

Service

Self-Study Programme No. 211

# The New Beetle

Design and Function



## The New Beetle

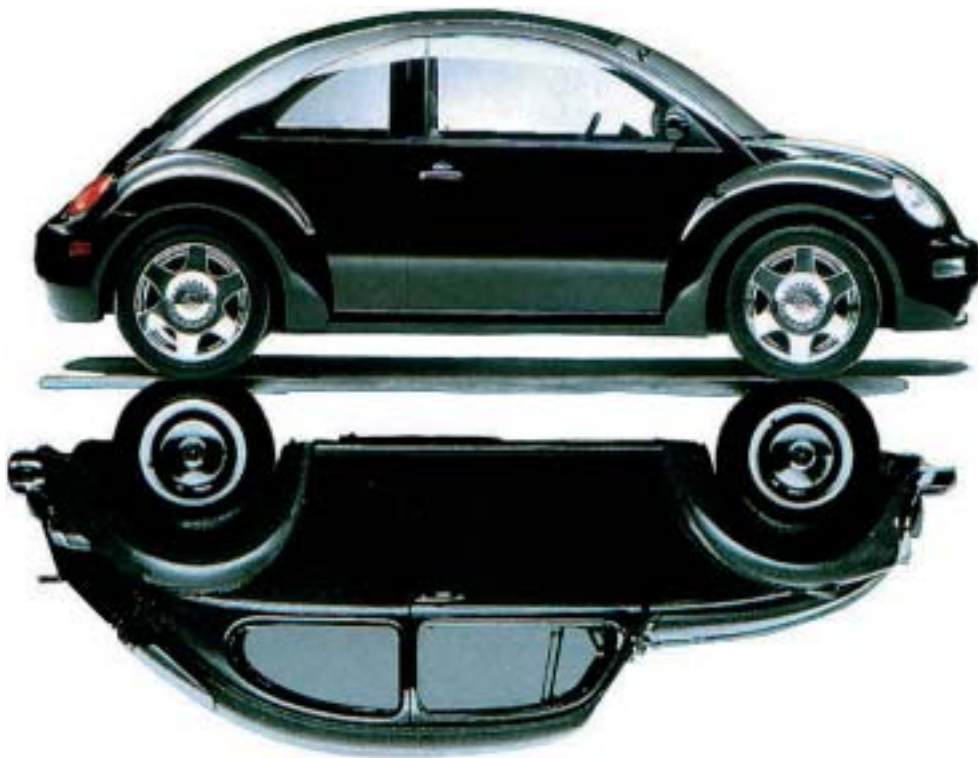
has caused a sensation and aroused instant enthusiasm throughout the world.

The **Concept 1** study in the mantle of the **New Beetle** is now ready to enter volume production.

This Self-Study Programme describes the function as well as the design of the **New Beetle**.

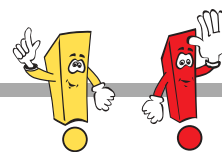
The **New Beetle** is, in conceptual terms, an entirely new vehicle, and yet it is still strongly reminiscent of the classic Beetle. Except for its unmistakable body styling, however, it has very little in common with the original Beetle.

The New Beetle is based on the A4 platform.



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New.










Important.  
Note.

**The Self-Study Programme is not a Workshop Manual.**

Please always refer to the relevant Service Literature for all inspection, adjustment and repair instructions.

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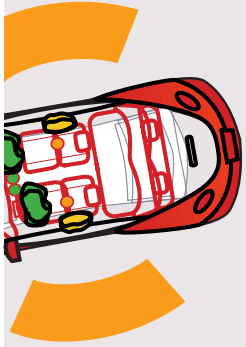
# NEWS • NEWS • NEWS • NEWS • NEWS



## Safety

Standard equipment includes driver airbag, front passenger airbag and side airbags.

The New Beetle complies with all applicable international crash regulations thanks to its crash-optimised body structure.



