

**Service Training**



**Self-study Programme 349**

**Fox 2006**



We chose the English word Fox for this car because of its intelligent mixture of proven technology, flexibility and dynamism.

- The Fox is manoeuvrable and easy to steer through city traffic.
- Combining compact dimensions with a large interior, it has plenty space even for taller people.
- The Fox gives a functional and harmonious impression.

You will find further information in the self-study programmes:

- SSP 259 – EPHS Electrically powered hydraulic steering
- SSP 237 – Manual gearbox O2T
- SSP 223 – The 1.2 l and 1.4 l TDI engines
- SSP 260 – The 1.2 l 3-cylinder petrol engines



**NEW**



**Important Note**



**The self-study programme shows the design and function of new developments.  
The contents will not be updated.**

For current testing, adjustment and repair instructions, refer to the relevant service literature.

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# In Brief



## Marketing

Fox is an ideal name for this car. The low front section and high tail make the Fox look aggressive and nimble.

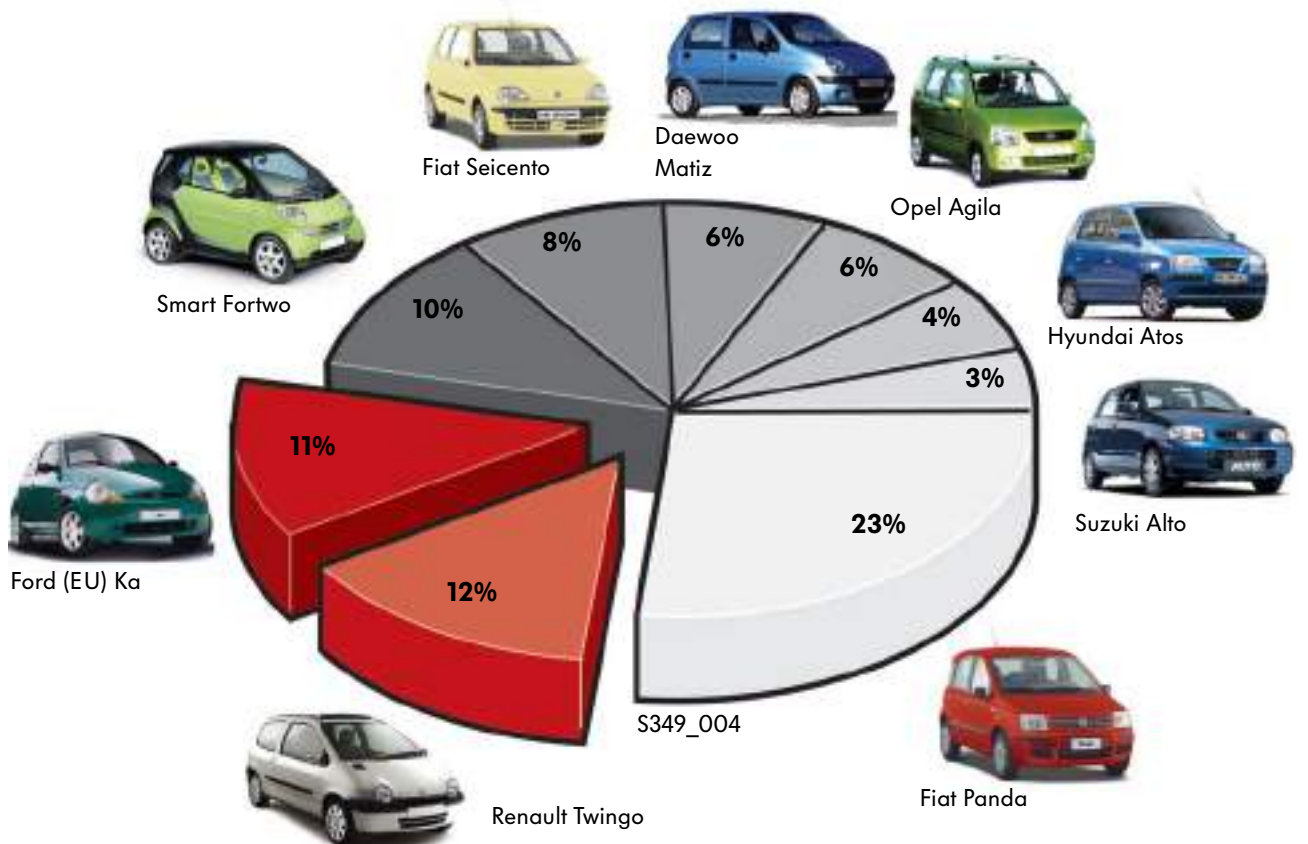
Thanks to its compact dimensions and large interior, it really has no limitations in terms of usage.

The Fox is a reasonably priced, complete car — a real Volkswagen.



The intelligence and sportiness suggested by the name Fox lift the car above the competition in its class.

The pie chart shows the Fox' rivals.





## Production

The Fox is a sporty compact that was created in a successful joint project between Volkswagen do Brasil and the parent company. Developed on the basis of the Polo, the Fox has inherited the best that Volkswagen can offer in terms of safety, comfort and technology for compact automobiles.

### São Bernado do Campo plant, Anchieta

The world's second largest Volkswagen plant (the largest is in Wolfsburg, Germany) was opened on 18 November 1959. It has a total floor space of 1,984,811 m<sup>2</sup> and the buildings cover an area of 1,123,948 m<sup>2</sup>. The daily production capacity is 1,400 cars. The main activities at the plant are press moulding, frame and body assembly, painting, final assembly and the production of engines as well as research, product planning and development.

### São José dos Pinhais plant, Curitiba

The São José dos Pinhais plant features a new kind of layout for the group:

The areas of frame construction, painting and final assembly run together into a communication centre. The building where the administration offices are located is triangular. The flow of information is therefore faster and constant quality improvement is supported.

The Fox 2006 is built at both Brazilian plants.



S349\_208



S349\_005



S349\_007



S349\_006



# In Brief



## Fox 2006

The Fox 2006 is based on the Polo 2002 platform, although the Fox is 15mm taller than the Polo. The Fox will only be available as a 2-door.

Convenience system with

- power windows
- electrically adjusted mirrors
- central locking with remote control
- anti-theft alarm
- interior monitoring

The chassis number is stamped onto the underbody under the rear seat bench.



Belt tensioners

Optional rear vent wings

Optional easy-entry seats

Optional driver and front passenger airbag, side airbag

Optional semi-automatic "Climatic" air conditioning

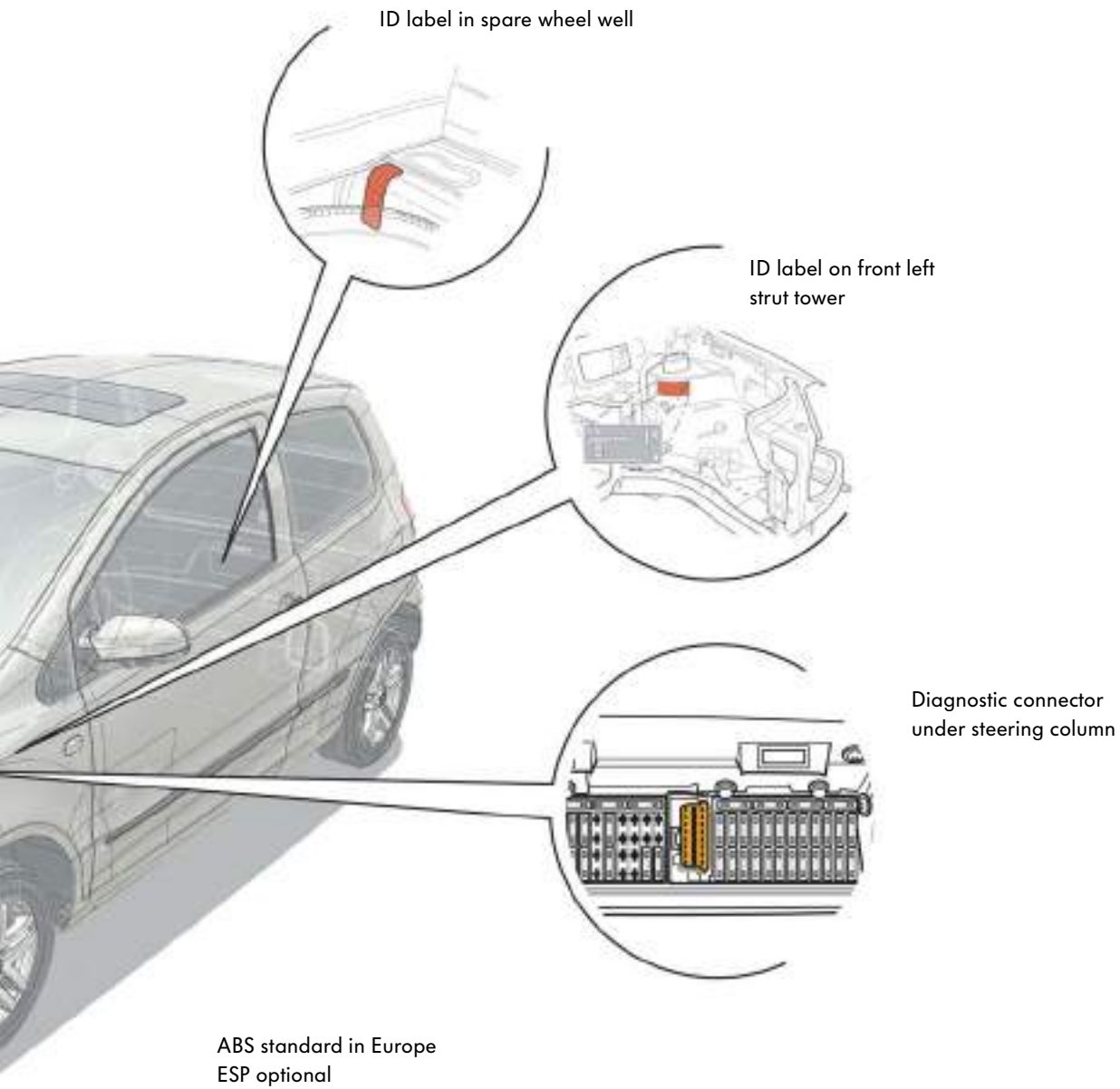
Optional electro/hydraulic power steering

Optional reach and height-adjusted steering wheel

Drawer under driver's seat

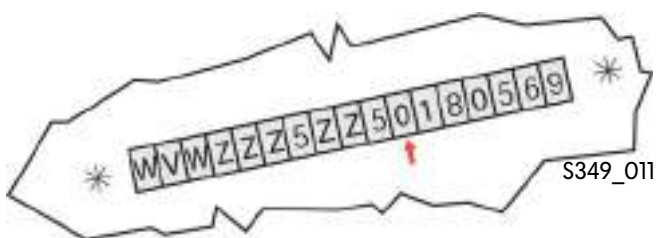


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### Chassis number

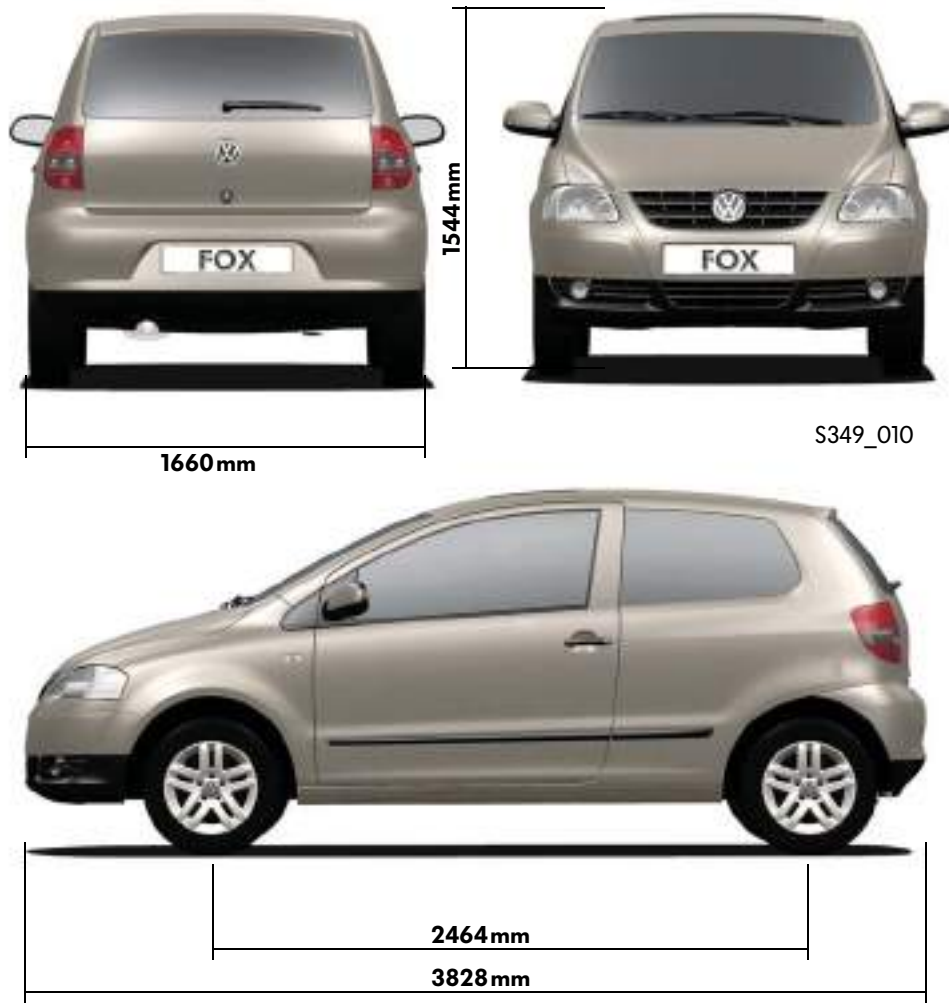
The 11th digit in the chassis number indicates the production site. 4 stands for Curitiba, 0 for Anchieta.



