODA Auto original accessories is used for the connection.

Supported Apple devices:

- all the Apple iPod versions from the 4th generation
- iPhone from the 1st generation
- iPod nano from the 1st generation
- iPod Touch from the 1st generation

8 Antennas

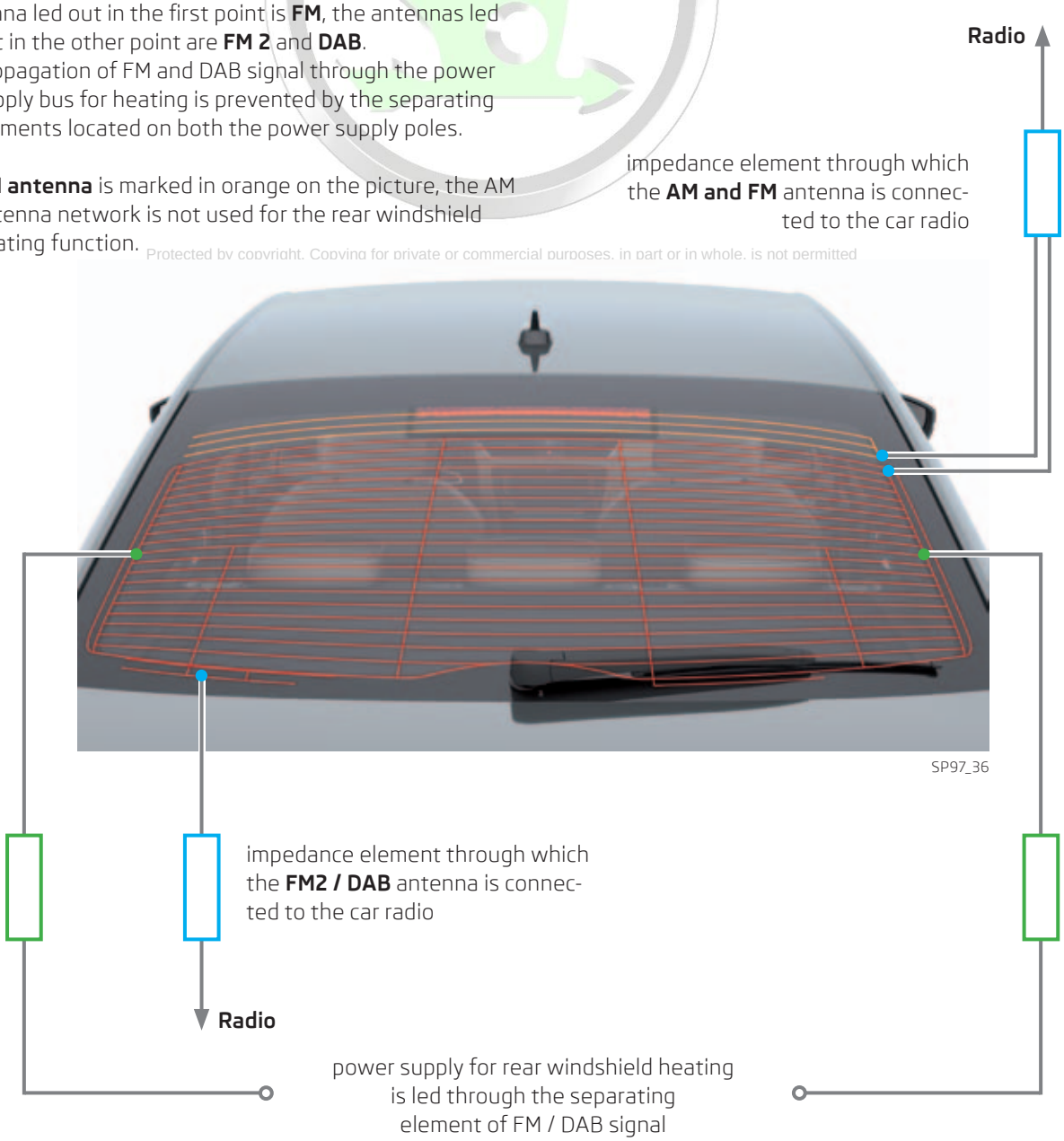
8.1 Antennas Integrated into Fifth Door Window

ŠKODA Octavia III has all the radio signal reception antennas integrated in the fifth door window:

– AM antenna
– FM antenna
– FM2 antenna
– DAB antenna

Rear windshield heating grid (marked in red on the picture) has also the function of **FM, FM2 and DAB antennas.** Antennas are connected in two points, the antenna led out in the first point is **FM**, the antennas led out in the other point are **FM 2** and **DAB**.
Propagation of FM and DAB signal through the power supply bus for heating is prevented by the separating elements located on both the power supply poles.

AM antenna is marked in orange on the picture, the AM antenna network is not used for the rear windshield heating function.



The impedance and separating elements are placed on the rear windshield frame at the connecting points.

8.2 Roof Antenna

The roof antenna is reserved for three wireless technologies:

– GSM antenna for the mobile telephony
– GPS antenna for the satellite navigation
– antenna of the independent heating remote control system

(In case the car is not equipped with these functions the roof of Octavia III remains in a clear line without any disturbing element in a shape of mock antenna or assembly hole cap.)

SP97_35

9 Car Sound System

ModelŠKODA Octavia III is equipped with three variants of audio system that differ with their number and different characteristic of the audio system elements and thereby with the quality of transmitted sound:

1) 4 loudspeakers
2) 8 loudspeakers
3) 10 loudspeakers + external amplifier with DSP processor (Canton sound system)

The Assembly 1 and 2 loudspeaker parameters are not identical to the loudspeakers of System 3. The Canton system loudspeakers have different frequency and performance parameters.

9.1 Basic Sound System - 4 or 8 Loudspeakers

Car ŠKODA Octavia III in the basic outfit is delivered with four loudspeakers in the front doors.

The upgrade of this basis is formed by an audio variant which includes four more loudspeakers in the rear doors so the car interiors is sounded by a total of eight loudspeakers. The same loudspeakers as in the front doors are used in the rear doors, see the loudspeaker characteristics in the table.

