3.3 Tips and Advice

Tiguan

Model year 2009

About this Booklet

This Booklet contains important information, tips, instructions, and WARNINGS about using your vehicle. For your own safety and for the safety of your passengers, you must also be aware of the information in this and other Owner's Literature Booklets.

Make sure that you always keep the complete Owner's Literature in the vehicle. This is especially important when you lend or sell the vehicle.

This manual describes **vehicle equipment** at the time of printing. Some equipment may not be available until a later date, or may be available only for certain markets.

At the beginning of this Booklet, you will find a **Table of contents** showing all the items described in this manual in the order that they appear.

An **Alphabetical index** is at the end of the Booklet.

Supplements to the Owner's Literature, if any, will be found in the binder right after the *Alphabetical Index* Booklet.

Illustrations may slightly vary from your vehicle. For this reason you should regard illustrations as a general guide.

Directions and positions (for example right, left, front, rear) always refer to the direction or position compared to the normal direction of travel of the vehicle unless another meaning is clearly stated.

Some sections of this Booklet do not apply to all vehicles. If this is the case, a text at the beginning of the section indicates the models and equipment to which it applies; for example “Applies to vehicles: with gasoline engine.”

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▶ The section is continued on the next page.

◀ Indicates the **end of a section**.

⇒ ⚠ Cross-reference to a “WARNING” within or outside of a section.

⇒ ⓘ Cross-reference to a “Note” within or outside of a section.

> ⚠ **WARNING**
>
> **Text with this symbol contains important information on safety and how to reduce the risk of personal injury or death.**

ⓘ Note

Text with this symbol draws your attention to potential sources of damage to your vehicle.

For the sake of environment

Text with this symbol contains information about the environment and how you can help protect it.

Tips

Text with this symbol contains special tips and other information about getting the most out of your vehicle and its features.

Afterword

Volkswagen AG works constantly to develop and improve its products. We must therefore reserve the right to change any part of the vehicle, its equipment or technical specifications at any time. No legal commitment can therefore be derived from the information, illustrations or descriptions in this manual.

The texts, illustrations and standards in this manual are based on the information available at the time of printing.

Printed in Germany

For the sake of environment

This paper was bleached without the use of chlorine.

Table of contents

Smart technology

Brakes

Brake booster

The brake booster assists braking performance, in addition to the brake pressure you put on the brake pedal. It works only when the engine is running.

If the brake booster is not working, or if the vehicle has to be towed, you will have to push the brake pedal harder to make up for the lack of booster assistance.

WARNING

Braking without the brake booster needs a much longer braking distance and requires you to push the brake pedal down harder than normal.

- **Never let the vehicle coast with the engine switched off.**
- **If the brake booster is not active, for example if the vehicle is being towed, you will have to push the brake pedal down much harder than normal.**

Warning light: Brake pads worn or BRAKE with message “Check Brake pad!”

Immediately seek out an authorized dealership to have the brake pads checked or replaced if necessary,

- if the symbol lights up in the instrument cluster display, **OR**
- if the symbol BRAKE lights up with the message “Check Brake pad!” in the instrument cluster display.

WARNING

Driving with bad brakes can cause a collision and serious personal injury.

- **If the symbol or the symbol BRAKE with the message “Check Brake pad!” lights up in the instrument cluster display, immediately seek out an authorized dealership to have the brake pads checked or replaced if necessary.**

Warning light: Brake system BRAKE or or

A warning light comes on when the parking brake is applied, if the brake fluid level is too low, or if there is a brake system malfunction.

The BRAKE or warning light comes on:

- The **parking brake is applied** ⇒ booklet 3.2 “Driving your Vehicle”, chapter “Parking brake.”

- If the **brake fluid level is too low** ⇒ page 66. There may be a message in the instrument cluster display telling you what to do ⇒ ⚠.
- If there is a **malfunction in the brake system**, the warning light BRAKE or (!) in the instrument cluster will comes on. You will also hear an audible warning signal. There may be a message in the instrument cluster display telling you what to do. Stop the vehicle safely and pull off the road. Contact your authorized Volkswagen dealer or a qualified workshop.
- If there is an **ABS malfunction**, the ABS warning light comes on, along with the BRAKE or (!) brake system warning light ⇒ ⚠.
- There is a **malfunction in the electronic parking brake** if the BRAKE or (!) warning light flash. At the same time, the warning light (P) in the instrument cluster or the light (P) in the parking brake button will also flash. In some cases, you will also hear a warning signal. It may not be possible to park the vehicle safely. Contact your authorized Volkswagen dealer or a qualified workshop ⇒ ⚠.
- If the symbol BRAKE lights up with the message “Check Brake pad!” in the instrument cluster display, immediately seek out an authorized dealership to have the brake pads checked or replaced if necessary ⇒ ⚠.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Driving with bad brakes can cause a collision and serious personal injury.

- **If the BRAKE or (!) brake warning light does not go out, or if it comes on when driving, the brake fluid level in the reservoir is too low or there is a fault in the brake system. Immediately stop driving and get professional assistance ⇒ page 66, “Brake fluid”.**
- **If the BRAKE or (!) brake warning light comes on at the same time as the ABS warning light , the ABS may not be working properly and the rear wheels could lock up first under hard braking. Rear wheel brake lock-up can cause loss of vehicle control. If you believe that it is safe to do so, go immediately at low speed to the nearest authorized Volkswagen dealer or a qualified workshop and have the brake system inspected. Drive slowly and avoid sudden, hard brake application.**
- **If the ABS warning light does not go out, or if it comes on while driving, the ABS system is not working properly. The vehicle can then be stopped only with the standard brakes (without ABS). You will not have the protection ABS provides. Contact your authorized Volkswagen dealer or a qualified workshop as soon as possible.**

Brake Assist System (BAS)

In an emergency, most drivers brake in time, but not with maximum force. This results in stopping distances that are longer than they have to be!

The brake assist system helps: if you press the brake pedal very quickly, the brake assist system detects an emergency situation. It then very quickly builds up full brake system pressure, maximizing braking power

and reducing the braking distance. This way, the ABS can be activated more quickly and efficiently, letting you steer at the same time.

Do not reduce pressure on the brake pedal. The brake assist system switches off automatically as soon as you release the brake.

The brake assist system works only when the engine is running.

WARNING

Always adjust your speed and driving style to road, traffic, off-road, and weather conditions.

- **Never let the extra safety offered by the Brake Assist System tempt you into taking extra risks.**
- **The Brake Assist System cannot reduce the risk of an accident, for example if you drive too fast for conditions or if you do not keep your distance from the vehicle in front of you.**
- **Slippery and wet roads are dangerous even with the Brake Assist System!**

WARNING

- **Always remember that vehicle alterations or modifications can affect the function of the ABS, BAS, EDL and ESP systems. Examples of these alterations or modifications include a different wheel/tire combination and brake or chassis modifications ⇒ page 38, “Repairs and technical modifications”.**
- **Changing the vehicle suspension or using an unapproved tire / wheel combination can change the way the ABS, BAS, EDL and ESP systems work and reduce their effectiveness.**

Anti-lock Brake System (ABS)

The Anti-lock Brake System keeps the wheels from locking when the brakes are applied.

The Anti-lock Brake System is an important part of the vehicle's active safety system. ABS works only when the engine is running.

How the ABS works

If, under braking, one wheel begins to lock up, ABS automatically reduces brake pressure to prevent that wheel from locking. When ABS is doing its job, you will notice **a slight vibration through the brake pedal** and hear a noise. This is a warning that one or more of the wheels is about to lock, that the ABS control function has intervened, and that your speed must be adjusted to road, traffic and weather conditions. In this situation, it is important to keep pressing hard on the brake pedal so the ABS can work to help regulate your braking. Do not *pump* the brake pedal – ABS cannot do its job if you try to do it, too.

ABS helps you to keep the vehicle under control because it keeps the wheels from locking up when the brakes are applied. This means the vehicle can still be steered and is less likely to skid.

ABS cannot necessarily guarantee shorter braking distances in *all* conditions. The braking distance can even be longer if you brake on gravel or on fresh snow covering a slippery surface.

If ABS is not working properly, a warning light will come on ⇒ page 12.

WARNING

Always adjust your speed and driving style to road, traffic and weather conditions. Never let the extra safety that ABS can provide tempt you into taking extra risks.

- **Always drive safely.**
- **ABS cannot change the laws of physics. Slippery and wet roads are dangerous even with ABS!**
- **ABS cannot reduce the risk of accidents, for example if you drive too fast for the conditions or if you do not keep your distance from the vehicle in front of you.**

WARNING

- **Always remember that vehicle alterations or modifications can affect the function of the ABS, BAS, EDL and ESP systems. Examples of these alterations or modifications include a different wheel/tire combination and brake or chassis modifications ⇒ page 38, “Repairs and technical modifications”.**
- **Changing the vehicle suspension or using an unapproved tire / wheel combination can change the way the ABS, BAS, EDL and ESP systems work and reduce their effectiveness.**
- **The effectiveness of ABS is also determined by the tires on your vehicle ⇒ page 73, “Tires and wheels”.**

Warning light: Anti-lock brake system ABS or

The ABS warning light is part of the ABS and the integrated Electronic Differential Lock (EDL).

The warning light ABS or should come on for a few seconds when the ignition is switched on. The light goes out again after the system has run through an automatic test sequence.

There is a fault in the ABS:

- If the warning light ABS does not come on when the ignition is switched on.
- If the warning light does not go out again after a few seconds.
- If the warning light comes on when the vehicle is moving.

The vehicle can still be braked in the normal way (except that the ABS is not active). Contact an authorized Volkswagen dealer or a qualified workshop as soon as possible.

If an ABS fault occurs, the ESP warning light will also come on. There may be a message in the instrument cluster display telling you what to do.

Fault in the main brake system

If the ABS warning light ABS or comes on along with the brake system warning lights BRAKE or , not only is there an ABS malfunction, there may also be a brake system malfunction ⇒ .

There may be a message in the instrument cluster display telling you what to do ⇒ .

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Driving with bad brakes can cause a collision and serious personal injury.

- **If the BRAKE or (!) brake warning light does not go out, or if it lights up when driving, the brake fluid level in the reservoir is too low or there is a fault in the brake system. Immediately stop driving and contact an authorized Volkswagen dealer or a qualified workshop ⇒ page 66, “Brake fluid”.**
- **If the BRAKE or (!) brake warning light comes on at the same time as the ABS warning light ABS or , the ABS may not be working properly and the rear wheels could lock up first under hard braking. Rear wheel brake lock-up can cause loss of vehicle control. If you believe that it is safe to do so, go immediately at low speed to the nearest authorized Volkswagen dealer or a qualified workshop and have the brake system inspected. Drive slowly and avoid sudden, hard brake application.**
- **If the ABS warning light ABS does not go out, or if it comes on while driving, the ABS is not working properly. The vehicle can then be stopped only with the standard brakes (without ABS). You will not have the protection ABS provides. Contact your authorized Volkswagen dealer or a qualified workshop as soon as possible.**

Electronic Differential Lock (EDL)

EDL helps adjust to the loss of traction if a wheel starts spinning.

EDL helps the vehicle start moving, accelerate or climb a hill in slippery conditions, when it may otherwise be difficult or impossible. EDL uses the ABS sensors to monitor wheel speed.

EDL works only when the engine is running.

EDL helps balance out differences in wheel speed caused by a slippery road surface on *one side* of the vehicle. It does this by slightly braking the wheel that has lost traction, so that more driving force is distributed to the other driven wheel via the differential.

EDL is active at speeds up to about 50 mph (80 km/h).

In extreme cases, EDL automatically switches off to keep the brake on the braked wheel from overheating. The vehicle can still be driven, just like a vehicle without EDL. For this reason, there is no warning that EDL has been switched off.

EDL will automatically be switched on again when conditions have returned to normal.

WARNING

Always adjust your speed and driving style to road, traffic and weather conditions. Never let the extra safety that EDL can provide tempt you into taking extra risks.

- **When accelerating on a slippery surface, for example on ice and snow, press the accelerator carefully. Even with EDL, the wheels may start to spin leading to a loss of vehicle control.**

WARNING

- **Always remember that vehicle alterations or modifications can affect the function of the ABS, BAS, EDL and ESP systems. Examples of these alterations or modifications include a different wheel/tire combination and brake or chassis modifications ⇒ page 38, "Repairs and technical modifications".**
- **Changing the vehicle suspension or using an unapproved tire / wheel combination can change the way the ABS, BAS, EDL and ESP systems work and reduce their effectiveness.**

Applies to vehicles: with Electronic Stabilization Program (ESP)

Electronic Stabilization Program (ESP)

ESP can help make driving safer in certain situations.

Fig. 1 ESP button in the center console.

The Electronic Stabilization Program (ESP) includes the Electronic Differential Lock (EDL) and Anti-Slip Regulation (ASR). The ESP works together with ABS. Both warning lights will come on if the ESP or ABS system malfunctions.

To ensure that ESP and ASR work correctly, all four wheels must be fitted with the same tires. Any differences in tire size can cause the system to reduce engine power – even when this is not the best thing to do under the circumstances.

ESP is switched on automatically when the engine is started.

You should generally leave the ESP switched on at all times. In certain circumstances where you need less traction, you can switch off the ESP by pressing the ESP OFF button ⇒ Fig. 1.

For example:

- When driving with snow chains
- When driving in deep snow or on loose surfaces
- When rocking the vehicle when you are stuck

Press the button to switch ESP back on as soon as possible, when you no longer need to be able to spin the tires.

When the ESP is switched off, ASR and EDL are also switched off. These systems are not available for as long as the ESP stays off.

How ESP works

ESP helps to reduce the risk of skidding by braking the wheels individually in certain situations. It works only when the engine is running.

The ESP system uses steering wheel angle and road speed to calculate what the driver wants, and constantly compares this information with the vehicle's actual path of travel. If the two do not match (if the vehicle starts to skid, for example) the ESP responds by applying the brake at the appropriate wheel.

The forces acting on the braked wheel help to bring the vehicle back on course. If the vehicle is tending to break away at the rear, the brake is mainly applied on the outside front wheel; if the vehicle is tending to run wide in a curve, the brake is mainly applied to the inside rear wheel.

How Anti-Slip Regulation (ASR) works

ASR reduces engine power to help keep the driven wheels of front-wheel-drive vehicles from losing traction when accelerating. It helps the vehicle to start moving, accelerate and climb a hill in slippery conditions when it may otherwise be difficult or impossible. ASR works over the entire speed range, along with the ABS. If the ABS fails, ASR will not work.

When do the indicator light comes on or flash?

- The indicator light comes on for about 2 seconds as a bulb check when the ignition is switched on.
- The indicator light flashes while you are driving to tell you when ESP is active.
- The indicator light comes on if there is an ESP malfunction.
- The indicator light comes on when ESP has been switched off.
- The indicator light also comes on when there is an ABS malfunction, because ESP works along with ABS.

If the indicator light comes on just after the engine is started, ESP may have been switched off by system controls. If so, you can reactivate ESP by switching the ignition off and on again. When the indicator light goes out, the system is working.

If the battery has been disconnected, the indicator light comes on after the ignition is switched on. It must go out after driving a short distance.

WARNING

Always adjust your speed and driving style to road, traffic and weather conditions. Never let the extra safety that ESP and ASR can provide tempt you into taking extra risks.

- **Always drive safely.**
- **ESP and ASR cannot overcome the laws of physics. Slippery and wet roads are dangerous even with ESP!**
- **ESP and ASR cannot reduce the risk of accident, for example if you drive too fast for conditions or if you do not keep your distance from the vehicle in front of you.**
- **Although ESP and ASR are very effective, always remember that your vehicle's handling capability is limited by tire traction.**

WARNING

- **Always remember that vehicle alterations or modifications can affect the function of the ABS, BAS, EDL and ESP systems. Examples of these alterations or modifications include a different wheel/tire combination and brake or chassis modifications ⇒ page 38, “Repairs and technical modifications”.**
- **Changing the vehicle suspension or using an unapproved tire / wheel combination can change the way the ABS, BAS, EDL and ESP systems work and reduce their effectiveness.**
- **The effectiveness of ESP is also determined by the tires fitted ⇒ page 73, “Tires and wheels”.**

Steering

Electro-mechnical power steering

Power assistance is adjusted electronically, depending on vehicle speed, turning force on the steering wheel, and steering wheel angle.

The electro-mechanical power steering works only when the engine is running.

The power provided in the electro-mechanical power steering is not hydraulic, but rather mechanically by an electric motor. One advantage of this steering system is that hydraulic components such as hoses, oil, filters and hydraulic fluids are not required. In addition to that, this system is more fuel efficient. The electro-mechanical power steering system, in contrast to the hydraulic system (which requires a constant flow of fluid), only uses energy when the vehicle is actually being steered The fuel consumption is reduced because power is consumed only when necessary.

With the electro-mechanical power steering system, the steering assistance is automatically matched to the vehicle speed, the steering wheel torque and the steering wheel angle.

Indicator light or comes on

The indicator light comes on for a few seconds when the ignition is switched on.

There is a malfunction in the electro-mechanical power steering system if the warning light (or) does not go out or comes on while you are driving. The steering assistance could have been reduced

(lamp) or may have failed completely (lamp and three audible warnings). Contact your authorized Volkswagen dealer or a qualified workshop immediately.

If the power assist is reduced or lost completely, you will have to use more force than normal to steer the vehicle ⇒ .

When the engine is not running (e.g. when the vehicle is being towed), there is no power assist.

WARNING

Failure to heed warning lights and warning messages in the display, can lead to personal injury or vehicle damage.

- **Never ignore warning lights or text WARNINGS in the instrument cluster display.**
- **Turning the steering wheel is very difficult when the electro-mechnical power steering system is not working and it is harder to control the vehicle.**
- **Never let the vehicle coast with the engine switched off.**

Tips

If the vehicle battery was disconnected and then reconnected, the yellow indicator light will come on after the ignition has been switched on. It must go out after the vehicle has been driven a short distance at 9 - 12 mph (15 - 20 km/h).

Engine management and exhaust system

Warning light: Electronic Power Control (EPC) EPC

The EPC warning light monitors the engine management system on gasoline engines.

The Electronic Power Control (EPC) warning light EPC comes on when the ignition is switched on, to show that the light is working properly. It should go out after the engine has started.

The warning light will come on while driving if there is a fault in the engine management system. Have the engine checked by an authorized Volkswagen dealer or a qualified workshop as soon as possible.

There may be a message in the instrument cluster display telling you what to do.

WARNING

Failure to heed warning lights and warning messages in the display, can lead to personal injury or vehicle damage.

Catalytic converter

Help the catalytic converter do its job and last a long time:

– Always use unleaded gasoline.

– Never drive until the tank is completely empty.

– Never add too much engine oil ⇒ page 55, “Adding engine oil”.

– Never tow the vehicle to start it; use jumper cables if necessary ⇒ page 128, “Emergency starting”.

If you notice misfiring, rough running or loss of power when the vehicle is moving, slow down immediately and have the vehicle inspected by the nearest authorized Volkswagen dealer or a qualified workshop. These conditions will usually make an indicator light come on ⇒ page 18. If this happens, unburned fuel can get into the exhaust system, damage the catalytic converter and escape into the environment.

WARNING

A catalytic converter gets very hot and can cause fire and serious personal injury.

- **Never park where the hot catalytic converter could get too close to dry grass or any other flammable materials under the vehicle.**
- **Never apply additional undercoating or rust proofing on or near the exhaust manifold, exhaust pipes, catalytic converter or heat shields.**

Note

- Never drive until the fuel tank is completely empty. The irregular fuel supply can cause the engine to misfire. This allows unburned fuel to get into the exhaust system and damage the catalytic converter.
- If the oil level is too high, ⇒ Fig. 8 (A), do not start the engine - this could damage the catalytic converter and the engine! See an authorized Volkswagen dealer or a qualified workshop.
- To avoid damage to the catalytic converter, always read and heed the information about gasoline ⇒ page 44, “Fuel supply”.

For the sake of environment

Even when the emission control system is working perfectly, you may sometimes smell sulfur from the exhaust depending on the amount of sulfur in the fuel you are using. The smell can usually be reduced or eliminated by changing to another brand of gasoline.

Warning light: Malfunction Indicator Lamp (MIL)

The MIL is part of the On-Board Diagnostic (OBD) system.

The MIL is required to alert the driver to emissions-related malfunctions. It comes on when the ignition is switched on to assure you that the MIL is working properly. It will go out after the engine has started and the idle has stabilized.

If the indicator does not go out after the engine has started, or if it comes on while driving, there is an emissions-related malfunction.

If the MIL starts blinking, the catalytic converter could become damaged. There may be a message in the instrument cluster display about what to do.

Continue driving with reduced engine power, and contact the nearest authorized Volkswagen dealer or a qualified workshop to have the engine checked.

Data Link Connector (DLC) for the On-Board Diagnostic (OBD) system

The On-Board Diagnostic system in your vehicle monitors various parts of the emission control systems. In the case of a malfunction, the part in question will be identified and fault information will be stored in the form of a code in engine control module memory.

For accurate diagnosis, the stored data must be displayed using special test equipment (or a generic OBD scan tool) connected to the Data Link Connector (DLC) near the hood release lever.

Your authorized Volkswagen dealer or a qualified workshop can interpret the code and make the necessary repair.

WARNING

Failure to heed warning lights and warning messages in the display, can lead to personal injury or vehicle damage.

All-wheel-drive (4MOTION)

The engine power is distributed to all four wheels.

4MOTION all-wheel-drive is fully automatic and does not require you to do anything. Power is permanently distributed to all four wheels.

The drive train contains a Haldex® clutch, which automatically adjusts power and distributes it to each axle to match your driving habits and prevailing road surface conditions.

The intelligent technology of all-wheel-drive can automatically lock the differential up to 100% while driving. This temporarily creates a rigid connection between the front and rear axles.

Winter tires

With all-wheel-drive, your vehicle has good traction in winter road conditions with the standard tires. As for vehicles with front-wheel-drive, however, we recommend always using winter or all-weather tires on *all four* wheels in the winter, since this also improves *braking efficiency*.

When using **snow chains**, refer to the additional notes and information ⇒ page 99, “Snow chains”.

Replacing tires

The tires must not show different degrees of wear. All four wheels should have the same rolling circumference ⇒ page 73, “Tires and wheels”.

Towing

Always read and heed with the notes and information on towing ⇒ page 132, “Towing”.

WARNING

Driving fast on icy, slippery or wet roads can lead to a loss of control and result in serious personal injury for you and your passengers.

- **Never drive too fast on icy, slippery or wet roads.**
- **Always adjust your driving speed to the road, weather and traffic conditions. Do not let the extra safety afforded by the all-wheel-drive tempt you into taking extra risks.**
- **In winter conditions, your all-wheel-drive vehicle still has good acceleration, but, always remember that braking with an all-wheel-drive vehicle is the same as braking with a two-wheel-drive vehicle.**
- **Driving too fast on wet roads can cause the front wheels to lose contact with the road and start to “hydroplane.”**
- **If your vehicle begins to “hydroplane,” there will be no sudden increase in engine speed to warn you, as would happen with a two-wheel-drive vehicle.**

Note

To prevent damage to the drive train in vehicles with all-wheel drive (4MOTION), please read the information and notes on towing ⇒ page 132, “Towing”.

Cleaning and protection

Regular care and vehicle care products

Regular washing and care help maintain the value of your vehicle.

Regular care

Regular and expert care helps a vehicle keep its value. This may also be one of the requirements of your Limited New Vehicle Warranty if corrosion repair or repainting is necessary.

The best way to protect the vehicle against environmental damage is to wash and wax it *often*. Insects, bird droppings, tree sap, road dirt, industrial deposits, tar, soot or road salt and other aggressive materials do more damage to the paint if they stay on longer. High temperatures (including strong sunlight) increase corrosive effects.

After driving on roads treated with salt, it is important to wash the **underbody** of the vehicle thoroughly.

Vehicle care products

Vehicle care products are available from your authorized Volkswagen dealer. Keep the product instructions until you have used up the product ⇒ ⚠.

⚠ WARNING

Vehicle care products can be dangerous. Improper use can cause serious personal injury and/or poisoning.

- **Always store vehicle care products in a safe place in original-containers that are securely closed.**
- **To reduce the risk of poisoning, never use empty food or beverage containers that might mislead someone into drinking from them.**
- **Always keep vehicle care products out of the reach of children.**
- **Always read and heed all the instructions and all WARNINGS on the package before using vehicle care products.**
- **When using products that give off harmful fumes, always work outdoors or in a well ventilated area.**
- **Never use fuel, turpentine, engine oil, nail polish remover or other volatile fluids for vehicle care. They are poisonous and highly flammable. They could cause fires and explosions!**

⚠ WARNING

Unintended vehicle movement can cause serious personal injury.

- **Always turn off the engine, apply the parking brake firmly and remove the key from the ignition before washing your vehicle, or doing any maintenance or repairs.**

Note

Never try to remove dirt, mud or dust while the paint is dry. Using a dry cloth or sponge for cleaning could damage the paint or glass on your vehicle. Soak dirt, mud or dust with plenty of water before removing it.

For the sake of environment

- When buying vehicle care products, try to choose those that are not harmful to the environment.
- Never throw out vehicle care products with ordinary household waste. Always follow the manufacturer's instructions and heed all WARNINGS.

Care of vehicle exterior

Automatic car washes

Fold the outside mirrors back to help prevent damage. If you have accessories installed on your vehicle, check with the car wash operator before washing.

The paint is tough enough that the vehicle can normally be washed without problems in an automatic car wash. Paint damage usually depends on the type of car wash, the brushes used, the filtering of the wash water, the type of detergents and wax solutions used, etc. If the paint is scratched or appears dull after going through the car wash, immediately bring this to the attention of the car wash operator.

After the vehicle has been washed, the brakes will be wet (and may be icy in winter) and stopping distances will be longer. Be sure to dry the brakes right away by gently applying the brakes several times while driving off ⇒ booklet 3.2 "Driving your Vehicle".

WARNING

Wet brakes or brakes coated with ice or road salt react slower and need longer stopping distances.

- **Carefully apply brakes for a test.**
- **Always dry brakes and clean off ice coatings and salt coatings with a few careful brake applications.**
- **Always read and heed all WARNINGS ⇒ booklet 3.2 "Driving your Vehicle".**

Washing by hand

– First, soften the dirt with plenty of water and rinse.

– Use a soft sponge, wash glove or wash brush to wipe the vehicle in a downward motion using light pressure.

– Rinse the sponge or wash glove often.

– Use special cleaners only on hard-to-remove dirt or grime.

– Use a second sponge or wash glove to wash the wheels and under the door sills.

– Rinse thoroughly with water.

– Dry the painted surfaces carefully with a chamois.

– When it is **cold outside**, make sure you wipe all rubber seals and their contact surfaces dry so that they do not freeze. Use a silicone spray to keep rubber seals pliable and help prevent freezing.

– **After washing** your vehicle, avoid sudden stops or maneuvers. Be sure to dry the brakes right away by gently applying the brakes several times while driving off ⇒ ⚠.

⚠ WARNING

Wet brakes or brakes coated with ice or road salt react slower and need longer stopping distances.

- **Carefully apply brakes for a test.**
- **Always dry brakes and clean off ice coatings and salt coatings with a few careful brake applications.**
- **Always read and heed all WARNINGS ⇒ booklet 3.2 “Driving your Vehicle”.**

⚠ WARNING

Sharp edges under the vehicle can cut exposed skin.

- **Always protect your hands and arms from cuts on sharp metal edges when cleaning the underbody, the inside of the wheel housings etc.**

Note

- Never try to remove dirt, mud or dust while the paint is dry. Using a dry cloth or sponge for cleaning could damage the paint or glass on your vehicle. Soak dirt, mud or dust with plenty of water before removing it.
- When rinsing the vehicle, do not let water get into the lock cylinders or point the hose at gaps around the doors, hood or rear hatch. The water could freeze and make it difficult to open the vehicle.
- To help prevent damage to the paint, do not wash the vehicle in direct sunlight.

For the sake of environment

Help protect the environment. Wash the vehicle only in special wash bays that can handle the oily dirt that is washed off the car.

Washing the vehicle with a power washer

Be very careful when using a power washer!

– Always follow the instructions for the power washer, particularly those about the **pressure** and the **spraying distance**.

– Increase the spraying distance for soft materials and painted bumpers ⇒ .

– Do not use a power washer to remove ice or snow from windows ⇒ page 26.

– Never use concentrated jet nozzles or so-called “dirt blasters,” especially on tires ⇒ .

– After washing, the brakes will be wet (and may be icy in winter) and stopping distances will be longer. Be sure to immediately dry the brakes with several careful brake applications while driving off ⇒ booklet 3.2 “Driving your Vehicle”.

WARNING

Wet brakes or brakes coated with ice or road salt react slower and need longer stopping distances.

