

# **Instruction Manual Volkswagen Transporter Volkswagen Caravelle**



[www.WestfaliaT3.info](http://www.WestfaliaT3.info) - a useful website for owners and enthusiasts of VW Westfalia T25 / T3 / Vanagon Campervans

## The fuel consumption depends to a large extent on the style of driving

In order to use as little fuel as possible, you should:

- **avoid high engine speeds**

The best fuel consumption is obtained with low engine speeds in the highest possible gear.

- **only change down when the engine no longer runs smoothly**

It is normally possible to drive on the flat, and accelerate away at a speed somewhere between 40 km/h.

- **Avoid using maximum speed —**

the engine consumes a lot of fuel at full throttle.

- **Drive as smoothly as possible and look well ahead**

unnecessary accelerating and braking also puts up the fuel consumption.

Please read also "Driving economically" in the "Driving tips" chapter.

**You will then use less fuel.**

## Road safety and vehicle safety belong together

Before moving off, check

- the fuel level
- the lights and turn signals
- the brakes
- the windscreen washer

and, at regular intervals

- the engine oil level

The oil level should be checked every time the tank is filled **or daily in arduous operating conditions or when engine is working hard.**

- the coolant level
- the brake fluid level
- the tyre pressures

**You will then be safer while driving.**

## Introduction

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This instruction manual contains important information on the use of your vehicle. You should read it before using the vehicle so that you get to know your vehicle quickly and learn how to drive it and look after it properly.

Proper treatment and care serves, in addition to regular 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.

### Notes

■ 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.

■ If you wish to take your vehicle abroad, note the following:

- In many countries in the world there is a close network of V.A.G workshops to look after your vehicle. Despite this there are certain countries in which there is only a limited amount of V.A.G service or none at all.
- In certain countries it is possible that your vehicle model is not sold so that certain service 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.

If you wish to know what the repair possibilities are for your vehicle before going abroad you should ask either the Volkswagen factory or the Importer concerned. The addresses are given in the vehicle wallet.

## Index

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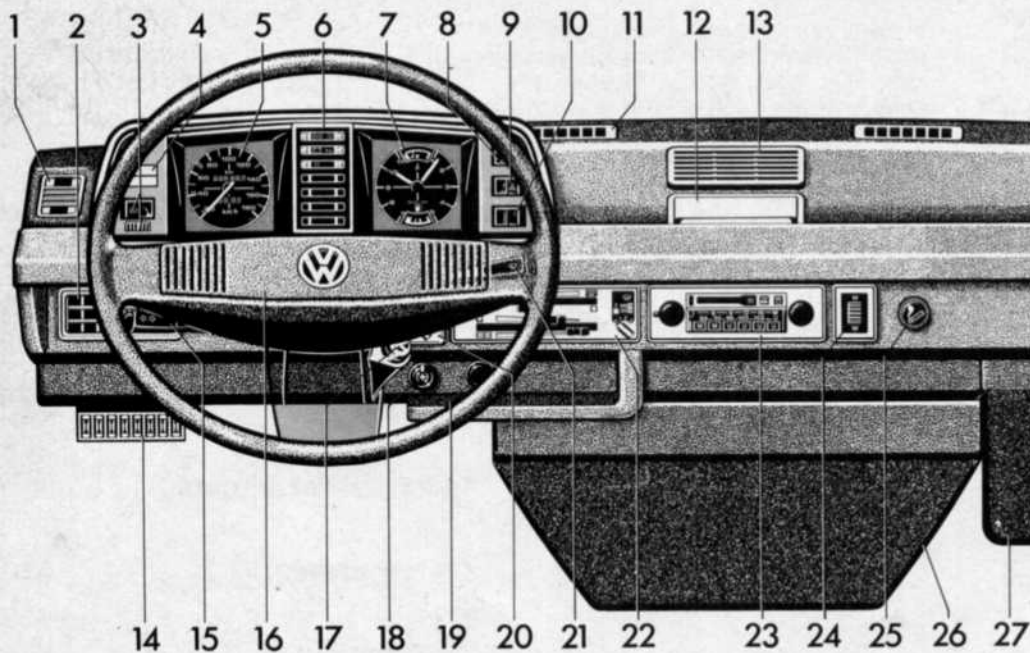
<b>Instrument panel</b> .....	<b>2</b>
<b>Operation</b> .....	<b>4</b>
<b>Driving tips</b> .....	<b>34</b>
<b>Operating instructions</b> ...	<b>39</b>
<b>Care and maintenance</b> ....	<b>52</b>
<b>Do-it-yourself</b> .....	<b>56</b>
<b>Technical description</b> ....	<b>66</b>
<b>Technical data</b> .....	<b>68</b>
<b>Identification data</b> .....	<b>77</b>
<b>Alphabetical index</b> .....	<b>79</b>

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# INSTRUMENTAL PANEL



B25



# INSTRUMENTAL PANEL

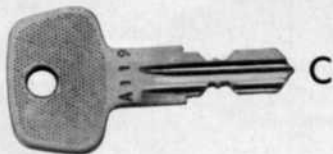
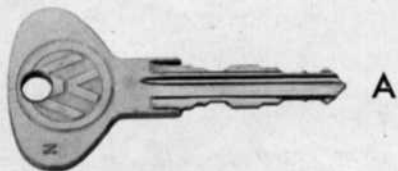
	Page		Page		Page
1 — Air vents	26	11 — Air vents	26	22 — Blower switch and levers for ventilation and heating	26
2 — Air vents	26	12 — Ash tray	33	23 — Radio <sup>1)</sup> or cover plate	
3 — Light switch and instrument lighting regulator	23	13 — Loud speaker opening		24 — Fader control <sup>1)</sup>	
4 — Brake warning light	20	14 — Fuse box	58	25 — Socket/cigarette lighter	33
5 — Speedometer	21	15 — Turn signal and dip switch	24	26 — Air vents	26
6 — Warning lamps	19	16 — Horn control		27 — Shelf	33
7 — Fuel gauge and coolant temperature gauge	22	17 — Steering lock/starter switch	16		
Clock	21	18 — Auxiliary heater switch	29		
8 — Heated rear window switch	23	19 — Cold starting aid (diesel engine)	18		
9 — Emergency light switch	23	20 — Blower switch for passenger compartment heat exchanger	28		
10 — Fog light/rear fog light switch	23	21 — Windscreen wiper and washer lever	25		

<sup>1)</sup> For vehicles with a factory fitted radio, an operating instruction leaflet is also enclosed. See remarks on page 63 of "Do-it-yourself" section when service installing a radio.

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

# OPERATION

## Keys



B25-276

Up to eight keys are supplied with the vehicle:

- two keys A
- two keys B\*
- two keys C\*
- two keys D\*

### Key A

This key fits all locks except:

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

### Key B

This key fits the lockable glove box\*

### Key C

This key fits the lockable tank cap\*

### Key D

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 safely and separately so that no unauthorized person can order a key.

The numbers of keys B, C and D are stamped on 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.**

### Note

On vehicles with a lockable maintenance flap, an extra key is provided.

## 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.

### Note

**If door does not close the first time, move handle to stop in opening direction before trying to close it again.**

**Otherwise the door cannot be operated and the lock mechanism may be damaged.**

**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 horizontal, press the lock cylinder and lift tailgate.

**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.**



## OPERATION

### 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.

### Dropsides



To drop side boards — pull handle outwards to release locking pin and 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.**

### Cover\*

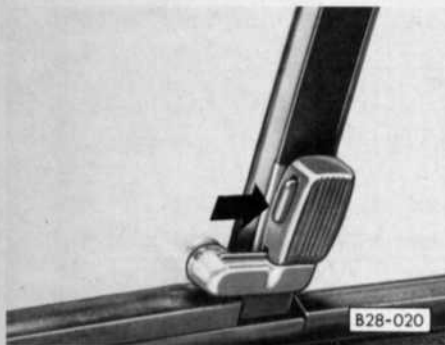


Ensure that the cover is secured properly behind the cab.