## Equipment

Many features in the vehicle interior are reminiscent of the original Beetle. The handle above the glove box, the grab handles on the B-pillar, the rounded instruments, and the stowage nets on the door inside panels.

The equipment meets high technical standards. Ergonomics and design make a harmonious overall impression.

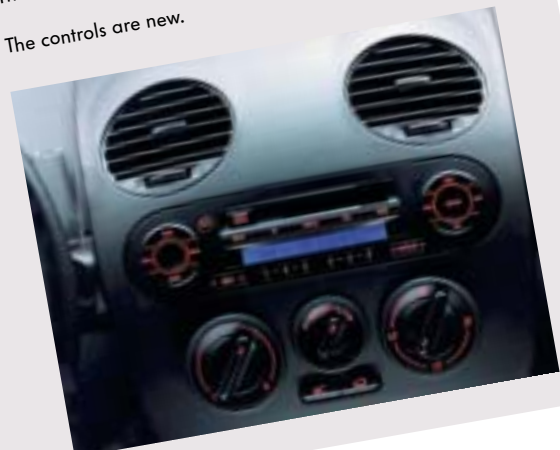


## Sound system

The sound system can be tested with the self-diagnosis. The controls are new.

## The Easy-Entry seat

gives greater ease of access to the rear seats. The seats are variably adjustable.



# The New Beetle

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## The engineering of the New Beetle

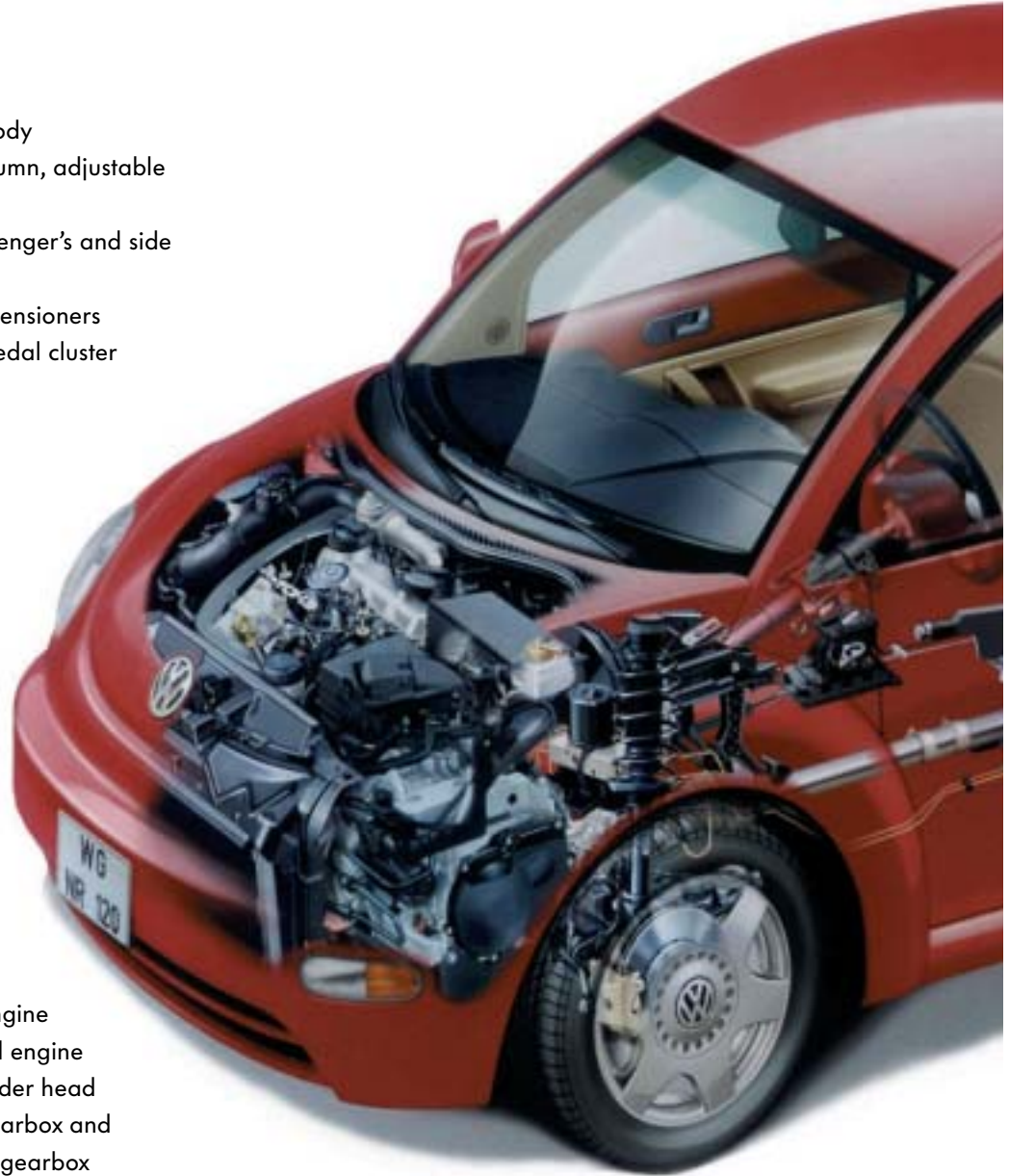
(some features are optional)