Specification of the basic audio system (4 or 8 loudspeakers)			
loudspeaker	**tweeter**	**mid-bass**	**amplifier power**
Location	front (rear) doors	front (rear) doors	for Variant 4 speakers: 4 x 20W for Variant 8 speakers: 8 x 20W
average	46 mm	168 mm	
frequency range	3 kHz – 20 kHz	60 Hz – 4 kHz	
power output	20W	30W	

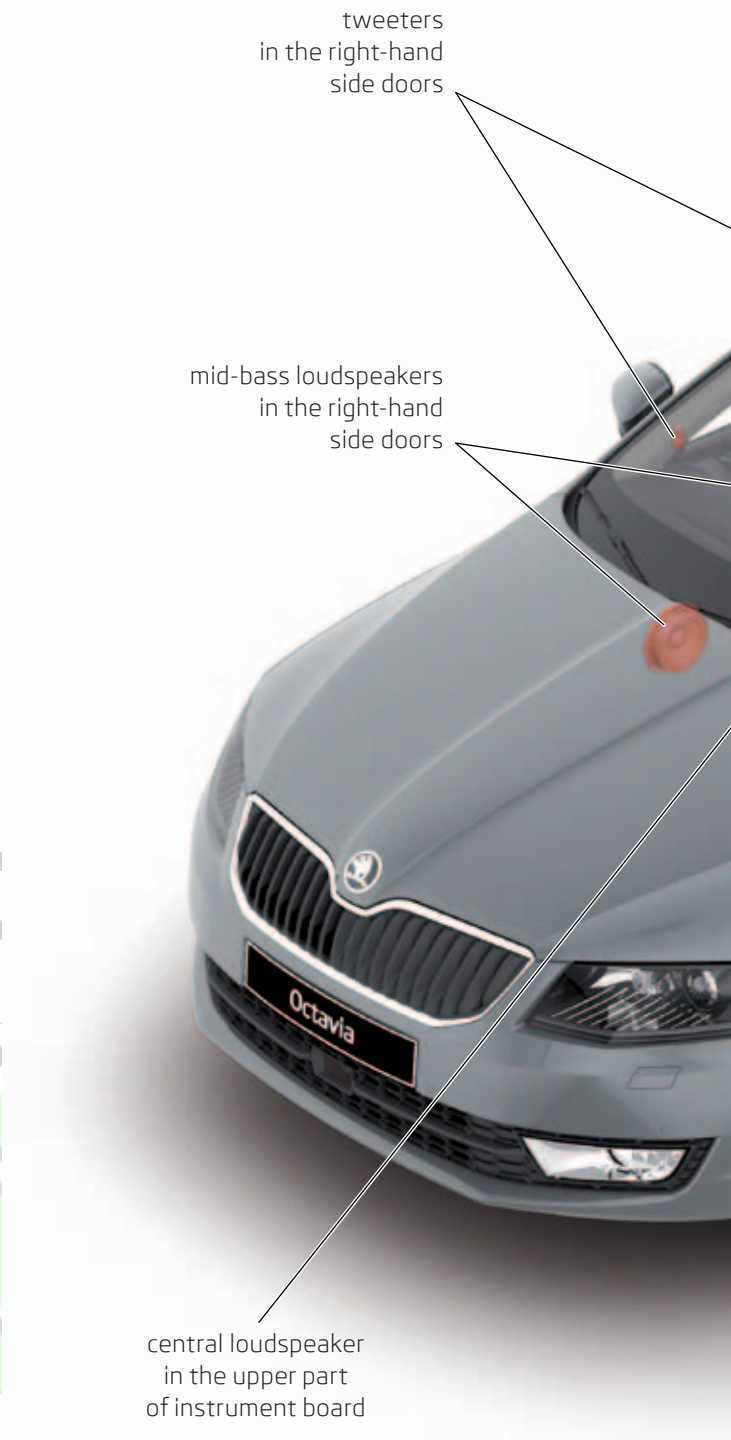
basic variant – four loudspeakers

extended variant – eight loudspeakers

9.2 Canton Sound System

What was developed for demanding users by the company of ŠKODA AUTO together with Canton company is a ten-channel audio system customized for the interiors of ŠKODA Octavia III. On top of the eight basic loudspeakers placed in the car's side doors, the system also includes the mid loudspeaker implemented into the instrument board and the subwoofer that was placed into the boot.

The entire loudspeaker system is powered by the external amplifier having of power of 570W that is placed under the driver seat, the advanced audio functions are controlled by DSP processor that is a part of the amplifier.

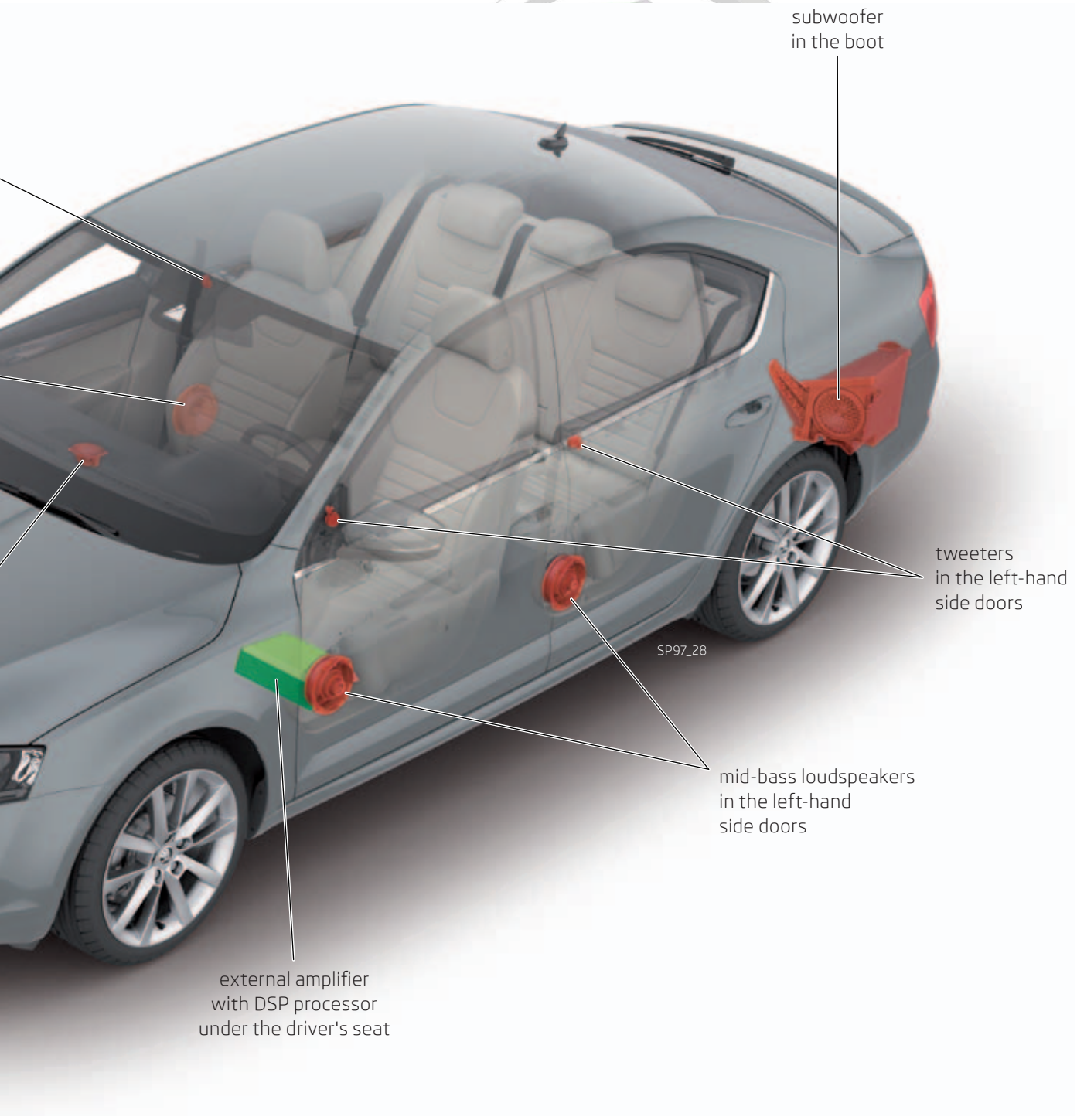


Central loudspeaker
It ensures a first-rate sound coverage of the car interiors owing to the sound waves reflecting off the inner side of windshield. This location also allows a sophisticated work with the surround sound and its optimizing in various spaces of the interior. For example, to the driver, the front-seat passenger or the entire crew.