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).

## 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.

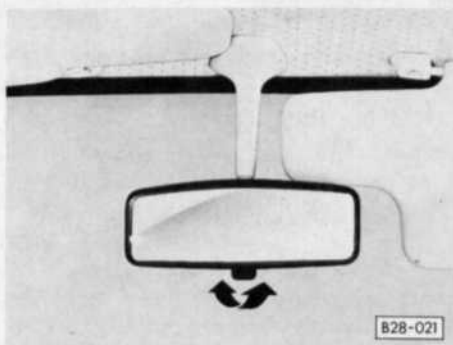
### Sliding windows

To open press catch down and slide window along.

### Door windows

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

## Mirror



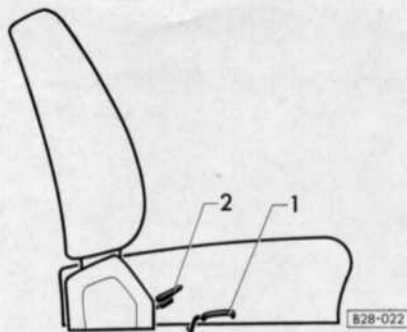
### Anti-dazzle interior mirror

Mirror in normal position — Lever forward

Mirror in anti-dazzle position — Lever down

## Seats

### Cab Seats



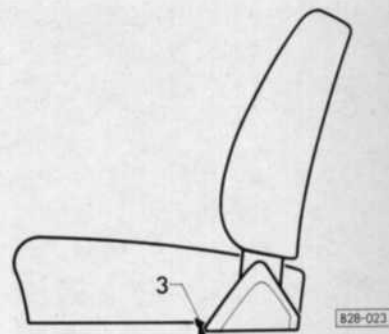
#### Individual driver's and front passenger seats

##### 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.



##### 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.

#### 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.



**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.**

**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.

**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.**

**Luggage compartment****To enlarge luggage or load space:\***

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

The backrest locks automatically when hinged to the rear.

**Note on loading luggage compartment**

When loading luggage ensure that:

- No items of luggage can fly forward if brakes are applied sharply.
- The heater element in the rear window is not damaged by articles rubbing against it.

## 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

Pull or push spring clips out of slotted rings in backrest with a small screwdriver and lift head restraint out. To install, insert head restraint as far as possible into the sockets and then press clips in with straight part at the rear.

## Seat belts

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

Persons less than 1.50 m tall should not wear normal three-point belts—this would increase the danger of injury in an accident.

Children under 12 years of age should always be carried on the rear seat (Combi and Caravelle): Small children in a special seat, older children should have a child's belt. Children over 6 years of age can use a lap belt and children over 1.50 m tall can use a normal three-point belt.

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

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.

### Note

**On vehicles with armrests\*, ensure that the belt always passes under the armrest.**

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.

Do not let the seat belts slip down between seat cushion and backrest because belts which cannot be seen readily will not be used by the occupants.

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

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.

### **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 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 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.**

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

#### **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. A plastic knob or slide holds the tongue in a convenient position. Adjust the slide to suit yourself.



### **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 adjust the belt length the lock tongue should be held at right angles to the belt and the section of the belt concerned pulled in the appropriate direction.

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

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

## Handbrake

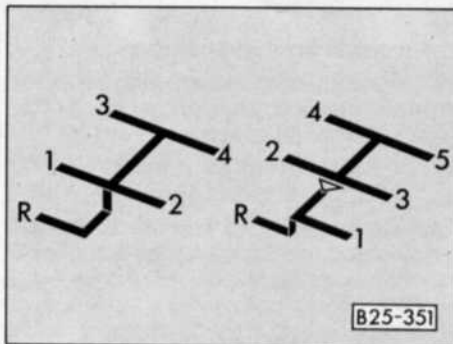
The handbrake is located between the front seats.

To apply handbrake, pull lever up. The handbrake should always be applied firmly so that you do not accidentally drive off with it applied lightly.

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



Shift pattern

4 speed gearbox

5 speed gearbox

### Engaging reverse

Move lever in neutral to the left, press it down and move 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.

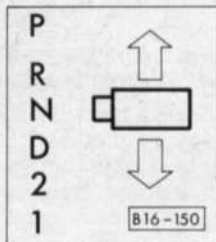
One normally moves off in 1st gear but on vehicles with the 44 kW engine and 5 speed gearbox the rear axle ratio is different so that one can move off on the level with a light load in 2nd gear.

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

### 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.

## 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 only 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 17.

### 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

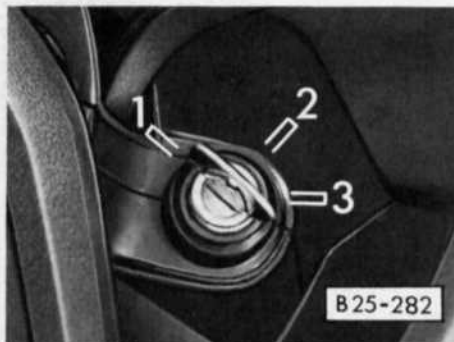
The engine cannot be started by towing or pushing the vehicle.

When battery is flat, the engine can be started from the battery of another vehicle by using a jumper cable. See "Emergency starting", page 64.

### Towing

If the vehicle has to be towed at any time, you must read the instructions in the section "Towing" on page 65.

## 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 fro slightly to release the locking pin.

#### Position 3:

In this position the headlights, the wind-screen 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.

**Only when it is very cold** is it advisable to let the engine run for about 30 seconds at a fast idle before moving off. This gives the lubrication system time to circulate the oil properly.

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

### Petrol engine

#### 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 **once (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 to 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 selected 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.



## Diesel engine

### 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 20.

### 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 19).

### 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 16).

**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 pedal while starting. 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.

■ 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

### Engine oil pressure<sup>1)</sup>

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

If the lamp comes on or flickers when driving, **stop at once, switch engine off**, check the oil level and add oil if necessary — see page 35, 73

Occasional flickering of the lamp at idling speed after a long spell of fast driving is no cause for alarm as long as lamp goes out when engine speed is increased.

If the lamp comes on even though the oil level is correct, **do not drive on or run engine even at idling speed**. — Get expert assistance.

### Notes

Due to the way it is wired the brake warning lamp\* also comes on when the oil pressure warning lamp lights up.

<sup>1)</sup> 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** 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 58.

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

**Caution. Danger of scalding.**  
**For further details see page 45.**

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 18.

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 24.

## — High beams

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

## — Brake system

The brake warning lamp should come on when ignition is switched on with the handbrake applied, and go out when handbrake is released.

If the light does **not** come on when the ignition is switched on the cause of the trouble must be found and rectified as soon as possible so that the light can fulfil its warning function.

**If the lamp comes on when driving when footbrake is applied, it could mean that one of the two brake circuits has failed.**

**The lamp remains on when brake pedal is released, until the defect is eliminated.**

**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.



## Instruments

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### Speedometer

If there are **gearshift point** on the speedometer dial, note the following:

- The marks apply only to vehicles with manual gearbox and a warm, **run-in** engine.

- The next higher gear should be selected at the latest by the time the needle reaches the mark.

