

# Owner's Manual

## 1993 EuroVan / Transporter




## How you can help the environment

The fuel consumption of your EuroVan/Transporter, along with the pollutant content in the exhaust gas are also determined by how you drive.

Noise and wear are likewise influenced by the way you drive your car.

This Owner's Manual explains how to drive your EuroVan/Transporter in a way

which is environment friendly – and how to save money at the same time. Just turn to the heading "Environment" in the index.

Please also be sure to read all texts in this manual marked with this symbol .

Please do your part –  
for the sake of  
the environment

**Your Volkswagen EuroVan/Transporter** has been conceived with the classic German passion for engineering excellence. Even in Germany, Volkswagen engineers are a breed apart. They are never just content to compete, they must excel.

### **A labor of love**

Volkswagen engineers are innovators. They employ the most sophisticated technology, and when it is lacking, they create it themselves. They are perfectionists. They insist that their own craftsmanship undergo inspection after inspection to assure that every Volkswagen is as perfect as man and machine can make it. They are practical. They

have built efficiency, reliability and durability into every Volkswagen that truly make it a great automotive value.

### **Share the feeling**

But above all, Volkswagen engineers share a passion for performance, the results of which you will experience when you slip behind the wheel. Only then will you fully understand that you're not just driving a car, you're driving a Volkswagen.



## VEHICLE LITERATURE

In addition to this **Owner's Manual**, your Volkswagen comes with a **Maintenance booklet** and a **Warranty booklet**.

Moreover, depending on the model and the equipment, there may be additional instruction booklets delivered with your vehicle (for example, Radio Operation instructions).

If you are missing one of the above mentioned publications, or if you feel that the information is not complete, contact your authorized Volkswagen dealer for assistance.

### The Owner's Manual

and the supplements should be read carefully and as soon as possible to acquaint yourself with your vehicle.

Pay special attention to the chapter "Vehicle operation". There you will see how to drive safely, economically and how to minimize pollution.

**For safety reasons please note also the information regarding additional accessories, modifications and parts replacement on page 134.**


The other chapters are also important, because the correct operation of the vehicle serves – in addition to proper care and maintenance – to maintain the value of the vehicle. In many cases, it may also be one of the conditions for upholding warranty claims.

At the end of this manual we have made a list of checks you should perform regularly to keep your vehicle operational at all times.

### Notes explaining this manual:

This manual describes all the equipment intended at the time of printing. Some of the equipment may be available at a later date or not at all.

**WARNINGS concern safety and are highlighted like this throughout this manual.**

 *Texts identified by this symbol and written in italics are important notes regarding the environment.*

Please note that items marked with an asterisk \* may be standard on certain models and optional on others.

### The Warranty booklet

contains detailed information about the warranties covering your Volkswagen.

### The Maintenance booklet

explains how you can keep your Volkswagen in top driving condition by having it serviced regularly. Always have the Maintenance booklet with you when you take your vehicle to a Volkswagen dealer for service. Your Service Adviser will record each scheduled service.

**In Canada,** this literature is also available in French. To obtain a copy, contact your dealer or write to:

au Canada on peut se procurer un exemplaire de cette littérature en français auprès du concessionnaire ou du:

Volkswagen Canada, Inc.  
Customer assistance/  
Assistance à la Clientèle  
1940 Eglinton Ave. East  
Scarborough, Ontario M1L 2M2

### If you sell your Volkswagen

all literature should be left in the vehicle to make the Warranty terms as well as all operating, safety and maintenance information available to the next owner.

### If you change your address or if you bought this Volkswagen used

be sure to send in a "Notice of Address Change"/"Notice of Used Car Purchase" post card. This card can be found in the Warranty booklet or obtained from your Volkswagen dealer.

**It is in your own interest that we be able to contact you should the need arise.**

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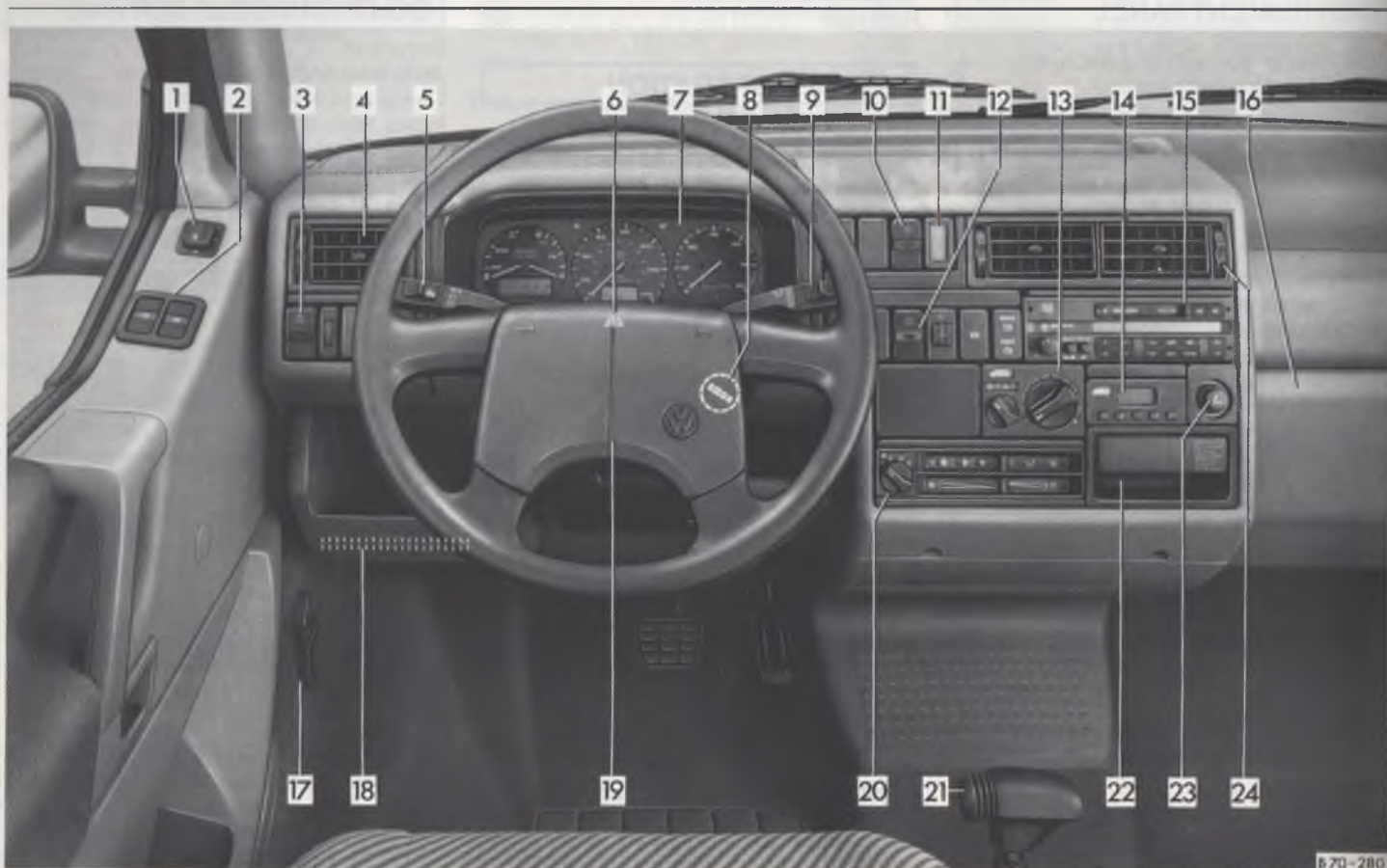
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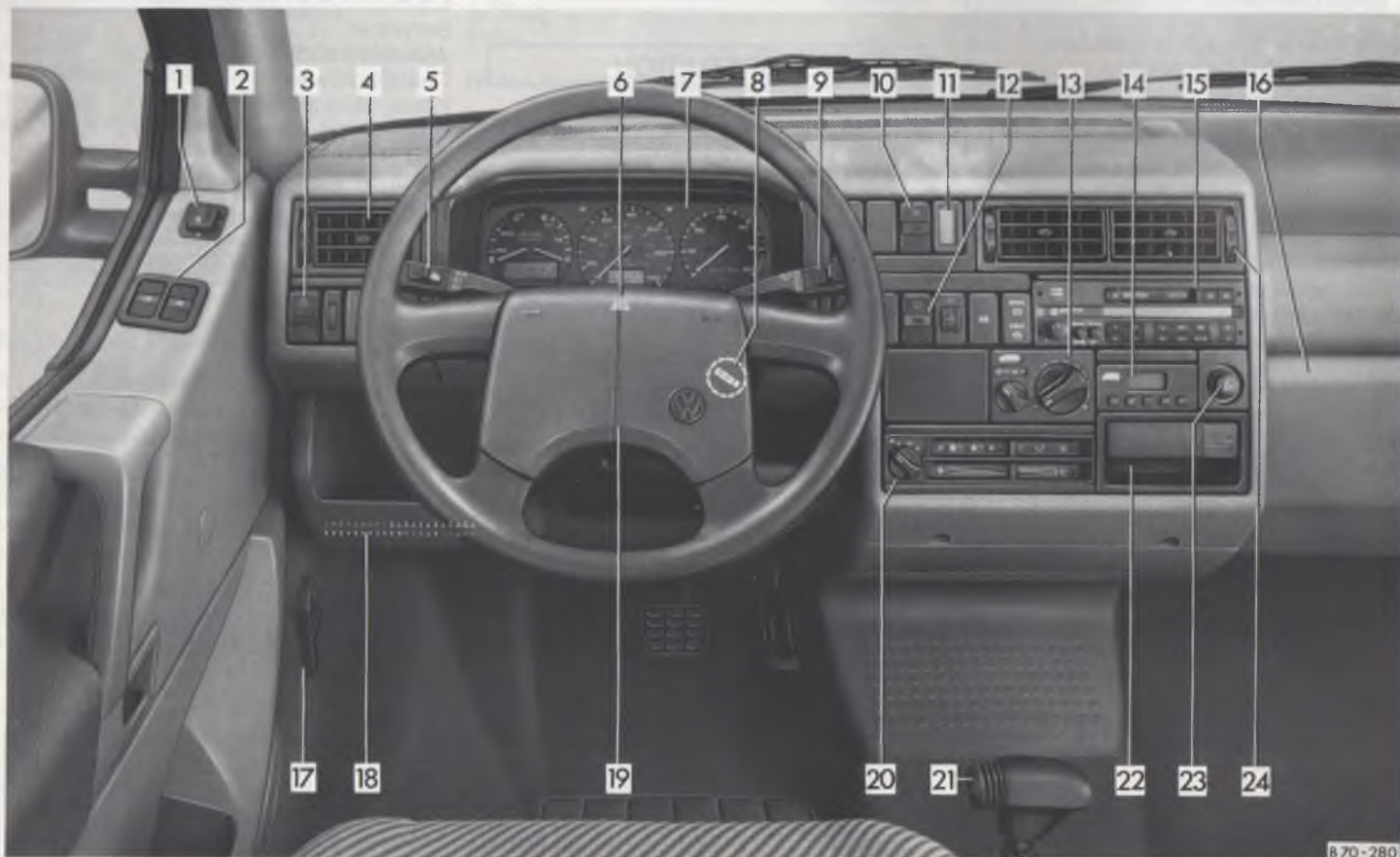
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## INSTRUMENT PANEL



## INSTRUMENT PANEL



870-280

## INSTRUMENT PANEL

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### Notes

■ Some features mentioned are standard equipment on some models only or are options on others.
















■ For technical reasons, the arrangement of the switches may differ. The governing factor is the symbol on the switch itself.

<sup>1)</sup> A separate brochure is provided for your factory-installed radio. If you replace your radio, please be sure to read the notes in the chapter "Do-it-yourself Service", page 144.




## INSTRUMENT PANEL

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#### Note

■ If one of the lights marked with  comes on suddenly while driving, move a safe distance off the road. Turn off the engine, turn the emergency flasher on and use other warning devices to alert other motorists. Go to listed page in your Owner's Manual for explanations.

■ Some of the lights mentioned are on certain models only and may be options on other models.

### KEYS

Your Volkswagen comes with two keys.

All keys can be inserted into locks either way.

The key fits all locks on the vehicle.

The tag gives the key number.

#### For your protection against theft:

- Record the key number and keep it in a safe place, such as your wallet. Do not keep it in the vehicle.

- If you should lose a key, provide your Volkswagen dealer with the key number to obtain a duplicate key.

In addition to the plastic tag, there may also be a metal tag showing part of the vehicle identification number. This tag is no longer required after the vehicle has been delivered.

- Do not leave your vehicle unattended with the key in the ignition lock. Always take the key and lock all doors.

A chime will sound when you open the driver's door with the key left in the ignition lock. This is your reminder to remove the key and lock the doors.

#### WARNING

- Do not leave children unattended in the vehicle especially with access to vehicle keys. Unsupervised use of the keys can result in starting of the engine and use of vehicle systems such as power windows, etc., which could result in serious personal injury.

- Do not remove key from steering lock while you are driving or as the vehicle is rolling to a stop, otherwise the steering column will lock up and you will not be able to steer the vehicle.

## CONTROLS AND EQUIPMENT

### CENTRAL LOCKING SYSTEM\*

The central locking system locks or unlocks doors and rear lid simultaneously. It is actuated from the driver's or passenger's door.

■ To lock and unlock from the outside, turn key in lock of driver's or passenger's door.

■ To lock and unlock from the inside, raise or depress locking knob on window sill of driver's and passenger's door.

**When you unlock the driver's or passenger's door with the key from the outside or raise the locking knob in the same door from the inside, wait until the locking knobs are raised before you open one of the doors.**

When the central locking system is actuated, the locking knobs on window sills should move simultaneously. If one knob does not move when locking doors, open that particular door and close it properly.

The rear lid and the sliding door can be locked and unlocked individually with the key; manual lock operation will override the power lock system.

#### WARNING

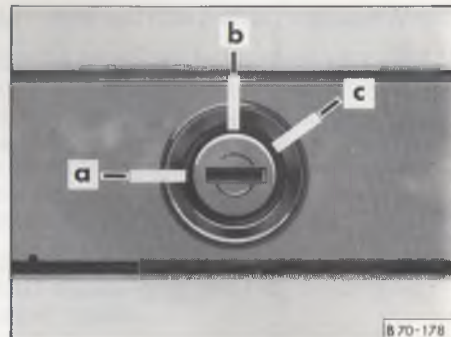
■ Locking doors from the inside can help prevent inadvertent door opening during an accident and can also prevent unwanted entry from the outside. Locked doors can, however, delay assistance to vehicle occupants and rescue from the outside in the event of an accident or other emergency.

■ Do not leave children inside the vehicle unsupervised. If locking knob in driver's door is depressed, all doors and the rear lid will be locked automatically. In an emergency it would be impossible to open the doors from outside without the key.

#### Rear lid

■ With the key slot in horizontal position (a), the lid can be locked and unlocked by the central locking system.

■ With key slot in vertical position (b), the rear lid remains locked when actuating the central locking system.



If the rear lid is closed with lock slot in vertical position, the luggage compartment can only be opened with the key:

- Insert key in lock slot.
- Turn key all the way to the right (c) and hold in this position.
- Press lock cylinder in and raise lid.
- Remove key.

#### WARNING

To help prevent poisonous exhaust gas from being drawn into the vehicle, always keep the rear lid closed while driving.

Do not transport objects larger than those fitting safely into the luggage area.

\*where applicable

## DOORS

### Front doors

#### To lock, unlock and open doors from the outside

■ Lock and unlock the front doors by turning the key to the right or left.

■ Open the doors by pulling the outer door handle.

■ All doors (except driver's door) can be locked by first depressing locking knob and then closing the door.

■ The driver's door can be locked only from the outside with the key. This precaution was taken to prevent locking the driver's door while the key is still inside the vehicle.

#### To lock, unlock and open doors from the inside

■ To lock doors depress the locking knob.

### WARNING

**Locking doors from the inside can help prevent inadvertent door opening during an accident and can also prevent unwanted entry from the outside. Locked doors can, however, delay assistance to vehicle occupants and rescue from the outside in the event of an accident or other emergency.**

■ To unlock doors raise the locking knob.

■ To open doors pull the inside door handle after raising the locking knob.

## CONTROLS AND EQUIPMENT

### Sliding door

To lock, unlock and open the door from the outside

- Lock and unlock the door by turning the key to the right or left.
- Open the door by pulling the outer door handle and slide the door to the rear. The door is held in the fully open position.

#### WARNING

Make sure the door is held in the fully open position. Otherwise the door could slide forward by itself and cause injury to entering or exiting passengers.

To lock, unlock and open the door from the inside

- To lock door depress the locking knob.

#### WARNING

Locking the door from the inside can help prevent inadvertent door opening during an accident and can also prevent unwanted entry from the outside. Locked doors can, however, delay assistance to vehicle occupants and rescue from the outside in the event of an accident or other emergency.

- To unlock door raise the locking knob.
- To open door pull the inside door handle after raising the locking knob.



### Child lock for sliding door\*



To prevent children riding in the passenger compartment from accidentally opening the sliding door, a safety mechanism is provided.

- To engage the child lock, move small lever at lower edge of lock. The inside door handle is locked and you can only open the sliding door from the outside. The locking knob must be raised.
- For the comfort and convenience of adult rear passengers be sure to disengage the child lock when no longer needed.

### REAR LID

■ To unlock rear lid, turn key in rear lid lock counterclockwise, press lock cylinder in and lift lid.

■ To close rear lid, swing lid down firmly and lock with key.

Keep the rear lid locked at all times to prevent unauthorized access to the vehicle.

#### WARNING

To help prevent poisonous exhaust gas from being drawn into the vehicle, always keep the rear lid closed while driving.

Do not transport objects larger than those fitting safely into the luggage area.

To open the rear lid from the inside

#### WARNING

Never allow passengers, especially children, to remain behind the rear seats while the vehicle is in motion. All passengers must be properly restrained when the vehicle is in moving.

■ Open the lid by pulling the handle on the inside.

Child lock for rear lid\*



To prevent children from accidentally opening the rear lid, a safety mechanism is provided.

■ To engage the child lock, move small lever at lower edge of lock.

The inside handle is locked and you can only open the rear lid from the outside.

## CONTROLS AND EQUIPMENT

### REAR SWING OUT DOORS\*



#### Right door

**From the outside**, lock or unlock the door using your key. When you unlock the door, the locking knob moves up. When you lock the door, the knob goes down.

**From the inside**, push the locking knob down to lock the door.

As long as the door is locked, you cannot open the door from either the outside or the inside.

When the door is completely open (approximately 90°, the door check will keep the door open.



#### Left door

You can open the left door only when the right door is open.

To open the left door, pull the release lever (illustration) and open the door.

#### Note

**When closing the rear swing-out doors, always close the left door first.**



#### Unlatching the door check

A door check holds the doors in an open position (approx. 90°).

If you need to open the doors even wider, unlatch the door checks (see illustration). Remember, however, the doors will not be held open.

When you close the doors, the doors checks will latch back into place by themselves.

## WINDOWS

### Door windows

Lower and raise the windows with the winders in the door panels.

#### WARNING

**Do not stick anything on the windows or the windshield that may interfere with the driver's vision.**



### Power windows\*

The switches are arranged in the driver's door. The right window can also be operated from the passenger's door by a separate switch.

The power windows work only with the ignition on.

**a – driver's door**

**b – passenger's door**

**To open** the windows, briefly push the bottom half of the respective switch and release. The window will automatically open all the way. If you want to stop the window while it is opening, push the switch again and release.

**To close** the windows, push the top half of the respective switch and hold. If you release the switch, the window will stop.

#### WARNING

**Do not leave children unattended in the vehicle especially with access to vehicle keys. Unsupervised use of the keys can result in starting of the engine and use of vehicle systems such as power windows, etc. which could result in serious personal injury.**



## CONTROLS AND EQUIPMENT

### MIRRORS

Adjust the outside and inside mirrors before driving and after adjusting your seat to proper driving position. It is important for safe driving that you have good vision to the rear.

#### WARNING

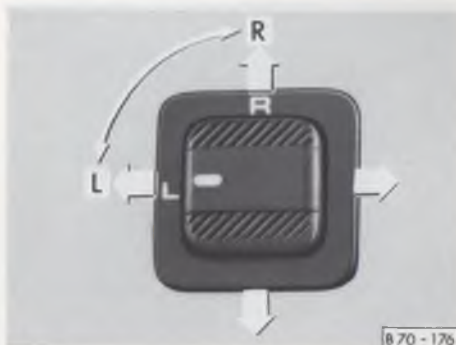
The right hand outside mirror may have a curved (convex) surface. Always remember that vehicles or other objects seen in a convex mirror will look smaller and appear farther away than when seen in a flat mirror. Do not use this mirror to estimate distances of following vehicles when changing lanes.

Whenever possible, use the inside mirror to determine the actual distance and size of vehicles or objects seen in the convex mirror.

#### Outside mirrors

The outside mirrors are hinged and yield when pressed from either direction.

Adjust the outside mirrors so that the side of your own vehicle can just be seen. This setting ensures the best possible field of view, and in addition it serves as an instant check on the mirror setting.



#### Outside mirrors with electric remote control\*

These mirrors can be adjusted electrically from the inside by moving the knob on the driver's door panel. They work only with the ignition on. To adjust either driver or passenger mirror, turn knob to L or R.

If the electrical adjustment of the mirror should not respond, adjust the mirror by hand by pushing lightly on the edge of the mirror glass.

When the rear window defogger is switched on, the outside mirrors are electrically heated also.

#### Inside day-night mirror

You can adjust the day-night mirror from clear daylight visibility to non-glare visibility at night by moving the lever at the bottom of the mirror.

To ensure the best possible anti-glare effect, the lever should be pointing forwards when the basic mirror setting is made.

Daylight driving – lever to front  
Night driving – lever to rear



## WARNING

When folding the mirror forward, make sure you do not get your fingers caught between the mirror and the mirror base.

## Note

This description applies only to vehicles with standard outside mirrors. If you have mirror extensions, you can still fold the mirror forward, however there is no safety catch.



## Folding outside mirrors

A safety catch holds the mirror in when you fold it (red lever). To fold it forward, push the mirror towards the vehicle, press the safety catch and fold the mirror all the way forward – see illustration.

## CONTROLS AND EQUIPMENT

### SAFETY BELTS



Always wear your safety belts!

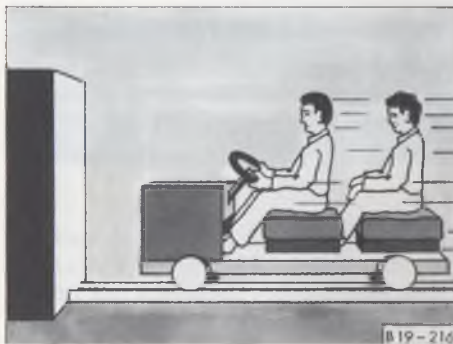
#### WARNING

Safety belts have been shown to be the single most effective means available for reducing the potential for serious injury and death in automobile accidents. Therefore, for your own protection as well as that of your passengers always properly wear safety belts when the vehicle is in motion.

Pregnant women, injured or physically impaired persons should also use safety belts. Like all vehicle occupants, they are more likely to be seriously injured if they do not wear safety belts. The best way to protect the fetus is to protect the mother.

Why safety belts work and how to wear them properly is explained in this chapter. Read all the information given and always observe the following instructions and warnings pertaining to the use of the safety belts installed in your vehicle.

For information on child safety see page 25.



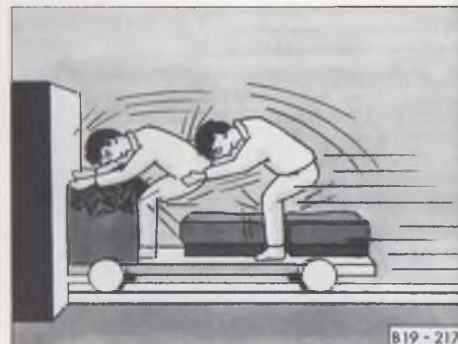
#### Why safety belts work

Safety belts can't work unless they are worn and worn properly.

The illustration above shows the passengers on a "vehicle" which is headed for a brick wall. They are not using safety belts.

The physical principles involved are simple. Both the vehicle and the passengers possess energy which varies with vehicle speed and body weight. Engineers call this energy "kinetic energy."

The higher the speed of the vehicle and the greater the passenger's weight, the more kinetic energy there is and the more energy which must be "absorbed" in an accident.



Vehicle speed is, however, the most significant factor. If the speed doubles from 15 to 30 mph (25 to 50 km/h), for example, the kinetic energy increases 4 times!

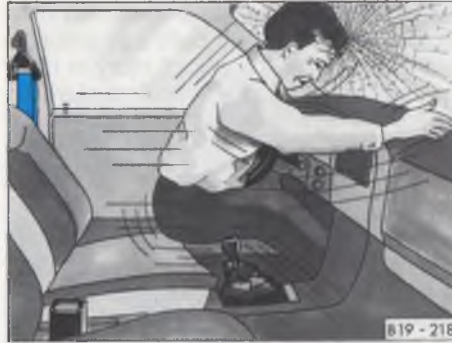
Because these passengers are not using safety belts, their kinetic energy remains unchanged. They will keep moving at the same speed the vehicle was moving just before the crash, until something gets in the way, here, the wall.



The same physical principles apply to people sitting in a passenger car which is involved in a frontal collision.

Even when driving at city speeds of 20 to 30 mph (30–50 km/h), the forces acting on the body can reach one ton (2000 lb/1000 kg) or more. At greater speeds these forces are even higher.

People who do not use safety belts are also not attached to their car. In a frontal collision they will also continue to move forward at the speed their car was travelling just before the impact.



Unable to resist the tremendous forces arising at impact, they will slam violently into the steering wheel, dashboard, windshield or whatever else is in the way. Their impact with the vehicle interior takes place with all of the kinetic energy they had just before their car crashed. Those who do not use safety belts can also be thrown out of their car where even more severe or fatal injuries can occur.

Nobody is strong enough to overcome the forces of an accident by holding tight or bracing themselves against the dashboard. Safety belts can help to reduce the risk of injury caused by uncontrolled impact with the vehicle and the possibility of ejection.



Passengers sitting in the rear seats who do not use safety belts not only endanger themselves but also front seat passengers. In a frontal collision they will also move forward where they can hit and injure the driver or front seat passenger.

### Safety belts protect

Safety belts used properly can make a big difference. Safety belts help to keep passengers in their seats, reduce energy levels applied to the body in an accident gradually and help prevent the uncontrolled movement which can cause serious injuries.

## CONTROLS AND EQUIPMENT



Safety belts attach passengers to the car and give them the benefit of being slowed down more gently or "softly" through the give in the safety belts, crumple zones and other safety features engineered into today's cars. By reducing the kinetic energy over a longer period of time, the forces on the body become more "tolerable" and less likely to produce injury.

In addition, safety belts reduce the danger of being thrown out of the car.

Although these examples are based on a frontal collision, safety belts can also substantially reduce the risk of injury in other types of accidents. So, regardless of whether you are on a long trip or just going to the corner store, always buckle up and make sure others do too.

The following pages provide important instructions which will enable you to use safety belts properly. Be sure to read and follow the instructions carefully and heed all warnings.



### Belt warning system

Your vehicle has a warning light to remind you to wear your safety belt.

If you do not put on your safety belt after switching on the ignition, the warning light in the instrument cluster will come on along with a warning tone for approximately 6 seconds. **Fasten your safety belt now and make sure that your passengers also properly put on their safety belts.**

## How to wear safety belts properly

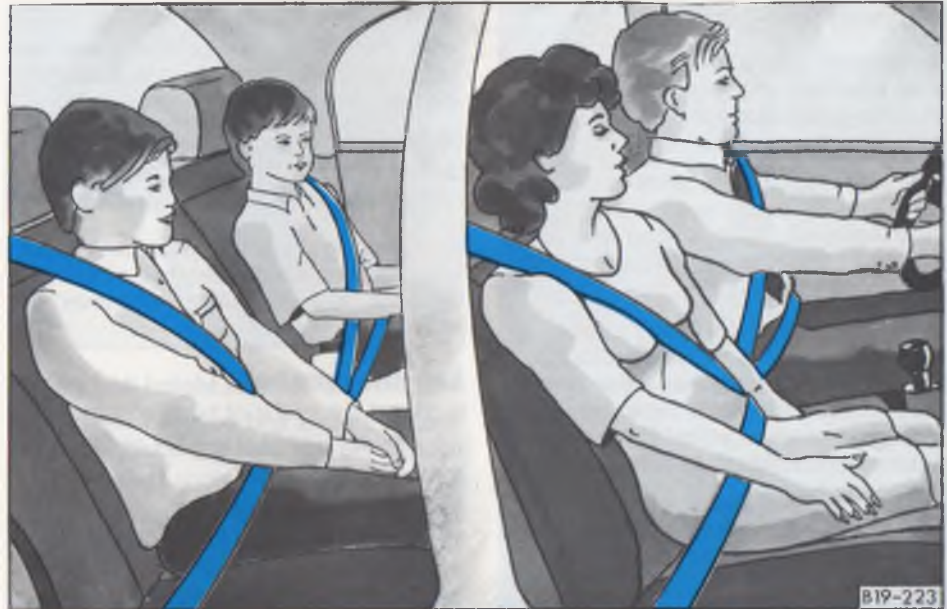
On the previous pages, you have seen how safety belts offer protection in accidents. Accident statistics show that passenger's properly wearing safety belts have a lower risk of being injured and a much better chance of surviving an accident. For this reason, wearing a safety belt is legally required in most countries and in much of the United States.

### WARNING

**Always fasten your safety belts before driving off. Always make sure your passengers are properly restrained – even those sitting in the rear.**

**Safety belts can only work when used properly. Always observe the following precautions:**

- Never wear belts twisted.
- Never strap in more than one person, including small children, with each belt. It is especially dangerous to place a safety belt over a child sitting on your lap.



- Never place your feet on the instrument panel or on the seat. Always keep both feet on the floor in front of the seat.