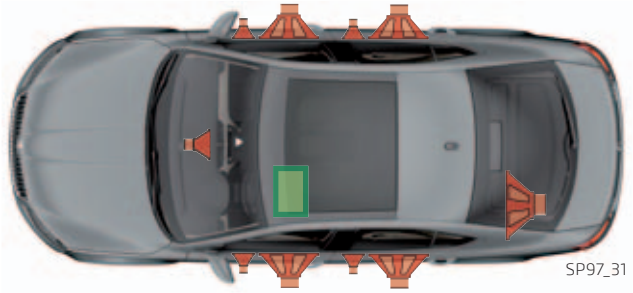
Subwoofer
Its location in the boot behind the left wheel arch transfers bass frequencies to the rigid part of the car. This solution reduces undesirable vibrations. The side with the membrane is turned towards the body, thus being protected against damage caused by transported objects. In low frequencies, a human ear is incapable to tell the direction the sound comes from. Placement of subwoofer in the boot has no influence on the spatial audio functions.

External amplifier with DSP processor
The ten-channel digital audio amplifier is connected to the MIB by an optical cable to minimize potential electromagnetic interferences in transfer of the audio signal by the electric systems of the car.

DSP – Digital Signal Processor
The amplifier includes – DSP processor, it is developed to calculate algorithms used to process the digital audio signal.


subwoofer
in the boot
tweeters
in the left-hand
side doors
SP97_28
mid-bass loudspeakers
in the left-hand
side doors
external amplifier
with DSP processor
under the driver's seat

9.2.1 Canton Loudspeaker Parameters



Canton Audio System Specification				
loudspeaker	**tweeter**	**central**	**mid-bass**	**subwoofer**
Location	**Front door**		**Front door**	
average	46 mm		168 mm	
frequency range	2 kHz – 20 kHz		60 Hz – 4 kHz	
power output	25W		100W	
location	**rear door**		**rear door**	
diameter	46 mm		168 mm	
frequency range	2 kHz – 20 kHz		60 Hz – 5 kHz	
power output	25W		50W	
Location		**instrument board**		
diameter		90 mm		
frequency range		250 Hz – 10 kHz		
power output		25W		
Location				**boot**
diameter				168 mm
frequency range				30 Hz – 100 Hz
power output				200W

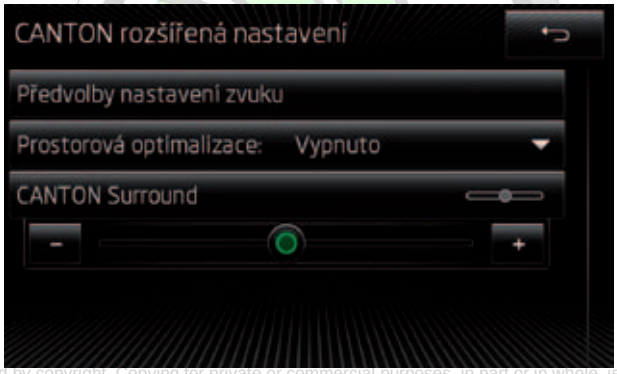
All the loudspeakers built in Octavia III, including of course the 4 and 8 loudspeaker variant, contain neodymium magnetic cores that have lower weight than the previously used ferrite magnets.

9.2.2 Canton Sound System Function

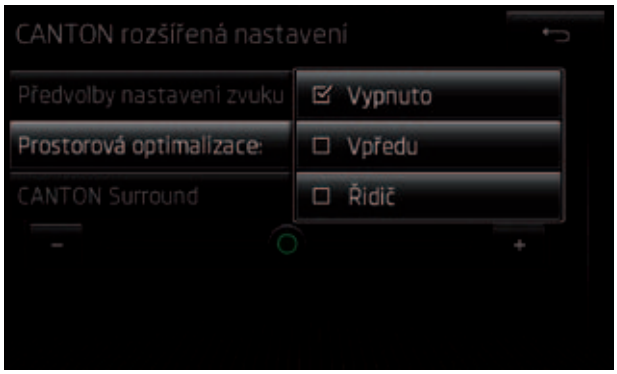
Choice of system functions

- sound adjustment preselections
  standard – balances, fader, three-band equalizer, etc., audio mode preselections, music, spoken word, spatial optimization to the driver, front passengers, subwoofer level setting for the entire car
- Surround functions – setting of the surround sound level
- in combination with MIB Columbus can play the surround sound Dolby 5.1
- **VNC** – vehicle noise cancelation – 5 acoustic filters that evaluate engine speed, vehicle speed, and setting the fan to suppress these interferences actively.
- **GALA** – automatic adaptation to the sound volume in dependence on the instantaneous car speed.