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

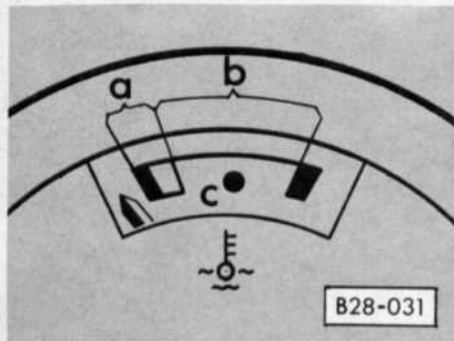
- The **next lower** gear should not be selected until the vehicle speed has dropped below the mark.

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.

### Clock\*

The hands can be moved by pressing in and turning the knob in the dial centre.



## — 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.

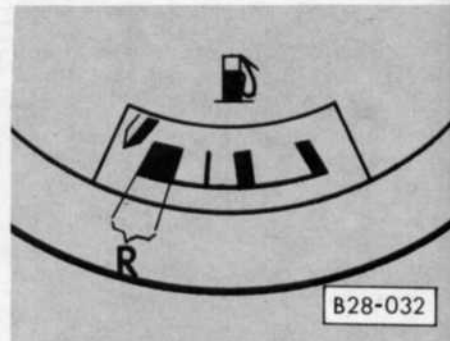
### b — Normal zone

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, but 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 20.



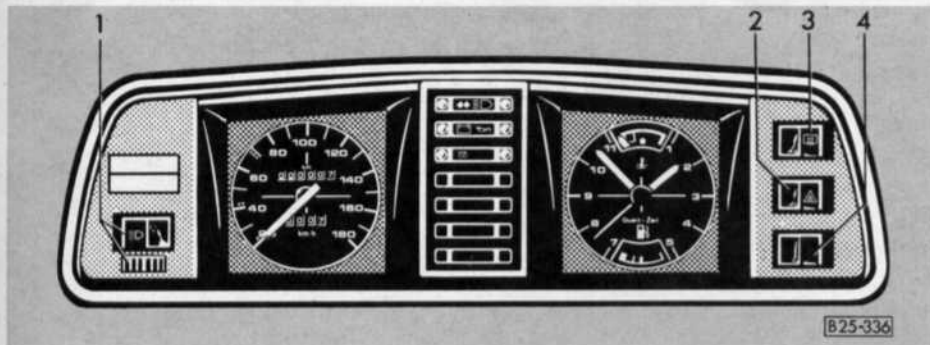
## — Fuel gauge

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 (13 gallons).

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 headlights — see next page.

## 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.

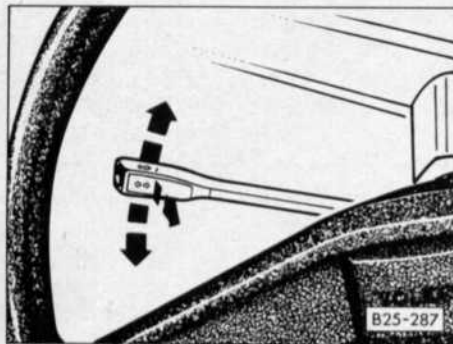
The **rear fog light** works only with the fog lights or with the low or high beams.

**Note**

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



## 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 20.

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

The turn signals cancel 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

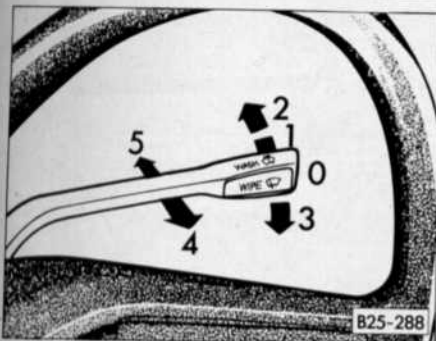
Pull lever towards steering wheel to pressure point — the high beam warning lamp lights up.

### 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

#### Wiping\*

Press lever briefly away from steering wheel — the wiper works about 4 seconds.

#### Wiping and washing\*

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\*

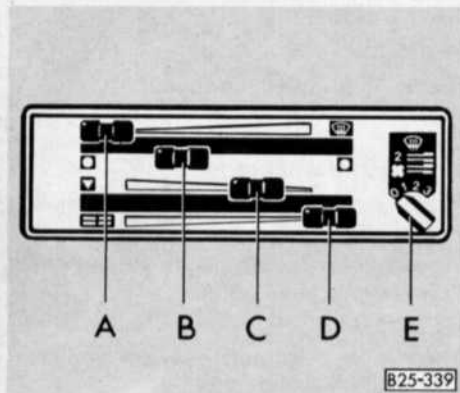
When the headlights are on, the lenses are washed every time the windscreen is washed.

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

Filling washer container, see page 46.

# OPERATION

## Heating and ventilation



### Controls

#### Levers A and C — Warm or fresh air distribution

Lever A to right — vents 1 and 2 are opened

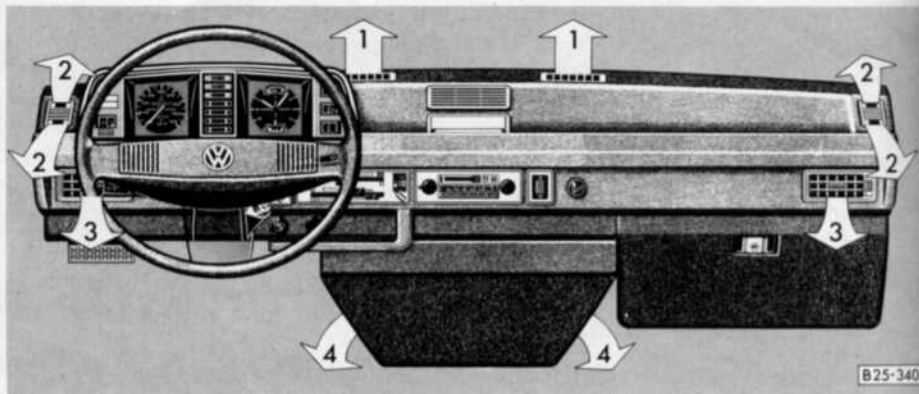
Lever C to left — vents 4 and footwell vents in passenger compartment\* are opened.

#### 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 compartment\*.

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 and 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.



B25-269



B25-270

## 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 at the upper edge 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 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 10 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.



### Switch positions

- 0 — Heater off
- 0 to 1 — **Heating with engine not running**  
Press knob in at position 0 and turn clockwise.  
(Heater switched on/warning lamp in knob lights up, as long as clockwork runs).
- 2 — **Heating when driving**  
(Heater on/warning lamp in knob on)
- 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 (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 10 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.**

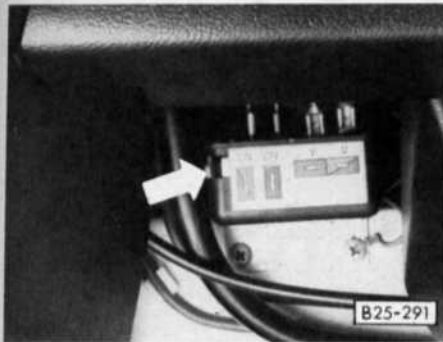
## Maintenance

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 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.



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

The heater system has two fuses:

A 16 Amp fuse for the complete heater and an 8 Amp overheating protection fuse. Both fuses are in a holder behind the glove box. If the overheating fuses blows the heater will still run but there will be no heat.

If a newly inserted fuse blows again after a short time the system must be checked in a V.A.G workshop and the defect eliminated.

## Sliding roof\*

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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 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.**

## Interior lights

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### Front interior light

Switch positions:

Front — Door contacts, light comes on when driver's door or passenger's door\* is opened.