- Never wear belts over rigid or breakable objects in or on your clothing, such as eye glasses, pens, keys, etc., as these may cause injury.

- Never wear safety belts in any other way than illustrated and described in this chapter. For instance, do not wear shoulder part of belt under your arm or otherwise out of position. This would increase the risk of serious injury in case of an accident.

## CONTROLS AND EQUIPMENT

### WARNING continued

■ Several layers of heavy clothing may interfere with proper positioning of belts and reduce the overall effectiveness of the system.

■ Never allow safety belts to become damaged by being caught in door or seat hardware. Always keep belt buckles free of any obstruction that may prevent secure locking.

■ Never use comfort clips or devices which create slack in the shoulder belt portion and can increase the risk of injury in an accident. However such clips may be required in the proper use of some child restraint systems.

■ Inspect your belts periodically. If belts show damage to webbing, bindings, buckles or retractors, they must be replaced.

■ The belts must be kept clean as otherwise the retractors may not work properly (see also "Vehicle Care", page 100).

■ Safety belts that have been worn and loaded in an accident must be replaced by an authorized Volkswagen dealer.

■ Never modify, disassemble or attempt to repair the safety belts in your vehicle.

Each seating position in your EuroVan has been provided with a safety belt, which must be used for your safety whenever the vehicle is in motion.

### Lap-shoulder belt

The front seats and outside seating positions of the rear seat are equipped with a three-point safety belt.

This combination lap-shoulder belt has a locking retractor. The system adjusts automatically to your size and movements as long as the pull on the belt is slow.

Hard braking or a collision locks the belt. The belt will also lock when you drive up or down a steep hill or in a sharp curve.



### Fastening the safety belt

■ Before fastening the safety belt, first adjust your seat – see page 30.

### WARNING

**Safety belts only offer optimum protection when the seat back is upright and belts are properly positioned on the body. Improperly positioned safety belts can cause serious personal injury in an accident.**

■ To fasten, grasp belt tongue and pull belt in continuous slow motion across your chest and lap.



819-225

- Insert belt tongue into buckle on in-board side of seat. Push down until it is securely locked with an audible click. Pull belt to check.

### WARNING

Always make certain that the safety belt tongue is inserted into the safety belt buckle associated with the corresponding seat. Attaching the safety belt to the buckle for another seat could reduce safety belt effectiveness and cause injury.



819-227

**Safety belt height adjusters** on the front seats can be used to adjust the height of the shoulder portion of the safety belt.

- Press the handle slowly up or down so that the shoulder portion of the safety belt is positioned nearly midway on the shoulder.
- Pull on the shoulder belt to check whether the belt anchor is securely locked in place.
- The shoulder belt must be positioned over the shoulder – **it must never rest**



819-228

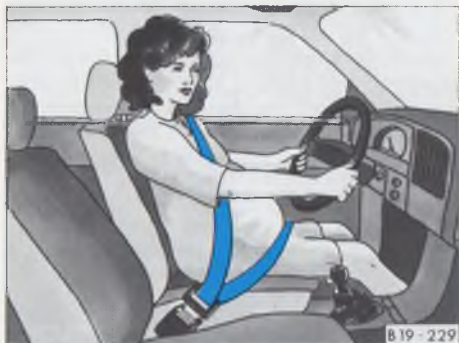
**against the neck and must fit against your body.** See illustration. The lap belt must be worn low and tight across the pelvis. Pull belt tight if necessary.

### WARNING

- Always position safety belts properly over the body for maximum levels of safety. Improperly positioned safety belts can cause serious personal injury in case of an accident.
- Safety belts worn too loose will allow too much forward movement of your body in a crash. This will increase the risk of personal injury.



## CONTROLS AND EQUIPMENT



### WARNING

Pregnant women should especially make sure to wear the lap portion of the safety belt as low as possible across the pelvis so that there is no pressure on the abdomen.



### Unfastening the safety belt

- Push the orange release button on the buckle. The belt tongue will spring out of the buckle.
- Allow belt to wind up on retractor as you guide belt tongue to its slowed position.



### Lap belt

The rear center seating position is equipped with a lap belt.

### Lap belt without a retractor

- Pull the belt over the pelvis and insert the tongue into the buckle.



■ If the belt length is too short, you can lengthen the belt.

Hold belt tongue at a right angle to the belt and loop out the required portion.

For easy operation, press cap and tongue of buckle together.



■ To tighten belt, buckle up and pull at loose end of the belt.

### WARNING

To reduce the risk of injury in an accident, position the lap belt tight and as low as possible across the pelvis.

Pregnant women should especially make sure to wear the lap portion of the safety belt as low as possible across the pelvis so that there is no pressure on the abdomen.

■ To unfasten belt, push in the orange release button on buckle.

### Note

For safety reasons, keep the belt on top of the seat and fastened together when it is not being used.

## CONTROLS AND EQUIPMENT



### Lap belt with retractor\*

■ To fasten lap belt, grasp belt tongue and slowly and evenly pull across the pelvis. Insert belt tongue into the respective buckle and push down until it is securely locked with an audible click. Pull belt to check.

### Note

If the belt locks up while pulling it out of the retractor, let the belt rewind **completely** and then pull it out again.

Then, make sure the belt is positioned low and tightly across the pelvis. If necessary, pull the belt toward the retractor and let it roll up.

### WARNING

To reduce the risk of injury in an accident, position the lap belt tight and as low as possible across the pelvis. Pregnant women should especially make sure to wear the lap portion of the safety belt as low as possible across the pelvis so that there is no pressure on the abdomen.

■ To unfasten belt, push in the orange release button on buckle and let the belt roll up.

## CHILD SAFETY

The physical principles illustrated on pages 14–16 also apply to children. In contrast to adults and teenagers, their muscles and bones are not fully developed. In many respects children have a greater risk of serious injury in accidents than adults.

Because children's bodies are not fully developed, they require restraint systems which are especially designed for their size, weight and body structure. Many countries and all States of the United States have laws which require the use of approved child restraint systems for infants and small children.

Child restraints, like adult safety belts, must be used properly to be effective. Used improperly, child restraints can also increase the risk of serious injury in an accident.

### WARNING

**All vehicle occupants and especially children should be restrained whenever riding in a vehicle. An unrestrained child could be injured by striking the interior, or by being ejected from the vehicle during a sudden maneuver or impact. Do not allow children to stand or kneel on the seat. A child restraint system can help protect a child in a vehicle.**

Accident statistics have shown that children are generally safer in the rear seat area than in the front seating position.

A suitable child restraint properly installed and used at one of the rear seating positions provides the highest degree of protection for infants and small children in most accident situations.

Children who are less than 12 years old should normally sit in the rear.

All children must use, depending on age and body size, either a child restraint system or the existing safety belts.



Your child may travel on the front passenger's seat only if you have a child restraint system which is specifically designed and approved by the child restraint system manufacturer for use in the front together with the restraint system installed at that position.

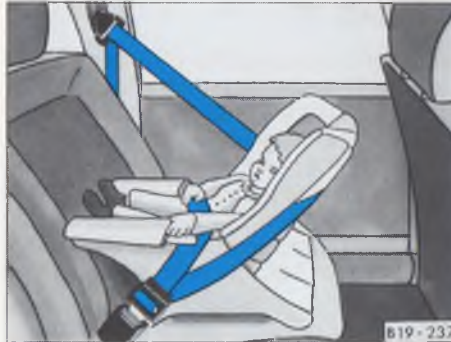
## CONTROLS AND EQUIPMENT



In a frontal accident at a speed of 20–35 mph (30–56 km/h) the forces acting on a 13 lb (6 kg) infant would be more than twenty times the weight of the child. This means that the weight of the child would suddenly be more than 260 lbs (120 kg). Only an appropriate child restraint system properly used can reduce the risk of serious injury under these conditions.

### WARNING

**Infants and older children must never ride in a vehicle sitting on the lap of an adult. Holding a child in your arms is never a substitute for a child restraint system.**



**Forces acting on a child in an accident make it impossible to hold a child in the arms. The child would hit the dashboard, windshield or other parts of the vehicle interior and could receive serious injury. The adult's body could also move forward, particularly if the adult is not using safety belts and cause additional injury to the child.**

Infants up to approximately 9 months old (22 lbs/10 kg) receive the best protection in special infant carriers and child seats designed for their age group. Many experts believe that infants and small children should only ride in special child restraints in which the child's back faces in driving direction.



Children up to 7 years old (55 lbs/25 kg) are best protected in child safety seats designed for their age and weight. Experts say that the skeletal structure, particularly the pelvis, of these children is not fully developed and that they should not use lap belts.

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### SEAT RESTRAINTS



Children of average size of about 7 years and older may use available three point combination lap and shoulder belts usually together with appropriate booster seats meeting all applicable safety standards. Booster seats raise the seating position of the child and reposition both the lap and shoulder portions of the safety belt so that they pass across the child's body in the right places.

The routing of the belt over the child's body is extremely important for the child's protection whether or not a booster seat is used.

Always make sure that the shoulder portion of the three point belt is positioned midway over the shoulder. The shoulder portion must never rest against or cross

the neck and it may never contact or remain in front of the face, chin or throat. The lap belt portion of the three point belt as well as any lap belt alone must always pass as low as possible across the pelvis, never over the abdomen.

Children of average size of about 7 years of age and older may use available lap belts in exceptional circumstances if the proper use of three point belts alone is not possible. Always remember that children do not have the pronounced pelvic structure required for the proper function of lap belts and that the child's safety absolutely requires that the lap belt be fastened snugly and as low as possible around the pelvis. The lap belt must never pass over the stomach or abdomen.

Younger children should only use a lap belt in very exceptional situations and only if no child restraint system for the child's size and weight or safer alternative means of transportation of the child is available. The use of a lap belt in these exceptional situations is better than permitting the child to remain totally unrestrained. A lap belt cannot provide the same level of protection as a proper child restraint. The use of a lap belt for younger children may violate State law.

### WARNING

■ An improperly worn safety belt will not provide optimum protection in an accident and may cause serious personal injury. Always make sure that children and other vehicle occupants properly wear available restraint systems. Carefully follow the instructions provided by the manufacturers of child restraints.

■ When purchasing a child restraint, select one which fits your child and vehicle.

■ Commercially available child seats are required to comply with U.S. Federal Motor Vehicle Safety Standard (FMVSS) 213 (or in Canada CMVSS 213). These standards include installation requirements which utilize a lap belt or the lap portion of a combination lap-shoulder belt such as that installed in your vehicle.

## CONTROLS AND EQUIPMENT

### WARNING continued

Should these safety belts be too short, a special lap belt adapter is available from your authorized Volkswagen dealer.

■ Only use child restraint systems which fully contact the flat portion of the seat cushion. The child seat must not tip or lean to either side. We do not recommend the use of child seats which rest on legs or tube-like frames because they do not provide adequate contact with the seat.

Improperly or inadequately installed child restraint systems can increase the risk of injury to children in accidents, therefore always carefully read and follow all instructions on installation and use that come with the system.



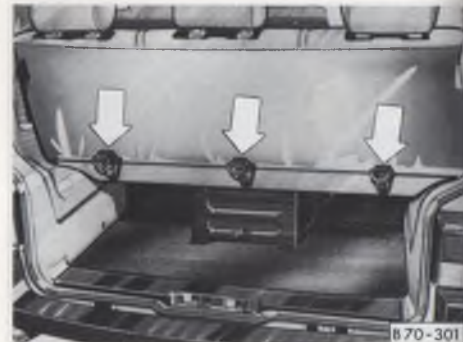
### Child restraint anchorages for the rear seats (Canada models)

If your child restraint seat or seats are equipped with a tether strap you will want to use one or more of the three anchor points provided on the filler panel behind the rear seat.

### Child restraint anchorages (USA models)

Similar to Canadian models, your vehicle can be fitted with three anchor points on the filler panel for use of child restraints having a tether strap.

Ask your authorized Volkswagen dealer for installation of one or more anchor points and the required hardware for the attachment of the tether.



The restraint anchorage points are shown in the illustration (see arrows).

### WARNING

■ Child restraint anchorages are designed to withstand only those loads imposed by correctly fitted child restraints. Under no circumstances are they to be used for adult seat belts or harnesses.

■ Do not mount two child restraint seats on one anchor point.

## HEAD RESTRAINTS

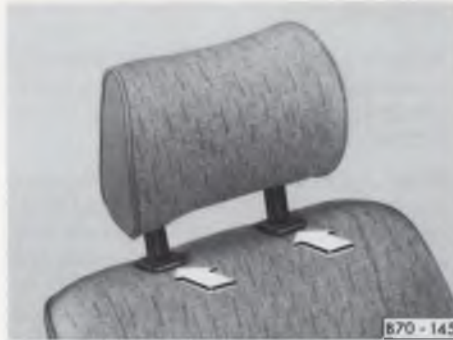


870-144

The padded head restraints on front and rear\* seats are adjustable.

Position head restraints according to the occupant's height. Only properly positioned head restraints, together with the use of safety belts offer effective protection.

- For height adjustment, grasp firmly with both hands and pull up or push down.
- For maximum protection the upper edge should be at eye level.



870-145

### Removing and installing

To remove head restraints in front seat backrests, pull restraints up to the stop, press both buttons (arrows) and at the same time take restraints out.

To install again, push the restraint rods into the guides until they are heard to engage.

### WARNING

**Do not drive the vehicle without the head restraint provided. Head restraints are designed to help reduce injuries.**



## CONTROLS AND EQUIPMENT

### FRONT SEATS

■ The correct positioning of the seat is important:

- so that you can reach all the controls in the vehicle quickly and safely;
- to enable you to drive relaxed and help reduce fatigue;
- for optimum protection by the safety belts

Therefore, always adjust the position of the seat each time before driving off as described in points 1 to 3 on the next page.

■ The front seats should be adjusted before fastening the safety belts.

#### WARNING

■ Do not adjust seats while the vehicle is in motion. Your seat may move unexpectedly causing sudden loss of vehicle control or personal injury.

■ To reduce the risk of serious personal injury in an accident, front seat passengers must never ride in a moving vehicle with the seatback reclined. The risk of personal injury increases with increasing rearward angle of the seatback. Safety belts only offer protection when the seatback is upright and belts are properly positioned on the body. Improperly positioned safety belts cause serious personal injury in an accident.

■ For driver's and passenger's protection make sure front seats are securely latched in place.

■ Never store items under the seats. Loose objects can interfere with the seat latching mechanism and can also cause injury in an accident.



## 1 – Forward and backward adjustment

- Pull handle.
- Slide seat into position. Adjust the driver's seat so that you can easily push the pedals all the way while still keeping your knees slightly bent.
- Release the handle and move seat slightly back and forth to make sure it is securely locked into position.



## 2 – Seatback adjustment

Turn wheel at inboard side of seat cushion, with your body weight taken off the seatback.

Adjust the driver's side seatback so that when you sit with your back against the seatback, you can still grasp the top of the steering wheel with your elbows slightly bent.

## 3 – Seat stop\*

The second battery\* is located under the left seat. To get to the battery the seat can be pushed forward past the normal stop:

- Push seat fully forward.
- Pull stop outwards and push seat further forward.

## Height adjustment of head restraints

Head restraints must be adjusted according to seating height of the respective occupant. See page 29.

## Electrically heated\* front seats

With ignition on, backrests and seat cushions can be heated electrically. See page 59 for details.

## Armrests\*

The armrests on the front seats can be hinged up if they are not required.

The angle of the armrests can be adjusted as required with a knurled knob underneath the armrest.

## CONTROLS AND EQUIPMENT

### PASSENGER SEATS



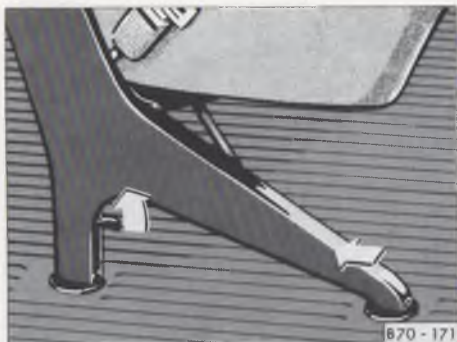
#### Center bench seat and single seats

##### Folding down the seatback

To fold down the seatback, press the release knob. When the seatback is folded down, it is locked into position. To fold up the seatback, press the release knob and lift the seatback.

#### WARNING

For safety reasons, the seatback must always be in the upright position while driving.



#### Removing the seat

- To remove, pull the levers the left and right sides of the seat frame.
- Slightly pull the seat backwards and remove.



#### Installing the seat

- To install, place the seat in front of the anchor points on the floor as shown in the illustration.
- Push the seat forward until the seat latches securely into the anchor points.

#### WARNING

Be sure to read the additional important information about the seats on the following page.

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### REAR SEAT (3-SEATER)

#### WARNING

When installing the seats the following points are important for the safety of the vehicle occupants:

- The seats must always be firmly engaged in the mountings so that they cannot become detached when braking or in an accident. The levers on left and right of seat must be engaged properly.
- The seats must always be installed in the correct direction and position so that the belts provided for each place can be worn properly.



To enlarge the luggage space the backrest of the rear seat can be folded down or the complete seat lowered.

#### To fold backrest down

- Press lever on left or right of backrest forward.
- Fold backrest down.

#### WARNING

When the rear belt is taken off, the belt must be pushed under the tab on the side panel so that the belt is not damaged when the backrest is folded down.



#### To fold seat down

- Fold backrest down
- Pull loop on lower part of seat
- Fold seat forward

## CONTROLS AND EQUIPMENT



You can enlarge the rear cargo area by removing the rear seat bench.

### Removing the rear seat bench

- Fold forward the seatback of the center seat bench.
- Fold up the folding seat\* where applicable – see page 35.
- Remove the lower trim\* on the seat frame of the rear seatback.
- Remove headrests\* – see page 29.
- Fold forward the seatback – see page 33.
- Remove the two mounting screws (left illustration). An adapter for the wheel bolts is supplied with your vehicle in the glove compartment. Mount the adapter on the wheel bolt wrench from the vehicle tools.
- Carefully fold the seat bench back.



- Fold back the carpet\* to get to the front screws.
- Remove the front mounting screws (right illustration)
- Take out the seat bench from the back of the vehicle.
- Turn all four screws back into their mounts and screw them in secure to keep moisture out of cabin.

### Installing the rear seat bench

- Fold forward the seatback of the center seat bench.
- Remove headrests\*
- Fold back the carpet (use a heavy object to hold it back)
- Remove all four mounting screws.
- Place the seat bench into position.

- Tighten the front mounting screws (right illustration), and now tighten all four mounting screws.
- Fold the seatback back up into place.

### WARNING

Always make sure that the mounting screws for the rear seat bench are securely tightened. The safety of your passengers as well as the proper mounting of the safety belts depend on it.

### Notes

- Removing and installing the rear seat bench should be performed by two persons.
- When removing and installing the rear seat bench, make sure not to damage or dirty the safety belts, side trim panels, speaker grills, etc.

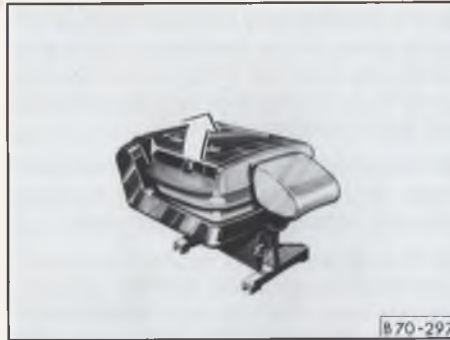


870-296

The single seat next to the centre seat bench can be folded, in such a manner, to enable easy access to the rear seat bench.

### Folding seat

- Unlatch the seat backrest and tip backrest forwards (left hand illustration).



870-297

- Then, tip the seat sideways to the left (centre and right hand illustrations).
- To return the seat to its original position proceed in the reverse order.

### Removing seat

(The seat can be removed by performing a few simple operations).

- Set seat into sitting position.
- Press both levers on foot part of seat downwards.
- Press seat towards left hand side in direction of seat bench and take out.

### Installing seat

- To install the seat, place seat on left hand side (as viewed from driving direction) next to the securing elements on vehicle floor.



870-298

- Then, pull seat towards right, until seat engages firmly in the securing parts.

### WARNING

- The seat must always be properly engaged in the retainers to ensure that it cannot move if the brakes are applied or the vehicle is involved in an accident.
- The seat must always be reinstalled in the correct direction and position. This ensures that the seat belt provided can always be properly used.

## CONTROLS AND EQUIPMENT

### LUGGAGE COMPARTMENT / LUGGAGE COMPARTMENT COVER

#### Luggage compartment

Transporting heavy objects can change the way your vehicle behaves. For best handling under these conditions, distribute loads evenly. Always place heavy cargo as far forward as possible in the luggage compartment. When transporting heavy objects drive slowly and avoid sudden maneuvers.

#### WARNING

■ Never exceed the Gross Axle Weight Rating or the Gross Vehicle Weight Rating which are specified on the safety compliance sticker located on the left door jamb. Exceeding permissible weight ratings can change the way the vehicle handles and could result in accidents, personal injury and vehicle damage.

■ Do not allow passengers to occupy the rear load surface while the vehicle is in motion. Vehicle occupants must always be properly restrained.

■ Take extra care when stowing articles in the vehicle; whenever possible store articles in the luggage compartment.

■ If it is necessary to store luggage or other items in the passenger compartment, be sure that they cannot fly forward in an accident or sudden maneuver and injure occupants.

■ Stored articles in the luggage compartment may also chafe against the rear window and damage the defroster wires.

■ To help prevent poisonous exhaust gas from being drawn into the vehicle, always keep the rear lid closed while driving. Therefore, do not transport objects larger than those fitting safely into the luggage compartment.

#### Luggage compartment cover

#### WARNING

Passengers, animals and large or heavy objects may not be on the luggage compartment cover while vehicle is in motion – increased danger of injury during sudden maneuver or accident.



#### Fastening eyes

Depending on the model, there are fastening "eyes" on the luggage compartment floor. You can attach approximately 1,100 lb (500 kg) to each fastening eye.

### PEDALS

The movement of the pedals must never be obstructed by a floor mat or any other object. Only use floor mats which leave the pedal area free and can be secured with floor mat fasteners.

In case one of the two brake circuits fails, increased brake pedal travel is required to bring your vehicle to a full stop.

### BRAKES

#### Functioning of brake system

Your vehicle is equipped with a power assisted hydraulic dual circuit (Anti-Lock Brake System\*: three circuits) brake system with disc brakes at the front and self-adjusting drum brakes at the rear.

Both circuits function independently. Each brake circuit operates one front and rear wheel diagonally (Anti-Lock Brake System\*: one circuit operates each front wheel separately, and the third circuit operates both rear wheels together.) This design, together with other front axle features, also helps to keep you on a straight course when braking.

If your vehicle is equipped with an Anti-Lock Brake System (ABS) see next page for additional information.

in the unlikely event of hydraulic failure of one circuit, **push the brake pedal down firmly and hold it in that position.** A mechanical linkage activates the second circuit, and you will be able to bring the vehicle to a stop.

#### WARNING

**Failure of one brake circuit will impair the braking capability resulting in an increased stopping distance.**

If one brake circuit fails, the other will still operate. However, you will notice an increased pedal travel when you step on the brake. Should you encounter such experience, bring your vehicle safety to a full stop.

**Avoid driving the vehicle and have it towed to the nearest VW dealer or qualified workshop.**

#### Brake operation and brake warning light

Make it a habit to check the operation of your brakes before driving. The brake warning light will light up if the parking brake is pulled and/or the brake fluid level is too low. For more details see "Brake warning light" on page 56.

Keep in mind that the braking distance increases very rapidly as the speed increases. At 60 mph (100 km/h), for example, it is not twice but four times longer than at 30 mph (50 km/h). Tire traction is also less effective when the roads are wet and slippery. Therefore, always maintain a safe distance from the vehicle in front of you.



## CONTROLS AND EQUIPMENT

### Brake booster

The brake booster works only when the engine is running.

#### WARNING

When the vehicle is moving with the engine not running, more force on the brake pedal is required to bring the vehicle to a stop.

### Anti-Lock Brake System (ABS)\*

The ABS contributes effectively to vehicle control, since it prevents the wheels from locking when the brakes are applied. This means that the vehicle remains steerable and is less inclined to skid.

#### Note

You don't have to "pump" the brake. Just hold the brake pedal down.

However, do not expect that the ABS shortens braking distance under all circumstances. When driving on gravel or on newly fallen snow on top of icy surfaces, braking distance may be even longer, therefore, under these circumstances, it is especially important that you drive slowly and with great care.

If an individual wheel begins to rotate too slowly in relation to vehicle speed and tends to lock, the ABS automatically reduces brake pressure to prevent that wheel from locking.

This automatic adjustment process will cause a slight vibration of the brake pedal and some noises to alert you that vehicle speed must be adapted to existing road and traffic conditions.

#### WARNING

Although the ABS is very effective always remember that braking capability is limited by tire traction. Always adjust your driving speed according to the road and traffic conditions. Do not let the extra safety afforded by the ABS tempt you into taking extra risks. The ABS cannot overcome the laws of physics.

If the ABS is not functioning properly, a warning light will come on. See page 56 for additional details.

### Conditions affecting braking efficiency

#### Moisture or road salt

#### WARNING

Under certain climatic and operating conditions such as passing through water, driving in heavy rain or after washing the vehicle the effectiveness of the brakes can be reduced. In winter ice can accumulate on the brake pads, linings, discs and drums. Cautiously apply brakes for a test. Brakes will dry, ice coatings will be cleaned off after a few cautious brake applications.

■ Driving for an extended period of time on salt covered roads without using your brakes can also affect braking efficiency. Clean off accumulated salt coating from brake discs and pads with a few cautious brake applications.

### Overheating the brakes

#### WARNING

■ Do not “ride the brakes” by resting your foot on the pedal when not intending to brake. This may cause the brakes to overheat, premature wear and increased stopping distance.

■ Before descending a steep grade, reduce speed and shift transmission into a lower gear or lower driving position. Do not ride the brakes or hold the pedal down too long or too often. This could cause the brakes to get hot and diminish braking efficiency.

■ If you install a front spoiler on your vehicle, be sure the air flow to the front brakes is not obstructed, otherwise the brake system could overheat.

### New brake pads

New brake pads and linings do not have optimum friction properties and must be “broken in” during the initial 100 to 150 miles (150 to 200 kilometers) of normal city driving. You can compensate for this by applying more pressure on the brake pedal. This also applies later when new pads or linings are installed.

### Brake fluid level

If the brake fluid level is too low, malfunctions or even a failure in the brake system could result. Therefore, it is important to check your brake fluid level regularly. See page 120 for more details.

Low brake fluid is indicated by the brake warning light (see page 56).

### Failure of one brake circuit

If the brake pedal travel should suddenly increase, one of the brake circuits may have failed. Should this happen, you will still be able to bring your vehicle safely to a stop, however, you will have to push harder on the brake pedal and it will take a longer distance to stop the vehicle. Contact your Volkswagen dealer for assistance.

### Brake wear

The brakes on today's automobiles are still subject to wear depending largely on operating conditions and driving habits. On vehicles which are driven mostly in stop-and-go city traffic or which are driven hard, the brake pads and linings should be checked by your Volkswagen dealer more often than specified in the Maintenance brochure.

## CONTROLS AND EQUIPMENT

### MANUAL TRANSMISSION

#### Parking brake lever

The parking brake lever is located between the front seats.

■ To set the parking brake, pull the lever up until strong resistance is felt. The parking brake must be pulled up all the way so that the vehicle cannot be moved. When the ignition is on, the brake warning light will light up.

■ Depress brake pedal and hold while releasing parking brake. To release the parking brake, pull the lever slightly up, depress the release button, and then push the lever all the way down. When the parking brake is fully released, the brake warning light will go out.

#### WARNING

■ Release the parking brake fully. A partially engaged brake will overheat the rear brakes, reduce their effectiveness and cause excessive wear.

■ Always set the parking brake when parking your vehicle. Move the selector lever to "P" (Automatic transmission) or move the gearshift lever to "R" or "1" (Manual transmission). On hills also turn the wheels toward the curb.



#### Gearshift lever

**Start engine with gearshift lever in Neutral, clutch pedal depressed.**

**Always depress the clutch pedal fully when changing gears. Do not hold the vehicle on a steep hill with the clutch pedal partially depressed. This may cause premature clutch wear or damage.**

**Resting your hand on the shift lever knob while driving will cause premature wear in the transmission.**

Drive in 5th gear for optimum fuel economy when cruising. However, if more acceleration is required (when passing, for example), shift down.

To engage 5th gear, move shift lever to the right beyond the spring pressure point and push forward.

#### Reverse

**Shift into Reverse only when the vehicle is not moving.**

**To engage Reverse, move lever to left, press down, move further to left and push forward. Especially after some driving, depress the clutch pedal fully and rest the shift lever in Neutral briefly before shifting into Reverse.**

Back-up lights go on when you engage Reverse gear with ignition on.

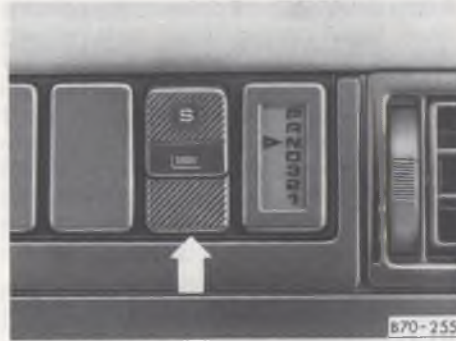
## AUTOMATIC TRANSMISSION\*



Your vehicle is equipped with an electronically controlled four speed automatic transmission.

The transmission employs a overlapping clutch on which the converter slip in 3rd gear under certain operating conditions and always in the 4th gear is eliminated. This significantly improves the efficiency of the transmission in these two gears and reduces the fuel consumption.

Depending on your personal driving style, the shifting may occur more frequently via the overlapping clutch. This is normal and no cause for concern.



### Program switch

You can select a program for sporty driving (**S** – indicator light on) or for normal driving (indicator light off) using the programm selector switch in the instrument panel.

You can select a program by turning the switch (arrow) to either when the vehicle is stationary or while driving.