### Body and safety

- Fully galvanised body
- Safety steering column, adjustable for rake and reach
- Driver's, front passenger's and side airbags
- Pyrotechnical belt tensioners
- Crash-optimised pedal cluster

### Engines

- 1.9-ltr. 66kW TDI engine
- 2.0-ltr. 85kW petrol engine with crossflow cylinder head
- 5-speed manual gearbox and 4-speed automatic gearbox
- Pendulum-type engine suspension





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### **Electrics and equipment**

- Central locking with radio-wave remote control
- Anti-theft alarm system
- Electronic immobiliser
- Power windows
- Air conditioning system (optional)
- Electrically adjustable glass sliding sunroof (optional)

### **Running gear**

- McPherson strut front axle
- Power steering
- Torsion beam rear axle
- ABS or ABS with ESP
- Power steering
- 16" wheels

# The New Beetle

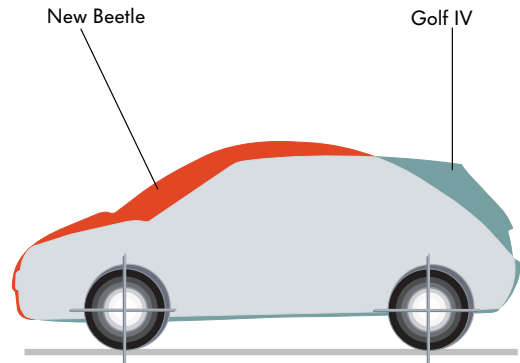


## Vehicle dimensions

### Design Comparison: New Beetle vs Golf IV

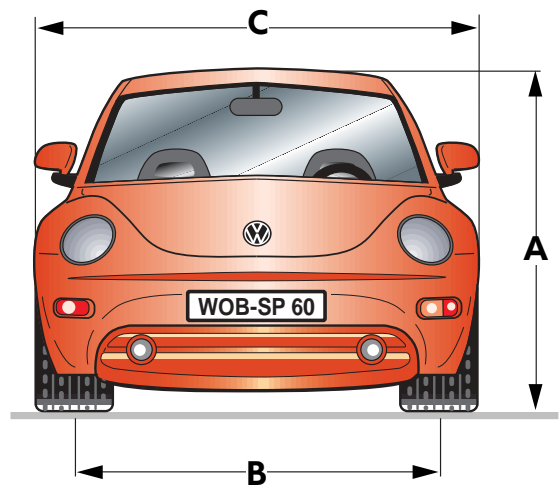
The New Beetle and Golf IV are A-platform vehicles.