- **Carefully apply brakes for a test.**
- **Always dry brakes and clean off ice coatings and salt coatings with a few careful brake applications.**
- **Always read and heed all WARNINGS ⇒ booklet 3.2 “Driving your Vehicle”.**

WARNING

Improper use of power washers can cause serious, invisible and permanent tire damage leading to tire failure and loss of vehicle control.

- **Never wash tires with a jet that sprays the water out in a direct stream even at a distance even for a very short amount of time.**

Note

- Water temperature should not be more than 140° F (60° C).
- If you use a power washer, be sure to keep it a safe distance from the Electronic Parking Assistance[1] sensors in the front and rear bumpers. The sensors could be damaged by the high pressure.
- To help prevent damage, hold the power washer farther away from soft materials, such as rubber hoses, plastic parts and the painted bumpers. Holding the power washer too close to these materials increases the risk of damage.

[1] where applicable

Waxing the vehicle

Waxing your vehicle regularly protects the paint.

Wax your vehicle if water does not form small drops and run off when the paint is *clean*.

Good quality *hard wax* is available from your authorized Volkswagen dealer.

A good coat of wax helps to protect the paint from environmental damage and more aggressive dirt ⇒ page 21, “Regular care and vehicle care products”. It also helps to protect against minor scratches.

Even if a **wax solution** is used regularly at the car wash, you should protect the paint with a coat of hard wax at least twice a year.

Note

To help prevent damage:

- Do not wax or polish the headlights, or the other front or rear lights.
- Do not wax or polish matte-finished parts or plastic parts.
- Do not wax or polish your vehicle if it is dirty, or in a sandy or dusty environment.

Polishing the paint

Polishing helps to restore paint gloss.

Polishing is necessary if the paint has lost its shine, and you cannot get the gloss back using wax. Your authorized Volkswagen dealer has polish that is right for your vehicle.

The vehicle must be waxed after polishing if the polish used does not contain wax compounds to seal the paint ⇒ page 25, “Waxing the vehicle”.

Note

To help prevent damage:

- Do not wax or polish matte-finished parts or plastic parts.
- Do not wax or polish your vehicle if it is dirty, or in a sandy or dusty environment.
- Do not wax or polish the headlights, or the other front or rear lights.

Caring for plastic parts

Solvents will damage plastic parts.

If you cannot clean plastic parts by normal washing, clean them with special **solvent-free** plastic cleaning products.

Note

Cleaning products that contain solvents will damage plastic parts.

Cleaning windows and outside mirrors

Cleaning windows and outside mirrors

Wet the windows with commercially available, alcohol-based glass cleaner.

Dry the windows with a clean chamois or lint-free cloth. Use a clean cloth to dry the windows. Chamois leather, used to wipe paint surfaces, contains oily residue and would smear the glass ⇒ ⚠.

Use window cleaner or a silicone remover to remove rubber, oil, grease and silicone deposits.

Removing wax residue

Automatic car washes and other care products can leave a wax residue on all glass surfaces. This type of wax residue can only be removed with a special cleaner or cleaning cloths. Wax residue left on the windshield can cause the windshield wipers to squeak. We recommend that, after every car wash, you remove any wax residue left on the windshield with a cleaning cloth.

Squeaking of the windshield wipers can be avoided by filling the windshield washer fluid tank with a wiper fluid containing wax-removing agents. While filling, maintain the respective mixture ratio. Cleaners with grease-removing agents cannot eliminate this type of wax residue. Special cleaners or cleaning cloths can be obtained from your authorized Volkswagen dealer.

Removing snow

Use a small brush to remove snow from windows and mirrors.

Removing ice

To remove ice, we recommend using a de-icing spray. If you have to use an ice scraper, only push it in one direction – away from you ⇒ ⓘ.

WARNING

Poor visibility increases the risk of collisions and other accidents.

- **Always make sure all windows are clear of ice, snow, and condensation for good visibility – out the windshield, side and rear windows.**

Note

- Under no circumstances should you mix our recommended cleaning agents with other cleaning agents. If you do, this could cause the formation of sediment or other by-products that can clog the windshield wiper nozzles.
- Never use warm or hot water to remove snow and ice from windows and mirrors. This could cause the glass to crack!
- The heating elements for the rear defogger are on the inside of the rear window. To help prevent damage, do not put stickers over the heating elements on the inside of the rear window.
- Never move the ice scraper back and forth. This will help keep dirt from being ground against the glass when you pull the scraper back towards you.

Cleaning windshield wiper blades

Wiper blades should be cleaned regularly.

Clean wiper blades are important so that you can see.

– Use a soft cloth to remove dust and dirt from the windshield wiper blades. Use a sponge or a cloth to remove stubborn dirt.

– Use window cleaner to clean the windshield wiper blades.

Note

Before cleaning the windshield wiper blades ⇒ page 63, “Changing windshield wiper blades”.

Care of rubber seals

If rubber seals are well maintained, they will resist freezing.

– Use a soft cloth to remove dust and dirt from the rubber seals.

– Treat rubber seals with silicone or use another vehicle care product to keep them soft and prevent freezing.

The rubber seals on the doors, windows etc., will stay soft and flexible, and will seal better and last longer if they are treated with a suitable rubber-care product.

Caring for rubber seals will also help prevent premature aging and leaks. The doors will be easier to open. If rubber seals are well maintained, they will not freeze as easily in winter.

Note

- The wrong car-care products can damage the seals. Check with your authorized Volkswagen dealer or a qualified workshop for information about suitable products.
- **Do not** use any rubber cleaning or treatment products containing silicone, or any products containing acids, such as industrial dust removers or insect repellents.

Locks

Lock cylinders can freeze up in winter.

To de-ice the door lock cylinder, we recommend using a special spray to replenish lubricating oils and protect against corrosion. Ask your authorized Volkswagen dealer for assistance.

Note

Lock de-icers that contain grease solvents can cause the lock cylinder to rust.

Cleaning chrome parts

– Clean chrome parts with a damp cloth.
– Polish chrome parts with a soft, dry cloth.

You can also use special **chrome cleaner**. Chrome cleaners will help remove surface grime and stains from chrome surfaces.

Note

To prevent scratching chrome surfaces:

- Do not use an abrasive conditioning product on chrome.
- Do not clean or polish chrome parts that are dirty, or clean or polish them in a sandy or dusty environment.

Cleaning alloy wheels

Every two weeks

– Wash salt and brake dust off alloy wheels.
– Use an acid-free detergent to clean the wheels.

Every three months

– Apply a hard wax compound to the wheels.

Light alloy wheels need regular care to keep them looking nice. It is important to remove road salt and brake dust by regularly washing the wheels, or the finish will dull and they will be hard to clean.

Always use an acid-free detergent for alloy wheels.

Do not use vehicle polish or other abrasive products. If the protective coating is damaged, for example by stone impact, repair the damaged area right away.

WARNING

Improper use of power washers can cause serious, invisible and permanent tire damage leading to tire failure and loss of vehicle control.

- **Never wash tires with a jet that sprays the water out in a direct stream even from a distance or for a very short time.**

WARNING

Wet brakes or brakes coated with ice or road salt react slower and need longer stopping distances.

- **Carefully apply brakes for a test.**
- **Always dry brakes and clean off ice coatings and salt coatings with a few careful brake applications.**
- **Always read and heed all WARNINGS ⇒ booklet 3.2 “Driving your Vehicle”.**

Chassis

The vehicle underbody is coated to help protect it from corrosion and damage.

The undercoating could be damaged during normal use especially when driving on unpaved surfaces. We recommend that the undercoating and the protective coatings on the suspension be inspected, and repaired if necessary, before and after each winter season.

Repair work and additional undercoating should be carried out only by an authorized Volkswagen dealer or a qualified workshop. Your authorized Volkswagen dealer has the proper sprays and necessary equipment and is familiar with their correct usage.

WARNING

The exhaust system gets very hot when the vehicle is driven and can cause fire resulting in serious personal injury.

- **Park the vehicle so that the catalytic converter does not come into contact with dry grass or highly flammable materials under the vehicle.**
- **Never apply additional undercoating or rust proofing on or near the exhaust manifold, exhaust pipes, catalytic converter or the heat shields.**

Cleaning the engine compartment

Be especially careful when cleaning the engine compartment!

Anti-corrosion treatment

The engine compartment is treated at the factory to help prevent corrosion ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

Good corrosion protection is particularly important in the winter where road salt is used. To prevent salt damage, the entire engine compartment should be thoroughly cleaned before and after the salting period.

Your authorized Volkswagen dealer has the right cleaners and preservatives and the necessary equipment to apply them correctly. We recommend that you have this work done by an authorized Volkswagen dealer.

Corrosion protection is usually removed when the engine compartment is cleaned with grease solvents. Whenever the engine is cleaned, make sure that corrosion protection is re-applied to all surfaces, seams, joints and components in the engine compartment.

Fresh air plenum

Remove leaves from the plenum in front of the windshield under the hood. Removing leaves and debris regularly helps keep the water drain holes from becoming blocked, and it helps to prevent debris from getting inside the vehicle through the heating and ventilation ducts.

WARNING

The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

- **Always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment” before working in the engine compartment.**
- **Always let the engine cool down completely before carefully opening the hood. Hot components will burn skin on contact.**
- **When the engine has cooled down and you are ready to open the hood:**
  - **Remove the key from the ignition.**
  - **Apply the parking brake firmly and put the selector in P (Park).**
  - **Keep children and others away from the vehicle.**
- **Never reach into the area around or touch the radiator fan. Contact with the blades can result in serious personal injury. Always remember that the radiator fan is temperature-controlled and can turn on suddenly, even when the engine has been switched off for a while and the key has been removed from the ignition.**

For the sake of environment

Fuel, grease and oil deposits can run off when the engine is washed. The waste water must pass through an oil separator before disposal. Have the engine cleaned only by an authorized Volkswagen dealer or a qualified workshop that has the necessary equipment to protect the environment.

Care of the vehicle interior

Cleaning plastic parts and the instrument panel

Plastic parts must not come into contact with solvents.

– Use a clean, damp cloth to clean plastic parts and the instrument panel.
– If necessary, use a special **solvent-free** plastic cleaning product.

WARNING

Using solvents on surfaces where airbags are located can change the way airbags deploy in a crash.

- **Never clean the instrument panel and the surfaces above airbag modules with cleaning products containing solvents.**
- **Products containing solvents will change the properties of the plastics and may cause plastic parts to break and fly around when the airbag deploys in a crash causing injury.**

Note

Cleaning products that contain solvents will damage plastics.

Applies to vehicles: with wooden interior trim

Cleaning wood trim

– Clean the wood trim with a clean moist cloth.
– If necessary, use a *gentle* soap solution.

Note

Cleaning products that contain solvents will damage plastic materials.

Applies to vehicles: with fabric trim and cloth seat covers

Cleaning cloth seat covers and fabric trim

Vacuum upholstery materials, fabric trim and the carpet regularly. This removes surface dirt that could become embedded in the fabric through use. Do not use steam cleaners because the steam pushes the dirt deeper into the fabric and locks it there.

Normal cleaning

Generally, we recommend using a soft sponge or a commercially-available lint-free microfiber cloth to clean fabric. Use brushes only on the carpeting and floor mats because they could damage other fabric surfaces.

Normal surface stains can be cleaned using a commercially-available foam cleaner. Spread the foam on the surface of the fabric with a soft sponge and work it in gently. Avoid saturating the fabric. Then pat the foam dry using absorbent, dry cloths (e.g. microfiber cloths) and vacuum it after it has dried completely.

Cleaning stains

When cleaning stains it may be necessary to clean the entire area, not just the stain itself. This is especially true when the area shows signs of general wear. If you do not do this, the treated area may be lighter than the untreated area.

Stains caused by beverages (e.g. coffee, fruit juice) can be treated with a mild detergent solution. Apply the detergent solution with a sponge. For stubborn stains, a detergent paste can be applied directly to the

stain and worked into the fabric. Then use clean water to remove the remaining detergent. Apply the water with a damp cloth or sponge and pat the fabric dry with an absorbent, dry cloth.

Stains from chocolate or makeup should have detergent paste rubbed into them. Then remove the paste with a damp sponge.

Neutral soap can be used to treat grease, oil, lipstick or ballpoint pen stains. Dissolved grease or dye must be patted off using absorbent material. Then rinse the area with clean water, but do not saturate the fabric.

If the fabric and fabric trim are soiled in general, we recommend that you have the fabric cleaned by specialists.

Note

- To avoid damage, have stubborn stains removed by a specialist.
- Cleaners containing solvents attack the material and can damage it.
- Dust and dirt particles in pores, folds and seams can have a “scouring” effect on material and damage the surface.
- Open Velcro® fasteners can damage upholstery fabric. Close all Velcro® fasteners that could come into contact with upholstery fabrics and cloth trim.
- Sharp-edged objects and items on clothing and belts (such as zippers, rivets and rhinestones) can damage upholstery material and fabric trim.

Applies to vehicles: with leather seat covers

Natural leather

Volkswagen strives to preserve the special characteristics of natural leather.

We offer a wide range of types of leather. This mainly means various types of napa, that is, leather with a smooth surface in various colors.

The intensity of the color application determines the leather’s appearance and texture. If you can see that the leather still bears evidence of its natural origins, then this is an untreated napa leather that will provide very comfortable seating. Delicate veins, closed scars, insect bites, folds and a slightly clouded color remain visible and represent authentic characteristics of the natural material.

Untreated napa leather has no protective coating. It is therefore more susceptible to damage. You should keep this in mind if the leather is going to be exposed to severe wear from children, animals or other factors.

In contrast, leather that has a protective coating is more robust. This has a positive effect on the leather’s durability in daily use. The typical natural characteristics are hardly visible or no longer visible at all, but that has no impact on the quality of the leather itself. The typical characteristics of untreated leather are much more distinctive than those of a surface-treated leather.

Applies to vehicles: with leather seat covers

Cleaning leather

Natural leather requires special attention and care.

Normal cleaning

– Vacuum loose dirt using a brush attachment on the vacuum cleaner hose.

– Clean soiled leather surfaces with a slightly damp cotton or wool cloth ⇒ (!).

Removing stubborn dirt

– Remove stubborn dirt using a cloth moistened with a mild soap solution (pure liquid soap: two tablespoons diluted in one quart (liter) of water).

– Wipe with a soft, dry cloth.

– Do not let water soak into the leather or the seams.

Cleaning stains

– Remove fresh **water-based** stains (e.g. coffee, tea, juice, blood) using an absorbent cloth or paper towels, or use a suitable cleaner if the stain has already dried ⇒ (!).

– Remove fresh **oil-based** stains (e.g. butter, mayonnaise, chocolate) using an absorbent cloth or paper towels, or use a suitable cleaner if the stain has not penetrated the surface ⇒ (!).

– Use a grease-removing spray on **dried oil stains**.

– Treat **special stains** (e.g. ball-point pen, felt-tip marker, nail polish, latex paint, shoe polish) with a special spot remover suitable for leather.

Leather care

– Treat leather regularly (about twice a year) with a special leather conditioning product ⇒ (!).

– Apply these products very sparingly.

– Wipe off any excess with a soft, dry cloth.

Please consult your authorized Volkswagen dealer if you have any questions regarding the care and cleaning of leather.

Maintenance and care

Due to the exclusivity of the types of leather used and their characteristics (e.g. susceptibility to oils, soiling, etc.), careful usage and special maintenance are required ⇒ (!).

For example, dark clothing (especially if it is damp and the dye is defective) can stain the leather seats. Dust and dirt particles in pores, folds and seams can have a “scouring” effect and can damage the surface. The leather should therefore be cared for regularly or according to use.

After a longer period of use, your leather seats will take on a typical and distinctive patina. That is characteristic of natural leather and a sign of true quality.

Follow the tips below to maintain the value of the natural leather throughout its entire life:

- Regularly and after each cleaning, use a waterproofing leather conditioning product that offers protection against light. The leather conditioning product nourishes the leather, makes it breathable and pliable and restores moisture. It also builds up a protective surface.
- Clean the leather every 2 to 3 months and remove fresh dirt as it accumulates.
- Remove fresh stains from ball-point pens, ink, lipstick, shoe polish, etc. as soon as possible.
- Preserve the color of the leather. Touch up discolored spots as necessary by using a special colored leather cream

Leather Conditioning Products

If you have questions concerning the cleaning and care of the leather equipment in your vehicle, we recommend consulting your authorized Volkswagen dealer. They will be glad to advise and inform you about our products for leather, such as:

- Cleaning and conditioning products,
- Colored conditioning cream,
- Stain remover for ball-point pens, shoe polish, etc.,
- Grease-removing spray,
- New products and future developments.

Note

- Do not use solvents, wax, polish, shoe cream, spot removers or similar products on leather.
- To help prevent damage, stubborn stains should be removed by experts that have special knowledge and experience with leather cleaning.
- Dust and dirt particles in pores, folds and seams can have a “scouring” effect and damage the surface.
- Sharp-edged objects and items on clothing and belts (such as zippers, rivets and rhinestones) can leave permanent scratches or scrapes on the leather surface.
- Wipe up spilled fluids immediately with an absorbent cloth because the leather surface cannot resist fluid penetration for very long.
- If you have to park your vehicle outside for long periods of time, protect the leather from direct sunlight in order to prevent bleaching. Slight color changes due to use are normal.

Applies to vehicles: with Alcantara seat covers

Cleaning Alcantara®

Normal cleaning

Vacuum Alcantara® seat covers regularly using a brush attachment on the vacuum cleaner hose. This removes surface dirt, which could become embedded in the fabric through use ⇒ .

Clean soiled Alcantara® surfaces with a slightly damp cotton or wool cloth. Then pat remaining moisture dry using absorbent, dry cloths (e.g. microfiber cloths).

Do not use steam cleaners because the steam pushes the dirt deeper into the fabric and locks it there.

Cleaning stains

When cleaning stains, it may be necessary to clean the entire area, not just the stain itself. This is especially true when the area shows signs of general wear. If you do not do this, the treated area may be lighter than the untreated area.

Stains caused by beverages (e.g. coffee, fruit juice) can be treated with a mild detergent solution ⇒ . Apply the detergent solution with a sponge. For stubborn stains, a detergent paste can be applied directly to the stain and worked into the fabric. Then use clean water to remove the remaining detergent. Do not saturate the fabric. Apply the water with a damp cloth or sponge and pat the fabric dry with an absorbent, dry cloth.

Stains from chocolate or makeup should have detergent paste rubbed into them. Then remove the paste with a damp sponge.

Neutral soap can be used to treat oil, lipstick or ballpoint pen stains. Dissolved oil or dye must be patted off using absorbent material. Rinse with clean water afterwards, but do not saturate the fabric.

For severe general soiling of the Alcantara® upholstery fabric, we recommend that you have the fabric cleaned by specialists.

Note

- To help prevent damage, stubborn stains should be removed by experts that have special knowledge and experience.
- The material must not become saturated.
- Do not treat Alcantara® with leather conditioning products, solvents, floor wax, shoe polish, spot removers and the like.
- Dust and dirt particles in pores, folds and seams can have a “scouring” effect and damage the surface.
- Do not use brushes for damp cleaning because the surface of the material could be damaged.
- Open Velcro® fasteners can cause damage to Alcantara® seat covers. Close all Velcro® fasteners that could come in contact with Alcantara® seat covers.
- Objects with sharp edges and items on clothing and belts (such as zippers, rivets and rhinestones) can damage Alcantara® seat covers.

Cleaning safety belts

A dirty safety belt can prevent a safety belt from working properly.

Keep safety belts clean and regularly check all safety belts for damage.

Cleaning safety belts

– Carefully pull the dirty safety belt out of the retractor and keep it out.
– Clean the dirty safety belts with a *gentle* soap solution.
– Let the safety belt fabric dry.
– Do not let the safety belt retract until it is completely dry.

The automatic belt will not be able to roll back properly if there is heavy dirt on the belt.

WARNING

Damaged safety belts reduce the overall effectiveness of the safety belts and increase the risk of serious personal injury and death whenever a vehicle is being used.

- **Damaged safety belts must be replaced: they cannot be repaired.**
- **Never use chemical cleaning agents, solvents or any substance that may damage or weaken the safety belt webbing or any other parts of the safety belt. Never let the belts come into contact with corrosive fluids.**
- **Immediately have damaged safety belts replaced with the correct replacement belts by an authorized Volkswagen dealer or a qualified workshop. Replacement after a crash may be necessary even if a safety belt does not have visible damage.**
- **Never let foreign objects or liquids get into the safety belt latch and prevent it from working properly.**
- **Check the condition of all safety belts regularly. If you notice that the belt webbing, hardware, retractor or buckle of any of the safety belts is damaged, the belt must immediately be replaced by an authorized Volkswagen dealer or a qualified workshop.**
- **Never try to repair a damaged safety belt yourself. Never remove or modify the safety belts in any way.**
- **Be sure to read and heed the information and all WARNINGS ⇒ booklet 2.1 “Safety First”, chapter “Safety belts.”**

Note

After cleaning, always allow the safety belts to dry completely before letting them retract to prevent damage to the retractor.

Storage compartments, cup holders and ashtrays

Cleaning storage compartments and cup holders

Some storage compartments and cup holders have a removable plastic insert[2] at the bottom. To clean the storage compartment, the cup holders and the plastic insert, dampen a clean, lint-free cloth with water.

If necessary, use a special **solvent-free** plastic cleaner and care product ⇒ .

Cleaning the ashtray[2]

Use a toothpick or something similar to clean ash from putting out cigarettes.

Take the ashtray out and empty it. Wipe the ashtray clean with a cloth.

Note

Cleaning products that contain solvents will damage plastic materials.

[2] where applicable

Accessories, new parts, repairs and modifications

Accessories and parts

Always consult an authorized Volkswagen dealer before purchasing accessories and parts for your vehicle.

Your vehicle is designed to offer a high standard of active and passive safety.

Check with an authorized Volkswagen dealer for advice before installing accessories, replacement parts or other equipment.

Authorized Volkswagen dealers have the latest manufacturer's information and can recommend accessories and parts that fit your vehicle and your personal requirements. They can also help answer questions you might have about legal requirements.

We recommend you only use approved **Volkswagen accessories** and **genuine Volkswagen parts**. These parts and accessories have been evaluated by Volkswagen for their suitability, reliability and safety. Volkswagen dealerships have the necessary experience, tools and equipment to make sure that they are installed properly.

Volkswagen cannot assume responsibility for any after-market non-Volkswagen parts used, even if they have been approved by an official testing agency or are covered by an official certificate or seal of approval.

WARNING

Improper vehicle equipment or modifications can cause damage to the vehicle and serious personal injury.

- **In the interest of safety, we urge you to use only authorized Volkswagen accessories and genuine Volkswagen parts that have been designed to be used on your vehicle.**

WARNING

Improper care, servicing and repair procedures can increase the risk of personal injury and death by preventing an airbag from deploying when needed or deploying an airbag unexpectedly.

- **Never place or attach accessories or other objects (such as cup holders, telephone brackets, note pads, large, heavy or bulky objects) on the doors, on the windshield, over or near the area marked “AIRBAG” on the steering wheel, instrument panel, seat backrests, roof areas above the doors or between those areas and yourself.**
- **Objects on or near the surfaces where airbags are located can come loose and cause serious personal injury in a crash, especially when the airbags inflate.**
- **Be sure to read and heed the information and all WARNINGS ⇒ booklet 2.1 “Safety First”, chapter “Airbag system.”**

Repairs and technical modifications

Repairs and modifications must always comply with the manufacturer's specifications.

Unauthorized or unapproved changes to the vehicle's electronic components or software in the vehicle may cause malfunctions ⇒ ⚠. Electronic components are linked together in networks. Other systems may be negatively affected by improper modifications or improperly installed accessories. This can seriously impair safety and lead to excessive wear of components.

Changing the vehicle's suspension system can change the way the airbags work in a crash. Using tire-rim combinations not approved by Volkswagen, lowering the vehicle, or changing the stiffness of the suspension, including the springs, struts, and shock absorbers, can change the forces measured by the airbag sensors and affect the signals sent to the airbag control module. Some changes can, for example, increase the force levels measured by the sensors and make airbags deploy in crashes in which they would not deploy if the changes had not been made. Other kinds of changes may reduce the force levels measured by the sensors and keep the airbags from deploying when they should.

We recommend that all necessary work be performed by an authorized Volkswagen dealer using genuine Volkswagen parts.

⚠ WARNING

Improperly performed modifications or other work that is not properly performed on your vehicle can cause malfunctions leading to accidents and serious personal injury.

- **Never install suspension components that do not have the same performance characteristics as the components originally installed on your vehicle. Never use tire-wheel combinations that have not been approved by Volkswagen.**

⚠ WARNING

Improper care, servicing and repair procedures can increase the risk of personal injury and death by preventing an airbag from deploying when needed or deploying an airbag unexpectedly.

- **Changing the vehicle's suspension including use of unapproved tire-rim combinations can change airbag performance and increase the risk of serious personal injury in a crash.**
- **Be sure to read and heed the information and all WARNINGS ⇒ booklet 2.1 "Safety First", chapter "Airbag system."**

Cellular phones and CB radios

You will need an outside antenna for cellular phones and CB radios.

Volkswagen has approved your vehicle for use with cellular phones and CB radios under the following conditions:

- Correct installation of an outside antenna
- Transmitting power of no more than 10 watts

An outside antenna is necessary to give the equipment its greatest range and to prevent interference with electronics systems in the vehicle.

If you want to use a cellular phone or a CB radio with transmitting power greater than 10 watts, first check with an authorized Volkswagen dealer.

Cellular phones and CB radios should be installed only by a qualified workshop or by your authorized Volkswagen dealer.

Carefully follow the operating instructions for your cellular telephone or CB radio.

WARNING

Driver distraction causes accidents, collisions and serious personal injury!

- **Never let yourself be distracted by setting, adjusting or using the cellular phone or CB radio.**
- **Use the cellular phone or CB radio only if road, traffic and weather conditions permit and you will not be distracted from your driving.**
- **Always set volume levels so that you can clearly hear horns, sirens and other warning sounds outside the vehicle.**
- **In areas with no or inadequate cellular phone network service and occasionally in tunnels, garages and underpasses as well, a telephone call cannot be put through – no emergency calls either!**
- **Using a cellular telephone or CB radio inside the vehicle without having a separate outside antenna can be dangerous to your health and that of your passengers because the electromagnetic radiation energy that these devices emit may be above established limits.**
- **Always switch off completely cellular phones or CB radios while refueling. The electromagnetic radiation can cause sparks that can ignite fuel vapors and cause a fire.**

WARNING

Heart specialists advise that cell phones can adversely affect the way of pacemakers work.

- **Always keep the cell phone antenna at least 8 inches (20 cm) away from the pacemaker.**
- **Never carry cell phone that is switched on in the breast pocket directly over the pacemaker.**
- **If you suspect there may be interference with a pacemaker, switch the cell phone off immediately.**

WARNING

- **Never attach anything, including accessories (for example cup holders or telephone brackets) to the airbag covers or within the airbag deployment zone ⇒ booklet 2.1 “Safety First”, chapter “Airbag system.”**
- **Objects on or near the surfaces where airbags are located can come loose and cause serious personal injury if the airbag deploys.**

Note

Improper installation of cellular telephones, CB radios or other electronic components can cause other vehicle systems to malfunction. The most common causes of faults are:

- No external antenna
- Incorrectly installed external antenna
- Transmitting power of more than 10 watts

Notice about data recorded by vehicle control modules

Your vehicle is **not equipped** with an Event Data Recorder (EDR). EDRs, sometimes called “crash recorders,” are installed by some manufacturers for the express purpose of capturing data for retrieval after an accident or crash event.

Some state laws restrict the retrieval or downloading of data stored by EDRs installed in a vehicle for the express purpose of retrieving data after an accident or crash event without the owner’s consent.

Although your vehicle is not equipped with an EDR, it is equipped with a number of electronic control modules for various vehicle systems such as engine management, emission control, airbags and safety belts.

These electronic control modules also record data during normal vehicle operation for diagnostic and repair purposes. Their recording capability is limited to data (no sound is recorded). Only a small amount of data is actually recorded over a very limited period of time, or stored when a system fault is detected by a control module. Some of the data stored may relate to vehicle speed, direction or braking, as well as restraint system use and performance in the event of a crash. Stored data can only be read and downloaded with special equipment.

Checking and filling

Filling the fuel tank

The central locking system unlocks the fuel filler flap.

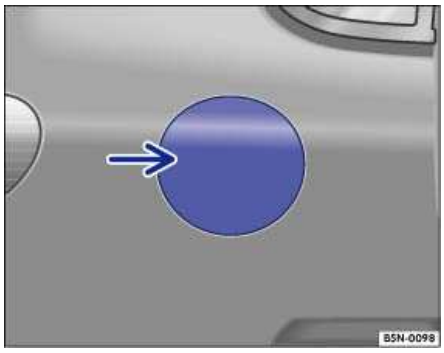

Fig. 2 Rear right side of the vehicle: Opening the fuel filler flap.