Centre — Off

Rear — Light on all the time.

### Rear interior light

Switch positions:

Up — Door contacts, light comes on when the sliding door or on some models the front doors or rear flap are opened.

Centre — Off

Down — Light on all the time.

## Sun visors

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



## Ashtrays

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### 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.

## Socket

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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.

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.

## Glove box

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

## The first 1000 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 engine

	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

### From 1000–1500 km

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

### After the running-in period

the gears must be changed up at the latest by the time the needle reaches the gear change marks on speedometer dial.

The engines are automatically governed to the following maximum speeds:

44 kW.....	5300 rpm
57 kW.....	5300 rpm
37 kW Diesel.....	4800 rpm

### 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 safely

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

### 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.

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

### 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.

■ 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.

A drop in the brake fluid level will be indicated by the lighting up of the brake warning lamp\* (see also page 20).

■ The brake fluid level must be checked regularly — see page 47.

### 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.



### Driving economically

**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 at 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) should only be left switched on as long as necessary — the higher generator load also increases fuel consumption.

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

**The personal style of driving** has a large influence on economy:

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

■ Running engine to warm it up is not only uneconomical, it disturbs the environment unnecessarily with noise and exhaust gas. Furthermore it causes excessive engine wear.

■ If you wish to keep fuel consumption and brake lining and tyre wear to a minimum, avoid high speeds and full throttle acceleration and drive smoothly and carefully.

■ Drive as often and as long as possible in the highest gear. In 2nd gear the engine uses about twice as much fuel as in 4th gear, and in 3rd gear about one and a half times as much.

**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 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 performance 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 advisable 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 75.

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

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 full throttle.



## Fuel

### Petrol engines

Regular petrol; RON<sup>1)</sup> not lower than 91.

If regular petrol with adequate anti-knock properties is not available, use premium petrol or an appropriate mixture.

### For all petrol engines:

At ambient air temperatures between about 0° C and 15° C and when air humidity is high, carburetor icing can occur despite the automatically controlled intake air preheating. This can cause carburetor 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 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

CN<sup>2)</sup> 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 which is more resistant to cold is sold during the winter and works satisfactorily down to about -15° C.

When necessary summer and winter diesel can be used at lower temperatures by mixing regular petrol (not premium) with the diesel. Further details are given under "winter operation" on the next page.

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

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.

<sup>1)</sup> Research Octane Number, indicates anti-knock properties of the petrol.

<sup>2)</sup> Cetane Number, indicates the ignitability of diesel.

## Filling Tank

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

Vehicles with a lockable tank cap have a special key.

The fuel tank capacity is approx. 60 litres, of which approx. 10 litres are reserve.

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.

### Notes 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.

#### Winter operation

At very low temperatures the flow characteristics of diesel fuel deteriorate - see previous page. It may then be necessary to mix regular petrol (not premium) with the fuel. As this additive reduces the engine output, only the amount actually required (**max. 30 %**) should be used:

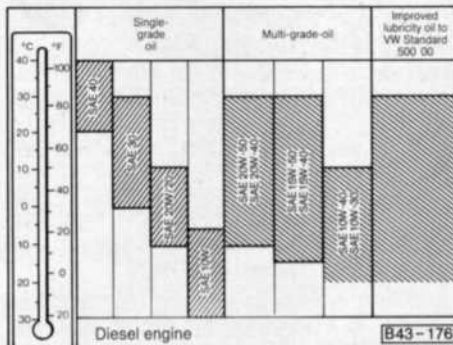
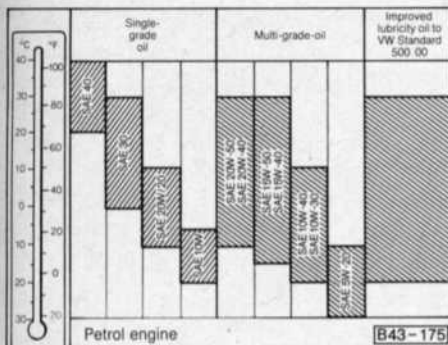
Temperature in °C	Summer diesel	Petrol	Winter diesel	Petrol
0 to -5	85 %	15 %	100 %	—
-5 to -15	70 %	30 %	100 %	—
-15 to -25	—	—	70 %	30 %

This table is based on the fuels available in Germany — see also previous page.

**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.**

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.

## Lubricants



### Engine

#### Single and multi-grade oils

Use only good quality HD oils. The container must be marked according to the API System with "SE" or "SF" (petrol engine) or with "CC" or "CD" (diesel engine).

#### Improved lubricity oils

In addition to the single and multigrade oils there are now improved lubricity oils (most synthetic oils). The improved lubricity oils approved by us for petrol and Diesel engines are marked "to VW standard 50000" on the container.

### Notes

- The oil does not need changing if the temperature varies for short periods.
- Single-grade, multi-grade and improved lubricity oils of the quality specified by us can be mixed if the viscosity classes are correct for the ambient temperature.
- Do not drive with full throttle for long periods when using single-grade SAE 10 W or multi-grade SAE 5 W-20 oil if temperature is above the range shown.

### Gearbox

#### Manual gearbox with final drive

Hypoid oil SAE 80 or SAE 80 W-90  
API "GL4" or Mil L-2105.

#### Automatic gearbox

Final drive: Hypoid oil SAE 90  
API "GL5" or Mil L 2105 B

Gearbox part: ATF Dexron®

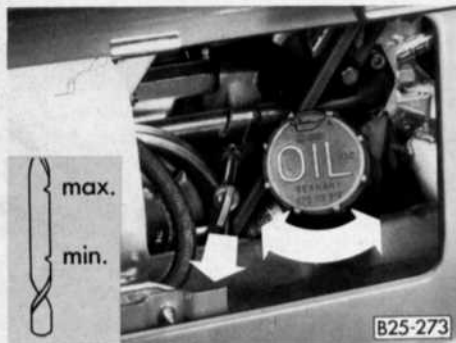
#### Power assisted steering

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  $-20^{\circ}\text{C}$ , the engine oil should be changed at shorter intervals.

Recommended oils and viscosity classes — see previous page.

Permissible oil consumption — see page 68.

## 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 ATF must be warm and the vehicle standing on a level surface.

The engine must be running at idle speed, the handbrake must be applied and the selector lever at "N". 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. The level must be between the two marks — otherwise the vehicle must be taken to a V.A.G workshop as soon as possible.

### 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.

In arduous operating conditions (trailer towing, stop/go and city traffic, continuous mountain driving, high ambient temperatures) the ATF must be changed more frequently. This should preferably be done by a V.A.G dealer.

**When there is no ATF in the system 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 be up to the max. mark. When level has dropped to min. mark ATF (Dexron®) should be added after removing the red cap in top of reservoir.

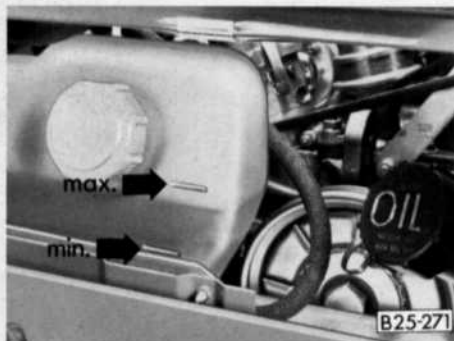
### Note

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.