For the New Beetle, however, model-specific fine adjustments were made, e.g. in performance, floorpan assembly design, gearbox and suspension tuning.

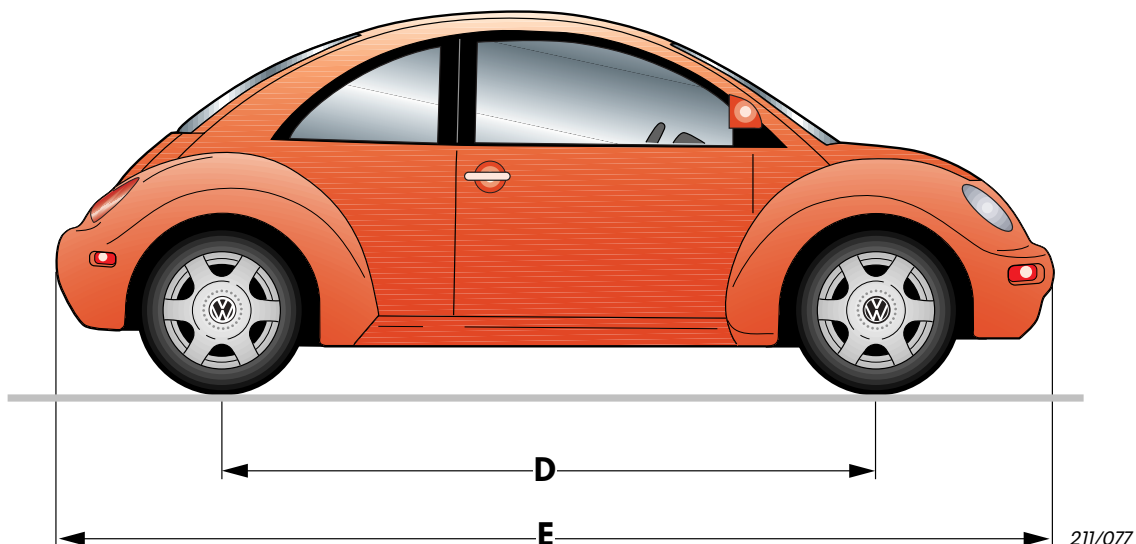


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Overall height A:	1498mm
Track width B front/rear:	1508mm/1494mm
Overall width C:	1724mm
Wheelbase D:	2508mm
Overall length E:	4089mm
Turning circle:	10.9m
Luggage compartment:	209l/527l



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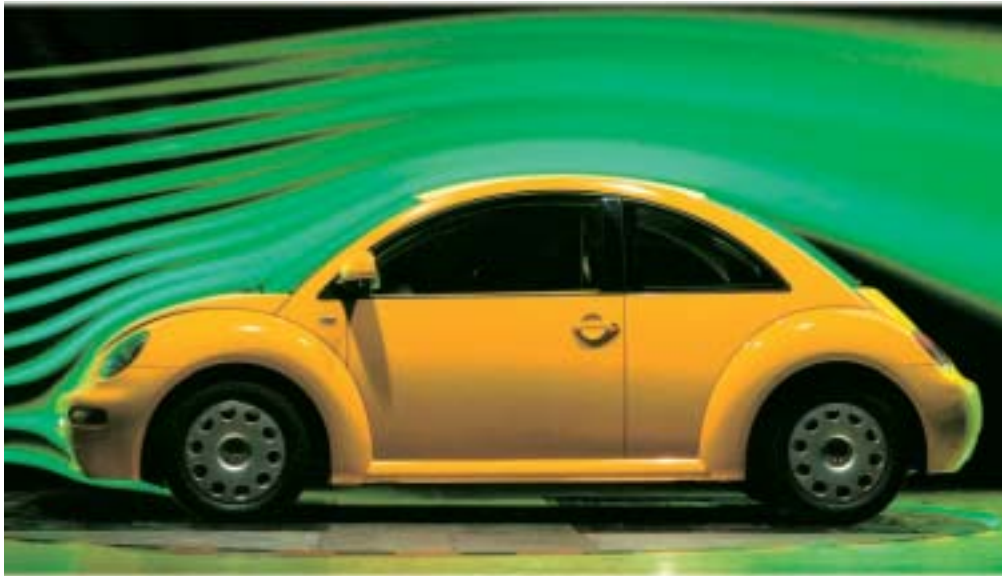
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## The aerodynamics