SP97_32



SP97_33

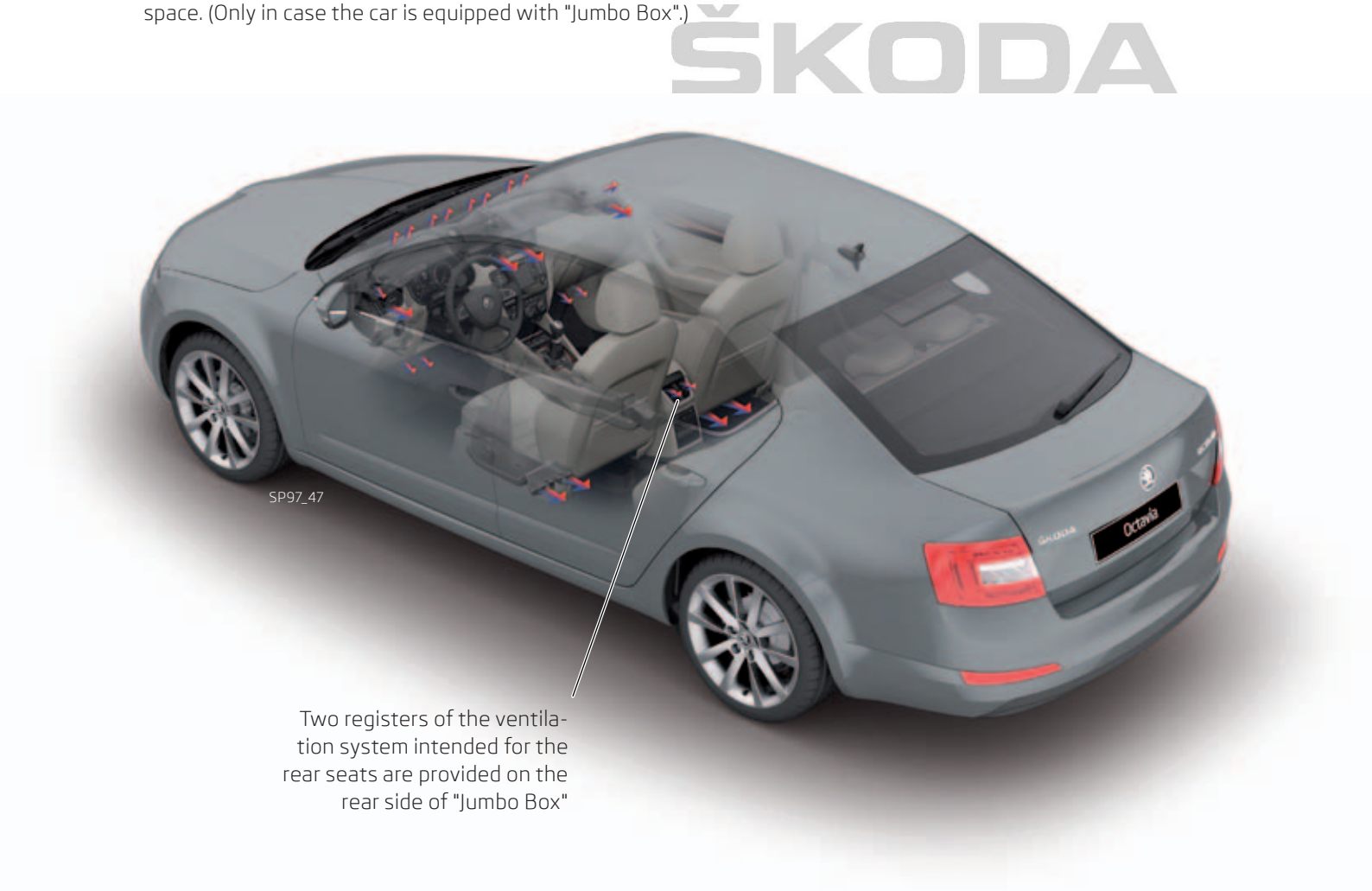


SP97_34

10 Air Distribution and Air Conditioning

Arrangement of the ventilation system registers in ŠKODA Octavia III model is in the spirit of conventional conception, that means, similar as in the previous Octavia model.

Instrument board includes an extensive longitudinal register to blow the windshield, then two lateral registers to blow the front door windows. Last but not least, the instrument board is fitted with four registers with manually controllable air flow direction – two registers are intended for driver and two for front passenger.
The air circulation and the thermal comfort are also complemented with the registers in the floor area - both for the front seats and the rear seats. The registers placed on the central console rear side direct into the car's rear space. (Only in case the car is equipped with "Jumbo Box".)



Two registers of the ventilation system intended for the rear seats are provided on the rear side of "Jumbo Box"

Model ŠKODA Octavia III is offered with three levels of the ventilation and heating system:

- **Heating and Ventilation System**
- **Manual Air Conditioning**
- Fully automatic double-zone air conditioning and heating **Climatronic**

The standard at all the outfit levels is **the heating and ventilation system** with inner air circulation and the dust and pollen filter. **Manual air conditioning** is delivered as standard for the Ambition equipment level, on request for the Active equipment level. Electronically controlled double-zone air conditioning **Climatronic** with humidity sensor, completed with extra odour filter with activated carbon (so called combi-filter), it is standard item for the Elegance equipment level and it can be provided on request for the Ambition equipment level.
With air conditioning, the glove compartment in front of passenger is cooled down.

10.1 Heating and Ventilation System

The control of heating and air-conditioning system is provided by three rotary selectors where the first selector is used to set temperature, the second selector to set the ventilation intensity, and the last one to set the air distribution for the selected group of blower holes.

SP97_99

temperature setting

ventilation intensity setting

air distribution setting

10.2 Manual Air Conditioning

The Manual Air Conditioning control differs from the basic heating version control only in the A/C button that is used to activate/deactivate the cooling.

SP97_100

10.3 Automatic Climatronic Air Conditioning

Climatronic is fully automatic, electronically controlled two-zone air conditioning. When in automatic mode, this air conditioning assures effectively the required temperature of the flowing air in two zones (driver, passenger), it further monitors the air humidity for pleasant atmosphere and window misting prevention, the automatic air conditioning also inhibits intake of contaminated air and it evaluates changes in the intensity of sun beams that heat the car interiors through the car windows.

The air conditioning control unit processes both the signals from Climatronic operation panel and the readings from the following four sensors:

- car interior temperature sensor
- car interior air humidity sensor
- air quality sensor
- solar radiation intensity sensor

SP97_48

automatic air recirculation activation / deactivation

display point for the preselected temperature of the driver's zone in °C

windshield heating activation / deactivation

display point for the preselected temperature of the passenger's zone in °C

car interior temperature sensor

fast windshield defrosting activation / deactivation

the SETUP button provides access to the infotainment menu for the adjustment of advanced air conditioning functions

the DUAL button to activate / deactivate the two-zone air conditioning

10.3.1 Car Interior Temperature Sensor

The interior temperature sensor is placed at the centre of the air conditioning operation panel, it provides feedback in the attainment and consequent maintenance of the preset temperature of air inside the car.

10.3.2 Car Interior Air Humidity Sensor

Humidity sensor is located in the holder of inner rear-view mirror. Aside from the air humidity in interiors, measurements are also done for the windshield temperature to allow determination of a dew point - a temperature at which the humidity on windshield starts to condensate. Climatronic in the automatic mode directs the necessary amount of air to the windshield to prevent its fogging. It can also activate the compressor to control the air humidity ratio and thereby maintain a pleasant atmosphere in the car.

10.3.3 Air Quality Sensor

The quality of air taken into the air-conditioning system is monitored by special sensor. If the aspirated air is contaminated, say, by combustion gases from vehicles that are driving ahead of us or if the air-conditioning system intakes contaminated air in the enclosed premises, for example, tunnels. The air conditioning is switched automatically over into the air recirculation mode. As soon as the external suction closure condition subsides - that is, the fresh uncontaminated air can be added into system again - recirculation will be turned off automatically.

10.3.4 Solar Radiation Intensity Sensor

What has a big influence on the car interiors temperature in summer months is also the change to solar radiation intensity so the air conditioning control unit evaluates not only the information from the inner temperature sensor but also the data from the solar radiation intensity sensor that is located in the upper part of instrument board under the windshield.
The air-conditioning system is thus capable of responding more effectively to the cases when the sun glares acutely through windshield into the car interiors and the air can already be cooled down at the moment when the inner temperature sensor still detects no temperature rise.

10.4 Interconnection of Climatronic with Infotainment

Further functions of the automatic Climatronic air conditioning are available through the car's infotainment.

Access to the infotainment using SETUP button:

Functionalities are available by pressing the **SETUP**button that is a part of the fan speed control. After the button has been pressed, the menu to set the advanced automatic air conditioning functions is displayed on the MIB display.