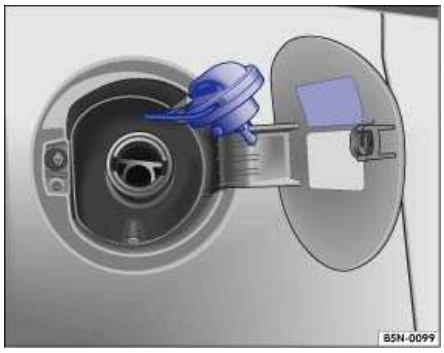

Fig. 3 Open fuel filler flap showing the cap hooked to the flap.

When adding fuel, the engine must be stopped and any cellular phones[3] in the vehicle switched off.

Opening the fuel filler flap

– Unlock the vehicle using the central locking system ⇒ booklet 3.1 “Controls and Equipment”, chapter “Opening and closing”.

– Press on the left side of the fuel filler flap ⇒ Fig. 2 (arrow).

[3] where applicable

– Open the fuel filler flap and turn the fuel cap counter-clockwise.
– Hang the fuel cap on the filler flap as shown ⇒ Fig. 3.

Closing the fuel cap

– Turn the fuel cap clockwise until you hear it lock.
– Close fuel filler flap until you hear it lock.

The fuel filler flap is on the right side of the vehicle, toward the rear.

When the indicator light comes on and the text **PLEASE REFUEL!** appears in the instrument cluster, there are still about 1.8 gallons (7 liters) of fuel in the tank. A warning chime will also sound.

An automatic filler nozzle should switch itself off when the tank is full. Do not try to add fuel after the pump stops. Topping off the tank in this way may cause fuel to overflow when it gets warmer outside.

The correct grade of fuel for your vehicle is listed on a sticker on the inside of the fuel filler flap. For more information on fuel ⇒ booklet 3.5 “Technical Data.”

Fuel filler cap not closed properly

An indicator light[4] in the instrument cluster will come on if the fuel filler cap is not properly closed. If the indicator light or display comes on, turn off the engine and switch the ignition off.

Open the fuel filler flap and take the fuel cap all the way off. Put the fuel cap on the fuel tank filler neck and twist the fuel filler cap clockwise until you hear a definite “click.” Press the fuel filler flap closed until it locks into place (and is flush with the car body).

After switching on the ignition, the indicator light might remain lit, even though the fuel cap is properly closed. This is normal and no reason to take your vehicle for service.

If, however, the malfunction indicator light (MIL) comes on, always drive to your nearest authorized Volkswagen dealer or qualified workshop and have the fuel system and the engine checked.

WARNING

Improper refueling or handling of fuel can cause fire, explosion and severe burns.

- **Always make sure the fuel cap is screwed on all the way. This keeps fuel from spilling out or from evaporating.**
- **Fuel is highly flammable and can cause severe burns and other injuries.**
- **Failure to shut the engine off while refueling and/or to insert the pump nozzle fully into the car’s filler neck could cause fuel overflow and fuel spray. Fuel spray and overflowing fuel are dangerous because they can cause fire or serious injury.**
- **For safety reason the engine must be turned off when refueling.**
- **Never use a cellular telephone, CB radio or other radio equipment while refueling. The electromagnetic radiation can cause sparks that can ignite fuel vapors and cause a fire.**
- **Never get back into your vehicle while refueling. If in exceptional circumstances you must get back in your vehicle while refueling, make certain that you close the door and touch metal to discharge static electricity before touching the filler nozzle again. Static electricity can cause sparks that can ignite fuel vapors released during refueling.**
- **Never smoke or have an open flame anywhere in or near your vehicle when refueling or filling a portable fuel container.**

[4] where applicable

WARNING

- **For your safety, we strongly recommend that you do not travel with a portable fuel container in your vehicle. The container, full or empty may leak and could cause a fire, especially in a crash.**
- **If, under exceptional circumstances, you must transport a portable fuel container, please observe the following:**
  - **Never fill a portable fuel container while it is anywhere in or on the vehicle (for example, in the luggage compartment, or on top of the rear lid). Static electricity can build up while filling and can ignite fuel vapors causing a fire.**
  - **Always place a portable fuel container on the ground before filling.**
  - **Always keep the filler nozzle completely inside the portable container before and during filling.**
  - **If filling a portable container made of metal, the filler nozzle must always be in contact with the container. This will help prevent static electricity from discharging and cause a fire.**
  - **Never spill fuel inside the vehicle or luggage compartment. Fuel vapors are highly flammable.**
  - **Always observe local and state / provincial laws about the use, storage and transportation of fuel containers.**
  - **Make certain the fuel container meets industry standards (ANSI / ASTM F852–86).**

Note

- Remove fuel spills from the paint immediately to help prevent paint damage.
- Never drive until the fuel tank is completely empty. The irregular fuel supply could cause the engine to misfire. This allows unburned fuel to get into the exhaust system and damage the catalytic converter.

For the sake of environment

Do not try to add more fuel after the automatic filler nozzle has switched off; this may cause fuel to overflow and pollute the environment, particularly when it gets warmer outside.

Tips

Remember to fill the tank when it is about 1/4 full to reduce the risk of running out of fuel, especially in remote areas.

Fuel supply

Applies to vehicles: with a gasoline engine

Gasoline

The correct gasoline grades are listed on a sticker inside the fuel filler flap.

Octane rating

Octane rating indicates a gasoline's ability to resist engine damaging "knock" caused by detonation or pre-ignition. Using the correct grade of gasoline is very important to help prevent engine damage and loss of engine performance.

The recommended gasoline octane rating for your engine is listed on a label located inside of the fuel filler flap. This rating may be specified according to AKI (CLC) or RON (ROZ) standards.

If unleaded Premium grade gasoline is recommended for your vehicle, then Volkswagen recommends using TOP TIER Detergent Gasoline with a minimum octane rating of 91 AKI (95 RON). For more information on TOP TIER Detergent Gasoline, please go to the official website (www.toptiergas.com).

Gasoline grades most commonly sold in the United States and Canada have the following octane ratings, which can usually be found on the filler pump:

- Premium grade: 91 to 96 AKI
- Regular grade: 87 to 90 AKI

Unleaded gasoline

Unleaded gasoline is available throughout the USA and Canada, and in most European countries. We recommend that you do not take your vehicle to places where unleaded gasoline may not be available.

Gasoline containing alcohol or MTBE

You may use unleaded gasoline blended with alcohol or MTBE (methyl tertiary butyl ether) commonly referred to as oxygenated fuels if the blended mixture meets the following criteria:

Blend of gasoline methanol (wood alcohol or methyl alcohol):

- Anti-Knock Index (AKI) must be 87 or higher
- Blend must contain no more than 3% methanol
- Blend must contain more than 2% co-solvents

Blends of gasoline and ethanol (grain alcohol or ethyl alcohol):

- AKI must be 87 or higher
- Blend must not contain more than 10% ethanol

Blends of gasoline and MTBE:

- AKI must be 87 or higher
- Blend must contain not more than 15% MTBE

Seasonally adjusted gasoline

Many fuels are blended especially for winter or summer conditions. When seasons change, we suggest that you buy fuel at busy stations where the seasonal adjustment is more likely to be made in time.

Note

- Do not use any fuel with an octane rating lower than 87 AKI or 91 RON. Using lower octane fuel may cause expensive engine damage.
- Never use leaded gasoline! Leaded gasoline will severely damage your vehicle's catalytic converter.
- Methanol-blended fuels that do not meet the criteria listed above may cause corrosion, and damage to plastic and rubber parts in the fuel system.
- Do not use fuels that fail to meet the criteria above, or with contents that cannot be identified.
- If you cannot tell whether a particular fuel blend meets the criteria above, ask your service station or its fuel supplier.
- Fuel system damage and performance problems caused by using fuels different from those specified above are not the responsibility of Volkswagen and are not covered under your Limited New Vehicle Warranty or the Emission warranties.

For the sake of environment

Just one tank of leaded gasoline will severely damage the catalytic converter and its ability to reduce exhaust emissions.

Tips

If you notice a loss of fuel economy or drivability and performance problems using one of these fuel blends, we recommend that you switch to unblended fuel.

Applies to vehicles: with gasoline engine

Gasoline additives

Additives are used to improve the quality of the gasoline.

Gasoline quality influences engine behavior, efficiency, performance and service life. You should always use good quality gasoline containing additives. They will help to prevent corrosion, keep the fuel system clean and prevent deposits from building up in the engine.

Volkswagen recommends using TOP TIER Detergent Gasoline. For more information on TOP TIER Detergent Gasoline, please go to the official website (www.toptiergas.com).

If good quality gasoline is not available, or if you have problems starting or the engine does not run smoothly, additives that you can buy separately may be added to the gasoline.

Not all gasoline additives are effective. We recommend you use only genuine Volkswagen gasoline additives. These are available from your authorized Volkswagen dealer along with information on how to use them. Do not mix other gasoline additives with the gasoline.

Working in the engine compartment

Safety is job No. 1 when working in the engine compartment

Special care must be taken when working on the engine or on components in the engine compartment.

Before starting any work in the engine compartment:

1. Firmly apply the parking brake.
2. Shift the transmission into **P** (automatic) or neutral (manual only).
3. Stop the engine and remove the key from the ignition switch.
4. Wait for the engine to cool down.
5. Keep children and others away from the vehicle.
6. Open the hood.

Fluids, spark plugs, batteries etc. are constantly being developed and improved. Authorized Volkswagen dealers are kept up-to-date by the manufacturer. For this reason we recommend using parts and materials from an authorized Volkswagen dealer. The engine compartment of any motor vehicle is a hazardous area ⇒ ⚠.

⚠ WARNING

California Proposition 65 Warning:

- **Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer and birth defects and reproductive harm. In addition, certain fluids contained in vehicles and certain products of component wear contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.**
- **Battery posts, terminals and related accessories contain lead and lead components, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.**

WARNING

The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

- **Always use extreme caution when doing any work in the engine compartment. Always follow commonly accepted safety practices and use common sense. Never risk personal injury.**
- **Never perform any work in the engine compartment unless you know exactly how to carry out the job and have the correct technical information and the correct tools! If you are uncertain about what to do, have the work performed by an authorized Volkswagen dealer or a qualified workshop. Serious personal injury may result from improperly performed work.**
- **Never open the hood if you see steam or coolant escaping from the engine compartment. Hot steam or coolant can cause serious burns. Always wait until you no longer see or hear steam or coolant escaping from the engine.**
- **Always let the engine cool down completely before carefully opening the hood. Hot components will burn skin on contact.**
- **When the engine has cooled down and you are ready to open the hood:**
  - **Firmly apply the parking brake and shift the transmission into P (automatic) or neutral (manual only).**
  - **Remove the key from the ignition.**
  - **Keep children and others away from the vehicle.**
- **Never reach into the area around or touch the radiator fan. Contact with the blades can cause serious personal injury. Always remember that the radiator fan is temperature-controlled and can come on suddenly even when the engine has been switched off for a while and the key has been removed from the ignition.**
- **Never unscrew the coolant expansion tank cap when the engine is hot. A hot engine will heat the coolant and put it under pressure. Removing a cap that is under pressure can cause serious personal injury and/or burns.**
- **Always protect face, hands and arms from hot escaping coolant or steam by covering the cap with a large, thick rag.**
- **Turn the cap slowly and very carefully in a counter-clockwise direction while applying light downward pressure on the top of the cap.**
- **Never spill fluids on hot engine parts or hot exhaust system. Spilled fluids can cause a fire!**
- **Never short-circuit the electrical system, especially where the jumper cables are attached – the batteries could explode!**
- **Never leave any objects in the engine compartment, for example cleaning rags and tools. Objects left behind can cause malfunctions and even fires.**
- **Never work under the vehicle unless you have safely secured the vehicle from moving. If you must work under the vehicle with the wheels on the ground, always make sure the vehicle is on level ground, the wheels are blocked from moving and the key is not in the ignition.**
- **Always support your vehicle with safety stands if you have to work underneath it. The jack supplied with the vehicle is not strong enough for this purpose and can collapse causing serious personal injury.**
- **If you have to perform a check or repair when the engine is running, there are more risks from the rotating parts, such as the drive belts, alternator, radiator fan, etc., and from the high-voltage ignition system. Always use extreme care:**
  - **Never touch the electrical wiring of the ignition system.**
  - **Always make sure that jewelry, loose clothing and long hair do not get caught in rotating engine parts. Before starting any work remove jewelry, tie back and cover hair, and do not wear clothing that can hang down and get caught in moving engine parts.**

– Always use extreme caution if the accelerator pedal has to be depressed to perform a check. The vehicle could move suddenly, even if the parking brake is applied.

- **If work on the fuel system or the electrical system is necessary:**
  - **Always disconnect the battery (or batteries, where applicable). Make sure the vehicle is unlocked when disconnecting the battery, or the alarm will go off.**
  - **Never smoke.**
  - **Never work near heaters, water heaters of other open flames.**
  - **Always have an approved fire extinguisher nearby.**
- **To reduce the risk of electrical shock and personal injury while the engine is running or being started:**
  - **Never touch ignition cables.**
  - **Never touch other components of the high voltage electronic ignition system.**
  - **Never touch the gas discharged (Xenon) headlights wiring.**

Note

When changing or topping off fluids, make sure that you pour the fluids into the correct reservoirs. Adding incorrect fluids will cause serious malfunctions and engine damage!

For the sake of environment

Fluid leaks are harmful to the environment. Regularly check the ground underneath your vehicle. If you find spots of oil or other fluids, have your vehicle checked by your authorized Volkswagen dealer or other qualified workshop.

Opening the hood

The engine hood is released from inside the vehicle.

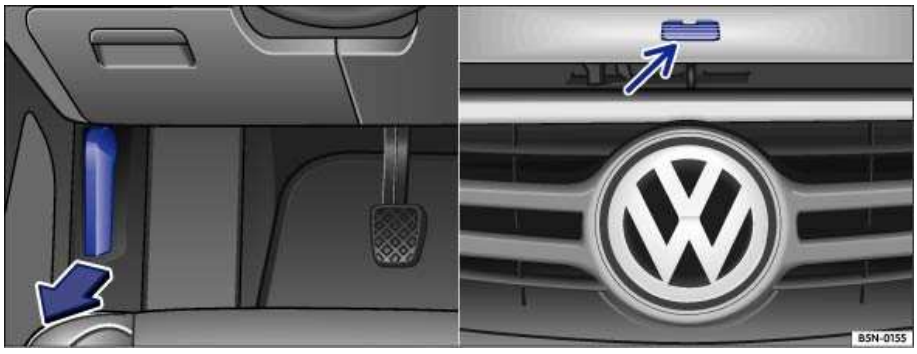

Fig. 4 Section of the driver's side footwell and from the radiator grille: Unlocking and opening the engine hood.

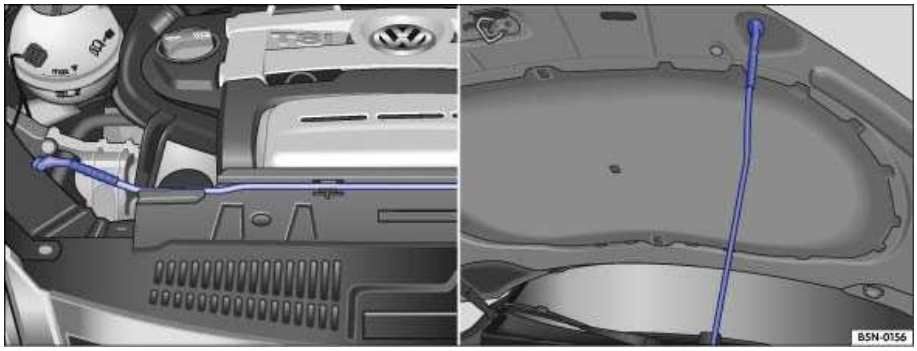

Fig. 5 Engine hood support in its stowed position in the engine compartment and when holding the engine hood open.

Before you open the hood, make sure that the windshield wiper arms are folded up against the windshield so the hood will not be damaged.

– Pull the inside hood release in the direction of the arrow ⇒ Fig. 4. The hood is released from its latch by a spring mechanism ⇒ ⚠.

– Pull the engine hood release lever ⇒ Fig. 4 (arrow) and open the engine hood.

– Pull the engine hood support ⇒ Fig. 5 out of its retainer.

– Insert the support into the opening provided in the engine hood ⇒ Fig. 5.

Warning light: Open hood

If the hood is open, or not closed properly, the vehicle symbol comes on in the instrument cluster display. The top section of the symbol is lighted, showing that the hood is not closed. When the vehicle has been locked, the display goes out after about 15 seconds.

⚠ WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Closing the hood

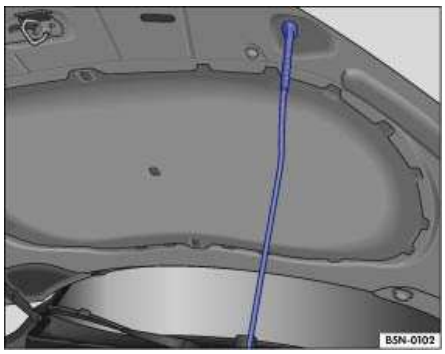

Fig. 6 Engine hood support opening in the engine hood

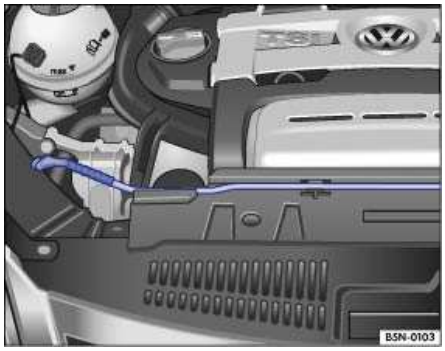

Fig. 7 Engine hood support in its stowed position.

– Remove the engine support from its opening in the engine hood ⇒ Fig. 6.

– Pull the engine hood support ⇒ Fig. 7 out of its retainer.

– Lower the engine hood and let it fall into the engine hood lock – you do *not* have to press on the hood after it is locked. ⇒ ⚠

The warning light in the instrument cluster display must go out when the hood is completely closed (to the second latch).

If the hood does not close completely, open it again and close it properly. When the hood is properly closed, you can see that it fits flush with the other body parts.

WARNING

If the hood is not closed properly, it could fly up and block your view while driving causing a crash and serious personal injuries.

- **After closing the hood, always check that the safety latch has properly engaged. The hood must be flush with the surrounding body parts.**
- **If you ever notice that the hood latch is not properly secured when the vehicle is moving, stop at once and close it.**
- **Never let anyone get in the way of the hood when closing it.**

Engine oil

Engine oil specifications

The engine oil used must conform to exact specifications.

Your engine was factory-filled with a high-quality, all-season engine oil that meets Volkswagen oil quality standards and has a viscosity grade of SAE 5W-40. You can use this oil for normal driving in all temperatures.

If you need to add oil between oil changes, use only a high quality oil that expressly complies with **Volkswagen oil quality standard VW 502 00**. If viscosity grade SAE 5W-40 is not available, you can use SAE 5W-30 or SAE 0W-40, as long as it complies with **Volkswagen oil quality standard VW 502 00**.

At the time this manual was printed, engine oils available in the U.S. that meet the standard are synthetic oils. This does not mean, however, that *any* synthetic engine oil will meet the Volkswagen standard. Always use an approved oil that meets **Volkswagen oil quality standard VW 502 00**.

To assure that the oil you use is of the highest quality, as required by your vehicle, the following terms must appear on the oil container alone or in combination with other designations:

Gasoline engine oil standard

- VW 502 00

General recommendations

If viscosity grade SAE 5W-40 or 5W-30 is not available in your area, be sure to use a viscosity grade suitable for the climate, season and operating conditions that exist where the vehicle is operated. Make sure the oil meets the quality standard listed above.

Note

- If you need to add oil (⇒ page 53, “Checking the engine oil level”) and no oil that meets Volkswagen oil quality standard VW 502 00 is available, you may top off with a high-quality oil (preferably synthetic) that meets ACEA A3 specifications, but only in viscosity grades SAE 5W30 or SAE 0W40.
- Between oil changes, never top off with more than a total of 1/2 quart (0.5 liter) of engine oil that does not meet Volkswagen oil quality standard VW 502 00.

Engine oil consumption

To provide effective lubrication and cooling for internal engine parts, all internal combustion engines use some oil. Oil consumption varies from engine to engine and may change over the life of the engine. Engines tend to use more oil during the break-in period than they do afterward, when oil consumption has stabilized.

Under normal conditions, the rate of oil consumption depends on oil quality as well as viscosity, engine speed (rpm), outside temperature, road conditions, the amount of oil dilution caused by condensed water or fuel residue, and oxidation of the oil. Oil consumption may increase with engine wear over time, until replacement of worn engine parts may become necessary.

Because of all these variables, there is no standard or "normal" rate of oil consumption. **We urge you to check the engine oil level at regular intervals, preferably every time you fill the fuel tank, and always before a long trip**.

The oil pressure warning light is not an indicator of low engine oil level. If the warning light does not go out after starting, or flashes while driving (above 1500 rpm), a buzzer will sound. It indicates that the oil pressure is too low. Stop the engine immediately, check the engine oil level and add oil if necessary. If the engine oil level is normal, but the light continues to flash, do not keep driving or let the engine idle, as damage may occur.

If you believe your engine uses too much oil, we recommend that you consult your authorized Volkswagen dealer so that the cause of your concern can be properly diagnosed. Keep in mind that accurate measurement of oil consumption requires great care and may take some time. Your Volkswagen dealer has instructions for how to measure oil consumption accurately.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, "Working in the engine compartment". The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Note

- The engine depends on oil to lubricate and cool all of its moving parts. The engine oil must be checked regularly and kept at the required level.
- Make it a habit to have the engine oil level checked every time you fill the fuel tank.
- Too little engine oil may cause severe engine damage.

Warning light: Engine oil pressure

This warning indicates that engine oil pressure is too low.

If the symbol in the instrument cluster starts to flash and three warning chimes sound, stop the engine and check the oil level. Top off with engine oil if necessary ⇒ page 55. There may be a message about what to do displayed in the instrument cluster.

Refill with a suitable motor oil, as necessary ⇒ page 55.

If the symbol in the instrument cluster flashes even though the oil level is correct, *do not* keep driving. Do not let the engine idle. Contact an authorized Volkswagen dealer or a qualified workshop.

WARNING

Failure to heed warning lights and warning messages in the instrument cluster display can lead to personal injury or vehicle damage.

Tips

The oil pressure warning light is not an oil level gauge. Check the oil level regularly, preferably every time you fill the fuel tank.

Checking the engine oil level

The dipstick indicates the engine oil level.

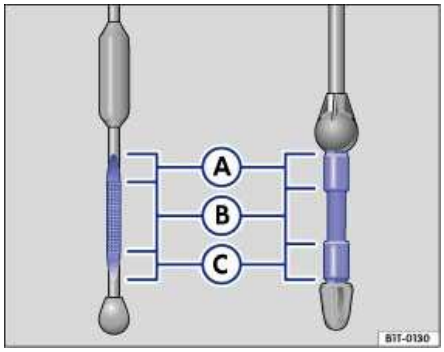

Fig. 8 Engine oil dipstick with engine oil level marks

To get a true reading, the vehicle must be on level ground. Before opening the hood, always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

– If the yellow symbol in the instrument cluster comes on, check the engine oil level as soon as possible and, if necessary, add the correct engine oil.

– Stop the engine and wait a few minutes for the oil to drain back to the oil pan.

– Raise the hood ⇒ page 48.

– Pull out the dipstick and wipe it clean.

– Reinsert the dipstick and push it all the way in; if there is an alignment tab on the engine oil dipstick, make sure it lines up with the matching features on the guide tube, and that the dipstick goes all the way in.

– Pull the dipstick out again and check the oil level, according to the markings described below.

– After checking, make sure the dipstick is pushed all the way back in.

Dipstick location is shown in the engine compartment diagram ⇒ booklet 3.5 “Technical Data”. Dipstick markings indicate the oil level, and what to do.

(A) You **must not** add oil ⇒ Fig. 8.

(B) You **may** add oil. The oil level may go into the **A** range, but not above the **A** range.

(C) You **must** add oil. After adding oil, make sure that the oil level is within the **B** range.

Symbol [5] : Engine oil level too low

If the yellow symbol in the instrument cluster **comes on**, stop the engine, check the engine oil level as soon as possible and, if necessary, add the correct oil ⇒ page 55. There may be a message in the instrument cluster about what to do.

If the yellow symbol **flashes**, contact your authorized Volkswagen dealer or a qualified workshop and have the oil level sensor checked. There may be a message in the instrument cluster display about what to do.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Failure to heed warning lights and warning messages in the instrument cluster display can lead to personal injury or vehicle damage.

Note

If the engine oil level is above the (A) range on the dipstick (⇒ Fig. 8), do not start the engine – this could damage the catalytic converter and the engine! Contact an authorized Volkswagen dealer or a qualified workshop.

Tips

The illustration above (⇒ Fig. 8) shows a typical oil dipstick. Depending on the model, your oil dipstick may look slightly different. The markings on the dipstick are the same for all models.

[5] where applicable

Adding engine oil

Top off gradually with small amounts of oil.

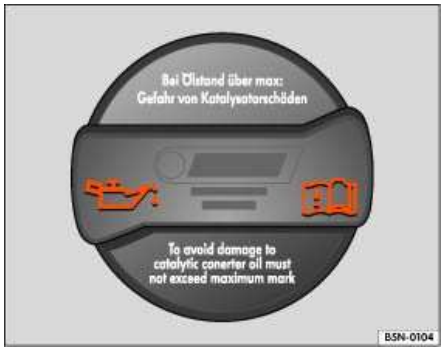

Fig. 9 Engine oil filler cap

Before opening the hood, always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

– Stop the engine.

– Unscrew the oil filler cap (with the oil can symbol on top) from the cylinder head cover ⇒ Fig. 9. If you are not sure where it is, contact your authorized Volkswagen dealer.

– Add oil in small amounts – not more than a 1/2 quart (0.5 liter) between oil changes – using oil that expressly complies with Volkswagen oil quality standards ⇒ page 51.

– To avoid adding too much oil, wait a while and check the oil level again before adding more. To get a true reading, the vehicle must be on level ground.

– When the oil level is within the (B) range (⇒ Fig. 8), carefully put the oil cap back on and insert the oil dipstick all the way. Otherwise, oil could leak out while the engine is running.

Oil filler cap location is shown in the engine compartment diagram ⇒ booklet 3.5 “Technical Data”.

Engine oil additives

Volkswagen does not recommend the use of oil additives. They may adversely affect your Limited New Vehicle Warranty.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Spilled oil is a fire hazard.

- **The oil filler cap must be properly secured to prevent oil from being sprayed on the hot engine and exhaust system when the engine is running.**

Note

If the oil level is above the (A) range on the dipstick (⇒ Fig. 8), do not start the engine – this could damage the catalytic converter and the engine! Contact an authorized Volkswagen dealer or a qualified workshop.

For the sake of environment

Do not add so much oil that it is above the (A) range on the dipstick. Otherwise, oil can be drawn through the crankcase ventilation system and escape into the atmosphere.

Changing the engine oil

Engine oil must be changed at intervals listed in the Maintenance Booklet.

The engine oil must be changed according to the intervals specified in your Maintenance Booklet ⇒ booklet 1.1 “Maintenance”.

Changing oil at regular intervals is very important because the lubricating properties of oil decrease gradually during normal vehicle use. If you are not sure when you have your oil changed, ask your authorized Volkswagen Service Advisor.

Sometimes, engine oil should be changed more often than specified for normal use. Change oil more often if you often drive short distances, in dusty areas or in stop-and-go traffic conditions, or when you use your vehicle where temperatures stay below freezing point for long periods.

Detergent additives in the oil will make fresh oil look dark after the engine has been running for a short time. This is normal and is not a reason to change the oil more often than recommended.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

If you must change the engine oil in your vehicle:

- **Always wear eye protection.**
- **To reduce the risk of burns from hot engine oil let the engine cool down to the touch.**
- **When removing the oil drain plug with your fingers, stay as far away as possible. Always keep your forearm parallel to the ground to help prevent hot oil from running down your arm.**
- **Drain the oil into a container designed for this purpose, one large enough to hold at least the total amount of oil in your engine.**
- **To reduce the risk of poisoning, never use empty food or beverage containers that might mislead someone into drinking from them.**
- **Engine oil is poisonous. Keep it well out of the reach of children.**
- **Continuous contact with used engine oil is harmful to your skin. Always protect your skin by washing thoroughly with soap and water.**

For the sake of environment

- Before changing the oil, first make sure you know where you can properly dispose of the old oil.
- Always dispose of used oil properly. Never dump it on garden soil, in wooded areas, into streams or down sewage drains.
- Recycle used oil by taking it to a used engine oil collection facility in your area, or contact a service station.
- We strongly recommend that you have your oil changed by an authorized Volkswagen dealer or a qualified workshop with the special tools and expertise required, and proper means of disposal.