### Normal Driving Programm

**This program is for normal driving.** In this mode, the transmission upshifts earlier to a higher gear and downshifts at lower engine speeds for maximum fuel economy.

### S – Sport Program

Select this program for sporty driving. The transmission upshifts later so that engine performance is optimized. The transmission also downshifts at higher engine speeds than in the normal driving program.

### Note

The selected program will remain even when the engine is switched off. This means you can only change programs by operating the switch.

### Auxiliary mode

If there should be a failure in the electronic system, this can be recognized in the selector lever position display – see page 42. You can still drive on because the transmission will continue to work in two auxiliary modes:

- The transmission will upshift or downshift automatically as before, however, you will feel this by strong or harsh shifts. See your authorized Volkswagen dealer for assistance.

## CONTROLS AND EQUIPMENT

■ The transmission will no longer automatically upshift or downshift. You must then manually shift the transmission. In selector positions "D", "3" and "2", the transmission will remain in 3rd gear.

Selector positions "1" and "R" (Reverse) remain unaffected.

Since two of the driving positions are no longer operative, the torque converter must now work harder which could lead to overheating. See your authorized Volkswagen Dealer immediately.

### Automatic Shift Lock (ASL)

Your Volkswagen is equipped with an Automatic Shift Lock (ASL). The ASL is an electro-mechanical device that locks the selector lever in the **P-Park** and **N-Neutral** positions when the ignition is on. The brake pedal must be depressed before the selector lever can be moved out of either position. This prevents the selector lever from being moved unintentionally into a driving position, resulting in an unwanted vehicle movement.

A time delay element prevents the selector lever from locking when it is moved through the "N" (Neutral) position (for example, going from "R" to "D"). This enables for example the vehicle to be rocked out of a stuck position. The locking element only locks the selector lever if it is left in the "N" (Neutral) position for more than about one second without depressing the brake pedal.

In the N (Neutral) position, the selector lever will not lock when driving faster than 3 mph (5 km/h).

### Ignition key safety interlock\*

After switching off the ignition, you can remove the ignition key only when the selector lever is in the P (Park) position. When the ignition key is removed, the selector lever will be locked in the P (Park) position.



### Selector lever positions

When the ignition is switched on, the position of the selector lever is indicated by the display in the instrument panel.

#### WARNING

Apply foot brake when engaging Drive or Reverse

#### P – Park

Engage Park only when the vehicle is stationary. Therefore, when parking your vehicle, apply the parking brake first, and then move the selector lever completely to position P. **To do this depress the button in the handle of the selector lever and push it through R to P.** The transmission is then mechanically locked.

Before you move the shift lever from the P-Park position to any other position, you must depress both the **brake pedal** and the button into handle of the selector lever. Shift out of the Park position, before releasing the parking brake.

When the vehicle is parked on a steep hill, shifting out of Park may be a little harder. This is due to the vehicle's weight exerted on the transmission.

### R – Reverse

Reverse should be selected only when the vehicle has come to a full stop and the engine is running at idle speed.

Before you move the selector lever to the reverse position you have to depress the push button in the handle of the selector lever.

When the ignition is switched on, the backup lights come on when the selector lever is moved into the "R" position:

### N – Neutral

Shift to this position for standing with brakes applied.

To move the shift lever from the N-Neutral position to any other position at speeds below 3 mph (5 km/h) or when the vehicle is stationary you must depress both the **brake pedal** and the button into handle of the selector lever.

**Do not use Neutral for coasting downhill. Coasting downhill with the transmission in Neutral and the engine not operating will result in damage to the Automatic transmission.**

### D – Normal driving position

Position D is for normal city and highway driving. It ranges from zero to top speed, and all four gears shift automatically, depending on engine load, driving speed and selected program (E or S).

### 3 – Position for hilly stretches

This selector lever position is recommended in situations, where the transmission shifts frequently between 3 and 4 in position D. Also, in 3 the engine's braking effect is greater than in D.

In 3, the first, second and third gears will engage automatically.

### 2 – Position for mountainous regions

This position be used for mountain driving or slow driving, and also when you want to make use of the engine's braking effort, which is more effective than in 3. In 2 only the first and second gears will engage automatically.

### 1 – Position for steep hills

This position can be used for mountain driving or slow driving. It also provides for maximum engine braking effect. **To engage this gear depress the push button in the handle of the selector lever first.** In 1 the transmission will stay in first gear and will not upshift.

**In position 1, the cruise control\* is inoperative.**

### Note

When manually downshifting, the selector lever will move into the lower gear, however the Automatic transmission itself will not downshift until there is no possibility of overrevving.

## CONTROLS AND EQUIPMENT

### Driving the Automatic transmission

#### Starting the engine

The selector lever must be in **Neutral** or **Park**. If one of the driving positions is engaged a safety switch will prevent the engine from being started.

#### Selecting a driving position

#### WARNING

■ When the selector lever is in a driving position, the vehicle may creep even at idle speed. Therefore, do not release the parking brake or foot brake until you are ready to move, because power is transmitted to the wheels as soon as a driving position is engaged.

■ If the engine must be running, never have any driving position engaged when checking under the hood. Make sure the selector lever is securely locked into the **P** position with the parking brake firmly set. Otherwise, any increase in engine speed may set the vehicle in motion, even with the parking brake applied.

■ Do not accelerate while selecting a driving position. At this time the engine must run at idle speed so that no undue stress will be placed on the automatic clutches in the transmission.

■ If the selector lever is unintentionally moved into **Neutral (N)** while driving, take your foot off the accelerator pedal and wait until the engine speed has dropped to idling before selecting a driving position.

■ Never shift into **Reverse (R)** or **Park (P)** when the vehicle is in motion.

■ You cannot remove the key from the ignition steering lock until you have parked the vehicle in the **P (Park)** position.

#### Maneuvering

When alternating between forward (**D**) and reverse (**R**) – for instance, while maneuvering the vehicle into a tight parking space – shift only when the vehicle has come to a full stop and the engine is running at idle speed.

#### Stuck in snow, mud or sand

When alternating between forward and reverse in an effort to free the vehicle, depress the accelerator pedal slightly while the transmission is in gear, and release the accelerator pedal while shifting. Do not race the engine and avoid spinning the wheels. **Do not repeat “rocking” back and forth with wheels spinning at high engine speed and heavy throttle, as serious damage may be caused to the Automatic transmission and other critical parts.**

## Kick-down function

The kick-down function allows maximum acceleration. When the accelerator pedal is pressed down the full throttle position, the transmission downshifts to a lower gear depending on road and engine speed. Upshifting into the next higher gear takes place as soon as the maximum engine speed for each gear is reached.

### WARNING

**Be careful when using the kickdown on slippery roads. Rapid acceleration may cause skidding.**

## Stopping

- When stopping briefly, at a traffic light for example, it is not necessary to move the selector lever to Neutral. Simply apply the brakes.

- The driving positions must never be used for holding the vehicle on a hill. Always use your foot brakes when stopped on inclines.

### WARNING

- Never get out of the driver's seat when the engine is running.

- If you must leave the vehicle move the selector lever securely into the P position and apply parking brake firmly.

## Emergency starting

Your Volkswagen with Automatic Transmission cannot be started by pushing or towing. If engine does not start because of discharged battery, the vehicle can be started with jumper cables. Refer to "Emergency starting with jumper cables". Should the engine fail to start consult your nearest Volkswagen dealer.

## Towing

To tow the vehicle see instructions "Emergency towing" on page 147.



## CONTROLS AND EQUIPMENT

### STEERING LOCK / IGNITION / STARTER SWITCH



The steering column is equipped with an anti-theft ignition lock.

#### Switch positions

1 – Ignition off/steering can be locked. Pull out the key and turn steering wheel until it locks.

On vehicles with Automatic transmission you can remove the ignition key only when the selector lever is in the P (Park) position. When the key is removed, the selector lever will be locked in “P”.

#### WARNING

For vehicles with manual transmission:

■ To prevent sudden and unintended vehicle movement always firmly set the handbrake when you remove the ignition key. Removing the ignition key will not lock the gearshift lever. The vehicle can move if the lever is moved out of gear.

■ Never remove key from steering lock or turn key off while the vehicle is moving. The steering wheel will lock, causing loss of control.

2 – Ignition on/steering free.

If it is difficult to turn the key from position 1 to 2, gently move the steering wheel until the key turns freely.

3 – Starter engages.

Key returns to Pos. 2 as soon as it is released.

“Starting procedures” see following pages.

In position 3, the power supply to headlights, windshield wipers, blower motor and rear window defogger is temporarily interrupted to conserve battery power.

Before the starter can be operated again the key must be turned back to position 1.

The non-repeat lock in the ignition switch prevents the starter from being operated when engine is running as this could damage the starter.

In position 2 and 3 several warning/indicator lights will come on. Refer to “Warning/indicator lights” for details.


#### Chime

If you leave the key in the ignition/steering lock, a chime will sound when the driver’s door is opened. This is your reminder to remove the key and lock the doors.

## STARTING PROCEDURES

### WARNING

- Fasten safety belts before driving.
- Never start or let the engine run in a confined or enclosed, unventilated area. Exhaust fumes from the engine contain carbon monoxide, which is a colorless and odorless gas. Carbon monoxide can be fatal if inhaled.
- Never leave engine idling unattended. An unattended vehicle with a running engine is potentially hazardous.

 To avoid unnecessary engine wear and to reduce exhaust emissions, do not let your vehicle stand and warm up. Be ready to drive off immediately after starting your vehicle. Maintain moderate speed until the engine is completely warm. Remember, the engine performs best at operating temperature.

### Manual Transmission

Start with gearshift lever in Neutral, clutch pedal depressed, so that the starter only has to crank the engine.

### Automatic Transmission

Engine will only start with selector lever in Neutral or Park.

### Starting engine

- Do not depress accelerator pedal while starting. At extreme low temperatures, the engine will probably start better if you depress accelerator pedal slightly.
- As soon as the engine starts, release the ignition key.
- If the engine does not start the first time or stalls, turn the ignition off and restart.
- Operate the starter for no more than 10 seconds.
- Allow about 30 seconds between each starting attempt.
- When starting a very hot engine, it may be necessary to slightly depress the accelerator pedal after starting the engine.

If the engine still does not start, the fuse for the electric fuel pump may be blown – see page 140.

## STOPPING ENGINE

Do not stop engine immediately after hard or extended driving. Keep engine running for about two minutes to prevent excessive heat build-up.

### WARNING

- Before you check anything in the engine compartment, stop the engine and let it cool down. Hot components can burn skin on contact.
- Never touch the radiator fan, it is temperature controlled and can switch on suddenly – even when the ignition is off.

# CONTRQLS AND EQUIPMENT

## INSTRUMENT CLUSTER



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### 1 – Speedometer/odometer

The **speedometer** indicates the speed.

The **odometer** indicates the distance driven.

USA models: Miles  
Canada models: Kilometers

On the **trip odometer**, the last digit in red indicates 1/10 of a mile or 100 meters.

To record a distance, reset the trip odometer to zero by pressing the button.

#### Note

The button must be pressed longer than two seconds.

### 2 – Tachometer

The red area at the end of the scale indicates the maximum permissible engine rpm (revolutions per minute) for all gears after the break-in period. Before reaching this area, the next higher gear should be selected or the foot eased off the accelerator pedal.

*Upshifting early saves fuel and reduces engine noise.*

Shift to the next lower gear when the engine rpm drops below 1,500 rpm.

The green shaded area on the scale shows the speed at which the engine is developing its most favourable torque.

## CONTROLS AND EQUIPMENT

### The memories

The system is equipped with two automatic memories:

The **single trip** memory accumulates driving time, distance driven, fuel consumed and computes averages for driving speed and fuel consumed during a single trip. The information remains in storage when the ignition is turned off. When the ignition is turned on again, accumulation and computations continue. However, if the ignition remains off for **two hours or longer**, stored information is automatically deleted.

The **total trip** memory stores accumulated data covering any number of successive trips, regardless of how long the ignition is off in between trips. Storage capacity of the **total trip** memory is:

Driving time	– 100 hours
Distance driven	– 6,214 miles (10,000 km)
Fuel consumed	– 264 gallons (1,000 liters)

To recall information, slide switch knob A on the windshield wiper lever to the desired position.

- 1 – Single trip memory
- 2 – Total trip memory

The following data can be recalled for display:

- Driving time
- Average fuel consumption
- Distance driven
- Average driving speed

### Erasing the memories

With the ignition on, you can erase each memory separately. Slide switch A passed the appropriate detent to the 0 position and hold for longer than one second.

If you disconnect the battery, all stored information will automatically be erased.

### The displays

When the ignition is switched on "MFA 1" or "MFA 2" will appear in the display according to which memory is switched on.

### No symbol – Time

The time is shown even when the ignition is switched off.

Set the time with the buttons (h and min) located on the left below the multi-function indicator – see page 49.

### – Driving time

In **switch position 1** the driving time which has elapsed since ignition was switched on or the memory cancelled is indicated – see left column "Single trip memory".

In **switch position 2** the total driving time for all individual journeys is indicated – see also left column "Total trip memory".

The maximum time in both switch positions is 99 hours 59 minutes. When this figure is exceeded the display starts at zero again.

## MPG (l/100 km) – Average fuel consumption

Instantaneous fuel consumption will not be displayed in either switch position.

The average fuel consumption is indicated, after switching on the ignition or erasing the memory being used, after 10 seconds driving time and a distance of 100 yards/meters. Up to this point a dash appears instead of a figure. During the trip the indicated value is updated every 5 seconds.

In **switch position 1** the average consumption for the single journey is indicated.

In **switch position 2** the average consumption indicated is that obtained during all single trips – see also “Total trip memory” on previous page.

### Note

The amount of fuel consumed will not be displayed.

## miles (km) – Distance covered

The information in “Driving time” also applies to “Distance covered”. The maximum distance indicated is 6,214 miles (9,999 km).

## MPH (km/h) – Average speed

The information in “Average fuel consumption” also applies here.

## F (C) – Engine oil temperature

Engine oil temperature displayed will range between +122 and 320° F (+50 and +160° C). When the engine is cold, dashes will be displayed. Maintain moderate speed until engine reaches operating temperature. Reduce engine speed if oil temperature approaches +293° F (+145° C).

## °F (C) – Ambient temperature

Displayed temperature will range between (-40 and +122° F (-40 and +50° C).

When the vehicle is stationary, or when you are driving at very low driving speeds, the temperature displayed may be slightly higher than the actual ambient temperature. This is caused by heat radiated from the engine.

### WARNING

If you are going to use the outside temperature display to determine frost conditions, remember that roads can still ice over at temperatures above 32° F (0° C).

All displayed degrees are momentary. They are not stored in memory.

## CONTROLS AND EQUIPMENT



### 4 – Coolant temperature gauge

The needle in the coolant temperature gauge will indicate the temperature of the coolant shortly after the ignition is switched on.

When ignition is switched on the warning light will flash for a few seconds as a functional check.

#### a – Engine cold

Avoid high engine speeds and heavy throttle when the needle is still in this area of the dial.

#### b – Normal temperature

During normal running the needle will remain somewhere in the middle of the dial.

If the engine is working hard at high outside temperatures, the needle may also go further upwards, **but this is no cause for concern so long as the coolant temperature warning light does not start flashing.**

If the coolant gauge needle nears the upper end of the scale and the engine appears to be overheating, turn off the air conditioner.

### Warning light

If the light flashes when driving, first check the coolant temperature gauge.

If the needle is in the normal range, add coolant at the next opportunity.

If the needle is in the warning range, either the coolant level is too low or the coolant temperature is too high.

Move the vehicle a safe distance off the road, stop the engine and depress the emergency flasher switch.

**WARNINGS and further details see page 54.**

### Note

**Do not install fog lights underneath the front bumper. They may restrict engine cooling.**

### 5 – Fuel gauge

The needle in the fuel gauge will indicate the fuel level in the tank shortly after the ignition is switched on.

The fuel tank capacity is approx. 21 U.S. gal (80 liters).

When the needle reaches the red area (arrow) there is a reserve of about 2.6 U.S. gal (10 liters) of fuel left in the tank. Time to refuel.

## WARNING / INDICATOR LIGHTS

Your vehicle is equipped with several important indicator and warning devices to monitor the continued reliable operation of your vehicle. Familiarize yourself with these devices so if one should come on you know what to do.

### WARNING

Failure to heed applicable warnings and important vehicle information may result in serious personal injury or vehicle damage.



### WARNING

■ Whenever stalled or stopped for repair, move the vehicle a safe distance off the road, stop the engine and turn on the emergency flasher (see page 58).

■ The engine compartment of any motor vehicle is a potentially hazardous area. Before you check anything in the engine compartment, stop the engine and let it cool down. Always exercise extreme caution when working under the engine hood. Heed all of the WARNINGS on page 105.

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## CONTROLS AND EQUIPMENT

### 1 – Coolant temperature/level

This light will blink for a few seconds just as a functional check when you switch on the Ignition.

If the light does not go off afterwards, or should start to blink while you are driving, either the coolant temperature is too high, or the coolant level is too low.

Pull off the road, turn off the engine and let it cool down.

Check coolant level. Top up as necessary (see "Cooling system", page 115).

#### WARNING

■ To reduce the risk of being burned, never open the hood if you see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before carefully opening the hood.

■ The engine compartment of any motor vehicle is a potentially hazardous area. Before you check anything in the engine compartment, stop the engine and let it cool down. Always exercise extreme caution when working under the engine hood. Heed all of the WARNINGS on page 105.

■ Never touch the radiator fan, it is temperature controlled and can switch on suddenly – even when the ignition is off.

Reduce the risk of scalding from hot coolant by following these steps.

■ If the coolant reservoir cap must be removed, wait until the engine has cooled down.

■ Protect face, hands and arms by covering the cap with a large, thick rag to protect against escaping fluid and steam.

■ Turn the cap slowly and very carefully in a counter-clockwise direction while applying light, downward pressure on the top of the cap.

■ To help avoid being burned, do not spill antifreeze or coolant on the exhaust system or hot engine parts. Under some conditions, the ethylene glycol in engine coolant is combustible.

■ If the coolant level is normal, check the fuse for the radiator fan. Replace fuse if necessary. See page 140.

■ If the fuse is not blown, the V-belt driving the waterpump is not broken and the warning light still does **not** go out, **do not continue driving**. See your Volkswagen dealer.

■ If the coolant level and the V-belt are normal, the fuse is not blown and the warning light has gone out, the malfunction may be in the radiator fan. You can continue driving to the nearest authorized Volkswagen dealer. The wind from the moving vehicle will be enough to keep the engine cool. However, avoid idling for a long time or driving very slowly.

Refer also to "Coolant temperature gauge" on page 52 for details.



## 2 – Engine oil pressure



When the ignition is turned on, the oil pressure warning light comes on for a bulb check. It should go out after the engine has started.

If the warning light does not go out or flashes while driving (above 2000 engine rpm a buzzer will sound simultaneously), it indicates, that the oil pressure is too low.

**Stop the engine immediately, check the engine oil level and add oil, if necessary.**

**If engine oil level is normal, but the light continues to flash, do not continue to operate the vehicle. This could damage the engine.**

Turn the engine off and contact the nearest Volkswagen dealer for assistance.

**The oil pressure warning light is not an indicator for low engine oil level. To check the oil level, always use dipstick (see page 107).**

Engine oil temperature (see page 51).

**Make it a habit to have the engine oil level checked with every fuel filling.**

## 3 – High beam



The indicator light lights up when the high beams are switched on or when the headlight flasher is used.

Refer to “Turn signal/headlight dimmer switch lever” on page 60 for details.

## 4 – Turn signals



Refer to “Turn signal/headlight dimmer switch lever” on page 60 for details.

## 5 – Safety belts



Refer to “Belt warning system” on page 18 for details.

## 6 – Alternator



This light comes on when the ignition is turned on and goes out after the engine is started. If the light does not go out after starting and revving up the engine momentarily or lights up while driving, there may be a malfunction in the electrical system or the V-belts driving the alternator may be loose or broken.

If the warning light suddenly comes on while driving, **stop the vehicle and turn off the engine.** Inspect the V-belts.

If the V-belts driving the alternator are torn, you can still continue driving to the nearest Volkswagen dealer, however, your battery will discharge.

## CONTROLS AND EQUIPMENT



The warning lamp cluster illustrated above may contain the following warning lights:

### 1 – Brake without ABS

The light comes on while the engine is cranking. It goes out after the engine is started and the parking brake is fully released. This is your assurance that the brake warning light is functioning properly.

If the brake warning light does not light up while cranking the engine or setting the parking brake, there may be a malfunction in the electrical system. In this case, contact your Volkswagen dealer.

### WARNING

If the brake warning light does not go out with the engine running and the parking brake released or lights up while driving, the fluid level in the brake fluid reservoir may be too low.

This might be due to a leak in one of the two independently functioning brake circuits.

If the brake pedal travel has increased, one of the brake circuits may have failed. Avoid driving the vehicle and have it towed to the nearest Volkswagen dealer or qualified workshop for repair.

If brake pedal travel has not increased and braking performance remains unimpaired, proceed carefully to your nearest Volkswagen dealer or qualified workshop to have the braking system inspected and corrected.

For details see "Brakes" on page 37.

### 1 – Brake with ABS

The light comes on while the engine is cranking. It goes out after the engine is started and the parking brake is fully released. This is your assurance that the brake warning light is functioning properly.

If the brake warning light does not light up while cranking the engine or setting the parking brake, there may be a malfunction in the electrical system. In this case, contact your Volkswagen dealer.

### WARNING

If the warning light does not go out with the engine running and the parking brake released, or if the warning light should come on while driving, then either the brake fluid level in the reservoir or the hydraulic pressure in the pressure accumulator is too low. Please note, however, that after several brake applications, greater pressure on the brake pedal will be necessary to stop your vehicle. Consequently, you must also allow for increased braking distances.

## 2 – Anti-Lock Brake system (ABS)\*



The major electrical components of the Anti-lock brake system (ABS) are monitored electronically both before and while you are driving to assure that they are functioning properly.

When you switch on the ignition, the indicator light will come on and will go out shortly after you start the engine.

### WARNING

If the ABS warning light does not go out, or if it should come on while driving, the ABS system is not functioning properly. The vehicle can then be stopped with the standard brakes only (without ABS). Contact your Volkswagen dealer as soon as possible.

For additional information on the ABS system, see page 38.



## Malfunction Indicator Lamp (MIL)\*



Vehicles having this indicator lamp are equipped with an on-board diagnostic system. This system monitors the various components of your Emission Controls.

The malfunction indicator lamp comes on when the ignition is switched on and will go out after the engine is started. This is to assure you that the malfunction indicator lamp is functioning properly.

If the lamp does not go out after starting the engine, or if it should come on while driving, this indicates that there is a malfunction in your Emission Control System. Have the cause corrected promptly by a Volkswagen dealer or a qualified workshop.

Each controlled component in your Emission Control System has been coded. In case of a malfunction the respective component will be identified and the fault stored in the control unit's memory.

The stored data can be displayed by a flashing code of the malfunction indicator lamp to assure an accurate diagnosis.

To activate the fault display of the diagnostic system connect the adapter-strap\* which may come with your vehicle to the contacts below the gearshift lever boot. For further information of the codes and repair procedures, see your Volkswagen dealer.

# CONTROLS AND EQUIPMENT

## SWITCHES



For technical reasons the location of the switches may differ. The determining factor is the symbol on the switch itself.

### 1 – Lights<sup>1)</sup>



Depress the rocker switch to the first stop to turn on the parking, side marker, license plate, tail and instrument panel lights. A control light in the switch will come on.

Depress the switch to the second stop to turn on the headlights (ignition on). To conserve battery power, the headlights go out automatically when the ignition is turned off or when the engine is started.

<sup>1)</sup> Canada models:

#### Daytime running lights

When the ignition is switched on, the headlights (low beam with reduced brightness) and tail lights will automatically come on.

**Headlight dimmer and headlight flasher** see page 60.

### Instrument illumination

Turn the thumb wheel on the right side of the rocker switch to adjust the brightness of instrument lights.

### 2 – Emergency flasher



The emergency flasher works independently of the ignition switch position.

If your vehicle is disabled or parked under emergency conditions, depress the switch to make all four turn signals flash simultaneously. The warning light in the switch flashes, too.

### WARNING


Move the vehicle a safe distance off the road when stalled or stopped for repairs. Do not park or operate the vehicle in areas where the hot exhaust system may come in contact with dry grass, brush, fuel spill or other material which can cause fire.

## 3 – Rear window defogger

The rear window defogger works only with the ignition on.

Depress the switch to turn on the rear window defogger.

The control light in the switch will light up to remind you that the defogger is switched on.

 **Switch off the defogger when the rear window is clear. When you save electricity, you reduce fuel consumption. See also page 86.**

The rear window defogger is not designed for melting snow. Therefore, always remove heavy snow and ice accumulations before driving off.

When the rear window defogger is switched on, the outside mirrors (with electric remote control\*) are electrically heated at the same time (see page 14).

## 4 – Program switch

for automatic transmission (see page 41).

## 5 – Electrically heated seats\*

With ignition on, the seat cushion and backrest of the front seats can be heated electrically.

The heating elements in both seats can be turned on and regulated separately with the two thumbwheel switches.

To switch heating off, turn thumbwheel to the detent position.



Electrically heated seats in the front seats. The thumbwheel switches are located on the dashboard. A program switch is also available for the automatic transmission.

## CONTROLS AND EQUIPMENT

### TURN SIGNAL / HEADLIGHT DIMMER SWITCH LEVER



#### Turn signals

The turn signal indicator light flashes when you operate the lever (ignition on).

Lever up – right turn signal  
Lever down – left turn signal

The turn signals are cancelled automatically when you have completed a turn (for example when turning a corner), and the steering wheel returns to the straight-ahead position.

If a turn signal fails, the indicator light flashes about twice as fast. A light bulb may have to be replaced.

#### Lane changer

Move the lever up or down just to the point of resistance – the indicator light must also flash at the same time. The lever will return to the OFF position when released.

#### Headlight dimmer

With headlights on (light switch in second stop), you can switch to either high or low beam, by pulling the lever toward the steering wheel past the point of resistance. When high beam is on, the indicator light will light up.

#### Headlight flasher

You can signal with your headlights, by repeatedly pulling the lever just up to the point of resistance.

### CRUISE CONTROL\*



The cruise control allows you to maintain a constant cruising speed above 22 mph (30 km/h), without actuating the accelerator pedal.

On vehicles with automatic transmission the cruise control will function only with selector lever in driving positions **D**, **3** or **2**. In any other selected driving positions the cruise control is automatically deactivated.

Any manual operation, such as accelerating, gearshifting or braking can be done independently of the cruise control.

The cruise control is operated with sliding button **A** and pressure button **B** positioned at the end of the turn signal/headlight dimmer switch lever.

#### WARNING

■ To help keep the vehicle under control do not use the cruise control when driving on winding or slippery roads, in heavy or in varying traffic.

■ Do not use the Resume feature when the previously set speed is too fast for the existing traffic conditions.

Sliding button **A** to position **ON** actuates the cruise control system.

Accelerate to the desired speed and depress button **B** (**SET**). This sets the cruising speed and stores it in a memory. The foot can then be taken off the accelerator pedal.

With button **B**, the programmed speed can also be increased. When the button is depressed, the vehicle accelerates until the button is released.

If you accelerate – for example when passing – the previously programmed speed will be resumed automatically after the accelerator pedal is released.

When the cruise control is switched on, do not shift into Neutral without depressing the clutch! The engine will rev up immediately and may possibly be damaged.

The cruise control is temporarily disengaged when brake or clutch pedal is depressed or when the road speed drops considerably below programmed speed, for example when driving uphill.

To re-engage the system, slide button **A** to **RES** (Resume) and the vehicle will automatically accelerate to the previously programmed speed.

A programmed speed can be completely erased from the memory of the cruise control system by sliding button **A** to the **OFF** position. A programmed speed is always erased when the ignition is switched off.

## CONTROLS AND EQUIPMENT

### WIPER AND WASHER SYSTEM



The wiper and washer system only works when the ignition is on.

The **heated\* washer jets** do not have a separate switch. They are automatically switched on when the ignition is on.

**Always loosen blades frozen to glass before operating wipers to prevent damage to the wiping system.**

Filling washer container, see page 124.

#### Windshield

##### Brief wiping

Lift lever to pressure point before position 1

##### Low wiper speed:

Lever in position 1

##### High wiper speed:

Lever in position 2

##### Intermittent wiping

Lever in position 3 – the wipers operate about once every six seconds.

You can program the **adjustable intermittent wiping\*** so that the pauses between wipes can last from 1.5 to 22 seconds.

To program:

- Switch on the intermittent wiping (lever in position 3).
- Switch off the intermittent wiping and then switch it back on after the desired pause length.

You can change the pause length as often as you like. After switching off the ignition the selected pause length will be reset to six seconds.

#### Automatic wiper/washer

Pull lever towards steering wheel and hold – wipers and washer work.

Release lever –

The washer stops and the wipers carry on for about four seconds.

#### Rear window

Press lever briefly away from steering wheel – the wiper works about every six seconds (intermittent wipe). Press lever again briefly to switch rear wiper off.

#### Automatic wiper/washer

Press lever away from steering wheel and hold – the wiper and the washer work as long as lever is held in this position.

Release lever –

the washer stops and the wiper continues for about four seconds.

WARNINGS and "Headlight washer" see next page.



## WARNING

■ Worn or dirty wiper blades will reduce visibility, making driving hazardous. Clean blades regularly to remove road film and carwash wax build-up. Use an alcohol base cleaning solution, a lint free cloth and wipe along the blade.

■ Clean all inside and outside window glass regularly. Use an alcohol base cleaning solution and wipe dry with a lint free or a chamois cloth.

■ Do not use the wiper/washer in freezing weather without first warming the windshield with the defrosters, otherwise the washer solution may freeze on the windshield and obscure your vision.

■ Avoid running the wiper blades over a dry windshield to prevent scratching the glass. A scratched windshield will reduce visibility and increase glare at night.

## Headlight washer system\*

When the low beams or the high beams are switched on, the headlight washer system will work whenever you use the windshield washer system.

