# Instruction Manual
# Volkswagen Transporter
# Volkswagen Caravelle

*Congratulations on your new*
*Volkswagen Transporter/Volkswagen Caravelle*
*You have made a wise decision*

*The Transporter/Caravelle is a versatile, million-fold proven vehicle.*

*But, you have not only opted for an outstanding vehicle with modern, low maintenance technical components, you have also chosen quality.*

*A quality ensured by the most up-to-date production technology, careful selection of materials and conscientious work by all involved.*

*And with the Transporter/Caravelle you have also chosen one of the largest and most efficient Service Organizations.*

*In Europe alone there are around 7,000 V.A.G dealerships.*

*We wish you pleasant motoring:*

*Your*

*VOLKSWAGENWERKAKTIENGESELLSCHAFT*

# INTRODUCTION

**This instruction manual is valid for all Transporter/Caravelle models, including vehicles with four-wheel drive and exhaust emission control systems.**

The manual contains many important instructions on using your vehicle. You should therefore read it before driving the car so that you get to know your vehicle quickly and know how to drive it and look after it properly.

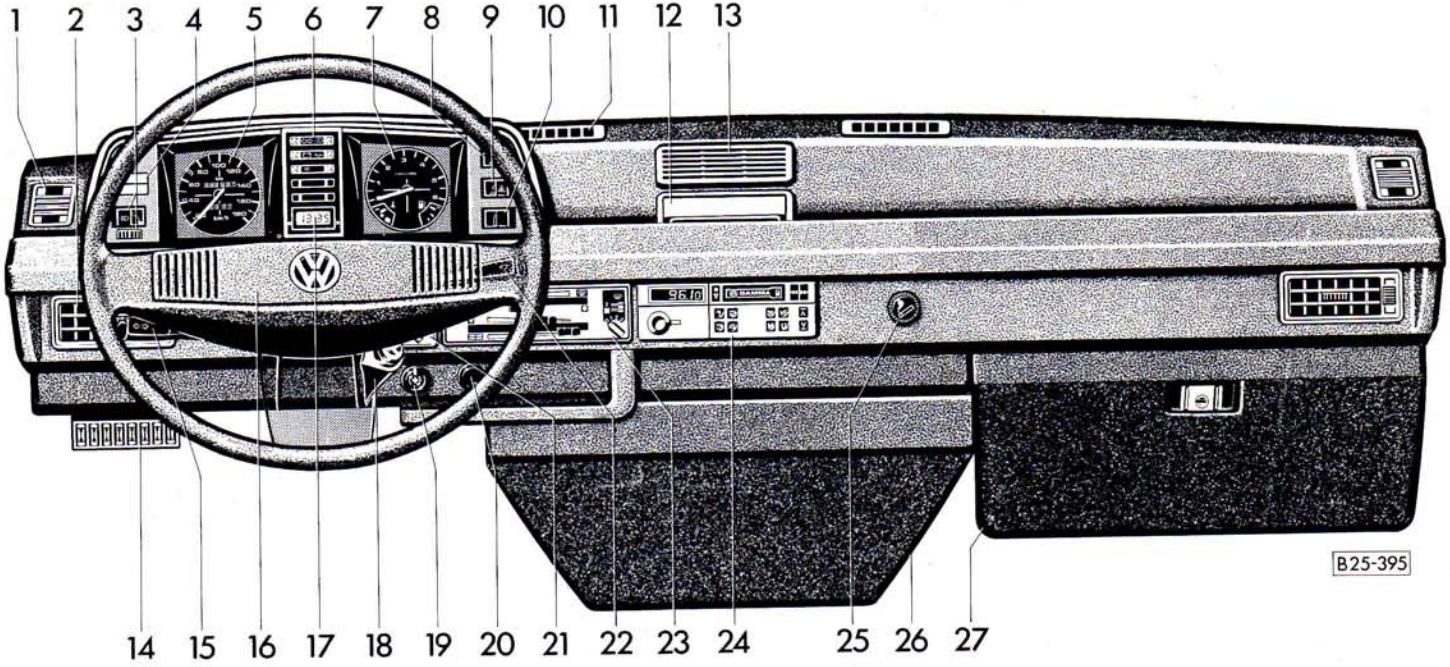
Special attention is drawn to the chapter Driving tips: These tell you how you can drive **safely, economically and environment-conscious.**

However the other chapters are also important because the correct treatment of the vehicle serves – in addition to regular care and maintenance – to maintain the value of the vehicle and is in many cases also one of the stipulations for the upholding of warranty claims.

Further information on warranty is given in the service schedule. Here you will also find important data on the servicing of your car and exact details when the various services are due.

Please note that items of equipment marked with a ✻ are only standard on certain models or are only available as options on certain models. Such equipment is not always available in all export markets.

# INDEX

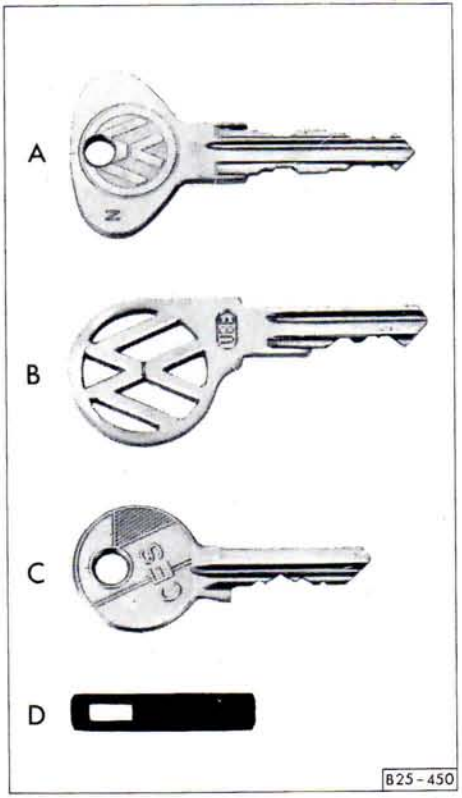


Please note that some of the items of equipment listed are only fitted on certain models or are optional extras.

[1] For vehicles with a factory fitted radio, an operating instruction leaflet is also enclosed.

See remarks on page 101 of "Do-it-yourself" section when servicing a radio.

## KEYS




Up to six keys are supplied with the vehicle:

- two keys A
- two keys B*
- two keys D*

**Key A**

This key fits all locks except:

- lockable glove box
- sliding door and rear flap with safety locks

**Key B**

This key fits the lockable glove box*

**Key C**

This key fits the safety locks in sliding door and rear flap.
It can only be withdrawn when the sliding door or rear flap is locked.

**Tag E**

On this tag is the number for key A. The tag should be kept safety and separately (in your wallet for example) so that no unauthorized person can order a key. The numbers of keys B and C are stamped on the key itself.

With the aid of the number, a replacement key can be ordered from a V.A.G Workshop.

**Caution**

**When leaving the vehicle unattended – even only briefly – always take the key with you.**

## CENTRAL LOCKING SYSTEM*

With this system all the doors, and – depending on the position of the tailgate lock – also the tailgate can be locked and unlocked.

The system is operated from the **driver's door,** and front passenger door – from outside with the key, from inside with the locking knob.

**Note**
The central locking system can only function correctly when the driver's and front passenger doors are properly closed.

When locking, the locking knobs on all doors must move down. If the knob on one door does not move at any time, open the door concerned and close it properly.

**Caution**
**When the locking knobs in the driver's and front passenger doors are pressed down all the doors are locked. Children should therefore not be left on their own in the car because when the doors are locked it would be difficult to help in an emergency.**

**Sliding door and tailgate** can be locked or unlocked separately with the key.

To unlock the tailgate insert key and turn it to right. Hold in this position and press button in.

If the key ist withdrawn in the horizontal position, locking of the tailgate will be controlled by the central locking system when it is closed again.

When the key is withdrawn in the vertical position and tailgate closed, it will be locked all the time. The tailgate can then only be unlocked with the key.

The sliding door can be secured or released separately with the safety catch.

**Note**

If the central locking system should develop a fault, all the locks can be operated normally, see next page.

## DOORS

### Cab doors

**From outside** both cab doors can be locked and unlocked with the key. When unlocking the locking knobs go up, when locking they go down.

The front passenger's door can be locked from outside without using the key: Just press locking knob down and close door.

The driver's door cannot be locked when open by pressing the locking knob and closing door. This prevents you from leaving the key in the car and forgetting it.

**From inside** the door can be locked by pressing down the locking knobs. As long as the knobs are pressed down the doors cannot be opened from inside or outside.

We advise you **not** to press the knobs down when vehicle is in motion so that the door can be opened from outside in an emergency.

### Sliding door

**From outside** the sliding door can be locked and unlocked with the key. When fully open the door is held by a hook.

**To close sliding door from outside. –** Press the door handle down to release the hook and slide the door firmly forwards.

**From inside** the sliding door is locked by pushing down the locking catch near the door opening lever.

As long as the catch is in the lower position the door cannot be opened from inside or outside.

When the vehicle is in motion, the door must always be properly closed but when carrying passengers the locking catch should be left in the upper position so that the door can be opened from outside in an emergency.

### Child-proof catch on sliding door*

When the child-proof catch is engaged – lever on door lock turned upwards – the inner lock release lever is inoperative. The door can only be opened from outside with the locking catch in the up position.

## TAILGATE

**To open** the tailgate when key hole is horizental, press the lock cylinder and lift tailgate.

**Note**
The lock cylinder can also be pressed in with the key.

To close tailgate pull it down and slam it to gently.

**After closing the tailgate always pull up on it briefly to make sure that it is properly closed – otherwise the tailgate could open suddenly when vehicle is moving even though the key has been turned in lock.**

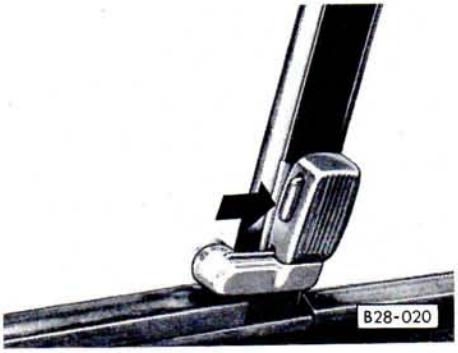
**Do not drive with the tailgate open as exhaust gases are then able to enter the vehicle interior.**

## ENGINE COMPARTMENT COVER

The cover is in the luggage compartment. To remove cover turn the two catches to the left.

On the Pick-up, the flap is in the rear panel.

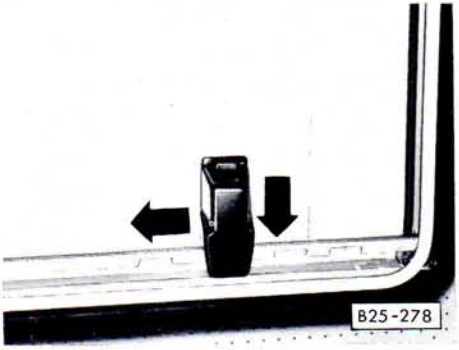
## WINDOWS




### Vent wings*

**To open** – Press button in fastener and swing fastener clear.

**To close** – Press window against seal at front and turn fastener until button engages.




### Sliding windows

To open, press catch down and slide window along.

### Door windows

These windows are opened and closed with the crank in the door trim.

**Electrical control***
When the ignition is on the windows can be opened and closed electrically.

The switch is in the door trim.

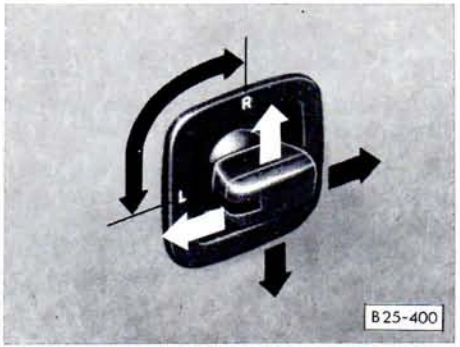
The window in the passengers door can be controlled from the driver's side.

**Caution**
**Careless and uncontrolled closing of the windows can cause injuries. Take care therefore when closing the windows. When leaving the vehicle always take the keys with you.**

## MIRRORS

### Normal exterior mirror

The mirror is adjusted by moving the mirror housing.



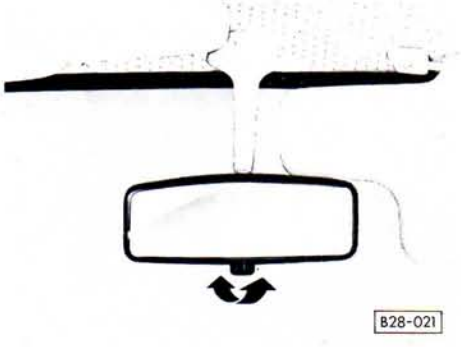

### Electrically adjustable mirrors

are set by moving the lever in the driver's door trim.

Turning the knob from L to R switches control from left to right mirror.

If the electrical control of the mirror fails at any time the mirrors can be adjusted by hand by pressing on the edge of the mirror surface.

The electrically operated exterior mirrors are heated when the heated rear window is switched on.




### Anti-dazzle interior mirror*

| | |
|---|---|
| Mirror in normal position | – Lever to front |
| Mirror in anti-dazzle position | – Lever to rear |

## SEAT BELTS

**Seat belts are only beneficial if they are worn at all times – also in town traffic.**

For this reason all vehicle occupants should always wear the seat belts – including those on the rear seats.

With the three-point belts it is essential to ensure that the shoulder part of belt runs roughly over the centre of the shoulder, as shown in Fig. on next page – **on no account against the neck.**

On the front seats the belts can be made to fit properly with the aid of the adjustable belt anchorage (see next page). Contact your V.A.G workshop if necessary.

### Safety for children

**Children under 12 years old should be carried on the rear seat (Caravelle and Combi) and should, depending on age, be secured there with a childs restraint system or the existing belt.**

Very small children should, depending on size be carried in a reclining safety seat or a child's seat.

Children above 6 years of age can also use a lap belt.

Larger children may use three point belts provided that the belt passes over centre of shoulder and not against the child's neck – see illustration on next page. If necessary, a safety seat cushion can be used.

The installation and use of child restraint systems must be done in accordance with instructions of the manufacturer concerned.

### General notes

Only one person is to be secured with each belt. Never secure two people **(even children)** with **one** belt.

On vehicles with armrests* for the seats, always ensure that the belt runs underneath the armrests.

The belt should not be worn over hard or breakable articles (glasses, ball pens, key rings, pipes, etc.) because this can cause injury to the body.

Loose, bulky clothing (e.g. overcoats over jackets) affects the fit and function of the belts.

The belt must not be jammed anywhere or rub on any sharp edges.

The slot for the belt tongue must not be blocked with paper or anything as otherwise the tongue cannot engage properly.

The belts must be kept clean as otherwise the retractors may not work properly (see also "Care and Maintenance" section).

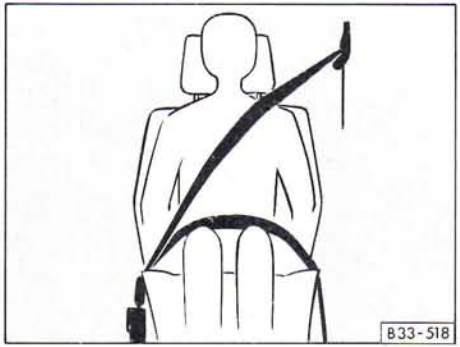
Seat belts which are damaged or have been stressed in an accident and stretched must be replaced – preferably by a V.A.G workshop. The anchorages should also be checked.

Belts can be service installed for all seating positions on vehicles not fitted with belts at the factory. The installation of belts should be done by a V.A.G workshop because these workshops have the information necessary to do the job properly.

On the Van there are no belt anchorages in the load compartment.

### Belt height adjustment

Two anchorage points are provided in the cab for the upper belt attachment. This makes it possible to adapt belt to body size.




### Three-point inertia reel belts*

The inertia reel belt gives complete freedom of movement when pulled slowly. Sudden braking however will cause the belt to lock.

The retractor mechanism will also lock the belt when accelerating, driving down steep gradients or cornering hard.

**Putting belt on**

Pull the tongue slowly and smoothly across your chest and hips and push it into the lock part fitted on the seat until tongue engages audibly (pull to check).

**The shoulder part of the belt must run roughly across the centre of the shoulder as shown – on no account against the neck – and be firmly in contact with the body.**

**The lap part of belt must always fit tightly across the lap. Pull belt tight if necessary.**

**The belt must not be twisted.**

**The backrest of the front seats must not be inclined too far to the rear as otherwise the belts are no longer effective.**

**Belt warning device***

The belt for the driver has a warning device.

When the ignition is switched on, a buzzer sounds to remind you to put the belt on. The buzzer stops after about 5 seconds or when belt has been put on.

**Taking belt off**

To release the belt, press the orange-coloured button in the lock. The tongue will then spring out.

Pass the tongue towards the door by hand so that the retractor can roll the belt up properly.

## Lap belt*

The buckle is used in the same way as on the three-point inertia reel belts.

**The belt must always fit tightly.**

**To lengthen belt** hold the tongue at right angles to belt and pull belt through to the required length.

The belt is easier to adjust if tongue and cap are pressed together.

**To shorten belt** it is only necessary to pull the free end of belt.

The surplus belt length is taken up by moving the plastic slide.

## Two-point inertia reel belts

The individual seats* in the passenger compartment are fitted with two point inertia reel belts. They give complete freedom of movement when pulled slowly but sudden braking however will cause the belts to lock. The automatic retractor mechanism will also lock the belt when driving down steep gradients or cornering hard.

### Putting belt on

Pull the tongue slowly and smoothly across the hips and push it into the lock part fitted on the seat until tongue engages audibly (pull to check).

**The belt must not be twisted. The belt must always fit tightly, pull belt up slightly if necessary.**

### Taking belt off

To release the belt press the orange coloured button in the lock. The lock will then spring out.

Pass the tongue across by hand so that the retractor can roll the belt up properly.

## HEAD RESTRAINTS*

### Adjusting height

Grip at sides with both hands and pull up or push down. The upper edge should be roughly at eye level.

### Removing and installing

Push spring clips out of slotted rings in backrest with a small screwdriver and lift head restraint out.

To install, first press the spring clips into the guide rings so that the straight part of clip is at the rear. Then push head restraint into the guides until it engages.

**Note:**
The spring clips need not be taken out on vehicles which have a rear seat/fully reclining seat bench.

It is quite sufficient to push the protruding spring clip extensions back to the rear, to enable the head restraints to be removed.

## SEATS IN CAB



### Caution

■ **For safety reasons the seats should only be adjusted when vehicle is stationary.**

■ **Do not lower the backrest too far when on the move because the seat belts are then no longer fully effective.**

### Individual driver's and front passenger seats

**To move seats back or forward**

Lift lever (1) on outside of seat and move seat. Then release lever and move seat further so that catch engages.

**To adjust backrest rake**

Take weight off backrest, press lever (2) on right side of seat frame down and move backrest to desired position by moving upper part of body then release lever.

**Armrests***

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

**To take seat out**

■ Slide seat forward into 1st latch position.

■ Lift hook (3) against spring-loading, at the same time pull lever (1), hold it and slide seat past stop.

■ Release hook and lever and push seat forward out of runners.

■ The hook need not be lifted when putting seat back as the seat, with the lever lifted, can just be pushed past the stop.

### Two seater bench*

The seat is moved back or forward in same way as the single seats. The lever is at the front of seat.

When seat is moved, the backrest rake is also altered.

### To remove

Remove in same way as the single seats. Bolts on right and left of backrest must be removed.

### Swivelling seats*

On vehicles with swivelling seats the passenger's seat can be turned 180° to the right and the driver's seat 90° to the left. To turn seats, push them forward slightly or open door, and pull the release lever. The handbrake must be released before turning driver's seat. **(Engage a gear to prevent vehicle from rolling away.)**

**The swivelling seats must always be facing forward when vehicle is in motion.**

### Seat heating*

Seat cushion and backrest of front seats can be heated electrically when ignition is on. Further details are given under "switches", page 27.

## SEATS IN PASSENGER COMPARTMENT*

**Removing and installing centre bench seat**

Remove four wing bolts under seat.

When putting seat back again ensure that the runners are clean.

**Head restraints***

The head restraints must be adjusted to body size – see page 12.

**Removing and installing rear bench seat**

The rear seat cushion is bolted to the side panels on each side with one bolt under the upholstery. Remove bolts and take lower part of seat out.

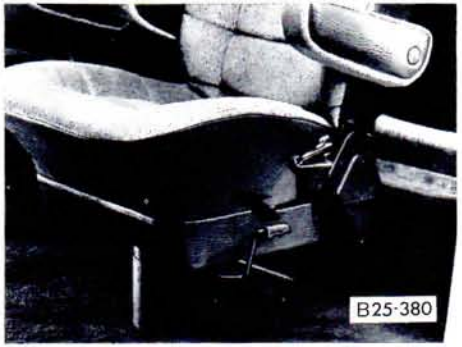
The seat backrest is secured at each side with two bolts. The bolts between seats and backrests also serve as seat belt anchorages.

**When refitting the seat and backrest, ensure that the seat belt is also correctly installed.**

## INDIVIDUAL SEATS IN PASSENGER COMPARTMENT*

### Centre seats

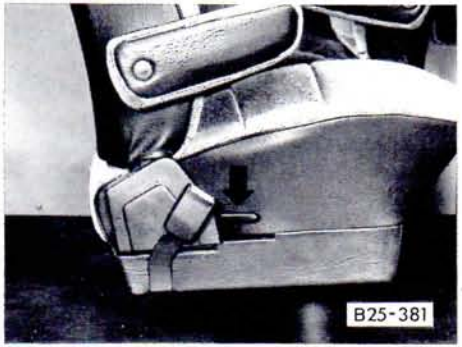
The centre seats can be turned and the backrest angle adjusted.




### Turning

Lift lever (see illustration), turn seat to the desired position and let lever engage again.

If the backrest is very low, it may be necessary to raise it slightly before the seat can be turned.




### Adjusting backrest angle

Take weight off backrest and press lever down (see illustration). Adjust backrest to the desired position by moving upper part of body and release lever.

### Removing

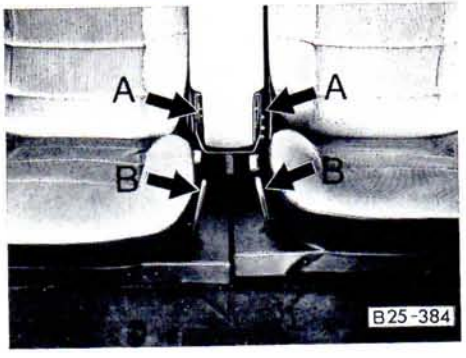
Lift the lever used to turn seat and take seat out.

The base which remains can be removed when carpet is lifted.

**Caution**
**When the seats are installed again ensure that base and seats are secured properly.**

## Rear seats

The height, seat angle and backrest angle of the rear seats can be adjusted.




### Mechanical adjustment

#### Adjusting seat angle

Press lever B to front or rear and adjust position of seat as required by moving body weight.