# In Brief



## Technical data

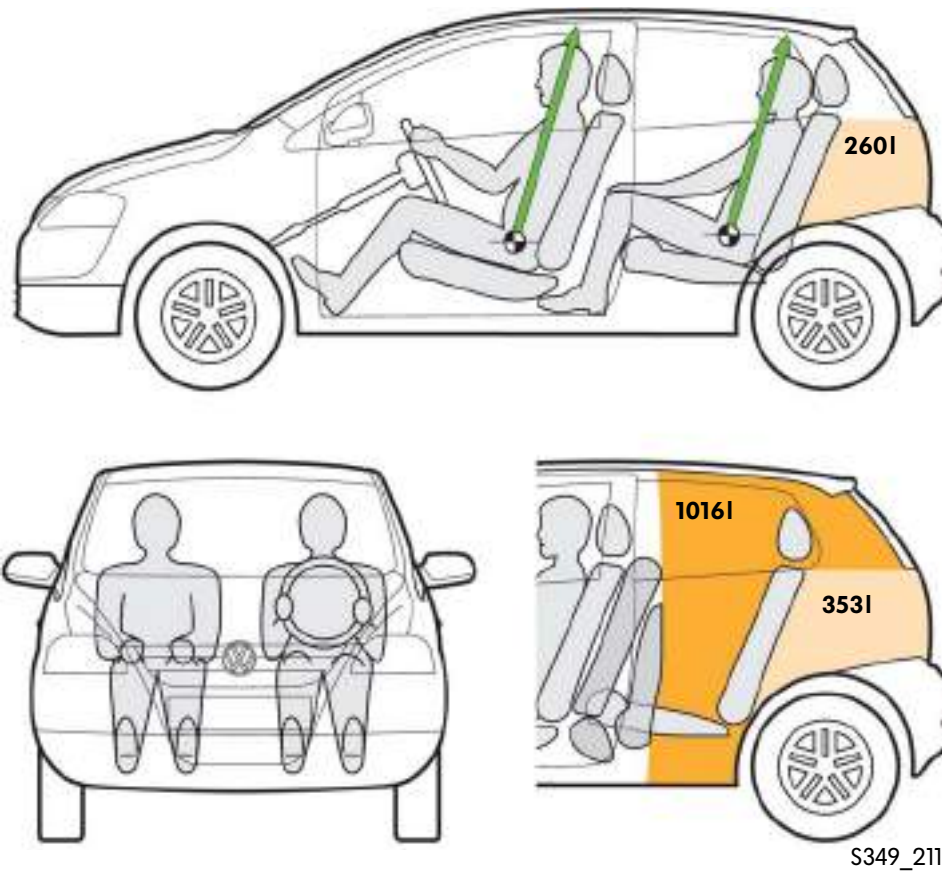


Length	3828mm	Track width at rear	1424mm
Width	1660mm	Tank capacity	50l
Height	1544mm	Curb weight <sup>2</sup>	978kg
Wheelbase	2464mm	Maximum weight <sup>1</sup>	1480kg
Turning circle <sup>1</sup>	10.6m	Maximum roof load	50kg
Track width at front	1428mm	Drag coefficient (Cd)	0.32

<sup>1</sup> applies for vehicles with power steering

<sup>2</sup> applies for cars with 1.2l engine without power steering





S349\_211

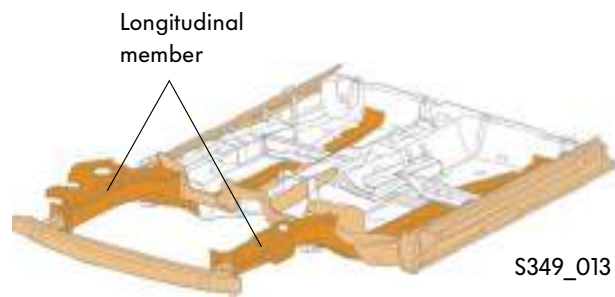
Front headroom*	From 994mm	Boot volume	260l
Rear bench headroom*	From 963mm	With rear bench pushed forward	353l
Interior length	1691mm	With rear bench folded down	1016 l
Front shoulder width*	From 1348mm	Rear shoulder width	From 1355mm
Front elbowroom*	From 1401mm	Rear elbowroom	From 1423mm

\* Varies depending on model

# Body

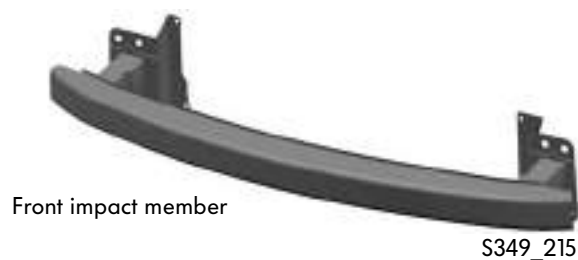
## Body structure

The Fox has a torsionally stiff body. The design and structure ensure good crash safety. The body is partly galvanised and has a 12-year guarantee against internal corrosion.

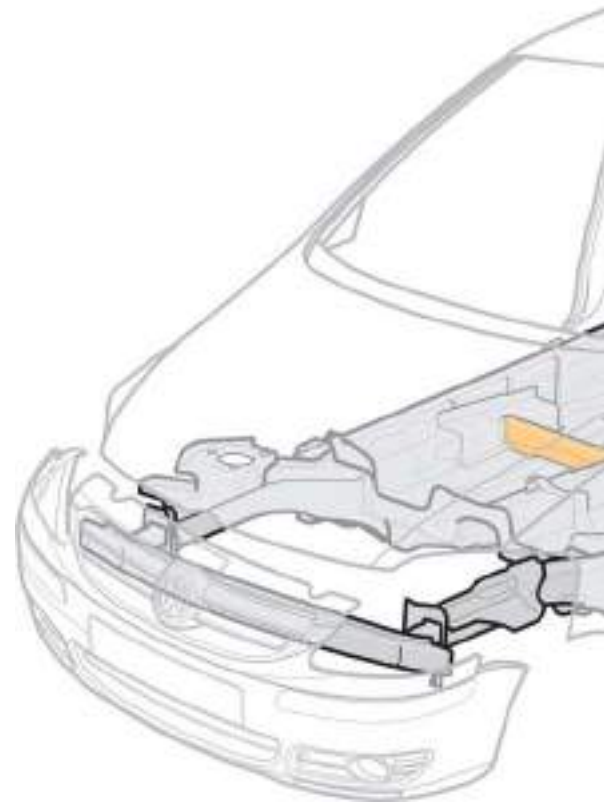


### Longitudinal member

The underbody features a frame structure. The longitudinal member is made from sheet metal with increasing thickness. The increased capability to absorb bumps provided by this system is called progressive absorption. The protection of occupants in the cockpit is thus maximised.



Front impact member

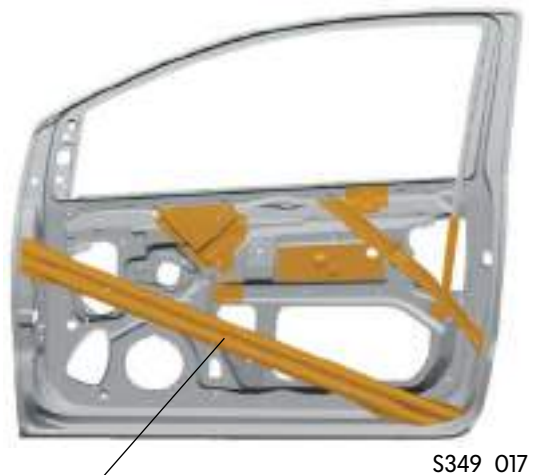
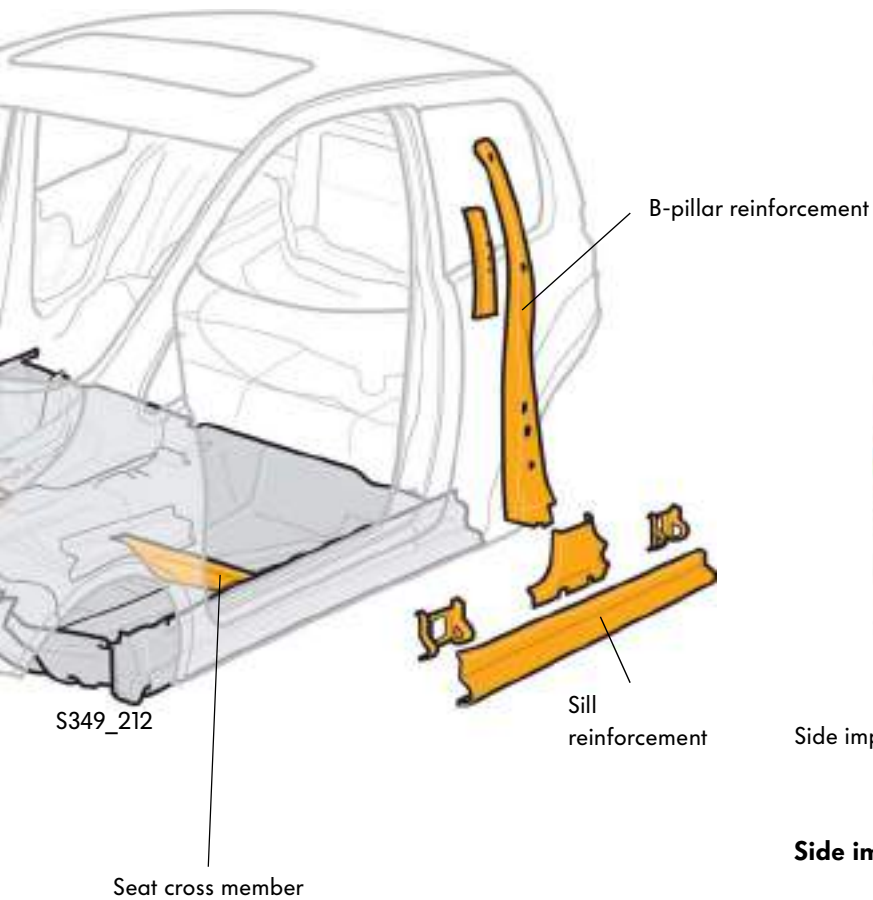


### Bumper covers front and rear

The bumper covers at the front and rear can absorb an impact energy at up to 4 km/h without damage.

Higher collision speeds up to around 15 km/h are absorbed by impact members without the longitudinal members being deformed.

The longitudinal members are only deformed in severe collisions.



Side impact member

### Side impact protection

In a side collision, the reinforced B-pillars, the sturdy sills and the inside door panel, which is almost closed, minimise deformation of the passenger cell.

The side impact member, the door gutter reinforcement and the padding between them provide an ideal barrier against the impact force. The padding is the side protection cushioning in the doors.



# Body

## Seats

The Fox has been designed as a 4-seater. The front seats can be optionally equipped with the easy-entry system, the rear seat comes as a single bench as standard or optionally split and folding.



### Rear seat bench

The rear bench is made up of two seats with a storage bin and cup holder in the middle.



### Front seats

The front seats in the Fox are available with easy-entry and manual memory function upon request.



## Easy-entry

The easy-entry system makes it easier to access the rear seats. When you want to climb into the back seat, the backrest of the front seat is unlocked as usual and folded forward. At the same time, the front seat can be pushed forward. This creates more space so you can climb into the car easily.



S349\_341



S349\_342



S349\_343



S349\_344

### Function

Folding the front seat backrest forward activates the memory module on the seat rail.

The activated memory module unlocks the length adjustment of the front seat allowing the front seat to be pushed forward. At the same time, the memory function is triggered. Using this function, the memory module mechanically records a change to the position of the front seat so that the starting position of the front seat is stored mechanically in the memory module.

To return the front seat to its initial position, the front seat needs to be pushed back with the backrest folded forward.

Once the front seat has returned to its initial position, the memory module triggers the memory function and the length adjustment is locked. Once the backrest has been folded back, the memory module locks the length adjustment of the front seat.



If the backrest is folded back before it reaches the initial position, only the length adjustment is locked. The memory function is kept until the initial position is reached.



# Body

## Rear bench

The rear bench is made up of two seats with a storage facility and cup holder in the middle.

The rear seat bench can be moved completely (optional) and folded up against the front seats (tipped) to make the boot larger. The seat backrests can be folded down separately.



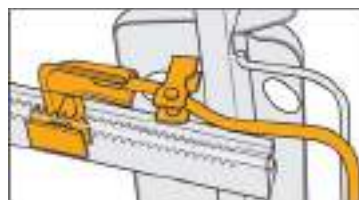
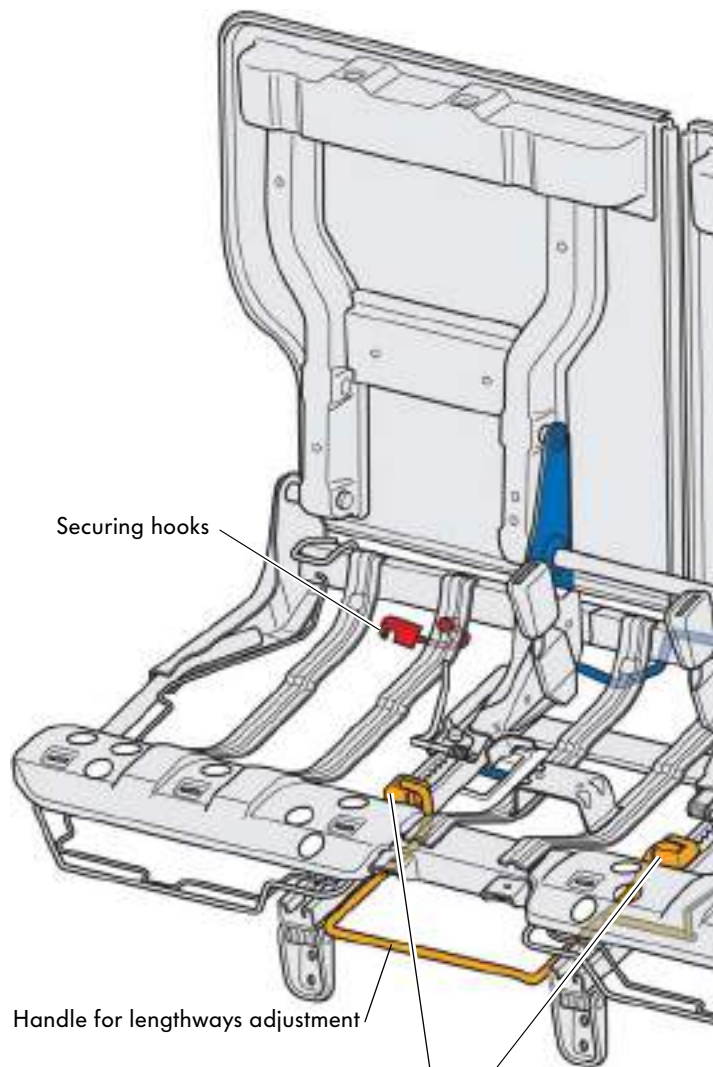
### Securing hooks

The red hook on the back of the rear seat bench hooks into the front seat head restraint. It prevents the rear seat bench falling back.

### Moving the rear seat bench lengthways (optional)

The rear seat bench slides lengthways. A toothed rail with a catch locks the rear bench so it cannot be moved back and forth. You release the lock by lowering it with the lever at the front of the seat base.

Another handle can be accessed from the boot.