Coolant

Coolant specifications

Coolant is a mixture of water and at least 40% coolant additive.

The cooling system must be filled with a mixture of water and at least 40% of Volkswagen coolant additive G 12 (purple in color), or an additive meeting the TT-VW 774 F specification.

This mixture gives the necessary anti-freeze protection down to -13° F (-25° C) and protects alloy parts against corrosion. It also raises the boiling point of the coolant.

The mixture must *always* be at least 40% coolant additive, even if anti-freeze protection is not required.

If greater anti-freeze protection is needed in very cold climates, the proportion of the additive G 12 can be increased. The percentage, however, must not be higher than 60%, as this will reduce anti-freeze protection and cooling efficiency. A mixture of water with 60% coolant additive will give anti-freeze protection to about -40° F (-40° C).

WARNING

Coolant is poisonous!

- **Always keep the coolant in its original container stored in a safe place.**
- **To reduce the risk of poisoning, never use empty food or beverage containers that might mislead someone into drinking from them.**
- **Always keep drained coolant out of the reach of children.**
- **The coolant additive G 12 must be added in sufficient quantities to give enough anti-freeze protection at the coldest temperatures that can be expected where the vehicle will be used.**
- **At extremely cold temperatures, the coolant could freeze, causing the vehicle to break down. The heater would also not work and vehicle occupants could be without protection at sub-freezing temperatures!**

Note

- Other cooling system additives may not provide enough corrosion protection. Cooling system corrosion can lead to a loss of coolant and serious engine damage.
- Coolant additive G 12 (purple) can be mixed with additives G 12 (pink) or G 11.
- G 12 can be identified in the expansion tank by its purple color. If the coolant in the expansion tank is brown, G 12 has been mixed with a coolant other than the ones named above and must be changed as soon as possible to prevent serious cooling problems or engine damage.

Symbol: Engine coolant level / temperature

The symbol in the instrument cluster lights up if the coolant temperature is too high or if the coolant level is too low.

There is a fault if:

- The symbol in the instrument cluster does not go out again a few seconds after the engine has started.
- The symbol in the instrument cluster comes on or flashes while the vehicle is moving, and three warnings sound ⇒ .

The warnings mean that either the coolant level is too low or the coolant temperature is too high (overheating).

There may be a message in the instrument cluster display about what to do.

Coolant level too low

First, look at the coolant temperature gauge. If the needle is in the normal range, top off with the proper coolant as soon as you can ⇒ .

Coolant temperature too high

First, look at the coolant temperature gauge. The coolant temperature is too high if the needle is over to the far right on the dial. **Stop the vehicle, switch off the ignition to stop the engine, and wait for it to cool down.** Check the coolant level.

If the coolant level is correct, the overheating may be caused by a radiator fan fault. Check the radiator fan fuse and have it replaced if necessary ⇒ page 123.

If the symbol in the instrument cluster comes on again after driving on for a short distance, **stop the vehicle and switch off the engine**. Contact an authorized Volkswagen dealer or a qualified workshop.

Only when towing a trailer

If you have to climb a long hill in a low gear at high engine speed (rpm) and high outside temperatures, keep an eye on the coolant temperature gauge ⇒ booklet 3.1 “Controls and Equipment”. If the symbol in the instrument cluster flashes, stop and let the engine cool down for a few minutes at idle.

For more information ⇒ booklet 3.2 “Driving your Vehicle”.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Hot steam or coolant can cause serious burns.

- **Never open the hood if you see steam or coolant escaping from the engine compartment. Always wait until you no longer see or hear steam or coolant escaping from the engine.**
- **Always let the engine to cool down completely before carefully opening the hood. Hot components will burn skin on contact.**
- **When the engine has cooled down and you are ready to open the hood:**
  - **Remove the key from the ignition.**
  - **Firmly apply the parking brake and shift the transmission into P (Park).**
  - **Keep children and others away from the vehicle.**
- **Never reach into the area around or touch the radiator fan. Contact with the fan blades can cause serious personal injury.**
- **Always remember that the radiator fan is temperature-controlled and can turn on suddenly, even when the engine has been switched off for a while and the key has been removed from the ignition.**
- **Never unscrew the coolant expansion tank cap when the engine is hot. A hot engine will heat the coolant and put it under pressure. Removing a cap that is under pressure can cause serious personal injury and/or burns.**
- **Always protect face, hands and arms from hot escaping coolant or steam by covering the cap with a large, thick rag.**
- **Turn the cap slowly and very carefully in a counter-clockwise direction while applying light downward pressure on the top of the cap.**
- **Never spill antifreeze or coolant on the exhaust system or hot engine parts. Under some conditions, the ethylene glycol in engine coolant can catch fire.**

Checking the coolant level and topping off

The correct coolant level is important for proper function of the engine cooling system.

Fig. 10 Coolant expansion tank in the engine compartment.

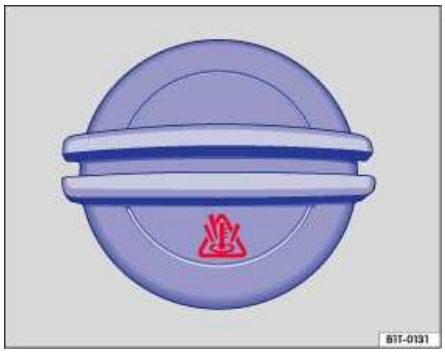

Fig. 11 Coolant expansion tank cap in the engine compartment.

To get a true reading, the vehicle must be level. Before opening the hood, always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”. If the coolant level drops too low, the engine coolant level/temperature warning light lights up.

Checking coolant level

– Look at the marks on the side of the coolant expansion tank to determine the coolant level.

– If the level is below the level shown by the “MIN” mark (lower line), top off by adding coolant ⇒ Fig. 10.

Opening the coolant expansion tank

– Stop the engine and let it cool.

– To help prevent scalding, cover the cap (⇒ Fig. 11) on the expansion tank with a thick cloth, then slowly and carefully unscrew the cap ⇒ ⚠.

Topping off coolant

– Only use **new** coolant that meets the required specifications ⇒ page 57.

– Do not fill above the “MAX” mark.

Closing the coolant expansion tank

– Reinstall the cap *tightly*.

The location of the coolant expansion tank is shown in the engine compartment overview ⇒ booklet 3.5 “Technical Data.”

Make sure that the coolant meets Volkswagen specifications ⇒ page 57. Do not use a different type of coolant additive if coolant additiveG 12 Plus is not available. In this case, temporarily use only water. Correct the coolant concentration as soon as possible by topping off with the specified additive ⇒ page 57.

Always top off with *new* coolant.

Do not fill above the “MAX” mark. Otherwise, the excess coolant will be forced out when the engine reaches normal operating temperature.

Coolant additive G 12 Plus (purple) may be mixed with G 12 (pink) or G 11 (green).

⚠ WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Note

- When mixed with other incorrect additives the color of G 12 Plus will change to brown. If this happens, change the coolant as soon as possible. Otherwise, it can cause engine damage!
- If a lot of coolant has been lost, wait for the engine to *cool down* before topping off. Adding cold coolant to a hot system may damage the engine. Large coolant losses are a sign of leaks. Have the cooling system checked immediately by an authorized Volkswagen dealer or a qualified workshop to reduce the risk of engine damage.
- Do not add any type of radiator leak sealant to your vehicle's engine coolant. Doing so may affect cooling system function and could cause damage not covered by your Limited New Vehicle Warranty.

Windshield washer fluid and wiper blades

Topping off washer fluid

Always mix water for cleaning the windshield with windshield washer fluid.

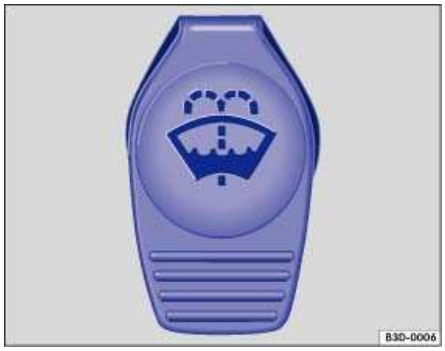

Fig. 12 Blue cap of windshield washer fluid container in the engine compartment

The symbol in the instrument cluster will come on when the washer fluid level is too low. There may be a message in the instrument cluster display about what to do. At the next opportunity, top up the fluid level.

The windshield washer fluid container located in the engine compartment supplies washer fluid to both the **windshield washer and headlight washing system**.

Stop! Before opening the hood, always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

The washer fluid container location is shown in the engine compartment overview ⇒ booklet 3.5 “Technical Data”.

Clear water is not sufficient to clean the wipers intensively. Mix the window washer fluid with a window cleaner recommended by Volkswagen ⇒ . Please observe the mixing directions on the packaging.

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Note

- Do not use engine coolant, anti-freeze or any other solution that can damage the paint

- Mixing our recommended cleaning agents with other cleaning agents can cause sediments to form that can clog window washer nozzles.

Changing windshield wiper blades

Worn or damaged wiper blades must be replaced immediately.

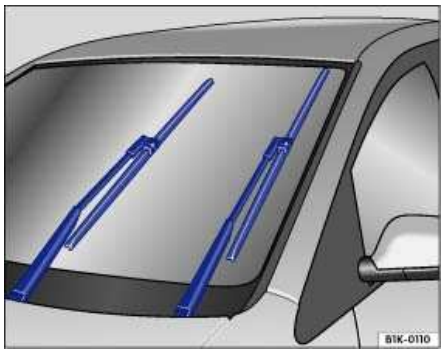

Fig. 13 Windshield wiper blades in service position.

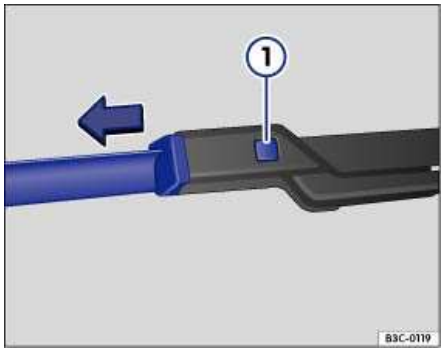

Fig. 14 Changing a front windshield wiper blade.

Regularly check the condition of the wiper blades, and change them when they are worn.

Changing front windshield wiper blades

– Switch the ignition on briefly, then switch it off again.

– Within 10 seconds of switching off the ignition, push the windshield wiper lever down to the brief wiping position. The wipers will move up and stop in the *service position* ⇒ Fig. 13.

– Lift the wiper arm away from the windshield. Do not pull the arm by the blade.

– Hold down the release button, ⇒ Fig. 14 (1), and pull the wiper blade in the direction shown (arrow).

– Install a new wiper blade **of the same length and type** on the arm and turn the blade clockwise.

– Place the wiper arms back against the windshield.

– Switch the ignition on, and leave it on. Gently press the windshield wiper lever down to the brief wiping position; the wipers will return to their original rest position.

– Switch off the ignition.

Replacement wiper blades are available from your authorized Volkswagen dealer.

Windshield wipers that do not wipe cleanly or are damaged should be replaced, or cleaned if they are dirty. See ⇒ in “Changing rear window wiper blade” on page 65 and ⇒ page 26, “Cleaning windows and outside mirrors” and/or ⇒ page 27, “Cleaning windshield wiper blades”.

WARNING

Worn or dirty wiper blades will reduce visibility and increase the risk of accident leading to serious personal injury to you and your passengers.

- **Always clean the windshield wiper blades and all windows regularly.**
- **Always make sure to change the wiper blades once or twice a year.**

Note

You must use care with the windshield wipers to avoid damage.

- If you try to lift a windshield wiper arm without first bringing it into the service position, you could damage the paint on the hood, or damage the wiper arm itself.
- If you open the hood while the wipers are switched on, they will stop immediately. After closing the hood securely, you will have to switch the wipers on again.
- It is a good idea to bring the windshield wiper arms into the service position before a snowfall. This will make it easier to clean snow and ice from the windshield.
- Never move the windshield wipers manually – this could cause damage!
- To prevent damage when blades are frozen to the glass, always loosen them by hand before operating the wipers.
- Damaged or dirty windshield wipers can scratch the windshield.
- Never use gasoline, nail polish remover, paint thinner or similar products to clean the windows. This could damage the wiper blades.

Tips

The wiper arms can only be put into *service position* if the hood is completely closed.

Changing rear window wiper blade

Worn or damaged wiper blades must be replaced immediately.

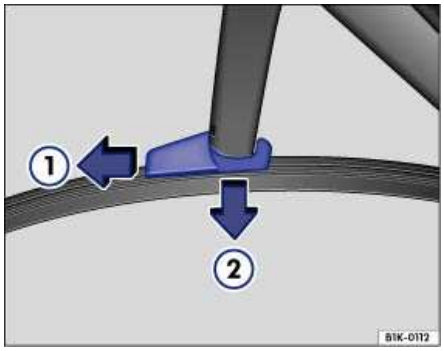

Fig. 15 Changing rear window wiper blade.

Regularly check the condition of the wiper blade, and change it when it is worn.

Changing wiper blade

– Lift the wiper arm away from the rear glass.
– Pivot the wiper blade around 90° to release it.
– Unlock the wiper blade the direction of the arrow ⇒ Fig. 15 (1).
– Remove the wiper blade in the direction of the arrow (2).
– Slide a new wiper blade **of the same length and design** onto the wiper arm (2) in the opposite direction to the arrow (A).
– Slide the release in the opposite direction to the arrow (1) to lock the wiper blade.
– Pivot the wiper blade and wiper arm back into position.

Replacement wiper blades are available from your authorized Volkswagen dealer.

Windshield wipers that do not wipe cleanly or are damaged should be replaced, or cleaned if they are dirty. See ⇒ ⓘ and ⇒ page 26, “Cleaning windows and outside mirrors” and/or ⇒ page 27, “Cleaning windshield wiper blades”.

WARNING

Worn or dirty wiper blades will reduce visibility and increase the risk of accident leading to serious personal injury to you and your passengers.

- **Always clean the windshield wiper blades and all windows regularly.**
- **Always make sure to change the wiper blades once or twice a year.**

Note

- Damaged or dirty windshield wipers can scratch the windshield.
- Never use gasoline, nail polish remover, paint thinner or similar products to clean the windows. This could damage the wiper blades.
- Never move the windshield wiper or windshield wiper arm manually – this could cause damage!
- To help prevent damage, always loosen blades that are frozen to the glass before operating the wipers.

Brake fluid

Checking brake fluid level

The brake fluid reservoir cap has yellow markings.

Fig. 16 Brake fluid reservoir cap in the engine compartment.

To get a true reading, the vehicle must be level. Before opening the hood, always read and heed all WARNINGS ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

– Check the fluid level in the transparent brake fluid reservoir. It should always be between the “MIN” and “MAX” marks.

The location of the brake fluid reservoir is shown in the engine compartment overview ⇒ booklet 3.5 “Technical Data” and identified by its yellow markings ⇒ Fig. 16.

The brake fluid level goes down slightly in normal use as the brake pads wear.

If the level goes down a lot over a short time, or drops below the “MIN” mark, there may be a leak in the brake system. If the brake fluid level is too low, the brake system warning light (!) will come on. The text warning **STOP. BRAKE FLUID. STOP VEHICLE!** may also appear in the instrument cluster display[6]. If either warning appears, immediately take the vehicle to an authorized Volkswagen dealer or a qualified workshop and have the brake system inspected.

[6] where applicable

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Changing the brake fluid

The brake fluid must be changed according to the service schedule listed in your Maintenance booklet.

We recommend that you have the brake fluid changed by an authorized Volkswagen dealer.

Stop! Before opening the hood, always read and heed all WARNINGS in chapter “Working in the engine compartment.”

Brake fluid absorbs water from the air over time, which causes corrosion in the brake system. Water in the brake fluid also reduces its boiling point, and heavy use of the brakes with old brake fluid may cause vapor lock. Vapor lock reduces braking performance, increases stopping distances and can even cause total brake failure.

For this reason the brake fluid **must** be replaced every two years.

Volkswagen has developed a special brake fluid that is optimized for the brake system in your Volkswagen. Volkswagen recommends that you use brake fluid that conforms to quality standard VW 501 14 for optimum performance of the brake system. If this special brake fluid is not available or you prefer to use other brake fluid qualities for other reasons you may use any other brake fluid that complies with US Federal Motor Vehicle Safety Standard (FMVSS) 116 DOT 4. Please note that brake fluid that conforms to VW standard 501 14 also complies with FMVSS 116 DOT 4 requirements; however, brake fluid that generally complies with FMVSS 116 DOT 4 requirements will **not** necessarily comply with the special requirements of VW standard 501 14.

WARNING

Before opening the hood and checking the brake fluid, read and heed all WARNINGS in chapter “Working in the engine compartment.”

WARNING

Brake failure and reduced brake performance can be caused by old or incorrect brake fluid.

- **Only use brake fluid that conforms to VW standard 501 14 or U.S. standard FMVSS 116 DOT 4 requirements. The brake fluid must be new. Using another brake fluid can impair the function of the brake system and reduce the effectiveness.**
- **The specifications can be found on the brake fluid packaging. Always make sure only the correct brake fluid is used. If the packaging does not say that the brake fluid complies with VW standard 501 14 or U.S. standard FMVSS 116 DOT 4, do not use it unless the brake fluid complies with one or both of these standards.**

WARNING

Brake fluid is poisonous.

- **To reduce the risk of poisoning, never use empty food or beverage containers to store brake fluid because someone might be misled by the original label on the container and drink the brake fluid.**
- **Only store brake fluid in the closed, original container and keep it out of the reach of children.**
- **Have the brake fluid changed according to the service schedule listed in your Maintenance booklet. If the brake fluid is too old, steam bubbles can form in the brake system during heavy braking. This reduces the effectiveness of the brakes and impairs driving safety and can cause total brake system failure.**

Note

Brake fluid will damage vehicle paint. Wipe brake fluid off vehicle paint immediately.

For the sake of environment

Brake fluid must be collected and disposed of properly, following all applicable environmental regulations.

Vehicle battery

Battery location

The maintenance-free battery is checked during scheduled service.

The battery is in the engine compartment, as shown in the engine compartment diagram ⇒ booklet 3.3 “Technical Data.”

If you uncertain about working on the electrical system, see your authorized Volkswagen dealer or a qualified workshop.

Warning notes on handling battery

	Always wear eye protection!
	Battery acid is very corrosive and caustic. Always wear protective gloves and eye protection!
	Fires, sparks, open lights and smoking are prohibited!
	A highly explosive mixture of gases is given off when the battery is being charged.
	Always keep children away from acid and batteries!

WARNING

Working on the batteries or the electrical system in your vehicle can cause serious acid burns, fires or electrical shock. Always read and heed the following WARNINGS and safety precautions before working on the batteries or the electrical system.

- **Before working on the electrical system, always switch off the ignition and all electrical consumers and disconnect the negative (–) cable from the batteries. When you change a light bulb, always switch off the light first.**
- **Turn off the anti-theft alarm by unlocking the vehicle before you disconnect the batteries to prevent the alarm from going on.**
- **Always keep children away from battery acid and vehicle batteries in general.**
- **Always wear eye protection. Never let battery acid or lead particles contact your eyes, skin and clothing.**
- **Sulfuric battery acid is very corrosive and can cause damage to unprotected skin and blindness. Always wear protective gloves and eye protection. To reduce your risk of injury, never tilt the batteries, as this could spill acid through the vents and make burn you.**
- **When disconnecting the batteries from the vehicle electrical system, always disconnect the negative cable (–) first and then the positive cable (+).**
- **A highly explosive mixture of gases is given off when the battery is being charged.**
- **Always avoid fires, sparks, open flame and smoking. Never create sparks or electrostatic charges when handling cables and electrical equipment. Never short-circuit the battery poles. High-energy sparks can cause serious personal injury.**
- **Always switch off all electrical consumers before reconnecting the batteries. Reconnect the plus cable (+) first and then the negative cable (–). Never reverse the polarity of the connections. This could cause fire.**
- **Never charge a frozen battery, or one that has thawed. This could cause explosions and chemical burns! Always replace a battery that has frozen. A discharged battery can freeze at temperatures around 32° F (0° C).**
- **Always make sure that the vent hose is connected to the battery, where applicable.**
- **Never use a damaged battery – it can explode! Immediately replace damaged batteries.**
- **If you get battery acid in your eyes or on your skin, immediately rinse with cold water for several minutes and get medical attention immediately. If you swallow any battery acid, get medical attention immediately.**

WARNING

California Proposition 65 Warning:

- **Battery posts, terminals and related accessories contain lead and lead components, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.**

Note

- Do not disconnect batteries with the ignition switched on or the engine running. This could damage the electrical system or electronic components.
- Do not expose batteries to direct sunlight for long periods of time. The sun’s ultraviolet rays can damage the battery housing.

- If the vehicle is left standing in the cold for a long time, protect the batteries from freezing. A battery will be permanently damaged by freezing.

Warning light: Alternator

This warning light signals a fault in the charging system.

The warning light comes on as a check when the ignition is switched on. It should go out after the engine has started.

If the warning light comes on while driving, the charging system is no longer charging the battery. You should immediately drive to the nearest authorized Volkswagen dealer or a qualified workshop. Avoid using electrical equipment that is not absolutely necessary, since doing so will drain the battery faster.

There may be a message in the instrument cluster display telling you what to do.

The voltmeter in the instrument cluster shows the voltage of the vehicle electrical system.

WARNING

Failure to heed warning lights and WARNINGS in the instrument cluster display can lead to vehicle damage, a breakdown in traffic and serious personal injury.

Open the vehicle battery cover

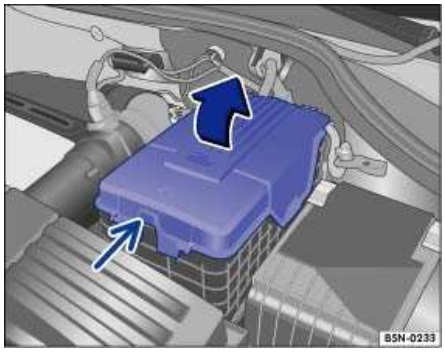

Fig. 17 Open the vehicle battery cover.

Battery location ⇒ booklet 3.5 “Technical Data.”

– Open the hood ⇒ ⚠.

– Unlock the cover on the plastic battery case ⇒ Fig. 17 (arrow) and swing it back.

WARNING

Working on the batteries can cause serious acid burns, explosion or electrical shock.

- **Never open a battery!**
- **Never connect or remove a vehicle battery, which is damaged or leaking. Battery acid could spill through the vents and burn you. Have your authorized Volkswagen dealer, or a qualified workshop, remove the battery and dispose of it properly.**
- **Always read and heed the WARNINGS and safety precautions before working on the battery or electrical system ⇒ ⚠ in “Battery location” on page 68.**

Applies to vehicles: with battery with color display in the round of the battery

Checking the battery electrolyte level

The electrolyte level should be checked regularly in high-mileage vehicles, in hot climates and in older batteries.

The position of the battery is shown in the corresponding engine compartment diagram ⇒ booklet 3.5 “Technical Data.”

– Open the engine hood.

– Remove the battery cover if necessary.

– Carefully tap on the round battery charge window located on top of the battery. This will loosen any air bubbles, which could result in an incorrect reading.

– Check the color display in the round window at the top of the battery.

The round window (“magic eye”) on the top of the battery changes color, depending on the charge level and electrolyte level of the battery.

If the lighting conditions are poor, use a flashlight so that you can clearly see the battery charge. **Never use an open flame or an unprotected light source** ⇒ ⚠.

If the color in the window is **colorless or bright yellow**, the electrolyte level of the battery is too low. The battery must be replaced by an authorized Volkswagen dealer or qualified workshop.

The colors green and black are used by the workshop to diagnose the battery.

WARNING

Working on the batteries can cause serious acid burns, explosion or electrical shock.

- **Never open a battery!**
- **Never connect or remove a vehicle battery, which is damaged or leaking. Battery acid could spill through the vents and burn you. Have your authorized Volkswagen dealer, or a qualified workshop, remove the battery and dispose of it properly.**
- **Always read and heed the WARNINGS and safety precautions before working on the battery or electrical system ⇒ ⚠ in “Battery location” on page 68.**

Charging and replacing the vehicle battery

All work with vehicle batteries requires special knowledge.

We recommend that you have the battery checked by an authorized Volkswagen dealer or a qualified workshop between regular maintenance intervals if you often drive short distances, or if the vehicle is not driven for long periods.

If the battery is “dead” or you have problems starting, the battery might be damaged. We recommend that you have the battery checked by an authorized Volkswagen dealer where it can be properly recharged or replaced.

Charging vehicle batteries

Battery charging should be left to your authorized Volkswagen dealer or a qualified workshop. Your vehicle is equipped with a special battery that must be charged in a controlled environment.

Automatic power saving features

The vehicle electrical system automatically takes steps to keep the battery from being drained when electrical power demands are high:

- Engine idle speed is increased so that the charging system provides more electrical current.
- Power to convenience consumers (such as seat heaters) may be reduced or switched off automatically to reduce the drain on the battery.

The battery can still lose charge, such as when the ignition is switched on for a long time without the engine running, or when the vehicle is parked for a long time with the parking lights or other lights left on.

Replacing a battery

The battery in your vehicle is specially developed for its mounting location, with special dimensions and safety features.

Genuine Volkswagen batteries meet the maintenance, performance and safety specifications for your vehicle.

WARNING

- **Failure to use the proper battery with proper mounting and connections may cause short circuits, fire and serious personal injury.**
- **Always use only maintenance-free or cycle-free, leak-proof batteries with the same specifications and dimensions as the original equipment battery. Specifications are listed on the battery housing.**
- **Before starting any work on the batteries, always read and heed all WARNINGS ⇒ ⚠ in “Battery location” on page 68.**

For the sake of environment

Batteries contain toxic substances including sulfuric acid and lead. They must be disposed of properly and not just put into ordinary garbage.

Tips

After connecting a battery and switching the ignition on, the ESP indicator light comes on continuously. It goes out when the vehicle is driven straight for a short distance over about 15 mph (20 km/h).

Tires and wheels

General notes

Tires may be the least appreciated and most abused parts of a motor vehicle.

Tires are very important, since their small patches of rubber make the only contact between your vehicle and the road.

Maintaining correct tire pressure, making sure that your vehicle and its tires do not have to carry more weight than they can safely handle, avoiding damage from road hazards, and regularly inspecting tires for damage including cuts, slashes, irregular wear and overall condition are the most important things that you can do to help avoid sudden tire failure, including tread separation and blowout.

Avoiding damage

If you have to drive over a curb or similar obstacle, drive very slowly and, as much as possible, at a right angle to the curb.

Always keep chemicals including grease, oil, gasoline and brake fluid off the tires.

Regularly inspect the tires for damage (cuts, cracks or blisters, etc.). Remove any foreign objects embedded in the treads.

Storing tires

Mark tires when you remove them to indicate their mounting positions (front, rear, left, right). This helps ensure that you will be able to reinstall them correctly.

When removed, the wheels or tires should be stored in a cool, dry place, and preferably in the dark.

Store tires in a vertical position if they are not mounted on wheels, or in a horizontal position if they are mounted on wheels.

New tires

New tires have to be broken in ⇒ booklet 3.2 “Driving your Vehicle”, chapter “Driving and protecting the environment.”

The tread depth of new tires may vary depending on the type and brand of tire, and the tread pattern.

Hidden damage

Damage to tires and wheels is often not readily visible. If you notice unusual vibration or the vehicle pulls to one side, this may indicate that one of the tires has been damaged. The tires must be checked immediately by an authorized Volkswagen dealer or a qualified workshop.

Unidirectional tires

A unidirectional tire is designed to rotate only in one direction, and can be identified by arrows on the sidewall that point in that direction.

Unidirectional tires must always be mounted according to the specified direction of rotation in order to deliver their best grip, road noise, wear and hydroplaning resistance.

If you have to mount a tire opposite to its proper direction of rotation, you must drive more carefully, since the tire is no longer being used as designed. This is particularly important in wet conditions. You must replace or remount the tire as soon as possible in order to restore the correct direction of rotation.

Two- or three-piece wheels[7]

Light-alloy wheels with separate center and rim sections have several parts, and are screwed together with special fasteners and special techniques. This helps to ensure that they will work properly, prevent leaks, run safely and true. Damaged wheels must be replaced, and you must never take them apart or try to repair them ⇒ ⚠.

Wheels with screw-on decorative covers[7]

Light-alloy wheels may have interchangeable decorative covers attached to the rim with self-locking screws. If you want to replace damaged wheel covers, contact your authorized Volkswagen dealer or a qualified workshop.

⚠ WARNING

New tires or tires that are old, worn or damaged cannot provide maximum control and braking ability.