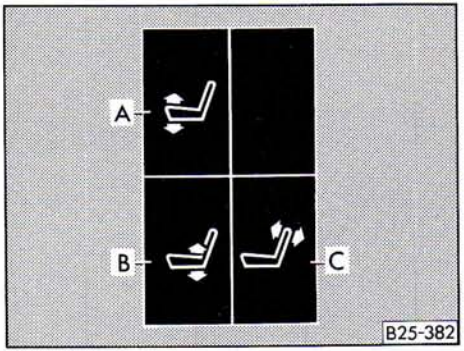
#### Adjusting seat height

Press lever B alternately at front and rear and by moving weight of body to front and rear lift or lower the seat.

#### Adjusting backrest angle

Take weight off backrest and turn knob A at side of backrest.

**Caution**
**When vehicle is in motion, the backrests must not be inclined too far to the rear as otherwise the belts are no longer fully effective.**




## Electrical adjustment*

### Adjusting seat angle

Press switch A at front –
Front of seat is raised
Press switch A at rear –
Front of seat is lowered

Press switch B at front –
Seat is raised at rear
Press switch B at rear –
Seat is lowered at rear.

### Adjusting seat height

Press switches A and B at front –
Seat is raised
Press switches A and B at rear –
Seat is lowered

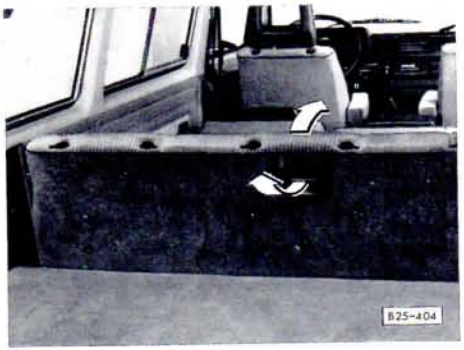
### Adjusting backrest angle

Press switch C at front –
Backrest moves up
Press switch C at rear –
Backrest moves down.

### Caution

**When vehicle is in motion, the backrests should not be inclined too far to the rear as otherwise the seat belts are no longer fully effective.**

## REAR SEAT/FULLY RECLINING SEAT BENCH*






The rear seat/reclining seat bench can be converted into a large sleeping area.

Before doing this, the backrests of the center row of seats must be tipped forwards. The latching levers are located on the outsides of the right and left hand backrests.

**To convert reclining seat bench**

- Remove head restraints* – see page 12.
- Unlatch the backrest with the release grip on the reverse side of the backrest, and fold the backrest forwards.
- By pulling the release grip further towards the front, the backrest and seat bench are pulled in a forward direction.
- Finally, fold the seat backrest fully to the rear to form a flat sleeping area.

**Returning seat bench to original position**

- Pull the seat backrest upwards out of the horizontal position.
- Slide the seat bench, together with backrest to the rear again.
- Push backrest back into locking position.
- Pull the seat belts out again between backrest and seat, so that they are in a position for use.
- Install head restraints* – see page 12.

The space underneath the seat bench can be used as a storage compartment. For this, it is necessary to lift the seat bench slightly at the front. It will remain in the lifted position when the strut, located on the left on the sliding door side is swung upwards.

## LUGGAGE COMPARTMENT/ LOAD SURFACE

### To enlarge luggage space*

- Release backrest by pulling loop
- Fold backrest down to seat

The backrest locks automatically when hinged to the rear.

Instructions on using the rear/reclining seat* are given on page 18.

**Notes on using the luggage compartment or the load surface**

- The load must be stowed so that it cannot slip or even fly forward when the brakes are applied.
- In the interests of good handling the load should, wherever possible, be carried between the axles. The permissible axle loads and the permissible gross vehicle weight should on no account be exceeded.

## ROOF RACK

When a roof rack is to be used, note the following:

- Only use roof racks which are supported in the rain channel
- Distribute load uniformly.

Do not exceed permissible roof load or permissible gross vehicle weight.
Further details on pages 117–119.

- When carrying heavy or large objects on the roof, bear in mind that the vehicle handling can change due to the alteratsion in centre of gravity and the increased area exposed to the wind. Driving style and speed must be modified to allow for this.

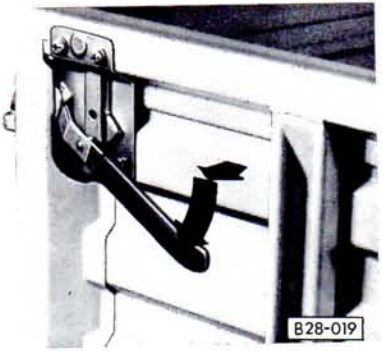
## COVER*


Ensure that the cover is secured properly behind the cab.

The cover is correctly secured when the rod incorporated in the cover engages in the rain channel at the rear of the cab and the left and right hand ends are bolted to the canopy frame.

When the cover and rails have been removed, care should be taken when refitting to ensure that the foam seal is stuck properly in the rain channel (if necessary renew seal).

## DROPSIDES




To drop side boards – pull handle outwards to release locking pin und swing down to lift hook.

**On vehicles with support cables for the tailboard, not more than 150 kg should be placed on the tailboard when it is down.**

## HANDBRAKE

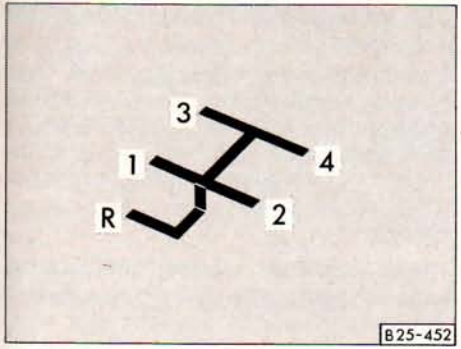
The handbrake is located between the front seats.

To apply the handbrake pull lever up firmly. On hilly roads the 1st gear or on automatic gearboxes the parking lock, should also be engaged. The handbrake should always be applied so firmly that it is not possible to drive off accidentally with handbrake slightly on.

When handbrake is applied with the ignition on, the brake warning lamp* comes on.

To release handbrake, pull lever up slightly, press locking knob in and push lever right down.

## MANUAL GEARBOX




4 speed gearbox

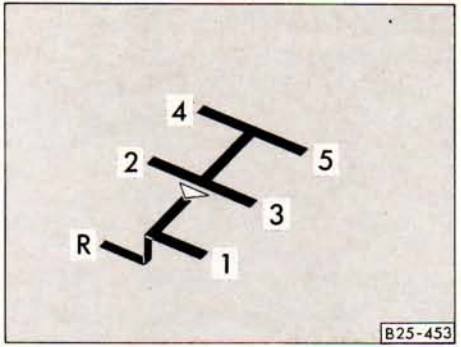
**Engaging reverse**

Move lever in neutral to the left, press it down and move it further to the left stop and then push it forward.

Only engage reverse gear when vehicle is stationary.

When engine is running, depress clutch fully and wait a few seconds before moving gear lever, to prevent grating noises.

When reverse gear is engaged with ignition on, the reversing lights* come on.

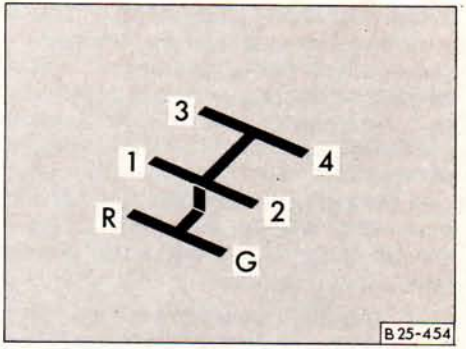



### 5 speed gearbox

**To engage 1st gear** move lever past pressure point to left stop and then pull it back.

One normally moves off in 1st gear but on vehicles with the 44, 57 and 82 kW engine and 5 speed gearbox the rear axle ratio is different so that one can move off on the level with a light load in 2nd gear.

**To engage reverse gear** move lever past pressure point to left stop, press it down and push it to front.




### 4+G gearbox (4 WD vehicles)

**Engaging crawler gear**

Move lever in neutral to the left, press it down and move it further to the left stop and then pull it to the rear.

**Note**

When driving you should not rest your hand on the gear lever. The pressure of your hand is transmitted to the shift forks in the gearbox and can cause premature wear of the forks.

## DIFFERENTIAL LOCKS*

When negotiating a curve, the wheels of a vehicle cover different distances. To balance out the differences in wheel speeds, differentials are incorporated in the driving axles. However, these differentials have a distinct characteristic: As soon as one wheel on an axle commences to spin on a slippery surface, only very little traction is available, even though the other wheel is on a hard surface.

Using the differential locks the wheels of one axle can be locked together and the traction is once again abtained.

On the Transporter/Caravelle there are two different types of differential lock: Vehicles with rear wheel drive have a limited slip differential in the rear axle and 4 WD vehicles have selectable mechanical locks in front and rear differentials.

### Limeted slip differential*

(Rear wheel drive)

The locking effect is obtained by means of plates which are arranged in the differential in a sort of multi-plate clutch. With this differential the locking effect is not 100% but only approx. 45%. Contrary to vehicles with 100% locking, the steering behaviour on the road, particularly in sharp curves, remains almost unchanged.

The effective locking force is dependent on the speed difference of the two driving wheels. This means: the larger the difference, the larger is the locking force of the differential.

### Driving tips

In normal conditions the vehicle can be driven just like every other vehicle. At the beginning it may take a bit of getting used to when driving through sharp curves. This is due to the fact that a slight locking effect is always present.

Furthermore in isolated borderline conditions where, on the one hand the frictional resistance of the driving wheels on the ground differs a great deal and, on the other hand, a large amount of power must be transmitted to move off, it may be found that the maximum possible locking effect is not obtained in the differential. One notices this because one wheel spins while the other does not turn at all. In this case one should engage and disengage the clutch gently and repeatedly. This will prevent the differential from becoming overheated.

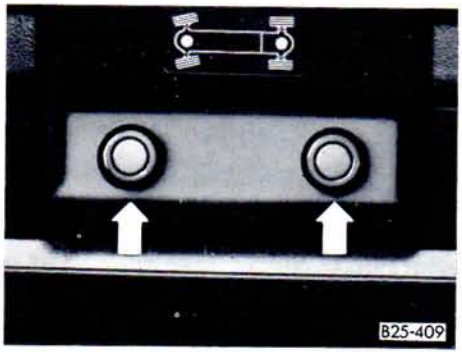
### Gear oil

The oil level does not need checking between the intervals given in the Service Schedule. The oil does also not need changing. To top up or fill after a repair a V.A.G workshop should be contacted because the gearbox must be filled with a special oil.

## Selectable differential locks*

(Four wheel drive)
With the selectable differential locks, the wheels on one axle are fully locked together (100%). As no compensation takes place when cornering, the handling and the steerability is affected – particularly in the case of the front differential lock.

**Attention**
**The differential locks may only be used under the limited specific conditions described on the following pages.**




### Engaging the differential locks

The differential locks are engaged and disengaged with the knobs shown in the centre of the instrument panel with vehicle stationary or moving.

Left knob – Front axle differential lock
Right knob – Rear axle differential lock

**When the knobs are pulled/pushed** engagement or disengagement is only selected. The actual shifting process can be delayed. If the wheels are rotating at different speeds, or if the drive train is under strain, e.g. tight corner with differential lock engaged, it could even happen that the lock will not engage or disengage at all. In such a case, throttle application should be reduced, or the vehicle should be driven straight-ahead to enable the lock to engage/disengage.

**The warning lamps** above the knobs indicate the operational condition of the locks:

- If the front axle differential lock has been selected, the left hand warning lamp flashes. As soon as the lock engages the lamp lights up continuously.
- The right hand warning lamp monitors the function of the rear axle differential lock. It does not flash when the lock has been selected but only lights up once the lock has engaged properly.

■ Both warning lamps go out again once the knobs have been pushed in the locks have actually disengaged.

If after selecting the differential locks, and after driving some distance, the warning lamps do not light up, the electrical system and the locks themselves should be checked at a V.A.G workshop.

**Attention**

**The differential locks influence the steerability of the vehicle. In particular, with the front axle differential lock engaged, the vehicle is no longer steerable. For this reason, the front axle differential lock must only be used under off-road conditions and then only at low speeds. Always disengage the lock before driving on metalled road surfaces.**

**When may the differential locks not be engaged?**

■ **Neither the front nor the rear axle differential locks may be engaged when driving along metalled road surfaces.**

**Locking the front axle differential makes the vehicle unsteerable.**

**When the rear axle differential is locked, the rigid connection between the two rear wheels has a scrubbing effect on the tyres when cornering. This leads to increased tyre wear and also to "jerking" when the vehicle is being steered. In certain circumstances it may even damage the drive train.**

**For this reason, the locks may only be engaged under off-road conditions or as an assistance when moving off.**

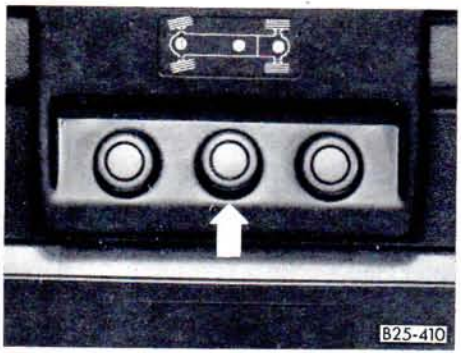
**See "Driving Tips" on page 60 also.**

■ **When a wheel is spinning, if for example the vehicle is stuck in snow. This would not only lead to increased tyre wear but it could also damage the drive train and lead to uncontrollable acceleration. For this reason, the spinning wheel must first be brought to a standstill before the differential locks are engaged.**

**When the vehicle is being towed – see page 103 also.**

**When testing the vehicle on a dynamometer, e.g. when being tested by local authorities.**

## SELECTABLE FOUR-WHEEL DRIVE*




Vehicles required for particularly arduous operating conditions (e.g. predominantly cross-country work) can be equipped with a manually controlled four-wheel drive, as an optional extra.

Under normal driving conditions on dry roads, the vehicle should **only** be driven by the rear axle.

When the road surface is wet, slippery, snow or ice covered, or when driving under off-road conditions, one is advised to engage the four-wheel drive.

The drive can be engaged or disengaged whilst the vehicle is in motion.

### Engaging four-wheel drive

Pull the knob (arrow) located in the middle of the dash panel.

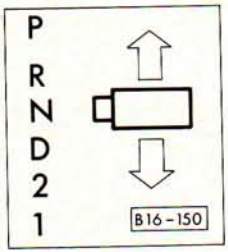
When the knob is pulled/pushed, engagement or disengagement is only selected. The actual shifting process can be delayed. If the wheels are rotating at different speeds, it could happen that the 4 WD cannot be engaged at all, or if the drive train is under strain, e.g. tight corner with differential lock engaged, it could even happen that the lock will not disengage. In such a case, the accelerator should be released or the vehicle should be driven straight-ahead to enable the 4 WD to engage/disengage.

The warning lamp above the knob lights up or goes out only when the four-wheel drive has actually engaged or disengaged.

### Notes

- When engaging the cross-country gear, the four-wheel drive is automatically engaged.
- To keep the steering forces as low as possible, the four-wheel drive should be disengaged when a full lock is required – e.g. when parking.
- Just how the differential locks are engaged, and important instructions on their use are to be found on pages 23 and 24.

## AUTOMATIC GEARBOX




### Selector lever positions

**P – Parking lock**

The driving wheels are locked mechanically.

The parking lock may only be engaged when vehicle is standing still. To move lever into and out of the "P" position the safety catch in lever handle must be pressed.

**R – Reverse gear**

The reverse gear must also be engaged when vehicle is stationary and the engine idling. Before "R" can be engaged the safety catch in lever handle must be pressed.

**N – Neutral**

**D – Normal driving position**

The three forward gears are shifted up and down automatically according to throttle opening and road speed.

**2 – Position for hilly stretches**

The 1st and 2nd gears are shifted up and down automatically according to throttle opening and road speed. The 3rd gear is not used. This increases the engine braking effect.

The road speed must not exceed 90 km/h (56 mph).

The lever can be moved from "D" into "2" with accelerator pedal depressed. However as the shift into 2nd gear takes place immediately this must **only be done at speeds below 85 km/h.**

**1 – Position for steep hills**

To engage this gear, the catch in lever handle must be pressed. The vehicle remains in 1st gear and 2nd and 3rd gears are not used. This gives maximum possible engine braking effect.

The road speed must not exceed 50 km/h (30 mph).

The lever can be moved from "2" into "1" with accelerator pedal depressed. However as the shift into 1st gear takes place immediately this must **only be done at speeds below 45 km/h.**

### Kick-down device

The kick-down device gives maximum acceleration. When the accelerator pedal is pressed right down past the full throttle position, depending on road speed and engine speed, either the upshift is delayed (forced throttle) or the box changes down into the next lower gear.

## Notes on driving

### Starting

The engine can only be started when selector lever is at "N" or "P". See also "Starting engine" on page 29.

### Selecting a driving range

**Before selecting a gear with vehicle stationary and engine running, operate footbrake or handbrake. This also applies when moving lever from "P" to "N".**

**Particularly when the idling speed is high (after starting from cold) it is necessary to hold the vehicle with the handbrake.**

This is necessary because with an automatic gearbox the transmission of power is not completely stopped even at idling speed – the vehicle tends to "creep".

**When selecting a gear with vehicle stationary, do not depress accelerator.**

**When a driving range is selected with the vehicle stationary, the throttle must on no account be opened (e.g. by hand from engine compartment). The vehicle will otherwise move immediately – possibly even with handbrake applied.**

**Before working on the engine when it is running, place selector lever at "P" and apply handbrake.**

**If the lever is moved accidentally into "N" when driving, release accelerator and let the engine speed drop to idling before selecting a forward gear again.**

### Driving downhill in winter

**Before driving down a long slippery gradient after starting from cold in a vehicle with a carburetor engine, ensure that engine is warmed up enough to idle at normal speed. Otherwise the engine braking effect will be limited when accelerator pedal is released and gentle braking on the slippery surface will not be possible.**

### Stopping

To stop vehicle temporarily such as at traffic lights, all that is necessary is to apply the brakes. It is not necessary to move lever to "N". The engine should however only be running at idling speed.

### Parking

On level ground all you need do is to engage the handbrake. On a gradient the handbrake should be applied firmly first and then the parking lock engaged. This will ensure that the locking mechanism is not too heavily loaded and makes lock easier to disengage.

### Emergency starting

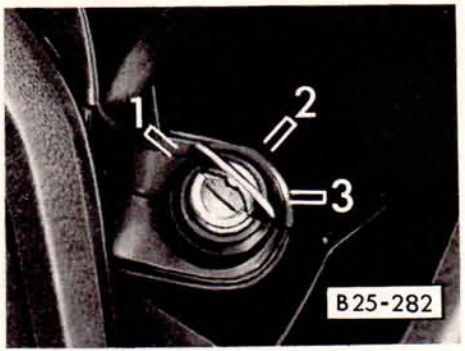
The engine cannot be started by towing or pushing the vehicle.

When battery is flat, the engine can be started from the battery of another vehicle by using a jumper cable. See "Emergency starting", page 102.

### Towing

If the vehicle has to be towed at any time, you must read the instructions in the section "Towing" on page 103.

## STEERING LOCK/IGNITION SWITCH




### Petrol engine

1 – **Ignition off – Steering can be locked.**
2 – **Ignition on**
3 – **Starting engine**

### Diesel engine

1 – **Fuel supply cut off – Steering can be locked**
2 – **Glow and drive position**
While glow plugs are on, no other heavy current consumers should be switched on.
3 – **Starting engine**

### For all vehicles:

Position 1:

To lock the steering wheel withdraw key and turn wheel until you hear the pin engage.

**Caution**
**Do not withdraw key until vehicle is stationary.**

Position 2:

If the key is difficult to turn in the lock or cannot be turned to this position at all, the steering wheel must be turned to and for slightly to release the locking pin.

Position 3:

In this position the headlights, the windscreen wipers, the blower* and the heated rear window* are switched off.

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.

## STARTING THE ENGINE

### General notes

**Be careful when running the engine in a confined space. Danger of poisoning.**

■ Check that gear lever is in neutral. (On vehicles with automatic gearbox: Selector lever at "P" or "N") and apply handbrake before starting.

■ Depress the clutch pedal on vehicles with manual gearbox when starting so that the starter only has to turn the engine.

■ As soon as the engine starts, release the ignition key so that the starter can disengage.

■ Do not warm engine up by running it with vehicle stationary. Drive off straight away.

■ Do not overrev or use full throttle until the engine has reached the normal operating temperature.

**Note for vehicles with catalyst**

The engine must not be started by towing the vehicle as otherwise unburnt petrol can get into the catalyst and be burned there – see also page 83.

### 44 and 57 kW carburetor engines

**Starting a cold engine**

The carburetor is fitted with an automatic choke which is actuated the first time the accelerator pedal is depressed when engine is cold.

■ Depress accelerator pedal slowly **only (twice when it is freezing)** and then release it.

■ Switch ignition on and start engine straight away – **do not use accelerator.**

■ **The engine may rattle briefly after being started. This is caused by the hydraulic tappets which have to build up a certain oil pressure first. The noise is harmless and no cause for alarm.**

■ The increase in the idling speed which takes place as engine starts to warm up can be reduced by just tapping the accelerator pedal briefly.

**On vehicles with an automatic gearbox** the engine should be run at fast idling speed for about one minute after starting **when it is very cold.**

The pedal should then be tapped so that the speed drops and a gear can be selcted at normal idling speed.

**Starting a warm engine**

■ Depress pedal slowly **while operating** starter.

■ Release pedal as soon as engine starts.

**Starting a hot engine**

■ Depress pedal fully **before operating starter** and hold it in this position – do not pump it.

■ Release pedal as soon as engine starts.

## Fuel injection engines

The engine is fitted with a fuel injection system which automatically supplies the correct fuel/air mixture for all operating conditions. The starting procedure described here is applicable regardless of ambient or engine temperature:

■ Switch ignition on and start engine straightaway. **Do not depress accelerator.**

■ Only if the engine does not start the first time, should the accelerator pedal be depressed slowly during the next attempt to start. When engine starts release accelerator pedal immediately.

## Diesel engines

### Glow plugs

The engine is fitted with glow plugs. The time the plugs are on is indicated by a lamp which is controlled by the coolant temperature – see page 33.

### Cold starting aid

To facilitate starting from cold, there is a cold starting device in the injection pump. This cold starting aid is operated with the knob on the left near the steering column (see illustration on page 2, item 20).

### Starting a cold engine

■ At ambient temperatures down to **–15° C,** pull cold start knob out fully before operating starter.

At lower temperatures, the knob should not be pulled out **until engine is firing regularly –** the engine will then start more readily.

■ Turn ignition key to position 2 glow plug lamp comes on. It goes out when the ignition temperature is reached (see page 29).

**To avoid draining battery unnecessarily, do not switch any other heavy current consumers on while glow plugs are on.**

■ As soon as lamp goes out, start engine. – Do not depress accelerator when operating the starter on an engine without turbocharger. On engines with turbocharger, depress accelerator about ⅓ of pedal travel. If engine only fires irregularly, continue to operate starter a few seconds longer (30 seconds at maximum) until engine runs under its own power.

If engine does not start, wait about 30 seconds, switch glow plugs on again and try starting it again as described.

If the engine still does not start the fuse for the glow plugs may have blown – page 95.

■ Do not push the knob of cold starting aid in until engine has reached normal operating temperature as otherwise the engine may tend to stall when idling.