Lock

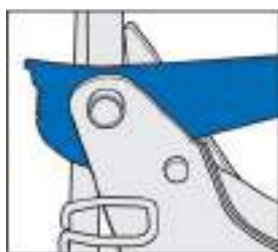
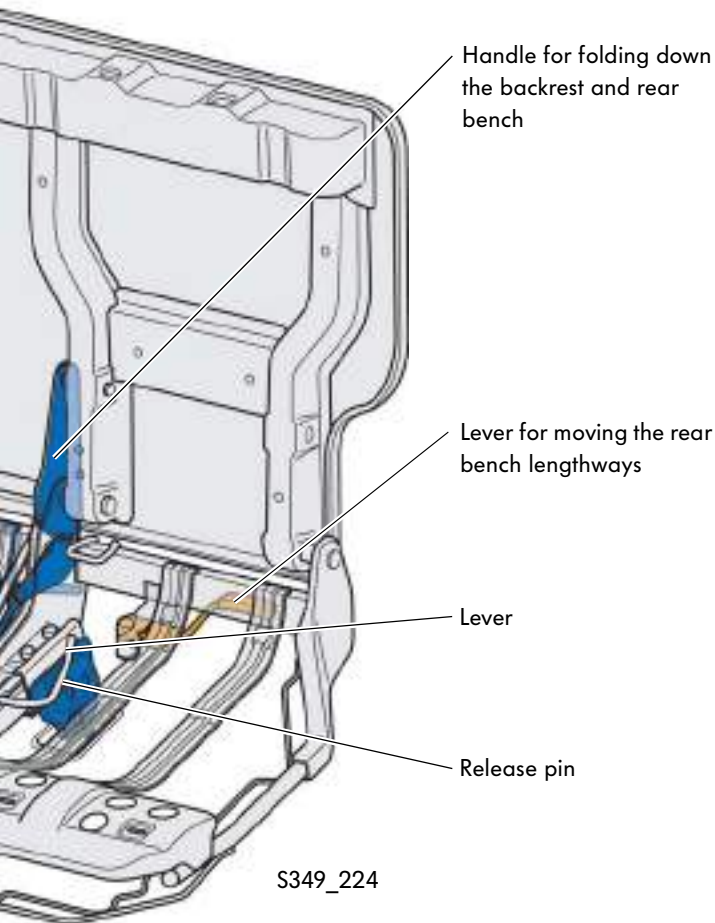
S349\_225



A full-width, one-piece rear seat bench is also available. Both rear bench systems have Isofix anchor points for securing child seats as standard.

## Folding down the back rest

Both rear seats can be unlocked and folded down separately. Two loop handles have been provided at the front to help you fold the seat.



The backrest is locked by four teeth at the same time to distribute the force.



The backrests can be released using the lever for folding down the backrest and rear bench in the boot.

## Folding down the rear seat bench

The rear seat bench can only be folded down completely once it has been pushed back as far as possible.

In this position, the lever presses against the release pin when the handle for folding down the backrest and rear seat bench is moved. This opens the catch in the floor lock. The backrests are unlocked at the same time and the rear seat bench can be folded over.



# Occupant Protection

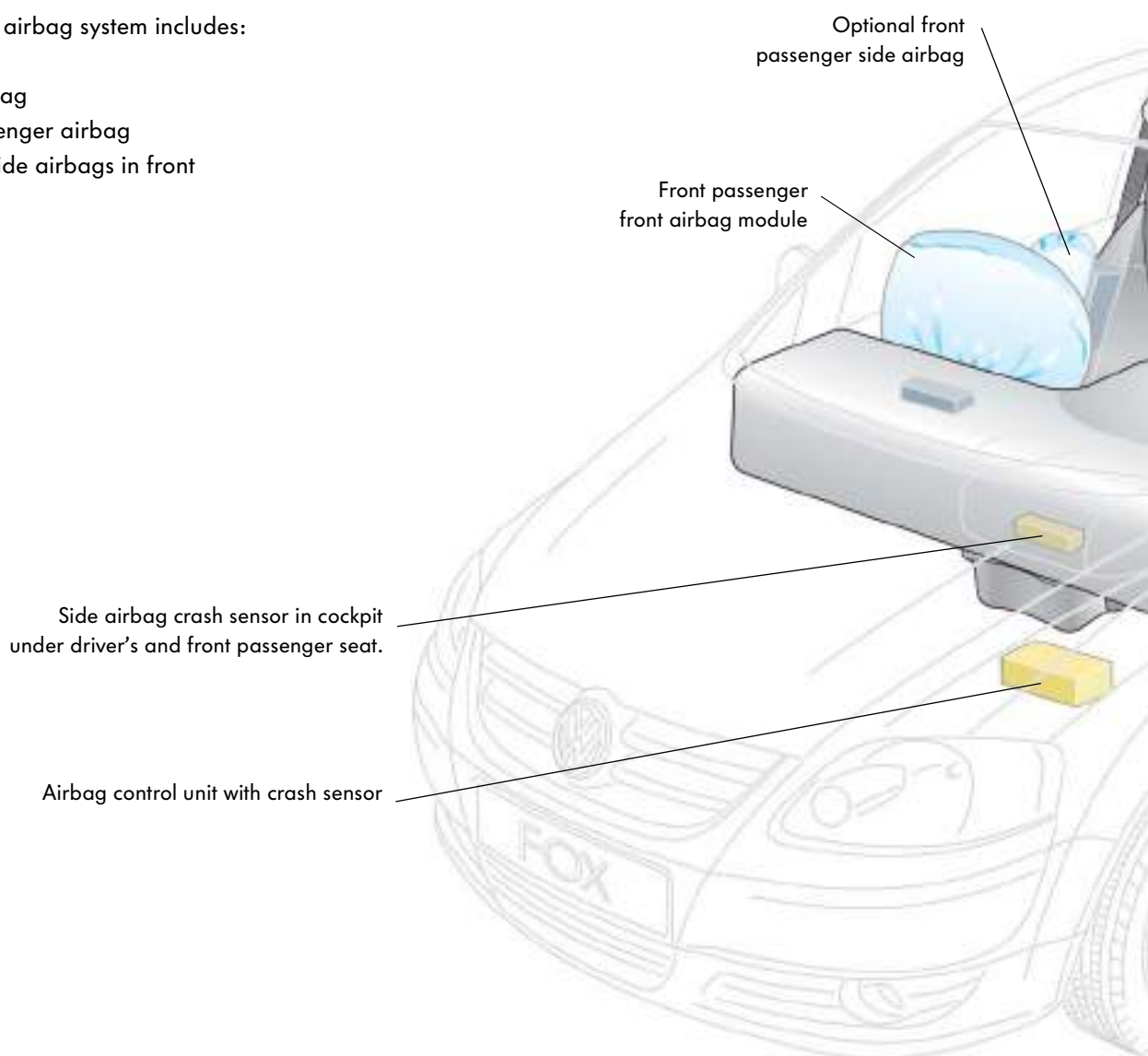
## Airbag system

The Fox is equipped with the proven occupant protection systems, the airbag system and the restraint system.



The complete airbag system includes:

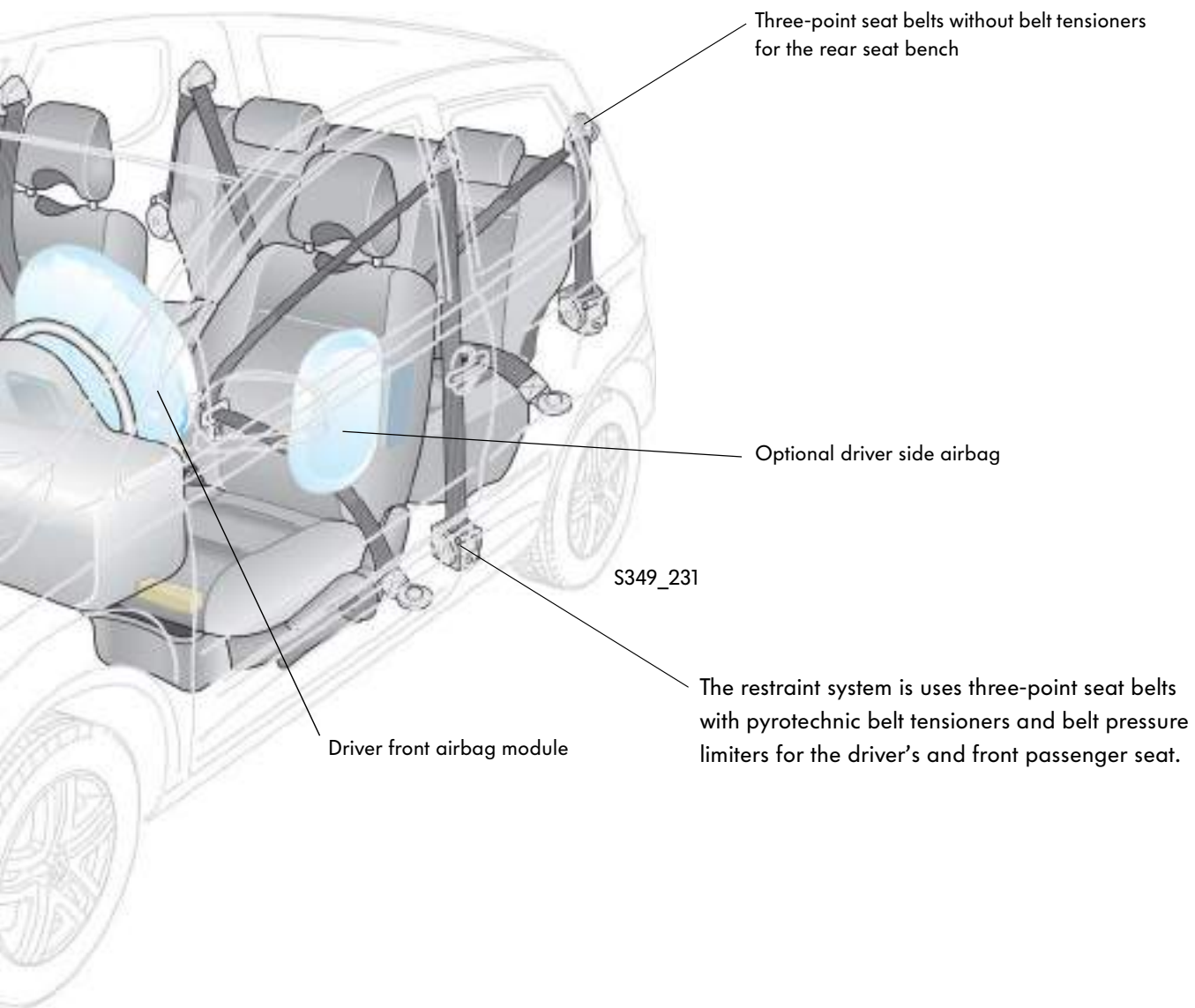
- Driver airbag
- Front passenger airbag
- Optional side airbags in front



## Restraint system

The belt system includes:

- Three-point seat belts with pyrotechnic belt tensioners for driver and front passenger
- Three-point seat belts without belt tensioners on the rear seat bench



# Engines

## Overview of engines and gearbox

1.2l 40kW petrol engine



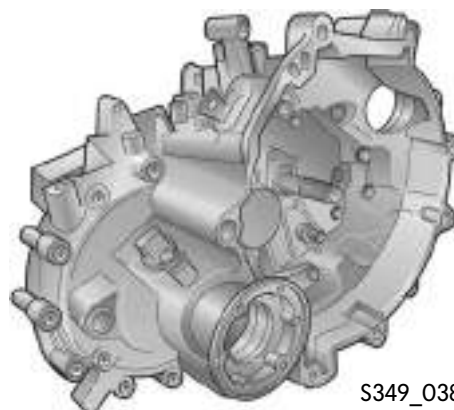
S349\_033

1.4l 55kW petrol engine



S349\_034

O2T 5-speed manual gearbox



S349\_038

1.4l 51kW diesel engine



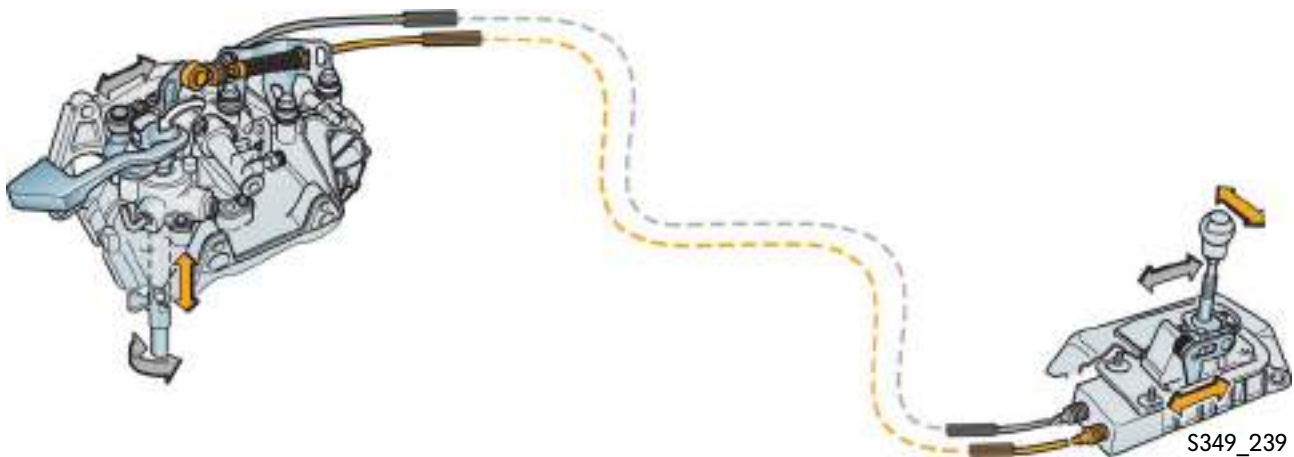
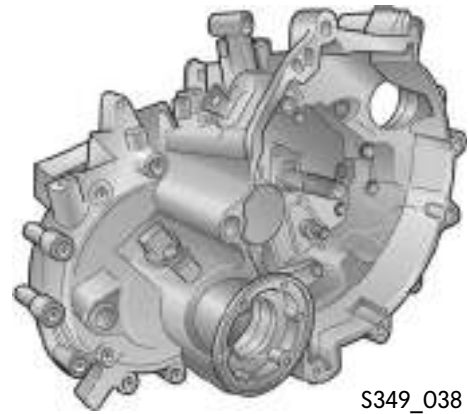
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## 02T 5-speed manual gearbox

The 02T gearbox used in the 2002 model year Polo is installed in the Fox. The maximum torque to be transferred by this gearbox is 200Nm.

The complete gearbox transmission is configured for the respective engine version using different gear ratios and different transmission ratios for the axle drives. The gearbox is assigned to the engine via the gearbox code.