# OPERATING INSTRUCTIONS

## Cooling system

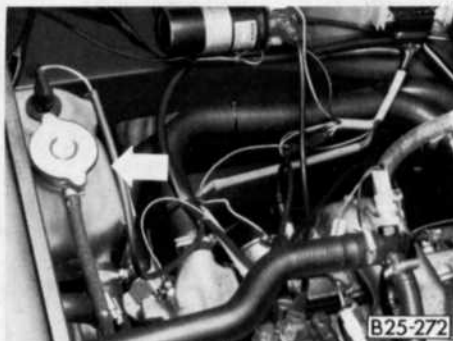


### Reservoir

The cooling system is filled at the factory with a long lasting mixture of water and our coolant additive G 11 (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.

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



### Expansion tank — Petrol engines

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.

### Checking coolant level

The correct cooling 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.**



### Expansion tank — Diesel engine

### Coolant losses

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.

In a water-tight system losses can only occur if the boiling point of the coolant is exceeded as a result of overheating. If this has not been caused by improper driving (see remarks on next page) or by restriction of cooling air flow, a V.A.G workshop should be contacted.



## Topping up coolant

### 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.

Let engine 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  $-25^{\circ}\text{C}$ ).**

#### 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 59), 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 thermostich which is actuated by the coolant temperature.

#### Caution

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.

#### Note

The speed of the radiator fan is not dependent on the engine speed. The cooling effect can therefore not be increased by changing down. Do not change down as long as engine can manage without full throttle, for instance when climbing hills.

#### Driving in winter

The mixture put in the system by the factory provides frost protection down to about  $-25^{\circ}\text{C}$ . 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  $-35^{\circ}\text{C}$ .

## 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.

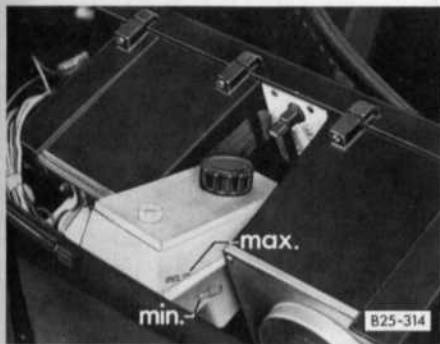
### Adjusting washer jets

The jets for the windscreen and the rear window must be adjusted so that the windows are cleaned properly even at high speeds.

The jets can be adjusted with a needle.

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

## 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 20). 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 3 or 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.

### Brake servo

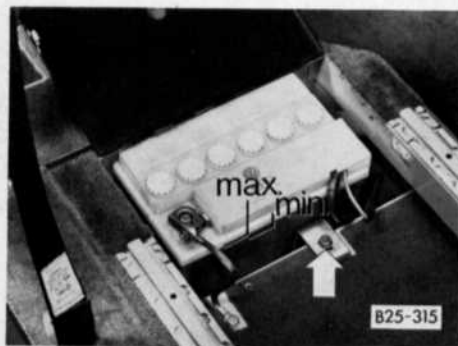
The servo is operated by vacuum which is only available when engine is running.

**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 occurred on the brake servo — which happens very rarely — the brake pedal must be pressed harder.



## 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.

### Notes

■ 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.

■ 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.

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

### 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.**

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

## 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.

**V.A.G workshops are fully informed about the possible conversions and know which bolts are used for the wheels supplied by the factory.**

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

### New tyres

New tyres can be "run in" — see — "Safe driving", page 35.

### Tyre care

■ Keep pressures exactly as specified. Pressures are given on page 72 and on a sticker on the left door pillar between the hinges.

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

■ Keep grease, oil and fuel off the tyres.

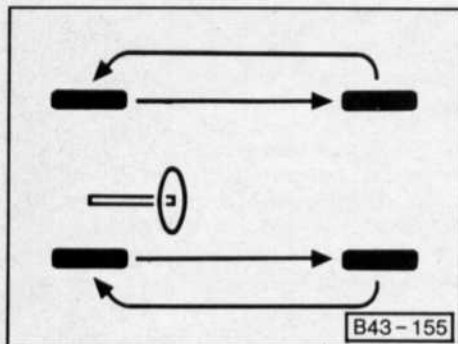
■ Try to avoid exposing tyres to intense sunlight for long periods.

■ 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.





## Changing wheels round

To ensure that the tyres do not have to be renewed earlier than necessary if they are wearing unevenly they should be changed round as shown below — they then continue running in the same direction.

## Tyre wear

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

### Inflation pressure

Pressures 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 pressure should therefore be checked at regular intervals, do not forget spare wheel when doing this.

The tyre pressures are given on page 72.

### 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 12 mm wide and 1.6 mm high "wear indicators" — see Fig.

When there is no longer any tread at these points the tyre should be replaced as soon as possible. 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).



**We advise you however not to let the tyres wear down to this extent as tyres with treads in this condition cannot grip the road surface properly when driving at high speeds on wet roads.**

## 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 tyres of the same type and tread pattern may be combined.
- Vehicles which are fitted in production with radial ply tyres must be fitted with the same type of tyre when replacements are made.
- 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 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 front wheels on new vehicles are balanced. Every 15 000 kilometres or at any time when steering vibration becomes noticeable the wheels should be rebalanced.

Imbalance not only causes steering vibration it also increases steering, wheel suspension and tyre wear. Furthermore a wheel should always be rebalanced when the tyre has been repaired.

## Winter tyres

In winter conditions the handling of the vehicle can be improved by winter tyres. When fitting winter tyres, note the following:

- Only radial ply winter tyres should be used.
- With winter tyres, the PR figures on the sidewalls should also be noted. The tyres must not be below the specified carcass strength.
- Winter tyres must be fitted on all four

■ Winter tyres are no longer fully effective when the tread has worn down to a depth of 4 mm.

## Snow chains

Snow chains may be fitted on all wheels. 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.

## 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 grime, 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 77).

### **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 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.

### **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.

### **Care of plastic parts**

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

### **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.

### **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 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.

Good anti-corrosion treatment is very important particularly in the winter. If vehicle is frequently driven on salted roads, the entire engine compartment should be thoroughly cleaned at the end of the salting period at least and then preserved so that the salt cannot have a damaging effect. At the same time the underside of the vehicle should be washed as well.

Every V.A.G Dealer has stocks of the high-quality preservation compound recommended by the factory and has the equipment necessary to apply it.

### **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 undercoating should be examined at certain intervals — preferably before and after the winter season — and any damage made good.



## Maintenance

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

### 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 factory approved compound and the equipment required.

Regular maintenance is necessary to maintain the safety, economy and road-worthiness of the vehicle. The service schedule supplied with the vehicle shows what has to be done and when.

In difficult operating conditions e. g. extremely high or low ambient temperatures, very dusty conditions, building site work, etc., the vehicle should however be serviced between the intervals given in the service schedule.

This applies particularly to:

- Changing engine oil.
- Changing the ATF in the automatic gearbox.
- Cleaning or renewing the air cleaner element.
- Draining water from or renewing fuel filter with Diesel engine.
- Lubricating the hinges of sliding and Double Cab doors, dropsides and rear doors.

The maintenance work should be carried out by a V.A.G. workshop because maintenance requires specialist 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 is also one of the stipulations for the upholding of any warranty claims for parts which are covered by the service system.

Safety regulations and anti-pollution laws place very strict limits on the amount of repairs, adjustments and maintenance work on engine and running gear parts which can be done by the owner.

Tinkering with parts which affect the safety of a motor vehicle can endanger the life and health of all road users.

In addition altering the settings of the carburetor, the 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.