**Starting a warm engine**

■ The glow plug warning lamp does not come on – the engine can be started straight away.
Do not pull cold starting aid knob and do **not depress accelerator pedal.**

## STOPPING ENGINE

■ **When vehicle has been driven hard for a while do not switch engine off as soon as you stop. Let it idle for about 2 minutes to cool it down slightly.**

■ When engine is hot, the fan may continue to run when engine has been stopped or it may switch on suddenly – even when ignition has been switched off.

## WARNING LAMPS

The layout of the warning lamps depends on the model and the engine fitted. The symbols shown here are also on the actual warning lamps.

**– Engine oil pressure**

This warning lamp flashes when the ihnition is switched on. After the engine has started, the lamp must go out again.

If the warning lamp does not go out, or flashes when driving – at an engine speed of approx. 2000 rpm a buzzer then sounds – **stop at once and switch engine off.** Check the oil level and if necessary, add oil – see page 68.

If the lamp comes on despite the oil level being correct, **do not drive on.** In such a case, **the engine must not be run,** even at idling speed – call in expert assistance.

**Note:**
The oil pressure warning lamp is not an oil level indicator.

**– Generator**

**Petrol engines**

This lamp comes on when the ignition is switched on and should go out when the engine is started.

If the lamp comes on when driving, **stop at once, switch engine off** and check vee belt.

If the belt is broken do not drive further because the coolant pump is then no longer being driven. Fit a new belt. (For belt sizes see "Technical data".)

If the warning lamp comes on although the belt is not broken one can normally drive on to next V.A.G workshop.

However as the battery is then discharging continuously, all electrical components which are not absolutely essential should be switched off.

**Diesel engine**

This lamp comes on when the ignition is switched on and should go out when the engine is started.

If the lamp comes on **when driving,** stop at once, switch engine off and check the vee belts for generator and coolant pump.

If the belt for the coolant pump is broken, do not drive further. Renew the belt – for belt size see "Technical data".

If the belt for the generator is broken the vehicle can still be driven to the next V.A.G workshop but the battery will then discharge continuously – see next paragraph.

If the belts are not broken one can normally drive on to the next V.A.G workshop. As the battery will be discharging continuously, all electrical components which are not absolutely essential should be switched off.

### – Coolant temperature/ coolant level

This lamp flashes for a few seconds as a functional check when ignition is switched on.

If the lamp does not go out afterwards or flashes when driving, either the coolant temperature is too high or the coolant level is too low.

**Stop at once, switch engine off** and check if the radiator fan is running (by listening). The fan is at the front behind the radiator grille. If the fan is not running, check fuse and replace if necessary – see page 94.

If the fan is in order, check coolant level and top up if necessary.

**Caution. Danger of scalding.**
**For further details see page 72.**

If the warning lamp does not go out even though the coolant level, and fan fuse are in order, **do not drive further** – get expert assistance.

If the trouble is only caused by the fan and assuming coolant level is in order and warning lamp is out – one can drive on to the next V.A.G workshop. In order to make a good use of the air stream for cooling do not let engine idle or drive very slowly.

### – Glow plugs

(Diesel engine only)

When engine is cold, the warning lamp comes on when key is turned to drive position (ignition on).

When the lamp goes out, start engine immediately – see page 30.

When engine is warm the glow plug lamp does not come on – the engine can be started straight away.

### – Turn signals

The warning lamp flashes when turn signals are switched on. If a turn signal fails, the warning lamp flashes twice as fast. (Not when towing a trailer). Further details are on page 38.

### – High beams

The warning lamp comes on when high beams are on or headlight flasher is used.

### – Brake system

The warning lamp* comes on when

- the handbrake is applied
- the fluid level is low

If the lamp does not go out when handbrake is released or comes on when driving, the fluid level in reservoir is too low. If at the same time the pedal free travel increases, one of the two hydraulic circuits may have failed.

**You can drive on to the nearest V.A.G workshop but allow for higher pedal pressures and longer braking distances on the way.**

### Trailer turn signals*

The warning lamp flashes when turn signals are switched on when towing a trailer.

If a turn signal fails on trailer or vehicle, the warning lamp does not flash.

**Differential locks* or selectable four wheel drive***

Warning lamps for the differential locks on four wheel drive models or for selectable 4 wheel drive – see page 23/25.

## INSTRUMENTS

The arrangement of the instruments depends on the model concerned and the engine fitted – see also "Instrument panel", page 2.

### Speedometer

The permissible maximum speeds during the running-in period are given on page 39.

The last figure of the mileage recorder or **trip recorder*** indicates 100 m or 1/10 mile.

The trip recorder can be set back to zero by pressing the knob in the speedometer dial.

### Rev counter*

The permissible engine speeds during the running-in period are given on page 53.

The dotted zone on the scale shows the maximum engine speed permitted briefly when engine has been run in and is warm. It is advisable to change up or reduce engine speed at the latest by the time the needle reaches this zone.

**Changing up in good time helps to save fuel and keeps the noise down.**

Always change down to the next lower gear before the engine starts labouring. (no longer pulls smoothly).

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

### Clock*

#### Normal clock

To set the time, press knob in centre of dial and turn hands.

#### Digital clock

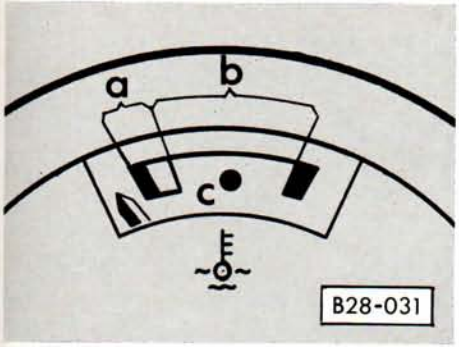
The time is set with buttons on left and right of dial. The left button is for the hours and the right one for the minutes:

- If pressed briefly, preferably with a ball pen, the time changes one hour or on minute.
- If pressed continuously the hours or minutes change continuously.

With the minute button the clock can be set exactly to the second.

- Press button until time is one minute before time to be set.
- Press button at the moment when the seconds indiator of a digital wristwatch shows a full minute or when the time signal is heard on the radio.




## – Coolant temperature gauge

The gauge starts to work when ignition is switched on, but it takes a little time before the needle reaches the final position.

When ignition is switched on the warning lamp (c) flashes for a few seconds as a functional check.

a – **Cold zone**

Avoid high engine speeds and do not work engine too hard yet.

b – **Normal zone**

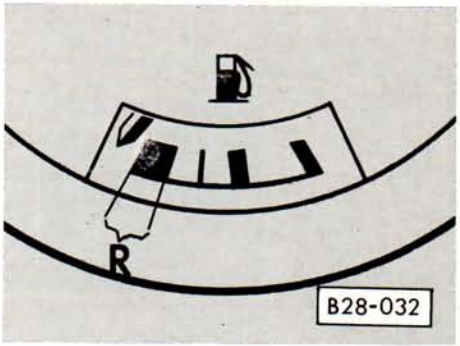
When vehicle is driven normally the needle should settle down in the middle of this zone.

When engine is working hard and ambient temperature is high, the needle may move further to the right.

**This is not serious as long as the warning lamp (c) does not flash.** When engine is pulling normally the needle should go back to the middle.

c – **Warning lamp**

If the lamp flashes when driving either the coolant temperature is too high or the coolant level is too low. Stop at once, switch engine off and try to find the cause of the trouble – see page 33.




## – Fuel gauge

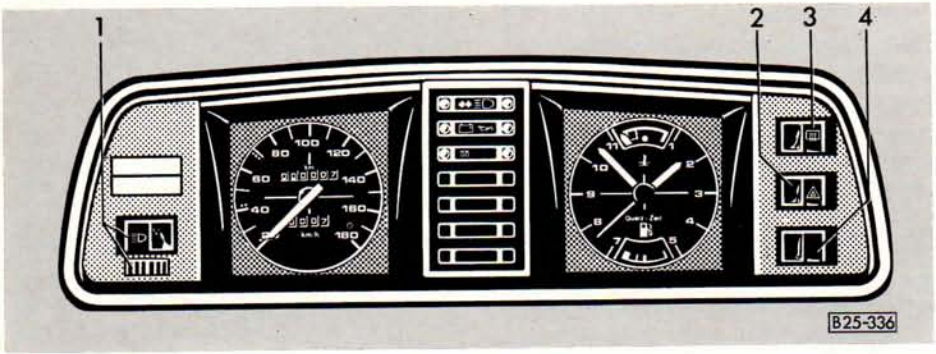
The fuel gauge needle starts to move when the ignition is switched on but it takes a few seconds to reach its final position.

The tank holds about 60 litres (syncro 70 litres).

When the needle reaches the start of the reserve mark (R) there are about 10 litres of fuel left in the tank.

## SWITCHES




### 1 – Lighting switch

First detent – side lights
Second detent – headlight high or low beams

The headlights only work when the ignition is on. When the engine is being started, the headlights are switched off automatically.

When the lights are on, the level of the instrument lighting can be regulated by turning the knurled disc* below the switch.

Dipping and flashing headlights – see page 38.

### 2 – Emergency lights

When the emergency lights are on, a warning lamp in the switch flashes as well.

The system also works when the ignition is switched off.

### 3 – Heated rear window*

The heating works only when ignition is on. When heater is on a lamp in the switch lights up.

As soon as window is clear, switch element off. The reduced current consumption helps to reduce the fuel consumption – see also "Driving economically".

### 4 – Fog lights* rear fog light*

First detent – fog lights
Second detent – fog and rear fog lights, or only rear fog light.

At the second position a warning lamp in the switch comes on.

The **fog lights** work only with the side lights (ignition on), low or high beams.

The **rear fog light** works only with the fog lights or with the low or high beams.

**Note**
The use of the lighting described at 1, 2 and 4 is subject to local regulations.


**Knurled disc for seat heating***

The cushion and backrest of the front seats can be heated electrically when the ignition is on.

The heating is switched on and regulated with the knurled disc.

To switch heating off, turn knurled disc to the detent position.

## TURN SIGNAL AND DIP LEVER


The turn signals only work when the ignition is switched on.

Right turn signals – lever up
Left turn signals – lever down

When turn signals are working the warning lamp flashes as well. See also page 33.

When a turn signal fails, the warning lamp flashes roughly twice as fast.

The turn signals cancal automatically after making a turn.

**To signal a lane change**

Move lever up or down to pressure point and hold in position – the warning lamp must also be flashing.

**To dip headlights**

Pull lever past pressure point towards steering wheel. When high beams are on, a warning lamp in the dash lights up.

**Headlight flasher**

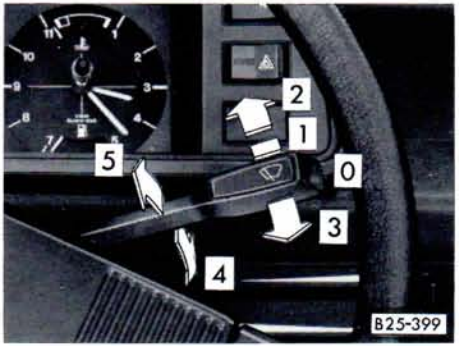
Pull lever towards steering wheel to pressure point – the high beam warning lamp lights up.

**Parking lights***

The parking lights only work when ignition key is removed.

Right parking lights – lever up
Left parking lights – lever down

## WINDSCREEN WIPER AND WASHER SYSTEM




Wipers and washers only work when ignition is switched on.

When it is freezing, check that the wiper blades are not frozen to the glass before switching wipers on for the first time.

**Windscreen**

**Brief wipe**

Lift lever to pressure point before stop 1.

**Wiper slow**

Lever at position 1.

**Wiper fast**

Lever at position 2.

**Windscreen washer**

Pull lever towards steering wheel – the system works as long as lever is held in this position.

**Automatic wash/wipe facility****

Pull lever towards steering wheel – wipers and washer work.

Release lever.

The washer stops and the wipers carry on for about 4 seconds.

Lever at detent 3

The wipers work about every 6 seconds. (intermittent wipe)

**Rear window**

**Automatic wash/wipe****

Press lever briefly away from steering wheel – the wiper works about every 6 seconds (intermittent wipe). Pressing lever briefly again switches the wiper off.

Press lever away from steering wheel, and hold in position –

The wiper and washer work as long as lever is held in position.

Release lever –

The washer stops and the wiper carries on for about 4 seconds.

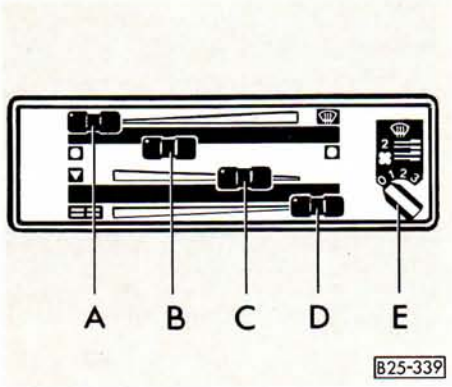
### Headlight washer system**

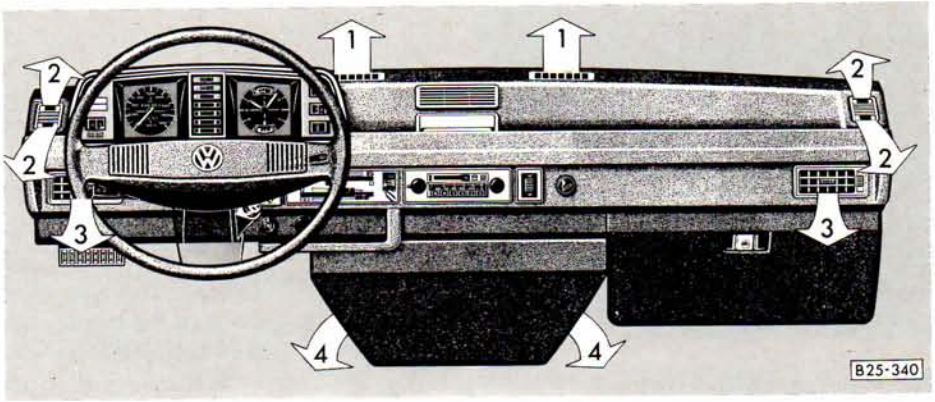
When the headlights are on, the lenses are washed every time the windscreen is washed.

At regular intervals such as when filling the tank, caked on dirt and insects should be removed.

Filling washer container, see page 74.

## HEATING AND VENTILATION




### Controls

**Levers A and C – Warm or fresh air distribution**

Lever A to right – vents 1 and 2 are opened
Lever C to left – vents 4 and footwell vents in passenger compartment* are opened.

**Lever B – Heat output**

To left – increases
To right – decreases

**Lever D – Roof vents in passenger compartment***

To right – fresh air decreases
To left – fresh air increases

**Switch E – Blower**

The blower has 3 speeds.

### Air vents

Warm or fresh air flows from the vents 1, 2, 4 and from the footwell outlets for the passenger compartments*.

Only fresh flows from the vents 3 and from the roof vents for the passenger compartment.

The vents 3 can be adjusted separately:
Lever down – vent opened
Lever up – vent closed

The direction of air flow can be controlled with the tab in the vent.

**Defrosting windscreen and side windows**

- Move all levers fully to the right.
- Switch blower to stage 2 with switch E.
- Switch off blower of additional heat exchanger*.

**Demisting windscreen an side windows**

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

- Move levers A, C and D fully to the right.
- Move lever B slightly to the right into the heating range, if necessary.
- Blower switch E to stage 2 or 3.
- Close vents 3.

**Heating interior as quickly as possible**

- Levers A, B + D fully to the right
- Lever C fully to the left
- Close vents 3
- Switch blower to stage 2 with switch E.

## Heating interior normally

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

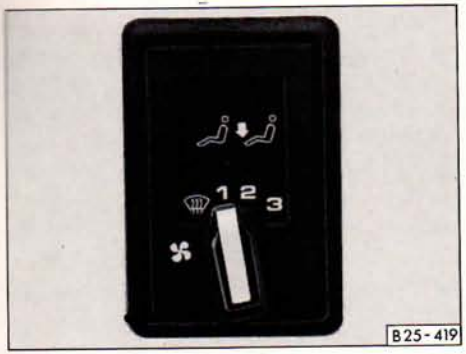
- Lever A to the left
- Lever B to the desired heat output
- Lever C to the left
- Blower switch E at stage 1

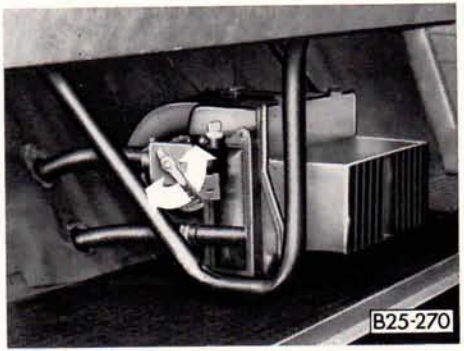
## Ventilation

When heating is off, fresh air flows from all vents. When heating is on, only from vents 3.

**Notes**

- In order to ensure that the heating and ventilation works properly, the blower should always be switched on when driving slowly.
- To prevent contaminated air from getting into the vehicle, move lever A fully to left and levers C and D fully to right. The vents 3 must also be closed.
- The heat depends on the engine temperature – the full heat output is therefore only available when engine is warm.
- All controls except blower switch E can be set to any intermediate position.
- The stale air can escape through slots in the front doors. The slots can be opened or closed by means of slides.




**Additional heat exchanger* for the passenger compartment**

The additional heat exchanger is located under the rear seat. The blower is controlled by a 3 stage switch on the dash panel – see illustration above.

To obtain warm air from the heat exchanger, the valve on the heat exchanger must be fully open.

To close or open the valve the trim under the rear seat must be removed.

To do this, grip trim on the left side and pull it out. Then move valve lever as shown on right.

Lever upwards – opened (Winter position)

Lever to rear – closed (Summer position)

In the warm seasons the blower of the heat exchanger can be used to circulate the air. When used in this way the valve on the heat exchanger should be closed. This will prevent unnecessary heat radiation reaching the footwell when the weather is warm.

## AUXILIARY AIR HEATER*

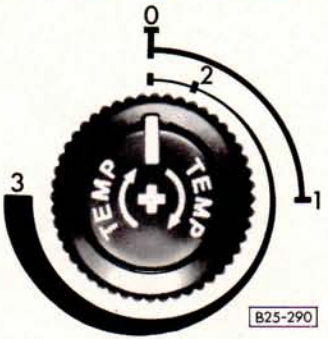
The heater is switched on and off with the knob (see Fig.) in the dash on the right of the steering column. This switch also regulates the amount of heat.

Depending on model concerned the warm air flows from the footwell vents in the passenger compartment and/or from a controllable vent under the driver's seat. The air distribution cannot be regulated.

The heater can be used all the time when vehicle is moving. When engine is not running the heater switches off automatically after about 25 minutes to avoid draining the battery.

The heater is supplied with fuel from the vehicle tank. It can use up to one litre per hour according to operating conditions.

The maximum heat output is 6000 kcal/h.




**Switch positions**

0 – Heater off

0 to 1 – Heating with engine not running

2 – Heating when driving

2 to 3 – Regulates amount of heat

**Heating with engine not running**

(Ignition off)

To switch heater on –

Press switch knob in at position 0 and turn it clockwise towards 1 (warning lamp lights up). The knob springs out again when released.

The amount of heat can be regulated between 2 and 3 as required.

Note
On vehicles with Diesel engine it takes about 40 seconds before the heat can be felt.

To switch heater off –

The clockwork in the temperature regulating switch switches the heater off automatically after about 25 minutes and the lamp goes out.

To switch heat off before clockwork has run down: turn knob anticlockwise to 0. The lamp goes out and clockwork runs down.

## Heating when driving

To switch heater on –

Turn switch knob clockwise to position 2 (warning lamp in knob comes on)

The amount of heat can be regulated between 2 and 3 as required.

Note
On vehicles with Diesel engine it takes about 40 seconds before the heat can be felt.

To switch heater off –

Turn switch knob anti-clockwise to position 0 (warning lamp goes out)

## Notes

■ Every time the heater is switched off, the warm air and combustion air blowers continue running briefly to cool the heater down quicker.

■ To avoid draining the battery, do not run the heater repeatedly when the engine is not running.

■ When the heater is running on the clockwork time switch, it must be switched off by hand before attempting to start the engine at low temperatures so that the full battery capacity is available to turn the engine.

■ **In enclosed spaces and when filling the fuel tank, the heater must be switched off.**

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

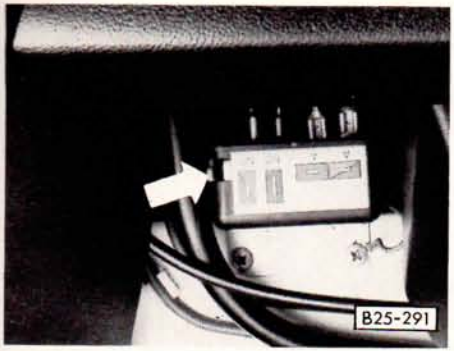
## Maintenance

When driving through mud and snow, the exhaust pipe may tend to get blocked. Have a look at it occasionally to see that it is clear.

**According to offical German regulation:**

The heat exchanger in the heater is only to be used for 10 years. After this period the heat exchanger must be replaced in a V.A.G workshop. The year in which the heater is first put into operation is marked on the nameplate on the heater.

The V.A.G workshop must then put the date of the repair on the plate on the heat exchanger.




The heater on vehicles with a **petrol engine** has a safety switch which is located under the dash on the left near the steering column. If the heater does not start, or starts and then stops again, wait 3 minutes and then operate the red lever on the safety switch.

If the heater still does not work or if the safety switch stops it again, there is a defect in the heater which can only be repaired by a V.A.G workshop.

If the heater on vehicles with a **Diesel engine** will not start or stops after operating for a while, an automatic cut-out switches the heater off. If the heater cannot be started by switching the rotary switch off and on, the heater is defective and must be repaired in a V.A.G workshop.

## Fuses

See page 95.

## AUXILIARY WATER HEATER*

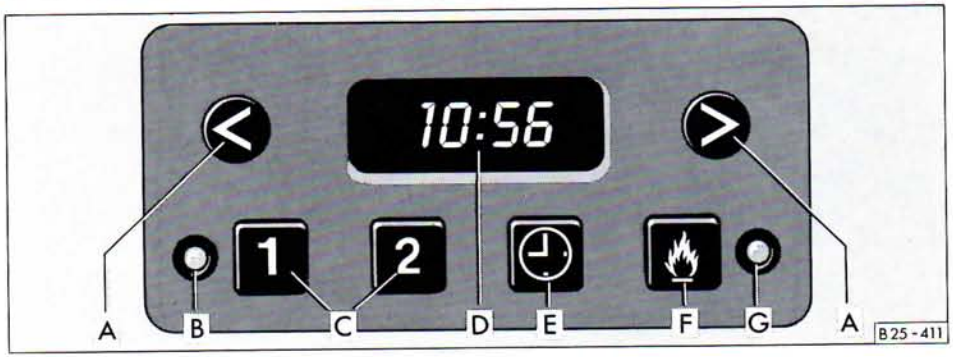
The auxiliary heater heats the coolant in the heating circuit and supplies the heat exchanger in the normal heating system and the additional heat exchanger* for the passenger compartment heating with heated coolant. The coolant ciruit of the engine is not heated.

The system is switched off and on or the switch-on time preselected by means of a switch and indicator unit located on the left (or right) unter the instrument panel.

Air distribution and regulation is done with the controls of the normal heating and ventilation system (see page 40).