### Gear changes

The gears are changed via a selector cable and a shift cable. Thanks to these cables, the rocking movement of the engine acts only slightly on the gearstick. This allows you to select gears more precisely.



Further information can be found in self-study programme no. 237, which contains details on the design and operation of this gearbox.

# Engines

## 1.2l/-40 kW petrol engine

The 1.2l 40kW petrol has been taken from the 2002 model year Polo without any modifications.

### Technical features

- 2-valve technology
- Chain-driven valve control
- Crankshaft drive with balancer shaft
- Oil filter arranged standing
- Single-spark ignition coils with integrated output stages



S349\_370

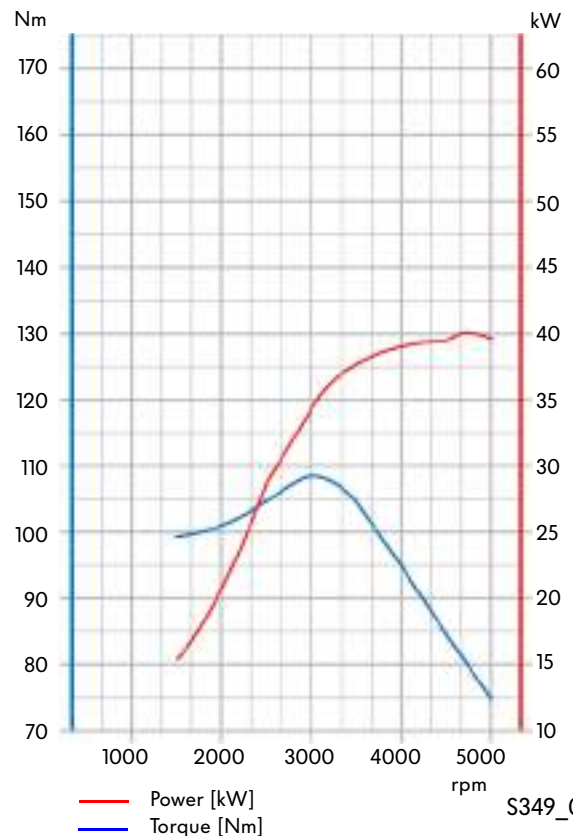


You will find further information on this engine in self-study programme no. 260 The 1.2l 3-cylinder petrol engines.

### Technical data

Engine code	BMD
Type	3-cylinder in-line engine
Capacity [cm <sup>3</sup> ]	1198
Bore [mm]	76.5
Stroke [mm]	86.9
Valves per cylinder	2
Compression ratio	10.3 : 1
Maximum output	4kW at 4750rpm
Maximum torque	108Nm at 3000rpm
Engine management	Simos 3PG
Fuel	Super unleaded RON 95 (normal unleaded at RON 91 with reduction in performance)
Exhaust gas treatment	Catalytic converter, Lambda control with two probes
Emissions standard	EU4

### Power and torque development graph



S349\_032

## 1.4l/55 kW petrol engine

The 1.4l 55kW petrol engine featured in the Fox is an all-new engine. The EA111 engine series forms the basis for the basic engine.

### Technical features

- 2-valve technology
- Roller rocker arm
- Lightweight crankshaft drive with lightweight piston and crankshaft
- Grey cast iron cylinder block
- Non-return fuel system
- Air filter integrated in the engine cover
- Electronic distributorless ignition
- Crankshaft flange with duocentric oil pump



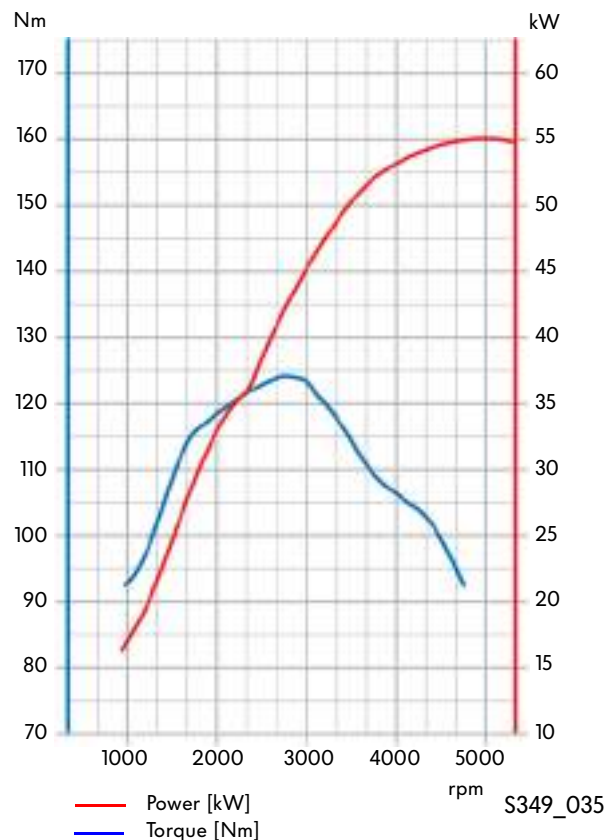
S349\_371



### Technical data

Engine code	BKR
Type	4-cylinder in-line engine
Capacity [cm <sup>3</sup> ]	1390
Bore [mm]	76.5
Stroke [mm]	75.6
Valves per cylinder	2
Compression ratio	10.5 : 1
Maximum output	55kW at 5000rpm
Maximum torque	124Nm at 2750rpm
Engine management	Magneti Marelli 4 EV
Fuel	Super unleaded RON 95 (normal unleaded at RON 91 with reduction in performance)
Exhaust gas treatment	Catalytic converter, Lambda control with two probes
Emissions standard	EU4

### Power and torque development graph



# Engines

## 1.4l/51kW TDI engine with unit injector system

The 1.4l 51kW TDI engine is derived from the 1.4l 55kW TDI engine (BAY) used in the 2002 model year Polo. The engine control unit software has been adapted to the reduced output.

### Technical features

- Combination valve for fuel preheating and for cooling the fuel return
- Balancer shaft for reduction of the engine vibrations
- Tandem pump, driven directly by camshaft
- Duocentric oil pump, driven by the crankshaft via a chain
- Standing oil filter housing
- Coolant pump integrated in cylinder block



S349\_372



The design and operation of the 1.4l 55kW 3-cylinder TDI engine is explained in self-study programme no. 223.

### Technical data

Engine code	BNM
Type	3-cylinder in-line engine
Capacity [cm <sup>3</sup> ]	1422
Bore [mm]	79.5
Stroke [mm]	95.5
Compression ratio	19.5 : 1
Maximum output	51kW at 4000rpm
Maximum torque	155Nm at 1600rpm up to 2800rpm
Engine management	Electronic Diesel Control Bosch EDC 15P
Fuel	Min. CN 51 in accordance with DIN EN 590
Exhaust gas treatment	Exhaust gas recirculation and oxidation catalytic converter
Emissions standard	EU4

### Power and torque development graph



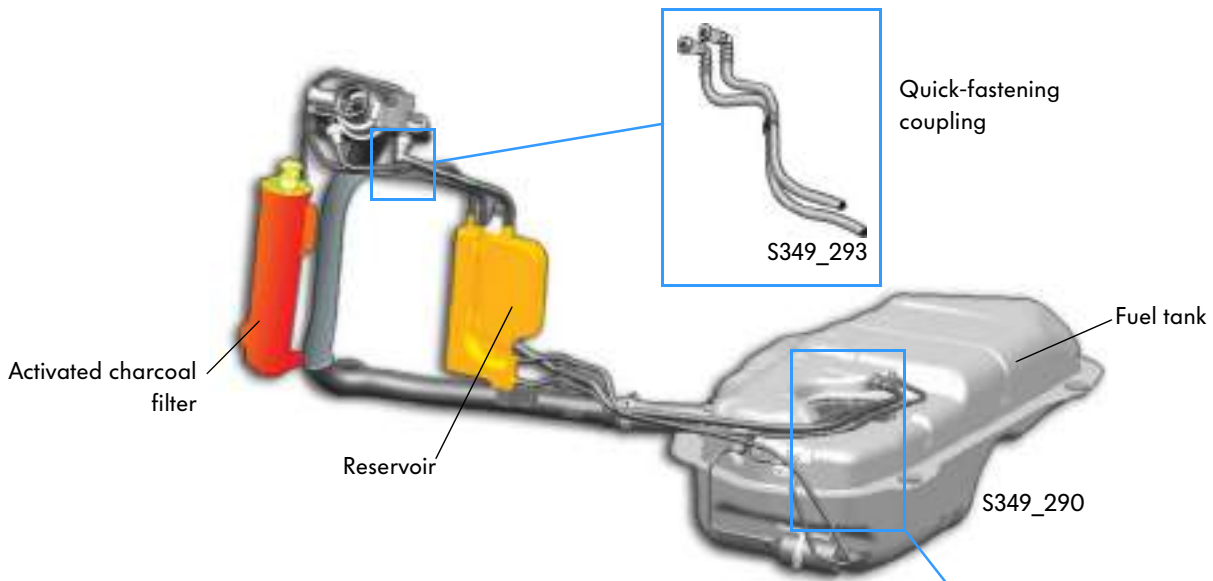
S349\_037

## Fuel supply

The Fox fuel tank is located in the crash-protected area in front of the rear axle. It has a volume of 50l.

The Fox has a galvanised steel sheet tank. Galvanising the steel sheet improves the corrosion resistance compared with conventional metal tanks.

Quick-fastening couplings are used for easier assembly of the fuel lines.

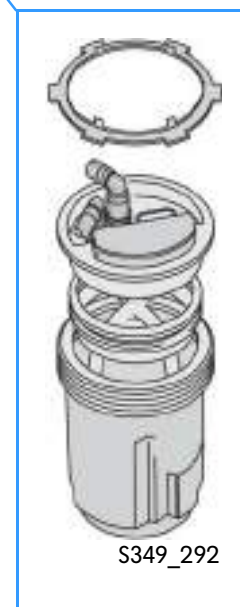


The activated charcoal filter is located in the rear right wheel housing.

All petrol fuel systems are equipped with an activated charcoal filter to meet the environmental legislation. The activated charcoal container collects the fuel vapours produced during operation and then delivers them to the engine for combustion later on.

### Fuel pump

The fuel pump is secured with a bayonet ring.







# Engines

## Combination valve

The combination valve has the task of preheating and cooling the fuel. It splits the fuel system into a vehicle circulation system and an engine circulation system. The combination valve is mounted on the coolant expansion tank in the engine compartment.

Fuel preheating prevents the fuel filter being blocked in the winter by paraffin that separates from the diesel fuel at low temperatures.

Fuel cooling protects the fuel tank as well as the fuel gauge sender by preventing a return of high-temperature fuel. The fuel is warmed due to the high pressure that is built up in the unit injectors.

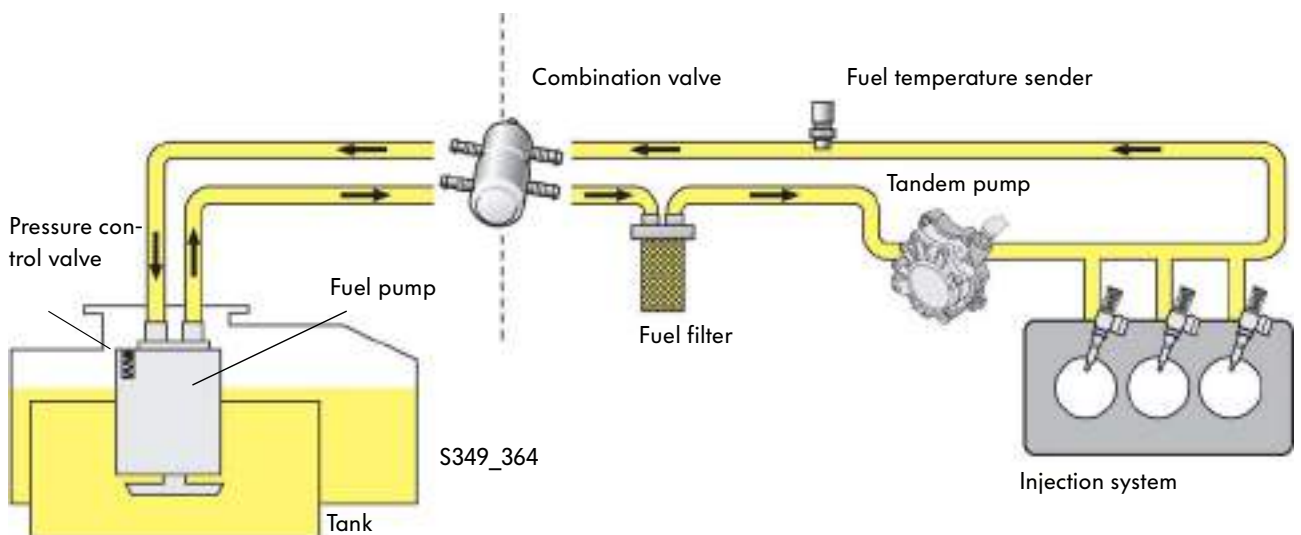


## Vehicle circulation system

The vehicle circulation system is made up of the fuel tank with the fuel pump and pressure control valve as well as the fuel return.

## Engine circulation system

The engine circulation system includes the fuel temperature sender, the injection system, the tandem pump, the fuel filter and the fuel supply line.

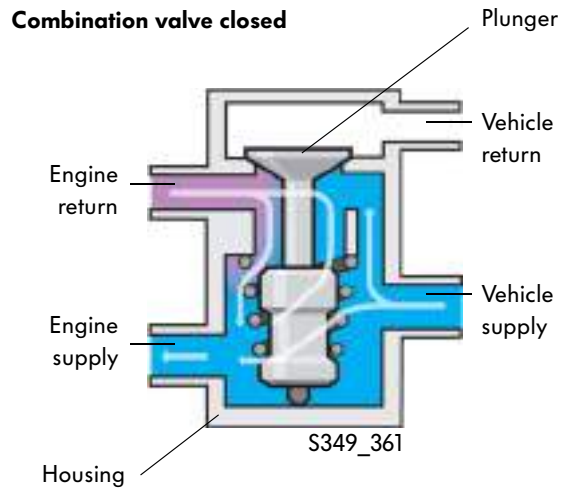


Mixing the cold and warm fuel in the combination valve increases the temperature of the returned fuel. This also increases the temperature and pressure in the fuel tank. The threshold value for opening the pressure control valve in the fuel tank has therefore been raised from 0.5 bar to 0.8 bar.