**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.)

## DO-IT-YOURSELF

### First Aid kit, Warning triangle, Tools, Jack and Spare wheel

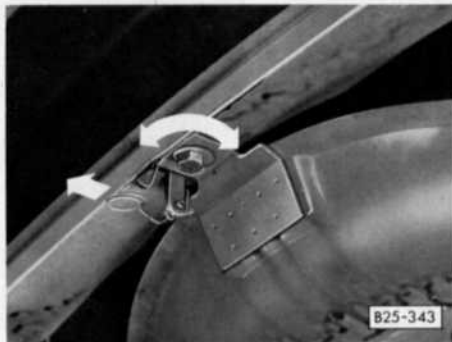
**The First Aid kit and triangle** can be stowed under the drivers seat.

#### Note

The First Aid kit and triangle are not part of vehicle equipment.

**The tools and jack** are stowed under the driver's seat.

The screwdriver blade is reversible.



The spare wheel is located under the body at the front on a hinged pan. To take wheel 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.

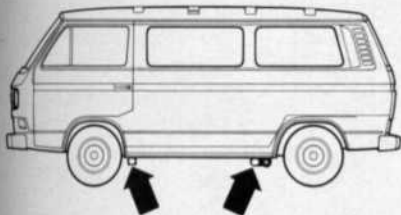


To stow spare wheel, place it on the pan with offset downwards and swing pan up until hook engages. Then insert bolt and tighten it.

**For safety reasons the pan must always be bolted in position so that it cannot release accidentally.**



## 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 in the left and centre columns on page 49.**

## Fuses

The individual current circuits are provided with fuses.

The fuse box is under the dash on the left.

### Changing a fuse

- Switch off the component concerned.
- Take fuse box cover off.
- Carefully take defective fuse — can be recognized by the burnt metal strip — out of the clips.
- Insert new fuse of **same capacity** so that the metal strip is visible but do not grip the metal strip or bend the retaining clips. The fuse must fit tightly between the clips.
- Fit fuse box cover again.

### Notes:

■ If the newly inserted fuse blows again after a short time, the electrical system must be checked by a V.A.G. workshop to find the cause of the short circuit and rectify it.

■ On no account should fuses be patched up because this can cause serious damage elsewhere in the electrical system.

■ Always carry a few spare fuses on the vehicle.

### Fuse layout

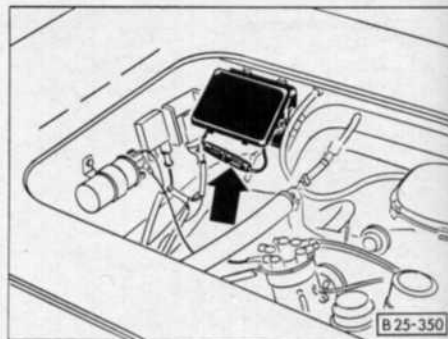
As numbered on the plastic lid:

No.	Component	A <sup>1)</sup>
1	Tail light left, parking light left	8
2	Tail light right, parking light right, number plate light, fog lights	8
3	Low beam left	8
4	Low beam right	8
5	High beam left, high beam warning lamp	8
6	High beam right	8
7	Radiator fan	8
8	Interior light, socket/cigarette lighter, brake lights	8
9	Emergency light system, Radio	16
10	Windscreen wiper/washer system, Blower	16
11	Turn signal system	8
12	Horn	8

### Additional fuses in separate holders on right near fuse box.

	A <sup>1)</sup>
Heated rear window	8
Rear fog light	8
Rear wiper	8
<b>Auxiliary heater*</b>	
Main fuse	16
Overheating protection fuse	8

<sup>1)</sup> Ampere



The 8 Amp fuse for the reversing lights is in a fuse box on left of engine compartment.

To change this fuse, release the two clips on underside of fuse box and lift lid up.

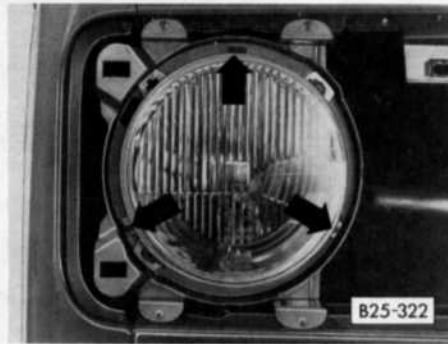
## Changing bulbs

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.



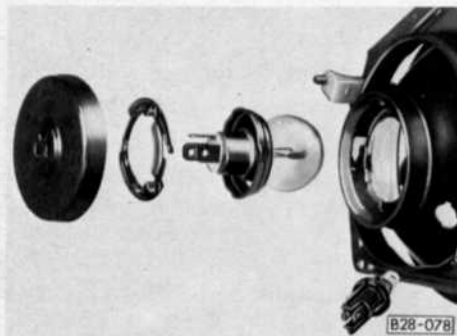
### Headlight

To change a headlight bulb or side light bulb the headlight must be taken out:

#### Remove air intake grille.

Turn 5 quick-release clips 90° with a screw-driver. Pull grille forward slightly at the top and lift it out. Remove 3 screws (see Fig.) and take headlight out.



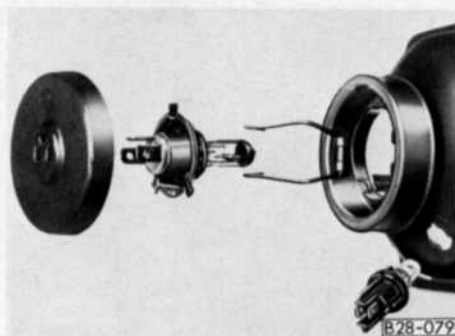


Normal headlight bulb

## 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.



H4 headlight bulb

- 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.

**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.
- 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**

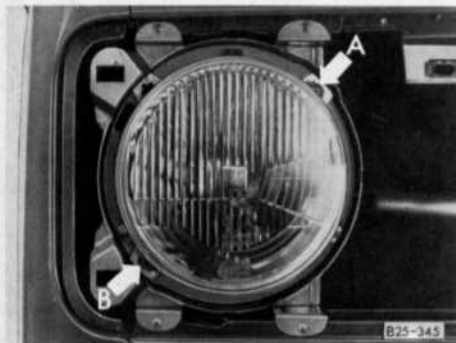
The number plate lights are pushed into the cross panel from the rear.

- 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.

## 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 screw driver.

The illustration shows 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 going abroad



When the vehicle is used in a country which drives on the opposite side of the road to the home 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 suppressors as the manufacturers' aerials and suppressors

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.

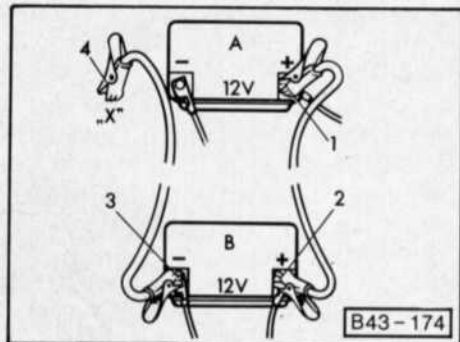
The use of other parts or parts from the previous models may cause faulty operation of the system. In cases of doubt V.A.G workshops will advise.

■ 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 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  $-10^{\circ}\text{C}$  and if a battery is frozen it must be thawed out before connecting a jumper cable.

■ 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 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.

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.

■ **Do not stand with your face over the battery — danger of acid burns.**

■ Start the engine as described in the "Starting and Stopping Engine" section.

■ When engine is running, disconnect cables in reverse sequence.

## 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.

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 15.