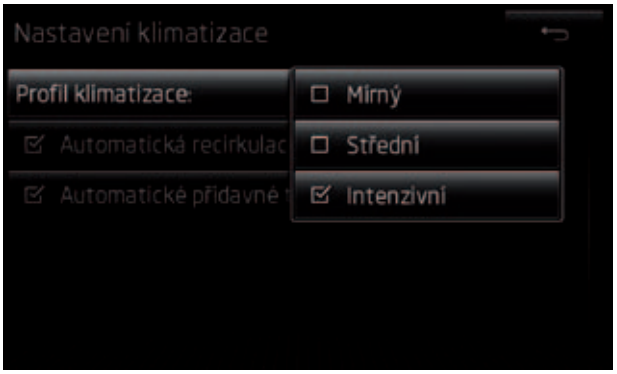
The overview of the air conditioning functions that can be set through infotainment:

- Air conditioning profile:*
  - *Mild*
  - *Medium*
  - *Intensive*
- Automatic recirculation: *(YES-NO)*
- Automatic auxiliary heating: *(YES-NO)*
- Air conditioning:
  - *Eco*
  - *Normal*

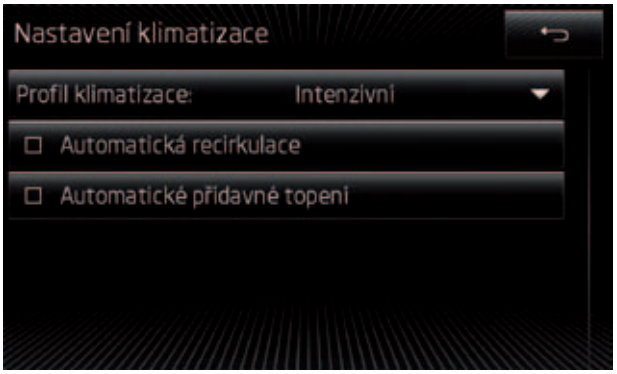
* The air conditioning profile can be used to set three levels for the automatic mode - AUTO.

Apart from individual functions and actual temperatures, the MIB display also shows graphical representation of the air flowing in the interiors, see Fig. SP97_50

SP97_50



SP97_52



SP97_49

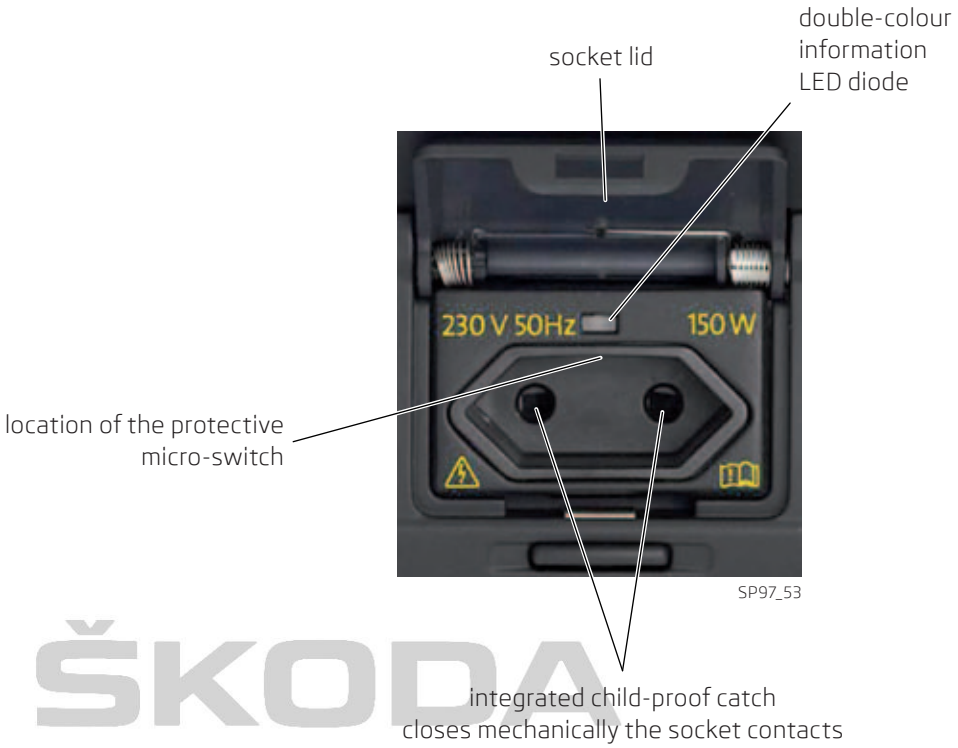
SP97_51

11 230V Socket

The ŠKODA Octavia III car can be equipped on request with the socket with alternating voltage of 230 V.
The socket is powered through the DC/AC voltage changer: 12 V / 230 V with a power of 150 W (300 W short time).
The changer is located in aluminium cooling case being connected with the socket via cable.

In the car we can find 230 V socket on the rear end of the central console. Socket can be used only with the car engine running. In case the car engine is not started the voltage changer that powers the socket is disconnected from the power supply.

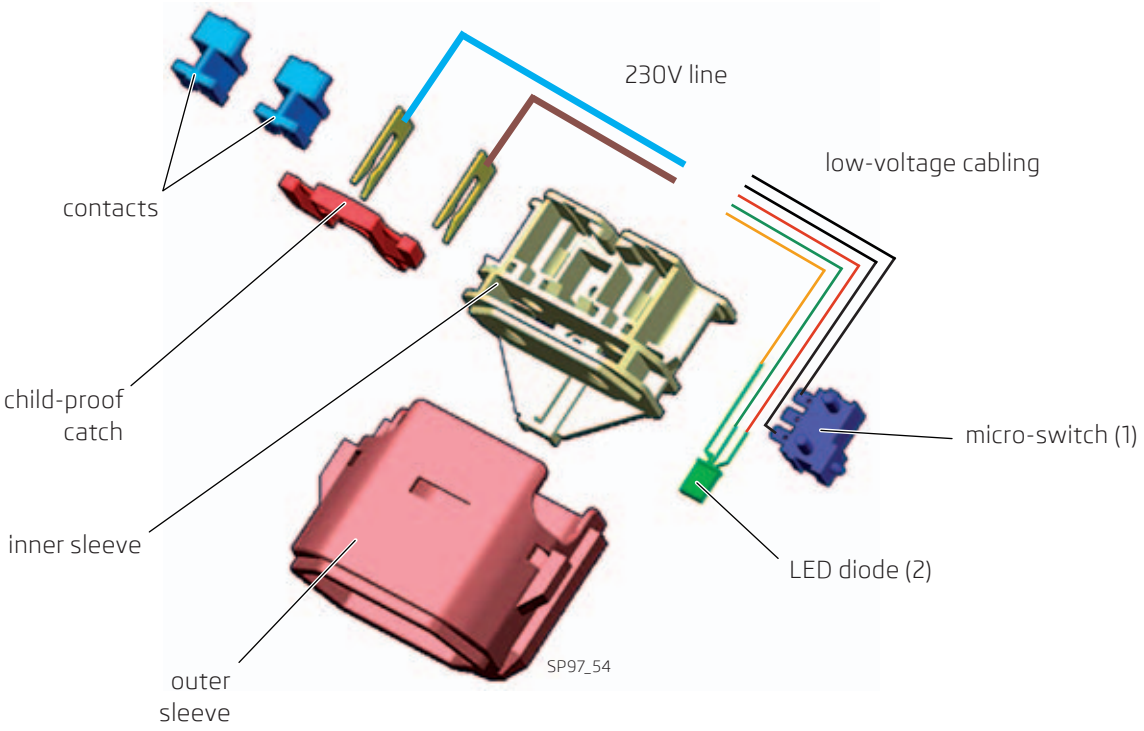
The socket is covered with a cap with spring, then it is protected by the child-proof catch and micro-switch, it is also equipped with LED diode that indicates the actual socket status.