The auxiliary heater can be used with vehicle stationary or when it is moving. When vehicle is stationary, the heater only runs for a maximum of 30 Minutes in order to avoid draining the battery. It also switches off automatically when a coolant temperature of 80° C is reached.

When the coolant temperature drops below 70° C the heater is automatically switched on again.




The heater is supplied with fuel from the vehicle tank and uses up to half a litre per hour. The maximum heat output is 4000 kcal/h.

**Controls**

A – Buttons for setting time and preselected time.

B – Indicator lamp for preselected time

C – Preselected time

D – Display

E – Actual time

F – Heater on/off

G – Warning lamp (heater on)

**Setting the time**

■ Press and hold clock button E.

■ Set clock with buttons A.

The display lights up as long as button is pressed. When button is released the display goes out or, if a time has been preselected, the selected time lights up for 2 secs.

**To switch heater on or off**

■ This is done by pressing button F. When heater is switched on the warning lamp G lights up.

**Preselecting starting time for heater** (stationary operation, ignition off)

With buttons C two different switch-on times can be selected within 24 hours.

■ Press and hold button. The appropriate figure 1 or 2 appears in display. The ready-for-action lamp lights up.

The heater can only work if the lever for the heat output is pushed fully to the right. This closes an electrical contact.

■ Set required switch-on time with buttons A. The display remains on for about 20 seconds after releasing button C.

In order to ensure that the heater starts up at the selected time, the lever fot the heat output must be pushed fully over to the right. In addition to this the blower must be switched to stage 1. On account of the higher current consumption, a higher stage should only be selected in isolated cases.

**Switching preselected time off**

■ The preselected time can be switched off by briefly pressing the appropriate button C. The ready-for-action lamp and the figure in display then go out.

**Fuses**

See page 95.

**Notes**

■ Every time the heater is switched off, the warm air and combustion air blowers continue running briefly to cool the heater down quicker.

■ To avoid draining the battery, do not run the heater repeatedly when the engine is not running.

When driving through mud and snow, the exhaust pipe may tend to get blocked. Have a look at it occasionally to see that it is clear.

**According to official German regulations:**

The heat exchanger in the heater is only to be used for 10 years. After this period the heat exchanger must be replaced in a V.A.G workshop. The year in which the heater is first put into operation is marked on the nameplate on the heater.

The V.A.G workshop must then put the date of the repair on the plate on the heat exchanger.

■ **In enclosed spaces and when filling the fuel tank, the heater must be switched off.**

## SLIDING ROOF*

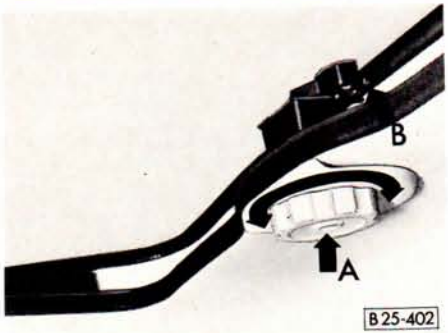
The roof is opened and closed with the crank above the driver's seat.

To open – Fold crank down and turn it to the left, the fold crank into recess again.

To close – Fold crank down and turn it to the right as far as it will go then turn it back until it can be folded into the recess.

**For safety reasons, the crank should always be in the recess.**

## 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**

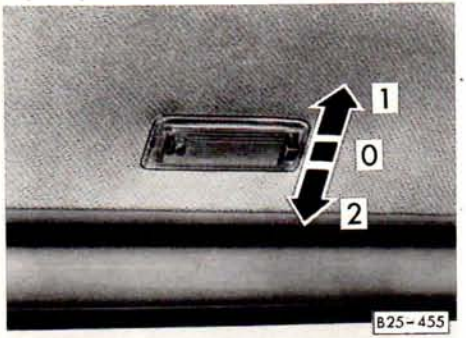
- Slide roof back into the hinges and let it drop lightly into the retainers.

**Cautions**

**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




Switch positions:

1 – Light on continuously
0 – Off
2 – Door contact position, light comes on when cab doors are open.

**Step illumination***

The step light comes on when sliding door is opened. It goes out a few seconds after the sliding door has been closed.

**Table light***

Switch positions:
To front – On
To rear – Off


**Reading lamps***

The reading lamps have separate switches and can be moved about as required.

Switch positions:
Ring turned to right – On
Ring turned to left – Off

The reading lamp on the right at the rear lights up continuously when the sliding door is opened. When the sliding door is closed it goes out in the off position together with the step light after a delay of a few seconds.


**Interior light in front of passenger seat***

Switch positions:
Up – Off
Down – On

**Boot lights***

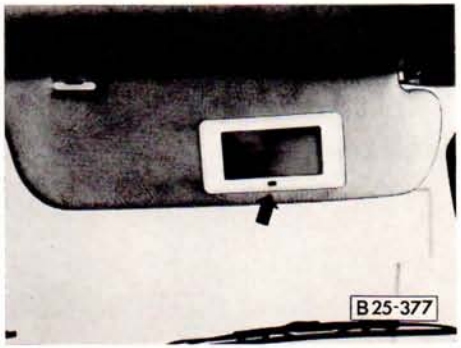
The boot lights come on when the rear flap is opened.

**Note**
When leaving the vehicle ensure that all lights are switched off so that the battery is not run down if the vehicle is left stationary for some time.

## SUN VISORS

Both sun visors can be lifted out of their brackets and swung round towards the doors.

## ILLUMINATED MAKE-UP MIRROR*




An illuminated make-up mirror is fitted at the back of the passenger's sun visor.

To switch light on – move switch to left.

When the sun visor is moved up, the mirror illumination goes out automatically.

**Note**
When leaving the vehicle always ensure that the light is switched off so that the battery is not run down when vehicle is left standing for some time.

## ASHTRAYS

### Ashtray in dash

To take out:

Grip the strip on opened lid and lift at one side to take out.

To insert:

Press ashtray into opening with lid closed.

### Ashtray in passenger compartment

To take out:

Open ashtray, press down and take out.

To insert:

Insert at top first then push in fully.

On vehicles with individual seats:

To take out:

Lift one side of the handle of the opened lid.

To insert:

Push ashtray into opening with lid closed.

## CIGARETTE LIGHTER/SOCKET*

The **cigarette lighter** is switched on by pushing in the element.

When the heating element glows, the lighter springs out automatically – pull it out immediately.

The **socket** can be used for a cigarette lighter or other electrical accessories with a capacity of up to 100 watts. When the engine is not running this will however discharge the battery.

**Cigarette lighter and socket also work when the ignition key has been taken out.**

**Children should therefore never be left alone in the car.**

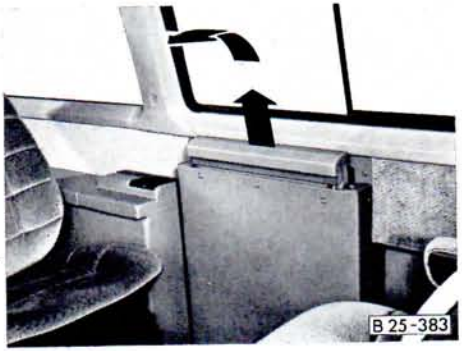
## GLOVE BOX

Vehicles with a lockable glove box have an additional key – see also page 4.

## CURTAINS*


The curtains which can be supplied for vehicles with seats/reclining seat bench are stored underneath the rear seat bench. They are secured to the window surrounds by press studs. A further curtain can be press-studded in position behind the front seats.

## EXTENDING TABLE*




On vehicles with individual seats in the passenger compartment there is an extending table on the left side.

The table can be pulled up out of its retainers and folded down (see illustration).

**Caution**

**For safety reasons the table must be pushed in when vehicle is in motion.**

## THE FIRST 1500 KM – AND AFTERWARDS

During the first few operating hours the engine internal friction is higher than later on when all the moving parts have bedded down. How well this running in process is done depends to a considerable extent on the way the vehicle is driven during the first 1500 km.

**Up to 1000 km**
**do not use full throttle at all.**

Furthermore the following speeds in km/h should not be exceeded in the gears:

**Petrol engines**

| Manual gearbox | 0–1000 km | |
|---|---|---|
| | 4 speed gearbox | 5 speed gearbox |
| 1st gear | 20 | 20 |
| 2nd gear | 40 | 40 |
| 3rd gear | 70 | 60 |
| 4th gear | 105 | 85 |
| 5th gear | – | 105 |

| Automatic gearbox | 0–1000 km |
|---|---|
| Driving range 1 | 35 |
| Driving range 2 | 75 |
| Driving range D | 110 |

**Diesel engines**

| | 0–1000 km | |
|---|---|---|
| | 4 speed gearbox | 5 speed gearbox |
| 1st gear | 20 | 20 |
| 2nd gear | 40 | 35 |
| 3rd gear | 65 | 55 |
| 4th gear | 95 | 85 |
| 5th gear | – | 95 |

The **maximum** permissible engine speed during the first 1000 km is 4000 rpm.

**From 1000–1500 km**

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

**After the running-in period**

on vehicles with a rev counter one should change into the next higher gear at the latest by the time the red warning zone is reached.

The maximum permissible engine speeds are

Petrol engines ..... about 5300 rpm
Diesel engines ..... about 4800 rpm

A speed limiter prevents extremely high engine speeds.

**Important notes**

- Do not overrev the engine when cold – either in neutral or in the gears. All speeds and revs are only valid when engine is properly warm.
- Try to avoid running the engine at maximum speed – changing up early helps to save fuel and reduces noise.
- Do not let engine labour – change down when engine no longer runs smoothly.

## DRIVING SAFETY

**The operational condition** of your vehicle is essential to safe driving.

So before moving off, always check

- **the lights and turn signals**
- **the brakes**
- **the amount of fuel**
- **the mirror settings**
- **the cleanliness of headlights, lenses and windows**

and at regular intervals

- **the tyre condition and pressures** – pages 79–82, 116
- **the engine oil level** – page 68

**The oil level should be checked every time fuel tank is filled, or in difficult conditions or full throttle operation, daily**

- **the coolant level** – page 71
- **the brake fluid level** – page 76
- **the windscreen washer**

**Safety on the road** depends to a large extent on the personal attitude and style of driving.

To be on the safe side you should:

- **always put seat belt on before moving off – even in town traffic** – page 10

In many countries the wearing of seat belts is compulsory anyway.

- **Ensure that all your passengers – including those on the rear seat – are wearing their belts** – page 10.

Passengers without seat belts can endanger not only themselves, but also the driver.

- **Adjust headrests to body size.**

The upper edge of headrest must be approximately at eye level.

**Ensure that no articles interfere with operation of pedals** – page 77.

- **Stow all luggage correctly in boot** – page 19.

**on the roof rack** – page 19

- **Do not drive when you feel tired or when your reactions are impaired in any way.**

Stop for a break at the latest after driving for two hours.

- **Adapt vehicle speed to traffic and road conditions.**

Remember that particularly on smooth slippery roads the handling and braking – also on vehicles with four-wheel drive – is limited by the adhesion of the tyres. On wet roads the front wheels can aquaplane at high speeds. The vehicle can then no longer be steered properly.

Further instructions on safety are given in the various chapters in this manual.

## DRIVING ECONOMICALLY AND ENVIRONMENT-CONSCIOUS

The economy and the exhaust emissions and noise depend to a great extent on **the personal style of driving.**

To use as little fuel as possible and disturb the environment as little as possible and keep wear of engine, brakes and tyres to the minimum, the following points should be noted:

■ **Do not run engine to warm it up with the vehicle stationary.**

Drive off immediately after starting. Do not overrev.

■ **Avoid full throttle acceleration.**

■ **Avoid high engine speeds**

The best consumption and least disturbance of environment is obtained at low engine speeds in the highest possible gear. Drive as often and as long as possible in the highest gear.

The fuel consumption is for example twice as high in 2nd gear and 1.5 times as high in 3rd gear as in 4th gear.

■ **Change down only when engine no longer runs smoothly.**

Depending on gearbox you can normally drive on the level in the highest gear at 40–60 km/h and still accelerate.

■ **Avoid driving continuously at top speed.**

■ **Drive as smoothly as possible and look well ahead.**

Unnecessary acceleration and braking must be paid for with higher fuel consumption and more disturbance of the environment.

■ **Stop engine during traffic hold-ups.**

**The individual operating conditions** naturally also affect fuel consumption.

The following factors for instance are not favourable to fuel consumption:

■ Traffic density, particularly large towns with numerous traffic lights.

■ Frequent stop/start driving, particularly driving from house to house so that engine is never properly warm.

■ Driving in heavy, slow-moving traffic in low gear so that the engine speed is relatively high in relation to the distance covered.

One should, therefore, plan trips in advance to avoid unfavourable operating conditions.

Obviously the fuel consumption is also affected by factors over which the driver has no influence. It is for example normal for the consumption to increase in the winter or in arduous conditions (bad roads, trailer towing etc.).

**The engineers** at the factory have designed your car for maximum fuel efficiency. To make use of this economy potential please note the following points:

■ Have your vehicle serviced in a V.A.G workshop at the intervals laid down in the service schedule. You will then obtain optimum economy plus constant reliability and long service life.

■ Check the tyre pressures ar regular intervals. Low tyre pressures are not only detrimental to handling, the higher rolling resistance also increases the fuel consumption.

■ Do not drive about unnecessarily with a roof rack on the vehicle. Particularly at high speeds the increased air resistance makes itself felt.

■ Do not carry a lot of unnecessary ballast about in the vehicle. Particularly in town traffic when vehicle is being frequently accelerated the vehicle weight has a considerable influence on fuel consumption.

■ All electrical consumers (e.g. rear window heating, additional headlights, auxiliary heater) should only be left switched on as long as necessary. The higher load on alternator also increases the fuel consumption.

■ The fuel consumption should be checked regularly, preferably when filling the tank, with the aid of the mileage recorder. One can then have the car inspected if the consumption has increased.

■ The oil consumption also depends on engine load and speed. Depending on style of driving the consumption can be up to 1.5 l/1000 km.

It is normal for the oil consumption of a new engine to reach its lowest value after a certain mileage has been covered. The consumption during the first 5000 km can therefore be slightly above the figure given.

Similarly, the fuel consumption and engine perforamnce can also not be correctly assessed until this distance has been covered.

## TRAILER TOWING

The vehicle must be specially equipped to tow a trailer.

When a vehicle is supplied from the factory fitted with a towing bracket it will already have the necessary modifications. When a towing bracket is service installed, the following must be noted:

■ The towing bracket is a safety part. Only a bracket which has been developed for your vehicle is to be used and it must be fitted in accordance with our instructions.

Details are usually given in the fitting instructions supplied with the bracket.

A special warning lamp must be fitted within the driver's range of vision to show that the trailer turn signals are working.

■ Check if the fitting of a bracket must be entered in the vehicle documents.

■ Every V.A.G workshop has the necessary information on fitting towing brackets. The installation should therefore be done by them.

**Note**

The installation of a towing bracket increases the unladen weight slightly and the payload must be reduced to correspond.

■ To obtain the best handling of vehicle and trailer it is advisible to make full use of the maximum permissible draw bar weight. The tyres on towing vehicle should be inflated to the pressures for full load.

For trailer and draw bar weights see "Technical Data" page 120.

Please note any local regulations concerning maximum speeds, driving restrictions on Sundays, trailer towing, etc.

In Germany for example the permissible maximum speed when towing a trailer is 80 km/h.

In any case the speed must be reduced immediately as soon as the trailer shows the slightest sign of snaking.

When towing a trailer in mountainous regions note the following:

■ The trailer weights given in "Technical Data" are valid only for gradients up to 12%. If the vehicle and trailer weight is below the permissible maximum a correspondingly steeper gradient can be climbed. Furthermore the given trailer weights are only applicable for altitudes up to 1000 m above sea level. As the engine output and thus the climbing ability drops due to the decreasing air density above 1000 m the weight of vehicle and trailer must also be reduced by 10% for each further 1000 m or part thereof.

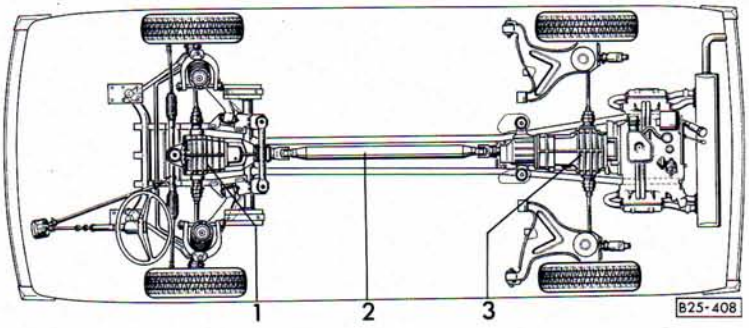
■ The cooling effect of the radiator fan cannot be increased by changing down because the speed of the fan is not dependent on the engine speed. One should therefore not change down even when towing a trailer as long as the engine can cope without vehicle speed dropping too much.

## DRIVING A FOUR-WHEEL DRIVE VEHICLE*

### The drive concept

Contrary to the normal type of selectable four-wheel drive, the four-wheel drive on the Transport/Caravelle syncro is always in action. Only the amount of power being transmitted to the front wheels changes according to the requirements. This automatic distribution of the driving forces to the rear and front wheels is attained through a wear resistant viscous coupling incorporated in the front axle. This ensures, on the one hand, that the driving force losses are kept as low as possible, and on the other hand, that the best possible traction is attained when required.

**Note:**
Vehicles for particularly arduous operating conditions (e.g. predominantly cross-country work) can be fitted with a manually controlled four-wheel drive as an optional extra. Further details are given on page 23.




1 – Front axle final drive and viscous coupling

2 – Prop shaft

3 – Rear axle final drive

## Advantages of four-wheel drive

**The special drive concept of the Transporter/Caravelle syncro, when compared with a vehicle which only has a two-wheel drive, has advantages in respect of the following points:**

### The drivability

Decisive for the drivability – particularly on slippery roads – is the grip between the four wheels and the road surface.

On vehicles with two-wheel drive, the driving wheels can spin on slippery surfaces if too much acceleration is applied. This greatly impairs their grip. Under unfavourable conditions, this could cause the vehicle to break away.

By distributing the driving forces to four instead of two wheels the lateral forces which can be transmitted are increased on the Transporter/Caravelle syncro, and the vehicle is less likely to break away.

### The acceleration

As the driving force to be put onto the road goes to four wheels instead of two, the amount of slip is considerably reduced. This improves the adhesion between tyre and road surface and thereby, the acceleration capabilities on slippery road surfaces.

### The traction

Four-wheel drive increases the traction a great deal. This is of particular benefit on snow and ice, when moving off, and when driving on difficult mountain roads.

Driving under such conditions is less hazardous with the Transporter/Caravelle syncro:

There is no longer any need to drive past obstacles at speeds on slippery uphill stretches, because one is afraid of becoming stuck, one can approach slowly, stop and then, start off again.

### Using winter tyres

With the four-Wheel drive concept the Transporter/Caravelle syncro has good winter driving properties even with standard tyres. However, the use of winter or allweather tyres, on all wheels, is recommended in order to obtain even better cornering and braking behaviour.

Snow chains see page 82.

## Driving on dry roads

Under normal driving conditions, the **differential locks must not be engaged.** They do not provide any advantages at all on dry road surfaces, but impair the vehicle's steerability.

**Particularly if the front axle differential lock is engaged, the vehicle is no longer steerable.**

Important instructions on the differential locks are to be found on page 24.

## Driving on wet, slippery roads

Due to the four-wheel drive, the engine power is transferred even to a relatively smooth road surface.

### On wet surfaces

On wet roads one should also note that even with the Transporter/Caravelle syncro it is possible for the front wheels to "swim" (aquaplaning) at high speeds.

**For this reason, one should avoid excessive speed and drive at a speed compatible to the road conditions.** The **differential locks*** must **not** be engaged.

Important instructions on the differential locks are to be found on page 24.

### On slippery surfaces

On slippery surfaces the rear axle differential lock may only be engaged when moving off, and at very low speed. The lock should then be disengaged again. **The front axle differential lock must not be engaged.**

### Notes

**The style of driving must always be adapted to suit the road surface and traffic conditions. The increased safety offered by this type of vehicle must not encourage one to take unnecessary risks.**

**In particular, one must always remember that the stopping ability is limited by the adhesion of the tyres on the road surface. The braking capability of the vehicle is the same as that of a normal two wheel drive vehicle. For this reason, one should never be tempted by the good acceleration capabilities, even on slippery road surfaces, into driving too fast.**

## Driving cross country

Before driving for the first time over difficult terrain, it is advisable to make yourself familiar with the vehicle on normal roads, and also under easier off-road conditions. For safe driving cross country, the following rules are of great importance.

- Always wear your seat belt.
- Timely gear changing takes care of the engine and prevents the vehicle from bogging down.
- Never drive with the clutch slipping as this leads to premature wear.
- The more uneven and creviced the terrain is, the lower speed must be. Pay attention to the vehicle's ground clearance.
- Do not drive over small embankments or declines at excessive speed. This can lead to bouncing during which it would be impossible to avoid any obstacle which may suddenly appear. In addition it could lead to vehicle damage.
- Drive down gradients in the same gear as you would drive up.
- Embankments, gradients and similar obstacles should only be driven up or down at right angles, i.e. directly in line with the slope.
- If however one is forced to drive across a slope and the vehicle tends to tip, one should immediately steer directly into the slope.
- Before driving through water, determine the depth – the permissible wading depth (see technical data) must not be exceeded.

**Note**
**To prevent the engine from drawing in water through the intake air preheater and being damaged when wading, there is a valve in the engine compartment on the right behind the maintenance flap with which the intake air preheating can be closed. The valve is closed by pressing it down and turning it to the right.**

- After traversing water or mud one should drive a short distance with brakes lightly applied. The linings must be dried out properly. By doing this, one prevents the brakes from pulling to one side, or a delayed braking effect.

After driving through deep water it is necessary to remove the engine oil dipstick in order to check whether any drops of water are present, or to check whether the oil level has increased. If the answer is "yes" then the oil must be renewed immediately.

■ After driving through mud, the brakes must be checked and if dirty, cleaned. This will prevent premature wear taking place in the brake system.

The engine compartment and the underside of the vehicle body must also be cleaned so that the functioning of all moving parts and electric/electronic components is maintained.

**Note**
To prevent damage to the underside of the vehicle, the vehicle is equipped with protective plates in front of the front axle and underneath the engine and gearbox and protective rails running along both sides of the propshaft.

## Note for vehicles with differential lock(s)

■ Before driving through a difficult cross country stretch (e.g. mud, sand, water, snow or steep gradients) it is advisable to engage the differential lock(s)* at low speed. **Important instructions regarding the differential locks are to be found on pages 23 and 24.**

## Output testing

If the Transporter/Caravelle is to be output tested on a dynamometer, the propshaft must be removed.

## Brake test stand

For brake testing e.g at MOT, the propshaft must be removed. The differential locks must not be engaged.

## FUEL

### Petrol engines

**Vehicles without catalyst**

**44 and 57 kW carburetor engines**
Leaded regular fuel to DIN 51600, **RON[1] not lower than 91**
or
lead-free regular fuel to DIN 51607, **RON[1] not lower than 91.**

If regular fuel with adequate anti-knock properties is not available, use premuim or a suitable mixture.