of the New Beetle were optimised with painstaking attention to detail. The results of this work are reflected in the Beetle's outstanding drag coefficient of 0.33. The „Old Beetle“ had a drag coefficient of 0.48.



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## Body structure

The body structure meets the highest safety standards. The use of modern technology such as laser welding, bonding or punch riveting provides the body of the New beetle with high structural rigidity.



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# Body

## Occupant protection

## Airbags

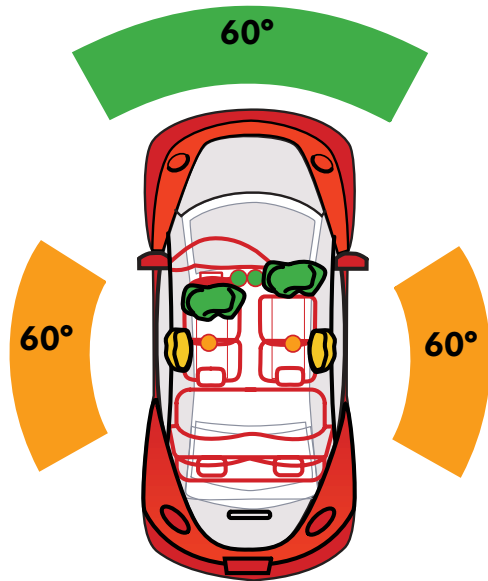
Standard equipment in the New Beetle includes:

- Full-size airbags for driver and front passenger
- Side airbags for driver and front passenger

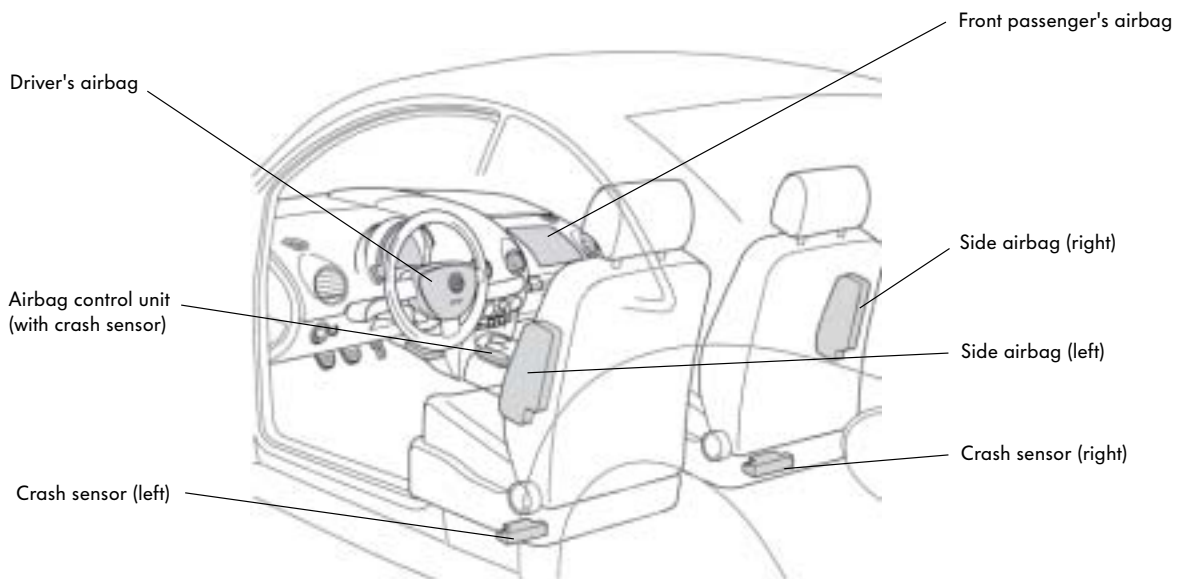
The airbags integrated in the steering wheel and dash panel are triggered when a frontal impact of a defined force occurs and if the collision forces act within an angle of 60°.