## Engine

### Petrol engines

- 4 stroke petrol engine
- 4 cylinder horizontally opposed
- Cast-iron cylinders
- Light alloy cylinder heads
- Light alloy crankcase
- 4 bearing crankshaft
- Valves operated via push rods and rocker arms, hydraulic tappets
- Liquid cooling
- Radiator with separate expansion tank
- Electric radiator fan controlled by thermo switch
- Single or twin choke down draft carburetor
- Thermostatically, controlled intake air preheating and electrical mixture preheating.
- Dry air cleaner with paper element, cyclone filter for very dusty countries\*

### Diesel engine

- Four stroke Diesel engine, installed longitudinally, inclined 50°
- 4 cylinders in line
- Cast iron block
- Sheet metal sump
- Light alloy cylinder head
- 5 bearing crankshaft
- Valves operated by overhead camshaft, toothed belt drive
- Liquid cooling
- Radiator with separate expansion tank
- Thermo switch controlled electric fan
- Mechanical fuel injection
- Distributor type injection pump with cold starting aid
- 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
- Rear wheel drive

### Automatic gearbox

- Hydro-dynamic torque converter and planetary gear train with three forward speeds and reverse
- Final drive flanged on
- Rear wheel drive

## Steering/Axles

---

### Steering

- 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

### Rear axle

- Independent suspension with diagonal trailing arms, coil springs and telescopic dampers
- Double jointed drive shafts

## Brakes

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- 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

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- Unitary body/chassis
- Floor frame reinforced by side and cross members

# TECHNICAL DATA

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	Petrol engines		Diesel engine
	44 kW	57 kW	37 kW
Output (DIN 70 020 Part 6) . . . . . kw (bhp) at rpm	44 (60)/3700	57 (78)/4600	37 (50)/4200
Maximum torque . . . . . Nm (kgm) at rpm	140 (14.0)/2200	141 (14.1)/2600	103 (10.3)/2000
Capacity . . . . . cm <sup>3</sup>	1913	1913	1588
Stroke . . . . . mm	68.9	68.9	86.4
Bore . . . . . mm	94	94	76.5
Compression . . . . .	8.6	8.6	23
Fuel <sup>1)</sup> . . . . .	Regular (91 RON)	Regular (91 RON)	Diesel (45 CN)
Oil consumption . . . . . max. litres/1000 km	1.5	1.5	1.5

<sup>1)</sup> For further details see "Operating instructions/fuel"



## Fuel consumption

in l/100 km (mpg)

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.

	44 kW		57 kW		57 kW	37 kW Diesel	
	4 speed gearbox	5 speed gearbox	4 speed gearbox	5 speed gearbox	Automatic gearbox	4 speed gearbox	5 speed gearbox
<b>Caravelle and Combi</b>							
90 km/h	10.5 (26.9)	10.3 (27.4)	9.7 (29.1)	9.5 (29.7)	11.2 (25.2)	9.0 (31.3)	7.7 (36.6)
120 km/h <sup>1)</sup>	—	—	—	—	—	—	—
Urban	12.9 (21.8)	11.9 (23.7)	12.8 (22.0)	13.9 (20.3)	12.6 (22.4)	9.0 (31.3)	10.1 (27.9)
<b>High-roofed Combi</b>							
90 km/h	11.2 (25.2)	10.8 (26.1)	10.6 (26.6)	10.2 (27.6)	12.4 (22.7)	9.7 (29.1)	8.7 (32.4)
120 km/h <sup>1)</sup>	—	—	—	—	—	—	—
Urban	12.9 (21.8)	11.9 (23.7)	12.8 (22.0)	13.9 (20.3)	12.6 (22.4)	9.0 (31.3)	10.1 (27.9)

<sup>1)</sup> Applies only to vehicles with a maximum speed of more than 130 km/h (80 mph).

# TECHNICAL DATA

## Performance

The performance figures were measured according to DIN 70 020 Part 3. Vehicle not fitted with any equipment such as mud flaps which affects the performance.

Maximum speed, approx. in km/h	44 kW engine manual gearbox		57 kW engine manual gearbox		57 kW engine automatic gearbox	37 kW Diesel	
	Caravelle, Combi, Van, Pick-up and Double Cab Pick-up without cover . . . . .	118		130		125	110
High roofed Van, Large platform Pick-up . . . . .	113		125		120	105	
Hill climbing ability, approx. % with full load on good roads driving non-stop in 1st gear . . . . .	4 speed gearbox	5 speed gearbox	4 speed gearbox	5 speed gearbox	44	4 speed gearbox	5 speed gearbox
	28	33	30	33		24	26

## Spark plugs

Bosch	W 7 CO
Beru	14 L-7 C
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 engine

Crankshaft/coolant pump	9.5 x 643 LA
Coolant pump/alternator	9.5 x 600 LA

## Capacities

Fuel tank	approx. 60 (13 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 engine

Cooling system (with heater)	approx 16 litres
Engine oil — with filter change	approx. 4.0 litres
Engine oil — without filter change	approx. 3.5 litres
Difference between Max.-Min. marks on dipstick	approx. 1.0 litre



# TECHNICAL DATA

## Wheels

<b>Steel wheels</b>	5½ J × 14
Alloy wheels	6 J × 14*
<b>Tyres</b>	185 R 14 C 6 PR 205/70 R 14*

If you wish to fit the vehicle with tyres or wheels of types different to those fitted by the factory, you must pay attention to the instructions given in the left hand column on page 49.

<b>Tyre pressures</b> in bar (psi)	Front	Rear	Spare
185 R 14 C PR			
Ambulance	2.5 (35)	2.5 (35)	2.5 (35)
all other models	2.5 (35)	3.3 (47)	3.3 (47)
205/70 R 14	2.1 (30)	2.5 (35)	2.5 (35)

**These pressures are for cold tyres.**

## Weights (kg)

Normal payload	GVW		Unladen weight (with driver)		Payload <sup>2)</sup>		Permissible front axle load	Permissible rear axle load	Permissible roof load <sup>4)</sup>
	Petrol	Diesel	Petrol	Diesel	Petrol	Diesel			
Van	2390	2400	1395	1465	995	935	1100	1300	100
High Roofed Van	2390	2400	1445	1515	945	885	1100	1300	—
Combi	2390	2400	1395 <sup>1)</sup>	1465 <sup>1)</sup>	995 <sup>3)</sup>	935 <sup>3)</sup>	1100	1300	100
High Roofed Combi	2390	2400	1445 <sup>1)</sup>	1515 <sup>1)</sup>	945 <sup>3)</sup>	885 <sup>3)</sup>	1100	1300	—
Caravelle, Combi L	2390	2400	1480 <sup>1)</sup>	1510 <sup>1)</sup>	910 <sup>3)</sup>	890 <sup>3)</sup>	1100	1300	100
Caravelle GL	2390	2390	1570 <sup>1)</sup>	1570 <sup>1)</sup>	820	820	1100	1300	100
"Joker" with pop-up roof	2340	2400	1640 <sup>1)</sup>	1710 <sup>1)</sup>	700	690	1100	1300	50
"Joker" with high roof	2340	2400	1700 <sup>1)</sup>	1770 <sup>1)</sup>	640	630	1100	1300	—
Ambulance	2300	2300	1680	1750	620	550	1100	1200	100
Pick-up	2390	2400	1395	1465	995	935	1100	1300	—
Pick-up with large platform	2390	2400	1490	1560	900	840	1100	1300	—
Double Cab	2390	2400	1480	1550	910	850	1100	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.