**66 and 82 fuel injection engines**
Leaded premium petrol to DIN 51600, **RON[1] not lower than 98.**

**Vehicles with catalyst**

**61 and 70 kW fuel injection engines**

Lead-free regular petrol to DIN 51607, **RON[1] not lower than 91.**

If lead-free regular petrol with adequate anti-knock properties is not available, use lead-free premium petrol or a suitable mixture.

**For all vehicles with catalyst:**

**Only lead-free petrol may be used in these vehicles.**

The use of leaded petrol does not lead to engine damage but it is very detrimental to the functioning of the emission control system because the lead is deposited in the catalyst.

**Even one tankful of leaded petrol will detract from the efficiency of the catalyst.** Although lead-free fuel may again be used afterwards the original efficiency of the catalyst is never fully attained.

On vehicles with Lambda probe the mixture formation is also negatively affected. This can cause poor engine performance (jerking and stalling when idling) combined with a higher fuel consumption.

[1] Research Octane Number, indicates anti-knock properties of the petrol.

### Fuel additives

On carburetor engines with and without catalysts carburetor icing can occur at ambient temperatures between 0° C and +15° C when the air humidity is high despite the automatically controlled intake air preheating. This can cause the engines to stall occasionally when idling in the warm-up phase.

Even the anti-icing additives contained in some fuels in the cold season cannot entirely prevent carburetor icing. When a properly tuned engine stalls repeatedly in the conditions described above it is advisable to mix **Volkswagen AUDI petrol additive** with the fuel. This additive prevents carburetor icing and also cleans the carburetor and protects it against corrosion. It is obtainable from V.A.G workshops in Germany and in many export countries.

No other fuel additives should be mixed with the petrol.

### Diesel engines

**Diesel fuel to DIN 51601**
**CN[1] not lower than 45**

When using summer Diesel trouble may be experienced at temperatures below 0° C because the fuel thickens due to wax separation.

For this reason, winter Diesel whcih is more resistant to cold is sold during the winter and works satisfactorily down to about −15° C.

In countries with different climatic conditions the Diesel fuels offered have a different temperature behaviour. Check with V.A.G dealers or filling stations in the country concerned regarding the availability of Diesel fuels.

When necessary summer and winter Diesel can be used at lower temperatures by mixing regular leaded or lead-free petrol (not premium) with the Diesel.

As this additive reduces the engine output, only the amount actually required should be used: (max. 30%)

| Temperature in ° C | Summer Diesel | Petrol | Winter-Diesel | Petrol |
|---|---|---|---|---|
| − 0 to − 5 | 85% | 15% | 100% | – |
| − 5 to −15 | 70% | 30% | 100% | – |
| −15 to −25 | – | – | 70% | 30% |

This table is based on the fuels available in Germany.

**Due to the inflammability of petrol the mixing should, for safety reasons, only be done in the vehicle tank. Where possible, the petrol should be put into the tank before the Diesel.**

[1] **C**etane **N**umber, indicates the ignitability of Diesel.

Mixing must take place before the wax starts to separate because subsequent mixing is effective only in the tank but not in the rest of the fuel system.

If the fuel is already waxed to such an extent that the engine will not start it is sufficient to place the vehicle in a warm room for a while.

Other fuel additives (anti-waxing agents and similar fluids) must not be mixed with the Diesel fuel.

## FILLING TANK

The filler neck is on the right hand side of the vehicle.

The fuel tank capacity is approx. 60 litres (syncro 70).

Trouble-free refueling calls for correct use of filler nozzle.

■ Insert nozzle fully into tank neck and do not tilt it.

■ Do not try to fill tank too quickly, otherwise the fuel (especially Diesel) will foam and this may cause nozzle to switch off too soon.

As soon as the correctly operated automatic nozzle switches off for the first time, the tank is full. Do not try then to put more fuel in because otherwise the expansion space in tank will be filled – the fuel can then overflow when it gets warm.

### Note for vehicles with Diesel engine:

**Bleeding the fuel system**

The fuel system does not need bleeding when tank has been run dry – this takes place automatically while starting.

### Note for vehicles with factory fitted catalyst

Catalyst vehicles have a smaller diameter tank filler neck which is closed with a spring-loaded flap below the filler opening. Filler nozzles for lead-free petrol are smaller to suit and open the flap when inserted in filler neck. This is to ensure that only lead-free petrol can be put into tank.

## What to do when wrong fuel has been put into tank.

### Premium petrol instead of regular

The engine can be run on premium fuel with no problems.

### Regular petrol instead of premium

In isolated cases the engine can also be run on regular petrol. The vehicle must then however not be driven at top speed and with full throttle. **High engine loading with full throttle or high speeds can cause engine damage.** Fill tank with premium petrol as soon as possible.

### Lead-free petrol instead of leaded

The engine can be run on lead-free petrol. A stipulation however is that the petrol has the correct anti-knock properties (RON) – see also section on "Fuel". If the anti-knock properties are lower, the instructions under "Regular petrol instead of premium" apply.

### Leaded petrol instead of lead-free

Vehicles with catalyst must not be driven on leaded petrol because otherwise the function of the emission control system is affected considerably – see also section "Fuel". The fuel system must be emptied, in accordance with environmental regulations – preferably by a V.A.G workshop.

### Petrol instead of diesel

The engine can be run on a concentration of up to approx. 30% leaded or lead-free regular petrol (not premium). However if premium petrol or a large quantity of regular petrol has been put in the tank accidentally, the engine must not be run as otherwise damage will occur. The fuel system must be emptied bearing in mind environmental control regulations – preferably by a V.A.G workshop.

### Diesel instead of petrol

The engine cannot be run on Diesel. The fuel system must be emptied bearing in mind the environmental control regulations – preferably by a V.A.G workshop.

## LUBRICANTS

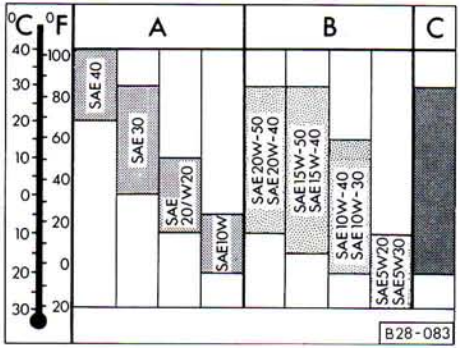
### Engine

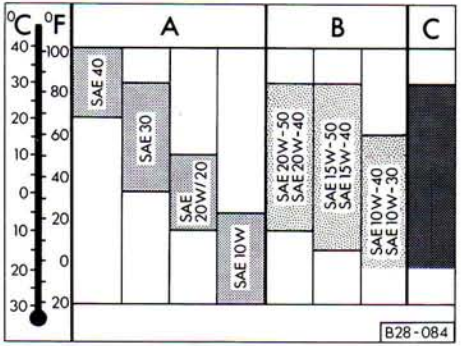
■ A special very high quality multi-grade oil is put in at the factory and this can be used all the year round – except in very cold climates.

■ Mineral or synthetic oils may be used for topping up or changing regardless of oil in engine. The container must be marked with the correct specifications for the engine concerned.

■ The viscosity classes of the oil must be selected as shown on the right. The oil does not have to be changed when the ambient temperature is briefly above the range shown.

■ When using single-grade oil SAE 10 W or multi-grade oil SAE 5 W-20 or SAE 5 W-30 do not drive with full throttle for long periods if the temperature is above the range shown.




B28-083 – Petrol engines

B28-88 – Diesel and Turbo Diesel engines

A – Single grade oils, B – Multi-grade oils, C – Improved lubricity oils

**Petrol engines**

■ Good quality oils, specification API – SF or
■ Improved lubricity oils, specification VW 500 00

**Diesel engines** (except turbodiesel)

■ Good quality oils, specification API – CC or API – CD or
■ Oils for turbodiesel engines, specification VW 505 00 or
■ Improved lubricity oils specification VW 500 00

**Turbodiesel engines**

■ Oil for turbodiesel engines, specification VW 505 00,

for topping up if unavoidable, also
■ Good quality oils, specification API – CD

**Manual gearbox and final drive**

■ Gear oil, specification API – GL 4, SAE 80

**Automatic gearbox**

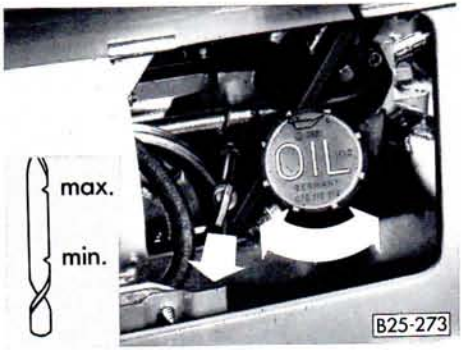
Final drive:
■ Gear oil, specification API GL 5, SAE 90
Gearbox part:
■ ATF Dexron®

**Power assisted steering**

■ ATF Dexron®

**No additives should be mixed with the lubricating oils.**

## ENGINE OIL




### Checking oil level

The engine oil level must be checked at regular intervals, preferably when filling the tank. **In arduous operating conditions or when engine is working hard it should be checked daily before moving off.**

The dipstick and filler pipe can be reached through a flap behind the rear number plate.

The dipstick location is shown in the illustration:

The vehicle must be on a level surface when checking oil level. After stopping engine wait a few minutes for the oil to drain back to the sump. Then pull the dipstick out, wipe it with a clean cloth and insert again. Then pull dipstick out again and check the oil level:

The level must be between the two marks.

The difference in quantity between the min. and max. marks is 1.0 litre.

When the engine is working hard such as in sustained high-speed motorway cruising in summer, when towing a trailer or when climbing mountain passes, the oil level should be kept up to the max. mark.

**Topping up engine oil**

Unscrew the cap from the oil filler and pull extension pipe out fully.

Add oil.

Push extension pipe in again and screw the cap back on tightly.

Check the level with the dipstick – the oil should not be above the max. mark.

**Changing engine oil**

The engine oil should be changed at the intervals given in the service schedule.

If the vehicle is used continuously in very dusty areas or in countries with arctic climates where the temperature is normally below about –20° C, the engine oil should be changed at shorter intervals – see also "Difficult operating conditions" page 84.

Recommended oils and viscosity classes – see previous page.

Permissible oil consumption – see pages 108/109.

## GEARBOX OIL

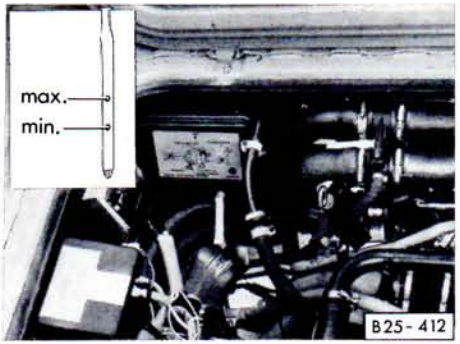
### Checking oil level

**With the manual gearbox** the oil level does not need checking in between the intervals given in service schedule.

**With the automatic gearbox** the oil level in the final drive also does not need checking between services.

The ATF level in gearbox part must however be checked in between the intervals given in service schedule.

To do this the vehicle must be standing on a level surface. The level must only be checked when the ATF is **warm** (about 10 km after starting from cold the ATF is at the correct temperature). If fluid is cold or too hot the reading will be incorrect. The engine must be running at idle speed, the handbrake must be applied and the selector lever at "P".




To check, pull dipstick (see Fig.) out, wipe with a clean lint-free rag and then insert it fully again.

Pull dipstick out and check ATF level. When the ATF is warm **the level must be between the two marks** – otherwise the vehicle must be taken to a V.A.G workshop without delay so that they can find the reason for the incorrect level. It is not sufficient to merely top up or drain off ATF.

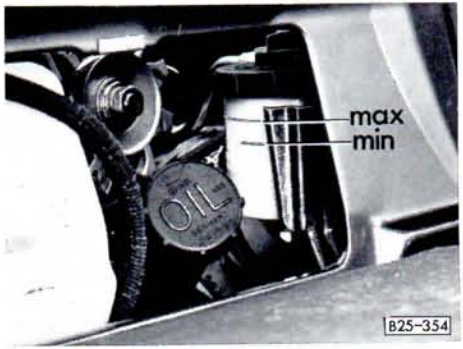
### Changing oil

**With the manual gearbox** the oil does not need changing.

**With the automatic gearbox** the oil in the final drive also does not need changing. The ATF in gearbox part must however be changed at the intervals given in service schedule. This should preferably be done by a V.A.G dealer.

**Note**
**When there is no lubricant in the manual or automatic gearbox the engine must not be started and the vehicle may only be towed with driving wheels lifted.**

## POWER ASSISTED STEERING*




To ensure satisfactory operation of the system it is essential that the fluid level in reservoir is correct.

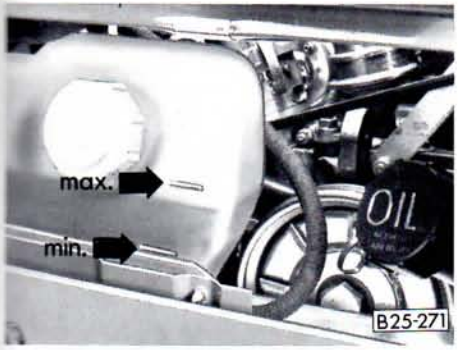
The reservoir is in the engine compartment on the right behind the maintenance flap.

The check must only be done with the engine running and the wheels in straight-ahead position.

The fluid should always be between the "max" and "min" marks. When level has dropped to min. mark, ATF (Dexron®) should be added after removing the red cap in top of reservoir.

**Note**
If the power assisted steering fails at any time or when engine is not running (vehicle on tow) the vehicle can still be steered but more force will be required to turn the steering wheel.

## COOLING SYSTEM

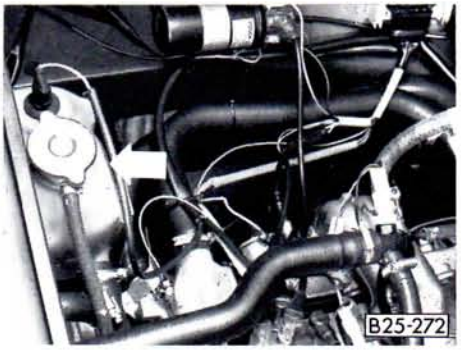



Reservoir

The cooling system is filled at the factory with a long lasting mixture of water and our coolant additive G11 (anti-freeze on glycol basis with anti-corrosion additives). This mixture gives the necessary frost and corrosion protection, prevents scaling and increases the boiling point of the coolant.

**Caution**

**The coolant is poisonous. It must therefore only be stored in the original container out of reach of children.**




Expansion tank – Petrol engines

In the engine compartment there is a reservoir and an expansion tank.

The coolant level is normally only checked in the reservoir. It only needs checking in the expansion tank if a large amount of coolant has been lost or if the warning lamp for coolant temperature/ coolant level lights up.


Expansion tank – Diesel engine

**Checking coolant level**

The correct coolant level is essential to the satisfactory operation of cooling system.

Open flap behind number plate. The level should be between min. and max. marks when engine is cold or just above the max. mark when engine is warm.

**The level can only be checked properly when engine is not running.**

## Coolant losses

In normal conditions the cooling system is almost maintenance-free.

Coolant loss normally indicates leakage in the system. In this case the cooling system should be checked by a V.A.G workshop without delay. It is not sufficient to merely add coolant.

In a water-tight 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 cooling air is reduced, e.g. by a radiator muff, very dirty radiator fins (leaves, dust, insects) or additional driving lights in front of radiator grille
- the radiator fan is not working – see next page "Radiator", or
- vehicle is driven up a long hill in too low a gear with engine speed very high and at very high ambient temperatures – see next page "Radiator".

If the cause of the overheating cannot be found and eliminated, contact a V.A.G dealer as soon as possible as otherwise serious damage may be done to the engine.

## Topping up coolant

Topping up is normally done in the reservoir only.

**Do not fill above the max. mark.**

The excess coolant will be forced out of the system when engine gets hot.

**If the coolant warning lamp comes** on the expansion tank must also be checked and filled to brim if necessary.

First switch the engine off and let it cool down slightly, then turn cap one turn to the left and let pressure escape first. Then take cap off.

**Caution**

**Do not remove cap when engine is hot. Danger of scalding.**
**System is under pressure.**

In order to maintain the corrosion protection at all times and prevent the system from scaling up and the boiling point from being lowered the mixture should not be altered **even in the summer or in warm countries by adding plain water: the coolant additive proportion should be at least 40% (anti-freeze protection down to about –25° C).**

**Screw cap on again tightly.**

The system must then be bled with engine running (at a fast idle). Take air intake grille off (see page 69), open vent screw at top of radiator and set heater lever to "warm". As soon as coolant emerges, close vent screw. Top level up in reservoir and expansion tank.

## Fan

The fan is driven electrically and controlled by a thermoswitch which is actuated by the coolant temperature.

When the engine is hot, the fan may continue to run when the engine has been stopped or it may switch on suddenly – even when ignition is off.

**Notes**

■ If the fan is not running although the coolant temperature is very high, the fuse should be checked and renewed if necessary – see page 94.

■ The speed of the fan does not depend on engine speed. The cooling effect cannot therefore be increased by changing down.

As long as the engine runs amoothly and a gradient can be taken without a large drop in speed it is not necessary to change down.

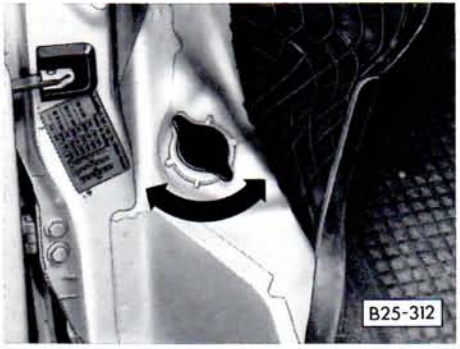
## Driving in winter

The mixture put in the system by the factory provides frost protection down to about –25° C. To ensure that frost protection is adequate, the coolant should be checked before the cold season begins and if necessary coolant additive G 11 (undiluted) added.

If greater protection against frost is required, the proportion of G 11 additive can be increased, but only up to 60% otherwise the anti-freeze protection is reduced and furthermore the cooling effect is impaired.

Vehicles for export to cold countries usually have frost protection down to –35° C.

## WINDSCREEN WASHER SYSTEM



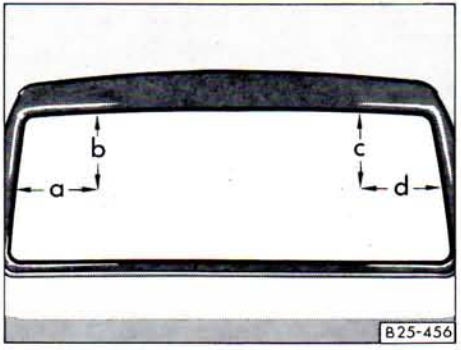

The filler opening of the container is under the carpet on left hand side of front footwell. The container holds about 3.5 litres. On vehicles with a headlight washer the capacity is 6.5 litres.

On vehicles with rear window washer* there is an additional container on the right in the luggage compartment. This container holds about 1 litre.

### To fill container

Lift carpet, open flap and unscrew cap. Fill container to top with water and screw cap on again. Switch ignition on and check that washer is working.

It is advisable to add a window cleaner solution (with anti-freeze additive in winter) to the water because plain water is not usually sufficient to clean the glass and headlight lenses quickly and thoroughly.




### Adjusting washer jets

When vehicle is stationary, the water should hit the windscreen at the following points:

a = 490 mm  c = 180/190[1] mm
b = 220 mm  d = 450/330[1] mm

The water jet for the rear window should hit the window in the centre of the wiped area.

The jets can be adjusted with a needle.

The jets for the headlight washer system* can only be adjusted with a special tool. When adjustment is necessary, contact your V.A.G workshop.

[1] On vehicles with 37 kW engines

## BRAKE SYSTEM

**The following points are of particular importance to the safe operation of the brakes.**

■ New brake linings must also be run in and do not have the optimum friction properties during the first 200 km. The slightly reduced braking effect can be compensated for by slightly more pressure on the brake pedal. This also applies when new linings have been fitted.

■ On hills change down in good time to make use of the braking effect of engine. This relieves strain on the brake system. When brakes are applied do not keep them on continuously, apply and release alternately.

■ After driving through water, driving in heavy rain or washing the car, the braking effect can be retarded slightly. The pads must be dried first by applying the brake.

The full braking force may also be retarded when vehicle has been driven for some time on heavily salted roads without using the brakes because the layer of salt on discs and pads has to be removed first.

Further details – particularly for vehicles with four wheel drive – are given on page 61.

■ Brake lining wear depends to a large extent on the operating conditions and style of driving. On vehicles which are used mainly in town traffic and stop/start conditions or are driven hard it may be necessary to have the thickness of the brake linings checked in a V.A.G workshop in between the intervals given in the service schedule.

■ If the brake pedal travel increases suddenly, it may be that one of the two brake circuits has failed. You can still drive on to the next V.A.G workshop but be prepared to use more pressure on the pedal and allow for longer braking distances on the way.

The failure of a brake circuit is shown by the lighting up of the brake warning lamp✱ (see also page 33).

The brake fluid level must be checked regularly – see next page.

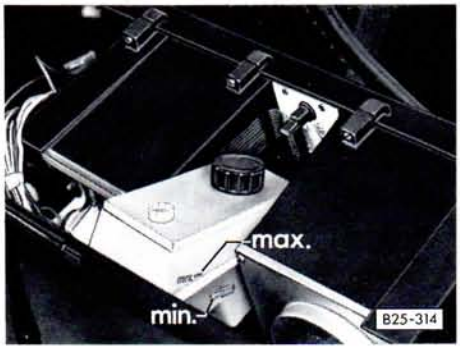
### Brake servo

The servo is operated by vacuum which is only available when engine is running.

**Caution**

**For this reason the vehicle should not be allowed to roll with engine not running.**

When the brake servo is not working because, for example, the vehicle is being towed or because a defect has occured on the brake servo, the brake pedal must be pressed harder.




## Brake fluid reservoir

The fluid reservoir is in the dash under the dash cover panel. The panel can be lifted to fill the reservoir. To do this grip in the recess at the back of the cover. When installing insert the lower front edge first.

## Checking fluid level

The correct fluid level is essential to the satisfactory operation of the brake system. The fluid level must always be between the "max" and "min" marks.

The level of fluid tends to sink slightly when the vehicle is used due to the automatic adjustment of brake lining wear. This is quite normal.

However, if the level sinks noticeably in a short time or drops below the "min" mark the system may be leaking. Take the vehicle to a V.A.G workshop at once and have the brake system checked.

The failure of a brake circuit is shown by the lighting up of the brake warning lamp* (see also page 33). When this happens take the vehicle to a V.A.G workshop immediately and have the brake system checked.

## Brake fluid

Brake fluid absorbs moisture. As too high a water content becomes detrimental to the entire system after a period of time, the brake fluid must be renewed every two years. The brake system must be bled afterwards.

Use only our genuine brake fluid (specification to US standards FMVSS 116 DOT 4). The fluid must be new and unused.

**Caution**

**Brake fluid is poisonous.**

**It must therefore only be stored in the original container out of reach of children.**

Brake fluid will also damage paintwork and the plastic material of which the dash is made. Take great care not to spill any fluid when topping up the reservoir. Cover area round reservoir if necessary.

## PEDALS

The movement of the pedals must not be restricted.