The appliances that cannot be connected to the 230 V socket
It is impossible to connect:
- the appliances that have a plug with protective pin
- the appliances the power input of which exceeds the voltage changer's output curves (hair driers, vacuum cleaners) beware - such appliances cannot also be connected that, when started, exceed several-fold their rated power input - such appliances are predominantly those with motors or transformers (drilling machines, grinders, as well as the conventional fluorescent luminaires equipped with a reactance coil and starter)
- the appliances that are sensitive to the feeding with a continuous sine-wave signal

230V socket micro-switch

Once the electrical appliance's plug is inserted into the socket thus connecting the socket to voltage, the protective micro-switch (1) - Figure SP97_54 is activated. Thus, the empty socket is never under voltage.



Status LED diode

LED diode (2) - Figure SP97_54, has two colours (green + red) and it indicates the following socket statuses:

Inactive status

Ignition off or no appliance connected – socket without 230V voltage. LED diode is off.

Active status

Ignition on and appliance connected – socket under 230V voltage
LED diode shines green.

Temporarily inactive

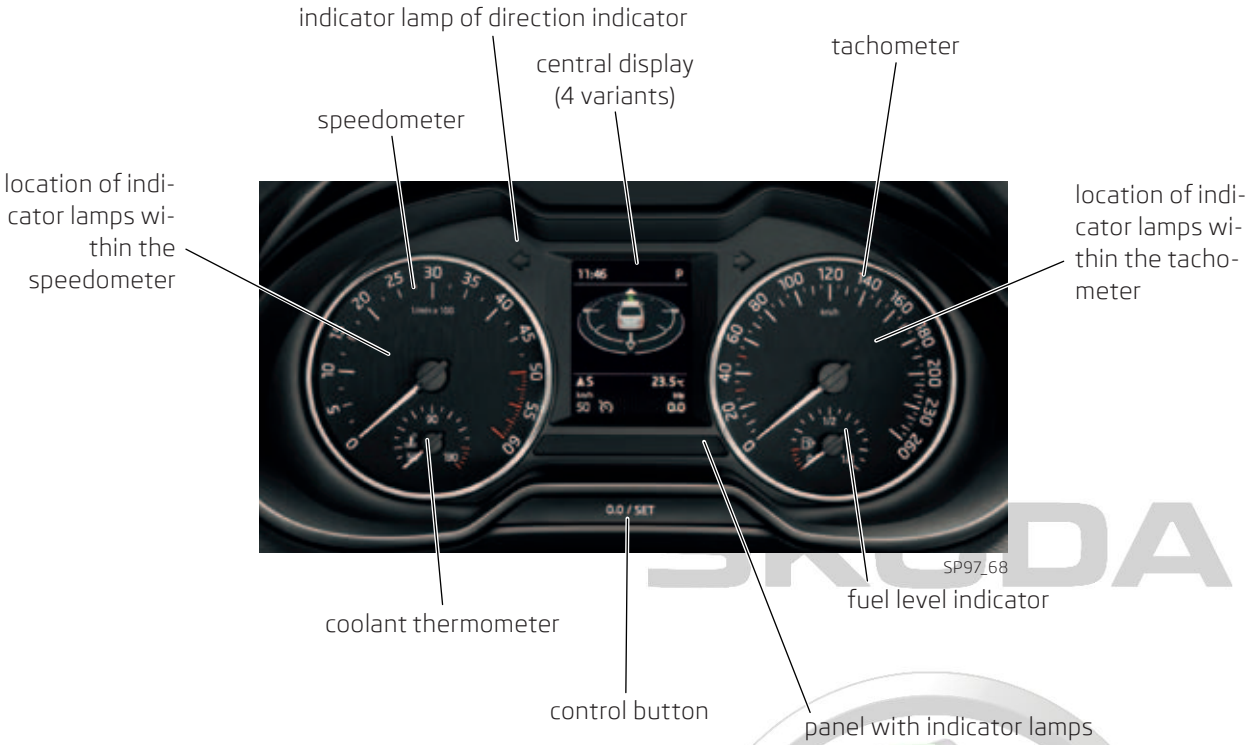
Activated ignition, the appliance connected but the automatic protection switched off the socket because the changer is overheated – the socket without 230V voltage.
LED diode shines red.

Error state

Socket disconnected as a result of prolonged overloading (current is permanently higher than 18 A) – socket without 230V voltage.
LED diode shines red.

12 Composite Instrument Panel

The composite instrument panel of ŠKODA Octavia III is supplied in four variants that differ in the central display design and differing sets of function the display shows.



Instrument panel is integrated into the infotainment structure. The comfort functions (e.g. functions of the car's electronic outfit) can be accessed through the MIB display on the dashboard's central panel via the "Car" item that is included in the infotainment menu.

SP97_55

12.1 Display Variants and Overview of Displayed Functions

Basic display without MFA

Basic segment display **without on-board computer** shows the following set of functions:

- Automatic text message when ignition is turned on
- Time
- External temperature
- Floor-area representation of the car contours for the open door or open bonnet indication
- Km/Miles display
- Recommended speed gear shifting
- Speed warning (winter tyres)
- Service interval alert
- Driver Activity Assistant - to distinguish driver fatigue (on request)

SP97_69

Display with MFA

As compared to the basic display version, the segment display with MFA (Multi Funktions Anzeige) offers the user also the following functions of on-board computer:

- -Average fuel consumption
- Actual fuel consumption
- Digital speed
- Average speed*
- Covered distance*
- Driving time
- Trailing throttle
- The second speed (digital representation of speed in alternative units - km/miles)

SP97_70

* **These functions are recorded in three memory levels, specifically, in the modes below: 1) from the start, 2) from the fuelling, and 3) in the long term.**

Maxi DOT

Maxi DOT display is implemented through the monochromatic 3.5" TFT display
with 240 x 320 px resolution.
As compared to the display with MFA it offers:

- Date and time
- Home screen
- On-board computer displays extra oil temperature
- Car state (automatic text messages on car state when ignition is turned on + possibility to call message also after the start)
- Advanced graphical representation of the assistance systems
- Compass (only in connection with the navigation system)
- Menu (depending on the outfit):
  Driving data, Navigation, Audio, Telephone, Vehicle

SP97_70

Colour Maxi DOT

The colour display has the same resolution as the monochromatic display 240 x 230 px, it offers extra animated representation as well as the representation of the road signs (only in combination with the Traveller Assistant packet)

SP97_72

12.2 Indicator Lamps

Indicator lamps of all the instrument panel variants are placed in the speedometer and tachometer field or in the indicator lamp central panel (under the display), they indicate specific functions or faults. Certain indicator lamps in the instrument panel with Maxi DOT displays are replaced with representation of identical pictogram on the central display.