At regular intervals, for example when refueling, inspect your headlights and remove any caked-on dirt.

## CONTROLS AND EQUIPMENT

### VENTILATION/HEATING WITHOUT AIR CONDITIONING

#### WARNING

■ Good visibility comes with windows free of fog, condensation and frost.

■ For clear visibility and safe driving it is extremely important that you thoroughly familiarize yourself with and follow the operating instructions pertaining to the proper use and function of the ventilation/heating, and defogging/defrosting system in this manual. If in doubt, consult your Volkswagen dealer.

■ Maximum heating output and fast defrosting can be obtained only after the engine has reached operating temperature.



Your vehicle's flow-through system provides draft-free ventilation while driving. Air flows through the grille on the engine hood and into the passenger compartment via the dashboard and footwell vents. Used air is drawn out of the vehicle through vent slits in the side trim panels of the luggage compartment. When stowing luggage or other objects, make sure the vent slits are not covered up.

#### Operating controls

##### A – Fan switch

The air flow can be regulated in four stages.

When driving slowly the blower should always be running at least in stage 1.

##### B – Airflow distribution lever (Footwell)

D – Airflow distribution lever (Head area)

##### C – Temperature control lever

To right – increases heat  
To left – decreases heat

VENTILATION HEATING WITH AIR CONDITIONING IN DRIVING CAR



## Air vents

Depending on the position of levers B and D heated or unheated fresh air flows from vents 1, 2, 4 and 5.

Only cold air flows from vents 3.

The vents 3 and 4 can also be opened and closed separately:

knurled disc up – vent closed  
knurled disc down – vent opened

By swinging the complete outlet grille of vents 3 and 4 the air flow can be moved vertically.

When the knurled disc in the grille is rotated to and fro, the air flow direction is altered laterally.

## Defrosting windshield and side windows

- Rotary knob A to stage 3
- All levers to the right
- Vents 3 closed
- Additional warm air can be directed to the side windows via vents 4

## Demisting windshield and side windows

When the windows steam up due to high air humidity, e.g. when it is raining, we recommend the following settings:

- Rotary knob A to stage 2 or 3
- Lever C if necessary, to right into heating range
- Lever D to right
- Vents 3 closed
- Additional warm air can be directed to the side windows via vents 4.

## CONTROLS AND EQUIPMENT

### Heating interior quickly

- Rotary knob A to stage 3
- Lever C to right
- Lever B to left
- Vents 3 closed
- Vents 4 opened

### Heating interior comfortably

When the windows are clear and the desired temperature has been reached, we recommend the following settings:

- Rotary knob A to stage 1 or 2
- Lever C at the desired heat output
- Levers B and D set to desired air distribution. If the windscreen once again becomes misted up, move levers B and D to the right.
- Vents 3 closed
- With vents 4 the desired amount of warm air and the air flow direction can be set.

### Ventilation (fresh air operation)

With the following settings, unheated fresh air flows from vents 3 and 4.

- Rotary knob A to desired stage
- Lever B to right and lever D to left
- Vents 3 and 4 open

If required, levers B and D can be set to another position.

### Notes

- To ensure that the heating and ventilation can work properly, the air inlet in front of the windscreen should be kept free of ice, snow and leaves.
- The heat depends on the coolant temperature – the full heat output is therefore only available when engine is warm
- All controls except rotary knob A in blower position can be set to any intermediate position.
- The stale air escapes through openings at rear of body. These openings must not be blocked.

On vehicles with a full-width partition and on the Pick-up and Double Cab models the stale air escapes through slots in the front doors.

### VENTILATION/HEATING WITH AIR CONDITIONING\* IN DRIVER'S CAB

#### WARNING

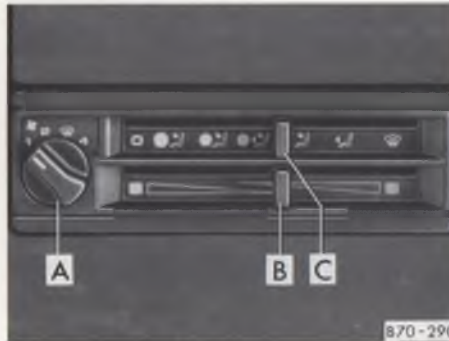
■ Good visibility comes with windows free of fog, condensation and frost.

■ For clear visibility and safe driving it is extremely important that you thoroughly familiarize yourself with and follow the operating instructions pertaining to the proper use and function of the ventilation/heating, defogging/defrosting and air conditioning system in this manual. If in doubt, consult your Volkswagen dealer.

■ Maximum heating output and fast defrosting can be obtained only after the engine has reached operating temperature.

Your Volkswagen factory installed air conditioning system combines heating, ventilation, defrosting/defogging and cooling for year-round driving comfort.

Because the air conditioner is not normally used at low ambient temperatures, it is designed to operate only when outside temperature is above 35° F (2° C).



When the air conditioner is on, temperature as well as humidity inside the vehicle is controlled. During high outside humidity, you can prevent windshield and windows from fogging by setting the controls accordingly.

Maximum cooling is maintained with windows closed. However, when the vehicle interior is very hot from standing in the sun, open a window for a few minutes to permit hot air to escape.

#### Operating controls

##### A – Fan switch

Unless the system is OFF, the fan will automatically run on LO speed as soon as the ignition is turned on.

Adjust air volume by selecting one of the next 3 higher fan speeds.

##### B – Temperature control lever

Select temperature desired by moving lever between the two extreme left (COOLER) and right (WARMER) settings.

##### C – Airflow distribution lever

unheated outside air is circulated through open dashboard vents 3 and 4, as well as footwell outlets 5. Some additional airflow will be emitted through windshield and side window vents 1 and 2.

### Ventilation

The air conditioner compressor is inoperative. Heated or unheated outside airflow is emitted through open dashboard vents 3 and 4.

### Heating

The air conditioner compressor is inoperative. The main flow of heated or unheated outside air is circulated through footwell outlets 5. Some additional air will flow through windshield and side window vents 1 and 2.

Close dashboard vents 3. Additional warm airflow from open dashboard vents 4 can also be directed toward the side windows.


### Defrosting/defogging/dehumidifying

At outside temperatures above 35° F or 2° C the air conditioner compressor is operative.


Depending on temperature control lever setting, the main flow of heated, unheated

or cooled outside air is circulated through windshield and side window vents 1 and 2. Some additional airflow will be emitted through footwell outlets 5. Close dashboard vents 3 and 4.


### Defrosting windshield and side windows

- Move both control levers to the extreme right.
- Turn fan switch to symbol  .



### Defogging windshield and side windows

- Move upper lever to symbol  .



At outside temperatures above 35° F or 2° C the air conditioner compressor is operative. On very humid or rainy days this is most helpful in dehumidifying the interior and in defogging windshield and windows quickly.

- On cooler, humid days, move the lower lever toward the right (WARMER).
- On hot, humid days, move the lower lever toward the left (COOLER).
- Turn fan switch to symbol  or position 4.


### Heating interior quickly

- Move upper lever to symbol  .
- Move lower lever to extreme right.
- Turn fan switch to symbol  .

### Keeping interior comfortable

- Move upper lever to symbol  (comfort setting) or  .
- Select the desired temperature setting with lower lever.
- Turn fan switch to position 1 or 2.
- Open or close dashboard vents and adjust airflow in desired directions.

### Air ventilation

- Move upper lever to symbol  .
- Select desired temperature setting with lower lever.
- Select desired fan speed.
- Adjust dashboard vents according to your or your passengers' comfort.

## CONTROLS AND EQUIPMENT



### Air vents

Depending on the position of lever C heated or unheated fresh air flows from vents 1, 2, 4 and 5.

Only cold air flows from vents 3.

The vents 3 and 4 can also be opened and closed separately:

knurled disc up – vent closed

knurled disc down – vent opened

By swinging the complete outlet grille of vents 3 and 4 the air flow can be moved vertically.

When the knurled disc in the grille is rotated to and fro, the air flow direction is altered laterally.

### Operating controls

#### OFF

- The system is inoperative.
- The fan blower is turned off.
- No outside air is passed through the system.

#### Maximum cooling

Maximum cooling of recirculated interior air through open dashboard vents 3 and 4 is achieved with temperature control lever at extreme left setting.

#### Normal cooling

At outside temperatures above 35° F or 2° C the air conditioner compressor is operative.

Outside air is cooled and circulated through open dashboard vents 3 and 4 with temperature control lever set between center and extreme left.

#### Comfort setting


At outside temperatures above 35° F or 2° C the air conditioner compressor is operative.

Depending on temperature control lever setting, the main flow of cooled, heated or




## CONTROLS AND EQUIPMENT

### Maximum cooling

Since no outside air circulation takes place, we recommend this setting primarily for fast cool-down or for short and intermittent intervals only.



- Close all windows.
- Move upper lever to symbol .
- Move lower lever to extreme left or to desired position between center and left.
- Turn fan switch to position 4.
- Open or close dashboard vents and adjust airflow in desired directions. Never close all four of the dashboard vents as this will cause the evaporator to ice up.

### Normal cooling



- Move upper lever to symbol  or .
- Select desired temperature setting with lower lever.
- Select desired fan speed.
- Open or close dashboard vents and adjust airflow in desired directions. With upper lever in position  be sure to keep at least one dashboard vent open to prevent the evaporator from icing up.

### General hints for air conditioning operation

#### Fuel economy ...



Note that with upper lever in positions 2, 3, 4 and 7, the air conditioner compressor will operate at outside temperatures above 35° F or 2° C, regardless of the temperature control lever setting. This will increase fuel consumption, while air cooling may not be necessary. Move upper lever to symbol  or  to maintain fuel economy.



#### Air pollution ...

To prevent exhaust fumes or industrial air pollution from being drawn into the vehicle, close the windows, the dashboard vents and move upper lever to symbol  or .

On vehicles equipped with a fresh air filter\*, this is necessary only when the air is polluted with gas fumes. Dust, pollen, etc. are trapped in the filter.



### No cool airflow ...

- Outside temperatures are below 35° F or 2° C.
- Check the air conditioner fuse on the fuse panel (see page 118). Have it replaced, if necessary.
- If the fuse is not blown, move upper lever to symbol  or .
- Contact your Volkswagen dealer to have the system checked.



Should you suspect that your air conditioner is damaged, move upper lever to symbol  or . Have it checked promptly for leaks or other damage. Leaks must be sealed immediately since loss of refrigerant may result in serious damage to the air conditioning system.



### If cool airflow decreases ...

- Move upper lever to symbol  or  .
- Have your Volkswagen dealer check the system promptly.

### If the engine tends to overheat ...

- Turn the air conditioner off by moving upper lever to symbol  or  and wait until the engine coolant temperature reaches a normal level.

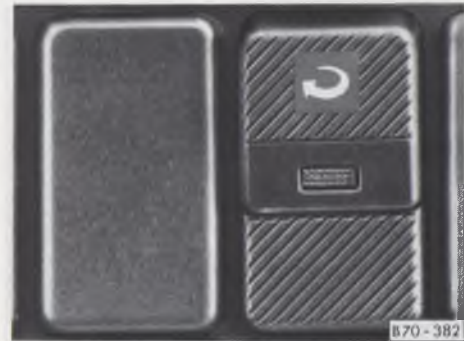
### If water drips under the vehicle ...

When outside temperature is high and the air very humid, condensed water can drip off the evaporator under the vehicle. This is normal and does not indicate a leak.

### Maintenance

The condenser should be checked periodically for cleanliness. If clogged with dirt or insects, the condenser should be washed down with water.

After the winter months and before extended summer usage, the air conditioner should be checked and, if necessary, serviced by your Volkswagen dealer.



### Air circulation switch

This switch turns on or off the inside air circulation. With this switch, you can prevent dirty outside air from entering the vehicle, for example when driving through a tunnel. Turn off the inside air circulation for only a short period, otherwise the windows can fog up.

### Warning

**If the windows fog up, press the air circulation switch again immediately to switch off the air circulation funktion.**

The control light in the switch will light up to remind you that the air circulation switch is switched on.

## CONTROLS AND EQUIPMENT

### AIR CONDITIONING\* IN PASSENGER COMPARTMENT



The air conditioning in the rear passenger compartment only works when the air conditioner in the driver's cab is switched on. See page 67.

The controls for the air conditioner for the rear passenger compartment work independent from the system in the front passenger compartment. The controls are located in the instrument panel (illustration).

The air flow volume can be adjusted to four different speeds (left switch).

You can adjust the temperature to any position by turning the temperature control switch (right switch).

Clockwise – increasing cooling  
Counterclockwise – decreasing cooling

### Air outlets/vents

The air outlets are located in the roof above the center seating positions. The position of the vents are adjustable or you can close them.

### AIR CIRCULATION SWITCH\*



This switch turns on or off the inside air circulation. With this switch, you can prevent dirty outside air from entering the vehicle, for example when driving through a tunnel.

Turn off the inside air circulation for only a short period, otherwise the windows can fog up.

#### Warning

**If the windows fog up, turn the air circulation switch again immediately to switch off the air circulation function.**

Switch to the left – interior air circulation  
Switch to the right – fresh air operation

# Volkswagen Professionals— Trained to Know Your Car

Volkswagen owners expect quality customer oriented service. Volkswagen dealers understand this. They provide factory trained and certified technicians, state of the art equipment and genuine Volkswagen parts for your car.

Competent know-how and commitment to you and your car, that's Volkswagen Service.



# The Parts Story



Parts shipped from Kassel, West Germany are packaged in special containers for overseas distribution.



The central parts facility in Kassel, West Germany has automatic parts retrieval systems to expedite distribution.

Engineering, value and driving experience. These are only three of the important reasons you purchased a Volkswagen. But, even a Volkswagen needs service from time to time. Volkswagen dealers understand this. They provide factory trained and certified technicians, state of the art equipment and genuine Volkswagen parts for your car.

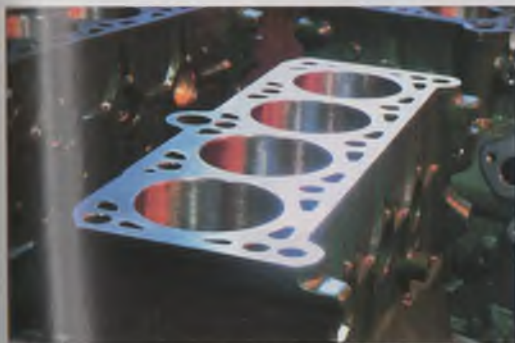
The manufacture and availability of Genuine Volkswagen Parts involves a worldwide network, coordinated by a central parts distribution facility located in Kassel, West Germany. Genuine Parts are distributed from Kassel to strategically located Volkswagen parts distribution centers.

Kassel's vast manufacturing, warehousing and shipping complex inventories nearly 250 million parts. When you visit your local Volkswagen Parts Department, you benefit from this international experience. Utilizing microfiche and computers, trained Parts Professionals can access the latest information to help assure the correct part is selected for your exact model and year.

Volkswagen Owners can select from a wide assortment of Genuine Volkswagen parts, accessories and car care products at their local Volkswagen Dealership.

[www.vwT4camper.info](http://www.vwT4camper.info) - a useful website for owners and enthusiasts of VW T4 Transporter Campervans

Hard-to-find parts can be traced by accessing the Volkswagen National Parts Locator System.



All Volkswagen replacement parts undergo a strict series of quality inspections to make sure they meet the exact specifications as the original parts they were built to replace.

Computerized parts inventory systems monitor each Dealership's inventory to maintain proper levels, so your needs can usually be fulfilled at once. Hard to find parts can be traced by accessing the Volkswagen National Parts Locator System, a procedure which almost always has the required item shipped to your local Dealership within 48 hours.

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The planning for the uninterrupted supply of Genuine Parts, the adherence to strict quality control standards, and the friendly Parts Professionals, ready with reliable assistance. These are the commitments that Volkswagen makes on behalf of it's customer, you, the Volkswagen owner.

No one knows your Volkswagen quite like the people who built it, which is why when it comes to parts, accessories or car care products, ask for Genuine Volkswagen Parts and "Keep A Great Thing Going."

\* See your local Volkswagen dealer for details regarding the Limited Parts Warranty.



Microfiche readers and computers assist our Parts Professionals in identifying the precise item required.



Genuine Volkswagen Accessories have been carefully selected to enhance your driving pleasure and accommodate your lifestyle. Each Genuine Volkswagen Accessory has been thoroughly tested for optimum performance and durability to ensure lasting satisfaction and to add value to your investment.

Our "Sound Choice" Audio Systems provide a quality of sound reproduction equal to the engineering standards you have come to expect from Volkswagen.

Specifically produced for use on your vehicle, the Volkswagen Car Care Collection includes cleaners and touch-up paints to maintain a showroom-new appearance, while the maintenance fluids help your Volkswagen operate at peak efficiency.

Genuine Volkswagen Accessories are designed exclusively for your model and make. Each item offers a combination of practicality and functional styling to enhance the Volkswagen driving experience. Ask your local Volkswagen Dealer for information about specific Genuine Volkswagen Accessories for your vehicle.

## Accessories

Items available at time of purchase may differ from those shown here.



## AUXILIARY HEAT EXCHANGER\*



The auxiliary heat exchanger is located under the vehicle.

The blower has a three speed switch in the instrument panel.

When you set the temperature for the heater, you are also setting it for the auxiliary heater -- see page 64.



On vehicles with air conditioning, the temperature control switch for the auxiliary heater is located in the instrument panel next to the fan switch.



The outlet is located under the center row of seats. You can close this outlet by pushing it in. On the Pick-up model, the outlet is behind the passenger's seat.

## CONTROLS AND EQUIPMENT

### AUXILIARY HEATER\*

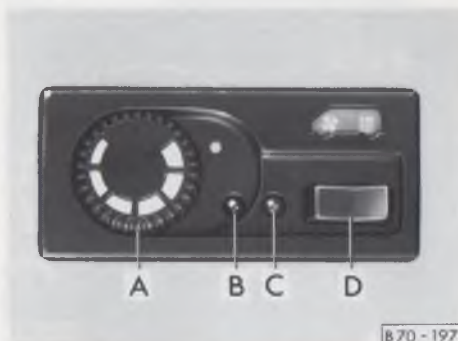
The auxiliary heater is independent from the vehicle's heating and ventilation system. It is supplied with fuel from the vehicle's fuel tank.

You can use the auxiliary heater while you are driving or when you are parked.

The air outlet is located behind the driver's seat.

In the summer, you can use the blower from the auxiliary heater to help circulate air in the vehicle without the using the heater.

The on/off switch and temperature control knob for the auxiliary heater are located in the headliner in the passenger compartment. There is also a control panel in the instrument panel.



#### Controls

- A – Temperature control
- B – Overheating warning light (red)
- C – "ON" light (green)
- D – On/off switch for the heater or blower

#### Switching on the heater

- Press the right side of the on/off switch (D).
- Turn temperature control (A) to adjust the heat.  
The green "ON" light (C) will come on.

#### Adjusting the heat

To control the temperature, turn the temperature control (A) to any desired position.

After you switch on the heat, it will take a few moments before the heater warms up.

Once the desired temperature is reached, the green ON light will get darker. The temperature is then thermostatically held constant.

#### Switch

- Press center p... out and few mo...

#### Note

If the h... ing ligh... pens, c... heater c...



### Switching off the heater

■ Press on/off switch (D) back into the center position. The "ON" light (C) will go out and the blower will continue to run a few moments.

#### Note

If the heater starts to overheat, the warning light (B) will start blinking. If this happens, check if the intake opening for the heater or if the warm air outlet are blocked.

### Using the blower without using the heater

Press the left side of on/off switch (D). The green "ON" light (C) will come on.

### Switching off the blower

■ Press on/off switch (D) back into the center position. The "ON" light (C) will go off, provided that the heater is not simultaneously being controlled by the timer (see next page).

#### WARNING

**Never start the heater or let the engine or the heater run in an enclosed, unventilated area. Exhaust fumes from the engine or the heater contain carbon monoxide, which is colorless and odorless. Carbon monoxide, however is a very harmful gas, and may be fatal if inhaled.**

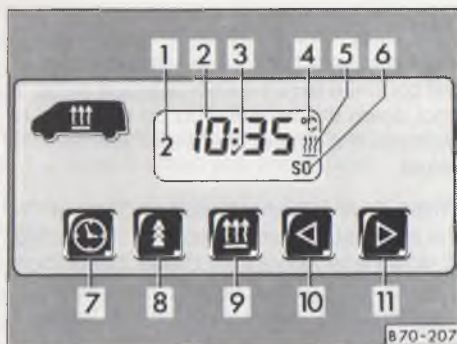
**Due to the risk of fire the heater must not be used when vehicle is parked on dry grass, brush or leaves.**

#### Notes

After you switch off the heater, the blower will continue to run a short while in order to cool down the heater. You do not have to wait until the blower shuts off if you need to refuel.

When driving through mud or deep snow, the exhaust pipe may become obstructed. If you have driven in these conditions, inspect the exhaust pipe to make sure it is unobstructed before switching on the auxiliary heater.

## CONTROLS AND EQUIPMENT



### Timer\*

You can preset the timer of the auxiliary heater so that it switches on up to three different times. This makes it possible to switch on the heater without actually being in the vehicle.

The heater will run for a maximum of two hours and will then turn itself off. You can also switch off the heater by pressing the on/off button (9). The switch-on time you set remains stored and can be recalled so that the heater will switch on again at the same time.

You can preset the switch-on time for up to a week.

- 1— Display for the 3 possible switch-on times
- 2— Clock time
- 3— Malfunction display
- 4— Celsius (C) or Fahrenheit (F) display\*
- 5— On/off display
- 6— Day-of-the-week display
- 7— Clock time and day-of-the-week display button
- 8— Preset time and day-of-the-week button
- 9— On/off button
- 10— Button for setting the clock time back or to recall remaining time
- 11— Button for setting the clock time forward or the preset time forward and to set the preset day of the week and temperature display\*

### Notes

■ The clock time (2) and day-of-the-week (6) appear in the display and remain there when you switch on the ignition. When the ignition is switched off, you must press button (7) to see these.

■ Since there is no temperature sensor connected by the factory, an incorrect temperature will appear after pressing button (11).

### Setting the actual clock time

- Press and hold button (7).
- Set the correct time using buttons (10) or (11).

### Setting the day-of-the-week display

- Press and hold button (7).
- Set the correct day of the week using button (8).

### Switching on the heater (not using the preset)

- Press the on/off button (9) the on/off symbol (5) appears in the display. The switch (D) must be in the center position.

When the ignition is switched off, the heater will stay on for approximately two hours.

To call up the remaining time, press the recall button (10) briefly. If you hold the button for longer than 1 second, you will shorten the time the heater remains on.

### Note

If you want the heater to run continuously, you must switch it on yourself using the on/off switch (D). See page 74.

## Switching off the heater

■ Press the on/off button (9); the on/off symbol (5) goes out.

## Presetting

■ Press button (8); the three possible preset times and the current clock time will be recalled one after the other as follows:

1. preset time
2. preset time
3. preset time

Current clock time

At the same time, the day-of-the-week will appear with each presetting.

If you want a different day-of-the-week, you must first wait until the day-of-the-week display blinks. Then you can select a new day-of-the-week by pressing button (11).

When entering the preset time and day-of-the-week, if you wait longer than 10 seconds everything you have input is stored. With the ignition on, the actual clock time will be switched on. With the ignition off, the display will go out. The numbers 1, 2 or 3 however stay on to show you that the preset time is activated.

## Notes

■ Unless you activate the preset, the heater will not run.

■ Only one preset time can be activated. The time can be repeated only by reactivating the preset. The presets remain stored in memory.

■ The switch on duration is explained in "Switching on the heater" (see previous page).

If you do not want to use the auxillary heater, but do not want to cancel the presets, press the present button (8) until no number is displayed.

## CONTROLS AND EQUIPMENT

### SUN ROOF\*



The roof is opened and closed with the knurled disc in the headlining above the front seats.

The roof can be tilted at the rear as desired or taken out altogether.

#### Raising

Turn knurled disc clockwise.

#### Lowering

Turn knurled disc anti-clockwise.

#### To take out

- Turn retaining screw (A) in centre of knurled disc one quarter turn clockwise (e.g. with a coin) with roof closed.
- Then raise roof and press it up.
- Press locking lever (B) up.
- Detach roof.
- Lift roof from outside and pull it out to the rear.

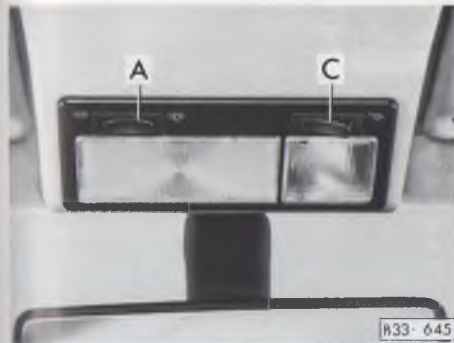
#### To put back

- Slide roof back into the hinges and let it drop lightly into the retainers.

#### WARNING

**Ensure that the roof is properly inserted into the two retaining hinges at the front, and locked at the rear. The roof must only be unlocked when vehicle is stationary.**

## INTERIOR LIGHTS



### A – Dome light front

The three switch positions are:

- To left – ON (continuously)
- Center – OFF
- To right – ON (with doors open)

### C – Reading light front

The two switch positions are:

- To left – OFF
- To right – ON

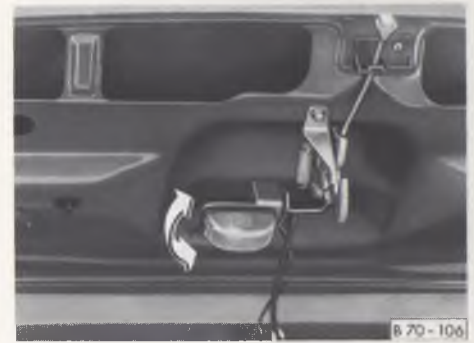


### Rear interior light\*

The three switch positions are:

- 1 – ON (continuously)
- 0 – OFF
- 2 – ON (with doors open)

## ENGINE COMPARTMENT LIGHT\*



This light works when parking or headlights are on.

It is located on the inner side of the hood and is switched off or on with a rocker switch – see illustration.

## CONTROLS AND EQUIPMENT

### SUN VISORS

You can lift the visors out of the center mounting and move them toward the door windows to protect against side glare.

The vanity mirrors may have a sliding cover\*.

On the illuminated\* mirrors, the mirror lights can be turned on and off with the sliding cover. The lighting is also automatically switched off and on when you raise or lower the sun visor.

### COAT HOOKS

The coat hooks are intended for your convenience.

#### WARNING

- Hang clothes in such a way that they do not impair the driver's vision.
- Do not hang heavy objects on the coat hooks, as they could cause personal injury in the event of a sudden stop.

### GLOVE COMPARTMENT

The glove compartment is lockable and illuminated\*.

- To open, squeeze lock latches together.
- To close, press door upward until lock engages.
- To lock or unlock, turn key to right or left.

#### WARNING

To reduce the risk of personal injury in an accident or sudden stop, keep glove compartment closed while driving.

## ASHTRAYS



**Ashtray in instrument panel**  
(illustration)

### To take out:

Open ashtray, press spring in ashtray down and take ashtray out.

### To insert:

Press the ashtray into the guides.

## Ashtray in passenger compartment

**To open:** Tap the lid.

**To take out:**

Open the ashtray, and take it out upwards.

**To insert:**

Insert from above.

## CIGARETTE LIGHTER

■ Push knob in.

When lighter is ready for use, it will spring back.

The socket of the cigarette lighter may be used for 12 volt appliances with maximum consumption of up to 120 watts, such as hand spot light, small vacuum cleaner, etc.

### WARNING

**Cigarette lighter and socket remain functional even after the ignition key is removed. Therefore, never leave children inside the vehicle without supervision.**

## CONTROLS AND EQUIPMENT

### TAILGATE (Pick-up version)



To fold down the tailgate, pull the handle far enough out away from the tailgate until the locking latch is lifted out, then swing the handle downward.

**On vehicles with retaining straps for the tailgate, maximum load on the folded down tailgate is 68 lbs. (150 kg).**



## ROOF RACK

If luggage carrying equipment is to be installed, please note the following:

■ To adhere to the vehicle's streamlined design, rain gutters have been moulded into the roof. Therefore it is not possible to use normal roof racks. Only install a roof rack specifically designed for this vehicle.

■ These roof racks are the basis for a complete roof rack system. Additional attachments are necessary to safely transport luggage, bicycles, surf boards, skis or boats.

All necessary hardware for these systems is available from your Volkswagen dealer.

■ The roof rack system must be installed exactly according to the instructions provided.

■ Any damage to the vehicle caused by using other types of roof racks or incorrect installation is not covered by the Warranty.

■ Always distribute loads evenly.

■ Never exceed the vehicle's total load carrying capacity. See page 157 for details.

■ Cargo which is large, heavy, bulky, long or flat will have an influence on the vehicle's aerodynamics, center of gravity and overall handling. Be sure to adjust your driving speed and behavior when transporting.

■ If you have installed a roof rack on your vehicle, it is best to ask the car wash operator if it should be removed before going through an automatic car wash.

■ When not in use, remove the roof rack to reduce wind noise, improve on fuel consumption and to guard against theft.

## VEHICLE OPERATION

### THE FIRST 1,000 MILES (1,500 KM) – AND AFTERWARDS

#### Break-in period

During the first few operating hours, the engine's internal friction is higher than later when all the moving parts have been broken in. How well this break-in process is done, depends to a considerable extent on the way the vehicle is driven during the first 1000 miles (1,500 kilometers).

**For the first 600 miles (1,000 kilometers):**

as a rule of thumb.

- Do not use full throttle.
- Do not drive faster than 3/4 of top speed.
- Avoid high engine speeds.
- If possible, avoid towing a trailer.

#### WARNING

■ New tires tend to be slippery and must also be "broken-in". Be sure to remember this during the first 100 miles (160 kilometers).

■ New brake pads and linings do not have optimum friction properties and must be "broken-in" during the initial 100 to 150 miles (150 to 200 kilometers) of normal city driving. You can compensate for this by applying more pressure on the brake pedal. This also applies later when new pads or linings are installed.