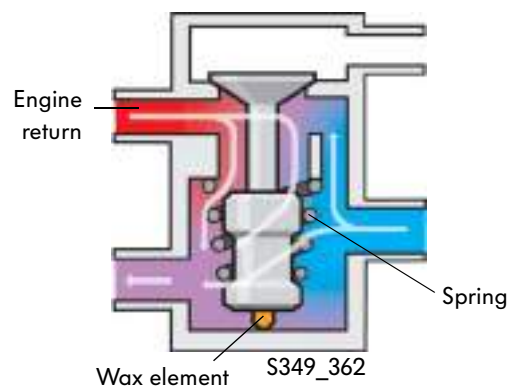
### Function

The vehicle return is closed by the plunger in the combination valve during a cold start.

Warm fuel flowing back from the engine return is mixed in the combination valve with cold fuel from the vehicle supply line and is returned to the engine. Pre-heating the fuel in this way prevents the separation of paraffin and thus fuel filter blockages.



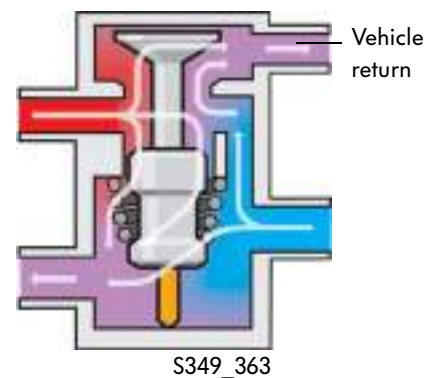
As the engine temperature increases, the fuel temperature in the engine return also increases. This heats the plunger with the wax element in the combination valve. The wax element then expands and pushes the piston upwards against the spring.



### Combination valve open

Once the operating temperature has been reached, the combination valve opens the engine circulation system to the vehicle circulation system. The warm fuel from the engine supply line mixed with cold fuel from the vehicle supply can then flow back to the fuel tank.

Mixing with cold fuel in the combination valve prevents the fuel in the fuel tank being heated above a limit temperature.



# Chassis

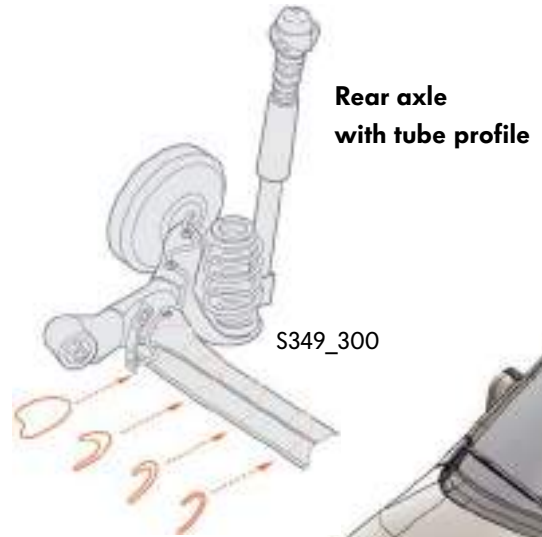
## Axles

### Front axle

The front axle of the Fox is the same as the one used in the 2002 model year Polo. McPherson struts are used as on the Polo.

### Rear axle

The Fox has either a rear axle with tube profiles like the 2002 model year Polo and a rear axle with a V-profile cross member. The tube profile is used in the versions of the Fox with 1.4l 55 kW petrol engine and 1.4l 51 kW TDI engine. The V-profile is used in the Fox with 1.2l 40 kW petrol engine.



## Steering



The hydraulic pump for the electro-hydraulic power steering is driven by an electric motor. The power steering is thus not dependent on the operating state of the vehicle engine and the energy supplied for steering assistance is adjusted to requirements. This ensures an improvement in comfort when manoeuvring and helps save fuel.



Further information on the ESP electronic stabilisation programme can be found in self-study programme 204.

## Brakes

The brake system used in the Fox is split diagonally into two circuits. Two different brake systems are available. ABS (anti-lock brake system) is fitted in the European version of the Fox as standard and ESP (electronic stabilisation programme) is available as an option.



### Anti-lock brake system

The brake servo with brake master cylinder is located separately from the ABS/ESP hydraulic unit in both systems. The hydraulic unit is located on the left next to the strut tower.

The Fox uses the anti-lock brake system 8.0 from Bosch. It is the same system as used in the 2006 model year Polo.



### Rear wheel drum brakes

Drum brakes are used on the rear axle. The brakes have a diameter of 200 mm and are 40 mm wide.

### Front wheel disc brakes

Disc brakes are used on the front axle. The ventilated brake discs are 22 mm thick and 256 mm in diameter.

On cars without power steering, the brake discs are 18 mm thick and 239 mm in diameter.

# Electrical System

## Onboard supply

The onboard supply is decentralised. The most important components are shown here.

### Compact connector

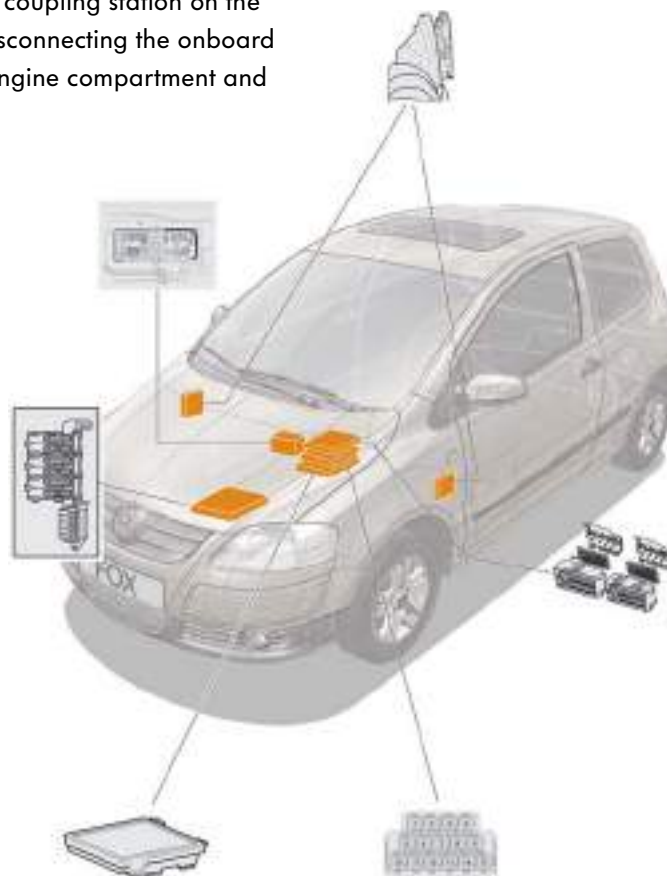
The compact connector is a coupling station on the bulkhead for connecting/disconnecting the onboard supply components in the engine compartment and passenger compartment.

### A-pillar coupling station

The coupling station on the A-pillar is used to connect or disconnect electrical components in the doors from the rest of the onboard supply system.

### Main fuse carrier

The main fuses are all located in the main fuse carrier on the battery lid and are easy to access.



S349\_087

### Fuse holder

The fuse holder is made up of two holders.

### Onboard supply control unit

This unit takes care of functions that were previously performed using separate relays (e.g. turn signal relay). It monitors the supply of power to consumers and vehicle components outside the CAN systems (e.g. switches/fuses).

### Relay carrier

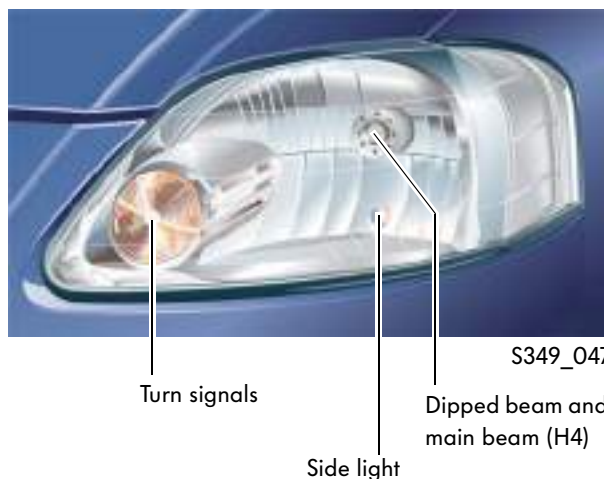
The relay carrier is used to hold the relay for basic and special equipment.



## Exterior Lights

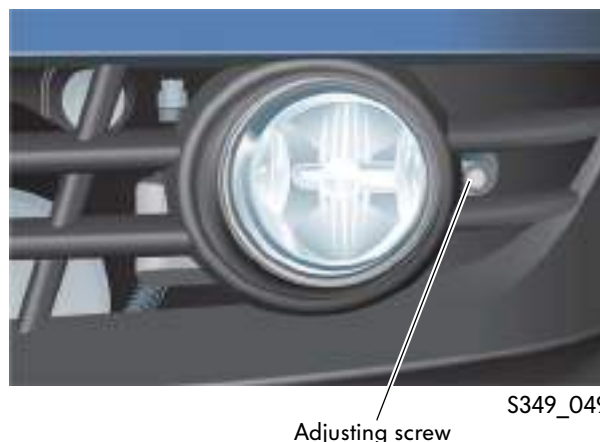
### Headlights

The headlights have clear covers made from plastic. The headlight unit has a combined reflector for dipped beam and main beam lights (H4 bulb). The side lights (W5W) and the turn signal (PY21W).



### Fog light

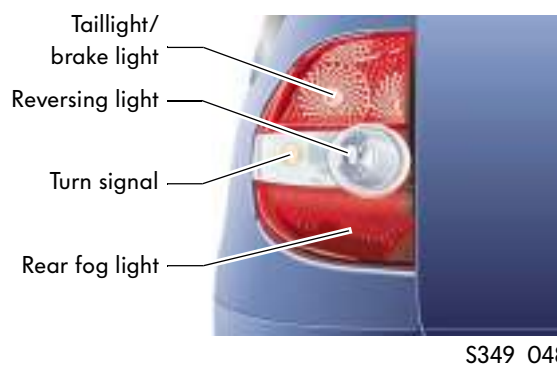
The fog lights are integrated in the bumper. An H3 bulb is used for the fog lights.



### Taillight

One screw, accessed in the boot, needs to be removed when you change the bulbs in the taillight.

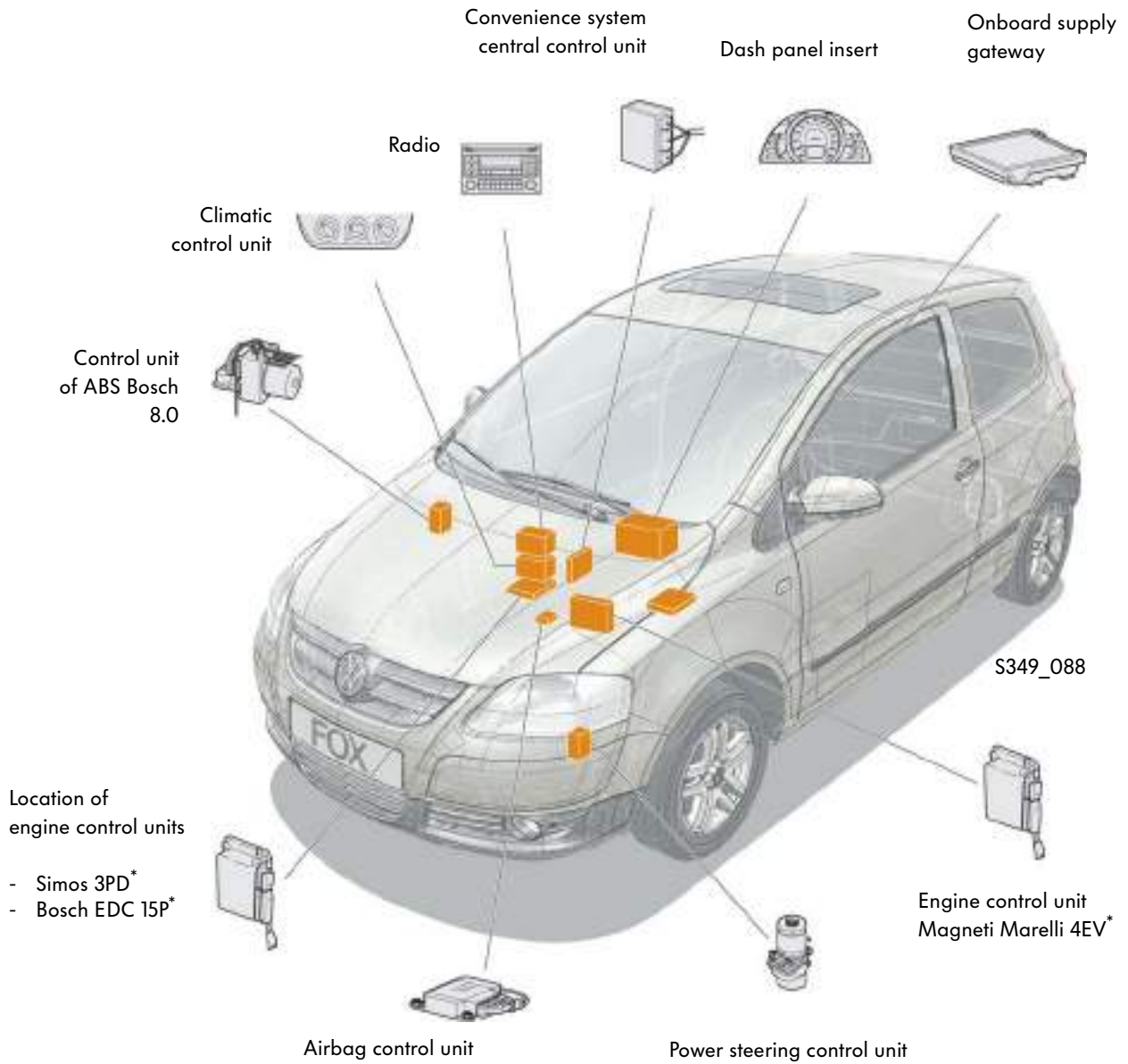
A two-filament bulb (P21/5W) is used in the taillight/brake light. The bulb for the turn signal is a PY21W, which has been coloured yellow. The rear fog light (P21W) is only installed on the left-hand side. The reversing lights also use P21W bulbs.