- **New tires tend to be slippery and must be broken in. To reduce the risk of losing control, a collision and serious personal injuries, drive with special care for the first 350 miles (560 km).**
- **Driving with worn or damaged tires can lead to loss of control, sudden tire failure, including a blowout and sudden deflation, crashes and serious personal injuries. Have worn or damaged tires replaced immediately.**
- **To reduce the risk of losing control, crashes and serious personal injuries, never loosen the bolts on wheels with bolted rim rings.**
- **Tires age even if they are not being used and can fail suddenly, especially at high speeds. Tires that are more than 6 years old can only be used in an emergency and then with special care and at low speed.**
- **Never mount used tires on your vehicle if you are not sure of their past use. Old, used tires may have damage that cannot be seen that can lead to sudden tire failure and loss of vehicle control.**
- **If you notice unusual vibration or if the vehicle pulls to one side when driving, always stop as soon as it is safe to do so and check the wheels and tires for damage.**

Glossary of tire and loading terminology

Accessory weight

The combined weight (in excess of those standard items which may be replaced) of automatic transmission, electro-mechnical power steering, power brakes, power windows, power seats, radio, and heater, to the extent that these items are available as factory-installed equipment (whether installed or not).

[7] where applicable

Aspect ratio

The ratio of sidewall height to tire width, expressed as a percentage. A number of 70 (0.7:1 or 70%) or lower indicates a *low-profile* tire with a shorter sidewall for improved steering response and better overall handling on dry pavement.

Bead

The part of a tire made of steel wires, wrapped or reinforced by ply cords, with the shape and structure to ensure proper fit to the wheel rim.

Bead separation

A breakdown of the bond between components in the bead.

Cord

The strands of material forming the plies in the tire.

Cold tire inflation pressure

The tire pressure recommended by the vehicle manufacturer for a tire of a specified size that has not been driven for more than a couple of miles (kilometers) at low speeds in the three hour period before the tire pressure is measured or adjusted.

Curb weight

The weight of a motor vehicle with standard equipment including the maximum capacity of fuel, oil, and coolant, air conditioning and additional weight of optional equipment.

Extra load tire

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Gross Axle Weight Rating (GAWR)

The load-carrying capacity of a single axle system, measured where the tire contacts the ground.

Gross Vehicle Weight Rating (GVWR)

The maximum loaded weight of the vehicle.

Groove

The space between two adjacent tread ribs.

Load rating (code)

The maximum load that a tire is rated to carry for a given inflation pressure. You may not find this information on all tires because it is not required by law.

Maximum load rating

The load rating for a tire at the maximum permissible inflation pressure for that tire.

Maximum loaded vehicle weight

The total of:

(a) Curb weight

(b) Accessory weight

(c) Vehicle capacity weight

(d) Production options weight

Maximum (permissible) inflation pressure

The maximum cold inflation pressure to which a tire may be inflated. Also called “maximum inflation pressure.”

Normal occupant weight

Means 150 lbs. (68 kilograms) times the number of occupants seated in the vehicle up to the total seating capacity of your vehicle.

Occupant distribution

The placement of passengers in a vehicle.

Outer diameter

The diameter of a new, properly inflated tire.

Overall width

Total width measured at the exterior sidewalls of an inflated tire, including the additional width of labeling, decorations, or protective bands or ribs.

Ply

A layer of rubber-coated parallel cords.

Production options weight

The combined weight of installed regular production options weighing over 5 lbs. (2.3 kg) more then the standard items they replace, and not previously considered as curb weight or accessory weight. These include, for example, heavy-duty brakes, ride levelers, roof rack, heavy-duty battery, and special trim.

Radial ply tire

A pneumatic tire in which the ply cords that extend to the beads are laid at substantially 90 degrees to the centerline of the tread.

Recommended inflation pressure

See page 75, “Cold tire inflation pressure”.

Reinforced tire

A tire designed to operate at higher loads and at higher inflation pressures than the corresponding standard tire.

Rim

The outer edge of a wheel upon which the tire beads are seated.

Rim diameter

The nominal diameter of the wheel’s tire bead seating surface. If you change your wheel size, to wheels of a different diameter, you will have to purchase new tires to match the new wheels.

Rim width

The nominal distance between wheel rim flanges.

Sidewall

The portion of a tire between the bead and the tread.

Speed rating (letter code)

A standardized letter code indicating the maximum speed at which a tire is designed to be driven for extended periods of time. The ratings range from 93 mph or 150 km/h (“P”) to 186 mph or 300 km/h (“Y”).

The speed rating letter code, where applicable, is molded on the tire sidewall. The codes and speed ratings are listed in a table ⇒ page 94. You may not find this information on all tires because it is not required by law.

Pay special attention to the speed rating for winter tires ⇒ ⚠ in “Winter tires” on page 98.

Tire pressure monitoring system[8]

A system that detects when at least one of a vehicle's tires is under-inflated and illuminates a low tire-pressure warning light.

Tread

The portion of a tire that normally touches the road.

Tread separation

Tire failure caused by the tread pulling away from the tire carcass.

Tread wear indicators (TWI)

Raised areas within the main tread grooves that show, visually, when tires are worn and near the end of their useful life ⇒ page 91, “Tread Wear Indicator (TWI)” for more information on measuring tire wear.

Uniform Tire Quality Grading (UTQG)

A tire information system developed by the U.S. National Highway Traffic Safety Administration (NHTSA) that is designed to help buyers compare tires. UTQG is not a safety rating, nor is it a guarantee that a tire will last for a certain number of miles or perform a certain way. It gives tire buyers more information to compare with factors such as price, brand loyalty and dealer recommendations. Under UTQG, tires are graded by the tire manufacturers in three areas: tread wear, traction and temperature resistance. UTQG information is molded into the tire sidewalls.

U.S. DOT Tire Identification Number (TIN)

A tire’s *serial number*. It begins with the letters “DOT” (Department of Transportation) and indicates that the tire meets all federal standards. The next two numbers or letters indicate the plant where the tire was manufactured. The last four numbers represent the week and year of manufacture. For example, the numbers 1801 mean that the tire was produced in the 18th week of 2001. Any other numbers are marketing codes used by the tire manufacturer. This information is used to help identify affected consumers if a tire defect requires a recall.

Vehicle capacity weight

The total rated cargo, luggage and passenger load. Passenger load is 150 lbs. (68 kilograms) times the vehicle's total seating capacity (as listed on the label inside the driver’s door).

Vehicle maximum load on the tire

The load on an individual tire that is determined by taking each axle’s share of the maximum loaded vehicle weight (GAWR) and dividing by two.

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[8] where applicable (TPMS = Tire pressure monitoring system)

Vehicle normal load on the tire

The load on an individual tire that is determined by taking each axle's share of the curb weight, accessory weight, and normal occupant weight (distributed according to the table below ⇒ page 78) and dividing by two.

Wheel size designation

Wheel rim diameter and width.

Occupant loading and distribution for vehicle normal load for various designated seating capacities

Designated seating capacity, number of occupants	Vehicle normal load, number of occupants	Occupant distribution in a normally loaded vehicle
2, 3 or 4 5	2 3	2 in front 2 in front, 1 in back

Cold tire inflation pressure

Tire pressure affects the overall handling, performance and safety.

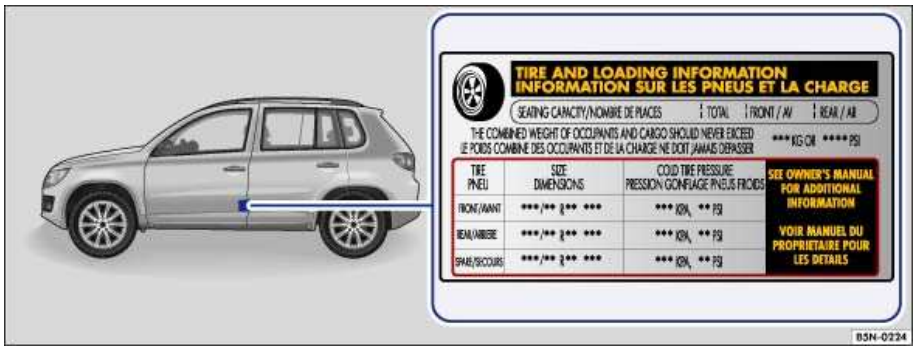

Fig. 18 Approximate location of the tire pressure label on the open edge of the driver's door.

Tire pressure is a measure of the amount of air that a tire needs it to do its job and safely carry the combined load of the vehicle and its contents. Tire pressure is listed in kilopascals (kPa), an international measuring unit, and in pounds per square inch (PSI), a measurement more common in North America. Recommended tire pressure is based in part on the vehicle's design and load limit – the greatest amount of weight that the vehicle can carry safely – and the tire size.

Proper tire pressure is often called "recommended cold tire inflation pressure." and it is the inflation pressure in a *cold* tire that counts. Air in the tires expands when the tire heats up and expands in normal use, so the pressure is higher when the tire has warmed up. You should never lower the pressure of a warm tire to match "cold tire inflation pressure" recommendations. The tires would then be under-inflated and could fail suddenly.

Maintaining proper tire pressure is important because under-inflated tires are a major cause of sudden tire failure. Proper tire pressure is also important for safe and responsive handling, traction, braking and load

carrying. **Tire pressures are particularly important when the vehicle is being driven at higher speeds, and especially when heavily loaded, even within the permissible load-carrying capacities approved for your vehicle**.

The tire pressure label inside the driver's door and the table below list the recommended cold tire inflation pressures for the vehicle at its maximum capacity weight, according to tire size ⇒ Fig. 18. The appearance and exact location of the label may vary slightly.

Model	Engine	Tire	Tire pressure	
			PSI	kPa
Tiguan Front wheel drive	**2,0 l / 200 hp (147 kW) FSI**	215/65 R 16	35	240
		235/55 R 17	35	240
		235/50 R 18	35	240
		T145/80 R18	61	415
Tiguan All-wheel-drive (4MOTION)	**2,0 l / 200 hp (147 kW) FSI**	215/65 R 16	38	260
		235/55 R 17	38	260
		235/50 R 18	38	260
		T145/80 R18	61	415
The Tire Pressure Monitoring System (TPMS)[9] is factory-set to the pressure specified for the model, engine and standard or optional tire size, as shown in the table and on the driver's door label ⇒ Fig. 18 and this pressure must be used. Installation of tires other than those approved for this model is not recommended. If replacement tires require different pressures, the TPMS will not monitor their pressures correctly.				

Always compare the tire size designation on the tire pressure label on your vehicle with the tires on your vehicle and make sure they are the same. This is especially important if the vehicle belongs to someone else, if you bought the vehicle with different wheels/tires, or if the vehicle was previously owned.

Remember that your safety and the safety of your passengers depends on making sure that load limits are not exceeded. Vehicle load includes everybody and everything in and on the vehicle. The Gross Vehicle Weight Rating (GVWR) and Gross Axle Weight Rating (GAWR) are listed on the safety compliance label on the driver's door latch pillar. The tire pressure label inside the driver's door lists the maximum combined weight of all of the occupants and luggage or other cargo that the vehicle can carry ⇒ Fig. 18.

[9] where applicable

WARNING

Overloading a vehicle can cause loss of vehicle control, a crash or other accident, serious personal injury, and even death.

- **Carrying more weight than your vehicle was designed to carry will prevent the vehicle from handling properly and increase the risk of the loss of vehicle control.**
- **The brakes on a vehicle that has been overloaded may not be able to stop the vehicle within a safe distance.**
- **Tires on a vehicle that has been overloaded can fail suddenly causing loss of control and a crash.**
- **Always make sure that the total load being transported – including the weight of a trailer hitch and the tongue weight of a loaded trailer – does not make the vehicle heavier than the vehicle's Gross Vehicle Weight Rating.**

WARNING

- **Incorrect tire pressures and/or under-inflation can lead to a serious or fatal accident.**
- **Incorrect tire pressures and/or under-inflation cause increased tire wear and can affect the handling of the vehicle.**
- **Incorrect tire pressures and/or under-inflation can also lead to sudden tire failure, including a blowout and sudden deflation, causing loss of vehicle control.**

Applies to vehicles: with tire pressure monitoring system (USA models only)

US models: Tire Pressure Monitoring System (TPMS) warning light

The TPMS will warn the driver of significant loss of tire pressure.

Each tire, including the spare, should be checked monthly when cold and inflated to the inflation pressure recommended by the vehicle manufacturer on the vehicle placard or tire inflation pressure label. (If your vehicle has tires of a different size than the size indicated on the vehicle placard or tire inflation pressure label, you should determine the proper tire inflation pressure for those tires.)

As an added safety feature, your vehicle has been equipped with a tire pressure monitoring system (TPMS) that illuminates a low tire pressure telltale[10] when one or more of your tires is significantly under-inflated. Accordingly, when the low tire pressure telltale illuminates, you should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on a significantly under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle's handling and stopping ability.

Please note that the TPMS is not a substitute for proper tire maintenance, and it is the driver's responsibility to maintain correct tire pressure, even if under-inflation has not reached the level to trigger illumination of the TPMS low tire pressure telltale[10].

Your vehicle has also been equipped with a TPMS malfunction indicator to indicate when the system is not operating properly. The TPMS malfunction indicator is combined with the low tire pressure telltale[10].

[10] TPMS warning light

When the system detects a malfunction, the telltale will flash for approximately one minute and then remain continuously illuminated. This sequence will continue upon subsequent vehicle start-ups as long as the malfunction exists.

When the malfunction indicator is illuminated, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement or alternate tires or wheels on the vehicle that prevent the TPMS from functioning properly. Always check the TPMS malfunction telltale[10] after replacing one or more tires or wheels on your vehicle to ensure that the replacement or alternate tires and wheels allow the TPMS to continue to function properly.

Description

The system uses a pressure sensor at each wheel. Signals from the sensors are transmitted to the TPMS. A pressure sensor is part of each wheel's tire inflation air valve.

The TPMS checks the tire pressures of all four tires while you are driving and warns if there is a loss of pressure while the vehicle is moving, Pressure loss is signaled by the warning light described above, audible warnings, and text warnings in the instrument cluster display[11].

WARNINGS

Display	Meaning	Action
(!) and the warning **LOW TIRE!**	Rapid loss of pressure in at least one tire.	Stop immediately! Inspect all tires for external damage and foreign objects. Check inflation pressure for all four tires. If it is not necessary to change a wheel right away, you can drive at reduced speed to the nearest authorized Volkswagen dealer or a qualified workshop ⇒ ⚠.
(!) and the warning **TIRE PRESSURES TOO LOW!**	At least one tire has a significant loss of pressure, at least 7.25 PSI (0.5 bar) less than the recommended pressure.	Check inflation pressure for all four tires immediately. If it is not necessary to change a wheel right away, you can drive at reduced speed to the nearest authorized Volkswagen dealer or a qualified workshop ⇒ ⚠.
(!)	There is a malfunction in the system.	See your authorized Volkswagen dealer or a qualified workshop and have the problem corrected ⇒ ⚠.
(!) comes on briefly while driving	There is a communication problem between a sensor and the system; TPMS function can be temporarily disrupted by interference from transmitters near the vehicle working in the same frequency range (e.g. radio equipment, cellular phone).	No action is necessary.

[11] where applicable

WARNING

Incorrect tire pressures and/or under-inflation can cause sudden tire failure, loss of control, collision, serious personal injury or even death.

- **When the warning symbol appears in the instrument cluster, stop and inspect the tires.**
- **Incorrect tire pressure and/or under-inflation can cause increased tire wear and can affect the handling of the vehicle and stopping ability.**
- **Incorrect tire pressures and/or under-inflation can also lead to sudden tire failure, including a blowout and sudden deflation, causing loss of vehicle control.**
- **The driver is responsible for the correct tire pressures for all tires on the vehicle. The recommended tire pressure values are listed on a sticker inside the driver's door ⇒ Fig. 18.**
- **Only when all tires on the vehicle are filled to the correct pressure the TPMS can work correctly.**
- **Using incorrect tire pressure values can cause accidents or other damage. Always set the correct specified tire pressure values for the tires installed and the loading of the vehicle.**
- **Always set and maintain correct cold inflation tire pressure so that TPMS can do its job.**
- **Always inflate tires to the recommended and correct tire pressure before driving off.**
- **Driving with under-inflated tires causes them to flex more, letting them get too hot, resulting in tread separation, sudden tire failure and loss of control.**
- **Excessive speed and/overloading can cause heat build-up, sudden tire failure and loss of control.**
- **If the tire pressure is too low or too high, the tires will wear prematurely and the vehicle will not handle well.**
- **If the tire is not flat and you do not have to change a wheel immediately, drive at reduced speed to the nearest service station to check the tire pressure and add air as required.**
- **When replacing tires or wheel rims on vehicles equipped with TPMS always read and heed the information and all WARNINGS regarding ⇒ page 73, "Tires and wheels".**

Note

- Missing valve stem caps can cause damage to the valves and sensors. To help prevent damage, always use valve stem caps like those installed at the factory. The caps must be screwed down tightly. Do not use metal valve stem caps.
- When switching to different tires, make certain that the valves and sensors are not damaged.

For the sake of environment

Under-inflated tires will also increase fuel consumption.

Tips

- The tire pressure monitoring system checks for the factory recommended inflation pressure, as shown on the label inside the driver's door ⇒ Fig. 18.
- For replacement tires that require a different inflation pressure, the TPMS must be adapted to the new pressure specification by an authorized Volkswagen dealer or a qualified workshop. Only one value can be entered for partial or full load.

- The tire pressure monitoring system shuts itself off if a set of tires without wheel sensors is mounted on the vehicle and it cannot receive sensor signals. As soon as the system receives at least one sensor signal, it switches itself on again.
- Check tire pressures at regular intervals, even though you have the monitoring system. Inspect the tires for damage (punctures, cuts, tears and blisters). Remove foreign objects from the tire tread.
- If sensors have to be replaced, have the valves changed at the same time.
- Pressures measured with a gauge when inflating the tires may be different from the pressures read by the tire pressure sensors. The electronic TPMS is more accurate.
- If you have to adjust the tire pressure on a “warm” tire, fill the tire with 2.0 – 4.35 PSI (0.2 – 0.3 bar) more than the pressure specified on the pressure label located on the open edge of the driver's door ⇒ Fig. 18.
- When the TPMS determines that the air pressure in at least one tire is too low, carefully check the pressure in all four tires using an accurate tire pressure gauge. Low tire pressure usually cannot be determined by looking at the tire. This is especially true for low-profile tires.
- When there is a rapid or excessive loss of pressure while driving, you are immediately given a visual and audible warning.

Applies to vehicles: with tire pressure monitoring system (except USA models)

Not for US models: Tire Pressure Monitoring System warning light

The tire pressure monitoring system helps the driver to keep track of tire pressures.

Fig. 19 Center console button for tire pressure monitoring display.

The TPMS keeps track of tire pressure at all four wheels while you are driving and warns the driver if there is a loss of pressure using warning lights, text displays in the instrument cluster, and audible warnings. The system uses a pressure sensor at each wheel. Signals from the sensors are transmitted to the TPMS. The pressure sensor is part of the air valve. Visual and audible warnings will indicate a significant loss of pressure while the vehicle is moving.

Status inquiry

– Press the button briefly to display the status (partial or full load) for monitoring tire pressures in the instrument cluster display ⇒ Fig. 19.

Adjusting load condition

– Press the button for more than two seconds to inform the system of vehicle load condition. You can select between “Partial load” and “Full load” ⇒ Fig. 19.

Switching on

– Press the button for about two seconds to switch the tire pressure monitoring system on ⇒ Fig. 19. The system is in “Partial load” status after it is switched on. The system switches on automatically as soon as a signal is received from a sensor.

Switching off

– Press the button for longer than ten seconds to switch the tire pressure monitoring system off ⇒ Fig. 19. The system switches off automatically if no sensor signal is received after the vehicle has been stopped for about twenty minutes.

Each tire, including the spare (if so equipped), should be checked monthly when cold and inflated to the recommended cold inflation pressure listed on the tire pressure label. If your vehicle has tires of a different size than listed on the tire pressure label, check the table above to determine the proper tire inflation pressure.

When the low tire pressure warning comes on, at least one of your tires is under-inflated. You should stop and check your tires as soon as possible, and inflate them to the proper pressure. Driving on an under-inflated tire causes the tire to overheat and can lead to tire failure. Under-inflation also reduces fuel efficiency and tire tread life, and may affect the vehicle’s handling and stopping ability.

A TPMS malfunction warning light also indicates when the system is not working properly. When the warning light comes on, the system may not be able to detect or signal low tire pressure as intended. TPMS malfunctions may occur for a variety of reasons, including the installation of replacement tires that are not compatible. Always check for TPMS malfunction warnings after replacing one or more tires, to ensure that there are no TPMS problems.

Displays in the instrument cluster

Display	Meaning	Action
(!) and warning: **LOW TIRE!**	Rapid loss of pressure in at least one tire.	Stop immediately! Inspect all tires for external damage and foreign objects. Check inflation pressure for all tires. If it is not necessary to change a wheel right away, you can proceed at reduced speed to the nearest qualified workshop ⇒ ⚠.
(!) and warning: **TIRE PRESSURES TOO LOW!**	At least one tire is at a critical pressure, at least 0.5 bar (7.25 PSI) lower than the recommended pressure.	Check inflation pressure for all four tires immediately. If it is not necessary to change a wheel right away, you can drive at reduced speed to the nearest qualified workshop ⇒ ⚠.

Display	Meaning	Action
Warning: **CHECK TIRE PRESSURES!**	(After the ignition is switched on) Slow loss of pressure in at least one tire.	Check inflation pressure for all four tires immediately ⇒ ⚠.
(!)	There is a malfunction in the system.	See your authorized Volkswagen dealer or a qualified workshop and have the problem corrected ⇒ ⚠.
(!) comes on briefly while you are driving	There is a communication problem between a sensor and the system; function can be temporarily disrupted by interference from transmitters near the vehicle working in the same frequency range (e.g. radio equipment, cellular phone).	No action is necessary.

Load condition

Following each change in the load condition of the vehicle, you have to check and adjust tire pressures. The recommended cold inflation pressure is listed on the label on the inside edge of the driver's door ⇒ Fig. 18.

You must communicate the load condition to the TPMS for the system to operate correctly. Press the button for longer than two seconds to toggle between the load conditions **Partial load** and **Full load** ⇒ Fig. 19.

If you press the button briefly, ⇒ Fig. 19, the monitoring status is shown in the instrument cluster display.

Spare wheel

If the vehicle is equipped from the factory with a spare wheel in the same tire/wheel size combination as the other four wheels, the spare wheel also has a compatible sensor.

New wheels

If you want to replace the factory-installed wheels, make sure the new wheels are equipped with sensors that are compatible with the factory-installed TPMS. New wheels with sensors are *recognized* and integrated into the system. For this to happen, the vehicle must stand for about 20 minutes, then be driven for a while above 15 mph (25 km/h).

For replacement tires that require inflation pressures different from those recommended by the factory, the TPMS must be reprogrammed. Please contact your authorized Volkswagen dealer or a qualified workshop.

If you mount wheels that do not have compatible sensors, the TPMS cannot *recognize* the wheels and will not be able to monitor inflation pressure. A malfunction warning will be displayed in the instrument cluster.

Storing tires

The sensors send signals to the tire pressure monitoring system only while you are driving.

Declaration of compliance

Siemens VDO declares that the product S122215002A conforms in full with the essential requirements and the other relevant provisions of directive 1999/5/EG.

WARNING

Incorrect tire pressures and/or under-inflation can cause sudden tire failure, loss of control, collision, serious personal injury or even death.

- **When the warning symbol appears in the instrument cluster, stop and inspect the tires.**
- **Incorrect tire pressure and/or under-inflation can cause increased tire wear and can affect the handling of the vehicle and stopping ability.**
- **Incorrect tire pressures and/or under-inflation can also lead to sudden tire failure, including a blowout and sudden deflation, causing loss of vehicle control.**
- **The driver is responsible for the correct tire pressures for all tires on the vehicle. The recommended tire pressure values are listed on a sticker inside the driver's door ⇒ Fig. 18.**
- **Always set the correct specified tire pressure values for the tires installed and the loading of the vehicle.**
- **Always inflate tires to the recommended and correct tire pressure before driving off.**
- **Driving with under-inflated tires causes them to flex more, letting them get too hot, resulting in tread separation, sudden tire failure and loss of control.**
- **Excessive speed and/overloading can cause heat build-up, sudden tire failure and loss of control.**
- **If the tire pressure is too low or too high, the tires will wear prematurely and the vehicle will not handle well.**
- **If the tire is not flat and you do not have to change a wheel immediately, drive at reduced speed to the nearest service station to check the tire pressure and add air as required.**
- **When replacing tires or wheel rims on vehicles equipped with TPMS always read and heed the information and all WARNINGS regarding ⇒ page 73, "Tires and wheels".**

Note

- Missing valve stem caps can result in damage to the valve and sensors in the tire pressure monitoring system. To prevent this, always drive with valve stem caps that are the equivalent of those installed at the factory. The caps must be screwed down tightly. Do not use metal valve stem caps.
- When switching to different tires, make certain that the valves and the sensors are not damaged.

For the sake of environment

Low tire pressures also increase fuel consumption.

Tips

- The tire pressure monitoring system checks for the factory recommended inflation pressure, as shown on the label inside the driver's door ⇒ Fig. 18.
- For replacement tires that require a different inflation pressure, the TPMS must be adapted to the new pressure specification by an authorized Volkswagen dealer or a qualified workshop. Only one value can be entered for partial or full load.
- The tire pressure monitoring system shuts itself off if a set of tires without wheel sensors is mounted on the vehicle and it cannot receive sensor signals. As soon as the system receives at least one sensor signal, it switches itself on again.

- Check tire pressures at regular intervals, even though you have the monitoring system. Inspect the tires for damage (punctures, cuts, tears and blisters). Remove foreign objects from the tire tread.
- If sensors have to be replaced, have the valves changed at the same time.
- Pressures measured with a gauge when inflating the tires may be different from the pressures read by the tire pressure sensors. The electronic TPMS is more accurate.
- If you have to adjust the tire pressure on a “warm” tire, fill the tire with 2.0 – 4.35 PSI (0.2 – 0.3 bar) more than the pressure specified on the pressure label located on the open edge of the driver's door ⇒ Fig. 18.
- When the TPMS determines that the air pressure in at least one tire is too low, carefully check the pressure in all four tires using an accurate tire pressure gauge. Low tire pressure usually cannot be determined by looking at the tire. This is especially true for low-profile tires.
- When there is a rapid or excessive loss of pressure while driving, you are immediately given a visual and audible warning.

Checking tire pressure

Correct tire pressure for the factory-installed tires is listed on the tire pressure label inside the driver's door.

Recommended tire pressures are listed on the tire pressure label inside the driver's door, and in the table ⇒ page 78, “Cold tire inflation pressure”. For Canadian vehicles, there is also tire pressure information in French on the fuel filer flap. Tire pressure must be checked and adjusted before the tire has been driven for more than a couple of miles (kilometers) at low speed during the past three hours. Air in the tires heats up and expands in normal use, so the pressure is higher after the tire has warmed up.

Checking inflation pressure in a *cold* tire is what counts. You should never lower the pressure in a warm tire to match recommended cold tire inflation pressure. The tires would then be under-inflated and could fail suddenly. The correct tire pressure is especially important when driving at high speeds.

Most tires normally lose some air over time. They can also lose air if you drive over a pothole or hit a curb. With modern radial-ply tires, you usually cannot tell whether they are under-inflated just by looking at them. Be sure to check tire pressures at least once a month, and always before starting a long trip. Other important information ⇒ page 89, “Tires and vehicle load limits”.

Vehicles with full wheel covers have valve extenders instead of valve dust caps. To check tire pressure or add air, you do not need to remove the extender. Be sure to reinstall valve caps (if equipped) after checking or adjusting tire pressure.

Never exceed the maximum inflation pressure listed on the tire sidewall for any reason.

Remember that the vehicle manufacturer, not the tire manufacturer, determines the correct tire pressure for the tires on your vehicle.

It is important to check the tire pressure when the tires are cold.

Checking and adjusting (with and without TPMS[12])

Tire pressure should be checked at least once a month, and always before starting a long trip, but only when the tires are cold. Always use an accurate tire pressure gauge. Check all the tires, including the spare. Other important information ⇒ page 89, “Tires and vehicle load limits”.

[12] where applicable (TPMS = Tire pressure monitoring system)

Tire pressure must be adjusted any time the pressures are too low. Pressures of warm tires, which may be higher than the recommended cold tire pressure, must not be reduced. After changing a wheel or replacing wheels, you must adjust the tire pressures for all four tires.