**From 600 to 1000 miles (1,000 to 1,500 kilometers):**

The speed can gradually be increased to the maximum road speed or engine speed.

#### During and after break-in period

■ Do not rev the engine up to high speeds when it is cold. This applies when the transmission is in Neutral or in gear.

✿ *Do not drive with unnecessarily high engine speeds – upshifting early saves fuel, reduces noise and protects the environment. See also page 86.*

■ Do not let the engine labor. Downshift when the engine is no longer running smoothly.

#### After the break-in period

The maximum permissible engine speed is 5300 rpm and should not be exceeded. Upshift into the next higher gear before reaching the red area at the end of the scale of the tachometer. See page 48.

Excessive engine speeds are automatically reduced.

## OPERATE YOUR VEHICLE SAFELY

The correct condition of the vehicle is essential for driving safety.

Therefore, observe the following points each time before you drive off:

- Check lights and turn signals.
- Check fuel level.
- Adjust the mirrors.
- Make sure that all the lights as well as the windows are clean.
- Make sure the air intake slots between the engine hood and the windshield are free of leaves, snow and ice.
- Check warning and indicator lights when starting the engine.

In addition to this you should check in regular intervals the points we have listed on page 168.

Moreover, for driving safety, always follow the specified Maintenance intervals in your Maintenance booklet – especially for changing the brake fluid, see pages 120 and 121.

Your personal driving style as well as your personal attitude also influence to a great extent the driving safety.

Therefore, for your own safety:

- Wear your safety belts, even if you are just driving in the city, – see page 16.
- Make sure that all passengers are wearing their safety belts, even those sitting in the rear – see page 16.

Passengers not wearing a safety belt not only endanger themselves in case of an accident, but also the driver and other passengers.

- Adjust your seat so that you can easily reach all controls – see page 30.
- Always adjust the head restraints to the correct height.

The upper edge of the head restraint should be even with your ears.

- Always make sure that the movement of the pedals is not hampered in any way – see page 37.
- Store luggage and light items properly

– in the luggage compartment – see page 36.

– on top of the roof – see page 83.

- If you drink, do not drive.

The use of alcohol, drugs and certain medications will seriously impair perception, reactions and driving ability, and substantially increase the risk of an accident and personal injury.

- Do not drive if you are tired.

Make frequent rest stops, at least after every two hours of driving.

- Always adapt the vehicle speed to traffic, weather and road conditions.

Remember that especially on smooth slippery roads, vehicle handling and braking depend a great deal on tire adhesion. On wet roads, the front wheels can aquaplane at high speeds. If this happens, you will then no longer be able to steer or brake properly.

- Always observe the posted speed limits.

Additional information regarding safety can be found in the individual chapters of this manual.

## VEHICLE OPERATION


### OPERATE YOUR VEHICLE ECONOMICALLY AND MINIMIZE POLLUTION

Various factors influence fuel consumption, the wear on the engine, brakes and tires, and the affect upon the environment.


This chapter addresses some of these points.

#### **Your personal style fo driving**


will determine the economy of your vehicle, as well as the exhaust and noise values.

 **Do not let your vehicle stand and warm up.**

When the engine is idling, it takes a very long time to warm up. Moreover, during warm up, both engine wear and exhaust gas emissions are very high. Therefore, be ready to drive off immediately after starting the engine and avoid high engine speeds.


 **Avoid full throttle.**

Accelerating gently reduces fuel consumption, engine wear, and does not disturb the environment.


 **Upshift as early as possible – do not drive at unnecessarily high engine speeds.**

The most favorable fuel consumption and the least disturbance to the environment are attained when you drive at low engine speeds and in the highest possible gear.


For example, fuel consumption is twice as high in 2nd gear than it is in the highest gear. Also, lower engine speeds mean reduced engine noise. Therefore, drive as often and as long as possible in the highest gear.

 **Downshift only when the engine is no longer running smoothly.**


Depending on the transmission you have, you can normally drive in the highest gear at 25 to 37 miles (40 to 60 km/h) on flat land and still be able to accelerate.

 **Avoid driving at high speeds.**

Fuel consumption, exhaust emissions and engine noise increase disproportionately at high speeds. If you drive at approximately three quarters of top speed, fuel consumption will be reduced by one half. Never drive faster than the posted speed limit.

 **Drive as smoothly as possible and keep a lookout ahead.**

Unnecessary accelerating and braking increase fuel consumption and disturb the environment.

 **Switch off your engine if you are caught in a traffic jam. This saves fuel and reduces emissions.**

#### **The external conditions**


in which you drive also affect your fuel consumption.

The following conditions increase fuel consumption:

■ Heavy traffic, especially in large cities with many traffic lights.

■ Stop-and-go driving, especially short distances so that the engine never properly warms up.


■ Driving in heavy, slow moving traffic in low gear so that the engine speed is relatively high when compared to the distance driven.

 **Plan your trips ahead of time. Organize your trips to include several errands, and to avoid heavy traffic.**


Of course, there are some conditions which will affect fuel consumption, over which you have no control. For example, fuel consumption increases in the winter or when driving under difficult conditions (bad roads, towing a trailer, etc.).

### The technical requirements


For optimum fuel consumption and economy were "built" into your vehicle. Special attention was paid to the environment. To retain and make use of these characteristics, please note the following points:

 **Use only unleaded gasoline.**


The use of leaded gasoline causes damage to the catalytic converter and other components of the emission system.

 **Have your vehicle serviced by a Volkswagen dealer at the specified intervals (see page 102 and your Maintenance booklet).**

Having your vehicle regularly serviced by a Volkswagen dealer ensures that it runs properly and economically, that it does not disturb the environment, and that it has a long service life.

 **Check your tire pressures once a month.**


Low tire pressure increases fuel consumption and tire wear, and impairs vehicle handling.

 **Do not carry unnecessary items in the luggage compartment.**


Particularly in city traffic where you must often accelerate, weight influences fuel consumption.

 **Remove roof racks when not in use.**


At high road speeds, the increased air resistance caused by the roof rack also increases the fuel consumption.

 **Switch off any electrical equipment when no longer needed.**

The rear window defogger, additional driving lights and the heater blower consume a considerable amount of electricity. The more electricity you consume, the higher the fuel consumption. For example, if you keep the rear window defogger on for 10 hours, your fuel consumption will increase by approximately 1 quart (1 liter).

 **Use the air conditioner\* only when really needed.**

The air conditioner decreases engine output and increases fuel consumption.

 **Check your vehicle's fuel consumption regularly. Keep a written record or use the trip odometer.**

Check your fuel consumption each time you tank up. By doing this, you can discover any inconsistencies which could result in increased fuel consumption.

■ **Check your oil each time you fill your tank.**

Oil consumption is dependant upon the engine load and speed to a great extent.

It is normal for the oil consumption of a new engine to reach its lowest value after a certain mileage has been driven.

You must first drive your vehicle approximately 3000 miles (5000 km) before you can properly assess your oil consumption.

This also applies to the fuel consumption and the engine output.

■ **The published ENVIRONMENTAL PROTECTION AGENCY (EPA) and Transport Canada consumption estimates may not agree with your actual consumption on the road which will vary, depending upon vehicle load and speed, road and weather conditions, trip length, etc.**

# VEHICLE OPERATION

## TRAILER TOWING

Your Volkswagen was primarily designed for passenger transportation. If you plan to tow a trailer you should be mindful that your car will be performing a service it was not intended for. The additional load will affect durability, economy and performance.

Trailer towing not only places more stress on the vehicle, it also calls for more concentration from the driver.

For this reason always follow the operating and driving instructions given.

### Technical requirements

#### Trailer hitch

Use a weight-carrying hitch conforming to the gross trailer weight. The hitch must be suitable for your vehicle and trailer and securely bolted to the body. Only a trailer hitch with removable ball mount should be used. Always check with the trailer hitch manufacturer to make sure that you are using the correct hitch. Do not use a bumper hitch.

The hitch must be installed in a way not to interfere with impact-absorbing bumper system. No modifications should be made to the vehicle exhaust and brake systems. From time to time check that all hitch mounting bolts remain securely fastened.

If not towing a trailer, remove the trailer hitch ball mount. This prevents the hitch from causing damage should your vehicle be struck from behind.

#### WARNING

**When no longer towing a trailer, remove the entire trailer hitch. When doing so, seal all bolt holes to prevent water and exhaust fumes entering the vehicle.**

#### Trailer brakes

If your trailer is equipped with a braking system, check to be sure that it conforms to all regulations.

The trailer brake system must not be directly connected to the vehicle's brake system.

#### Safety chains

Always use safety chains between your vehicle and trailer.

#### Trailer lights

Trailer lights must meet all regulations. Do not connect the trailer light system directly to the light system of your vehicle. Be sure to check with your Volkswagen dealer for correct wiring, switches and relays.

#### Mirrors

Check that both sides of your trailer can be seen from the driver's seat. If necessary install extended rear-view mirrors.

### Operating instructions

#### Maximum trailer weight

A trailer for your vehicle is limited to a typical class 1 trailer. The maximum gross trailer weight and the tongue load must not exceed the specifications listed in the Technical Data section, page 157.

Do not exceed the gross vehicle weight which is the weight of the vehicle, including driver, passenger, luggage, trailer hitch and tongue weight of the loaded trailer.

#### Trailer load distribution

Be sure the load in the trailer is evenly distributed. Heavier objects should be placed as close to the trailer axle as possible.

All objects inside the trailer should be held securely in place to guard against shifting, be it forward, backward or sideways.

Never allow a passenger to ride in a moving trailer.

### Tongue load

For best vehicle handling under these changed conditions, adjust the trailer load so that the tongue load is at the maximum allowable or slightly lower. You can get an approximation of the tongue load with a bathroom scale or you may measure the load at a trucking company or weighing station.

### Tire pressure

When towing a trailer, inflate the tires of your vehicle to the cold tire pressure listed under "Full load" on the sticker on the right rear doorjamb. Inflate trailer tires to trailer and tire manufacturer's specifications.

### Lights

The headlight settings should be checked with trailer attached before driving off and adjusted as necessary.

Check proper working of vehicle and trailer lights.

### Safety chains

Be sure trailer safety chains are properly connected from trailer to the hitch on the vehicle. Leave enough slack in the chains to permit turning corners.

The chains should cross under the trailer tongue to prevent it from dropping in case of separation from the hitch.

### Driving instructions

To obtain the best possible handling of vehicle and trailer, please note the following:

- A "balanced" rig is easier to operate and control. This means that the tow car should be loaded to the extent possible and permissible while keeping the trailer as light as possible under the circumstances. Whenever possible transfer some cargo to the luggage compartment of the tow car while observing tongue load requirements (see left column) and vehicle loading considerations (see previous page).

- The higher the speed, the more difficult it becomes for the driver to control the "rig". Do not drive at the maximum permissible top speed. Reduce your speed even more under unfavourable road, weather or wind conditions – particularly when going downhill.

Be especially careful when passing other vehicles and trucks.

Reduce vehicle speed immediately if the trailer shows the slightest sign of swaying. Do not try to stop the swaying by accelerating.

Observe speed limits. In some areas speeds for vehicles towing trailers are lower than for regular vehicles.

- Always apply brakes early.

When driving downhill, shift into lower gear to use the engine braking effect to slow down the vehicle. Use of the brakes alone can cause them to overheat and fail.

- The cooling effect of the radiator fan cannot be increased by downshifting because the fan speed is independent of the engine speed. Therefore, when driving uphill you can always drive in the highest possible gear with low engine speed.

The coolant temperature gauge must be observed carefully. If the needle nears the upper end of the scale, reduce speed immediately or/and switch off the air conditioner.

If the warning light in the instrument cluster starts flashing, pull off the road, stop and let the engine idle for about 2 minutes to prevent a heat build-up.

### Trailer towing tips

Your vehicle handles differently when towing a trailer because of the additional weight and weight distribution. Safety, performance and economy will greatly depend on how carefully you load your trailer and operate your "rig".

Before you actually tow your trailer, practice turning, stopping and reversing in an area away from traffic until you learn the feel of your vehicle and trailer unit.

Backing-up is difficult and requires practice. Steering while backing-up is generally opposite of that when backing your vehicle without a trailer.

Maintain a greater distance between your vehicle and the one in front. You will need more room to stop.

To compensate for the trailer, you will need a larger than normal turning radius.

When passing remember that you cannot accelerate as fast as you normally would because of the added load. Make sure you have enough room to pass. After passing allow plenty of room for your trailer before changing lanes again.

Avoid jerky starts, sharp turns or rapid lane changes.

When parking always block the wheels of both vehicle and trailer. Do not park with a trailer on a slope. If it cannot be avoided do so only after the following:

- Apply foot brake.
- Have someone place wheel blocks under both vehicle and trailer wheels.
- With wheel blocks in place slowly release brakes until wheel blocks absorb the load.
- Turn wheels to curb.
- Apply parking brake.
- Place transmission in "P" for Automatic or in first or reverse gear for Manual Transmission.

If you move the selector lever of the Automatic transmission to "P" before applying the parking brake, and before blocking the wheels, you may require more force later to move the lever out of the "P" position.

When restarting after parking on a slope, reverse the procedure:

- Start the engine.
- Shift transmission into gear.
- Release the parking brake and slowly move away from the wheel blocks.
- Stop and have someone retrieve the wheel blocks.

### Notes

- **Do not tow a trailer during the break-in period of your vehicle.**
- If you tow a trailer, your Volkswagen may require more frequent maintenance due to the extra load – see also page 102.



## FUEL TANK

The fuel filler neck is located on the left side panel behind the fuel tank flap.

The key fits the lockable gas cap.


The capacity of the tank is approx. 21.1 gal/ 80 Liters (Reserve is approx 2.6 gal/ 10 Liters of total capacity).

When refuelling, hang the fuel filler cap on the fuel tank flap.

Trouble-free refuelling depends on the correct use of the filler nozzle.

Always insert the nozzle all the way into the fuel filler neck, to completely open the spring-loaded flap located just below the filler neck opening. Make sure the filler nozzle is not tilted.

Do not fill the fuel tank too quickly, otherwise the fuel may foam up and cause the nozzle to switch off too soon.

 ***As soon as the correctly operated nozzle switches off automatically for the first time, the tank is full. Do not try to add more fuel, because the expansion space in the fuel tank will be filled – the fuel can then overflow when it becomes warm and pollute the environment.***

To avoid fuel spilling or evaporating from the fuel tank always close fuel cap properly by twisting cap clockwise until it stops.


Lock the cap.

### WARNING

**Never carry additional fuel containers in your vehicle. Such containers, full or empty, may leak, cause an explosion, or result in fire in case of a collision.**

## VEHICLE CARE

### FUEL SUPPLY

 Use only unleaded fuel in your vehicle.

Your engine requires unleaded gasoline with a minimum octane rating of 87 AKI (CLC) or 91 RON (ROZ).

Do not use any fuel with octane ratings lower than 91 RON or 87 AKI.

Do not use leaded gasoline.

The use of leaded gasoline will severely damage your vehicle's catalytic converter and its ability to control exhaust emissions.

Unleaded gasolines are available throughout the continental USA, Canada, and in most European countries. We recommend you do not take your vehicle to areas or countries where unleaded gasolines may not be available.

#### Octane rating

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

The recommended gasoline octane rating for your engine can be found on a label located on the inside of the fuel tank flap. This rating may be specified as AKI (CLC) or RON (ROZ).

#### Explanation of the abbreviations:

ROZ = Research Oktan Zahl

RON = Research Octane Number

AKI = Anti Knock Index

CLC = Cost of Living Council

The AKI (Anti-knock Index) or CLC (Cost of Living Council) octane ratings are normally displayed on gasoline station pumps in the USA and Canada and are calculated as follows:

RON (Research Octane Number) plus MON (Motor Octane Number), divided by 2.

$$\text{AKI (CLC)} = \frac{\text{RON} + \text{MON}}{2}$$

According to this calculation, gasolines most commonly used in the USA and Canada have the following octane ratings:  
Premium Grade: 91–96 AKI  
Regular Grade: 87–90 AKI

**Use of Gasoline Containing Alcohol or MTBE (methyltertiary butyl ether)**

You may use unleaded gasoline blended with alcohol or MTBE (commonly referred to as oxygenates), if the blended mixture meets the following criteria:

#### ■ Blend of gasoline methanol (wood alcohol or methyl alcohol)

- Anti-knock index must be 87 or higher.
- Blend must contain no more than 3 % methanol.
- Blend must contain more than 2 % CO-solvents.

#### Note

**Methanol fuels which do not meet these requirements, may cause corrosion and damage to plastic and rubber components in the fuel system.**

#### ■ Blend of gasoline and ethanol (grain alcohol or ethyl alcohol)

- Anti-knock index must be 87 or higher.
- Blend must not contain more than 10 % ethanol.

#### ■ Blend of gasoline and MTBE

- Anti-knock index must be 87 or higher.
- Blend must contain not more than 15 % MTBE.

## LEAVING ARI PROTECTION

### General note

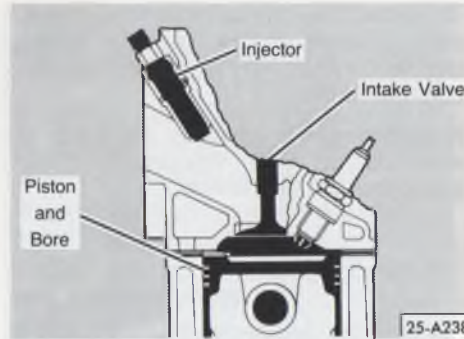
- Do not use fuels that fail to meet the criteria specified above.
- Do not use fuel for which the contents cannot be identified.
- Fuel system damage and performance problems resulting from the use of fuels different from those specified above are not the responsibility of Volkswagen and are not covered under the New Vehicle of the Emission Control System Warranties.

■ If you experience a loss of fuel economy or driveability and performance problems due to the use of one of these fuel blends, we recommend that you switch to unblended fuel.

■ If you are unable to determine whether or not a particular fuel blend meets the specification above, ask your service station or its fuel supplier.

### Seasonally adjusted gasoline

Many gasolines are blended to perform especially well for winter or summer driving. During seasonal change-over, we suggest that you fill up at busy gas stations where the seasonal adjustment is more likely to be made in time.

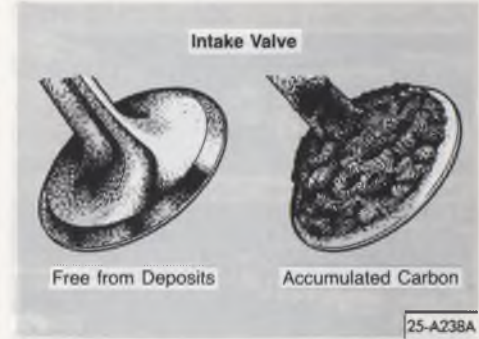


### Gasoline additives

A major concern among many auto manufacturers is carbon deposit build-up caused by the type of gasoline you use.

Although gasolines differ from one manufacturer to another, there is a common thread. All gasolines contain properties that can cause deposits to collect on essential engine components, specifically fuel injectors and intake valves. Although most gasoline brands include additives to keep engine and fuel systems clean, they are not equally effective.

After an extended period of using inadequate fuels, built-up carbon deposits can rob your engine of peak performance. And carbon deposits like those in the illustra-



tion can lead to other engine performance problems such as:

- unstable idling
- surging
- misfiring
- power loss
- engine run-on
- engine pinging or knocking

If these problems continue over a long period of time, engine damage can be a result.

Damage or malfunction due to poor fuel quality is not covered by the Volkswagen New Vehicle Limited Warranty.

## VEHICLE CARE

Fuel Injector Good Spray Pattern



Fuel Injector Poor Spray Pattern



### Recent fuel developments

Over the past few years, we have seen a great increase in gasoline manufacturer's advertising the use of detergent additives. Many additives are primarily intended to keep fuel injectors clean.

However, they are not all equally effective in reducing carbon deposit build-up on intake valves. We are aware that, as of the time of printing, some manufacturers advertise and sell gasoline that contains the proper deposit control additives that will keep intake valves and injectors clean.

To assure the long term performance of your vehicle's engine, you should use gasoline brands that include these deposit control additives.

If gasolines with additives are not available, contact your Volkswagen dealer about proper fuel additives.


## CLEANING AND PROTECTION

Any automobile is subjected to abuse from industrial fumes, corrosive road salt, abandoned lollipops, muddy dog feet, etc., to name just a few. A well cared for Volkswagen can look like new many years later. Regular and correct care will contribute to maintaining the beauty and the value of your Volkswagen.

**Furthermore, this may be a condition for upholding a warranty claim should corrosion damage or paint defects occur.**

Your Volkswagen dealer has a number of vehicle-care products and can advise you which ones to use for cleaning the exterior and interior of your vehicle.

Whether you use Volkswagen recommended products or other commercially available cleaning agents, make sure first of their correct application.

 **Select only environmentally friendly cleaning products. Any remaining cleaning products do not belong in the household wastes.**

### WARNING

- **Cleaning agents may be poisonous. Keep them out of the reach of children.**
- **Observe all caution labels.**
- **Always read directions on the container before using any product.**
- **Most chemical cleaners are concentrates which require dilution.**
- **Only use spot removing fluids in well ventilated areas.**
- **Do not use gasoline, kerosene, naphtha, nail polish remover or other volatile fluids. They may be toxic, flammable or hazardous in other ways.**

## Care of exterior

### Washing

The best protection against environmental influences is frequent washing and waxing.

How often this is required depends on how much the vehicle is used, where it is parked (garage, in the open under trees etc.), the seasons, weather conditions and environmental influences. The longer bird droppings, insects, tree resin, road and industrial grime, tar, soot, road salt and other materials remain on the vehicle paint, the more lasting their destructive effect will be. High temperatures, e. g. from strong sun light intensifies the corrosive effect.

Under certain circumstances weekly washing may be necessary. Under other conditions, a monthly washing and waxing may be adequate.

After the winter the underside of the vehicle should be thoroughly washed.


### Automatic car wash

The vehicle paint is so durable that the vehicle can normally be washed without problems in an automatic car wash. However, the effect on the paint depends to a large extent on the design of the facility, the filtering of the wash water, the type of wash and care material, etc. If the paint has a dull appearance after going through the car wash or is scratched, bring this to attention of the operator immediately. If necessary use a different car wash.

### Notes

- Before going through a car wash be sure to take the usual precautions such as closing the windows and sliding roof and retracting the radio antenna. The Volkswagen roof antenna does not have to be removed.
- If you have installed additional accessories on the vehicle – such as spoilers, roof rack, etc. – it is best to ask the car wash operator if these should be removed.

### Washing the vehicle by hand

 *In the interest of the environment the vehicle should only be washed in special wash bays.*

First soften the dirt with plenty of water and rinse off as well as possible.

Then clean the car with a soft sponge, glove or brush starting on the roof and working down using only slight pressure. Special car wash soap should only be used for very persistent dirt.

Rinse the sponge or glove thoroughly often.

Clean wheels and sill panels last, using a different sponge if possible.

After washing the vehicle, rinse thoroughly with water and wipe it off.

### Notes

- Do not wash the vehicle in direct sunlight.
- If the vehicle is rinsed with a hose, do not direct the water into the look cylinders – otherwise they may freeze up in the winter.

### WARNING

- Do not wash, wax or dry the vehicle with the engine running.
- Do not clean the underside of chassis, fenders, wheel covers, etc., without protecting your hands and arms. You may cut yourself on sharp-edged metal parts.
- Moisture and ice on brakes may affect braking efficiency. Test the brakes carefully after each vehicle wash.

### Washing your vehicle with a power washer

If you use a power washer, please note the following:

- Always follow the operating instructions for the power washer – especially for pressure and spraying distance.
- Make sure that the jet on the spray hose produces a “fan shape” spray. Do not use a jet which sprays the water out in a direct stream or one that has a rotating jet.
- The water temperature should not exceed 140° F (60° C).

### WARNING

**Never wash tires with a jet that sprays the water out in a direct stream. This could damage the tires – even if they are sprayed from a relatively large distance for a very short amount of time.**

## Waxing

■ A good wax coating protects the vehicle paint to a large extent against the environmental influences listed under "Washing" and even against light scratches.

■ When water does not form small drops and roll off clean paint, apply a coat of good hard wax. Even if a wax solution is used regularly when washing your vehicle, it is advisable to protect the paint with a coat of hard wax at least twice a year.

## Polishing

Polish your vehicle only if the paint has lost its shine and the gloss cannot be brought back with wax. If the polish used does not contain preservative compounds, the paint must be waxed afterwards.

## Note

**Do not treat matt painted and plastic parts with polish.**

## Touch-up paint

Your Volkswagen dealer has touch-up paint for minor scratches and stone chips. Scratches should be touched up soon after they occur to prevent corrosion. If corrosion formation becomes visible, however, a simple touch-up job will not suffice. The affected surface must be smoothed with sand paper and covered with an anti-rust primer, before restoring the painted finish.

The number for the original vehicle paint can be found on the vehicle identification label.

## Windows

Clean all windows regularly to remove road film and car-wash wax buildup. Use a lukewarm soap water solution or an alcohol base commercial window cleaning agent. If a chamois is used for polishing the glass, it should exclusively be used for that purpose.

Also, be sure to clean all windows regularly on the inside.

Use a plastic scraper to remove snow and ice from windows and mirrors. To prevent dirt from scratching the window, always scrape in a forward direction – never back and forth.

In order not to damage the **wires of the rear defogger**, do not place any adhesive stickers in the inside of the rear window over the wires.

## Weatherstrips

**Keep silicone sprays off the windshield to avoid wiper smear in rain.**

To seal properly, weatherstrips around hood, rear lid, doors, etc., must be pliable. Spray with silicone or coat with talcum powder or glycerine to retain flexibility of the rubber and to protect against freezing in the winter.

### Dull finishes and plastics

Plastic parts, such as light bulb lenses, decorative stripes, panels, bumpers, etc., will come clean with regular washing. Should additional cleaning or spot removal be necessary, use a soft brush or cloth soaked with a mild detergent solution. Then rinse thoroughly and immediately with clear water.

**Do not use anything which could mar the finish of the plastic or dull finished surfaces, such as wax, polish, abrasive detergents or chemical cleaning solvents.**

### Bright metal trim

Bright or black anodized trim will come clean with regular washing. To protect metal trim, use car wax. Remove spots or dirt from chrome and stainless steel with a chrome cleaner. Apply a chrome polish for continued luster and protection.

### Steel wheels

Always include the hub caps and wheel rims when washing your vehicle to remove road dirt, salt sprays and brake dust. If necessary, use a commercial wheel cleaner to remove accumulated brake dust. Paint scratches should be touched up to prevent corrosion.

### Light alloy wheels

To preserve the decorative appearance of the light aluminium cast, some special care is necessary. In addition to road dirt and salt sprays, brake dust is also corrosive. If left on too long, brake dust can cause pitting. Wash the wheels with a sponge or hose brush every other week. Road salt should be removed weekly with an acid free cleaning solution. Every three months (after regular cleaning) the wheels should be coated with petroleum jelly or car wax. Rub it in firmly with a soft cloth. Never use abrasive or metal polishing cleaning agents.

### WARNING

**When washing wheels, remember that moisture, ice and road salt on brakes may affect braking efficiency. Test the brakes carefully after each washing. Heed WARNING on page 39.**



## Care of interior

### Glass

Use the same cleaning agents as for exterior and polish dry.

### Fabric

Use a vacuum cleaner or a soft bristle brush to remove dust and loose dirt from carpeting, upholstery, headliner and other trim. Dirt stains can usually be removed with lukewarm soapy water or all purpose cleaner solution, or a dry foam cleaner. For greasy, oily and other stubborn stains, use a spot remover. Do not pour the liquid on the fabric. Dampen a clean cloth and rub carefully, starting at the edge and working inwards.

### Plastic and vinyl

Use a clean, damp cloth or sponge to remove dust. For other soil, use a lukewarm all purpose cleaning solution or a mild saddle soap for vinyl trim. Remove water spots and soap traces with a clean, damp cloth or sponge. Use a clean, soft cloth to rub dry.

Grease, tar or oil stains can be removed with a clean cloth or sponge soaked with all purpose cleaner or with a solvent type vinyl cleaning agent.

Occasionally apply a colorless vinyl or leather preservative to retain the material's luster and pliability.

### Cleaning and care of leather upholstery

Volkswagen does everything possible to preserve the special qualities of natural leather upholstery. When treating the hides, care is taken to avoid all processes which could impair the natural advantages of the material which make for extra comfort. Because of the exclusive nature of the hides selected and the natural properties of the leather, this kind of upholstery requires a certain amount of care in everyday use since the leather is sensitive to oil, grease and dirt or wet clothing etc. If it is given regular attention the leather upholstery will retain its high quality for many years.

Dust and small particles of dirt lodging in the pores, grain and seams can have an abrasive effect and damage the surface. If the car is left standing for a long time in the sun, cover the upholstery or use the sun blinds to protect the leather from direct sunlight and prevent fading or discoloration.

Depending on the amount of use, clean leather occasionally according to the following instructions. **Never use solvents, wax polish, shoe cream, spot removers or similar materials.**

For normal cleaning of leather-covered steering wheels, leather seat upholstery, etc., slightly moisten a cotton or woollen cloth with water and wipe over the areas affected.

More stubborn dirt can be removed using a mild soap solution (pure liquid soap: two teaspoons dissolved in 1 quart of water). **It is very important not to let the water soak through the leather or penetrate into the seams.** Then wipe off with a soft, dry cloth.

In addition to this regular cleaning it is worthwhile treating the leather with a suitable leather-care product. This should be done about twice a year for upholstery in normal use. Apply these products very sparingly indeed, and wipe off with a soft cloth after leaving for some time to take effect.

## VEHICLE CARE

### Safety belts

Keep belts clean. Very dirty belts may not retract properly.

For cleaning, use a mild soap water solution. Let belts dry thoroughly and away from direct sunlight.

Do not allow inertia reel safety belts to retract before they are completely dry.

#### WARNING

■ Do not use chemical cleaning agents, bleach or dyes. They contain corrosive properties which weaken the webbing.