The side airbags are triggered individually by crash sensors depending on the direction of impact (from the left or right).

The crash sensors for the full-size airbag are located in the airbag control unit (at the central tunnel) and beneath the front seats for the side airbags.



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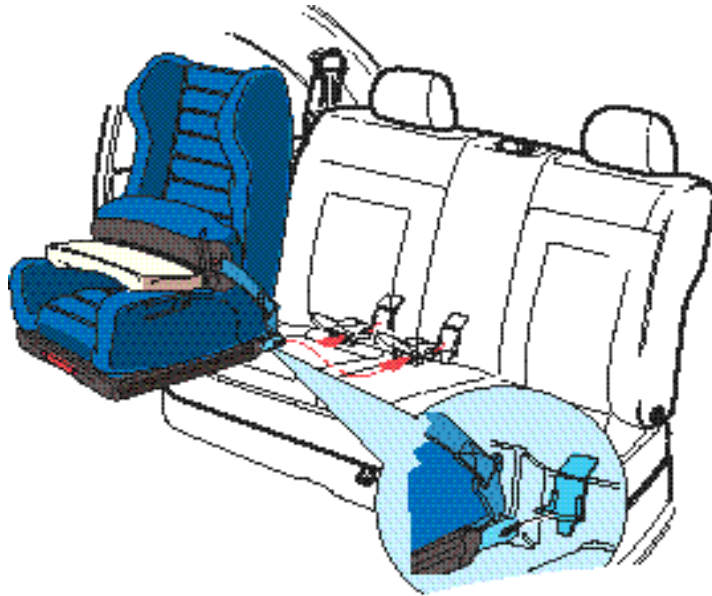
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## Child safety seat fastening

All seat belts are prepared for the use of child safety seats.

Under the rear seats retaining eyelets are welded onto the vehicle body.

Child safety seats can be secured easily and safely to these eyelets with the new "Isofix" fastening system.



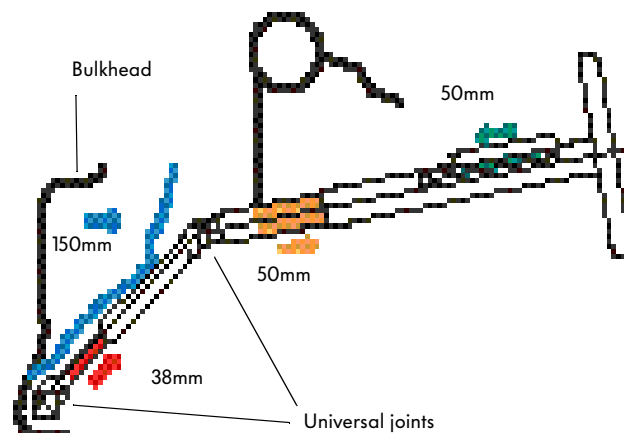
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## Crash concept of the steering system

During a head-on collision, the bulkhead can shift up to 150mm without causing damage to the steering column.

In the event of a more severe crash, the steering column telescopes in three stages and does not intrude into the passenger cabin any further.

- If the bulkhead intrudes as far as the steering column during a crash, it can telescope by up to 50mm.
- If the collision forces act from below, the steering column can telescope up to 38mm between the universal joints.
- The steering column telescopes up to 50mm when the driver's torso collides with the triggered airbag.