- Check the recommended cold inflation pressure on the tire pressure label inside the driver's door.
- If necessary, remove the valve cap from the tire valve (turn counter-clockwise).
- Briefly connect the air pressure gauge to the valve and read the tire pressure.
- Add or release air to adjust the tire pressure to the recommended value. **Never exceed the maximum inflation pressure shown on the tire sidewall**.
- Repeat for all four tires and the spare (if equipped).
- If necessary, reinstall the valve caps on the tire valves.

WARNING

Incorrect tire pressure can cause a sudden tire failure loss of control, collision, serious personal injury and even death.

- **Always fill tires to the recommended and correct tire pressure before driving off.**
- **Driving with under-inflated tires causes them to flex more, letting them get too hot, resulting in tread separation, sudden tire failure tire failure and loss of control.**
- **Excessive speed and/or overloading can cause heat build-up, sudden tire failure including a blowout and sudden deflation and loss of control.**
- **If the tire pressure is too low or too high, the tires will wear prematurely and the vehicle will not handle well.**

Note

Driving without tire valve caps can damage the tire valves and pressure sensors on vehicles with the TPMS[12]. To prevent damage, always make sure that the factory-supplied caps are securely installed on the valves for all four wheels.

For the sake of environment

Your car will have higher fuel consumption and unnecessary exhaust emissions with under-inflated tires.

Tips

For vehicles with the TPMS:

- You may find differences between the pressure readings from a hand-held pressure gauge and the pressure readings displayed in the instrument cluster. The tire pressure monitoring system is more accurate.
- When the TPMS warns that the pressure in at least one tire is too low, check the tire pressures using an accurate tire pressure gauge. Low tire pressure usually cannot be spotted by looking at the tire. This is especially true for low-profile tires.

Tires and vehicle load limits

There are limits to the load any vehicle or any tire can carry. A vehicle that is overloaded will not handle well and is more difficult to stop. Overloading can damage important parts of the vehicle. Overloading can also lead to blowout, sudden loss of pressure or other tire failure that can cause loss of control.

Your safety and the safety of your passengers depends on making sure that load limits are not exceeded. Vehicle load includes everybody and everything in and on the vehicle. These load limits are technically referred to as the vehicle's **Gross Vehicle Weight Rating** (GVWR).

The GVWR includes the weight of the basic vehicle, all factory-installed accessories, a full tank of fuel, oil, coolant and other fluids plus maximum load. The maximum load includes the number of passengers that the vehicle is intended to carry (*seating capacity*) with an assumed weight of 150 lbs. (68 kg) for each passenger at a designated seating position and the total weight of any luggage in the vehicle. If you tow a trailer, the weight of the trailer hitch and the tongue weight of the loaded trailer must be included as part of the vehicle weight. At altitudes above 3,000 ft. (1,000 m), combined towing weight (vehicle plus trailer) must be reduced by 10% for every 3,000 ft. (1,000 m).

The **Gross Axle Weight Rating** (GAWR) is the maximum load that can be carried at each of the vehicle's two axles (by the front or rear tires).

GVWR and GAWR are listed on the safety compliance label on the driver's door latch pillar. Your vehicle has five total seating positions: two in the front and three in back. Each seating position has a safety belt ⇒ booklet 2.1 "Safety First", chapter "Safety belts."

Because there is an upper limit to your vehicle's total weight (GVWR), the weight of whatever is being carried (including the weight of a trailer hitch and the tongue weight of the loaded trailer) is also limited. More passengers, or passengers who are heavier than the assumed 150 lbs. (68 kg), mean that less weight can be carried as luggage or other cargo.

The tire pressure label on your Volkswagen also lists the maximum combined weight of all of the occupants and luggage or other cargo that the vehicle can carry ⇒ Fig. 18. For Canadian vehicles, there is also tire pressure information in French on the fuel filer flap.

WARNING

Overloading a vehicle can cause loss of vehicle control, a crash or other accident, serious personal injury, and even death.

- **Carrying more weight than your vehicle was designed to carry will prevent the vehicle from handling properly and increase the risk of the loss of vehicle control.**
- **The brakes on a vehicle that has been overloaded may not be able to stop the vehicle in a safe distance.**
- **Tires on a vehicle that has been overloaded can fail suddenly, including a blowout and sudden deflation, causing loss of control and a crash.**
- **Always make sure that the total load being transported – including the weight of a trailer hitch and the tongue weight of a loaded trailer – does not make the vehicle heavier than the vehicle's Gross Vehicle Weight Rating.**

Determining correct load limit

Use the example below to calculate the total weight of passengers and luggage or other things that you plan to transport, and make sure that your vehicle will not be overloaded.

Steps to determine the correct load limit

1. Locate the statement “THE COMBINED WEIGHT OF OCCUPANTS AND CARGO SHOULD NEVER EXCEED *** KG OR *** LBS” on your vehicle's placard (tire inflation pressure label) ⇒ Fig. 18.

2. Determine the combined weight of the driver and passengers that will be riding in your vehicle.

3. Subtract the combined weight of the driver and passengers from “***” kilograms or “***” lbs.

4. The resulting equals the available amount of cargo and luggage load capacity. For example, if the “***” equals 1400 lbs. and there will be five 150 lbs. passengers in your vehicle, the amount of available cargo and luggage load capacity is 650 lbs. – (1400-750 (5 x 150) = 650 lbs.).

5. Determine the combined weight of luggage and cargo being loaded on the vehicle. That weight may not safely exceed the available cargo and luggage load capacity calculated in Step 4.

6. If your vehicle will be towing a trailer, load from your trailer will be transferred to your vehicle. Consult this manual to determine how this reduces the available cargo and luggage capacity of your vehicle.

– Check the tire sidewall (⇒ Fig. 22) to determine the designated load rating for a specific tire.

Note

At altitudes above 3,000 ft. (1,000 m), combined towing weight (vehicle plus trailer) must be reduced by 10% for every 3,000 ft. (1,000 m).

Tire service life

The service life of tires depends on many things, including proper installation and balancing, correct tire pressure and driving style.

Fig. 20 Tire Tread Wear Indicators (TWI).

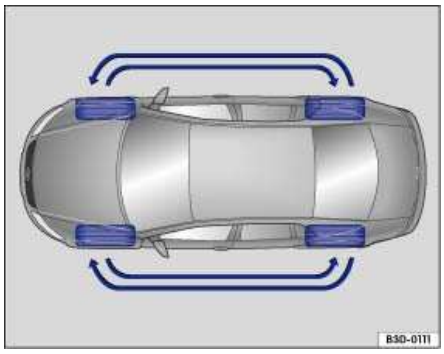

Fig. 21 Rotating tires for more even wear.

Tread Wear Indicator (TWI)

The original tires on your vehicle have 1/16 inch (1.6 mm) high tread wear indicators running across the tread ⇒ Fig. 20. Depending on the make, there will be six to eight of them evenly placed around the tire. Marks on the tire sidewall (for example “TWI” or other symbols) indicate the positions of the tread wear indicators. Worn tires must be replaced. Different figures may apply in other countries ⇒ ⚠.

Tire pressure

Incorrect tire pressure causes premature wear and can cause sudden tire failure. For this reason, tire pressure should be checked at least once a month ⇒ page 87, “Checking tire pressure”.

Driving style

Fast cornering, heavy acceleration and hard braking increase tire wear.

Rotating tires for more even wear

If the front tires are worn much more than those in the rear, rotate them as shown ⇒ Fig. 21. This will help all the tires last for about the same amount of time.

All four tires should have the same amount of wear so that all four tires have the same rolling diameter.

Wheel balancing

The wheels and tires on new vehicles are balanced, but everyday driving can cause them to become unbalanced. This can cause vibrations that you can usually feel through the steering wheel.

Unbalanced wheels and tires must be rebalanced to avoid excessive wear on steering, suspension and tires. A wheel must also be rebalanced when a new tire is installed.

Incorrect wheel alignment

Incorrect wheel alignment can cause excessive tire wear, impairing the safety of the vehicle. If tires show excessive wear, have the wheel alignment checked by an authorized Volkswagen dealer or a qualified workshop.

WARNING

Sudden tire failure can lead to loss of control, a crash and serious personal injury!

- **Never drive a vehicle when the tread on any tire is worn down to the wear indicators.**
- **Worn tires are a safety hazard; they do not grip well on wet roads and increase your risk of “hydroplaning” and loss of control.**
- **Always keep grease, oil, gasoline and brake fluid and other chemicals that can cause tire damage away from tires.**
- **Tires age even if they are not being used and can fail suddenly, especially at high speeds. Tires that are more than 6 years old can only be used in an emergency and then with special care and at lower speeds.**
- **Never mount used tires on your vehicle if you are not sure of their “previous history.” Old used tires may have been damaged even though the damage cannot be seen that can lead to sudden tire failure and loss of vehicle control.**

New and replacement tires and wheels

New tires and wheels have to be broken in.

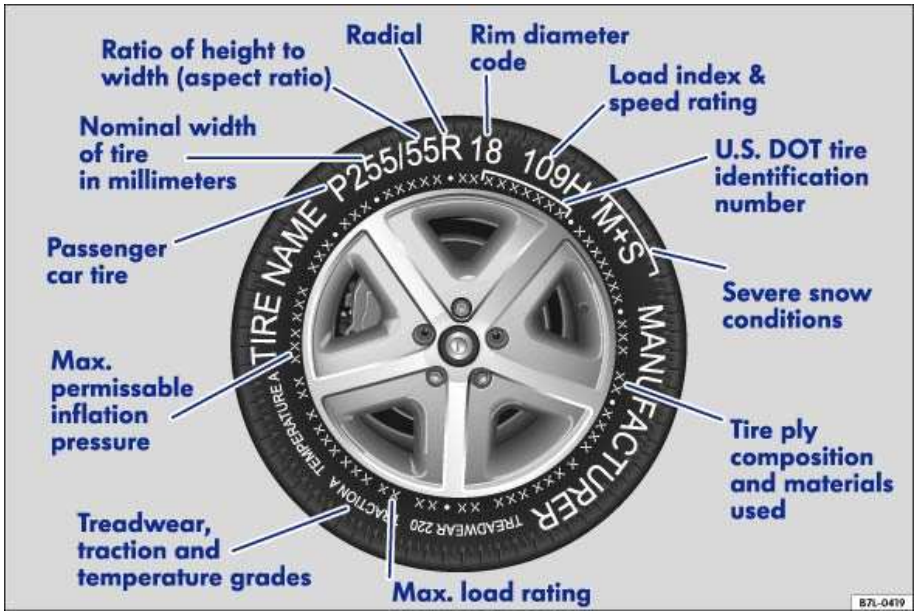

Fig. 22 Tire specification codes on the sidewall of a tire.

The tires and wheels are essential parts of the vehicle's design. The tires and wheels approved by Volkswagen are specially matched to the characteristics of the vehicle for good road holding and safe handling when in good condition and properly inflated ⇒ ⚠.

It is generally not possible to use the wheels from other vehicles. This may be true even for different wheels from the same vehicle type.

We recommend that all work on tires and wheels be performed by an authorized Volkswagen dealer. They are familiar with the technical requirements and recommended procedures and have the necessary special tools and spare parts, and proper disposal facilities.

Replacing tires and wheels

Tires should always be replaced in pairs (both front tires or both rear tires at the same time).

For vehicles with the TPMS[13] read and heed the information ⇒ page 95, “Replacing tires or wheels on vehicles equipped with Tire Pressure Monitoring System (TPMS)13”.

Replacement tires must have the same specifications and load rating as the tires approved for your vehicle by Volkswagen ⇒ page 78, “Cold tire inflation pressure”. They are specially matched to your vehicle and its load limits, and can contribute to the roadholding, driving characteristics, and safety of the vehicle.

[13] where applicable (TPMS = Tire pressure monitoring system)

The tire pressure label inside the driver's door lists the specifications for the original equipment tires installed when your vehicle was manufactured ⇒ Fig. 18.

Federal law requires tire manufacturers to place standardized information on the sidewall of all tires ⇒ Fig. 22. This information identifies and describes the fundamental characteristics, and the quality grade of the tire. It also provides a tire identification number for use in case of a tire recall.

Tire specifications

Knowing about tire specifications makes it easier to choose the correct replacement tires. Radial tires have specifications marked on the sidewall, such as:

P215 / 65 R 16 97 V xl

These markings mean:

P Tire application: **P**assenger car

215 Nominal tire width in mm from sidewall to sidewall; in general, a larger number indicates a wider tire

65 Aspect ratio: height/width ratio as a percentage

R Tire construction: **R**adial

16 Rim diameter (in inches)

97 Load rating code

V Speed rating code

xl Indicates a “reinforced” tire (heavy-duty)

M+S Indicates **M**ud and **S**now capability (also M/S)

The tires may also have an arrow or other information indicating a specified direction of rotation ⇒ page 73, “Unidirectional tires”.

Speed rating letter code

The speed rating letter code on the wheels indicates the maximum permissible road speeds ⇒ ⚠ in “Winter tires” on page 98.

P up to 93 mph (150 km/h)

Q up to 99 mph (158 km/h)

R up to 106 mph (170 km/h)

S up to 110 mph (180 km/h)

T up to 118 mph (190 km/h)

U up to 124 mph (200 km/h)

H up to 130 mph (210 km/h)

V up to 149 mph (240 km/h)[14]

Z over 149 mph (240 km/h)[14]

W up to 168 mph (270 km/h)[14]

Y up to 186 mph (300 km/h)[14]

[14] For tires with a maximum speed capability over 149 mph (240 km/h), tire manufacturers sometimes use the letters “ZR.”

U.S. DOT Tire Identification Number (TIN) and date of manufacture

This is the tire's *serial number*. It begins with the letters "DOT" indicating that the tire meets U.S. Department of Transportation standards. The next two numbers or letters indicate the plant where the tire was manufactured, and the last four numbers represent the week and year of manufacture. For example, the numbers 1801 mean that the tire was produced in the 18th week of 2001. The other numbers are marketing codes that may or may not be used by the tire manufacturer. This information is used if it becomes necessary to contact consumers in the event of a tire recall.

Tire ply composition and materials

The number of plies indicates the number of layers of rubber-coated fabric in the tire. In general, a greater number of plies means the tire can support more weight. Tire manufacturers must also indicate the materials in the tire, which may include steel, nylon, polyester and others.

Maximum load rating

This number indicates the maximum load in kilograms and pounds that can be carried by the tire.

Tire quality grading for tread wear, traction, and temperature resistance

Tread wear, traction and temperature grades ⇒ page 97, "Uniform Tire Quality Grading (UTQG)".

Maximum permissible inflation pressure

This number indicates the highest tire pressure that should ever be used.

Replacing tires or wheels on vehicles equipped with Tire Pressure Monitoring System (TPMS)[13]

The tire inflation air valve on each of the four tires (not the spare) is equipped with a sensor that constantly monitors tire pressure, then transmits this information to the TPMS[13]. If you are going to replace the wheels, make sure that the new wheels also have sensors that are compatible with the TPMS on your vehicle.

If you install wheels that do not have sensors, or have sensors that are not compatible, the TPMS will not work properly. In this case, the TPMS will not be able to monitor tire pressure or warn you if pressure is low.

- All sensors must be replaced at specific intervals ⇒ booklet 1.1 "Maintenance."
- Whenever you change sensors, you have to install new valves.
- Always drive with the valve caps securely installed. We recommend using factory-supplied valve caps. Ask your authorized Volkswagen dealer to replace lost caps.

Installing replacement tires with steel cord body plies in the tire sidewall may cause malfunction of the TPMS, and is not recommended (cord material information in molded on the tire sidewall).

Always check the TPMS warning light after replacing one or more tires on your vehicle. If the warning light is on, the TPMS is not working properly. Your replacement tire might be incompatible with the system, or some component of the TPMS may be damaged.

WARNING

- **Using incorrect or unmatched tires and / or wheels or improper tire and wheel combinations can lead to loss of control, collision and serious personal injury.**
- **Always use tires, wheels and wheel bolts that meet the specifications of original factory-installed tires or other combinations that have been specifically approved by the vehicle manufacturer.**
- **Tires age even if they are not being used and can fail suddenly, especially at high speeds. Tires that are more than 6 years old can only be used in an emergency and then with special care and at lower speeds.**
- **Never mount used tires on your vehicle if you are not sure of their "previous history." Old used tires may have been damaged even though the damage cannot be seen that can lead to sudden tire failure and loss of vehicle control.**
- **All four wheels must be fitted with radial tires of the same type, size (rolling circumference) and the same tread pattern. Driving with different tires reduces vehicle handling and can lead to a loss of control.**
- **If the spare wheel is not the same as the tires that are mounted on the vehicle – for example with winter tires – only use the spare wheel for a short period of time and drive with extra care. Refit the normal road wheel as soon as safely possible.**
- **Never drive faster than the maximum speed for which the tires on your vehicle are rated because tires that are driven faster than their rated speed can fail suddenly.**
- **Overloading tires causes heat build-up, sudden tire failure, including a blowout and sudden deflation and loss of control.**
- **Temperature grades apply to tires that are properly inflated and not over- or under-inflated.**
- **For technical reasons it is not always possible to use wheels from other vehicles – in some cases not even wheels from the same vehicle model.**
- **If you install wheel trim discs on the vehicle wheels, make sure that the airflow to the brakes is not blocked. Reduced airflow to the brakes can them to overheat, increasing stopping distances and causing a collision.**
- **To reduce the risk of losing control, crashes and serious personal injuries, never loosen the screws on rims with threaded rim rings.**

Note

On vehicles with TPMS[13]:

- When installing new tires, be careful not to damage the valves or sensors.
- Never drive without the valve stem caps. The valves and sensors could be damaged.
- If a sensor must be replaced, the valve must be replaced at the same time.
- The sensors must be replaced at scheduled intervals ⇒ booklet 1.1 "Maintenance."

For the sake of environment

Dispose of old tires in accordance with the local requirements.

Tips

If the spare is different from the tires that you have mounted on your vehicle (for example winter tires or wider, low-profile tires), then use the spare wheel for a short time only, and drive with extra care. Replace the flat tire with the tire matching the others on your vehicle as soon as possible.

Uniform Tire Quality Grading (UTQG)

- Treadwear (number)
- Traction: AA, A, B or C
- Temperature: A, B or C

For example: Treadwear **200**, Traction **AA**, Temperature **A**

Quality grades can be found on the tire sidewall between the tread shoulder and maximum section width ⇒ Fig. 22.

All passenger car tires must conform to safety standards in addition to these quality grades.

Treadwear

The *treadwear* grade is a comparative rating based on the wear rate of the tire when tested under controlled conditions on a specified government test course.

For example, a tire with a tread wear grade of 150 wears one and a half (1-1/2) times as well as a tire graded 100 (in controlled testing).

Tire performance depends upon actual conditions, however, and may differ based on variations in driving habits, service practices, road conditions and climate.

Traction AA, A, B, C

The *traction* grades, from highest to lowest, are AA, A, B and C. Those grades represent the tire's ability to stop on wet pavement as measured under controlled conditions on specified government test surfaces of asphalt and concrete. A tire marked C may have poor traction performance ⇒ ⚠.

Temperature A, B, C

The *temperature* grades are, from highest to lowest, A, B, and C. These grades represent the tire's resistance to generating heat, and its ability to dissipate heat when tested under controlled conditions.

Sustained high temperature can degrade the tire materials and reduce tire life, and can lead to sudden tire failure.

The grade C equals a level of performance that all passenger car tires must meet under the Federal Motor Vehicle Safety Standard 109. Grades B and A represent higher levels of performance than the minimum required ⇒ ⚠.

⚠ WARNING

The traction grade assigned to this tire is based on straight-ahead braking traction tests, and does not include acceleration, cornering, hydroplaning or peak traction characteristics.

WARNING

The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, under-inflation, or excessive loading, either separately or in combination, can cause heat buildup and possible tire failure.

Winter tires

Winter tires can improve vehicle performance on snow and ice. At temperatures below +45° F (+7° C) we recommend changing to winter tires.

In some heavy snow areas, local governments may require true snow tires or winter tires, with specially designed tread. Make sure you buy winter tires that are the same size and construction type as the original tires.

We strongly recommend that you always equip all four wheels on your vehicle with correctly fitted winter tires or all-season tires, when winter road conditions are expected. This also improves the vehicle's braking performance and helps reduce stopping distances. Summer tires provide less grip on ice and snow. Ask your authorized Volkswagen dealer or a qualified workshop for recommended **winter tire sizes**. Use only radial winter tires.

Winter tires lose their effectiveness when the tread is worn down to a depth of 4 mm (5/32 inch).

Only drive with winter tires under winter conditions. Summer tires perform better when there is no snow or ice on the roads, and the temperature is above +45° F (+7° C).

If you want the TPMS[15], to work properly with different wheels for winter tires, compatible sensors must be installed ⇒ page 95, “Replacing tires or wheels on vehicles equipped with Tire Pressure Monitoring System (TPMS)13”.

If you have a flat tire, refer to notes on the spare wheel ⇒ page 93, “New and replacement tires and wheels”.

Always remember that winter tires may have a lower speed rating than the tires originally installed on your vehicle. The speed rating letter code is on the sidewall of the tire; ⇒ page 77, “Speed rating (letter code)” for a listing of the speed rating letter codes and the maximum speed at which the tires can be driven.

WARNING

Driving faster than the maximum speed for which the winter tires on your vehicle were designed can cause sudden tire failure including a blowout and sudden deflation, loss of control, crashes and serious personal injuries. Have worn or damaged tires replaced immediately.

- **Winter tires have maximum speed rating that may be lower than your vehicle's maximum speed.**
- **Never drive faster than the speed for which the winter or other tires installed on your vehicle are rated.**

[15] where applicable (TPMS = Tire Pressure Monitoring System)

WARNING

Always adjust your speed and driving style to road, traffic and weather conditions. Never let the good acceleration of the winter tires tempt you into taking extra risks. Always remember:

- **Drive carefully and reduce your speed on icy and slippery roads, even winter tires cannot help under black ice conditions.**

For the sake of environment

Use summer tires when weather conditions permit. They are quieter, do not wear as quickly, and reduce fuel consumption.

Snow chains

Snow chains may be fitted only to the front wheels – for All-wheel-drive (4MOTION) too, and then only with certain tire sizes. Please contact your authorized Volkswagen dealer for the most up-to-date information. If you are going to use snow chains, then you must at least install them on the front wheels.

The snow chains must have low-profile links and must not be thicker than 15 mm, including the lock.

Remove the wheel center covers and trim discs before mounting snow chains ⇒ . For safety reasons, cover caps must then be fitted over the wheel bolts. These are available from authorized Volkswagen dealers.

WARNING

Using the wrong snow chains for your vehicle or installing them incorrectly can increase the risk of loss of control leading to serious personal injury.

- **Snow chains are available in different sizes. Always make sure to follow the instructions provided by the snow chain manufacturer.**
- **When driving with snow chains never drive faster than the speed permitted for your specific snow chains.**
- **Always observe local regulations.**

Note

- Remove snow chains before driving on roads not covered with snow to avoid damaging tires and wearing the snow chains down unnecessarily.
- Snow chains that directly contact the wheel rim can scratch or damage it. Make sure that the snow chains are suitably covered.

Wheel bolts

Wheel bolts must always be installed with the correct tightening torque.

The design of wheel bolts is matched to the factory-installed wheels. If different wheels are installed, wheel bolts with the right length and bolt head shape must be used. This ensures that wheels can be mounted securely and that the brakes will work correctly.

In most cases, you cannot use wheel bolts from a different vehicle. Even wheel bolts from the same model may not fit properly ⇒ page 37, “Accessories and parts”.

The required tightening torque for the wheel bolts is **103 ft-lbs (140 Nm)** on vehicles with front wheel drive and **88 ft-lbs (120 Nm)** on vehicles with all-wheel drive (4MOTION). After changing a wheel, the bolt torque must be checked as soon as possible by an authorized Volkswagen dealer or a qualified workshop, using a torque wrench.

WARNING

Improperly tightened or maintained wheel bolts can become loose causing loss of control, a collision and serious personal injury.

- **Always keep the wheel bolts and the threads in the wheel hubs clean so the wheel bolts can turn easily and be properly tightened.**
- **Never grease or oil the wheel bolts and the threads in the wheel hubs. They can become loose while driving if greased or oiled, even if tightened to the required torque.**
- **Only use wheel bolts that belong to the wheel being installed.**
- **Never use different wheels bolts on your vehicle.**
- **Always maintain the correct tightening torque for the wheel bolts to reduce the risk of a wheel loss. If the tightening torque of the wheel bolts is too low, they can loosen and come out when the vehicle is moving. If the tightening torque is too high, the wheel bolts and threads can be damaged and the wheel can become loose.**

What do I do now?

Vehicle tools and spare wheel

Location

The vehicle tools are stored in a special compartment on the left side of the luggage compartment.

Fig. 23 Compartment on the left side of the luggage compartment for storing vehicle tools.

Turn the release knob counter-clockwise to unlock the cover ⇒ Fig. 23 on the left and then lower it down.

The vehicle tools are stored in the a special compartment on the left side of the luggage compartment.

WARNING

Vehicle tools and a wheel that have not been securely stowed can fly around the inside of the vehicle during hard braking or in a crash and cause serious personal injury.

- **Always make sure that the spare wheel and the tools are stored securely in the luggage compartment.**

Vehicle tool kit

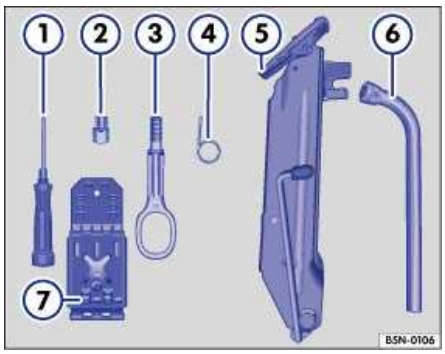

Fig. 24 Vehicle tool kit.

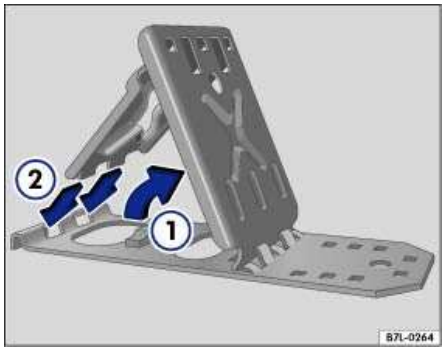

Fig. 25 Folding chock

Vehicle tool kit

(1) Screwdriver with reversible blade (inside the lug wrench)
(2) Adapter for anti-theft wheel bolts[16]
(3) Towing eye, removable
(4) Wire hook for pulling off wheels center covers and wheel bolt caps
(5) Jack for changing a wheel (must be completely retracted to fit)
(6) Lug wrench for wheel bolts ⇒ ⚠
(7) Folding chock[16] ⇒ ⚠

[16] where applicable

Adapter for anti-theft wheel bolts[16]

We recommend that you carry the anti-theft wheel bolt adapter in the tool kit at all times. You will need the **code number** to replace the adapter if it is lost. Note the code number stamped on the front of the adapter and keep it in a safe place (but not in your vehicle).

Folding chock[16]

Two unassembled folding chocks are attached to the side of the foam compartment with the vehicle tool kit.

Loosen both hook-and-loop fasteners and remove the two folding chocks. To use the chocks, you first have to raise the support plate (⇒ Fig. 25 (1)), then insert the locking plate with the two tabs into the elongated holes in the base plate (2) ⇒ ⚠.

⚠ WARNING

Improperly tightened wheel bolts can become loose, causing loss of control, a collision and serious personal injury.

- **Never tighten the wheel bolts with a hexagonal socket in the screwdriver handle because you will not be able to tighten the bolts to the required torque.**
- **Always use the lug wrench and tighten the wheel bolts securely.**

⚠ WARNING

Improper use of your vehicle jack can cause serious personal injury.

- **Never use the factory-supplied jack for this vehicle to lift other vehicles or any other heavy objects.**
- **Your vehicle jack is designed for changing wheels on your vehicle only, not for working underneath it. If you have to work underneath the vehicle, always use safety stands to support the vehicle.**
- **Always properly secure the vehicle jack and tool kit in the luggage compartment. Loose items in the vehicle can fly around the inside of the vehicle during hard braking or in a crash causing serious personal injury.**
- **Before you raise your vehicle with the jack, always read and heed all WARNINGS ⇒ ⚠ in “Raising the vehicle” on page 109.**

⚠ WARNING

Improper use of folding chock can cause serious personal injury.

- **Never use folding chocks if they are damaged or if the chocks have not been assembled correctly.**
- **If the “tabs” on the support place do not fit correctly in the elongated holes of the base plate, the chock can collapse causing the vehicle to move suddenly when a wheel is being changed.**

Compact spare wheel and tire

The compact spare wheel is in the luggage compartment under the floor panel.