■ When cleaning your safety belts, inspect them at the same time for damage. If you discover damage, see your dealer.

■ Do not remove belts from the vehicle to clean them.

### Engine Compartment

#### WARNING

Before working in the engine compartment, be sure to read the information on page 105.

The engine compartment and transmission have been corrosion protected at the factory – see also “Corrosion Protection” on the next page.

Good anti-corrosion treatment is very important, particularly in the winter. If the vehicle is frequently driven on salted roads, the entire engine compartment and plenum panel should be thoroughly cleaned at the end of winter and retreated so that the salt cannot have a damaging effect. At the same time, the underside of the vehicle should be washed as well.

Always switch off the ignition before washing the engine.

To prevent damage to the ventilation/heating system the jet from the cleaning appliance must not be directed into the intake openings for the heating and ventilation. The openings are located above the air cleaner.

If the engine compartment is cleaned at any time with grease removing solutions<sup>1)</sup>, or if you have the engine washed, the anti-corrosion treatment is almost always removed as well. It is therefore essential to ask for a long lasting corrosion protection of all surfaces, seams, joints and components in the engine compartment.

#### Note

Your authorized Volkswagen dealership stocks the cleaning and preservation solutions recommended by the factory for this purpose and has the equipment necessary to apply them.

<sup>1)</sup> Use only the correct cleaning solutions. Never use gasoline or Diesel.

## CORROSION PROTECTION

The engine compartment, as well as all engine, transmission, front and rear axle assembly surfaces have been treated at the factory with a wax based coating for protection against corrosion. However, we recommend that you have the engine compartment and the underside inspected twice a year for any damage to the protective coating preferably before and after the winter season. Have necessary repairs done as soon as possible. See your dealer.

**WARNING**

**Do not apply additional undercoating or rustproofing on or near the exhaust manifold, exhaust pipes, catalytic converter or heat shields. During driving, the substance used for undercoating could overheat and cause a fire.**

**Engine Compartment**

If it becomes necessary to steam clean or wash the engine compartment, the wax based protective coating is usually lost. It is therefore important to reapply this protective coating to all engine compartment panels, flanges, cavities, seams and engine assembly surfaces.

When washing the engine compartment, only use commercially available grease cutting solvents made especially for this purpose. Carefully follow directions printed on the container by the manufacturer.

**WARNING**

**Never use gasoline, Diesel fuel or solvents which could damage rubber parts or painted surfaces and could cause a fire.**

**Chassis**

The lower body shell of your Volkswagen is thoroughly protected against corrosion. Any damage to the undercoating, due to road hazards, should be repaired promptly. Oil based protective sprays must not be applied. Only tar or wax based anti-corrosion protectors are compatible with the factory applied undercoating. Before application, road dirt, salt spray deposits and oily substances must be removed.


Whenever the lower body shell, axle, transmission or engine assemblies have been repaired, the lost anti-corrosion coating of the affected surfaces should be reapplied.

Your Volkswagen dealer has the appropriate materials, the necessary equipment and is familiar with the application procedure. Therefore, any additional corrosion protection work should be performed by a Volkswagen dealer.

**Body cavity sealing**

All body cavities which could be affected by corrosion have been given thorough protection at the factory.

This sealing does not require any inspection or additional treatment. If any wax should seep out of the cavity when the ambient temperature is high, it can be removed with a plastic scraper and a suitable solvent.


 ***If you use benzine for removing the wax, keep sparks, flame and lighted cigarettes away. Never dump benzine on the ground, into open streams or down sewage drains. Be sure to observe all safety and environmental regulations.***

## VEHICLE CARE

### MAINTENANCE

Your vehicle has been designed to help keep maintenance requirements to a minimum.

However, a certain amount of regular maintenance is still necessary to assure your vehicle's safety, economy and reliability.

 ***By regularly maintaining your vehicle, you assure that emission standards are maintained thus minimizing adverse effects on the environment.***

**Maintenance Service is required every 12 months or every 15,000 miles (24,000 kilometers), whichever occurs first.**

In addition, it is necessary to perform an oil change 6 months after each Maintenance Service, or after each 7,500 miles/12,000 kilometers whichever occurs first.

The first oil change must be performed 6 months after the delivery of the vehicle or after 7,500 miles/12,000 kilometers.

**Under difficult operating conditions**, for example at extreme low outside temperatures, in very dusty regions, towing a trailer very frequently, etc., some service work should be performed between the intervals specified.

This applies particularly to:

- oil changes, and
- cleaning or replacing the air filter.

### **Important Considerations for You and Your Vehicle:**

The increasing use of electronics, sophisticated fuel injection and emission control systems together with the generally increasing technical complexity of today's automobiles has steadily reduced the scope of maintenance and repairs which can be carried out by vehicle owners. **Also, safety and environmental** concerns place very strict limits on the nature of repairs and adjustment on engine and transmission parts which an owner can perform.

Maintenance, adjustments and repairs usually require special tools, testing devices and other equipment by specially trained workshop personnel in order to assure proper performance, reliability and safety of the vehicle and its many systems.

Improper maintenance, adjustments and repairs can impair the operation and reliability of your vehicle and even void your vehicle warranty. Therefore, proof of servicing in accordance with the maintenance schedule may be a condition for upholding a possible warranty claim made within the warranty period.

Above all, operational safety can be adversely affected creating unnecessary risks for you and your passengers.

If in doubt about any servicing, have it done by your Volkswagen dealer or any other properly equipped and qualified workshop. However, we strongly urge you to give your authorized Volkswagen dealer the opportunity to perform all scheduled maintenance and necessary repairs. He has the facilities, original parts and trained specialists to keep your vehicle running properly.

## ENGINE COMPARTMENT

The following pages describe a limited number of procedures which can be performed on your vehicle with ordinary tools, should the need arise and trained personnel be unavailable. Before performing any of these procedures, always thoroughly read all of the applicable text and carefully follow the instructions given. Always rigorously observe the WARNINGS provided.


## WARNING

- **Serious personal injury may occur as a result of improperly performed maintenance, adjustments or repairs.**
- **The engine compartment of any motor vehicle is a potentially hazardous area.**
- **Do not attempt any of the maintenance, checks or repairs described on the following pages if you are not fully familiar with these or other procedures with respect to the vehicle, or are uncertain as to how to proceed. Have the necessary work done by your Volkswagen dealer or any other properly equipped and qualified workshop.**

■ **Always support your vehicle with safety stands if it is necessary to work underneath the vehicle. The jack supplied with the vehicle is not adequate for this purpose.**

■ **If you must work underneath the vehicle without safety stands but with the wheels on the ground, always make sure the vehicle is on level ground, that the wheels are always securely blocked and that the engine cannot be started. Always remove the ignition key.**

■ **Always be extremely careful when working on the vehicle. Always follow commonly accepted safety practices and general common sense. Never risk personal injury.**

 ***If you change the engine settings, this will adversely affect the emission values. This is detrimental to the environment and increases fuel consumption.***

***Always observe environmental regulations when disposing of old engine oil, used brake fluid, dirty engine coolant, spent batteries or worn out tires.***

## VEHICLE CARE

### ENGINE HOOD



**To unlock**, pull the release lever on the left under the instrument panel. The hood will lift up slightly under spring pressure.



**To open:** press the red safety catch (arrow).

Lift the hood all the way up until the hood support locks into place.

#### Note

Before opening the engine hood, make sure that the windshield wipers are folded flat against the windshield. Otherwise, they could damage the paint on the hood.



**To close:** Slightly lift the engine hood and pull the hood support forward – see illustration. Let hood fall into locks from a height of about 1 foot (30 cm).

#### WARNING

**The engine hood must always be securely closed when driving. After closing the engine hood, try to pull hood up to check that it is securely latched.**

Should you notice at any time while driving that the hood is not secured properly, stop at once and close it.

## ENGINE COMPARTMENT



Page

1 – Windshield washer container . . .	124
2 – Power steering reservoir . . . . .	114
3 – Engine oil filler cap . . . . .	108
4 – Engine oil dipstick . . . . .	107
5 – Coolant expansion tank . . . . .	115
6 – Brake fluid reservoir . . . . .	120
7 – Battery . . . . .	121

Always exercise extreme caution when working under the engine hood

### WARNING

Before you check anything under the hood:

- Switch off engine – remove ignition key.
- Always fully set the parking brake, move selector lever to P (Automatic transmission) or Neutral (manual transmission).
- Always let the engine cool down. Hot components will burn skin on contact.
- Never spill fluids on hot engine components. These fluids can cause a fire.
- Never touch the radiator fan, it is temperature controlled and can switch on suddenly – even when the ignition is off.
- If work on the fuel system or the electrical system is necessary:
  - Always disconnect the battery
  - Never smoke or work near heaters or open flames.
  - Always keep an approved fire extinguisher immediately available.

■ Be especially careful if the engine is running.

- Always fully set the parking brake, move selector lever to P (Automatic transmission) or Neutral (manual transmission)
- Always exercise extreme caution to prevent neckties, jewelry, long hair or loose clothing from getting caught in the radiator fan or V-belts or other moving parts.
- To avoid electrical shock and personal injury while the engine is running or being started never touch
  - ignition cables
  - other components of the high voltage electronic ignition system.

When adding fluids always make sure that they are poured into the proper container or filler opening, otherwise serious damage to vehicle systems will occur.

## VEHICLE CARE

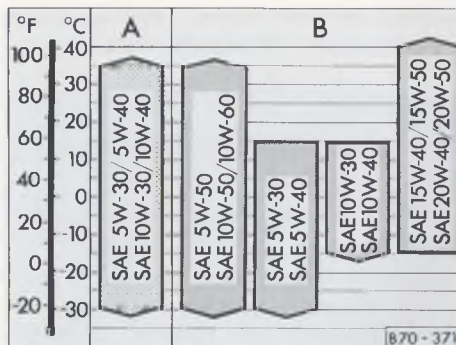
### ENGINE OIL

#### Specification and viscosity

Your engine was factory filled with an all-season high quality engine oil. If you need to add oil between oil changes use any high quality petroleum or synthetic based oil with correct specifications.

The following term must appear on the oil container singly or in combination with other designations: "API Service SF or SG".

Engine oils are graded according to their viscosity. The proper grade to be used in your engine depends on existing climatic or seasonal conditions.



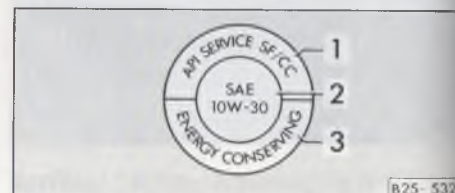
A = Energy conserving oil  
B = Multi grade oil

Refer to the temperature chart when selecting engine oil. As temperature ranges of the different oil grades overlap, brief variations in outside temperatures are no cause for alarm. It is also permissible to mix oil of different viscosities if you find it necessary to add oil.

When using SAE 5W-30 engine oil, avoid high speed long distance driving if outside temperature rises above the indicated limits.

#### Engine Oil Identification Symbol

Select an oil for your vehicle which conforms to the standards of the American Petroleum Institute (API). A symbol has been added to the top of some oil containers to help you select the correct oil.



- (1) The top portion indicates the oil quality by API designations.
- (2) The center portion shows the SAE oil viscosity grade.
- (3) The lower portion indicates that the oil has fuel saving capabilities.

#### Engine oil additives

Volkswagen does **not** recommend the use of oil additives. They may adversely affect your warranty.



## Engine oil consumption

It is normal for your engine to consume oil. The rate of oil consumption depends on the quality and viscosity of oil, the speed at which the engine is operated, the climate, road conditions as well as the amount of dilution and oxidation of the lubricant.

Because of these variables, no standard rate of oil consumption can be established, but drivers should expect an increased oil consumption at high speeds and when the engine is new.

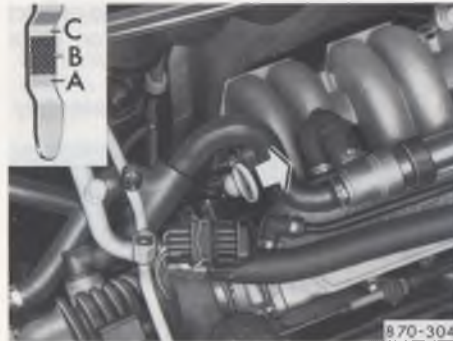
■ **The engine in your vehicle depends on oil to lubricate and cool all of its moving parts. Therefore the engine oil should be checked regularly and kept at the required level.**

■ **Make it a habit to have the engine oil level checked with every fuel filling.**

■ **Lack of sufficient engine oil may lead to severe engine damage.**

■ **The oil pressure warning light is not an oil level indicator.**

**Always heed WARNINGS on page 104.**



## Checking the engine oil level

The best time to check the engine oil level is when the oil is warm.

To get a true reading, the vehicle should be on level ground.

■ **After turning off the engine, wait a few minutes for the oil to return to the oil pan.**

■ **Pull out dipstick (arrow) and wipe it clean with a rag.**

■ **Reinsert dipstick; push it all the way in.**

■ **Pull dipstick out again and read the level:**

A – You **must** fill the oil. After filling the oil, make sure that the oil level is somewhere within the B range.

B – You **can** fill the oil. It can happen that the oil level goes into the C range.

C – You **must not** fill the oil.

■ **Make sure that the dipstick is pushed in all the way.**

### Note

If your oil dipstick does not have the notches showing the different ranges, then the top and bottom marks on the dipstick serve as the MAX and MIN range. The oil level must be between both marks. If the oil level goes down to the MIN mark, you must add oil. Do not exceed the MAX marking.



### Adding engine oil

- Turn off the engine.
- Unscrew cap (arrow).
- Add oil by half quarts (liter) at a time.
- After doing this, check the oil level using the dipstick.

The oil level must never be above the C range. Otherwise, the excess oil may be drawn in through the crankcase breather and finally get into the exhaust system. The oil would then burn in the catalytic converter and cause damage.

Always select a quality oil with the correct specification. See "Lubricants" on page 106.

- Replace cap and hand tighten securely.

### WARNING

The oil filler cap must be secure to avoid oil spill which is a fire hazard.

### Changing the engine oil

Have your engine oil changed regularly, but at least twice a year (see Maintenance booklet).

This is very important because the lubricating properties of oil diminish gradually during normal vehicle operation.

If you drive mostly short distances, or if you operate the vehicle in dusty areas, or under predominantly stop-and-go traffic conditions, or when temperatures remain below freezing for extended periods, the engine oil should be changed more frequently.

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 there is no reason to change the oil more often than recommended by the manufacturer.

### WARNING

■ Drain the oil into a container that is designed for this purpose, one that is large enough to hold at least the oil filling of your engine.

■ 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.

■ 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.

Always heed WARNINGS on pages 103 and 105.

**Before changing your oil, first make sure you know where you can properly dispose of the old oil.**

**Always dispose of used engine oil properly. Do not dump it on garden soil, in wooded areas, into open streams or down sewage drains.**

**Recycle used engine oil by taking it to a used engine oil collection facility in your area, or contact a service station.**

**Because of the problem of proper disposal, along with the special tools and necessary expertise required, we strongly recommend that you have your oil changed by a Volkswagen dealer or a qualified workshop.**

- Turn off the engine.
- Remove the oil drain plug when the engine is still warm and allow the oil to drain.
- Always use a new gasket when reinstalling the plug. Do not overtighten.
- Fill the engine with oil. **Do not overfill.** Always check engine oil level with dipstick as described on page 107.

Engine oil capacity is listed under "Capacities", page 155.

**Always heed WARNINGS on pages 103 and 105.**

## VEHICLE CARE

### ENGINE OIL FILTER

#### Changing the oil filter

The oil filter should be changed at the intervals listed in your Maintenance booklet.

For access to the engine oil filter the body panel on the bottom of engine compartment has to be removed.

■ Remove old oil filter element and discard properly.


■ Lightly coat seal of new filter element with oil.

■ Screw on filter element and hand-tighten according to manufacturer's instructions on the carton or on the filter element. Unless installed very carefully according to the instructions, the filter may leak which could seriously damage the engine and pollute the environment.

■ Fill engine with appropriate amount of engine oil.

■ Run engine at various speeds for three to five minutes and check for leaks.

■ Check dipstick for correct oil level, top up if necessary.

 ***Because of the problem of proper disposal, along with the special tools required and the necessary expertise, we strongly recommend that you have your oil filter changed by a Volkswagen dealer or a qualified workshop.***

**Always heed WARNINGS on pages 103 and 105.**

## TRANSMISSION FLUIDS

## Specifications

## Manual transmission with final drive

- Transmission oil SAE 80 (Mil-L-2105 or API/GL14) or
- Synthetic transmission oil G 50, SAE 75 W-90.

## Automatic transmission

- Final drive: Synthetic transmission oil G 50, SAE 75 W-90
- Torque converter: ATF Dexron® or Dexron® II.

## Checking oil level

On Manual transmission with final drive, the oil does not need to be checked.

On the Automatic transmission, the oil level in the final drive also does not need to be checked.

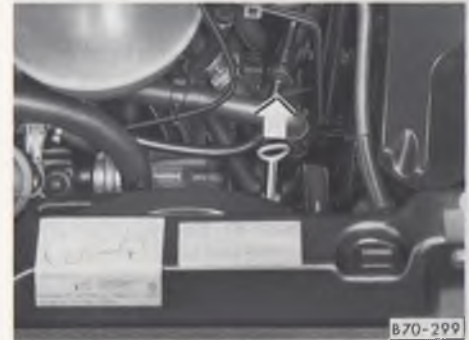
However, you must check the ATF level in the torque converter between the maintenance intervals specified in the Maintenance booklet.

To obtain an accurate reading, the vehicle must be on level ground. Check the level only when the ATF is **warm**. (The ATF is warm after driving the vehicle for approximately 6 miles or 10 kilometers). If the fluid is cold or too hot, the reading will be incorrect.

The engine must be running at idle, with the parking brake firmly applied and the selector lever in P (Park).

## WARNING

- Before checking the ATF, the selector lever must be in the Park position and the parking brake applied firmly.
- Checking the ATF level is potentially hazardous because the hot engine has to be running during the check. Do not attempt to check the ATF before reading all WARNINGS on page 105.



To check, pull the dipstick out, wipe it off with a clean lint-free rag, and reinsert it completely.


Then, pull the dipstick out once again and check the ATF level. **The level must be between the two marks.** If not, then contact your Volkswagen dealer immediately to determine the cause. It is not sufficient to simply add more ATF.

## VEHICLE CARE

### Changing transmission oils

**On Manual transmission with final drive,** the oil does not need to be changed.

**On the Automatic transmission,** the oil level in the final drive also does not need to be changed. However, the ATF in the transmission must be changed according to the intervals specified in the Maintenance booklet.

 **Because of the problem of proper disposal, along with the special tools required and the necessary expertise, we strongly recommend that you have your ATF fluid changed by your Volkswagen dealer.**

### Notes

- Do not tow the vehicle or run the engine without lubricant in the Manual or Automatic transmission.
- Do not use any transmission fluid additives.

## AIR CLEANER

A dirty filter element not only reduces the engine output and increases fuel consumption considerably but can also cause premature engine wear.

Normally, it is not necessary to service the air cleaner more often than recommended in the Maintenance booklet. If the vehicle is driven on very dusty roads, the air cleaner must be serviced more frequently even daily.

**The paper filter element must never be cleaned or soaked with gasoline, cleaning solvents or oil.**



## Cleaning or replacing the filter

- Disconnect the clip holder (1).
- Push the locking handle (2) down and unhook.
- Remove the filter housing upwards.
- Remove the filter.
- Clean the filter with compressed air, or replace it if necessary. Never clean the insert with gasoline or coat it with oil.

## Installing

- Replace the filter housing. When doing this make sure that the plastic tabs on the back of the housing fit properly into the openings in the mounting.
- Close the clip holder (1).
- Pull the locking handle (2) up until it latches into place.

## VEHICLE CARE

### POWER STEERING\*



The fluid reservoir is located in the engine compartment.

The power steering is filled with VW Hydraulic oil No. G 002 000.

A correct fluid level in the reservoir is important for the proper functioning of power steering.

With the engine running and the wheels in straight-ahead position, the fluid level in the power steering system must be checked at regular intervals.

The fluid level should always be between the "max" and "min" markings. If the level should go below the "min" marking, have the power steering system inspected by your Volkswagen dealer. It is not sufficient to just add hydraulic fluid.

#### Notes

■ Since the hydraulic fluid also functions as a lubricant, serious damage to the pump and to other components of the system could result if there is insufficient hydraulic fluid in the system.

■ Be sure not to confuse brake fluid and hydraulic fluid. If the wrong fluid is used, the power steering system may fail.

■ If the power steering system should fail, or if the engine is not running (for example while being towed), you will still be able to steer the vehicle. However, more effort will be required.

Always heed WARNINGS on page 105.



## COOLING SYSTEM

The cooling system is sealed and generally requires little attention.

The cooling system has been filled at the factory with a permanent coolant which does not need to be changed. The coolant consists of a mixture of water and the manufacturer's coolant additive G 11 V8B -antifreeze on glycol basis with anticorrosion additives (40 % for USA models; 50 % for Canadian models). This mixture assures the necessary frost protection and protects, above all, the alloy components in the cooling system from corrosion and scaling, and raises the boiling point of the coolant.

Do not reduce the concentration of the coolant in the summer by adding plain water. **The coolant additive proportion must be at least 40% but not more than 60 %** to maintain the antifreeze protection and the cooling efficiency.

For year round driving, antifreeze is added at the factory for temperatures down to:

–13° F/–25° C (USA)

–31° F/–35° C (Canada)

Use only the approved type of antifreeze, which is available from your Volkswagen dealer.

**Other types of anti-freeze can significantly reduce corrosion protection. The resulting corrosion can cause a loss of coolant and therefore serious engine damage.**

### Checking the coolant level

The coolant expansion tank is located on the left side in the engine compartment, as seen in driving direction.

#### WARNING

**To reduce the risk of being burned, never open the hood if you see or hear steam or coolant escaping from the engine compartment. Wait until no steam or coolant can be seen or heard before carefully opening the hood.**

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

Therefore, check the coolant level regularly – preferably at every fuel filling.

To obtain an accurate reading, the engine must be switched off.



Since the expansion tank is transparent, the cap need not be removed to check the coolant level.

The coolant level must be between the MIN. and MAX. marks when the engine is cold and can be slightly above the MAX. mark if the engine is warm.

If the expansion tank in your vehicle is equipped with an electric coolant level checking device, you will recognize how it is wired into the expansion tank top, as illustrated above.

When the coolant level is too low, the warning light (see page 52) will flash until the coolant level has been restored to normal.

**Always heed WARNINGS on page 105.**

### Coolant losses

Coolant losses may indicate a leak in the cooling system. In the event of coolant losses, the cooling system should be inspected immediately by your Volkswagen dealer. It is not sufficient merely to add coolant.

In a sealed system, losses can only occur if the boiling point of the coolant is exceeded as a result of overheating.

Overheating can occur if:

- the flow of air to the radiator is obstructed by leaves, dust, insects or by additional lights installed in front of the radiator grille;
- the boiling point of the coolant has been reduced due to an incorrect mixture of coolant and water – see previous page;
- the radiator fan is not working – see “Radiator fan”, or;
- the vehicle is been driven up a long hill in a low gear with engine speed very high and at very high ambient temperature – see “Radiator fan”.

If the cause for the overheating cannot be determined and corrected, contact your Volkswagen dealer immediately, otherwise serious engine damage could occur.

**Always heed WARNINGS on page 105.**

### Adding coolant

#### WARNING

Reduce the risk of scalding from hot coolant by following these steps.

- Turn off the engine and allow it to cool down. The cooling system is under pressure.
- Protect face, hands and arms by covering the cap with a large, thick rag to protect against escaping fluid and steam.
- Turn the cap slowly and very carefully in a counter-clockwise direction while applying light, downward pressure on the top of the cap.

If, in an emergency, only water can be added, the correct ratio between water and antifreeze (see previous page) must be restored as soon as possible.

If you have lost a considerable amount of coolant, then you should add cold antifreeze and cold water only when the engine is cold.


**Do not fill above the MAX. mark.**

Excess coolant will be forced out through the pressure relief valve in the cap when the engine becomes hot.

**Screw cap on again tightly.**

#### WARNING

Antifreeze is poisonous. Always store antifreeze in its original container and well out of the reach of children. If you drain the coolant, it must be caught and safely stored.

 *Drained coolant should normally not be reused. Always dispose of used coolant observing all environmental regulations.*

## Radiator fan

The electric radiator fan is controlled by thermostwitches from the coolant and engine compartment temperature.

### WARNING

**Never touch the radiator fan, it is temperature controlled and can switch on suddenly – even when the ignition is off.**

The radiator fan switches on automatically when the coolant reaches a certain temperature and will continue to run until the coolant temperature drops. This may last up to about 10 minutes.

### Notes

- If the radiator fan does not come on when the coolant temperature is very high, check the fuse and replace it if necessary – see page 141.
- The speed of the radiator fan does not depend on the engine speed, therefore cooling effect cannot be increased by downshifting. As long as the engine runs smoothly and driving an uphill road does not considerably reduce speed, there is no need to downshift.

## Winter operation

At the beginning of the winter season, have the coolant checked for antifreeze concentration. If you have to add, only use quality phosphate-free antifreeze containing ethylene glycol which is available at your Volkswagen dealer.

The ratio between water and antifreeze depends on the anticipated outside temperatures.

**Always heed WARNINGS on page 105.**



### Folding down the radiator

To perform certain services on the engine, for example changing the spark plugs or V-belts, it may be necessary to fold the radiator forward.

To fold it forward, first remove the 4 mounting screws (left illustration).



Then, lift the radiator up and swing it forward.

When you have finished working in the engine compartment, the radiator must be returned to its normal position and securely fastened.

**Always heed WARNINGS on page 105.**

## V-BELT

## Tension checking

Correct V-belt tension is important for overall vehicle performance, particularly, tension of the V-belt which drives the water pump.

**Tensioning and replacing of V-belts should be performed by your Volkswagen dealer or a qualified workshop.**

See page 155 for V-belt designations.

## WARNING

■ **To prevent serious personal injury stay well clear of the V-belt when the engine is running. If you must check the V-belt tension turn the engine off and let it cool down. Hot components can burn skin on contact.**

■ **Never touch the radiator fan, it is temperature controlled and can switch on suddenly – even when the ignition is off.**

## VEHICLE CARE

### BRAKE FLUID



The brake fluid reservoir is located in the engine compartment.

#### Checking fluid level

The correct fluid level is important for the proper functioning of the brake system. The fluid level in the brake fluid reservoir should always be between the MAX and MIN markings.

The fluid level may drop slightly after some time due to the automatic adjustment of the brake pads. This is no cause for alarm.

If the brake fluid level falls considerably below the MIN mark, the brake warning light will come on. Do not continue to operate the vehicle. The complete brake system should be thoroughly checked by a

Volkswagen dealer or any other qualified workshop and the cause corrected.

The brake warning lamp lights up to indicate a low fluid level in the reservoir. See page 46 for more details. Contact a Volkswagen dealer immediately.

#### Changing brake fluid

Brake fluid absorbs moisture from the atmosphere. If the water content in the brake fluid is too high, corrosion in the brake system may result after a period of time. The boiling point of the brake fluid will also decrease considerably. **Therefore, the brake fluid must be changed every 2 years.**

#### WARNING

■ If the brake fluid becomes too old and the brakes are under constant and extreme use, a vapor lock may result and impair the effectiveness of the brake as well as vehicle safety.

■ Use only DOT 4 brake fluid that meets SAE specification J 1703 and conforms to Federal Motor Vehicle Standard 116.  
**The brake fluid must be new.**

■ Do not add or mix DOT 5 silicone type brake fluid with the brake fluid in your vehicle as severe component corrosion may result. Such corrosion could lead to brake system failure.

■ Brake fluid is poisonous. Therefore, it must only be stored in the closed original container out of the reach of children.

Remember also that brake fluid is harmful to the paint of your vehicle.

✿ *Because of the problem of proper disposal of brake fluid along with the special tools required and the necessary expertise, we recommend that you have your brake fluid changed by your Volkswagen dealer.*

It is advisable to have the fluid changed during a Maintenance Service.

## BATTERY



The battery is located under the front hood. It can be reached when the lid of the battery box is removed.

**2nd battery\***

The second battery is located under the left seat.

To reach the battery, the seat must be pushed fully forward past the stop. The stop must be disengaged to do this – see page 31.

**Battery acid level**

Under normal operating conditions, the battery in your Volkswagen is maintenance-free.

At high outside temperatures it is advisable, however, to check the fluid level at regular intervals through the transparent battery housing. The fluid level should always be between the "MIN." and "MAX." marks in each cell.

If the fluid level is below the "MIN." mark, let your Volkswagen dealer correct the condition.

**WARNING**

■ Always shield your eyes and avoid leaning over the battery whenever possible.

■ Do not let battery acid come in contact with skin, eyes, fabric, or painted surfaces.

■ If you get battery acid in your eyes or on your skin, immediately rinse with cold water for several minutes and call a doctor.

■ Do not expose the battery to an open flame or electric spark. Hydrogen gas generated by the battery can explode and cause personal injury.

**Winter operation**

During the winter months, battery capacity tends to decrease as temperatures drop. More power is also consumed while starting, and the headlights, blower fan, rear window defogger, etc., are used more frequently. Avoid unnecessary power consumption, particularly in city traffic or when travelling only short distances. Let your Volkswagen dealer test the battery's capacity before winter sets in. A well charged battery will not only prevent starting problems but will also last longer.

If your vehicle is left standing for several weeks at extremely low temperatures, the battery should be removed and stored where it will not freeze. This will prevent it from being damaged.

Removing the battery see page 123.

**WARNING**

Always keep the battery well out of the reach of children.

Always heed WARNINGS on page 105.