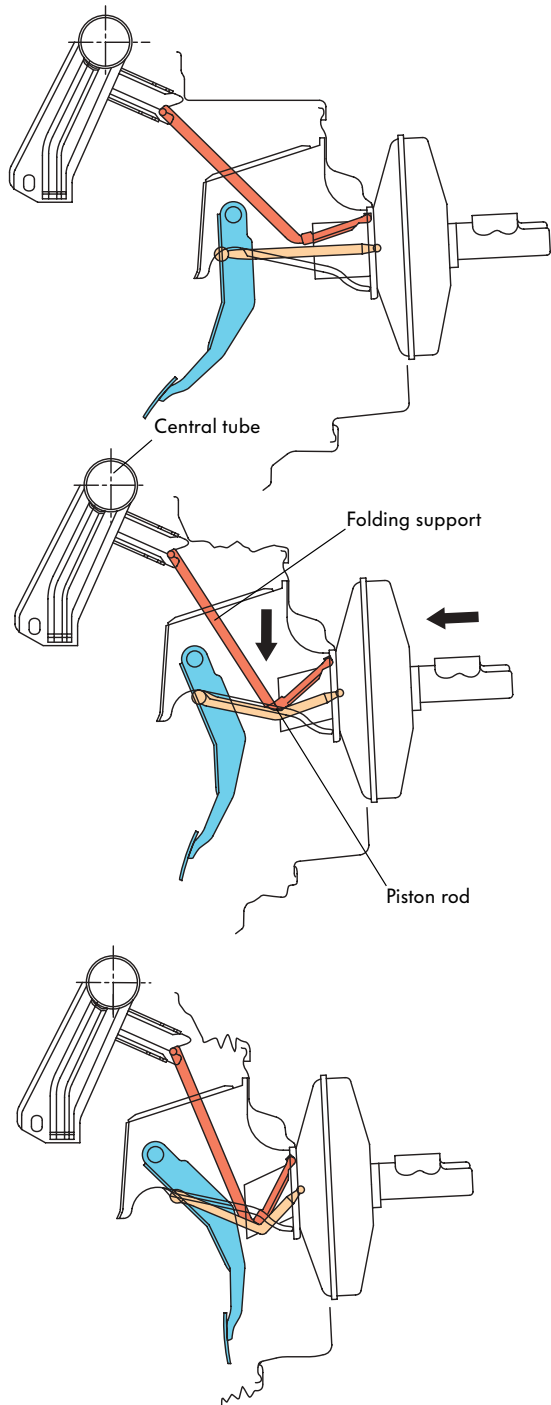


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# Body

## Crash-optimised foot controls

In the event of major head-on collisions involving severe structural deformation, the brake pedal swivels away from the footwell area by means of an articulated support.



This function is defined by the deformation of the engine bulkhead and does not depend on the position of the brake pedal.

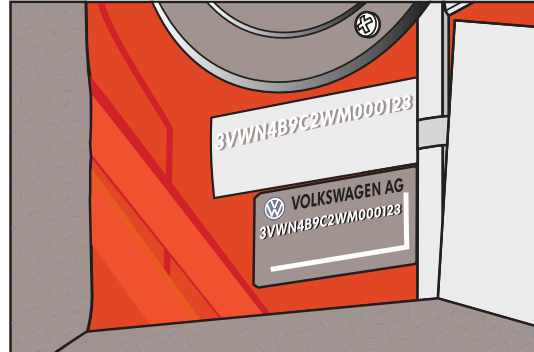
During a head-on collision, the foot controls shift towards the central tube. This results in extension of the folding support which subsequently leads to the piston rod folding inwards.

The pedal plate swivels away by up to 170mm.

Angular movement of the braking foot is held in check by the action of the piston rod bending inwards and the resulting deformation work. This reduces the load on the braking foot considerably.

## Vehicle identification

The vehicle identification number plate is not attached to the plenum chamber in the engine compartment as in other Group vehicles. It is fixed below the rear seats as in earlier Beetle models.