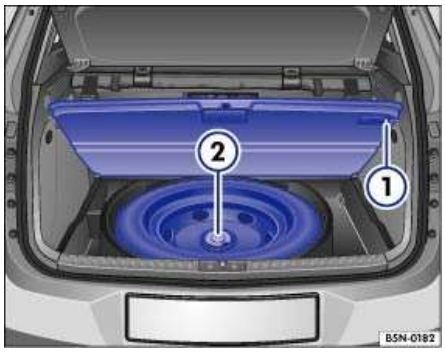

Fig. 26 Compact spare wheel and tire inside the luggage compartment below the floor panel.

Removing the compact spare wheel

– Open the rear hatch.

– Press the handle marked PRESS button in the variable luggage compartment floor to fold out the handle.

– Lift the variable luggage compartment floor up and hold it in this position.

– Push the holding pin ⇒ Fig. 26 (1) to the right and then lower the luggage compartment floor. The holding pin will stop the variable luggage compartment floor from falling back down.

– Remove the bolt (2) in the middle of the temporary spare wheel.

– Take the spare wheel out of the luggage compartment.

Storing the compact spare wheel

– Lay the compact spare wheel face-down into the spare wheel well so that the hole in the middle of the rim lies directly over the mounting screw.

– Tighten the mounting screw by turning it to the right (clockwise) until the tire is secured.

– Unhook the raised floor panel and lower it to the bottom of the luggage compartment.

WARNING

Improper use of the compact spare wheel can cause loss of vehicle control, a crash or other accident and serious personal injury.

- **The spare wheel is smaller than the original tire. The smaller spare wheel is identified with a sticker and the words “50 mph” or “80 km/h.” These words identify the maximum permissible speed for driving with this tire.**
- **Never drive faster than 50 mph (80 km/h)! Avoid full-throttle acceleration, heavy braking, and fast cornering!**
- **Never use the compact spare wheel if it is damaged or if it has worn down to the wear indicators.**
- **Replace the compact spare wheel with a normal wheel as soon as possible, since the compact spare wheel is only meant to serve as a temporary, short-term replacement.**
- **Check the age of the compact spare wheel with the Tire Identification Number (TIN) ⇒ page 95, “U.S. DOT Tire Identification Number (TIN) and date of manufacture”. Tires age even if they are not being used and can fail suddenly, especially at high speeds. Tires that are more than 6 years old can only be used in an emergency and then with special care and at lower speeds.**
- **If the compact spare wheel is more than 6 years old, use it only in an emergency and with extreme caution and careful driving.**
- **The compact spare wheel must always be secured with the wheel bolts provided by the factory.**
- **Never drive using more than one compact spare wheel.**
- **After installing the compact spare wheel, the tire pressure must be checked as soon as possible ⇒ page 87, “Checking tire pressure”.**
- **For technical reasons, the use of snow chains on the compact spare wheel is not permitted. If you must drive with snow chains, you can install the compact spare wheel on the rear axle, in the event of a front wheel flat tire. The rear wheel that is removed must then be mounted in place of the flat front tire. Installing the snow chains before mounting the wheel and tire is recommended.**

Changing a wheel

Getting started

Park the vehicle in a safe place before changing a wheel.

– If you have a flat tire, park the vehicle as far away from the flow of traffic as possible on a firm, even surface ⇒ ⚠.

– Stop the engine. Switch on the emergency flashers.

– Apply the parking brake **and** shift the transmission into **P** (automatic) or into any gear (manual **only**).

– All passengers must get out of the vehicle and wait in a safe place (behind a guard rail or other safety barrier, for example).

– If you are towing a trailer, unhitch it from your vehicle. Always apply the trailer brakes firmly and make sure the trailer cannot move unintentionally.

– Block the wheel opposite the wheel being changed with a suitable object; if, for example, you are changing the left front wheel, block the right rear.

– Remove the spare and the tools from the luggage compartment.

WARNING

Changing a wheel, especially on the side of the road, can be dangerous. To help reduce the risk of serious personal injury:

- **Always stop the vehicle as soon as it is safe to do so and move the vehicle a safe distance off the road where it is safe to change the wheel.**
- **Turn on the emergency flasher and set up another warning device about 27 yards (25 meters) behind the vehicle to warn approaching traffic.**
- **Always make sure that the ground is level and firm, if necessary use a sturdy board under the jack.**
- **When one wheel is lifted off the ground putting the transmission selector lever in P (Park) will not prevent sudden vehicle movement.**
- **Always apply the parking brake and shift the transmission into P (automatic transmission) or any gear (manual only) to help prevent the vehicle from moving suddenly and slipping off the jack.**
- **Always block the wheel opposite the wheel being changed with both folding chocks or similar objects.**
- **If you are towing a trailer, always unhitch it from your vehicle before starting to change the wheel. Always apply the trailer brakes firmly and make sure the trailer cannot move unintentionally.**
- **Always use a jack that has been approved by the manufacturer for your vehicle.**
- **Never use other jacks, even if they have been approved for use on other Volkswagen models.**
- **To reduce the risk of losing control, crashes and serious personal injuries, never loosen the screws on rims with threaded rim rings.**

Applies to vehicles: with hubcaps

Removing the hubcap

Remove the hubcap for access to the wheel bolts.

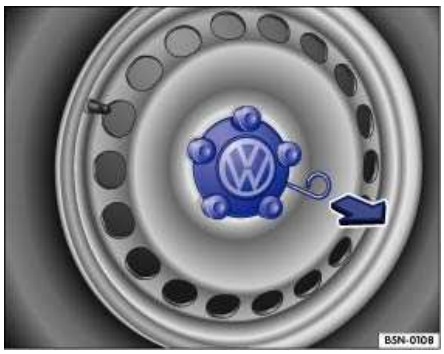

Fig. 27 Changing a wheel: removing the hubcap.

– Take the wire hook from the vehicle tool kit ⇒ Fig. 24 (4).
– Insert the hook through the hole in the cover ⇒ Fig. 27.
– Pull off the cover.

Applies to vehicles: with wheel bolt caps

Removing the wheel bolt caps

The caps must be removed from the wheel bolts before the wheel bolts are loosened or removed.

Fig. 28 Wheel detail: removing the wheel bolt caps.

– Take the wire hook from the tool kit ⇒ Fig. 24 (4).
– Insert the hook through the opening in the cap ⇒ Fig. 28.
– Use the wire hook to remove the caps.

The caps protect the wheel bolts and must be put back on after changing the wheel.

Note that the anti-theft wheel bolt[17] has its own separate cap. This cap only fits the anti-theft wheel bolt, not fit the standard wheel bolts.

Loosening the wheel bolts

Use the special adapter from the tool kit to loosen the anti-theft wheel bolts.

Fig. 29 Changing a wheel: loosening the wheel bolts.

Fig. 30 Changing a wheel: anti-theft wheel bolt and adapter.

[17] where applicable

Loosening the wheel bolts

– Slide the **lug wrench** as far as possible onto the wheel bolt.

– Hold the end of the lug wrench ⇒ Fig. 29, and loosen the wheel bolt by turning it *one* turn to the left, counter-clockwise ⇒ ⚠.

Loosening the anti-theft wheel bolt[18]

– Remove the adapter for anti-theft wheel bolts from the tool kit ⇒ Fig. 24 (2).

– Slide the adapter as far as possible onto the anti-theft wheel bolt ⇒ Fig. 30.

– Slide the lug wrench as far as possible onto the adapter.

– Hold the end of the lug wrench and turn the wheel bolt *one* turn to the left, counter-clockwise.

If the wheel bolts are very tight, you may be able to loosen them by using your own weight and carefully pushing down the end of the wrench with your foot.

⚠ WARNING

Improper wheel changing can cause serious personal injury.

- **Loosen the wheel bolts only about one turn before raising the vehicle with the jack.**
- **Only use the lug wrench that is supplied with the vehicle to loosen the wheel bolts.**
- **To reduce the risk of losing control, crashes and serious personal injuries, never loosen the screws on rims with threaded rim rings ⇒ page 73, “General notes”.**

Raising the vehicle

Raise the vehicle only at the correct lift points for the vehicle jack.

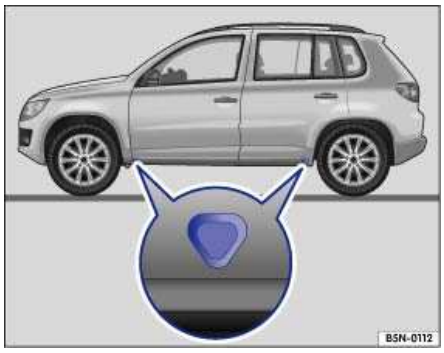

Fig. 31 Lift points for the jack.

[18] where applicable

Fig. 32 Jack in lifting position at the jack point (left rear shown).

The vehicle should not be lifted until the wheel bolts on the wheel being changed have been loosened one turn ⇒ page 108, “Loosening the wheel bolts”.

Jacking up the vehicle

1. Stop engine and shift the transmission into **P** (automatic transmission) or into any gear (manual **only**).
2. Apply the parking brake.
3. Find the lift point for the jack (indentation in the body ⇒ Fig. 31) that is closest to the wheel to be changed ⇒ ⚠.
4. Crank the jack up and into position under the vehicle lift point.
5. Block the wheel opposite the wheel being changed with the folding chocks ⇒ page 103; if, for example, you are changing the left front wheel, block the right rear.
6. Make sure the base of the jack is on a firm, stable surface and is making full contact with that surface.
7. Adjust the jack and keep cranking until it engages the rib under the vehicle ⇒ Fig. 32 and ⇒ ⚠.
8. Crank the jack to lift the vehicle until the wheel is just off the ground.

The vehicle jack must be positioned only at the jack points shown ⇒ Fig. 31. Always use the jack point closest to the wheel you are changing.

WARNING

Improper use of your vehicle jack can cause the vehicle to fall off the jack leading to serious personal injury. To reduce the risk of injury caused by the vehicle falling off the jack:

- **Always set up the jack on firm, level ground. Soft ground under the jack may cause the vehicle to slip off the jack. If necessary use a large, strong board or similar support. On a hard, slippery surface (such as tiles) use a rubber mat or something similar to prevent the jack from slipping.**
- **Always position the jack only at the jack points for the vehicle jack ⇒ Fig. 31.**
- **Before you raise your vehicle, always make sure the jack claw properly grasps the vertical rib under the sill so that the jack does not slip off when you are raising the vehicle ⇒ Fig. 32.**
- **If you are towing a trailer, unhitch it from your vehicle before raising the vehicle. Always apply the trailer brakes firmly and make sure the trailer cannot move unintentionally.**
- **Always keep passengers, especially children at a safe distance while using the vehicle jack, and make sure there are no persons under the vehicle. Children at play could knock the vehicle off the jack or hide under a vehicle.**
- **Never support your body weight on the vehicle when it is up on the jack.**
- **Never allow anyone to stay in the vehicle when raising the vehicle with the jack or when it is up on the jack.**
- **Never let anyone place any part of his or her body under the vehicle when supported by the jack.**
- **Never support your vehicle on cinder blocks, bricks or other objects. These may not be able to support the load, and may collapse without warning.**
- **Never start the engine when you have raised the vehicle on the jack. The engine vibrations and vehicle movements could knock the vehicle off the jack.**
- **Never raise your vehicle when it is parked on a slope.**

Changing the wheel

Fig. 33 Changing the wheel: remove previously loosened wheel bolts.

Removing the wheel

– Use the hex socket in the screwdriver to remove previously loosened wheel bolts ⇒ Fig. 33.

– Remove the wheel.

– Place the changed wheel in the luggage compartment.

Mounting the spare

– Place the compact spare wheel in position.

– Install the wheel bolts and tighten them *lightly* using the hex socket in the screwdriver.

– Lower the vehicle to the ground and remove the jack.

– Tighten the wheel bolts *firmly* using the lug wrench. Use the adapter to tighten the anti-theft wheel bolt. Tighten the wheel bolts in a nearly diagonal sequence; for example, tighten the top bolt, then the one that is almost opposite, and so on. Do not use a simple clockwise or counter-clockwise sequence to tighten the bolts.

– Continue tightening all the bolts in the diagonal sequence, repeating as necessary, until all have been firmly and securely tightened.

– Install the wheel bolt caps.

– Note that the anti-theft wheel bolt has its own cap that does not fit the standard bolts.

The required tightening torque for the wheel bolts is **103 ft-lbs (140 Nm)** on vehicles with front wheel drive and **88 ft-lbs (120 Nm)** on vehicles with all-wheel drive (4MOTION). After changing a wheel, the bolt torque must be checked as soon as possible by an authorized Volkswagen dealer or a qualified workshop, using a torque wrench.

If the wheel bolts are corroded and difficult to turn, they must be replaced before you have the torque checked or have the bolts tightened to the proper torque.

Unidirectional tires

A unidirectional tire is designed to rotate only in one direction, and can be identified by arrows on the sidewall that point in that direction.

Unidirectional tires must always be mounted according to the specified direction of rotation in order to deliver their best grip, road noise, wear and hydroplaning resistance.

If you have to mount a tire opposite to its proper direction of rotation, you must drive more carefully, since the tire is no longer being used as designed. This is particularly important in wet conditions. You must replace or remount the tire as soon as possible in order to restore the correct direction of rotation.

WARNING

Improperly tightened or maintained wheel bolts can become loose causing loss of control, a collision and serious personal injury:

- **Always keep the wheel bolts and the threads in the wheel hubs clean so the wheel bolts can turn easily and be properly tightened.**
- **Never grease or oil the wheel bolts and the threads in the wheel hubs. They can become loose while driving if greased or oiled, even if tightened to the required torque.**
- **Always read and heed all WARNINGS and other important information ⇒ page 100, “Wheel bolts”.**

After changing the wheel

– Properly secure the jack, tool kit and wheel chocks in the luggage compartment ⇒ ⚠.

– Properly secure the flat tire in the luggage compartment.

– If you are towing a trailer, hitch the trailer securely to your vehicle again.

– Have the wheel bolt tightening torque checked with a torque wrench as soon as possible.

– Have the tire pressures of all four wheels checked at the next service station. If the TPMS detects an under-inflated tire, follow the instructions ⇒ page 80, “US models: Tire Pressure Monitoring System (TPMS) warning light ” or ⇒ page 83, “Not for US models: Tire Pressure Monitoring System warning light ”.

– Have the damaged tire replaced with a tire with the same brand, specifications and tread pattern.

The required tightening torque for the wheel bolts is **103 ft-lbs (140 Nm)** on vehicles with front wheel drive and **88 ft-lbs (120 Nm)** on vehicles with all-wheel drive (4MOTION). After changing a wheel, the bolt torque must be checked as soon as possible by an authorized Volkswagen dealer or a qualified workshop, using a torque wrench.

If the wheel bolts are corroded and difficult to turn, they must be replaced before you have the torque checked or have the bolts tightened to the proper torque.

WARNING

Loose items in the vehicle can fly around the inside of the vehicle during hard braking or in a crash causing serious personal injury.

- **Always properly secure the vehicle jack and tool kit in the luggage compartment. Properly secure the flat tire in the luggage compartment.**

Emergency closing or opening

Locking or unlocking the driver's door manually

If the remote key or the central locking system does not work, the driver's door can be locked or unlocked manually.

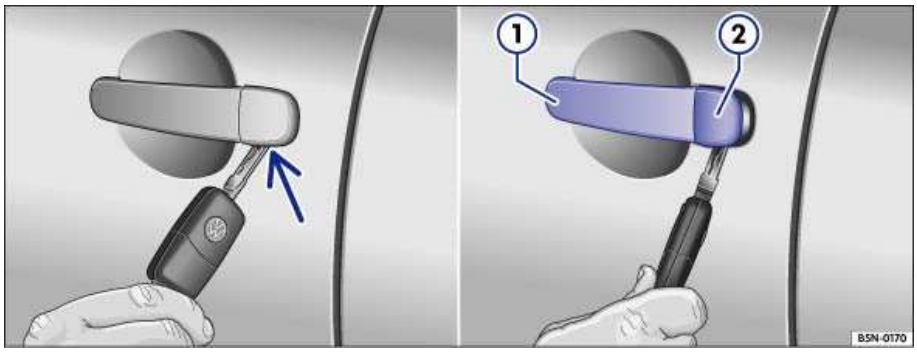

Fig. 34 Door handle on driver's door: Concealed lock cylinder.

– Insert the remote control key from below into the opening in the cover ⇒ Fig. 34 (arrow) ⇒ (!).

– Turn the key to unclip the cover cap (2).

– Pull the door handle (1) and remove the cover cap (2).

– Lock and unlock the driver door manually using the key in the door lock. Please observe the instructions for the ant-theft alarm system [19] ⇒ booklet 3.1 “Controls and Equipment”, chapter “Anti-Theft Alarm System”.

WARNING

- **Always stop the vehicle as soon as it is safe to do so and move the vehicle a safe distance off the road where it is safe to lock all doors in an emergency. Turn on the emergency flasher to warn approaching traffic.**
- **Never close a door without first making sure that it is safe to do so. You can injure yourself or other people. Always make certain that no one is in the way of the door that is being closed.**
- **Never leave children, disabled persons or anyone who cannot help themselves in the vehicle when locking the door. This could result in people being trapped in the vehicle in an emergency. For example, depending on the time of year, people trapped in the vehicle can be exposed to very high or low temperatures.**

[19] where applicable

Note

When removing the cover cap, be careful not to scratch the vehicle paint.

Tips

- You can unlock the driver's door again if you pull the door opening lever **once**. Pulling on the opening lever a second time opens the door.
- The anti-theft alarm system is deactivated when you unlock the vehicle with the emergency key
⇒ booklet 3.1 “Controls and Equipment”, chapter “Anti-theft alarm system.”

Locking the passenger's door and rear doors manually

If the remote key or the central locking malfunctions, the doors can be locked or unlocked manually.

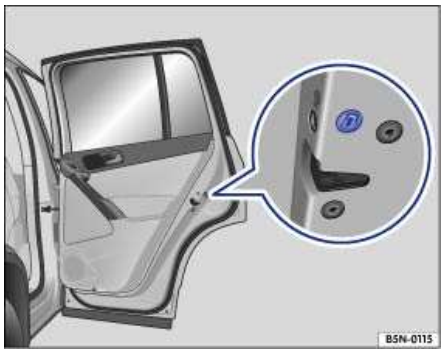

Fig. 35 Emergency lock (covered by weatherstrip) in the edge of the left rear door.

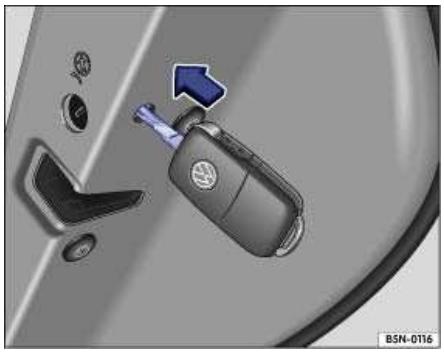

Fig. 36 Using the key to lock the vehicle.

You can manually lock the passenger's door and rear doors individually. Please observe the instructions for the anti-theft alarm system[20] ⇒ booklet 3.1 “Controls and Equipment”, chapter “Anti-theft alarm system”.

Locking the passenger's door and the rear doors

– Open the door.

– Pull back the weatherstrip on the edge of the door that is identified by a lock ⇒ Fig. 35.

– Unfold the key ⇒ booklet 3.1 “Controls and Equipment”, chapter “Remote key”.

– Insert the key horizontally into the opening and press the small colored lever to the front ⇒ Fig. 36.

– Reattach the weatherstrip.

– Close the door completely ⇒ ⚠.

– Check whether the door is locked.

– Repeat the procedure at the other doors.

– Have the vehicle inspected immediately by your authorized Volkswagen dealer or a qualified workshop.

⚠ WARNING

- **Always stop the vehicle as soon as it is safe to do so and move the vehicle a safe distance off the road where it is safe to lock all doors in an emergency. Turn on the emergency flasher to warn approaching traffic.**
- **Never close a door without first making sure that it is safe to do so. You can injure yourself or other people. Always make certain that no one is in the way of the door that is being closed.**
- **Never leave children, disabled persons or anyone who cannot help themselves in the vehicle when locking the doors. This could result in people being trapped in the vehicle in an emergency. For example, depending on the time of year, people trapped in the vehicle can be exposed to very high or low temperatures.**

Tips

You can unlock the passenger's door and the rear doors from the inside again if you pull the door opening lever **once**. Pulling on the opening lever a second time opens the door.

[20] where applicable

Emergency opening rear lid

If the central locking system does not work, the rear lid can be unlocked from inside the vehicle.

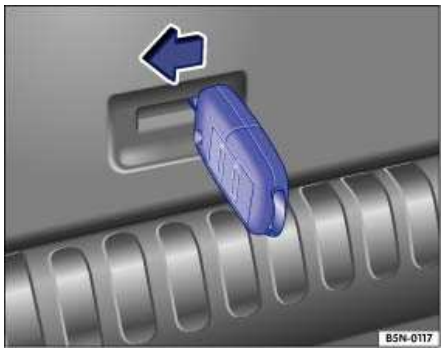

Fig. 37 Emergency opening of the rear hatch.

– Open the remote control key.

– Insert the key bit at the outer edge in the opening in the rear hatch trim ⇒ Fig. 37.

– Push the remote control key in the direction of the arrow ⇒ Fig. 37 to unlock the rear hatch.

WARNING

A child or other person trapped in the luggage compartment of a vehicle can be seriously injured and even die.

- **Never leave your vehicle unattended or let children play around your vehicle, especially with the trunk lid left open. A child could crawl into the vehicle through the luggage compartment and pull the lid shut becoming trapped and unable to get out. Being trapped in a vehicle can lead to serious personal injury, especially when it is very hot or very cold.**
- **Never leave children, disabled persons or anyone who cannot help themselves in the vehicle. The doors can be locked using the remote control key or the power lock button. This could result in people being trapped in the vehicle.**
- **Heat build-up in the passenger compartment and luggage compartment of a parked vehicle can result in temperatures in the vehicle that are much higher than the outside temperatures, particularly in summer. Temperatures can quickly reach levels that can cause unconsciousness and death, particularly to small children.**

Applies to vehicles: with power sunroof

Emergency closing of power sunroof

The power sunroof can be closed manually in an emergency.

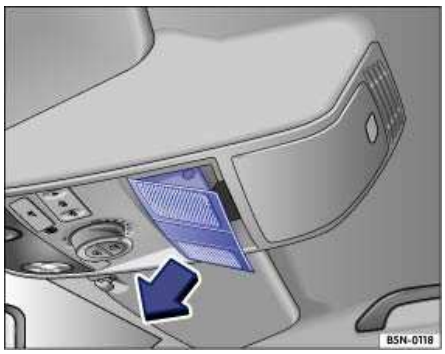

Fig. 38 In the headliner: removing cover.

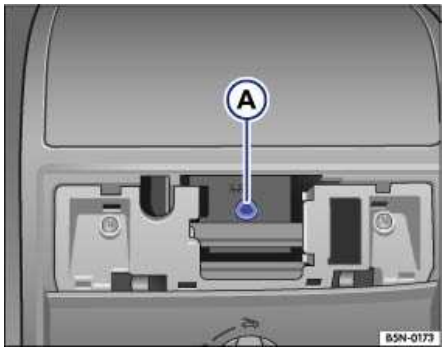

Fig. 39 Bolt for closing the power sunroof.

– Remove the cover from the front edge in the direction of the arrow ⇒ Fig. 38.
– Insert a standard 4-mm Allen wrench[21] into the socket head screw ⇒ Fig. 39 (A).
– Turn the wrench to close the power sunroof.
– Install the cover.
– Have the power sunroof inspected immediately by your authorized Volkswagen dealer or a qualified workshop because there could be a malfunction of the pinch protection for example.

[21] Not part of the vehicle tools.

WARNING

Incorrect use of the panorama sliding roof can result in serious personal injury.

- **Always be careful when opening and closing the panorama sliding roof. You could otherwise cause serious injury to yourself or others. Make sure that no one is in the path of the panorama sliding roof.**
- **Always stop the vehicle as soon as it is safe to do so and move the vehicle a safe distance off the road where it is safe to close the power roof manually. Turn on the emergency flasher to warn approaching traffic.**

Fuses

Changing a fuse in the instrument panel

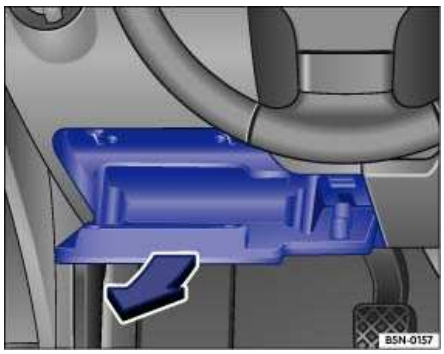

Fig. 40 Left side of the instrument panel: Fuse box cover.

Changing a fuse

– Switch off the ignition and the equipment that is protected by the fuse you want to check.

– Open the compartment ⇒ Fig. 40 and with using some force, pull it out in the direction of the arrow.

– Remove the plastic pliers from the lid.

– Check the fuse or fuses that you think may have blown. Use the fuse tables to fuse locations ⇒ page 123.

– If a fuse has blown (the metal strip is melted), replace it with a new fuse of the *same* current rating in amps (same color and markings).

– Replace the cover.

Individual electrical circuits are protected by fuses. We recommend that you carry several spare fuses at all times. These are available from authorized Volkswagen dealers.

If a new fuse should burn out again after shortly have you have installed it, have the electrical system checked by your authorized Volkswagen dealer.

Color-coding of fuses

Color	Current rating (amps)
Purple	3
Light brown	5
Brown	7,5
Red	10
Blue	15
Yellow	20
White or Clear	25
Green	30
Orange	40

WARNING

Using the wrong fuse and trying to repair a fuse or using something instead of a fuse can cause a fire and serious personal injury.

- **Never repair a damaged fuse.**
- **Never replace a fuse with one that has a higher amp rating. Always make sure the replacement fuse has the *same* amp rating as the fuse being replaced.**
- **Never replace a blown fuse with a metal object to connect the fuse contacts – even not temporarily.**

Note

To help avoid damaging the electrical system, switch off all lights and accessories and remove the ignition key before replacing a fuse.

- If you replace one fuse with another fuse with a higher amperage, you could damage the electrical system in another location.

Tips

There is another fuse panel in the engine compartment ⇒ page 121, “Changing a fuse in the engine compartment”.

Changing a fuse in the engine compartment

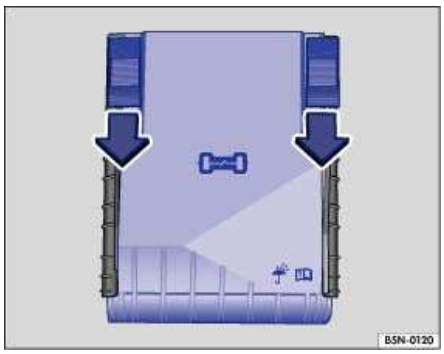

Fig. 41 Fuse box cover in the engine compartment

Changing a fuse

– Switch off the ignition and the equipment that is protected by the fuse you want to check.

– Open the hood ⇒ page 46, “Safety is job No. 1 when working in the engine compartment”.

– Move the lock tabs (arrows) to release the fuse box cover (⇒ Fig. 41) and remove the cover.

– Check the fuse or fuses that you think may have blown. Use the fuse tables to fuse locations ⇒ page 125.

– If a fuse has blown (the metal strip is melted), replace it with a new fuse of the *same* current rating in amps (same color and markings).

– To **install** the cover, place it on top of the fuse panel. Press the release buttons in the opposite direction of the arrow until they click into place.

Individual electrical circuits are protected by fuses. We recommend that you carry several spare fuses at all times. These are available from authorized Volkswagen dealers.

If a new fuse should burn out again after shortly have you have installed it, have the electrical system checked by your authorized Volkswagen dealer.

Color-coding of fuses

Color	Current rating (amps)
Purple	3
Light brown	5
Brown	7,5
Red	10

Color	Current rating (amps)
Blue	15
Yellow	20
White or Clear	25
Green	30
Orange	40

WARNING

Using the wrong fuse and trying to repair a fuse or using something instead of a fuse can cause a fire and serious personal injury.

- **Never repair a damaged fuse.**
- **Never replace a fuse with one that has a higher amp rating. Always make sure the replacement fuse has the *same* amp rating as the fuse being replaced.**
- **Never replace a blown fuse with a metal object to connect the fuse contacts – even not temporarily.**

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, "Working in the engine compartment". The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Note

To help avoid damaging the electrical system, switch off all lights and accessories and remove the ignition key before replacing a fuse.

- If you replace one fuse with another fuse with a higher amperage, you could damage the electrical system in another location.