# Electrical System

## Overview of control units

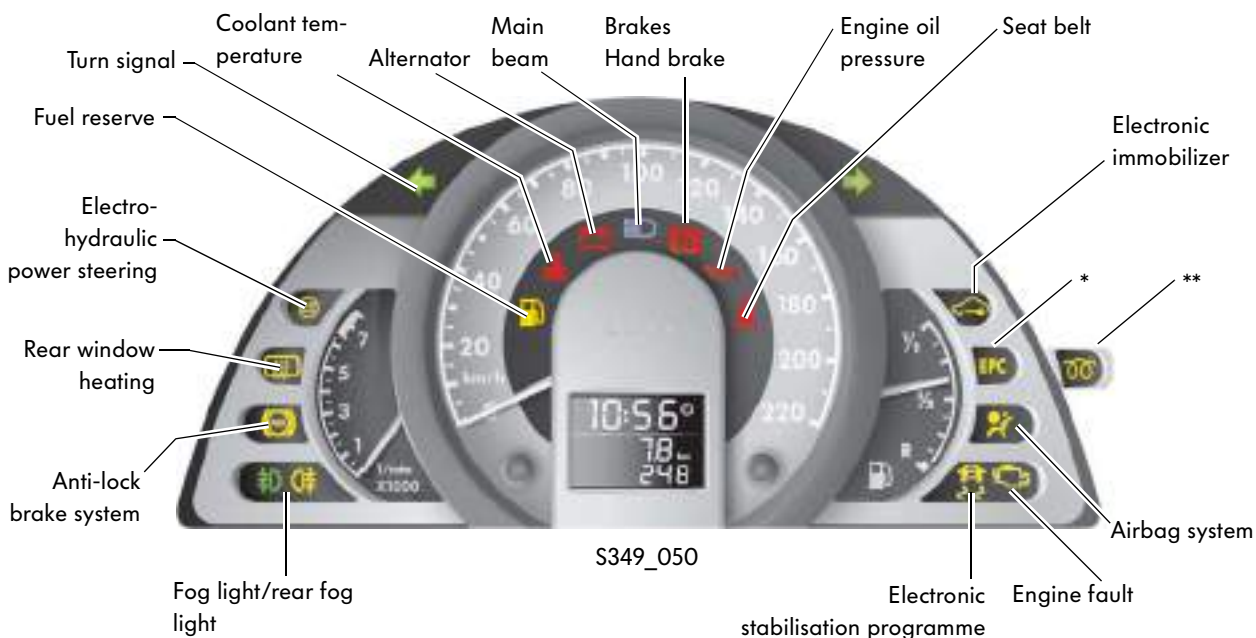
The following diagram shows the positions of the control units in the Fox.



\*The engine control unit used depends on the engine.

## Dash panel insert

The dash panel insert has been newly developed for the Fox and is based on the group dash panel insert. The gauges are driven electronically via stepper motors.



- \* Electronic power control with petrol engine
- \*\* Glow system with diesel engine

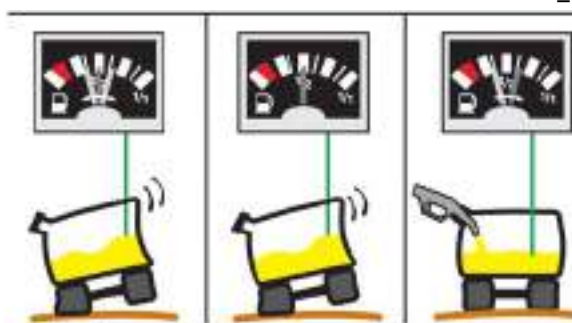
## Fuel gauge

The fuel gauge is electronically damped against vibrations in the fuel tank.

When the ignition is switched off and the tank contents are increased by at least four litres, the level is determined and displayed immediately once the ignition is switched on again.

If the ignition is switched on and the vehicle is stationary, the damping is switched off and the level is displayed immediately.

S349\_051



Fuel gauge previously when cornering

Fuel gauge now when cornering

Fuel gauge when filling up

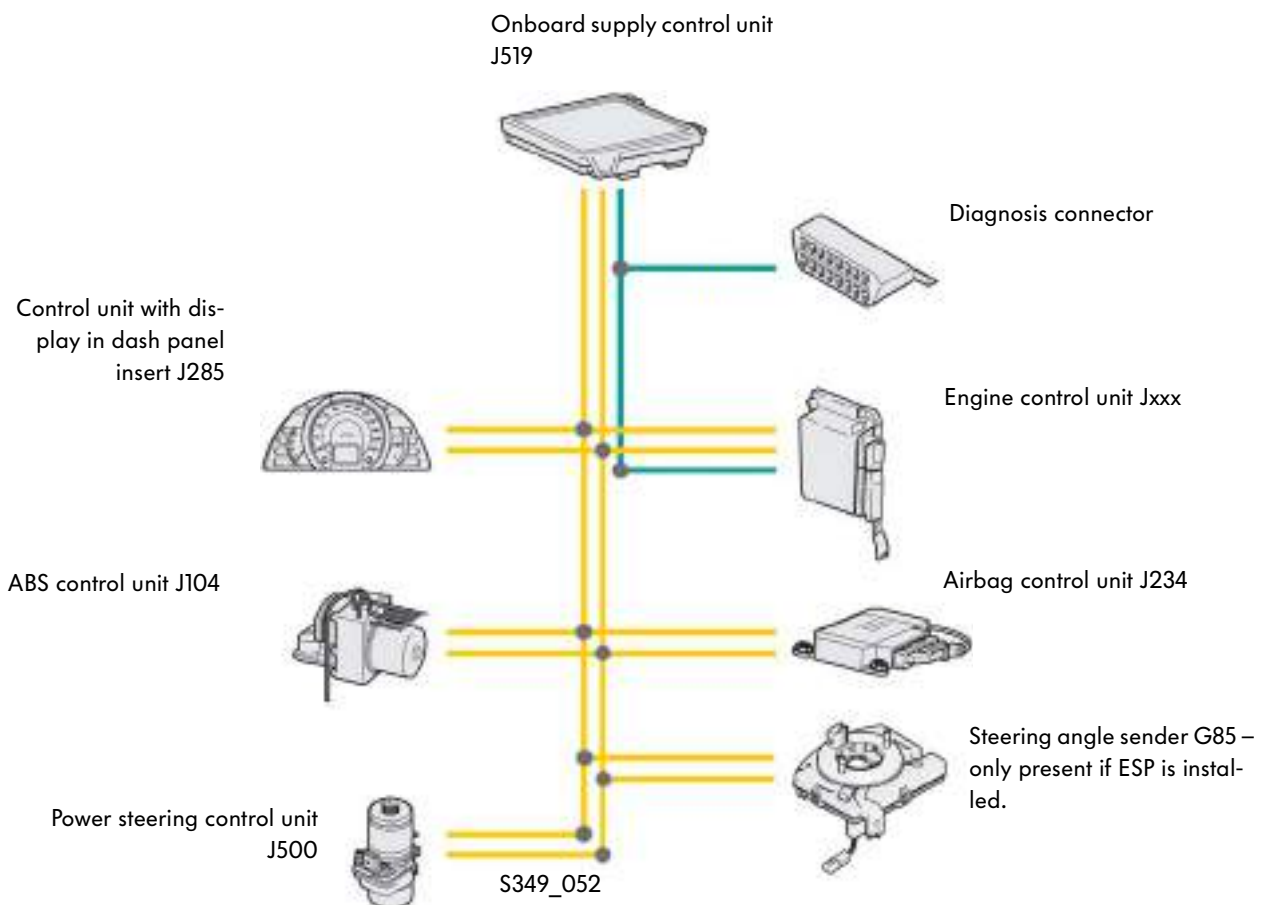
# Electrical System

## CAN data bus

The Fox has a CAN data bus system that is made up of the drive CAN data bus and the convenience CAN data bus. They differ in transfer speed and data content.

### Drive CAN data bus

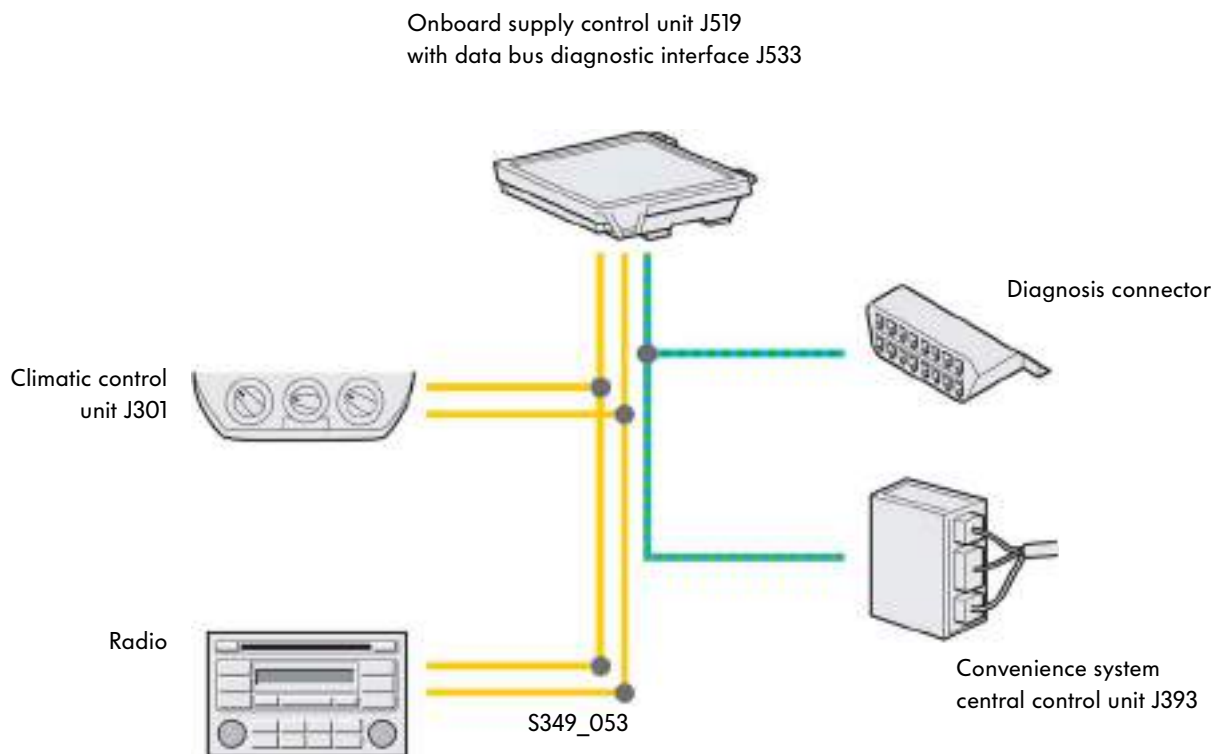
The drive CAN data bus works at a transfer speed of 500 kbit/s to achieve a faster data transfer rate in the systems that are important to safety.



You will find further information on the CAN data bus in self-study programme 186. The data transfer on the CAN data bus is described in more detail in self-study programmes 238 and 239.

## Convenience CAN data bus

The convenience CAN data bus works at a transfer rate of 100 kbit/s.



# Electrical System

## Overview of convenience system

The convenience system is responsible for the following functions:

### Optional anti-theft alarm with interior monitoring sensor

The interior is protected against break-in by an ultra-sound monitoring system.

### Optional remote control

The vehicle can be locked and unlocked using the door lock cylinder or the remote control. When you press the unlock button on the remote control, the whole car is unlocked and the anti-theft alarm is deactivated. The anti-theft alarm is activated when you lock the car.



### Crash signal

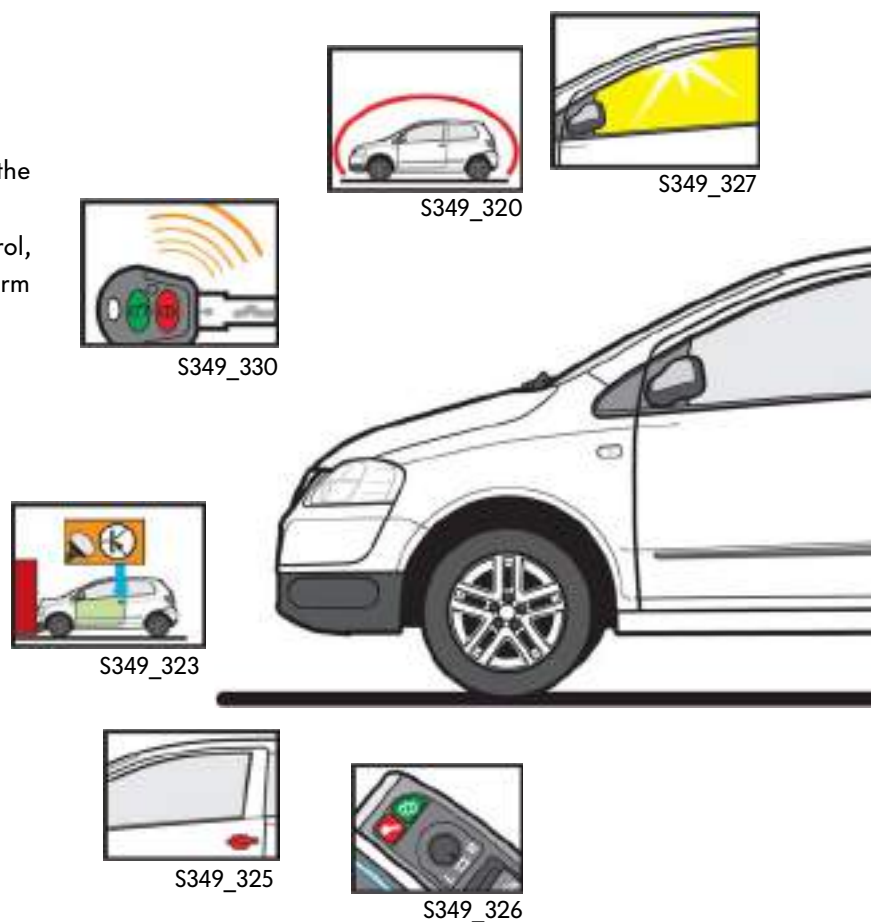
In a collision, the airbag control unit will issue a signal to unlock the doors.

### Optional central locking

Turning the door lock cylinder clockwise locks the car and activates the anti-theft alarm. Turn the key anti-clockwise to unlock the car.

### Interior lights

The interior lights are controlled by the convenience control unit. If the switch on the interior lights is in the "Open door" position and the doors are opened, the lights will remain on for 30 seconds after the doors are closed.



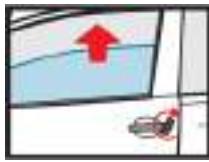
### Interior locking / unlocking

The doors are locked and unlocked using the lock / unlock switch on the driver's door.



### Closing the windows from outside

You can close the windows from the outside by turning the door lock cylinder clockwise and holding it. The convenience close function is started after approx. 2 seconds. You need to hold the door lock cylinder until the windows have closed completely. The convenience close function will be interrupted if a window switch is pressed or the EFL roll-back feature is triggered.



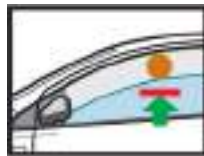
S349\_329



S349\_328



S349\_332



S349\_324

### Convenience open function for windows

If you turn the key clockwise in the door lock cylinder and hold it in cars with power windows, the convenience open function will open all windows after 2 seconds. You need to deactivate the anti-theft alarm with the remote control beforehand.