# TECHNICAL DATA

Higher payload	Permissible GVW	Unladen weight (with driver)		Payload <sup>2)</sup>		Permissible front axle load	Permissible rear axle load	Permissible roof load <sup>4)</sup>
		Petrol	Diesel	Petrol	Diesel			
Van	2600	1395	1465	1205	1135	1200	1400	100
High Roofed Van	2600	1445	1515	1155	1085	1200	1400	-
Combi	2600	1395 <sup>1)</sup>	1465 <sup>1)</sup>	1205 <sup>3)</sup>	1135 <sup>3)</sup>	1200	1400	100
High Roofed Van	2600	1445 <sup>1)</sup>	1515 <sup>1)</sup>	1155 <sup>3)</sup>	1085 <sup>3)</sup>	1200	1400	-
Caravelle, Combi L	2600	1480 <sup>1)</sup>	1510 <sup>1)</sup>	1120 <sup>3)</sup>	1090 <sup>3)</sup>	1200	1400	100
Pick-up	2600	1395	1465	1205	1135	1200	1400	-
Pick-up with large platform	2600	1490	1560	1110	1040	1200	1400	-
Double Cab	2600	1480	1550	1120	1050	1200	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.



## Trailer weights (kg)

See also "Trailer towing" on Page 38

	Petrol engines			Diesel engine
	4 speed gearbox	5 speed gearbox	Automatic	
Permissible weights				
Trailer with brakes, gradients up to 12 %	1500/1300 <sup>1)</sup>	1500/1300 <sup>1)</sup>	1500	1200/1000 <sup>1)</sup>
Trailer without brakes	600	600	600	600
Permissible nose weight	50	50	50	50
max.	4 % of actual trailer weight but need not be more than 25 kg.			
min.				

<sup>1)</sup> Vehicles with higher payload.

# TECHNICAL DATA

## Dimensions

in mm	Length	Width	Height		Ground clearance <sup>1)</sup>	Overhang		Wheel-base	Track		Turning circle in m
			with cover	without cover		front	rear		front	rear	
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, Combi L, Caravelle GL	4600	1845	1950	—	190	1175	965	2460	1583	1570	10.7
"Joker" with pop-up roof	4570	1845	2050	—	190	1160	950	2460	1583	1570	10.7
"Joker" with high roof	4570	1845	2520	—	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

<sup>1)</sup> 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.

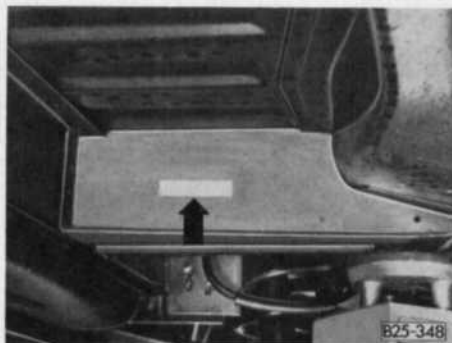
## Identification plate



The identification plate is on right hand door pillar between the hinges.

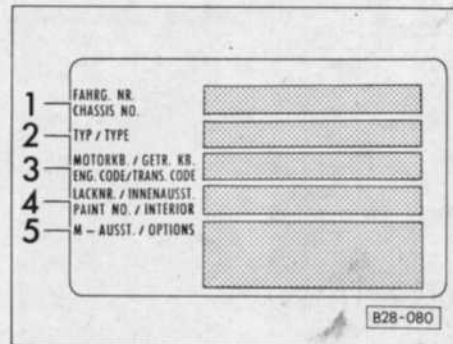
Vehicles for export to certain countries have no identification plate.

## 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. Chassis number
2. Model code number
3. Engine and gearbox code letters
4. Paint number/interior trim code
5. Optional extra numbers

This data is also in the Service Schedule.

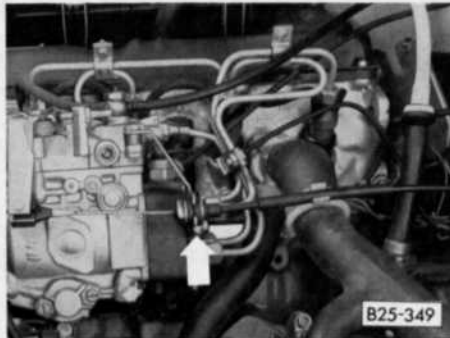


## IDENTIFICATION DATA

### 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.

	Page		Page		Page
Additional heat exchanger	28	Coolant additive	44	Fog lights	23
Adjusting jets	46	Coolant level	44	Fuel	39
Anti-freeze	44	Coolant temperature gauge	20, 22	— consumption	69
Ashtray	33	Cooling system	44	— gauge	22
ATF	41, 43	Cover	6	— saving	36
Automatic gearbox	14	<b>Defrosting windows</b>	27	Fuses	58
Auxiliary heater	29	Diesel fuel	40	<b>Gear lever</b>	13
<b>Battery</b>	48	Dimensions	76	Gearshift marks	21
Brake fluid	47	Dip switch	24	Gear oil	43
Brake servo	47	Do-it-yourself	56	Glow plugs	16, 18
Brake system	20, 35, 47	Doors	5	<b>Handbrake</b>	13
Brake warning light	20	Driving economically	36	Headlights	23, 59
Bulb changing	59	Dropsides	6	Headlight flasher	24
<b>Care of car</b>	52	<b>Emergency light system</b>	23	Head restraints	10
Capacities	71	Emergency starting	64	Heating	26
Cavity preservation	53	Engine		High beam	23, 24
Centre seat	9	— data	68	Horn	3
Cetane number	39	— number	78	<b>Identification data</b>	77
Changing bulbs	59	— oil	42	Identification plate	77
Changing wheels	57	— oil capacity	71	Increasing size of luggage area	9
Chassis number	77	— oil consumption	68	Instrument lighting	23
Child-proof lock	5	— oil level	42	Instrument panel	2
Cigarette lighter	33	— starting/stopping	17, 18	Instruments	21
Cleaning and preserving engine compartment	53	Engine compartment flap	6	Interior light	32
Clock	21	<b>Filling tank</b>	40		
Cold starting aid	3, 18	First Aid Kit	56		

# ALPHABETICAL INDEX

	Page		Page		Page
Jack	56	Rear lights	61	Technical data	68
Jacking points	57	Rear seat	9	Technical description	66
Jets adjusting	46	Rear window heated	23	Tools	56
<b>Keys</b>	4	Rear wiper and washer	25	Towing	65
Lifting vehicle	55	Reverse gear	13	Trailer towing	38
Lighting	23	Reversing lights	13	Trailer weights	75
Lighting switch	23	Roof load	73	Trip recorder	21
Locks	5	Running in	34	Turn signals	61
Lubricants	41	<b>Safety switch</b>	31	Turn signal lever	24
Luggage compartment	9	Seat belts	10	Tyres	
<b>Mirrors</b>	5	Seats	8	— inflation pressures	72
<b>Number plate lighting</b>	61	Selector lever	13	— running in	35
<b>Octane number</b>	39	Side lights	23	<b>Undercoating</b>	53
Oil additives	41	Sliding door	5	<b>Vee belts</b>	71
Oil consumption	37, 68	Sliding roof	32	Vehicle care	52
Oil dipstick	42	Sliding windows	7	Vehicle data sticker	77
Oils	41	Snow chains	51	Ventilation	26
<b>Parking lights</b>	24	Socket	33	Vent wings	7
Payload	73, 74	Spare wheel	56	Viscosity grades	41
Performance	70	Spark plugs	71	<b>Warning lamps</b>	19
Power assisted steering	41, 43	Speedometer	21	Warning triangle	56
<b>Radiator fan</b>	45	Starting engine	17	Weights	73
Radio	63	Steering lock/ignition switch	16	Wheels	49, 72
Rear fog light	23	Switches	23	Windscreen washer system	25, 46
		<b>Tailgate</b>	5	Windscreen wipers	25
		Taillights	61	Winter tyres	51
		Tank capacity	22, 71		



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