### Charging of battery

#### WARNING

- The battery contains sulfuric acid. Therefore, keep battery out of reach of children.
- Charge battery in a well ventilated area. Keep away from open flame or electrical spark. Do not smoke. Hydrogen gas generated by the battery is explosive.
- Always shield your eyes and avoid leaning over the battery whenever possible.
- If you get battery acid in your eyes or on your skin, immediately rinse with cold water for several minutes and call a doctor.
- Never charge a frozen battery. It may explode because of gas trapped in the ice. Allow a frozen battery to thaw out first.
- Fast charging a battery is dangerous and should only be attempted by a competent mechanic with the proper equipment.

■ Battery acid that may spill during charging should be washed off with a solution of warm water and baking soda to neutralize the acid.

■ Never use a fast charger as a booster to start the engine. This will seriously damage sensitive electronic components, such as glow plugs\*, relays, radio, etc., as well as the battery charger.

### Slow battery charging

#### WARNING

Heed all WARNINGS and follow instructions that come with your battery charger.

■ It is not necessary to remove the battery from the engine compartment, and it is also not necessary to disconnect the cables.

■ Make sure the electrolyte level in each cell is between the "MIN." and "MAX." marks. If the fluid level is below the "MIN." mark, let your Volkswagen dealer correct the condition.

■ Connect charger cables.

Charger cables must be connected **POSITIVE (+) to POSITIVE (+)** and **NEGATIVE (-) to NEGATIVE (-)**.

Do not connect or disconnect charger cables while charger is operating to reduce the danger of explosion.

■ Switch on charger.

■ Charging rate not over 6 Amp.

Normally, a battery should be charged at no more than 10 percent of its rated capacity.

For example, a charging current of 4.5 Amp. would be used on a battery having 45 Ah. Rated capacity of the battery in your vehicle is listed on the battery housing.

■ After charging, turn off charger and disconnect charger cables.



**To remove battery from vehicle**

- Disconnect negative ground cable.
- Disconnect positive cable.
- Unscrew bolt of holding plate with open end wrench.

**To reinstall battery in vehicle**

- Place battery in vehicle and tighten bolt of holding plate.
- Reconnect positive cable.
- Reconnect negative ground cable.

**WARNING**

**Do not reverse polarity.**

**Cleaning terminals and connections****WARNING**

■ **Before work is done on the electrical system, disconnect the negative ground cable.**


■ **When working on the battery, be sure not to short circuit the terminals with tools or other metal objects. This would cause the battery to heat up very quickly, which could lead to damage or explosion and personal injury.**

The terminals and connections should be kept clean and greased with silicone spray or petroleum jelly. Make sure the ground connection to the body is tight and free of corrosion.

**With a disconnected battery the engine must not run because the electrical system will be damaged.**

**Replacing battery**

A replacement battery must have the same specifications and dimensions as the original equipment battery. Specifications are listed on the battery housing. Make sure the replacement battery is installed correctly and securely. See "Removing and reinstalling battery" in left column.

 *Because of the problem of proper disposal of a battery, we recommend that you have your Volkswagen dealer change the battery for you. Batteries contain sulphuric acid and lead and must always be disposed of properly observing all environmental regulations.*

## VEHICLE CARE

### WINDSHIELD WASHER CONTAINER



The windshield washer container is located in the engine compartment as illustrated above.

The capacity of the container is 7.3 qt/7 liters.

#### Filling the container

To add washer fluid just lift the filler cap by the small tongue. The container can be filled to the top.

Since clear water is usually not adequate for cleaning the glass, add a cleaning solution to the water.

Use winterized windshield washer solvent during the cold season, even if the vehicle is equipped with **heated\* washer jets**. It helps to keep your windshield clean and prevents the fluid from freezing in the winter.

**Do not use engine coolant antifreeze or any other solution that can damage the vehicle paint.**

Follow the directions on the can for the correct amount to be used.

After filling the container, press the cap onto the filler neck.



#### Adjusting washer jets

When vehicle is stationary, the water should hit the windshield as illustrated.

The washer jet for the rear window is in the wiper shaft. The jet should be adjusted so that the fluid hits the glass in the center of the wiped area.

Adjust the jets with a needle.

The washer jets for the **headlight washer system\*** must be adjusted with special equipment. See your authorized Volkswagen dealer.

## REPLACING WIPER BLADES

Wiper blades must be in good condition to provide clear vision.

Clean your wiper blades regularly with a windshield washer solution to prevent streaking. If the blades are very dirty, for example with insects, carefully clean the blades with a sponge or a soft brush.

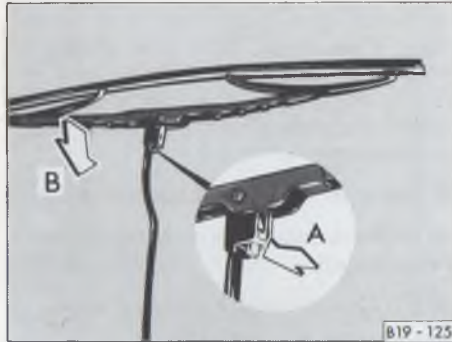
Replace your wiper blades once or twice a year. See your Volkswagen dealer for replacement blades.

## Notes

■ Commercial hot waxes applied by automatic car washes have been known to affect the cleanability of the windshield.

■ To prevent damage to wiper blades, do not use gasoline, kerosene, paint thinner, or other solvents on or near the wiper blades.

■ To prevent damage to the wiper arms or other components, do not attempt to move the wipers manually.



## Removing wiper blades

- Raise the wiper arm and hold wiper blade horizontally.
- Depress locking spring (A) and remove blade by pulling it towards the windshield (B).

## Installing new wiper blades

- The locking spring must click into place on the wiper arm.

When installing wiper blades with moulded wind deflectors\*, always make sure the deflector points down.

## VEHICLE CARE

### TIRES/WHEELS

Tires are important but often abused parts of a car, they not only influence comfort and ride, but perform vital safety functions. This section is intended to provide you with important information regarding their proper use, care and replacement.

■ Be sure to inspect your tires at least every 2000 miles (3000 kilometers) for wear and damage.

■ Damage to wheels and tires is not always easy to see. If you believe that a tire or wheel has been damaged, it is wiser to have it replaced as soon as possible. Internal tire damage can also lead to tire failure. See your authorized Volkswagen dealer for advice and assistance.

■ Mark tires before removing them. Remount tires on the same vehicle side because the rotation direction must stay the same.

■ Store removed tires in a cool, dry and preferably dark place. Tires which are not on wheels should be stored standing up.

#### WARNING

■ Tires age even if they are not being used. Tires which are older than 6 years old should only be used in an emergency and then with caution.

■ Avoid damaging tires and wheel rims. If you must drive over a curb or other obstacle, drive slowly and as nearly as possible at a right angle. Frequently check tires for uneven wear and damage.

■ Remove imbedded material.

■ Replace worn or damaged tires immediately.

■ Replace missing valve dust caps.

■ Keep oil, fuel, brake fluid, etc. away from tires.

■ Keep tires inflated correctly.

#### New Tires

New tires tend to be slippery and cannot offer full traction until they have been properly broken in.

#### WARNING

To help avoid loss of control, always operate a vehicle equipped with new tires at lower speeds and with special caution for the first 100 miles (160 kilometers).

#### Tire service life

The service life of your tires depends for the most part on the following factors:


#### Tire pressures

Required cold tire inflation pressures are listed on a sticker on the driver's door jamb (see also page 168).

#### WARNING

■ Incorrect tire pressures cause increased tire wear and adversely affect road holding of the vehicle, leading to loss of control and personal injury.

■ Incorrect tire pressures can also lead to sudden deflation, resulting in an accident and personal injury.

 Low tire pressures increase fuel consumption which is detrimental to the environment.

The tire pressures should be checked at least once a month and always before a long trip.

Tire pressures are very important particularly when driving at higher speeds.

Always check tire pressures when the tires are cold. When the tires are warm, the pressure will be higher. Do not reduce the pressure of warm tires.

Do not forget to check the spare wheel.

Use an accurate tire pressure gauge when checking inflation pressures. Do not exceed the maximum tire inflation pressure listed on the tire sidewall. Cold tire inflation pressure means: when a vehicle has been standing for at least 3 hours or driven for less than 1 mile.

Don't forget to replace the valve stem caps after checking tire pressure.

### Driving habits

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

### Wheel balancing

The wheels on new vehicles are balanced. When driving, however, various conditions can cause a wheel to become unbalanced. This may be noticed as vibrations in the steering.

Since tire imbalance can cause wear on the steering, suspension and tires, you should have your wheels rebalanced. A wheel should always be balanced if a new tire has been mounted or a tire was repaired.

### Incorrect wheel alignment

Incorrect wheel alignment causes excessive and uneven tire wear impairing the safety of the vehicle. If you notice excessive tire wear, contact your Volkswagen dealer.

### Tire wear

The original tires on your vehicle have built-in wear indicators. They are molded into the bottom of the tread grooves and will appear as approximately 1/2 inch (12 mm) bands when the tire tread depth wears down to 1/16 inches (1.6 mm). Depending on the tire manufacturer, there are six to eight wear indicators evenly spaced around the circumference of the tire. Markings on the sides of the tires (e.g. the letters "TWI" or a triangle) show the locations of the wear indicators.

When the indicators appear in two or more adjacent grooves, it is time to replace the tires. We recommend, however, that you do not let the tires wear down to this

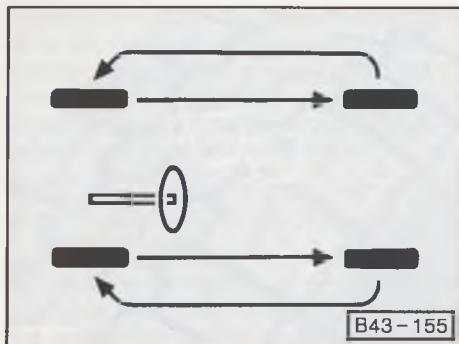


extent. Worn tires cannot grip the road surface properly, and are even less effective on wet roads.

### WARNING

- Do not drive with worn tires or tires showing cuts, bruises or other damage because they may lead to sudden deflation causing loss of vehicle control and personal injury.

- Since worn tires do not grip the road surface properly when driving on wet roads, the vehicle may tend to aquaplane sooner. We strongly urge you to replace your tires when the remaining tread depth is .12 inches (3 mm).



### Tire rotation

If the front tires are worn more than rear tires, we recommend that you rotate the front tires with the rear tires as shown in the illustration. By doing this, all tires will have approximately the same service life.

### Tires should always remain on same side of vehicle.

Only when tires show unusual wear such as feather-edging should they be rotated diagonally. If in doubt, discuss any unusual tire wear with your Volkswagen dealer's service department.

After rotation adjust tire pressure and torque wheel bolts diagonally to 116 ft lb/ 160 Nm. Refer to "Changing a wheel" on page 137 for details.

### Wheels and tire replacement

Wheels and tires approved by the manufacturer have been specially matched to your vehicle and contribute largely to the roadholding and driving characteristics of the vehicle.

■ Fitting and repairing tires requires expert knowledge and special tools. This work should only be performed by a specialist.

■ We recommend that you have your tires changed by a Volkswagen dealer, because they have the special tools and the necessary expertise.

Furthermore, your Volkswagen dealer stocks a range of tires and wheels.

■ For safety reasons, tires should be replaced in pairs and not individually. The tires with the deepest tread should always be mounted on the front wheels.

■ Never mount used tires if you are not sure of their previous history.

■ Whenever replacing a tubeless tire, always install a new valve stem. Tire repair should only be performed by a specialist.

■ In the interest of maximum safety and best all-around vehicle handling, always buy replacement radial tires that have the same specifications with regard to tire size, design, load carrying capacity, speed rating, tread pattern, tread depth, etc. This also applies to Volkswagen recommended alternate replacement tires.

Make sure that the new tires also meet the specifications listed on the label located on the inside of driver's door jamb.

The pressure is very important for the safety when driving at higher speeds.

The pressure is very important for the safety when driving at higher speeds.

## Tire specifications

### WARNING

Never mix tires of different design such as steel belted radials with radial bias belted or bias ply tires etc. Mixing tire types will adversely affect road holding and can lead to loss of vehicle control and personal injury.

The knowledge of tire designations makes it easier to choose the correct tires. Radial ply tires have the following designations:

e. g. 205/65 R 15 98 S reinforced	
205	= Tire width in mm
65	= Height/width ratio in %
R	= Tire construction: Radial
15	= Rim diameter in inches
98	= Load rating code
S	= Speed rating code
reinforced	= Strengthened design

### WARNING

■ Never operate a vehicle at speeds greater than the maximum speed rating of the tires with which it is equipped.

■ Exceeding the maximum speed for which tires are rated and approved will lead to sudden tire failure which can cause loss of vehicle control and personal injury.

■ Always observe speed limits and adjust your vehicle speed to prevailing road and traffic conditions.

The manufacturing date is also to be seen on the tire wall (possibly only on the inside of the wheel):

DOT ... 121 ... means that the tire was produced in the 12th week of 1991.

Tire strength and performance decline with age – even if they are not used.

Tire manufacturers caution that a tire which is more than six years old cannot be expected to perform reliably in normal use.

### WARNING

Old tires can fail in use, causing loss of vehicle control and personal injury.

Replace tires after six years regardless of tread wear. Always reduce speed and drive cautiously if you must use an old tire in an emergency. Replace the tire as soon as possible.

### Treadwear

The treadwear grade is a comparative rating based on the wear rate of the tire when tested on a government test course. For example, a tire graded 150 would wear one and a half (1½) times as well as a tire graded 100. The relative performance of tires depends on actual conditions of use, however, and may depart significantly from the norm due to variations in driving habits, service practices and differences in road characteristics and climate.

### Traction A, B, C

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

The traction grade is based on braking (straightahead) traction tests and does not include cornering (turning) traction.

### Temperature A, B, C

The temperature grades A (the highest), B and C represent the tire's resistance to the generation of heat. Sustained high temperatures can reduce tire life, and lead to sudden tire failure. Grade C corresponds to a performance which all passenger car tires must meet under the Federal Motor Vehicle Safety Standard No. 109. Grades B and A represent higher levels than the minimum required by law.

#### WARNING

The temperature grade for this tire is established for a tire that is properly inflated and not overloaded. Excessive speed, underinflation, or excessive loading, either separately or in combination, can cause heat buildup, possible tire failure, loss of control and personal injury.

If you wish to equip your vehicle with tires or wheels other than those installed at the factory, please note the following:

■ For technical reasons it is not possible in every case to use wheels from other vehicles – under certain conditions not even wheels from the same vehicle model.

■ Wheel rims and wheel bolts are matched to fit your Volkswagen.

■ When installing different wheels (for example, wheels with winter tires), the correct wheel bolts with the proper length and conical shape must be used. The secure fit of the wheels and the proper functioning of the brake system are dependant upon this.

■ Before you plan on exchanging steel wheels, light alloy wheels, or winter tires already mounted on wheel rims, consult your Volkswagen dealer. He has the technical information necessary to advise you which wheel rims and wheel bolts are compatible with the original factory installations.

#### WARNING

■ The use of tires, wheel rims and wheel bolts that do not meet specifications of the original factory installed equipment will adversely affect the safe operation of your vehicle and may cause an accident and personal injury.

■ If wheel trim discs or a front spoiler are installed, make sure the air flow for cooling the brakes is not obstructed.

### Winter tires

The tires for your vehicle were selected for optimal performance under normal driving conditions.

For winter driving, the roadability of your vehicle can be improved by installing all season tires or radial winter tires (M + S) with or without studs<sup>1)</sup>.

All season tires are performance tires advertised by the tire manufacturer as suitable for all weather use or with special mud and snow (M + S) capability.

Winter tires, sometimes also called snow tires, are designed for maximum traction in mud and snow.

If your Volkswagen is equipped with wide tires and you drive frequently on ice or snow, you should consider the installation of all season or winter tires. Let your Volkswagen dealer advise and assist you.

When installing winter tires, please note the following:

■ Only radial ply winter tires must be installed. Ask your Volkswagen dealer for the recommended tire size.

<sup>1)</sup> Check with your local Motor Vehicle Bureau for possible restrictions.



■ Winter tires **should** be mounted on all four wheels.

■ The inflation pressure for winter tires is the same as required for the regular radial ply tires and all season tires.

■ Winter tires do **not** fulfill their purpose, if the tread depth is less than  $\frac{5}{32}$  in (4 mm).

### WARNING

■ Tires with badly worn treads and studs are very dangerous. Replace them immediately.

■ Never mix tires of different design such as steel belted radials with radial bias belted or bias ply tires etc. Mixing tire types will adversely affect road holding and can lead to loss of vehicle control and personal injury.

■ Winter tires with studs should be run at moderate speeds when new in order to give the studs time to settle.

Do not drive a vehicle equipped with winter tires at prolonged high speed.

Winter tires use a softer rubber compound and a deeper tread pattern and therefore have a lower speed rating and reduced traction and durability when used on dry roads.

■ Winter tires should have the same load capacity as original equipment tires.

### Snow chains

**Snow chains can be used on the front wheels only.**

Snow chains must not be fitted on 215/65 R 16 tires. When necessary the vehicle must be equipped with smaller tires – ask your VW dealer.

Only use chains with fine pitch links protruding no more than  $\frac{1}{2}$  in/15 mm from tire tread and side walls, including tensioner. Wheels must rotate freely in all steering positions with chains mounted to prevent damage to body, axle or brake components. **Drive slowly and follow the chain manufacturer's instructions.**

Remove chains when roads are free of snow. Otherwise, they can be damaged and impair vehicle handling.

## VEHICLE CARE

### DIFFICULT OPERATING CONDITIONS

#### Driving under difficult conditions

The vehicle construction and equipment is designed for normal operating conditions. This also applies to the frequency and the extent of service requirements as stated in the Maintenance brochure.

If you are planning to drive your vehicle under difficult operating conditions (for example, continuous trailer towing, very hot or cold weather, very dusty conditions, poor fuel quality etc.) you may want to make special preparations such as changing to an appropriate oil viscosity, having your car thoroughly inspected, etc. Furthermore, the maintenance should be matched to the operating conditions (see page 102).

#### Operating your vehicle outside the USA or Canada

Government regulations in the United States and Canada require that automobiles meet specific emission regulations and safety standards. Therefore, vehicles built for the USA 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 converter may not be available;
- fuel may have a considerably lower octane rating. Improper fuel may cause engine damage;
- Diesel fuel or the correct grade of Diesel fuel may not be available;
- service may be inadequate due to lack of proper service facilities, tools or testing equipment;
- replacement parts may not be readily available.

**Volkswagen cannot be responsible for mechanical damage that could result because of inadequate fuel, service or parts availability.**

#### European delivery program

Certain Volkswagen models are available for delivery in Europe under our tourist delivery and return shipment program.

For details consult your Volkswagen dealer or write to:

**USA** Volkswagen United States, Inc.  
Tourist Delivery  
3800 Hamlin Road  
Auburn Hills, Michigan 48326

**Canada** Volkswagen Canada, Inc.  
Tourist Delivery  
1940 Eglinton Avenue East  
Scarborough, Ontario  
M1L 2M2

If you bought your vehicle abroad and want to bring it back home, be sure to inquire about shipping and forwarding requirements, as well as current import and customs regulations first.

Make sure the vehicle meets United States emission regulations and safety standards. Otherwise it may prove too costly or even impossible to add the equipment necessary to bring the vehicle into compliance with these regulations and standards.

Canadian regulations require that any car not complying to standards has to be shipped back to the car's country of origin at the owner's expense.

## WINTER DRIVING

Remember the following points when driving in the winter:

■ Winter weather is particularly hard on the battery. We recommend having the battery inspected, preferably by a Volkswagen dealer, before the cold weather starts – see page 121.

If the vehicle is left standing for several weeks at extremely low temperatures, the battery should be removed – see page 121 for further details.

■ Have the antifreeze concentration in the cooling system checked before the cold weather starts – see page 115.

■ The engine oil must have the correct viscosity grade for the outside temperatures to be expected – see page 106.

■ The best way to protect the bodywork is to wash and wax it frequently, especially in winter – see page 95.

■ Always use a windshield washer fluid with antifreeze for the windshield washer system in winter – see page 124.

■ Use a plastic scraper to remove snow and ice from the windows – see page 97.

■ On winter roads the use of winter tires or all-weather tires will improve handling – see page 130.

■ When driving in the mountains in winter it is best to take along a set of snow chains. Snow chains may be compulsory for some mountain roads – see page 131.

## VEHICLE CARE

### ADDITIONAL ACCESSORIES, MODIFICATIONS AND PARTS REPLACEMENT

The Volkswagen EuroVan incorporates the latest safety design features ensuring a high standard of active and passive safety. This safety could be impaired by any non-approved changes to the original new-vehicle condition. For this reason, please observe the following points when installing additional accessories, if parts have to be replaced or if any modifications are made to the vehicle:

■ **Always consult** an authorized Volkswagen dealer **before** purchasing accessories and **before** any modifications are carried out.

■ **In your own interest, we advise you to use only expressly approved Volkswagen accessories and genuine Volkswagen spare parts.**

These parts and accessories have been specially designed to be used on the EuroVan.

■ **Approved Volkswagen accessories and genuine Volkswagen parts** are available from authorized Volkswagen dealers. Volkswagen dealers also have the necessary facilities to install the parts properly.

#### Mobile telephones and CB Radios

Mobile telephones and CB radios may not be used in the vehicle without having a separate outside antenna.

These devices emit a high frequency energy when they are being used. This energy cannot penetrate the steel body and will be reflected inside the vehicle.

#### WARNING

**Using a mobile telephone or a CB radio inside the vehicle without having a separate outside antenna could be dangerous to your health.**

#### Note

The high frequency energy emitted inside the vehicle can also cause malfunctions in the vehicle's electronic system.

For these reasons, and in order not to restrict the range of the mobile telephone or CB radio, use a special outside antenna on the vehicle.

## FIRST AID KIT, WARNING TRIANGLE TOOLS, JACK

The First Aid Kit and warning triangle can be secured in a special holder under the front passenger seat.

**Note**

The First Aid Kit and warning triangle are not part of the vehicle equipment.



Vehicle tools and jack are stowed as follows:

**EuroVan, Transporter**

at rear left of luggage compartment

**Double Cab**

under rear seat

**WARNING**

■ The jack and tools are held in place by a rubber strap. Always make sure these tools are secured in place and not loose, otherwise they could fly forward causing personal injury to passengers in the vehicle in an accident.

■ Use the jack only for changing a wheel. Never use the jack to lift other vehicles or other loads as this may lead to accidents and personal injury.

■ The jack must never be used as a support to work underneath the vehicle. If the jack is accidentally dislodged, you could be seriously injured.

■ Do not raise the vehicle using a bumper jack. The bumper system would be damaged. Also, the jack may slip which could cause personal injury.

■ Do not support your vehicle on cinder blocks, bricks or other props. These may crumble under continuous load.

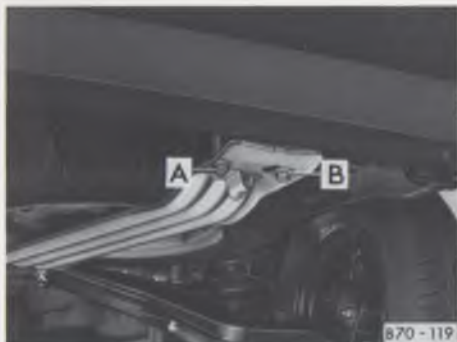
■ Do not start or run the engine while the vehicle is supported by the jack.

■ If you must work under the vehicle, always use safety stands specifically designed for this purpose.

Always securely restow spare tire (or flat tire) and all jacking equipment and the hub cap.

## DO-IT-YOURSELF-SERVICE

### SPARE WHEEL



The spare wheel is located under the vehicle in the back and is held in place by a support which can be folded down.

#### Folding down the spare tire support

##### WARNING

When loosening the bolts, follow the sequence exactly as described:

- Loosen the retaining bolt (B) until it turns freely.

##### Note

The retaining bolt (B) is held by a safety clamp and therefore cannot be unscrewed all the way.



- Remove mounting bolt (A) totally. The spare wheel support will then be held up by the retaining bolt (B) only.

##### WARNING

If you loosen the bolts in reverse order, the support could fall off the retaining bolt (B).

- Insert the lug wrench all the way into the spare wheel support bracket as shown in the illustration.

- Grasp the lug wrench with both hands, lift it up slightly and swing it to the right until the retaining bolt and the hole in the support line up and you can then lower the spare wheel to the ground. While you are lowering the spare wheel to the ground,

rotate the lug wrench to the right. See illustration.

#### Folding up the spare tire support

- Insert the lug wrench into the spare wheel support.
- Lift the spare wheel with the lug wrench until the hole in the support passes over the retaining bolt.
- First tighten mounting bolt (A), then the retaining bolt (B).

##### WARNING

For safety reasons, always make sure the spare wheel support is securely tightened so that the spare wheel cannot fall down.

##### Note

The height of the rear swivel point of the spare wheel support can be adjusted. This way, you can use different tire widths.

## CHANGING A WHEEL

## WARNING

■ If you have a flat tire, move a safe distance off the road. Turn off the engine, turn the emergency flasher on and use other warning devices to alert other motorists.

■ Passengers must not remain in the vehicle when jacked up.

■ Make sure that passengers wait in a safe place away from the vehicle and well away from the roadway and traffic.

■ Before you change a wheel, be sure the ground is level and firm. If necessary, use a board under the jack.

■ To help prevent the vehicle from moving suddenly and possibly slipping off the jack, always fully set the parking brake and block the wheel diagonally opposite the wheel being changed. When one front wheel is lifted off the ground, placing the Automatic transmission in P (Park) or engaging a gear in a Manual transmission will not prevent vehicle movement.

## Step 1

- Take jack and tools out of the vehicle.
- Take spare wheel out of support at rear of vehicle – see previous page.

## Step 2

## Wheel with wheel cover

- Remove wheel cover by pulling it from the rim.

## Wheel with small protective caps

- Remove small protective caps for the wheel bolts with screwdriver.



## Step 3

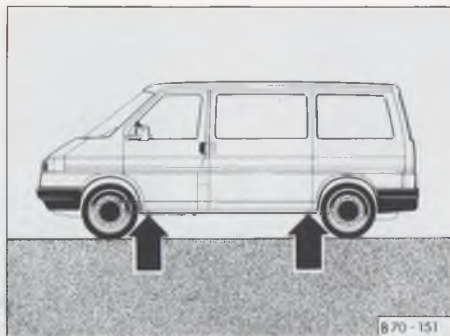
■ Mount the lug wrench over the wheel bolt all the way and turn to the left – see illustration. When doing this, hold the lug wrench at the end.

If the wheel bolts do not come loose, you can push the end of the lug wrench, if necessary, using your foot. Make sure you are standing firmly on the ground, and hold on to the car for support.

Loosen all wheel bolts about one turn.

**Do not yet remove the bolts.**

## DO-IT-YOURSELF-SERVICE



### Step 4

■ To position the jack under the vehicle: There are two jack points on each side under the body marked with a rectangular impression. See both illustrations.

On the Pick-up the jack is placed under the mounting of the trailing arm (triangular mark) at the rear.

On the sliding door side ensure that the claw of the jack does not fit under the sliding door.

### WARNING

■ Jacking at any other place may damage the vehicle or may result in personal injuries.

■ An unstable surface under the jack may cause the vehicle to slip off the jack. Always provide a firm base for the jack on the ground. If necessary, use a board under the jack.



■ Turning the handle on the jack by hand, raise the jack until the claw securely cradles the vertical rib underneath the vehicle so that the jack cannot slip when the vehicle is lifted. See illustration above.

■ Making sure the jack is securely in place.



**Step 5****WARNING**

- Do not raise the vehicle until you are sure the jack is securely engaged.
- Passengers must not remain in the vehicle when jacked up.
- Make sure that passengers wait in a safe place away from the vehicle and well away from the roadway and traffic.

■ To raise the vehicle, turn the handle clockwise. Only raise the vehicle as much as is needed to change a wheel.

**Step 6**

■ Fully unscrew the wheel bolts and remove wheel. Remove any dirt or corrosion present on mounting surface of wheel or vehicle before wheel replacement. Place the (spare) wheel against the wheel hub so that the bolt holes in the wheel are in line with the threaded holes in the wheel hub.

■ Insert the wheel bolts and tighten them slightly crosswise before lowering the vehicle. Wheel bolts must be clean and easy to turn – **never lubricate or oil wheel bolts.**

**Step 7**

■ To lower the vehicle, turn the handle counterclockwise until the jack is fully released.

**Step 8**

■ Then go crosswise from one bolt to another tightening them firmly with the lug wrench. **Correct tightness of the wheel bolts is important.**

Correctly tightened bolts should have a torque of 116 ft lb (160 Nm). This torque can be obtained with the lug wrench by any person of average strength. If in doubt about the correct tightness of the wheel bolts, have it checked with a torque wrench by your dealer or a service station. If you should notice that the wheel bolts are corroded and difficult to turn, replace them. Drive with special care until the bolts are replaced.

**Step 9**

■ Reinstall wheel cover or the protective caps for the wheel bolts.

**Step 10**

- Fully lower the vehicle and remove jack.
- Correct the air pressure of the wheel you have just put on.

**WARNING**

**Always store securely damaged wheel (or spare wheel) in the support at rear of the vehicle – see page 136 –, jack and tools in the vehicle – see page 135.**

■ Have flat tire repaired and replaced promptly. Also reinstall wheel cover or protective caps for the wheel bolts.

## DO-IT-YOURSELF-SERVICE

### FUSES



A problem in the electrical system may be caused by a blown fuse.

Fuses are arranged in one centralized unit. The unit is located on the left side below the dashboard, behind the storage bin.

It is a good idea to keep a supply of spare fuses on hand. They are available at your Volkswagen dealer.



#### Replacing a fuse

**To avoid damaging the electrical system turn off all lights and accessories and remove the ignition key before replacing a fuse.**

- Take off cover or storage bin by turning the catch about 90° using a coin and slightly pulling the catch out.
- Consult the fuse listing on the following page to find out which fuse belongs to the component that has failed.
- Pull that fuse out of the row of fuses.
- Replace the blown fuse which can be recognized by the burnt metal strip with a fuse of equal ampere rating.