Fuse locations: instrument panel fuse box

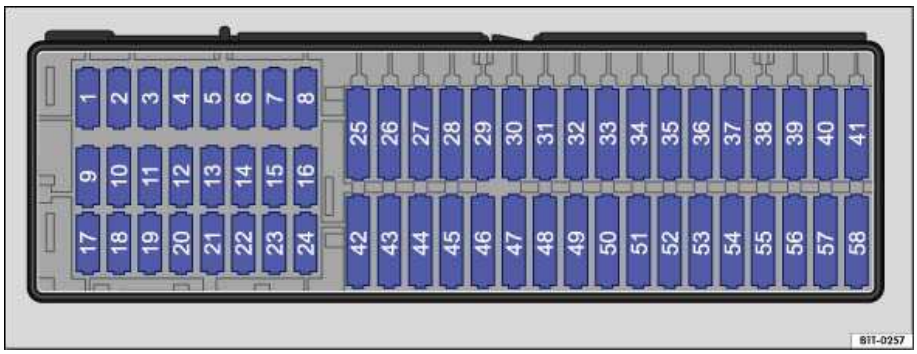

Fig. 42 Fuse box in the instrument panel.

Fuse box

There is room in the fuse box for storing replacement fuses.

Fuse table

The table lists fuse locations for the major electrical consumers ⇒ ⚠. The boldface number indicates the location. The number in parentheses is the fuse's current rating in amps. Some electrical circuits are protected by more than one fuse.

Designation	Fuse number (current rating in amps)
110-volt power outlet	**53** (30)
ABS	**14** (10); **20** (5)
Anti-theft warning system	**21** (7,5); **22** (5)
Brake lights	**14** (10)
Central locking	**24** (10); **48** (15)
Electronic parking assistance	**23** (10)
Electronic socket / cigarette lighter	**30** (20)
Electronic stabilization program (ESP)	**14** (10); **20** (5)
Fan	**33** (40); **50** (40)
Fuel pump	**47** (15)
Headlight washer system	**29** (15); **52** (20)
Heated seats	**51** (30)
Heated windshield washer nozzles	**13** (5)
Lumbar support	**54** (15)

Designation	Fuse number (current rating in amps)
Power windows front	**45** (30)
Power windows rear	**46** (30)
Rain sensor	**23** (10)
Rear window defogger	**44** (25)
Rear window wiper	**28** (15)
Sunroof	**56** (25)
Windshield washer system	**29** (15)

WARNING

Using the wrong fuse and trying to repair a fuse or using something instead of a fuse can cause a fire and serious personal injury.

- **Always read and heed the information and all WARNINGS ⇒ page 119, “Changing a fuse in the instrument panel”.**

Tips

- One electrical consumer may be protected by several fuses.
- Several electrical components may be protected by just one fuse.
- Depending on equipment and options, the table may list fuses that do not apply to your vehicle, and fuse locations on your vehicle may be different from those shown here. If you are unsure of fuses and their locations, check with your authorized Volkswagen dealer or a qualified workshop.
- There are fuses in the vehicle in addition to those listed for the instrument panel or the engine compartment fuse panels. Have these replaced by an authorized Volkswagen dealer or a qualified workshop.
- There is room in the instrument panel fuse box for storing spare fuses.

Fuse locations: engine compartment

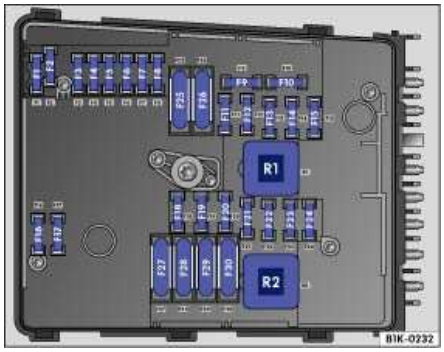

Fig. 43 Fuses in the engine compartment

Fuse box

There is room in the fuse box for storing replacement fuses.

Fuse table

The table lists fuse locations for the major electrical consumers ⇒ ⚠. The columns show fuse locations by number. The number in parentheses is the fuse's current rating in amps. Some electrical consumers are protected by more than one fuse.

Designation	Fuse number (current rating in amps)
ABS	**F4** (30); **F25** (40)
Brake light left	**F16** (30)
Brake light right	**F7** (30)
Fog lights	**F7** (30); **F16** (30)
Headlight left	**F7** (30)
Headlight right	**F16** (30)
Horn	**F17** (15)
Radio	**F8** (25)
Turn signal left	**F7** (30); **F16** (30)
Turn signal right	**F7** (30); **F16** (30)
Windshield wipers	**F19** (30)

WARNING

Using the wrong fuse and trying to repair a fuse or using something instead of a fuse can cause a fire and serious personal injury.

- **Always read and heed the information and all WARNINGS ⇒ page 121, “Changing a fuse in the engine compartment”.**

WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, “Working in the engine compartment”. The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

Tips

- One electrical consumer may be protected by several fuses.
- Several electrical components may be protected by just one fuse.
- Depending on equipment and options, the table may list fuses that do not apply to your vehicle, and fuse locations on your vehicle may be different from those shown here. If you are unsure of fuses and their locations, check with your authorized Volkswagen dealer or a qualified workshop.
- There are fuses in the vehicle in addition to those listed for the instrument panel or the engine compartment fuse panels. Have these replaced by an authorized Volkswagen dealer or a qualified workshop.
- There is room in the engine compartment fuse box for storing spare fuses.

Changing a light bulb

Warning light: Bulb failure

The warning light comes on when an exterior lighting bulb has burned out.

The warning light in the instrument cluster comes on when an exterior light bulb (e.g. left high beam headlight) has failed.

If just one back-up light LED burns out, the warning light will not come on. If all the LEDs burn out, then the warning light will come on.

Bulb monitoring with trailer attached[22]

If the vehicle is delivered from the factory with a trailer hitch and the trailer is correctly attached to the trailer socket, certain bulbs on the trailer are also monitored.

The trailer lighting is constantly monitored for a bulb failure. The warning light comes on if a bulb in the rear trailer lighting has failed.

The following bulbs are monitored:

[22] Where applicable

- Common failure of all turn signals on one side
- Failure of the rear light on one side (on some models also failure of the license plate light).
- Failure of both brake lights

The backup light on the trailer is **not** monitored since they are not installed on all trailers. If there are several lamps on one side (ganged), the failure of a single bulb is not indicated.

WARNING

Failure to heed warning lights and warning messages in the display, can lead to personal injury or vehicle damage.

Information and safety instructions for changing light bulbs

Light bulbs should be changed only by a qualified technician.

In many cases, changing a light bulb involves removing other parts of the vehicle to reach the burned-out bulb, like those in the front that can only be reached through the engine compartment ⇒ ⚠.

We recommend that bulbs only be changed by an authorized Volkswagen dealer or a qualified workshop.

Before changing a light bulb, the following must be done:

- Light switch set at position **0**.
- Turn signal lever brought into its neutral position.
- Ignition key removed.
- Orientation lighting[23] must be turned off ⇒ ⚠.
- The light bulb must be cooled off.

Always replace a burned-out bulb with a good bulb with the same specification. Specifications are found on the glass bulb or on the metal base.

Do not touch a glass bulb with your bare hands. Fingerprints can cloud the outer surface of the bulb when heated, affecting the lighting power, and reducing the brightness.

Always check the function of the bulb after replacing it. If the bulb does not function, it is possible that it was not installed correctly, the connection plug is not seated correctly, the corresponding fuse is burned out ⇒ page 119, or the bulb is defective.

Always have the headlights adjusted by an authorized Volkswagen dealer or qualified workshop after a headlight bulb has been replaced.

You should carry replacement bulbs in your vehicle at all times, including at least those bulbs that are important for traffic safety. See your Volkswagen dealer for recommended light bulbs.

Additional light bulb specifications

Some bulbs in the headlights or back-up lights may have factory specifications that are different from standard bulbs as indicated on the base or on the bulb itself.

LL = LongLife bulbs with a longer life compared to conventional light bulbs.

[23] where applicable

Blue = Bulbs with bluish-white light, suitable for gas-discharge lights (Xenon/Bi-Xenon).

WARNING

Improper replacement of burned out headlight bulbs can cause serious personal injury.

- **Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, "Working in the engine compartment". The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.**
- **Gas discharge lamps (Xenon) get power from a high voltage source that can cause serious personal injury and even death if handled improperly.**
- **H7 light bulbs are under high pressure and can explode if handled improperly.**
- **Always let a burned out bulb cool down before replacing it.**
- **Always have a qualified technician replace burned out light bulbs, especially gas discharge lamps (Xenon) and H7 light bulbs.**
- **There are parts with sharp edges on the opening and on the bulb holders. Wear hand protection if you replace bulbs.**
- **Never remove the headlight unless you know exactly how to carry out the job and have the correct tool and light bulbs.**
- **If you are uncertain about what to do, have the work performed by an authorized Volkswagen dealer or a qualified workshop. Serious personal injury may result from improperly performed work.**

WARNING

In vehicles with the coming home and leaving home function[23], the orientation lighting can still be turned on even if the light switch is in the 0 position and the ignition key has been removed.

- **Wait until the orientation lighting is out and the light bulb in question has cooled off before you replace the bulb.**

Note

After replacing a headlight bulb, always make sure that the rubber covers or plastic caps have been properly and securely reinstalled to help prevent water from getting into the electrical connections and headlight housing and causing damage to the electrical system.

Emergency starting

Jumper cables

Jumper cables must have large enough wire size (cross-section).

If the engine does not start because the battery is "dead" your vehicle's battery can be connected to the battery of another vehicle to start the engine.

Jumper cables

Jumper cable wire must be at least 0.038 in^2 (25 mm^2) in cross-sectional area, or approximately 3 ga. (AWG), for use with gasoline engines.

WARNING

- **Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, "Working in the engine compartment". The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.**
- **Before doing any work on the battery, read all the battery WARNINGS ⇒ page 68, "Vehicle battery".**

Note

- Do not let the vehicles touch each other, otherwise current could flow as soon as the plus (+) terminals are connected. If necessary, use longer jumper cables.
- The discharged battery must be properly connected to the vehicle's electrical system.

Jump starting

Jumper cables must only be connected as shown.

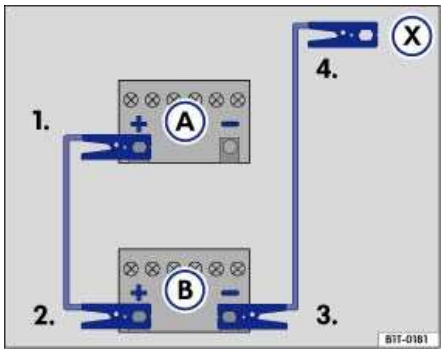

Fig. 44 How to connect the jumper cables

Attaching jumper cables

1. Switch the ignition off on both vehicles ⇒ ⚠.
2. Connect the *red* jumper cable to the positive (+) terminal (1) in the engine compartment of your vehicle (with the 'dead' battery (A)) ⇒ ⚠.
3. Connect the other end of the *red* jumper cable to the positive (+) terminal (2) in the other vehicle (B).

4. Connect the *black* jumper cable to the negative (-) terminal (3) in the other vehicle.

5. Connect the other end of the *black* (-) jumper cable in the engine compartment of your vehicle as shown (4). Never connect the jumper cable to the "dead" battery itself, or to anything near it ⇒ ⚠.

6. Route the cables so that they cannot get caught in any moving parts in the engine compartment of either vehicle.

Starting the engine

7. Start the engine of the vehicle providing help (with the good battery and let it run at idle speed.

8. Start the engine of your vehicle (with the low battery) and wait a minute or two until the engine is running smoothly. If the engine does not start after about 10 seconds, stop and try again after about 30 seconds.

Removing the jumper cables

9. Before you remove the jumper cables, switch off the headlights (if they are on).

10. Switch on the air conditioning fan and the rear window defogger in your vehicle. This helps minimize voltage spikes when the cables are disconnected.

11. Disconnect the jumper cables in reverse order of the way they were connected, as follows:

12. Disconnect the *black* (-) cable from your vehicle.

13. Disconnect the *black* (-) cable from the other vehicle.

14. Disconnect the *red* (+) cable from the other vehicle.

15. Disconnect the *red* (+) cable from your vehicle.

16. Close the red cap over the positive (+) terminal on your vehicle.

⚠ WARNING

Stop! Before working in the engine compartment, always read and heed all WARNINGS ⇒ page 46, "Working in the engine compartment". The engine compartment of any motor vehicle is a potentially dangerous area and can cause serious personal injury.

WARNING

Improper use of jumper cables when jump-starting a vehicle with a dead battery can cause the battery to explode leading to serious personal injury. To help reduce the risk of battery explosion:

- **Always make sure that the battery providing starting assistance has the same voltage as the discharged battery (12 V) and about the same capacity (see battery label).**
- **Never jump-start a vehicle with a frozen battery. The battery can explode. If a battery is or has been frozen, replace it.**
- **Batteries give off explosive hydrogen gas. Always keep fire, sparks, open flame and smoking materials away from batteries. Never use a cellular telephone while connecting or disconnecting jumper cables.**
- **Never short out the battery terminals by connecting the positive (+) and negative (-) terminals with each other.**
- **Always follow the jumper cables' manufacturer's instructions.**
- **Never connect the negative cable from the other vehicle directly to the negative terminal of the discharged battery. The hydrogen gas from the battery is explosive.**
- **Never attach the negative cable from the vehicle providing starting assistance to parts of the fuel system or to the brake hoses or brake lines.**
- **Never allow the non-insulated parts of the battery clamps to touch. Never allow the jumper cable attached to the positive battery terminal to contact metal parts of the vehicle.**
- **Always route the jumper cables so that they cannot get caught in any moving parts in the engine compartment.**

Note

- Connecting jumper cables improperly can cause expensive damage to the vehicle’s electrical system.
- Do not let the vehicles touch each other while the jumper cables are connected. If they do, electrical current may flow between the vehicles when the positive (+) terminals are connected.

Towing

Front towing eye

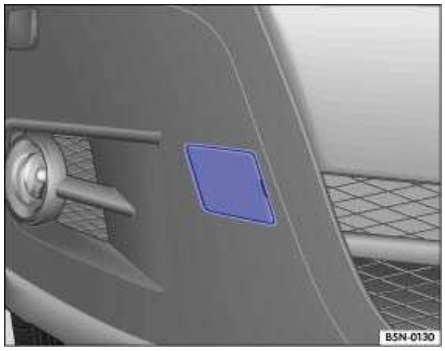

Fig. 45 In the right front bumper: removing the cover.

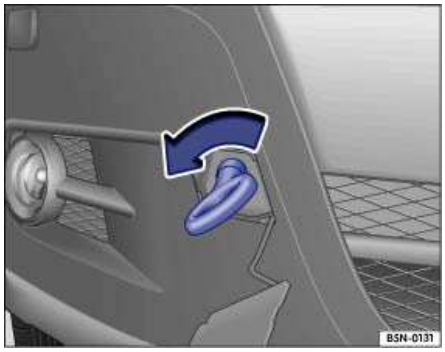

Fig. 46 The front right section of the vehicle: screwing in the towing eye.

The threaded hole for the towing eye is in the front bumper on the right side ⇒ Fig. 45. The cover has to be removed to reach the hole. Use the lug wrench to install the towing eye into its mounting bracket. Make sure it you install it all the way and that it is secure.

Installing the towing eye

– Remove the towing eye ⇒ Fig. 24 (3), the lug wrench (6) and the screwdriver (1) from the tool kit in the luggage compartment.

– Using the flat blade of screwdriver, pry the cover ⇒ Fig. 45 off and let it hang on the vehicle.

– Screw the towing eye as far as it will go into the threaded hole ⇒ Fig. 46 (inset). Use the lug wrench to tighten the towing eye ⇒ .

– When towing operations are complete, unscrew the towing eye clockwise and install the cover.

– If necessary, clean the towing eye, the lug wrench and the screwdriver and place them back in the tool kit.

The towing eye must always be carried in the vehicle.

Follow instructions and tips for towing ⇒ page 134, “General notes”.

Note

Make sure the towing eye is installed all the way into the mounting bracket and that it is secure. If not, it could be pulled out while your vehicle is being towed.

Rear towing eye

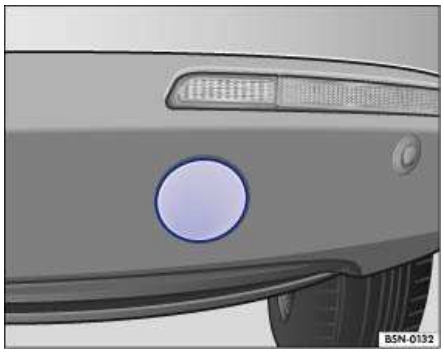

Fig. 47 Rear bumper, right side: removing the cover.

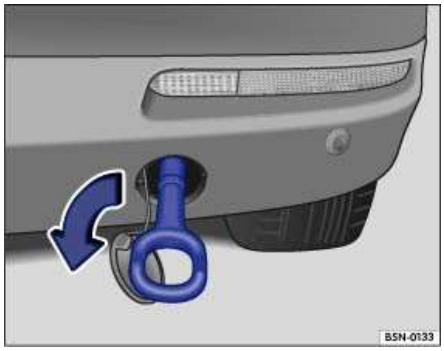

Fig. 48 Rear bumper, right side: mounting the towing eye.

The threaded hole for the towing eye is in the rear bumper on the right side ⇒ Fig. 47. The cover has to be removed to reach the hole. Use the lug wrench to install the towing eye into its mounting bracket. Make sure it you install it all the way and that it is secure.

Installing the towing eye

– Remove the towing eye ⇒ Fig. 24 (3), the lug wrench (6) and the screwdriver (1) from the tool kit in the luggage compartment.

– Using the flat blade of screwdriver, pry the cover ⇒ Fig. 47 off and let it hang on the vehicle.

– Screw the towing eye as far as it will go into the threaded hole ⇒ Fig. 48 (inset). Use the lug wrench to tighten the towing eye ⇒ .

– When towing operations are complete, unscrew the towing eye clockwise and install the cover.

– If necessary, clean the towing eye, the lug wrench and the screwdriver and place them back in the tool kit.

The towing eye must always be carried in the vehicle.

Follow instructions and tips for towing ⇒ page 134, “General notes”.

Note

Make sure the towing eye is installed all the way into the mounting bracket and that it is secure. If not, it could be pulled out while your vehicle is being towed.

General notes

Whenever possible, tow with the front (drive) wheels off ground.

Always observe the following instructions if you must use a tow-rope:

Notes for the driver of the towing vehicle

– Switch on the emergency flashers.

– Drive very slowly at first to take up the slack in the tow-rope. Then press the accelerator slowly and increase speed gradually.

– Remember that the brake booster and electro-mechnical power steering are not working in the vehicle being towed. Brake earlier and more gently than you would normally ⇒ .

– Do not drive faster than 30 mph (50 km/h) or tow for more than 30 miles (50 km).

Notes for the driver of the vehicle being towed

– Switch on the emergency flashers.

– Shift the transmission into neutral (**N**).

– Make sure that the tow-rope stays tight at all times ⇒ ⚠.

– Remember that the brake booster and electro-mechnical power steering are not working on the vehicle being towed. The steering wheel will be harder to turn. You will need to press harder on the brake pedal when you need to slow down or stop.

Tow-rope or tow-bar

It is easier and safer to tow a vehicle with a tow-bar. Use a tow-rope only if you do not have a tow-bar.

Vehicles equipped with a factory-installed trailer hitch cannot use a standard tow-bar to tow another vehicle.

A tow-rope should be able to stretch slightly to reduce the jerking on both vehicles when the towing vehicle speeds up or the towed vehicle has to slow down or stop. Use a tow-rope made of synthetic fiber or similar elastic material.

Attach the tow-rope or the tow-bar only to the towing eyes provided with the vehicle.

Driving style

Towing requires some experience, especially when using a tow-rope. Both drivers must be familiar with the techniques required for towing. Inexperienced drivers should not try to tow another vehicle.

Do not pull too hard with the towing vehicle, and avoid jerking the tow-rope. When towing on an unpaved road, there is always a risk of overloading and damaging the attachment points.

On the vehicle being towed, the ignition must be switched on to keep the steering wheel from locking. Also make sure that the turn signals, horn, windshield wipers and windshield washers work properly.

Remember that the electro-mechnical power steering and the brake booster do not work when the engine is not running. The steering wheel will be harder to turn. You will need to press harder on the brake pedal when you need to slow down or stop.

Towing a vehicle with automatic transmission

- Shift the vehicle into neutral (**N**).
- Do not drive faster than 30 mph (50 km/h).
- Do not tow your vehicle farther than 30 miles (50 km).
- If they are to be towed by a breakdown truck, the front wheels off all vehicles must be raised off the ground – this does not apply to vehicles with all-wheel drive (4MOTION) ⇒ page 135, “Towing a vehicle with all-wheel-drive (4MOTION)” and ⇒ ⓘ.

Towing a vehicle with all-wheel-drive (4MOTION)

Vehicles with all-wheel drive (4MOTION) must not be towed using a tow bar or tow rope. If the vehicle is towed with the front or rear axle raised, the engine must be turned off or else the drive train may become damaged ⇒ ⓘ.

Tow starting

For technical reasons, it is **not** possible to tow-start or push-start your vehicle:

- The electronic parking brake, if applied, cannot be released.
- If the vehicle is without electrical power, the engine management systems may not operate properly.

Use jumper cables instead ⇒ page 129.

WARNING

Never tow a vehicle without any electrical power.

WARNING

Towing a vehicle changes the way your vehicle handles and brakes. To help reduce the risk of a crash and serious personal injury, note the following:

- **The driver of the vehicle that is being towed:**
  - **Will have to press the brake pedal considerably harder than normal because the brake booster is not active. Always be alert not to rear-end the towing vehicle.**
  - **Will have to use considerably more force to turn the steering wheel, because the electro-mechnical power steering is not working.**
- **The driver of the vehicle that is towing:**
  - **Must accelerate gradually and gently avoid jerking movements.**
  - **Must brake earlier and more gently than you would normally.**

Note

- Unburned fuel can get into the catalytic converters and damage them during towing ⇒ page 18.
- To prevent damage to the drive train in vehicles with all-wheel drive (4MOTION), please read the information and notes on towing ⇒ page 135.
- Always read and head the notes on towing vehicles in the owners manual of the other vehicle.

Tips

- Your vehicle can only be towed if the electronic parking brake and the electric steering column lock are released. If there is a loss of electrical power or malfunctions in the electrical system, you must use jumper cables if necessary to start the engine in order to release the electronic parking brake.
- For technical reasons, it is not possible to tow start a vehicle with an automatic transmission.
- If transmission has lost transmission fluid, the vehicle must be towed with the front (drive) wheels off the ground.
- If a vehicle with an automatic transmission has to be towed more than 30 miles (50 km), it must be professionally towed with the drive wheels raised off the ground. Please also read the notes on towing vehicles with all-wheel drive (4MOTION) ⇒ page 135.
- Inexperienced drivers must not tow another vehicle.

When can your vehicle not be towed?

Your vehicle may not be towed under the following conditions:

- If the transmission malfunctions and there is no transmission fluid, or if transmission fluid has leaked out of the transmission.

- If you have to tow farther than 30 miles (50 km).
- If the vehicle has lost electrical power, the steering will remain locked and the electronic parking brake, if applied, cannot be released.
- If the front and rear wheels cannot turn.

In these cases, the vehicle must be towed with front (drive) wheels off the ground, and all-wheel-drive vehicles must be professionally transported using a flatbed truck or trailer.

WARNING

If you still tow your vehicle under these conditions, you could cause an accident or cause damage to the vehicle. This will not be covered by your Limited New Vehicle Warranty.

Note

- If the vehicle has to be towed more than 30 miles (50 km), it must be moved with the drive wheels off the ground.
- If there is little or no oil in the transmission because of damage to your vehicle, it must be moved with drive wheels off the ground.
- Do not tow your vehicle behind a recreational vehicle or trailer for more than 30 miles (50 km). The automatic transmission can be severely damaged, even if the selector lever is in the **N** (Neutral) position.
- If the vehicle has no electrical power, the steering wheel will be locked. The vehicle must then be professionally transported with all wheels off the ground using a flatbed truck or trailer.
- To prevent damage to the drive train in vehicles with all-wheel drive (4MOTION), please read the information and notes on towing ⇒ page 135, “Towing a vehicle with all-wheel-drive (4MOTION)”.

Lifting the vehicle

Vehicle lift points

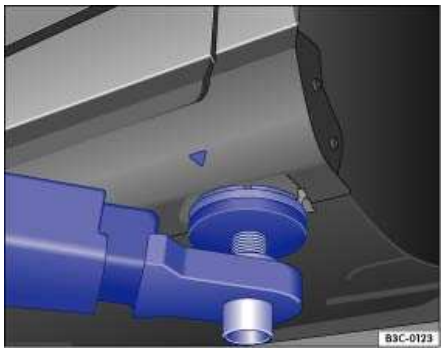

Fig. 49 Front lift point for workshop lift or floor jack.

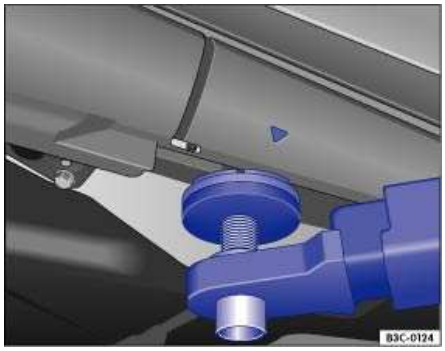

Fig. 50 Rear lift point for workshop lift or floor jack.

Your vehicle may only be lifted by a floor jack or workshop lift using the lift points shown ⇒ Fig. 49 and ⇒ Fig. 50. Lifting the vehicle from a point other than that shown above can result in serious damage to the vehicle ⇒ and cause serious personal injury ⇒.

Using the vehicle jack to lift the vehicle ⇒ page 109, “Raising the vehicle”.

WARNING

Improperly lifting your vehicle with a floor jack can cause the vehicle to fall off the floor jack and cause serious personal injury:

- **Always read and heed the operating instructions from the floor jack manufacturer and legal regulations if necessary before using the floor jack to lift the vehicle.**
- **Never allow anyone to stay in the vehicle when it is being lifted or when it is off the ground.**
- **Always lift your vehicle only at the designated lift points shown in the illustrations ⇒ Fig. 49 and ⇒ Fig. 50. Not using the designated lift points can cause the vehicle to fall off the floor jack when heavy parts such as the engine or transmission are removed.**
- **Ensure that the vehicle's lift points lie as flat as possible and centered on the carrier plates of the floor jack.**
- **Never start the engine when you have raised the vehicle on the floor jack. The engine vibrations and vehicle movements could knock the vehicle off the floor jack.**
- **If you must work under a vehicle raised on a floor jack, always make sure that the vehicle is safely supported on safety stands intended for that purpose that are strong enough to support the weight of the vehicle.**
- **Never use the floor jack as an ascending aid.**
- **Always make sure that the weight of the vehicle is not heavier than the lifting capacity of the floor jack and safety stands being used.**

Note

To prevent any damage to the vehicle, always observe the following:

- Before driving the vehicle onto the floor jack, ensure that there is adequate space between the low-lying vehicle parts and the floor jack.
- No persons or objects may be on the floor jack.
- Never lift the vehicle on the engine oil pan, transmission, rear or front axle.

- To prevent damage to the underbody when lifting the vehicle, **rubber pads** must be used. In addition, check the arms of the floor jack for good clearance.
- The arms of the floor jack should not come into contact with the side skirts or other parts of the vehicle.

Consumer Information

Operating your vehicle outside the U.S.A. or Canada

Government regulations in the Unites States and Canada require that automobiles meet specific emission regulations and safety standards. Therefore, vehicles built for the U.S.A. and Canada differ from vehicles sold in other countries.

If you plan to take your vehicle outside the continental limits of the United States or Canada, there is the possibility that:

- Unleaded fuels for vehicles with catalytic converters may not be available.
- Fuel may have a considerably lower octane rating and may cause engine damage.
- Service may be inadequate due to lack of proper service facilities, tools or testing equipment.
- Replacement parts may not be readily available.
- DVD navigation systems[24] for vehicles built for the U.S.A. and Canada will not necessarily work in Europe, and may not work in other countries outside of North America.

Note

Volkswagen cannot be responsible for mechanical damage that could result from inadequate fuel, service or parts availability.

Volkswagen Service Repair Manuals

Volkswagen Service Manuals and Official Factory Repair Manuals are published as soon as possible after model introduction.

To order service manuals and other Volkswagen Service literature contact:

Volkswagen Technical Literature Ordering Center

1-800-544-8021

From 8:00 AM to 8:00 PM EST, Monday through Friday.

www.vw.ddsltd.com

[24] Where applicable

For the sake of environment

Undeployed airbag modules, pretensioners and certain button cell batteries are classified as Perchlorate Material - special handling may apply, see www.dtsc.ca.gov/hazardouswaste/perchlorate. When the vehicle or parts of the restraint system including airbag modules safety belts with pretensioners are scrapped, all applicable laws and regulations must be observed. Your authorized Volkswagen dealer is familiar with these requirements and we recommend that you have your dealer perform this service for you.

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