Indicator Lamp List	
	Warning*
	Serious hazard*
	Overheated clutches of DSG automatic gearbox
	Hand brake
	Brake system
	Fastening of the front safety belt
	Fastening of the rear safety belt
	Recharging
	Temperature, coolant level
	Engine oil
	Power steering
	Traction control (ASR)
	Traction control switch-off (ASR)
	Stability control (ESC)
	Antilock braking system (ABS)
	Rear fog lamp
	Failure of bulbs
	Exhaust gas control system

Indicator lamp list	
	Glow (compression ignition engine)
EPC	Engine electronics control (spark-ignition engine)
	Diesel particulate filter (combustion ignition engine)
	Fuel reserve
	Safety systems
	Tyre pressure
	Fluid level in the washer reservoir
	Brake lining thickness
	Car Lane Assist
	Direction indicators (left / right)
	Direction indicators on a trailer
	Fog headlamps
	Cruise control
	Selector lever lock
	Distance headlamps
	Distance Light Assistant
	START-STOP system
	Ice warning indicator

* The symbol displayed in the indicator lamp panel along with a text fault message or with an instruction, that is shown on the instrument panel display depending on the severity, is **Warning** or symbol **Serious hazard**.

13 Multi-Function Camera – MFC

MFC camera undertakes several functions at time:

- function of Distance Light Assistant: **the function is described on page 26 of this Book**
- the road sign recognition function
- the automatic lane keeping control function

SP97_56

Multi-function camera in the ŠKODA Octavia III
is placed under the windshield
in the area in front of the central rear-view mirror.

SP97_57

13.1 Road Sign Recognition

The multi-function camera provides the function of automatic road sign recognition, driver's attention is drawn to the actual road signs through the display in the car. The attention system operates as assistant only, it is always driver who is responsible for the correct evaluation of a traffic situation.

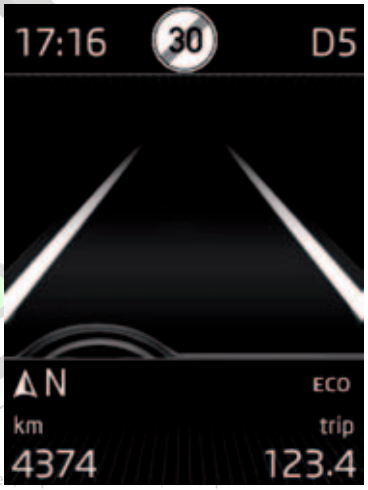
Camera function
Multi-function camera monitors the situation ahead of the car. Video records are transferred into the road sign recognition module to be then compared to the internal databank of the standard road signs. If match is found, the specific road sign is shown on the display of the composite instrument panel.

Predictive data taken over from the navigation
System is connected through infotainment with navigation, too. Upon the predictive road data from navigation, this system is capable of displaying a road sign (for example, speed limit) without the need for this sign's evaluation by the camera system, the sign appears on a display automatically once it is paired with the car's GPS position (for example, maximum speed in municipality when the residential area's boundary is crossed).

main display mode

SP97_59

supplementary display mode



SP97_58

Displayed data characteristic

- Function display is activated in the menu: **Driving data/Traffic signs**
- In case the main road sign display function is not active, the speed limit signs are displayed in the upper part of the display - see Fig. SP97_58. This additional display can be overridden through the infotainment menu.
- Up to three recognized signs can be simultaneously displayed on the display
- The system is capable of recognizing and displaying two groups of the road signs:
  speed **limit signs** and no **overtaking signs**
  + their supplementary traffic signs
- Infotainment can be used to select the additional road sign display function for the ride with trailer

13.2 Automatic Lane Keeping Control

Further function that is provided by the multi-function camera is the automatic lane keeping control (LA - "Lane Assist"). The Assistant is active from a speed of 65 km/hr, it recognized a full and broken line and it was designed for application on freeways and higher class roads with the carriage-way marking of good quality.

The "Lane Assist" system has two basic modes:

- Lane departure prevention
- Adaptive lane keeping control

Lane departure prevention mode
If car moves to the immediate proximity of limiting line, the system automatically intervenes into steering by a slight movement of steering wheel in the direction from the limiting line. The force of automatic intervention can be set through infotainment, driver can overcome the automatic intervention any time.

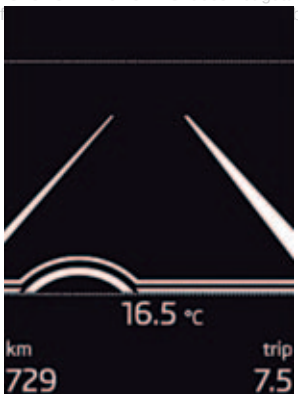
The system is inactive

- in case when driver turns on the direction indicator on the same side where the carriage-way limiting line approached by this driver's car is present (such situation is evaluated as driver's intention to change the lane)
- in case the car speed drops below 65 km/hr

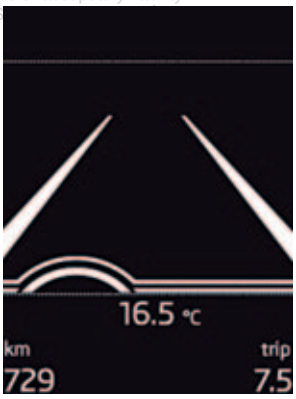
Display of the function on the monochromatic Maxi DOT display

SP97_60

SP97_61

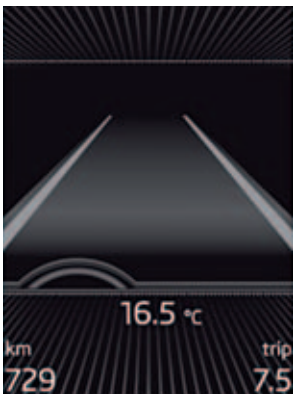


SP97_62

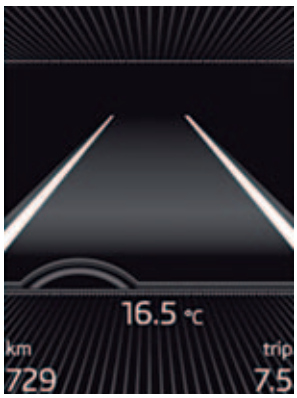


SP97_63

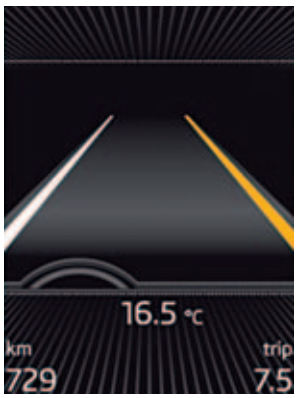
Display of the function on the colour Maxi DOT display



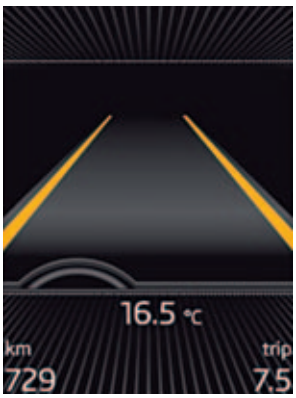
SP97_64



SP97_65



SP97_66



SP97_67

Key to Figures on page 58:

SP_97_60 and SP_97_64 – System is activated but not ready to intervene.
SP_97_61 and SP_97_65 – System is activated and it is ready to intervene.
SP_97_62 and SP_97_66 – System intervenes when coming close to the right-hand limiting line.
SP_97_63 and SP_97_67 – System intervenes (adaptive lane keeping control).