#### WARNING

Do not use a fuse with a higher amperage. This could damage the electrical part and fire could result.

if a fuse blows repeatedly, do not keep on replacing it. The cause of the short circuit or overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit or cause a fire.

- Before reinstalling cover or bin, turn the catch 90° to its original position, attach cover or bin in front, fold it up and push the catch in.

## Fuse arrangement

from left to right:

	Amps
1 – Low beam, left . . . . .	10
2 – Low beam, right . . . . .	10
3 – Instruments and license plate lights . . . . .	10
4 – Rear window wiper . . . . .	15
5 – Windshield wiper, windshield and rear window washer . . . . .	15
6 – Fresh air fan, air conditioner . . . . .	30
7 – Tail and side marker right . . . . .	10
8 – Tail and side marker left . . . . .	10
9 – Rear window and mirror heating . . . . .	20
10 – Free	
11 – High beam left, high beam indicator light . . . . .	10
12 – High beam right . . . . .	10
13 – Horn and radiator fan run-on . . . . .	10
14 – Back up lights, electric outside mirrors, heated front seats and windshield washer jets . . . . .	15

	Amps
15 – Engine electronic . . . . .	10
16 – Warning/indicator lights, multi-function indicator, glove box light . . . . .	15
17 – Turn signals . . . . .	10
18 – Electric fuel pump, Oxygen sensor . . . . .	20
19 – Radiator fan, air conditioner . . . . .	30
20 – Brake lights, cruise control system . . . . .	10
21 – Dome and luggage compartment light, vanity mirror lights, clock, Radio, central locking, multi-function indicator . . . . .	15
22 – Cigarette lighter . . . . .	10

## Separate fuses

Amps

■ located above the relays:

Fuse for power windows . . . . . 20

## Color codes

Light brown: 5 Amp fuses

Red: 10 Amp fuses

Blue: 15 Amp fuses

Yellow: 20 Amp fuses

Green: 30 Amp fuses

The number on the face of the fuse is the amperage rating.

## DO-IT-YOURSELF-SERVICE

### REPLACING BULBS

Before replacing a bulb, switch off the respective circuit.

Do not touch the glass part of the new bulb with bare fingers. Finger prints left on the glass evaporate when the bulb gets hot, the vapor settles on the reflector surface and dulls it.

Always use the same type of bulb. The designation is marked on the bulb.

It is advisable to always carry a box of spare bulbs in the vehicle. Bulbs can be obtained from any Volkswagen dealer.

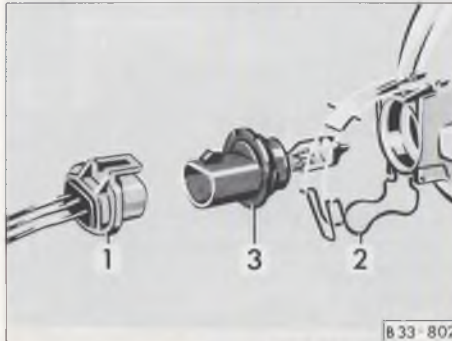
The box should contain, at least, the following bulbs which are important for traffic safety:

#### Front

- 12 V 70/50 W – Headlights
- 12 V 21/5 W – Turn signals/parking and side marker lights

#### Rear

- 12 V 21/5 W – Stop lights/tail and side marker lights
- 12 V 5 W – License plate lights
- 12 V 21 W – Turn signals
- 12 V 21 W – Back-up lights



#### Headlights

- Open engine hood and prop up.
- Disconnect wire connector (1).
- Press spring clip (2) down, pull bulb (3) out of headlight housing and discard.
- Install new bulb so that the locating lugs on the headlight housing engage the recesses on the bulb holder.
- Press spring clip up until it engages.
- Reconnect wire connector.
- Reinstall air intake duct.
- Have headlight beam alignment checked.



#### Front turn signals

You must remove the turn signal housing in order to change the bulb.

- Open the engine hood and insert the flat blade of a screwdriver in between the headlight and turn signal. The tab which supports the turn signal housing, is pressed to the side.
- Pivot the screwdriver forward as shown in the illustration. The housing for the turn signal will also be pressed out.
- Turn the light socket to the left.
- Remove and replace the defective bulb.
- Insert the light socket.
- Insert the turn signal housing into the grooves (openings)(top and bottom) and press inwards until the tab clip into place.



### Taillights

The taillights are changed through the luggage compartment.

- Press the tabs on the bulb holder.
- Remove the bulb holder (illustration).
- Lightly press the defective bulb in its socket, turn the left and remove.
- Insert the new bulb and turn to the right all the way.
- Replace bulb holder.

### License plate lights

The license plate lights are fastened by two screws.

- Unscrew the lens.
- Remove the entire bulb.
- Pull the light housing out.
- Remove the defective bulb and replace.
- Reinsert lamp housing.
- Replace the lens and fasten securely with the screws.

### Interior light

- Press against spring clip opposite the switch and lift out housing.
- Replace bulb.
- Install housing at the switch end first and then press the other and in until the spring clips clicks into place.

### Center stop light in rear window

- Depress buttons on both sides of stop light housing inwards and take housing off.
- Pull defective bulb out and replace.
- Reinstall housing.



### Interior dome light with reading light A – Interior dome light

- Insert a knife or something similar into the gap between the housing and the lens and carefully pry the lens off.
- Replace bulb.
- Press lens onto housing:

On the light, the lug on the lens must fit into the recess on the left side of the housing.

## DO-IT-YOURSELF-SERVICE

### REPLACING BULBS

#### B – Reading light

- Carefully insert blade of the screwdriver (from vehicle tools) between the headliner and the light housing and pry off making sure not to damage the headliner.
- Turn the white bulb holder on the rear of the housing to the left and remove holder.
- Remove defective bulb.
- Insert new bulb.
- Reinstall bulb holder into light housing and turn to the right until it stops.
- Press light housing into headliner until it securely fits into place.

### HEADLIGHT ADJUSTMENT



The proper headlight adjustment is very important for traffic safety.

Adjust the headlight using the Phillips screwdriver from the vehicle tools.

The illustration shows the adjustment on the right headlight. On the left headlight the adjustments are symmetrically opposite.

#### A – Height adjustment

Turn clockwise to lower beams

#### B – Lateral adjustment

(The screw is visible after lifting the cover).

### INSTALLING/REPLACING A RADIO

If you wish to install a radio or replace the factory installed radio, please note the following:

- The factory installed connectors are designed for Original Volkswagen Radios.
- When installing a different radio, difficulties could arise such as:
  - the radio may not fit into the space provided
  - the electrical connections may not be compatible
  - different connector terminals may be needed.
- Therefore, we recommend that you have your authorized Volkswagen dealer install or replace the radio. They are the most familiar with the technical features of your vehicle. They also offer Original Volkswagen Radios with the necessary installation components and instructions.

#### WARNING

**Improperly installing a radio could cause a short circuit. This could result in an electrical fire.**

## EMERGENCY STARTING

### Starting by pushing or towing

Vehicles with Automatic Transmission cannot be started by pushing or towing.

Vehicles with Manual Transmission must not be started by pushing or towing. Damage to the catalytic converter and/or other parts of the vehicle may result.

### Starting with jumper cables

#### WARNING

■ Always shield your eyes and avoid leaning over the battery whenever possible.

■ Do not allow battery acid to contact eyes or skin. Flush any contacted area with water immediately.

■ Improper use of a booster battery to start a vehicle may cause an explosion.

■ Vehicle batteries generate explosive gases. Keep sparks, flame and lit cigarettes away from batteries.

■ Do not try to jump start any vehicle with a low acid level in the battery.

■ The voltage of the booster battery must also have a 12-volt rating. The capacity (Ah) of the booster battery should not be lower than that of the discharged battery. Use of batteries of different voltage or substantially different Ah rating may cause an explosion and personal injury.

■ Do not charge a frozen battery; allow it to thaw out first. Gas trapped in the ice may cause an explosion.

■ Applying a higher voltage booster battery will additionally cause expensive damage to sensitive electronic components, such as relays, radio, etc.

■ Vehicle with discharged battery: turn off lights and accessories, move lever to N or P (Automatic transmission) or into Neutral (Manual transmission) and set parking brake.

Always heed WARNINGS on page 105.

## DO-IT-YOURSELF-SERVICE

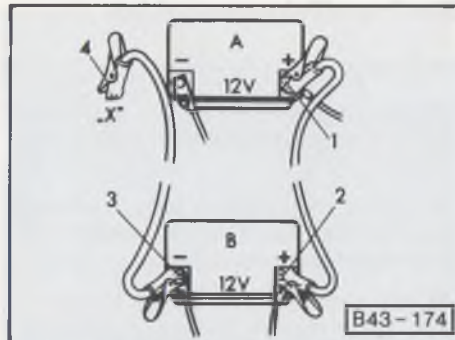
### Use of jumper cables

#### WARNING

■ To avoid serious personal injury and damage to the vehicle, heed all warnings and instructions of the jumper cable manufacturer. If in doubt, call for road service.

■ The jumper cables must be long enough so that the vehicles do not touch.

■ When connecting jumper cables, make sure that they cannot get caught in any moving parts in the engine compartment.



A – Discharged battery

B – Booster battery

X – To ground on engine block

**Improper hook-up of jumper cables can ruin the alternator.**

**Always connect POSITIVE (+) to POSITIVE (+), and NEGATIVE (-) to ground on engine block (x).**

1. Connect clamp of plus-cable to positive (+) terminal (1) of discharged battery.
2. Connect clamp on opposite end of cable to positive (+) terminal (2) of booster battery.

3. Connect clamp of minus-cable to negative (-) terminal (3) of booster battery.

4. Connect clamp on opposite end of cable (4) to a bare metal part bolted directly to the engine block or to the engine block itself (x) of vehicle with discharged battery. Connect clamp as far away from battery as possible!

5. Start the engine of the vehicle with the booster battery. Run the engine at a moderate speed.

6. Start engine with discharged battery in the usual manner. If engine fails to start, do not continue to crank but contact nearest workshop.

7. With engine running, remove jumper cables from both vehicles in exact reverse order: Steps 4 through 1.

Always heed WARNINGS on page 105.



## EMERGENCY TOWING WITH COMMERCIAL TOW TRUCK

The following information is to be used by commercial tow truck operators who know how to operate their equipment safely.

Detailed towing instructions can be found in a special towing instruction brochure at your Volkswagen dealer.

## General hints

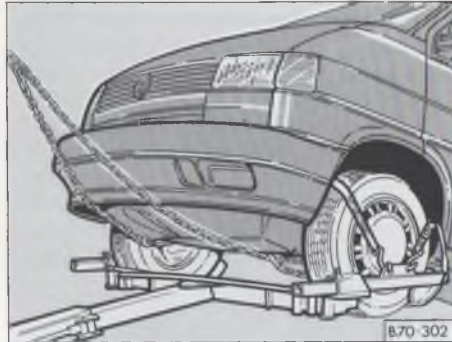
- Whenever possible, tow with front wheels off ground.
- Vehicle may be lifted in rear and moved to position for front hook-up.
- If a vehicle with Manual transmission must be towed with the front wheels on the ground, make sure that transmission oil has not leaked or been drained.

## Note

The EuroVan **cannot** be towed with conventional sling-type equipment or non self-loading wheel dollies. Towing with this type of equipment will cause bumper and body panel damage.

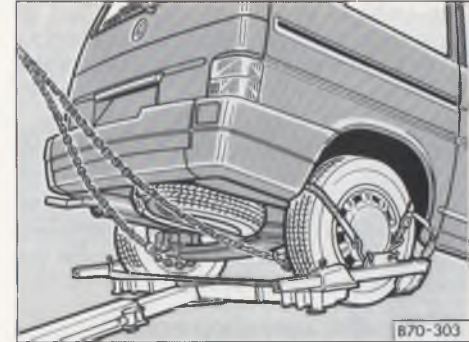
## WARNING

Never allow passengers to ride in a towed vehicle for any reason.



## Front Hook-up

- Attach wheel lift equipment to wheels.
- Attach safety straps to wheels.
- Attach safety chains to lower control arms.
- Towing clearance: 6–12 inches between tires and ground.



## Rear Hook-up

- Attach wheel lift equipment to wheels.
- Attach safety straps to wheels.
- Attach safety chains to axle arms.
- Towing clearance: 6–12 inches between tires and ground.
- Towing speed/distance:

## Manual transmission

50 mph/50 mi. (80 km/h/80 km)

## Automatic transmission

If the vehicle can not be towed with wheel lift equipment in combination with self-loading wheel dollies, it must be transported on a flat bed to avoid damage to the transmission due to the lack of lubrication.

## DO-IT-YOURSELF-SERVICE

### LIFTING VEHICLE

The vehicle should never be lifted or jacked up from underneath the engine oil pan, the transmission housing, or the front or rear axle. This could lead to serious damage.

The same lifting points as illustrated on the next page for the hoist also apply when using a floor jack. To avoid damage to the underbody or chassis frame, it is necessary to insert a rubber pad between the floor jack and the lift points.

#### Lifting with workshop hoist and with floor jack

Make sure there is sufficient clearance between pads and vehicle before driving vehicle on to hoist, especially if the vehicle has a large front panel or spoiler.

**The vehicle must be lifted only at the lift points illustrated. Do not lift the vehicle with the workshop hoist or the floor jack under the side member trim panel.**

#### WARNING

■ When removing components such as engine block, transmission housing, fuel tank, wheels, front or rear axle, anchor vehicle to hoist or add corresponding weights to maintain the center of gravity. Otherwise the vehicle might tilt or slip off the hoist, causing serious damage or personal injury.

■ To reduce the risk of serious personal injury and vehicle damage, lift vehicle only at the special workshop hoist and floor jack lift points illustrated. Failure to lift vehicle at these points could cause the vehicle to tilt or fall from a lift when, for example, heavy components such as the engine block or transmission are removed resulting in a change in vehicle weight and balance.

■ If you must lift your vehicle with a floor jack to work underneath, be sure the vehicle is safely supported on stands intended for this purpose.

Before driving over a workshop hoist check that the vehicle weight does not exceed the permissible lifting capacity of the hoist.

To lift the EuroVan/Transporter only twin column hoists with sufficiently long support arms should be used.

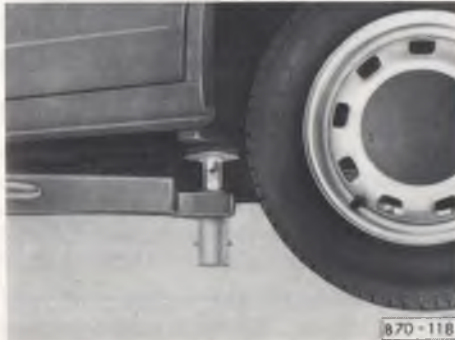
Only as an exception – for short wheel base vehicles in unladen condition – can a single column hoist be used.

Hoists with fluid cushions (Repair reception hoists) must not be used to lift this vehicle.

Before driving over a workshop hoist ensure that there is sufficient clearance between the hoist and low parts of the vehicle.

EMERGENCY CONTROL SYSTEM

3/7/2008

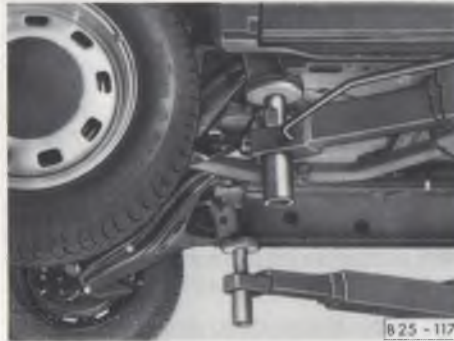


**Lifting points for hoist and floor jack**

The vehicle may only be lifted at the points shown here.

**Front**

At the front cross member (left illustration).



**Rear**

At mounting for the rear axle arm (center illustration)



Short wheelbased vehicles, when unladen can as an exception be lifted on a single column hoist.

The lifting point is then at the side member at reinforcement plate (right illustration).

**Lifting with vehicle jack**

Refer to "Changing a wheel" on page 138.


## TECHNICAL DESCRIPTION

### ENGINE

- Four stroke gasoline engine, transversely mounted.
- Five cylinders in line.
- Crankshaft with six main bearings.
- Light alloy cylinder head.
- Two spur-belt driven overhead camshafts.
- Self-adjusting hydraulic valve lifters.
- Liquid cooling system, thermostatically controlled.
- Thermostatic operated electric fan.
- Pressure oil feed with gear-type pump and full flow filter.
- Maintenance-free electronic ignition system with fully electronic engine controls (common control of ignition and injection system).
- Digital controlled fuel injection system.
- Long-life, low maintenance V-belts.
- Paper element air cleaner.
- Exhaust emission control system with activated charcoal filter in the fuel system.



## EMISSION CONTROL SYSTEM

 **The emission control system effectively reduces the amount of pollutants in the exhaust gas.**

### In the interest of clean air

Pollution of our environment has become a problem that is of increasing concern to all of us. We urge you to join us in our efforts for cleaner air in controlling the pollutants emitted from the automobile.

You can make a significant contribution to keeping our air clean by:

- Always using unleaded gasoline.
- Not letting your vehicle idle unnecessarily.
- Following the recommended preventive maintenance schedule contained in the maintenance booklet.
- Not removing or altering the emission control system.
- Taking the precautions described below to prevent damage to the emission control system in your vehicle.

Volkswagen warrants the Emission Control System in your new vehicle under the terms and conditions set forth in the Warranty booklet.

Your Volkswagen is equipped with an emission control system, which contains the following major components:

### Catalytic converter

The catalytic converter is an efficient "clean-up" device built into the exhaust system of the vehicle. The catalytic converter burns the undesirable pollutants in the exhaust gas before it is released into the atmosphere.

**The exclusive use of unleaded fuel is critically important for the life of the catalytic converter and proper functioning of the engine.**

**The catalytic converter will be permanently damaged by**


- exceeding the correct engine oil level (see page 108)
- push or tow starting your vehicle
- misfiring of the engine
- turning off the ignition while the vehicle is moving or
- other unusual operating conditions.

**Do not continue to operate your vehicle under these conditions, as otherwise fuel can reach the catalytic converter. This could result in overheating of the converter, requiring its replacement.**

### Oxygen Sensor (OXS)

The oxygen sensor, installed in the exhaust manifold, continuously senses the oxygen content of the exhaust and signals the information to an electronic control unit.

### Carbon canister

 **The vehicle is equipped with a carbon canister to prevent fuel vapor from escaping into the atmosphere.**

The vapor is passed into the carbon canister, where it is retained when the engine is turned off. When the engine is running, a valve allows air into the canister, and the fuel vapor is passed to the engine for combustion.

The system does not require any maintenance.

## TECHNICAL DESCRIPTION

To assure efficient operation of the Emission Control System:

■ Have your vehicle maintained properly and in accordance with the service recommendations as described in your Maintenance booklet. Lack of proper maintenance as well as improper use of the vehicle will impair the function of the emission control system and could lead to damage.

■ Do not alter or remove any component of the Emission Control System unless approved by the manufacturer.

■ Do not alter or remove any device, such as heat shields, switches, ignition wires, valves, which are designed to protect your vehicle's emission control system.

### Note

Do not leave engine idling unattended after starting. If warning lights should come on to indicate improper operation, they would go unheeded. Extended idling also produces heat, which could result in overheating or other damage to the vehicle or other property.

### WARNING

#### Parking

Do not park or operate the vehicle in areas where the hot exhaust system may come in contact with dry grass, brush, fuel spill or other material, which can cause a fire.

#### Undercoating

Do not apply additional undercoating or rustproofing on or near the exhaust manifold, exhaust pipes, catalytic converter or heat shields. During driving, the substance used for undercoating could overheat and cause a fire.

MEETEYS JOHNTHO WORKING

### TRANSMISSION

#### Manual Transmission

- Hydraulically operated single plate dry clutch.
- Synchronized five-speed transmission and differential in one housing with common lubrication.
- Front wheel drive, with two constant velocity joints per drive shaft.

#### Automatic Transmission

- Hydraulic torque converter with overlapping clutch, which eliminates converter slip in 3rd gear (under certain conditions) and always in 4th gear.
- Planetary gear with four forwards gears.
- Two electronically controlled driving programs.
- Final drive in separate housing.
- Front wheel drive, with two constant velocity joints per drive shaft.

### STEERING, SUSPENSION

#### Steering

- Power assisted rack and pinion steering with energy absorbing steering wheel and column.
- Steering gear and steering column connected by an angled shaft.

#### Front wheel suspension

- Independent suspension with double wishbones, dampers and anti-roll bars.
- Longitudinal torsion bars.

#### Rear wheel suspension

- Independent suspension with diagonal trailing arms, coil springs and dampers.

### BRAKES, BODY/CHASSIS

#### Brakes

- Hydraulic dual-circuit power-assisted brake system with pressure regulator
- Electronically controlled anti-locking brake system (ABS)\*
- Disk brakes at front and self adjusting drum brakes at rear
- Load-sensitive brake pressure regulator for rear axle
- Mechanical parking brake effective on rear brakes.

#### Body/Chassis

- All steel unitized body/chassis.
- Bolt-on front fenders.
- Front and rear ends designed to help absorb impact energy.

## TECHNICAL DATA

### ENGINE DATA / SPARK PLUGS

#### Engine

Maximum output SAE net . . . . .	109 hp at 4500 rpm
Maximum torque SAE net . . . . .	190 Nm at 2200 rpm
No. of cylinders . . . . .	5
Displacement . . . . .	150 CID (2461 cm <sup>3</sup> )
Stroke . . . . .	3.76 in (95.5 mm)
Bore . . . . .	3.19 in (81 mm)
Compression ratio . . . . .	8.5 : 1
Fuel <sup>1)</sup> . . . . .	Regular unleaded
<b>Spark plugs</b>	101 000 001 AE/14-8 DTU or 101 000 005 AE/W 8 DTC or 101 000 007 AB/N 7 BYC or 101 000 027 AB/BP 5 ET

<sup>1)</sup> Minimum octane rating and further details see page 92.

#### Notes

Spark plugs are replaced during the Volkswagen scheduled Maintenance service. If you replace the spark plugs between the Volkswagen Maintenance services, the following should be noted:

■ Engine, spark plugs and the ignition system are matched. To avoid faulty operation or engine damage, use only Original Volkswagen spark plugs. It is especially important to note the number of electrodes and heat value.

■ Since spark plug specifications may change for technical reasons during a current model year, we recommend that you obtain your spark plugs from a Volkswagen dealer who has the latest information.



## TECHNICAL DATA

### V-BELTS

Crankshaft/alternator . . . AVX 10X 1078 La  
power steering . . . . AVX 10X 865 La  
A/C compressor/  
power steering . . . . AVX 13X 1330 La

### Notes

The V-belts are among the most severely stressed parts of a vehicle. The belts therefore have very high quality requirements.

When replacing a belt, it is not sufficient to use just any belt of the same size. For safe operation, use only Original Volkswagen V-belts specially designed for your vehicle. The correct belts can be obtained at your Volkswagen dealership.

### CAPACITIES

Fuel tank . . . . .	21.1 gal/80 liters
Reserve (of total capacity) . . . . .	2.6 gal/10 liters
Automatic transmission fluid (ATF) . . . . .	3.2 qt/3.0 liters
Windshield washer container . . . . .	7.3 qt/7.0 liters
Rear window washer container . . . . .	1.1 qt/1.0 liters
Engine oil with filter change . . . . .	4.8 qt/4.5 liters
without filter change . . . . .	4.2 qt/4.0 liters

The oil level should be checked while topping up.  
Do not overfill (see pages 107 and 108).

## TECHNICAL DATA

### DIMENSIONS<sup>1)</sup>

	short wheelbase		long wheelbase			
	EuroVan/Transporter		EuroVan/Transporter		Double cab	
	in	mm	in	mm	in	mm
Wheelbase	114.9	2920	130.7	3320	130.7	3320
Length	186.8	4740	202.3	5140	209.8	5330
Width	72.4	1840	72.4	1840	77.5	1970
Height (unladen)	76.3	1940	76.3	1940	75.6	1920
Ground clearance <sup>2)</sup>	7.1	180	7.1	180	7.1	180
Overhang						
front	33.8	860	33.8	860	33.8	860
rear	34.4	875	34.5	875	41.9	1065
Track						
front	62.0	1575	62.0	1575	62.0	1575
rear	60.6	1540	60.6	1540	60.6	1540
Turning circle diameter	38.3 ft/11.7 m		42.3 ft/12.9 m			

<sup>1)</sup> The specifications refer to the base model. Differences may occur depending on the model type and options ordered, for example, tire sizes.

<sup>2)</sup> Ground clearance is reduced by approximately 0.8 in (20 mm) on vehicles having a lowered chassis.

When driving up steep ramps, on rough roads, over curbs, etc. it is important to remember that some parts of your vehicle, such as spoilers or exhaust system components are close to the ground. Be sure to avoid damage.

**WEIGHTS**

The **Gross Vehicle Weight Rating (GVWR)**, and the **Gross Axle Weight Ratings (GAWR)** for front and rear, are listed on the **Safety Compliance Sticker** on the left doorjamb.

The **Gross Vehicle Weight Rating** includes the weight of the basic vehicle plus full fuel tank, oil and coolant, plus max. load which combines passenger (150 pounds/68 kg per designated seating position) and luggage weight. Luggage weight is not increased by the use of a roof rack, unless passenger capacity is reduced accordingly.

The **Gross Axle Weight Rating** is the maximum load that can be applied at each axle of the vehicle.

**WARNING**

- The actual **Gross Axle Weight Rating** at the front and rear axles should not exceed the permissible weights, and their combination must not exceed the **Gross Vehicle Weight Rating**.
- Exceeding permissible weight ratings can result in vehicle damage, accidents and personal injury.

**Note**

The **vehicle capacity weight** is on the tire pressure label (see page 168). The figures apply when the load is distributed evenly in the vehicle (passengers and luggage). When transporting a heavy load in the luggage compartment, the load should be carried as near to the rear axle as possible so that the vehicle's handling is not impaired. On no account should you exceed the maximum permissible axle loads or the maximum gross vehicle weight. Always remember that the vehicle's handling will be affected by the extra load, and adjust your speed accordingly.

**Roof weights**

The maximum permissible roof weight is 220 lb/100 kg.

Only use the roof rack system specifically designed, tested and approved by Volkswagen.

Distribute the load evenly and do not exceed the permissible roof weight (including the weight of the roof rack) or the gross vehicle weight.

For more details see page 68.

**Maximum permissible trailer weights**

- Braked trailer 4400 lbs. (2000 kg)
- Unbraked trailer 1500 lbs. (700 kg)
- Tongue load 165 lbs. (75 kg)

■ The total weight of the combination should be less than 10,000 lbs. (4500 kg) – sum of trailer and towing vehicle weight.

- Always observe local regulations.
- Do not exceed the weight limitations of your trailer hitch.

For more details see page 88.

## TECHNICAL DATA

### VEHICLE IDENTIFICATION

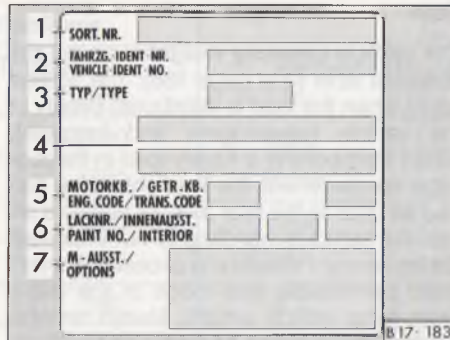


#### The Vehicle Identification Number (VIN)

is located on the instrument panel on the driver's side so that it is visible from the outside through the windshield.

#### The safety compliance sticker

is your assurance that your new vehicle complies with all applicable Federal Motor Vehicle Safety Standards which were in effect at the time the vehicle was manufactured. You can find this sticker on the left doorjamb. It shows the month and year of production and the vehicle identification number of your vehicle (perforation) as well as the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR).



#### The identification label

is located on the left doorjamb. The label contains the following information:

1. Production control no.
2. Vehicle identification no.
3. Type code number
4. Type designation/Engine output in **Kilo Watt**
5. Engine and transmission code **letter**
6. Paint no./Interior
7. Optional equipment no.'s.

Vehicle data 2 to 7 are also found in your Maintenance booklet.

#### The engine number

is located on the front face of the engine block, just below the cylinder head.

## SERVICE MANUALS

**Note:** Volkswagen service manuals are published as soon as possible after model introduction. Please call Robert Bentley, Inc. toll free **1-800-423-4595** in the United States and Canada from 8:30 AM to 5:00 PM Eastern time for the most up to date model year coverage, pricing, and other information. Prices are subject to change without notice. Price quotations are in U.S. dollars.

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## REPORTING SAFETY DEFECTS

### (Applicable to U.S. only)


If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Volkswagen United States Inc.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Volkswagen United States, Inc.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in Washington, D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.



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## GAS STATION INFORMATION

In order to assure that your vehicle remains ready for the road at all times you should carry out a few checks regularly – preferably when filling the tank.



We have listed the most important points to be checked. How to open the engine hood is explained on page 104.

### WARNING

Take particular care when working in the engine compartment – see page 105.

#### 1 – Coolant expansion tank

**WARNING! Do not open the coolant reservoir when the engine is hot. Danger of scalding!**

If the level is below the MIN mark, top it up with coolant additive and water – see page 115. If unavoidable, plain water may be used temporarily.

#### 2 – Brake fluid reservoir

The fluid level must always be between the MIN and MAX marks – see page 120.

#### 3 – Engine oil level

Every engine uses a certain amount of oil. If the level is too low however this can cause serious engine damage. For this reason, check the level regularly – see page 107.

#### 4 – Engine oil filler cap

Oil specifications are given on page 106.

#### 5 – Windshield washer container

Always fill with water and a glass cleaning solution. Remember to use a winterized washer solvent during the cold season.


#### 6 – Tire pressure

Check the pressures at least once a month. Adjust the tire pressures, if necessary, to suit different vehicle loads. The pressures are given on a sticker on the driver door lock pillar.

It has always been Volkswagen's policy to continuously improve its products. Volkswagen, therefore, reserves the right to make changes in design and specifications, and to make additions or improvements in its product, without incurring any obligation to install them on products previously manufactured.

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