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### Example:

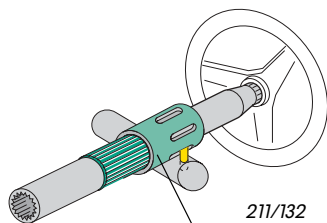
**3VW**  
**WVW** **N4B** **1C**  
**9C** **2WM000123**

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### Vehicle classes:

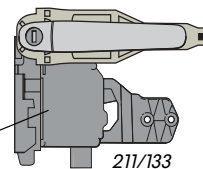
1C: New Beetle for USA, Mexico, North American Region  
9C: New Beetle for Europe and rest of world (RoW)

## Mechanical anti-theft protection



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The slip coupling makes it impossible to turn the steering-column lock by force.



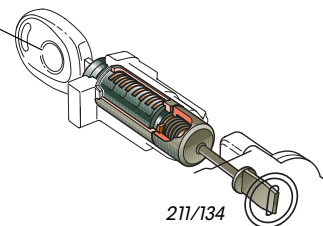
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Encapsulated door locks and a reinforcement plate behind the door handle act as a deterrent to braking open the door.



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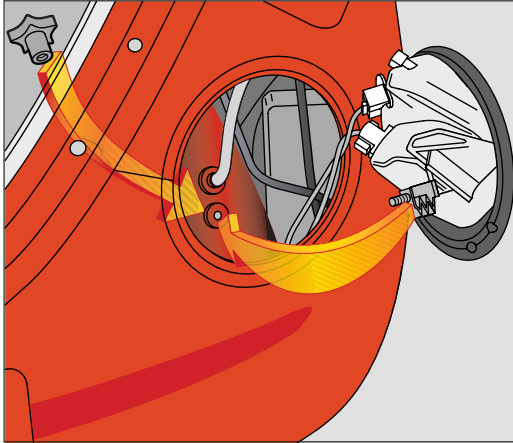
A lock cylinder freewheel is built into the door locks, Boot lock and ignition lock.  
If an attempt is made to force the lock cylinder, the locks stay closed.



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# Body

## Body repairs

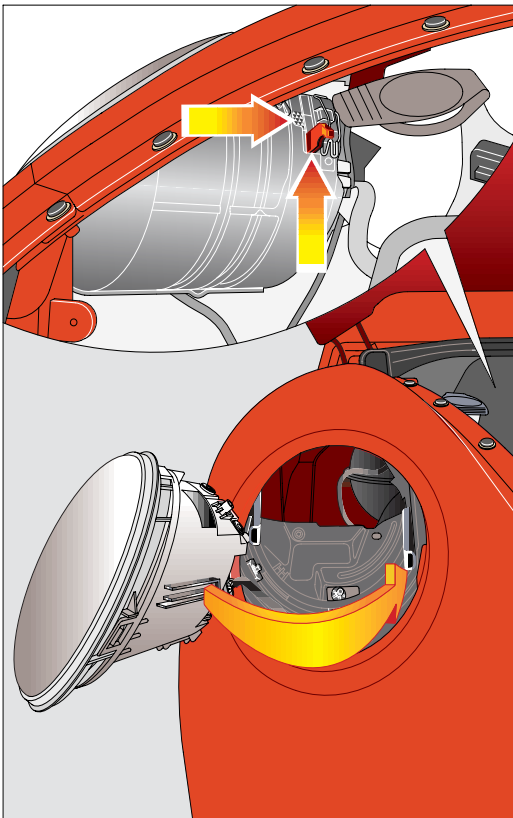


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### Taillight

The taillight housing can be removed and installed easily to replace bulbs:

- In the luggage compartment: remove cover from assembly opening
- Undo plastic screw
- Pull taillight out from wing



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### Headlights

The headlights can also be removed and installed easily for replacing bulbs:

- In the engine compartment: press the release lever on the headlight housing
- Pull release lever upwards
- Pull headlight out from wing

When fitting the headlight, pay attention to the guide rails.



Headlights can be adjusted by means of two Torx screws.