For this reason, do not put articles in the footwell which could roll or slide underneath the pedals.

Around the pedal area there should also be no foot mats or other additional floor covering materials:

- In the case of defects on the brake system, a greater pedal travel may be necessary.
- It should always be possible to depress the clutch and accelerator pedals fully.
- All pedals must be able to return, unhindered, to their rest positions.

For these reasons therefore, the only foot mats which may be used, are those which leave the pedal area completely free and which are prevented from slipping.

## BATTERY


On vehicles with a petrol engine the battery is under the righthand seat. It can be reached when seat is pushed fully forward.

On vehicles with a Diesel engine the battery is on the righthand side of the engine compartment.

The 2nd battery* is under the lefthand seat. It can be reached by pushing the seat fully forward.

### Checking acid level

In normal operating conditions the battery requires hardly any maintenance. At high ambient temperatures however it is advisable to check the acid level at regular intervals. It should always be between the min. and max. marks on the side of the battery. If level is low contact V.A.G workshop and have level corrected.

### Winter driving

Winter weather is particularly hard on the battery. Furthermore at low temperatures it has only a part of the capacity it has at normal temperatures. We recommend therefore that the battery should be checked in a V.A.G workshop before the onset of cold weather and charged if necessary. This will not only result in quicker, more reliable starting but will help to prolong the life of the battery.

### Caution

■ **Battery acid is corrosive and must not get into the eyes or on to skin and clothes. Any acid splashes must be washed off thoroughly with water. See a doctor if necessary.**

**The level should therefore only be topped up in a V.A.G workshop.**

■ **Never short the battery terminals as this causes the battery to heat up very quickly and it may burst. Furthermore, the sparks can ignite the gas generated during the charging process.**

■ **To prevent any possibility of short circuiting, detach battery earth wire before doing any work on the electrical system. When changing a bulb, it is sufficient to switch the lamp concerned off.**

■ **To remove the battery detach the minus wire first and then the plus wire. Then remove retainer. To install, reverse the sequence.**

■ Never run the engine with the battery disconnected as this will damage the electrical system (electronic components).

■ Both terminals must be taken off before the battery is given a quick charge while in the vehicle.

■ Starting by connecting an additional battery is described in the Do-it-yourself section.

## WHEELS

Wheels and tyres are important design features. The wheels and tyres approved by us are specially matched to the model concerned and contribute largely to the excellent roadholding and safe driving characteristics.

**If you wish to fit your car with non-standard wheels or tyres please note:**

■ **For technical reasons it is not possible in every case to use wheels from other vehicles – in certain conditions not even wheels from the same vehicle model.**

■ **Wheels and wheel bolts are matched to one another.**

**On changing to a different type of wheel (e.g. alloy wheels or wheels with winter tyres) the correct bolt with the proper length and conical shape must be used. The security of the wheels and the functioning of the brake system depend on this.**

■ **Using types of wheel and/or tyre which have not been approved by us for your vehicle model can be detrimental to the safety of the vehicle. It can also affect the vehicle under the Construction and Use regulations.**

■ **If wheel trim discs are subsequently installed, ensure that the air flow remains adequate to cool the brakes.**

**V.A.G workshops are fully informed about the possible conversions of tyres, wheels and wheel trims.**

### General notes

■ Check tyres for damage from time to time and remove any foreign bodies embedded in treads.

■ To avoid damage to tyres and wheels drive over curbs and similar obstacles very slowly and as nearly at right angles as possible.

If you think that a wheel is damaged, it must be checked by a V.A.G workshop.

■ Keep grease, oil and fuel off the tyres.

■ Replace missing dust caps as soon as possible.

■ Mark wheels before taking them off so that they rotate in the same direction when put back.

■ When taken off, the tyres should be stored in a cool, dry and preferably dark place. Tyres which are not on wheels should be stored in a vertical position.

### New tyres

New tyres do not give maximum grip straight away and should therefore be run in at moderate speeds for about the first 100 km. This will help to make the tyres last longer.

**Tyre wear**

Tyre life depends to a considerable extent on the following factors:

**Inflation pressure**

Pressure which are too high or too low shorten tyre life – quite apart from the detrimental influence on vehicle handling.

At continuous high speeds a tyre in which the pressure is too low flexes more and heats up excessively. **This can cause tread separation and tyre blow out.**

In addition low tyre pressures increase the fuel consumption.

The inflation pressures should therefore be checked twice a month and always before a long trip, not forgetting the spare wheel. Always check pressures when tyres are cold. When warm, the pressure is higher but do not reduce. The pressures are given on page 116 and on left door pillar between the hinges.

**Mode of driving**

Fast cornering, hard acceleration and violent braking also increase tyre wear.

**Incorrect wheel alignment**

Incorrect wheel alignment not only causes excessive, usually uneven tyre wear but can also impair the car's safe handling. If unusual tyre wear is noticed, contact a V.A.G workshop.

**Wear indicators**

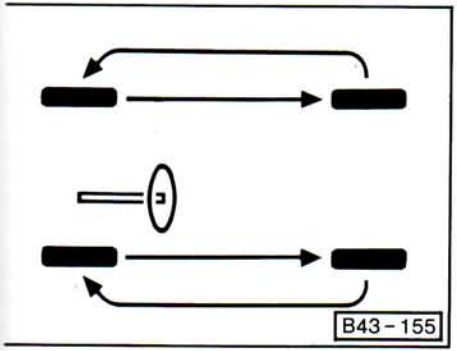
At the bottom of the tread of the original tyres there are 1.6 mm high "wear indicators" running across the tread – see Fig. There are 6 – 8 of these indicators – according to make – evenly spaced round the tyre circumference. Marks on the flanks of the tyre (for example the letters "IWI" or triangles) show the locations of the wear indicators.

When tread depth is down to 1 mm – measured at any point on the tread – the official permissible minimum tread depth has been reached (in export countries this figure may differ).

As worn tyres cannot grip the road surface properly when driving at high


speeds on wet roads and the vehicle tends to aquaplane sooner, it is advisable not to let the tyres wear down so far.




## Changing wheels round

If the tyres are wearing unevenly, it is advisable to change them round as shown. All the tyres will then last for about the same mileage.

When the wheels have been changed round it may be necessary to have the front wheels balanced again.

## Replacing tyres

- For safety reasons the tyres should be replaced in pairs and not singly. The tyres with the deepest tread should always be on the front wheels.
- Only radial ply tyres of the same type, size and the same tread pattern may be combined.
- For safety reasons a **new** rubber valve should be fitted when a new tubeless tyre has been installed.
- Tubes should only be used in tubeless tyres in an emergency.

When this is done, ensure that the air trapped between tube and tyre can escape from the valve.

- Repairing tyres calls for special equipment and knowledge and should therefore only be done by a specialist.

## Balancing wheels

The wheels on new vehicles are balanced. However when vehicle is running, various influences can cause wheels to become unbalanced and this causes steering vibration.

As imbalance also increases steering, suspension and tyre wear the wheels should be balanced again.

Furthermore a wheel should always be rebalanced when the tyre has been repaired or when a new tyre has been fitted.

## Winter tyres

In winter conditions the handling of the vehicle including four wheel drive vehicles – can be improved by winter tyres. When fitting winter tyres, note the following:

- Only radial ply winter tyres should be used. The factory recommended tyre sizes are given on page 116.
- With winter tyres, the PR figures on the sidewalls should also be noted. The tyres must not be below the specified carcass strength.
- To obtain the best possible handling characteristics, winter tyres must be fitted on all four wheels.
- Winter tyres are no longer fully effective when rhe tread has worn down to a depth of 4 mm.

## Snow chains

**Snow chains may be fitted on the rear wheels only.** Only thin chains which do not stand clear more than 15 mm (including tensioner) should be used.

When driving over roads which are free of snow you should remove the chains. On such roads they are detrimental to vehicle handling, damage the tyres and wear out quickly.

In Germany the maximum permissible speed with snow chains is 50 km/h.

**The following should also be noted on Transporter/Caravelle syncro vehicles:**

Snow chains should, where possible, be fitted on all four wheels. If only two chains are available they must be fitted on the rear wheels.

## EMISSION CONTROL SYSTEM*

When vehicle is used normally there is nothing special to be noted – apart from putting leadfree petrol in the tank – see "Fuel" on page 63. In certain exceptional circumstances the following points should however be observed for safety reasons:

Due to the high temperatures which occur in the catalyst, the vehicle should not be driven or parked over easily inflammable materials (e.g. dry grass or leaves).

■ Additional heat shields are fitted over the catalyst. Underbody sealant must not be applied to these shields, the catalyst or the exhaust pipes.

To ensure that the catalyst is not damaged by overheating, the following points must also be noted:

■ **The vehicle must not be started by towing.**

■ **The ignition must not be switched off as long as vehicle is rolling with a gear engaged.**

■ **If a defect occurs in the ignition system when driving (can be recognized by misfiring, uneven engine running, loss of power) the speed must be reduced immediately. The defect should be eliminated in the next V.A.G workshop.**

In these conditions, unburnt petrol can get into the catalyst and be burned there.

A functional description of the emission control system is given on page 106.

## DIFFICULT OPERATING CONDITIONS, DRIVING ABROAD

The vehicle construction and equipment is designed for normal operating conditions. This also applies to the frequency and the extent of the maintenance laid down in the maintenance schedule.

If the vehicle is used in difficult operating conditions (e.g. continuous trailer towing, exceptionally high or low ambient temperatures, very dusty conditions, poor quality fuel, etc.) it may be necessary to carry out special technical preparations, such as using oil of the appropriate viscosity, installing special air cleaners (cyclone filters), modifying the ignition timing etc. Furthermore the maintenance must also be matched to the operating conditions.

If the vehicle is to be taken abroad, the following must also be born in mind:

■ In many countries there is a large network of V.A.G workshops where your vehicle can be serviced. Despite this there are certain countries in which there is only a limited amount of V.A.G service or even none at all.

■ In certain countries it is also possible that your vehicle model is not sold so that certain spare parts are not available for your vehicle or that the V.A.G personnel is not familiar with the repair procedure should anything go wrong.

The Volkswagen factory or the Importer concerned will be only too pleased to give advice on the necessary technical preparation of the vehicle, on the maintenance required and on the repair possibilities.

The addresses are given in the vehicle wallet.

■ When the vehicle is used in a country which drives on the opposite side of the road to the home country the wedge shaped areas on the headlight lenses must be masked – see page 100.

## CAR CARE

**Regular and careful care helps to maintain the value of the vehicle.**

**Furthermore it can be one of the stipulations for the upholding of warranty claims should corrosion damage and paint defects occur.**

Every V.A.G workshop carries stocks of suitable car care materials. The instructions for use on the container should be followed.

**Caution**

**These materials can be injurious to health if misused and should be kept out of reach of children.**

### Washing

The best protection against environmental influences is frequent washing and waxing.

After the period when salt is put on the roads, the underside of the vehicle should always be washed thoroughly.

The longer **salt,** road dust, industrial grime, insects and bird droppings etc. are left on the paintwork the more damage they are liable to do to the finish.

When the load compartment has been cleaned, the sliding door hinges or the side board hinges must be regreased.

When vehicle is washed with a hose, do not point the jet of water directly at the lock cylinders – otherwise they will freeze up in winter.

Tar spots, traces of oil, industrial griime, insects, etc. cannot always be removed by washing. As they damage the paint if left on too long they should be removed as soon as possible with a suitable preparation.

### Waxing

Wax as often as possible. This will prevent dirt from sticking to the paint and industrial grime from penetrating into the paint.

### Polishing

Should only be done if paint has lost its shine and gloss cannot be brought back with wax. If the polish used does not contain preservative compounds, the paint must be waxed afterwards.

**Matt painted and plastic parts** should not be treated with wax or polish.

### Touching up paint damage

Small marks in the paint such as scratches or stone damage should be touched up immediately with paint (Volkswagen touch-up brushes or spray cans) **before** the metal starts to rust.

However, should rust be found at any time it must be removed thoroughly and then the area treated first with an anti-corrosion primer and then the correct paint applied.

You can of course have this work done by any V.A.G workshop.

The number of the original vehicle paint is given on the data sticker (see page 124).

### Cleaning windows

Traces of rubber, oil, grease or silicone can be removed with window cleaner or a silicone remover.

Do not dry the windows with the leather used for the paintwork because traces of paint cleaner will cause streaks to appear on the glass.

The **windscreen wiper blades** should be cleaned regularly and new blades fitted once or twice a year according to condition.

To avoid damaging the **heating element wires** in the rear window do not put stickers over the wires on the inside.

### Door, lid and window weatherstrips

The weatherstrips will remain flexible and last longer if they are rubbed lightly with a rubber protective compound from time to time. This will also stop the weatherstrips freezing on in the winter.

#### Cleaning plastic

If normal washing is not sufficient, plastic parts and leatherette may only be cleaned with special plastic cleaners.

#### Cleaning cloth upholstery

Upholstery cloth and similar materials must be cleaned with special cleaners or dry foam and a soft brush.

## Care of chromed parts

Remove spots and marks with a chrome cleaner. A chrome protective compound can be applied to give long-term protection. Ensure that the chromed parts are covered completely and uniformly with the compound.

## Cleaning seat belts

Keep belts clean because they may not retract properly if very dirty.

Dirty belts can be cleaned by washing with a mild soap solution without taking the belts out of the vehicle.

Do not have the belts cleaned chemically because the cleaning compounds damage the webbing material. Ensure that the belts do not come into contact with corrosive fluids.

Inertia reel belts should be completely dry before they are allowed to roll up.

## Alloy wheels

In order to maintain the smart appearance of alloy wheels for a long period, regular care is necessary. In particular, salt and brake pad dust must be washed off thoroughly at least every two weeks otherwise the surface of the alloy will be damaged. After being washed, the wheels should be treated with an acid-free cleaner for alloy wheels. About every three months it is necessary to give the wheels a good rubbing with hard wax. Paint polish or other abrasive solutions must not be used.

If the protective paint coat has been damaged, e.g. by stone impact, the damaged spots should be dealt with as soon as possible.

### Cleaning and anti-corrosion treatment of engine compartment

The engine compartment and the outside surface of the power unit are given anti-corrosion treatment at the factory.

If the engine compartment is cleaned at any time with grease removing solutions[1] or if one has the engine washed, the anti-corrosion compound is nearly always removed as well. It is therefore essential to ask for durable preservation of all surfaces, seams, joints and components in the engine compartment to be carried out. This applies also when corrosion protected parts are renewed.

Every V.A.G dealer has stocks of the cleaning and preservation solutions recommended by the factory for this purpose and has the equipment necessary to apply them.

### Undercoating

The underside of the vehicle is coated with a special compound to protect it from chemical and mechanical influences.

However, as this protective layer gets damaged when the vehicle is in use, the coating under the body and on the running gear should be examined at certain intervals – preferably before and after the winter season – and any damage made good.

Every V.A.G workshop has stocks of the correct compound, has the necessary equipment and is familiar with the application procedure. We advice you therefore to have the patching up or additional coating done by a V.A.G workshop.

### Note for vehicles with a catalyst

Due to the high temperatures which occor in the afterburning process, additional heat shields are fitted over the catalyst. Underbody sealant must not be applied to these shields, the catalyst or the exhaust pipes.

### Cavity preservation

Various cavities in the body are also protected against corrosion and this protection can be intensified by repetition of the preservation.

The best results are obtained when the first subsequent treatment is done about one year after the vehicle is put on the road.

All V.A.G workshops know how and where this treatment has to be carried out and have the factory approved compound and the equipment required.

[1] Only the correct cleaning solutions may be used. Vertrial acumpetrol or Diesel

## MAINTENANCE

As the vehicle is fitted with modern low maintenance technical components only a small amount of regular servicing is required in order to maintain the roadworthiness, economy and reliability.

The inspection service offered by the V.A.G workshop takes into account to a large extent the individual annual mileage covered and helps thus to keep the costs as low as possible. The service schedule supplied with the vehicle shows what has to be done and when.

In difficult operating conditions, e.g. extremely low ambient temperatures, very dusty conditions, building site work, etc. certain service operations should be carried out between the intervals given in the service schedule.

This applies in particular to:

- Changing the engine oil
- Cleaning or changing the air cleaner element
- Lubricating the hinges of sliding and Double Cab doors, dropsides, locker lid and rear doors.
- Draining water from or renewing the fuel filter on the Diesel engine.

The service operations should be carried out in a V.A.G workshop because this work requires special knowledge, workshop appliances and special tools. Furthermore this work must be done in accordance with our instructions.

Complete proof of servicing by a V.A.G workshop can be one of the stipulations for the upholding of any warranty claims during the one year warranty period.

Safety regulations and anti-pollution laws place very strict limits on the amount of repairs and adjustments to engine and running gear parts which can be done by the owner, By tinkering with parts which affect the safety of a motor vehicle one can endanger oneself and other road users.

In addition, altering the settings of the carburetor or fuel injection system, ignition or valves, changes the emission values and also increases the fuel consumption.

## LIFTING VEHICLE

### Vehicle hoist

**Before driving over a vehicle hoist ensure that there is sufficient clearance between hoist and low parts of vehicle.**

The vehicle may only be lifted at the points shown here.

### Trolley jack

The vehicle should also only be lifted with a trolley jack at the points shown here.

To prevent damage it is essential to use a suitable piece of rubber or wooden packing.

**On no account should the vehicle be lifted under the engine sump, gearbox, rear axle or the front axle as this can cause serious damage.**

### Vehicle jack

Using the jack is described on the following pages.



**Lifting points for hoist and trolley jack.**

**Front**

At the front jacking point (see Fig.)

**Rear**

At rear cross member (see Fig.)

## FIRST AID KIT, WARNING TRIANGLE

**The First Aid kit and triangle** can be stowed under the drivers seat.

**Note**
The First Aid kit and triangle are not part of vehicle equipment.

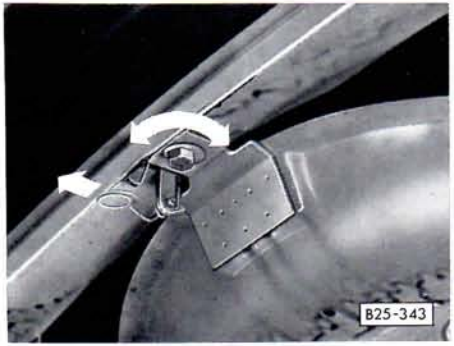
## TOOLS, JACK

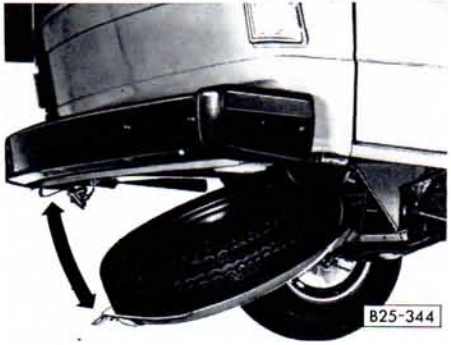
**The jack and tools** are located under the drivers seat. They can be taken out when the seat is pushed fully forward and the cover underneath lifted up.

On vehicles with a second battery or a swivelling seat, the tools and jack are located either behind the driver's seat or under the rear seat, depending on arrangement of seats in passenger compartment. The trim under the rear seat can be pulled out to the front.

The screwdriver blade is reversible.

## SPARE WHEEL




The spare wheel is either located on a hinged pan under front of body or at rear in luggage compartment.

To take wheel under body out, remove bolt with wheel nut spanner and pull hook away (left Fig.).

**Caution: Keep clear as the pan falls down. Danger of injury.**

Then pull wheel forward off the pan.

On vehicles with a front spoiler, it may be necessary to take weight off front of vehicle before removing the spare wheel. If necessary the front can be lifted slightly with the jack or the spoiler taken off.

To stow spare wheel, place it on the pan with offset downwards and swing pan up until hook engages. Then insert bolt and tighten it.

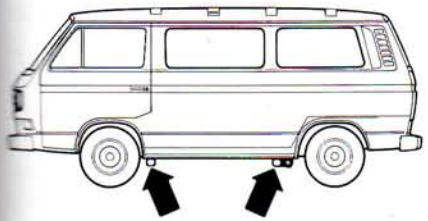
**For safety reasons the pan must always be bolted in position so that it cannot release accidentally.**

The spare wheel in luggage compartment is bolted to the left side panel. To remove wheel, take bolt out by hand.

For safety reasons the spare wheel must always be bolted securely to side panel when vehicle is moving.

## CHANGING WHEELS



B25-319

■ Apply handbrake firmly. If the car is on a slope, place a stone or some similar object behind one of the wheels on the opposite side.

The wheel trim caps are removed with the bar and wire hook:

Place hook in the two holes on edge of cap, insert bar through hook and lever cap off.

■ Loosen wheel nuts/bolts with box spanner and bar approximately one turn.

■ **Insert jack into the appropriate lifting socket (Fig.) as far as possible. If necessary, clean the socket beforehand. Place jack vertically.**

If ground is soft, place a large strong piece of packing under the jack base plate.

■ Lift vehicle until the wheel is clear of the ground.

■ Remove bolt/nuts and take wheel off.

■ Fit spare wheel and tighten bolts/nuts lightly first.

**To ensure that the wheel is secured properly the contact surfaces for the wheel hub or drum and for the wheel nuts/bolts must not be dirty or rusty.**

■ Lower vehicle to ground and tighten the bolts/nuts in a diagonal sequence.

■ Install trim cap.

**Notes**

When a wheel has been changed, the pressure in the wheel which has been fitted and the tightening torque of the wheel bolts should be checked as soon as possible. Use a torque spanner for the bolts. The torque for the wheels supplied by the factory is 170 Nm (17 kgm).

**Caution**

**The jack supplied by the factory is only designed to lift your vehicle model. On no account should heavier vehicles or other loads be lifted. Do not work under the vehicle when it is on the jack.**

**If the vehicle is to be subsequently fitted with wheels or tyres which differ from those fitted by the factory, it is essential to read the remarks on page 79.**

## FUSES

The individual current circuits are provided with fuses.

The fuses are located on left under the dash.

### Changing a fuse

- Switch off the component concerned.
- With the aid of the list of fuses, find out which fuse belongs to the component which has failed.
- Pull out the blown fuse with the plastic clip (located on the cover in front of fuse box).
- Replace blown fuse – can be recognised by the burnt metal strip – with a fuse of **same capacity.**

Spare fuses can be inserted on the underside of the fuse box. These fuses can be obtained from a V.A.G workshop.

### Notes

- If the newly inserted fuse blows again after a short time, the electrical system must be checked by a V.A.G workshop as soon as possible.
- On no account should fuses be patched up because this can cause serious damage elsewhere in the electrical system.