Adaptive lane keeping control mode

In case the system detects limiting lines on both car sides, the adaptive lane keeping mode is capable of keeping automatically the selected path in the lane by intervening into the car steering. The mode monitors clearances of the car from the carriage-way marking on both car sides, the car needs not move at the centre of the lane, the distance of the lines from car centre can be asymmetrical.

The adaptive lane keeping mode can be deactivated through infotainment.

Overview of Hitherto Issued Workshop Teaching Aids

No.	Name
1	Mono-Motronic
2	Central Locking
3	Car Alarm Equipment
4	Work with Wiring Diagrams
5	ŠKODA FELICIA
6	ŠKODA Car Safety
7	ABS - Basics - not issued
8	ABS - FELICIA
9	Starting Protection Device with Transponder
10	Air Conditioning in Car
11	FELICIA Air Conditioning
12	1.6 - MPI 1AV Engine
13	Four-Cylinder Compression Ignition Engine
14	Power Steering
15	ŠKODA OCTAVIA
16	1.9 l TDI Compression Ignition Engine
17	ŠKODA OCTAVIA Comfort Electronics System
18	ŠKODA OCTAVIA 02K, 02J Mech. Gearbox
19	1.6 l and 1.8 l Gasoline Engines
20	Automatic Gearbox - Basics
21	01M Automatic Gearbox
22	1.9 l/50 kW SDI, 1.9 l/81 kW TDI Compression Ignition Engines
23	1.8 l/110 kW and 1.8 l/92 kW Gasoline Engines
24	OCTAVIA, CAN-BUS Data Bus
25	OCTAVIA - CLIMATRONIC
26	OCTAVIA - Vehicle Safety
27	OCTAVIA - 1.4 l/44 kW Engine and 002 Gearbox
28	OCTAVIA - ESP - Basics, Design, Function
29	OCTAVIA 4 x 4 - All-Wheel Drive
30	2.0 l 85 kW and 88 kW Gasoline Engines
31	Radio Navigation System - Design and Function
32	ŠKODA FABIA - Technical Information
33	ŠKODA FABIA - Electrical Devices
34	ŠKODA FABIA - Electrohydraulic Power Steering
35	1.4 l - 16 V 55/74 kW Gasoline Engines
36	ŠKODA FABIA - 1.9 l TDI Pump-Nozzle
37	02T and 002 Mechanical Gearbox
38	ŠKODAOctavia; Model 2001
39	Euro-On-Board-Diagnose
40	001 Automatic Gearbox
41	02M Six-Speed Gearbox
42	ŠKODAFabia - ESP
43	Emissions in Exhaust Gases
44	Extended Service Intervals
45	1.2 l Three-Cylinder Spark-Ignition Engines
46	ŠkodaSuperb; Presentation of the Vehicle, Part I
47	ŠKODASuperb; Presentation of the Vehicle, Part II
48	ŠKODASuperb; V6 2.8 l/142 kW Spark-Ignition Engine
49	ŠKODASuperb; V6 2.5 l/114 kW TDI Compression Ignition Engine
50	ŠKODASuperb; 01V Automatic Gearbox
51	2.0 l/85 kW Spark-Ignition Engine with Balancing Shafts and 2-Stage Intake Pipe
52	ŠKODAFabia; 1.4 l TDI Engine with Pump-Nozzle Injection System
53	ŠKODAOctavia; Presentation of the Vehicle
54	ŠKODAOctavia; Electrical Components
55	FSI Spark-Ignition Engines; 2.0 l/110 kW and 1.6 l/85 kW
56	DSG-02E Automatic Gearbox
57	Compression Ignition Engine; 2.0 l/103 kW TDI with Pump-Nozzle Units, 2.0 l/100 kW TDI with Pump-Nozzle Units
58	ŠKODAOctavia, Chassis and Electromechanical Power Steering
59	ŠKODAOctavia RS, Engine 2.0 l/147 kW FSI Turbo
60	2.0 l/103 kW 2V TDI Compression Ignition Engine; Diesel Particulate Filter with Additive
61	Radio Navigation Systems in ŠKODA Cars
62	ŠKODARoomster; Presentation of the Vehicle, Part I
63	ŠKODARoomster; Presentation of the Vehicle, Part II
64	ŠKODAFabia II; Presentation of the Vehicle
65	ŠKODASuperb II; Presentation of the Vehicle, Part I
66	ŠKODASuperb II; Presentation of the Vehicle, Part II
67	Compression Ignition Engine; 2.0 l/125 kW TDI with Common Rail Injection System
68	1.4 l/92 kW TSI Spark-Ignition Engine, Turbo Charged
69	3.6 l/191 kW FSI Spark-Ignition Engine
70	All-Wheel Drive with Generation IV Haldex Clutch
71	ŠKODAYeti; Presentation of the Vehicle, Part I
72	ŠKODAYeti; Presentation of the Vehicle, Part II
73	LPG System in ŠKODA Cars
74	1.2 l/77 kW TSI Spark-Ignition Engine, Turbo Charged
75	7-Speed Automatically Controlled Gearbox with 0AM Double Clutch
76	Green-Line Cars
77	Geometry
78	Passive Safety
79	Independent Heating
80	Compression Ignition Engines 2.0 l; 1.6 l; 1.2 l with Common Rail Fuel Injection System
81	Bluetooth in ŠKODA Cars
82	Motor Vehicle Sensors - Drivetrain
83	1.4 l/132 kW TSI Spark-Ignition Engine, Double Supercharged (Compressor, Turboblower)
84	ŠKODAFabia II RS; Presentation of the Vehicle
85	KESSY System in ŠKODA Cars
86	START-STOP System in ŠKODA Cars
87	Immobilizers in ŠKODA Cars
88	Brake and Stabilization Systems
89	Sensors in ŠKODA Cars – Safety and Comfort
90	Customer Satisfaction Enhancement through CSS Study
91	ŠKODA Car Wiring Repairs
92	ŠKODA Citigo – Presentation of the Vehicle
93	Five-Speed 0CF Mechanical Gearbox and ASG Automated Five-Speed Gearbox
94	0AM and 02E Automatic Gearbox Diagnostics
95	ŠKODA Rapid – Presentation of the Vehicle
96	ŠKODA Octavia III – Presentation of the Vehicle – Part I
97	ŠKODA Octavia III – Presentation of the Vehicle – Part II