### Excessive force limitation (EFL)

The excessive force limitation reduces the risk of injury from the power windows.



Command	Effect
1st upwards run	When the window is jammed, the excessive force limitation reacts and the window is reversed. The window rolls back to create an opening of at least 200mm.
2nd upwards run	When the window is jammed again, it will not reverse. The window stops in that position.
3rd upwards run	The upwards movement is carried out without EFL. The full power of the motor is available for the whole path. The window can be closed even though it may run slowly.



The three commands each have to occur within 10 seconds otherwise the electronics will switch back to normal window operation.

# Convenience and Safety Electronics

## Anti-theft alarm with interior monitoring sensor

### Anti-theft alarm

The anti-theft alarm monitors the areas

- Doors
- Bonnet
- Tailgate
- Ignition

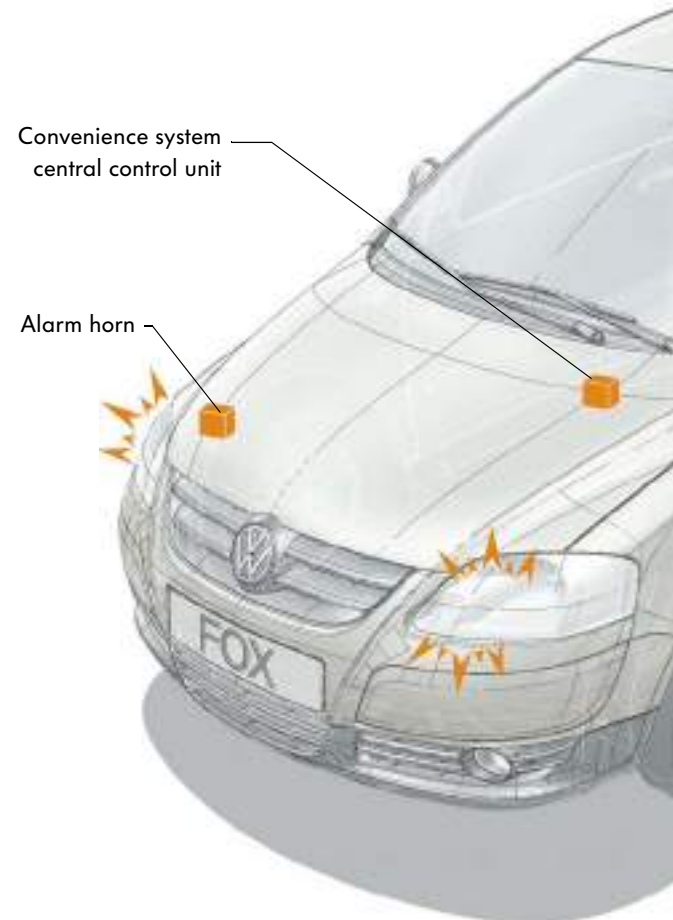
The anti-theft alarm is activated within 30 seconds after the doors are locked.

The anti-theft alarm can only be deactivated from the outside using the remote control.

### Special features

The system is completely secure against false alarms caused by:

- Objects hitting the roof or the windows
- Air movement caused by wind or passing vehicles, temperature fluctuations, for example, when the car is heated up by direct sunlight and
- noises of all kinds (for example, sirens, horns and bells).



### Alarm horn

The alarm is signalled acoustically via the anti-theft alarm horn and optically via the turn signals.



If, for example, the bonnet is opened, an alarm is triggered immediately. The alarm is stopped when the ignition is switched on or the remote control is pressed.

## Interior monitoring

The interior monitoring works as an ultrasound monitoring system. It is only used in conjunction with the anti-theft alarm.



### Interior light with sensor for interior monitoring



S349\_356

Interior light with interior monitoring without sunroof



S349\_357

Interior light with interior monitoring with sunroof

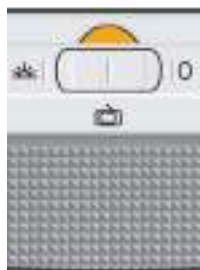
### Interior monitoring sensor buttons

On vehicles with a sunroof, the button with which the interior monitoring system can be temporarily deactivated is located on the B-pillar.



S349\_055

On vehicles without a sunroof, the button for temporarily deactivating the interior monitoring system is located on the interior light.

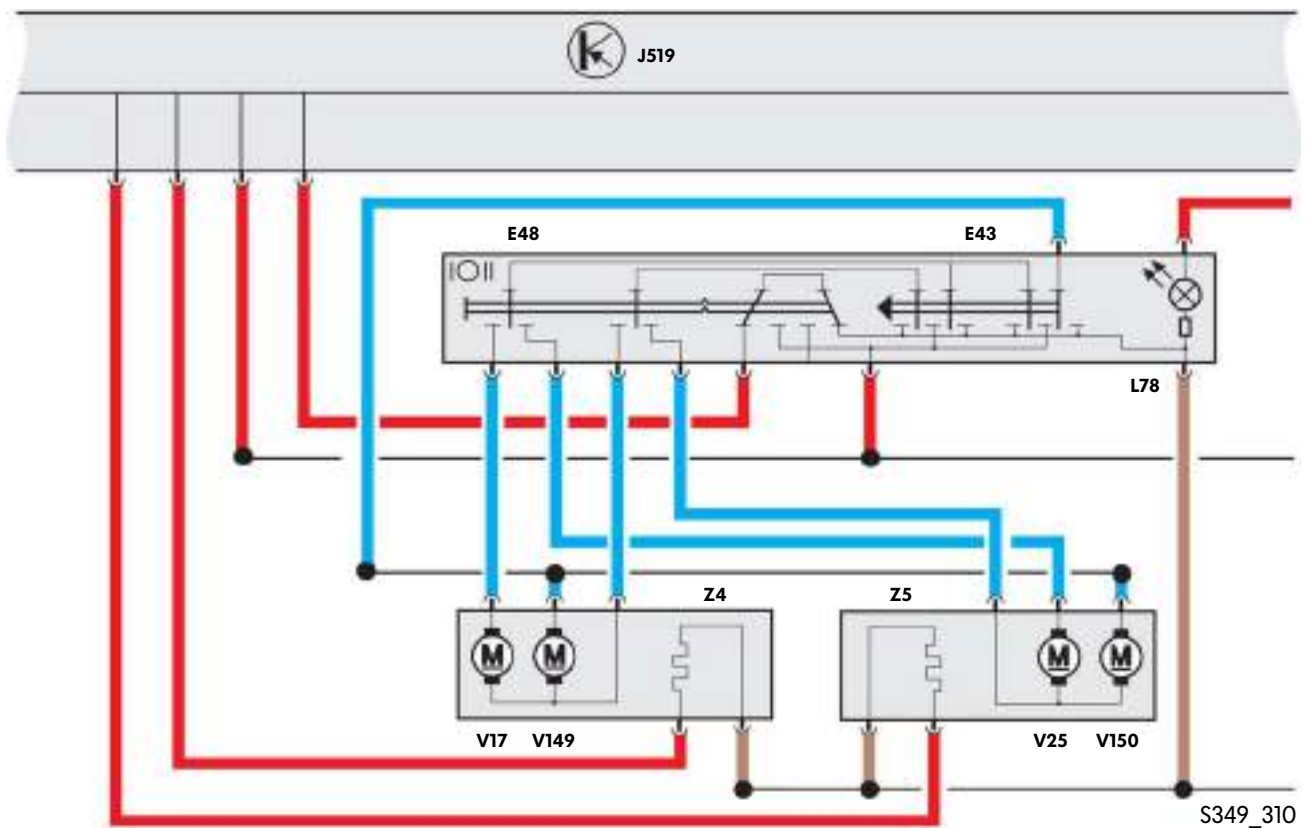
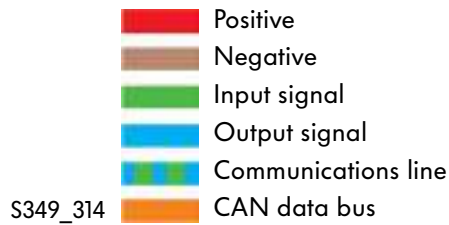


S349\_358

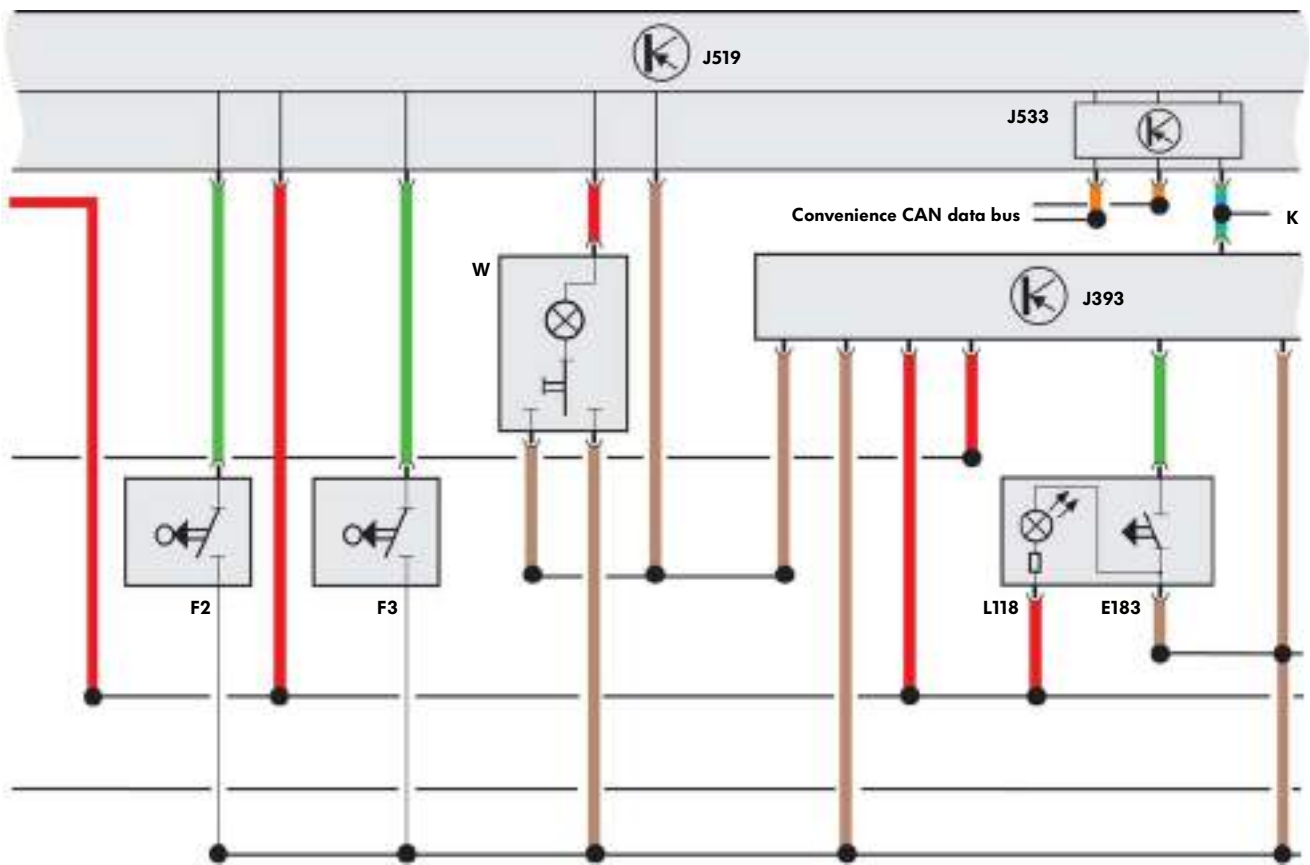


# Convenience and Safety Electronics

## Convenience system functional diagram



- E43** Mirror adjustment switch
- E48** Mirror adjustment change-over switch
- J519** Onboard supply control unit
- L78** Mirror adjustment switch illumination bulb
- V17** Driver side mirror adjustment motor
- V25** Front passenger side mirror adjustment
- V149** Driver side mirror adjustment motor
- V150** Front passenger side mirror adjustment motor
- Z4** Heated exterior mirror on driver side
- Z5** Heated exterior mirror on front passenger side

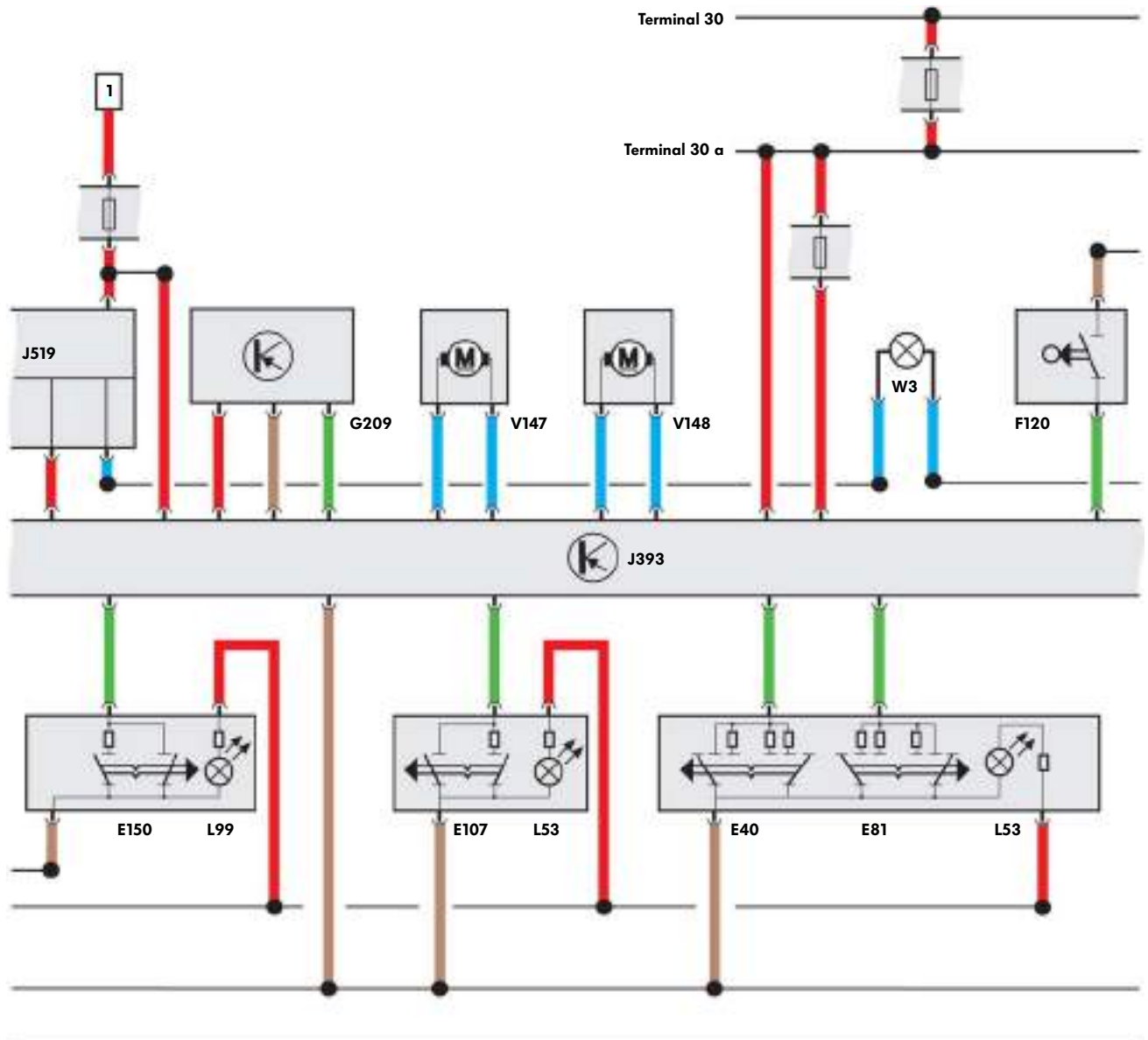


S349\_311

- E183** Interior monitoring switch
- F2** Driver door contact switch
- F3** Front passenger door contact switch
- J393** Convenience system central control unit
- J519** Onboard supply control unit
- J533** Data bus diagnostic interface
- K** Communications line for diagnosis
- L118** Deactivation of interior monitoring system switch illumination bulb
- W** Front interior light