## Fuse layout

(from left to right)

| No. | Component | Amp. |
|---|---|---|
| 1 | Radiator fan | 30 |
| 2 | Brake lights | 10 |
| 3 | Reading lamps, interior lights, illuminated make-up mirror, clock | 15 |
| 4 | Emergency light system | 15 |
| 5 | Vacant | |
| 6 | Fog lights | 15 |
| 7 | Tail and side light left | 10 |
| 8 | Tail and side light right | 10 |
| 9 | Headlamp right | 10 |
| 10 | Headlamp left | 10 |
| 11 | Windscreen washer | 15 |
| 12 | Rear window wiper or rotating emergency light, cruise control system | 15<br>30 |
| 13 | Rear window heating, fresh air blower | 25 |
| 14 | Additional heat exchanger, light for lighting switch | 20 |
| 15 | Reversing lights | 15 |
| 16 | Dual tone horn | 15 |
| 17 | Windscreen wiper | 10 |
| 18 | Brake warning lamp, heated driving seat | 10 |
| 19 | Turn signals | 10 |
| 20 | Number plate light, headlight washer | 10 |
| 21 | Low beam right | 10 |
| 22 | Low beam left | 10 |

**Additional fuses** in holders

■ under right rear seat:

| | Amp. |
|---|---|
| Reading lamp, right | 8 |
| Boot lights | 8 |
| Electrically adjustable seat right | 16 |
| Electrically adjustable seat left | 16 |

■ above fuse box:

| | |
|---|---|
| Instrument lighting | 10 |
| Rear fog light | 10 |
| Overheating fuse for auxiliary heater | 10 |
| Main fuse for auxiliary heater | 20 |
| Emergency horn | 15 |
| Central locking | 20 |
| Automatic fuse for electric windows | 20 |

■ In engine compartment on left in black box.

| | |
|---|---|
| Diesel glow plugs[1] – | 50. |

[1] This fuse should only be renewed by a V.A.G workshop.

## CHANGING BULBS

Before starting to replace a bulb, switch off the light concerned.

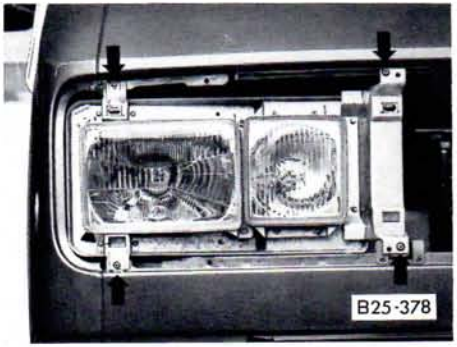
Do not touch the glass part of the new bulb with bare fingers because the finger marks left on the glass evaporate when the bulb gets hot, the vapour settles on the reflector and dims it.

Always use the same type of bulb. The designation is marked on the base of the bulb.

It is advisable to always carry a box of spare bulbs in the vehicle. This can be obtained from any V.A.G dealer.

For safety reasons this box should contain the following bulbs.

| | | |
|---|---|---|
| 12 V | 45/40 W | – Normal headlights |
| 12 V | 60/55 W | – H 4 headlights |
| 12 V | 4 W | – Side lights and license plate light |
| 12 V | 10 W | – Taillight |
| 12 V | 2 W | – Stoplight and turn signal |

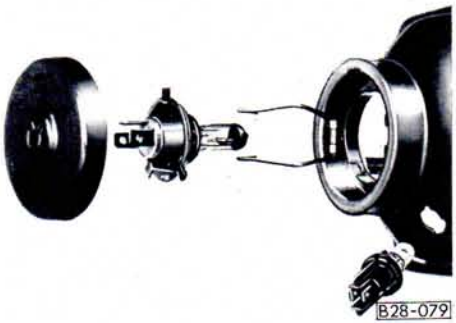




### Headlight

To change a headlight bulb or side light bulb the headlight must be taken out:

Turn 5 quick-release clips in upper grille 90° with a screw-driver. Pull grille forward slightly at the top and lift it out. Then remove 3 screws (see Fig.) and take headlight out.


Normal headlight bulb




H4 headlight bulb

## Headlight bulb

(Normal and Halogen H 4)

- Pull connector off.
- Take cap off.
- Turn ring to left and take it off or squeeze spring clip of the bulb holder together and fold it clear.
- Take bulb out and insert new bulb so that the locating lug on the bulb plate engages the recess in the reflector. The centre of the three terminals on bulb base is then at the top.
- Install ring, press it against reflector and turn it to right as far as possible, or fold spring clip over bulb base. Squeeze clip together and engage it in the retaining lugs.
- Press cap back on.
- Attach connector.
- Install headlight and air intake grille again.
- Have headlight beam alignment checked.

## Side light bulb

The side light bulbs are located in the headlight reflectors.

- Turn bulb holder fully to the left and take it out of reflector.
- Press defective bulb into holder turn it to left and take it out.
- Insert new bulb.
- Insert bulb holder in reflector and turn holder fully to the right.

### Headlight bulb (H3)*

(Inner headlight on vehicles with dual headlights.)

- Turn cap to left and take off.
- Pull wire connector off.
- Unhook spring clip holding bulb and swing it away.
- Take bulb out and insert new bulb so that the locating lug on bulb plate engages recess in reflector.
- Swing spring clip over bulb plate. Squeeze clip together and engage it in the retaining lugs.
- Attach wire again.
- Install cap and turn to right.
- Have headlight setting checked.

### Fog lights (H3)*

- Remove screw on underside of fog light.
- Take insert out.
- Pull wire for bulb out of cable connector.
- Unhook spring clip and fold it away.
- Take bulb out. Insert new bulb so that locating lug on reflector engages recess on bulb plate.
- Swing clip over bulb plate. Squeeze ends together and engage in retaining lugs.
- Insert bulb wire in cable connector.
- Install insert – upper side first – in the housing and secure with screw.
- Have setting of light checked.

### Rear lights

- Remove screws and take off lens and bulb holder.
- Squeeze tabs together and take holder out. (On some versions there is only one tab.)
- Press bulb in, turn it to left and take it out.
- Fit new bulb.
- Install holder – tabs must engage – and install screws.

### Front turn signals

- Take lens off.
- Pull rubber cap off.
- Press tab on bulb holder inwards and take holder out of housing.
- Turn bulb slightly to left and renew.
- Press rubber cap on again carefully and install lens.

### Number plate light

The number plate lights are pushed into the cross panel from the rear.

- Press lugs together and pull light housing out to the rear.
- Remove lens.
- Press bulb into holder, turn it to the left and renew it.
- Install lens.

Ensure that the lug in the lens engages the opening in the bulb-holder as otherwise the number plate will not be illuminated properly.

- Do not overlighten lens screws.
- Install light again. Ensure that housing fits over the metal tab at the top and engages the hole in cross panel at the front.

### Interior light

- Press retaining spring at opposite end to switch inwards and take light out.
- Renew bulb.
- Insert light at switch end first.

### Reading lamps*

- Lever adjusting ring out at side recess with flat blade of screwdriver.
- Press bulb into fitting slightly, turn it to right and take it out.
- Install new bulb.
- Fit adjusting ring so that recesses in ring are in line with those on lamp housing.
- Press adjusting ring on.

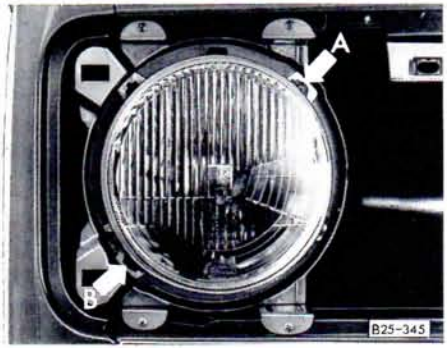
### Table light*

- Push flat screwdriver blade behind light housing on left so that the spring behind it is pushed to one side and then lever housing off.
- Pull reflector out.
- Change bulb.
- Insert reflector again.
- Push lug on right of lamp housing behind trim on right first and then press light on.

### Interior light in front of passenger seat, step light, boot lights.*

- Lever glass out at side with flat screwdriver blade.
- Change bulb.
- Press glass into the trim again.

## ADJUSTING HEADLIGHTS




Correct headlight adjustment is very important for vehicle and traffic safety. The adjustment should therefore only be done with a special appliance.

The headlights are adjusted from the front through the grille with a Phillips screwdriver.


The illustrations show the adjusting screws for the right headlight. The screws for the left headlight are symmetrically opposite.

A – Lateral setting

B – Vertical setting

Turning screw to right lowers the headlight beam.

## MASKING HEADLIGHTS


When the vehicle is used in a country which drives on the opposite side of the road to the hpme country, the asymmetric headlights will dazzle oncoming traffic.

To prevent this, the wedge-shaped sector on the headlight lenses must be covered up with an opaque adhesive strip.

The illustration shows the strip installed for the change from right hand to left hand traffic.

## INSTALLING OR REPLACING A RADIO SET

The following points should be noted when installing a radio set:

■ It is advisable to use radio sets from the V.A.G Accessory programme as well as the fitting kits, aerials and suppression sets which have been specially developed for the individual vehicle model and are available from all V.A.G workshops. These parts are supplied with detailed fitting instructions.

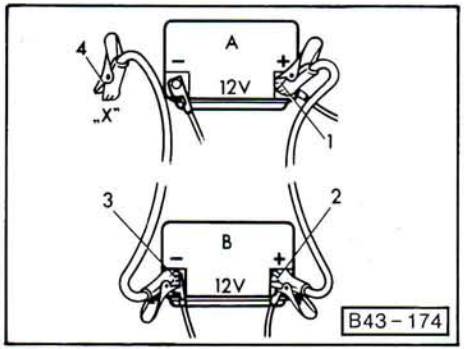
The use of other parts or parts from the previous models may cause faulty operation of the system. Furthermore the installation of non-approved suppression sets can affect the registration of the vehicle under the Construction and Use regulations. in cases of doubt V.A.G workshops will advise.

■ When installing the aerial it is essential to ensure that the hole provided by the factory where the aerial enters the body is sealed very carefully. In addition the aerial cable, the connecting wires and loudspeaker wires must be routed so that they cannot chafe, rattle or get tangled up with moving parts (e.g. pedals, steering, heating controls etc.). Otherwise the operation of the controls may be affected or vehicle safety impaired.

■ The wiring is already installed at the radio fitting location. The plug on this wiring loom fits all radio sets in the V.A.G Accessory Programme which have a separate connection for the scale lighting.

Radio sets with other connections must be connected with an adapter wire which can also be obtained from V.A.G workshops. If the adapter wire is not used or if wires are cut off and left without insulation there is a risk of short circuiting. **This can cause the wiring to burn out.**

## EMERGENCY STARTING




A – Flat battery
B – Boosting battery

The battery is under the righthand seat in the cab.

On vehicles with a Diesel engine it is in the engine compartment.

If the engine will not start because the battery is flat, **jumper cables** can be connected to the battery of another vehicle to start the engine. The following points should be noted:

■ Both batteries must be 12 Volt types. The capacity (Ah) of the boosting battery must not be a lot lower than that of the flat one.

■ The jumper cables must be heavy enough to carry the load. Note cable manufacturer's data.

■ A flat battery can freeze at −10° C and if a battery is frozen it must be thawed out before connecting a jumper cable as otherwise it could explode.

■ There must be no contact between the vehicles as otherwise current can flow as soon as the plus terminals are connected.

■ The flat battery must be properly connected to the electrical system.

■ The engine of the boosting vehicle must be running.

■ Connect jumper cables only as follows:

1. One end of (+) cable (usually red) to the (+) terminal of flat battery.
2. Other end of red cable to (+) terminal of boosting battery.
3. One end of (–) cable (usually black) to (–) terminal of boosting battery.
4. Other end of black cable (x) to the bolt securing earth wire to body.

Do not connect the cable to the battery minus terminal. The sparks could ignite the explosive gas flowing out of the battery.

**Take great care to ensure that the jumper cable clips do not touch one another and that the plus cable does not touch current conducting vehicle parts – short circuit danger.**

**Caution**

■ **Do not stand with your face over the battery – danger of acid burns.**

Route the jumper cables so that they cannot come into contact with rotating parts in the engine compartment.

■ Start the engine as described in the "Starting and Stopping Engine" section.

■ When engine is running, disconnect cables in reverse sequence.

**Note for vehicles with catalyst**

The engine must not be started by towing the vehicle as otherwise unburnt petrol can get into the catalyst and be burned there – see also page 106.

## TOWING

Towing eyes are provided on the right under front and rear bumpers.

Towropes or bars should be attached at these points only.

Avoid excessive towing effort and do not jerk. During towing operations on other than surfaced roads there is always the danger that the attachment points on the body will be overloaded and damaged.

**Note the following also when using a towrope:**

The driver of the towing vehicle must engage the clutch very smoothly when moving off or changing gear. The driver of the vehicle being towed must keep the towrope taut.

The towrope should be slightly elastic to reduce the risk of damage to both vehicles. It is advisable to use only ropes of synthetic materials or with elastic links.

**If your vehicle has to be towed at any time note the following points.**

- Check whether there are any local traffic regulations concerning the towing of vehicles.
- Turn ignition key to "Drive" position so that the steering wheel is free and the turn signals, horn, and, if necessary, the windscreen wiper and washer can be used.
- As the brake servo only works when the engine is running, more pressure is required on the brake pedal when the engine is not running.
- When there is no lubricant in the manual or automatic gearbox the vehicle may only be towed with driving wheels lifted.

If the vehicle has an **automatic gearbox** the following additional points must also be noted:

- Selector lever at "N".
- Do not have vehicle towed faster than 30 mph (50 km/h).
- Do not tow further than 30 miles (50 kilometers).

If the vehicle has to be towed long distances it must be lifted at the rear.

Reason: When the engine is not running, the gearbox oil pump is not working and the gearbox is not adequately lubricated for high speeds or long distances.

Emergency starting – see page 27.

**The following should also be noted on four wheel drive vehicles:**

If the vehicle has to be towed with either front or rear axle lifted, one must ensure that the wheels on the raised axle are free to rotate.

## ENGINE

### Petrol engines

- 4 stroke petrol engine
- 4 cylinder horizontally opposed
- Cast-iron cylinders
- 4 bearing crankshaft
- Light alloy cylinder heads
- Light alloy crankcase
- Valves operated via push rods and rocker arms
- Maintenance free valve gear with hydraulic tappets
- Cooling system filled for life of vehicle
- Radiator with separate expansion tank
- Electric radiator fan controlled by thermo switch
- Low aintenance electronic ignition system.
- Single or twin choke down draft carburetor (44 and 57 kW engines)
- Petrol injection system* with overrun fuel cut-off
- Emission control system*
- Thermostatically, controlled intake air preheating and electrical mixture preheating.
- Dry air cleaner with paper element, cyclone filter for very dusty countries*
- Long life spark plugs
- Optical and acoustic oil pressure monitor*

### Diesel engines

- Four stroke Diesel engine, installed longitudinally, inclined 50°
- 4 cylinders in line
- Cast iron block
- 5 bearing crankshaft
- Sheet metal sump
- Light alloy cylinder head
- Valves operated by overhead camshaft, toothed belt drive
- Liquid cooling
- Radiator with separate expansion tank
- Thermoswitch controlled electric fan
- Mechanical fuel injection
- Distributor type injection pump with cold starting aid, exhaust turbocharger on 51 kW engine
- Dry air cleaner with paper element.

## POWER TRANSMISSION

### Manual gearbox

- Mechanically or hydraulically operated single plate clutch
- Baulk synchronized four or five speed manual gearbox with final drive in one housing
- Filled for life.
- Rear wheel drive

### Transporter/Caravelle syncro

- Baulk synchronised 4-speed manual gearbox with additional cross country gear (4+G gearbox).
- Permanent four-wheel drive through viscous coupling, mechanically engageable four-wheel drive available as optional extra.
- Manually operated differential locks for front and/or rear final drives available as optional extra.

### Automatic gearbox*

- Hydro-dynamic torque converter and planetary gear train with three forward speeds and reverse
- Final drive flanged on
- Rear wheel drive
- Filled for life.

## STEERING/AXLES

### Steering

- Maintenance free rack and pinion steering with relay idler
- Safety steering column
- Power assisted steering*

### Front axle

- Independent wheel suspension with wishbones/track control arms, coil springs and telescopic dampers
- Anti-roll bar

### Additional on Transporter/Caravelle syncro

- Double jointed shafts
- Differential lock*
- Viscous coupling

### Rear axle

- Independent suspension with diagonal trailing arms, coil springs and telescopic dampers
- Double jointed drive shafts

### Additional on Transporter/Caravelle syncro

- Differential lock*

## BRAKES

- Hydraulic dual circuit brakes
- Disc brakes at front
- Self-adjusting drums at rear with retardation-sensitive pressure regulator
- Brake servo
- Mechanical handbrake effective on rear wheels

## BODY

- Unitary body/chassis
- Floor frame reinforced by side and cross members

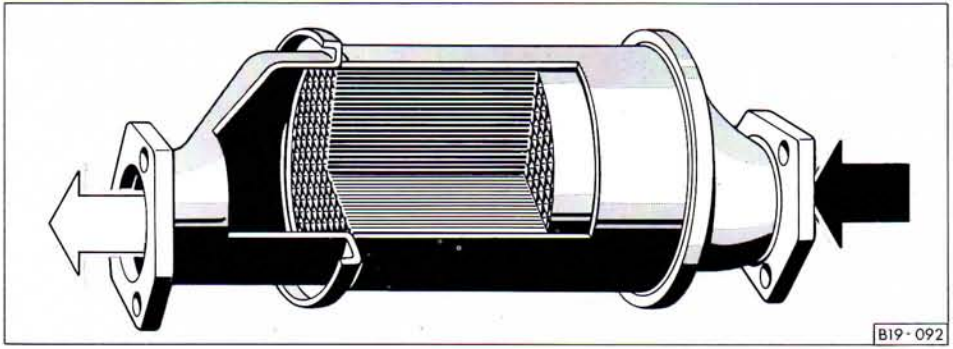
## EMISSION CONTROL SYSTEM*

### Functional description

The emission control system effectively reduces the amount of pollutants in the exhaust gas. The system is so designed that it requires no additional maintenance. With normal vehicle use, no special operating instructions need be observed – apart from filling the tank with leadfree petrol. Only in certain exceptional cases is it necessary, for safety reasons, to note a few points – see page 83.

The main parts of the emission control system are

- an electronically controlled fuel metering system (fuel injection)
- the catalyst
- the Lambda probe




The catalyst is installed in the exhaust pipe. It consists of a steel-cased ceramic body containing a multitude of longitudinal passages which are vapour coated with a thin layer of platinum or rhodium.

The exhaust gas flows through the catalyst and reacts with an afterburning process when it contacts the noble metal coating. In this process the carbon monoxide and hydrocarbons are converted to harmless carbon dioxide and water and the oxides of nitrogen are converted to nitrogen (four fifths of the air we breathe is nitrogen).

A stipulation for the proper functioning of the catalyst, however, is that the exhaust gas has a certain specific composition and minimum temperature when it enters the catalyst. To obtain this composition exact regulation of the fuel/air mixture is required. On vehicles which are fitted at the factory with a emission control system this is done with the aid of a Lambda probe.

The Lambda probe is fitted in the exhaust pipe in front of the catalyst and measures the exhaust gas composition continuously. The information signal is fed to an electronic control unit which in turn regulates the fuel injection system so that the mixture is kept constantly correct.

### Vehicles with "emission control package"

With the factory prepared parts and the parts in the package supplied with the vehicle for the service installation of an emission control system, it is possible to have the vehicle converted with little effort by a V.A.G workshop when adequate supplies of leadfree petrol are available.

After this conversion the system is equivalent to the factory fitted version. Up to the installation of the emission control system, leadfree or leaded petrol can be used. The minimum octane rating is 91 RON (Regular petrol).

The emission control parts required for the service installation are packed in a carton and put in the boot. The contents of carton are:

Catalyst
Lambda probe
3 "Leadfree" stickers
Small parts

These parts are carefully packed and protected against corrosion. The carton should therefore be stored, **unopened,** in a dry place where it cannot become damaged.

The date for the conversion should be arranged with the V.A.G workshop well in advance because before the emission control system is installed at least two full tanks of leadfree petrol must be used in order to ensure that all traces of leaded petrol are out of the fuel system.

A specimen expertise is available from the Volkswagen factory for the conversion. After conversion, the vehicle must be taken to an authorized testing agency (e.g. TÜV in Germany) for the necessary entries in the vehicle documents.

After the conversion the pollutants in the exhaust gas are very effectively reduced.

It is however important to use only leadfree petrol. Further details are given on page 63.

### Vehicles without emission control system

Vehicles which have neither factory fitted emission control systems nor the "package" solution can be subsequently fitted with an emission control system. See your V.A.G workshop for details.

Where not otherwise indicated all technical data is for standard vehicles in Germany.

For special vehicles and vehicles for other countries these figures may be different.

Please note that the details in the official vehicle documents can be taken as the correct figures.

## ENGINE DATA

| | Carburetor engines | |
|---|---|---|
| | 44 kW | 57 kW |
| Output (DIN 70020 Part 6) ..... kw (bhp) at rpm | 44 (60)/3700 | 57 (78)/4600 |
| Maximum torque ..... Nm at rpm | 140/2200 | 141/2600 |
| Capacity ..... $cm^3$ | 1913 | 1913 |
| Stroke ..... mm | 68.9 | 68.9 |
| Bore ..... mm | 94 | 94 |
| Compression ..... | 8.6 | 8.6 |
| Fuel[1] ..... | Regular | Regular |
| Oil consumption ..... max. litres/1000 km | 1.5 | 1.5 |

| | Diesel engines | |
|---|---|---|
| | 37 kW | 51 kW |
| Output (DIN 70020 Part 6) ..... kw (bhp) at rpm | 37 (50)/4200 | 51 (70)/4500 |
| Maximum torque ..... Nm at rpm | 103/2000 | 138/2500 |
| Capacity ..... $cm^3$ | 1588 | 1588 |
| Stroke ..... mm | 86.4 | 86.4 |
| Bore ..... mm | 76.5 | 76.5 |
| Compression ..... | 23 | 23 |
| Fuel[1] ..... | Diesel | Diesel |
| Oil consumption ..... max. litres/1000 km | 1.5 | 1.5 |

[1] For octane / Cetane ratings and further details see page 63

| | Petrol injection engines | |
|---|---|---|
| | 66 kW | 82 kW |
| Output (DIN 70020 Part 6) ..... kw (bhp) at rpm | 66 (90)/4600 | 82 (112)/4800 |
| Maximum torque ..... Nm at rpm | 147/2800 | 174 (17.4)/2800 |
| Capacity ..... $cm^3$ | 1913 | 2109 |
| Stroke ..... mm | 68.9 | 76 |
| Bore ..... mm | 94 | 94 |
| Compression ..... | 8.6 | 10.5 |
| Fuel[2] ..... | Premium | Premium |
| Oil consumption ..... max. litres/1000 km | 1.5 | 1.5 |

| | 61 kW[1] | 70 kW[1] |
|---|---|---|
| Output (DIN 70020 Part 6) ..... kW (bhp) at rpm | 61 (83)/4800 | 70 (95)/4800 |
| Maximum torque ..... Nm (kgm) at rpm | 143/2600 | 160/2800 |
| Capacity ..... $cm^3$ | 1913 | 2109 |
| Stroke ..... mm | 68,9 | 76 |
| Bore ..... mm | 94 | 94 |
| Compression ..... | 8.6 | 9.0 |
| Fuel[2] ..... | Regular leadfree | Regular leadfree |
| Oil consumption ..... max. litres/1000 km | 1.5 | 1.5 |

[1] Engines with factory fitted emission control system

[2] For octane ratings and further details see page 63

## FUEL CONSUMPTION

These consumption figures were determined in accordance with recommendation A 70 of the ECE.

In order to obtain true-to-life figures the tests are carried out in three different conditions:

- The measurements for 90 km/h (56 mph) and
- 120 km/h (75 mph) are carried out at a constant test speed.
- For the urban measurement normal town traffic driving is simulated.

Depending on driving style, road and traffic conditions, environmental influences and vehicle condition, the figures obtained in actual practice may differ from those given in the standards.

| Carburetor engines | | 44 kW | | 57 kW | | | 57 kW syncro 4+G |
|---|---|---|---|---|---|---|---|
| | | 4 speed gearbox | 5 speed gearbox | 4 speed gearbox | 5 speed gearbox | Automatic gearbox | |
| **Caravelle and Combi** | | | | | | | |
| 90 km/h | 1/100 km (mpg) | 10.5 (26.9) | 10.3 (27.4) | 9.7 (29.1) | 9.5 (29.7) | 11.2 (25.2) | 10.6 (26.6) |
| 120 km/h[1] | 1/100 km (mpg) | – | – | – | – | – | – |
| Urban | 1/100 km (mpg) | 12.9 (21.8) | 11.9 (23.7) | 12.8 (22.0) | 13.9 (20.3) | 12.6 (22.4) | 12.8 (22.0) |
| **High-roofed Combi** | | | | | | | |
| 90 km/h | 1/100 km (mpg) | 11.2 (25.2) | 10.8 (26.1) | 10.6 (26.6) | 10.2 (27.6) | 12.4 (22.7) | |
| 120 km/h[1] | 1/100 km (mpg) | – | – | – | – | – | |
| Urban | 1/100 km (mpg) | 12.9 (21.8) | 11.9 (23.7) | 12.8 (22.0) | 13.9 (20.3) | 12.6 (22.4) | |

[1] Figures not available at time of going to press

| Petrol injection engines | 61 kW | | 66 kW | | 70 kW | | 82 kW | |
|---|---|---|---|---|---|---|---|---|
| | 5 speed gearbox | Automatic gearbox | 5 speed gearbox | Automatic gearbox | 5 speed gearbox | Automatic gearbox | 5 speed gearbox | Automatic gearbox |
| **Caravelle and Combi** | | | | | | | | |
| 90 km/h 1/100 km (mpg) | | | 9.5 (29.7) | 10.5 (26.9) | | | | |
| 120 km/h[1] 1/100 km (mpg) | | | 14.0 (20.1) | 15.8 (17.8) | | | | |
| Urban 1/100 km (mpg) | | | 10.9 (25.9) | 12.1 (23.3) | | | | |
| **High-roofed Combi** | | | | | | | | |
| 90 km/h 1/100 km (mpg) | | | 10.5 (26.9) | 11.5 (24.5) | | | | |
| 120 km/h 1/100 km (mpg) | Figures not available at time of going to press | | 16.3 (17.3) | – | Figures not available at time of going to press | | Figures not available at time of going to press | |
| Urban 1/100 km (mpg) | | | 10.9 (25.9) | 12.1 (23.3) | | | | |
| **Caravelle Carat** | | | | | | | | |
| 90 km/h 1/100 km (mpg) | | | 9.6 (29.4) | 10.6 (26.6) | | | | |
| 120 km/h 1/100 km (mpg) | | | 14.2 (19.8) | 16.0 (17.6) | | | | |
| Urban 1/100 km (mpg) | | | 11.7 (24.1) | 12.7 (22.2) | | | | |

| Diesel engines | 37 kW | | 51 kW | |
|---|---|---|---|---|
| | 4 speed | 5 speed | 4 speed | 5 speed |
| **Caravelle and Combi** | | | | |
| 90 km/h 1/100 km (mpg) | 9.0 (31.6) | 7.7 (36.6) | 7.6 (37.1) | 7.5 (37.6) |
| 120 km/h 1/100 km (mpg) | – | – | – | – |
| Urban 1/100 km (mpg) | 9.0 (31.6) | 10.1 (27.9) | 8.0 (35.3) | 6.7 (42.1) |
| **High-roofed Combi** | | | | |
| 90 km/h 1/100 km (mpg) | 9.7 (29.1) | 8.7 (32.4) | 8.2 (34.4) | 8.1 (34.8) |
| 120 km/h 1/100 km (mpg) | – | – | – | – |
| Urban 1/100 km (mpg) | 9.0 (31.6) | 10.1 (27.9) | 8.0 (35.3) | 6.7 (42.1) |

## PERFORMANCE

The maximum speeds were measured according to DIN 70020 Part 3. Vehicle not fitted with any equipment such as mud flaps which affects the performance.

| **Maximum speed** approx in km/h **Carburetor engines** | 44 kW | 57 kW manual gearbox | 57 kW automatic gearbox | 57 kW syncro |
|---|---|---|---|---|
| Caravelle, Combi, Van | 118 | 130 | 125 | 125 |
| Pick-up and Double Cab without cover | 118 | 130 | 125 | 122 |
| High roofed Van | 113 | 125 | 120 | 120 |
| Large platform Pick-up | 115 | 127 | 122 | 120 |

| **Petrol injection engines** | 61 kW | | 66 kW | | 70 kW | | 82 kW | |
|---|---|---|---|---|---|---|---|---|
| | 5 speed | automatic | 5 speed | automatic | 5 speed | automatic | 5 speed | automatic |
| Caravelle, Combi, Van | 136 | 133 | 131 | 133 | 141 | 136 | 150 | 146 |
| Caravelle Carat | [1] | [1] | 139 | 133 | 141 | 136 | 150 | 146 |
| High roofed Van | 131 | 126 | 132 | 127 | 136 | 131 | 145 | 141 |

| **Diesel engines** | 37 kW | | 51 kW | |
|---|---|---|---|---|
| | 4 speed | 5 speed | 4 speed | 5 speed |
| Caravelle, Combi, Van | 103 | 110 | 127 | 127 |
| Pick-up and Double Cab without cover | 103 | 110 | 127 | 127 |
| High roofed Van | 103 | 105 | 122 | 122 |
| Large platform Pick-up | 103 | 107 | 124 | 124 |

[1] Figures not available at time of going to press

## HILL CLIMBING ABILITY

With full load on good roads driving non-stop in 1st gear . . .

**Values in %, approx.**

| **Carburetor engines** | 44 kW | | 57 kW | | | 47 kW syncro | |
|---|---|---|---|---|---|---|---|
| | 4 speed | 5 speed | 4 speed | 5 speed | automatic | 185 R 14 C | 205 R 14 C |
| | 28 | 30 | 30 | 33 | 46 | 54 | 60 |

| **Petrol injection engines** | 61 kW | | 66 kW | | 70 kW | | 82 kW | |
|---|---|---|---|---|---|---|---|---|
| | 5 speed | automatic | 5 speed | automatic | 5 speed | automatic | 5 speed | automatic |
| | [1] | | 34 | 47 | [1] | | 38 | 49 |

| **Diesel engines** | 36 kW | | 51 kW | |
|---|---|---|---|---|
| | 4 speed | 5 speed | 4 speed | 5 speed |
| | 26 | 26 | 33 | 32 |

[1] Figures not available at time of going to press

## SPARK PLUGS

**44 and 57 kW engines**

Bosch ..... W7CTC
Beru ..... 14-7CTU
Champion ..... N4BC

**61 and 66 kW engines**

Bosch ..... W7CO
Beru ..... 14L-7C
Champion ..... N288

**70 kW engine**

Bosch ..... W7CCO
Beru ..... 14L-7CU/14L-7C
Champion ..... N288

**82 kW engine**

Bosch ..... W5DTC
Beru ..... 14-5DTU
Champion ..... N6BYC

Electrode gap in mm ..... 0,6–0,8

## VEE BELTS

**Petrol engines**

With 45 and 65
Amp alternator: ..... 9.5 1070 LA
With 90 Amp alternator: . 9.5 1110 LA

**Diesel engines**

Crankshaft/coolant
pump ..... 9.5 x 643 LA
Coolant pump/
alternator ..... 9.5 x 600 LA

## WHEELS

| | | | | | |
|---|---|---|---|---|---|
| **Steel wheels**<br>**Alloy wheels** | 5½ J x 14 | 6 J x 14 | 6 J x 14 | 6 J x 14 | 6 J x 14 |
| **Tyres** | | | | | |
| Tubeless radials | 185 R 14 C 6 PR<br>6 PR/8 PR | 185 R 14 C<br>6 PR/8 PR | 205/70 R 14 | 205/R 14 C<br>6 PR/8 PR | 205 R 14 C |

**Recommended winter tyres/wheels:** 185 R 14 C on 5½ J x 14 wheel

| **Tyre pressures** in bar (psi) | Front | Rear | Spare |
|---|---|---|---|
| 185 R 14 C PR<br>Ambulance | 2.5 (35) | 2.5 (35) | 2.5 (35) |
| all other models | 2.7 (38) | 3.3 (47) | 3.3 (47) |
| 205/70 R 14 | 2.1 (30) | 2.5 (35) | 2.5 (35) |
| **Syncro** | | | |
| 185 R 14 C<br>6 PR/8 PR | 2.8 (40) | 3.3 (47) | 3.3 (47) |
| 205/70 R 14 | 2.3 (33) | 2.5 (35) | 2.5 (35) |
| 205 R 14 C<br>6 PR/8 PR | 2.5 (35) | 3.0 (42.5) | 3.0 (42.5) |

**If you wish to fit the vehicle with tyres or wheels of types different to those fitted by the factory (e.g. alloy wheels or wheels with winter tyres), you must pay attention to the instructions given on page 79.**

The most suitable combination is given for winter tyres. Details of further tyre/wheel combinations can be obtained from your V.A.G Dealer. Further details on winter tyres are given on page 82.

These pressures are for cold tyres – the pressure is higher when tyres are warm but it must not be reduced.

The tyre pressures must be checked regularly. Correct pressures are of great importance, particularly at high speed – see page 80.

## WEIGHTS (KG)

| Normal payload | GVW | | Unladen weight (with driver) | | Payload[2] | | Permissible front axle load | Permissible rear axle load | Permissible roof load[4] |
|---|---|---|---|---|---|---|---|---|---|
| | Petrol | Diesel | Petrol | Diesel | Petrol | Diesel[5] | | | |
| Van | 2390 | 2460 | 1395 | 1465 | 995 | 995 | 1200 | 1300 | 100 |
| High Roofed Van | 2390 | 2460 | 1445 | 1515 | 945 | 945 | 1200 | 1300 | – |
| Combi | 2390 | 2460 | 1395[1] | 1465[1] | 995[3] | 995[3] | 1200 | 1300 | 100 |
| High Roofed Combi | 2390 | 2460 | 1445[1] | 1515[1] | 945[3] | 995[3] | 1200 | 1300 | – |
| Caravelle, Combi L | 2390 | 2460 | 1480[1] | 1550[1] | 910[3] | 910[3] | 1200 | 1300 | 100 |
| Caravelle Carat | 2340 | – | 1730[1] | – | 610[1] | – | 1200 | 1300 | 75 |
| Caravelle GL | 2390 | 2360 | 1510[1] | 1580[1] | 880 | 880 | 1200 | 1300 | 100 |
| "Joker" with pop-up roof | 2340 | 2410 | 1640[1] | 1710[1] | 700 | 700 | 1200 | 1300 | 50 |
| "Joker" with high roof | 2340 | 2410 | 1700[1] | 1770[1] | 640 | 640 | 1200 | 1300 | – |
| Ambulance | 2300 | 2400 | 1680 | 1750 | 710 | 650 | 1200 | 1200 | 100 |
| High roofed ambulance | 2390 | 2400 | 1900 | 1950 | 490 | 430 | 1200 | 1200 | – |
| Pick-up | 2390 | 2460 | 1395 | 1465 | 995 | 995 | 1200 | 1300 | – |
| Pick-up with large platform | 2390 | 2460 | 1490 | 1560 | 900 | 900 | 1200 | 1300 | – |
| Double Cab | 2390 | 2460 | 1480 | 1550 | 910 | 940 | 1200 | 1300 | 75 |

**Notes**

■ Optional extras such as sliding roof, towing bracket etc. and service installation of accessories increases the unladen weight and the payload has to be reduced by this amount.

■ In the interest of good handling, goods should always be carried between the axles. The permissible axle and gross weights must not be exceeded.

[1] Without driver
[2] On vehicles with automatic gearbox the payload is reduced by about 40 kg.
[3] On vehicles without seats the payload is increased by about 65 kg.
[4] Use only racks supported in rain channel. Load evenly and do not exceed the GVW. Further details are given on page 19.
[5] On vehicles with Turbo Diesel engine the payload is reduced by 15 kg.

| Higher payload | Permissible GVW | Unladen weight (with driver) Petrol | Unladen weight (with driver) Diesel | Payload[2] Petrol | Payload[2] Diesel[5] | Permissible front axle load | Permissible rear axle load | Permissible roof load[4] |
|---|---|---|---|---|---|---|---|---|
| Van | 2600 | 1395 | 1465 | 1205 | 1135 | 1300 | 1400 | 100 |
| High Roofed Van | 2600 | 1445 | 1515 | 1155 | 1085 | 1300 | 1400 | – |
| Combi | 2600 | 1395[1] | 1465[1] | 1205[3] | 1135[3] | 1300 | 1400 | 100 |
| High Roofed Van | 2600 | 1445[1] | 1515[1] | 1155[3] | 1085[3] | 1300 | 1400 | – |
| Caravelle, Combi L | 2600 | 1480[1] | 1550[1] | 1120[3] | 1090[3] | 1300 | 1400 | 100 |
| Pick-up | 2600 | 1395 | 1465 | 1205 | 1135 | 1300 | 1400 | – |
| Pick-up with large platform | 2600 | 1490 | 1560 | 1110 | 1040 | 1300 | 1400 | – |
| Double Cab | 2600 | 1450 | 1520 | 1150 | 1080 | 1300 | 1400 | 75 |

**Notes**

■ Optional extras such as sliding roof, towing bracket etc. and service installation of accessories increases the unladen weight and the payload has to be reduced by this amount.

■ In the interest of good handling, heavy goods should always be carried between the axles. The permissible axle and gross weights must not be exceeded.

1) Without driver
2) On vehicles with automatic gearbox the payload is reduced by about 40 kg.
3) On vehicles without seats the payload is increased by about 65 kg.
4) Use only racks supported in rain channel. Load evenly and do not exceed the GVW. For further details – see page 19.
5) On vehicles with Turbo Diesel engine the payload is reduced by 15 kg.

## WEIGHTS (FOUR WHEEL DRIVE)

| In kg | GVW | Unladen weight (with driver) | Payload[2] | Permissible front axle load | Permissible rear axle load | Permissible roof load[3] |
|---|---|---|---|---|---|---|
| Van | 2500 | 1540 | 960 | 1300 | 1380 | 100 |
| High Roofed Van | 2500 | 1590 | 910 | 1300 | 1380 | – |
| Combi | 2500 | 1540[1] | 960[2] | 1300 | 1380 | 100 |
| High Roofed Combi | 2500 | 1590[1] | 910[2] | 1300 | 1380 | – |
| Caravelle/Combi L | 2500 | 1625[1] | 875[2] | 1300 | 1380 | 100 |
| Caravelle GL | 2500 | 1655[1] | 845 | 1300 | 1380 | 100 |
| "Joker" with pop-up roof | 2500 | 1785[1] | 715 | 1300 | 1380 | 50 |
| "Joker" with high roof | 2500 | 1845[1] | 655 | 1300 | 1380 | – |
| Ambulance | 2500 | 1825 | 675 | 1300 | 1380 | 100 |
| Pick-up | 2500 | 1540 | 960 | 1300 | 1380 | 100 |
| Pick-up with large platform | 2500 | 1635 | 865 | 1300 | 1380 | 100 |
| Double Cab | 2500 | 1595 | 905 | 1300 | 1380 | 75 |

**Notes**

■ Optional extras such as sliding roof, rowing bracket etc. and service installation of accessories increases the unladen weight and the payload has to be reduced by this amount.

■ In the interest of ggod handling, goods should always be carried between the axles. The permissible axle and gross weights must not be exceeded.

■ The payload must be reduced by 200 kg when travelling cross-country.

[1] Without driver
[2] On vehicles without seats the payload is increased by about 65 kg.
[3] Use only racks supported in rain channel. Load evenly and do not exceed the GVW.

## TRAILER WEIGHTS

| See also "Trailer towing" on page 57 | | Petrol engines 4 speed gearbox | Petrol engines 5 speed gearbox | Petrol engines Automatic | Diesel engine | Turbo Diesel | syncro |
|---|---|---|---|---|---|---|---|
| Permissible weights | | | | | | | |
| Trailer with brakes, gradients up to 12% | kg | 1500/1300[1] | 1500/1300[1] | 1500 | 1200/1000[1] | 1500/1300[1] | 2000 |
| with special certificate[2] | kg | 1800/1600[1] | 2000/1800[1] | – | 1400/1200[1] | 2000/1800[1] (10% gradient) | – |
| Trailer without brakes | kg | 600 | 600 | 600 | 600 | 600 | 600 |
| Permissible nose weight | max. kg | 50/75[3] | 50/75[3] | 50/75[3] | 50/75[3] | 50/75[3] | 75 |
| | min. | 4% of actual trailer weight | | | | | |

[1] Vehicles with higher payload.
[2] V.A.G dealers have details.
[3] With special certificate.

## DIMENSIONS

| in mm | Length | Width | Height with cover | Height without cover | Ground clearance[1] | Overhang front | Overhang rear | Wheelbase | Track front | Track rear | Turning circle in m |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Van | 4570 | 1845 | 1965 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| High Roofed Van | 4570 | 1845 | 2365 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Combi | 4570 | 1845 | 1960 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| High Roofed Combi | 4570 | 1845 | 2360 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Caravelle CL, GL, Combi L | 4600 | 1845 | 1950 | – | 190 | 1175 | 965 | 2460 | 1583 | 1570 | 10.7 |
| Caravelle Carat | 4605 | 1845 | 1960 | – | 190 | 1180 | 965 | 2460 | 1603 | 1588 | 10.9 |
| "Joker" with pop-up roof | 4570 | 1845 | 2075 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| "Joker" with high roof | 4570 | 1845 | 2650 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Ambulance | 4570 | 1845 | 2215 | – | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Pick-up | 4570 | 1870 | 1930 | 2235 | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Pick-up with large platform | 4570 | 2000 | 1930 | 2235 | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |
| Double Cab | 4570 | 1870 | 1925 | 2230 | 190 | 1160 | 950 | 2460 | 1583 | 1570 | 10.7 |

[1] at permissible GVW
When negotiating steep ramps, driving over poor surfaces, curbs etc., particularly with the "Joker" with a spoiler, gas containers and heater mounted underneath the floor, care must be taken not to "bottom" and thus cause damage to these fittings.

## DIMENSIONS

| in mm | Length | Width | Height with cover | Height without cover | Ground clearance[1] | Overhang front | Overhang rear | Wheelbase | Track front | Track rear | Turning circle in m | Wading Depth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Van | 4570 | 1845 | 1990 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| High Roofed Van | 4570 | 1845 | 2390 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Combi | 4570 | 1845 | 1990 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| High Roofed Combi | 4570 | 1845 | 2390 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Caravelle CL, GL, Combi L | 4600 | 1845 | 1990 | – | 200 | 1175 | 965 | 2455 | 1568 | 1560 | 10.9 | 350 |
| "Joker" with pop-up roof | 4570 | 1845 | 2105 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| "Joker" with high roof | 4570 | 1845 | 2680 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Ambulance | 4570 | 1845 | 2245 | – | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Pick-up | 4570 | 1870 | 1995 | 2265 | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Pick-up with large platform | 4570 | 2000 | 1995 | 2265 | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |
| Double Cab | 4570 | 1870 | 1995 | 2265 | 200 | 1160 | 950 | 2455 | 1568 | 1560 | 10.9 | 350 |

[1] at permissible GVW with 185 R 14 C tyres
When negotiating steep ramps, driving over poor surfaces, curbs etc., particularly with vehicles with a spoiler, gas containers and heater mounted underneath the floor, care must be taken not to "bottom" and thus cause damage to these fittings.

## CAPACITIES

Fuel tank .. approx. 60 litres (13 galls)
Fuel tank
syncro ... approx. 70 litres (15.3 galls)
Windscreen washer .. approx. 3.5 litres
With headlight
washer ..... approx. 6.5 litres
Rear window
washer ..... approx. 1.0 litre

**Petrol engines**

Cooling system
(with heater) ..... approx. 17.5 litres
Engine oil –
with filter change ... approx. 4.5 litres
Engine oil –
without filter change approx. 4.0 litres
Difference between
Max.-Min. marks on dipstick .. 1.0 litre

**Diesel engines**

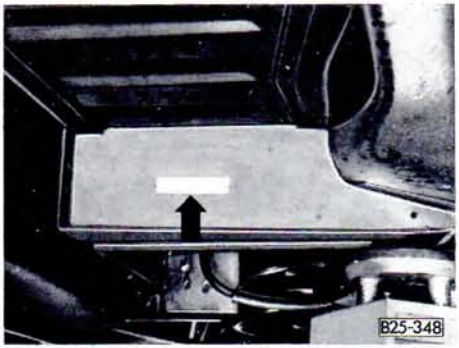
Cooling system
(with heater) ..... approx. 16 litres
Engine oil –
with filter change .... approx. 4.5 litres
Engine oil –
without filter change . approx. 4.0 litres
Difference between
Max.-Min. marks
on dipstick ..... approx. 1.0 litre

## IDENTIFICATION PLATE


The identification plate is on right hand door pillar between the hinges.

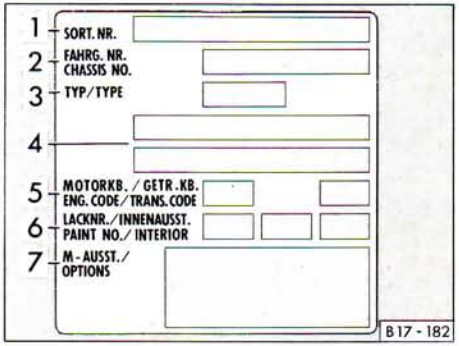
Vehicles for export to certain countries have no identification plate.

## CHASSIS NUMBER




The chassis number is stamped under vehicle on front cross member

## THE VEHICLE DATA STICKER



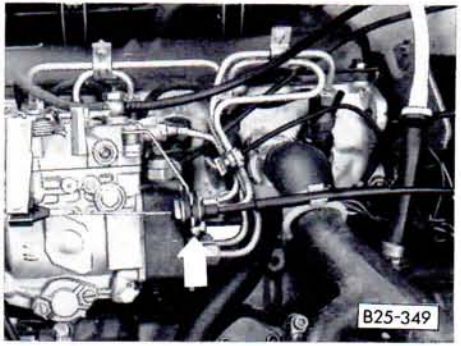

The vehicle data sticker is located on cross member on left under dash. The sticker contains the following data:

1. Production control number
2. Chassis number
3. Model code number
4. Model explanation
5. Engine and gearbox code letters
6. Paint number/interior trim code
7 Optional extra number

The vehicle data 2 – 7 is also given in the Service Schedule.

## ENGINE NUMBER


On the petrol engines the number is stamped on the block behind the vee belt pulley. It can be seen when maintenance flap is opened.




On the Diesel engine the number is stamped in the block near the injection pump.

The factory is working continuously on the development of all models. We trust, therefore, that you will appreciate that we must reserve the right to alter, without notice, any part of the vehicle or equipment. No legal commitment is thus implied by the data, illustrations or descriptions in this manual.



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