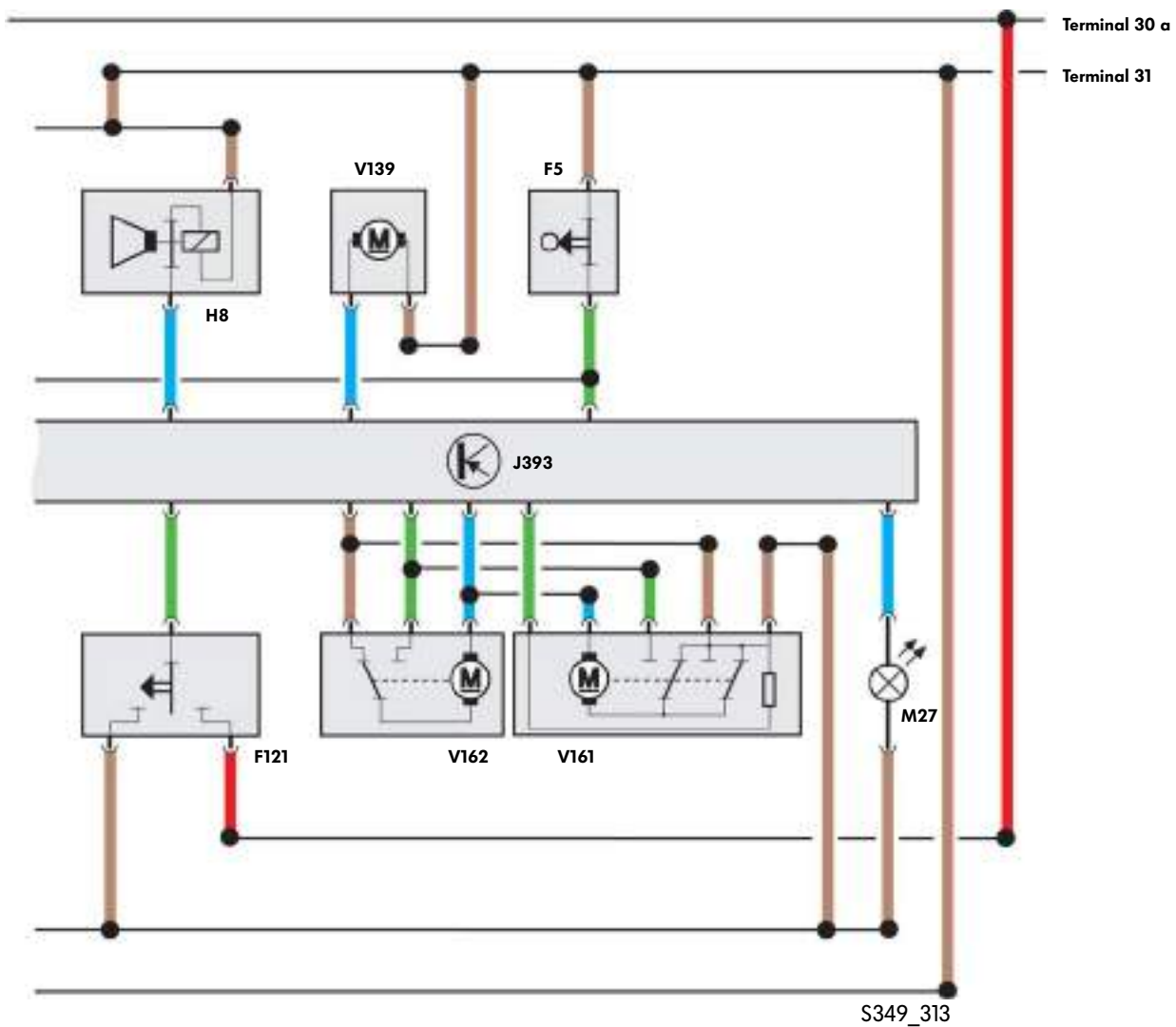
# Convenience and Safety Electronics



S349\_312

- |             |   |             |   |
|-------------|---|-------------|---|
| <b>E40</b>  | Front left window regulator switch                          | <b>V147</b> | Driver side window regulator motor          |
| <b>E81</b>  | Front right window regulator switch                         | <b>V148</b> | Front passenger side window regulator motor |
| <b>E107</b> | Window regulator switch in front passenger door             | <b>W3</b>   | Luggage compartment light                   |
| <b>E150</b> | Driver side interior locking switch                         | <b>1</b>    | Terminal 86 s                               |
| <b>F120</b> | Anti-theft alarm and vermin repellent system contact switch |             |   |
| <b>G209</b> | Anti-theft alarm ultrasonic sensor                          |             |   |
| <b>J393</b> | Convenience system central control unit                     |             |   |
| <b>J519</b> | Onboard supply control unit                                 |             |   |
| <b>L53</b>  | Window regulator switch illumination bulb                   |             |   |
| <b>L99</b>  | Interior lock switch illumination bulb                      |             |   |





- F5** Luggage compartment light switch
- F121** Driver door exterior handle switch for anti-theft alarm system
- H8** Anti-theft alarm system horn
- J393** Convenience system central control unit
- M27** Left door warning lamp
- V139** Rear lid release motor
- V161** Driver door central locking deadlock function motor
- V162** Front passenger door central locking deadlock function motor



# Heating and Air Conditioning

## Heating

The basic version of the Fox has a heating system with fresh air and recirculation mode.

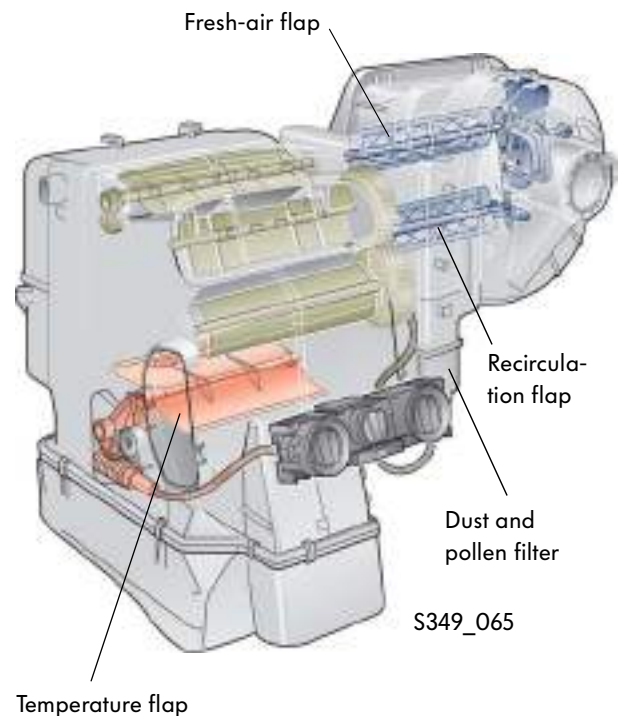
In comparison, the design of the housing is very similar. Depending on the equipment version, the housing is specially adapted for the heating or air-conditioning functions.



S349\_064

### Fresh-air and recirculation flap

The fresh-air and recirculation flap is adjusted by an electric motor. Both flaps are adjusted independently via a common lever mechanism. The flap is automatically closed when the car reverses to avoid unpleasant smells.



### Dust and pollen filter

The dust and pollen filter has been integrated in the housing and is located between the fresh-air intake and the distribution system housing.

The filter can be accessed from inside the vehicle and can be pulled downwards after the filter lid has been removed.



## Climatic

In addition to the heating, the Fox has a semi-automatic air-conditioning system with automatic temperature control (Climatic).



S349\_062

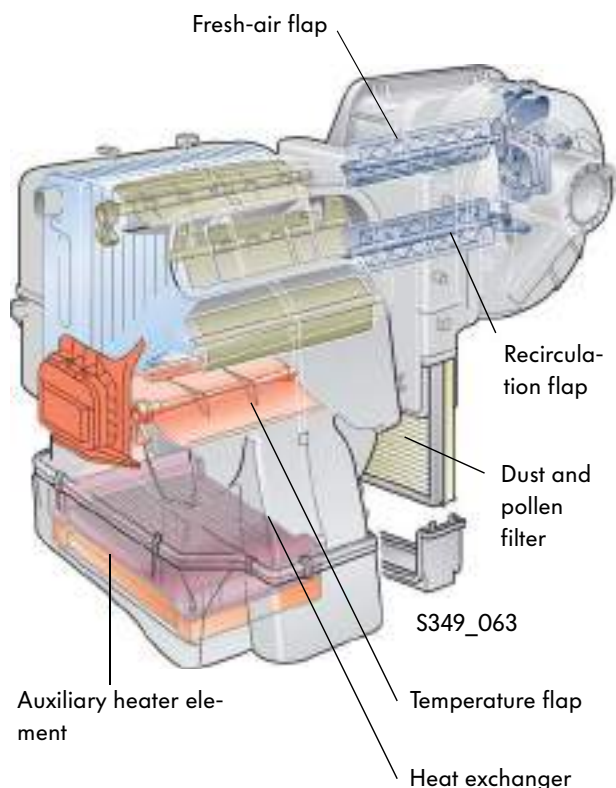
### Temperature control according to your needs

Two new components in the air-conditioning system allow you to set the temperature according to your needs:

- Evaporator output temperature sender G263
- Externally controlled compressor with regulating valve N280 and integrated overload protection

Controlling the temperature to suit your needs allows the energy consumption to be reduced and contributes to fuel savings.

While the interior temperature is regulated to the value set on the controller, the air distribution and the fan level is set manually.



Other new features:

- Functional improvements and controls adapted to the dash panel design
- Flexible shafts for adjusting the flaps
- Separate fresh-air and recirculation flap
- Dust and pollen filter integrated in housing for the heating and air-conditioning system.



# Radio system

## Radio RCD 200

The Radio RCD 200 has the following functions:

- CD drive
- Four speaker channels each with 20 Watts
- RDS FM/AM Europa radio (AM without LW)
- Control for an external 6-CD changer
- Telephone control (hands free)
- Speed-dependant volume control
- Self-diagnosis including speaker diagnosis



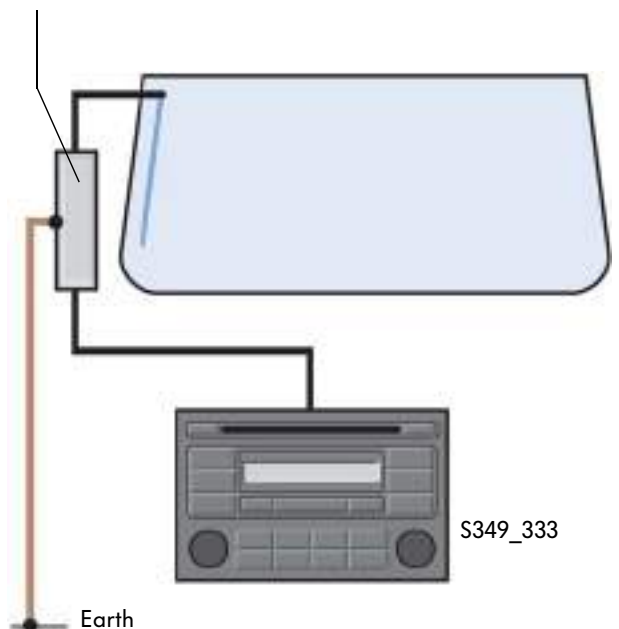
S349\_059

If only front speakers are installed, the FADER function will be hidden automatically

## Radio RCD 200

The aerial system for the RCD200 radio is made up of a front windscreen aerial and the aerial amplifier in the aerial cable. The aerial amplifier is supplied with power (+12 volt) directly from the radio via the aerial cable. The earth connection is formed via the screw fastening the aerial amplifier to the body.

Aerial amplifier  
(impedance transformer)



S349\_333



## Diagnosis

The Fox uses the VAS 5051 vehicle diagnosis, measuring and information system and the VAS 5052 vehicle diagnosis and service information system.

The VAS 5051 vehicle diagnosis, measuring and information system has the familiar operating modes:

- Guided Fault Finding
- Vehicle Self-Diagnosis
- OBD (on-board diagnosis)
- Test Instruments

The “Guided Fault Finding” operating mode checks all control units installed in the vehicle for fault entries and automatically compiles a system test plan from the results.

In conjunction with ELSA information, for example, the circuit diagrams or repair guides, this mode guides you directly to the cause of the fault.

In addition, you also have the option of compiling your own test plan. The function and component selection records the tests you select in the test plan. You can then work through the tests in any order during the diagnosis procedure.

The “Vehicle Self-Diagnosis” mode can still be used, but there is no further ELSA information available.

The “Guided Functions” operating mode is new. In this way, without a complete vehicle system test, you can quickly access general service functions, for example, adapting vehicle keys.

It is used from the basis CD V06.00.00 and the Volkswagen brand CD V06.42.00.

### VAS 5051



The VAS 5052 also has the “Guided Fault Finding” and “Guided Functions” operating modes.



For more detailed information on the procedure and “Guided Fault Finding”, please refer to chapter 7 of the VAS 5051 operating manual.



# Notes

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