

# Instruction Manual and Service Card



# **Instruction Manual and Service Card**

**VW 1200 — VW 1300 — VW 1500**

**Sedan and Convertible**

**August 1967**

**VOLKSWAGENWERK AG - WOLFSBURG**

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All pictures are of the VW 1300 and the text is based on this vehicle. Where the controls and technical details of the VW 1200, the VW 1500 and the Convertible models differ considerably, attention is drawn to the difference. Special equipment such as is often required due to local regulations in various countries is not taken into account.

## It is advisable . . .

to read the first part of this instruction manual, which deals with the operation of your Volkswagen, very carefully. You will then get to know your new car quickly and will be able to start off on your first trip with complete confidence.

Everything about winter driving, tips on care of the vehicle and numerous points on carrying out small repairs and adjustments are given in the second half of this manual. This part also contains information on lubrication and maintenance and some interesting technical data.

At the back of the book is the service card, the warranty voucher and terms of warranty and a voucher for the free-of-charge maintenance service. The stamps in the squares show you that the lubrication and maintenance services have been carried out regularly by a VW Dealer.

## Getting acquainted

Only one key is required to open the doors and start the engine. It is a good idea to note the number of the key. If you should lose the key, you can then obtain a replacement from your VW Dealer by quoting this number.





## Please get in and make yourself comfortable

When driving, you must be comfortable. That is why the Volkswagen has separate front seats which are built so that you can alter seat position and backrest rake to suit your requirements. This is quite simple – just lift the lever at the front right-hand side of the seat and slide the seat forward or backward.

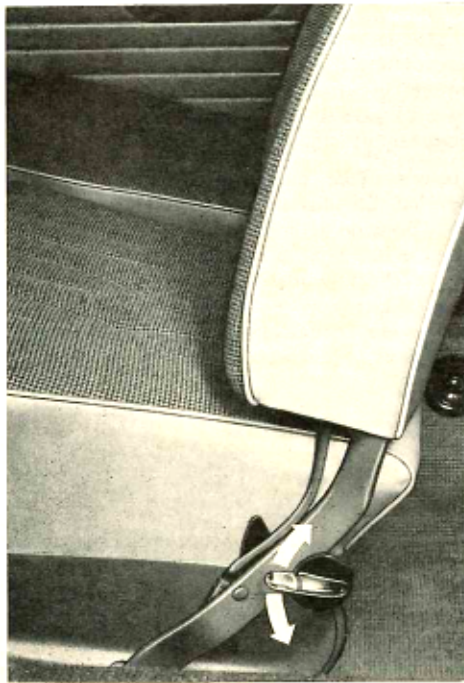
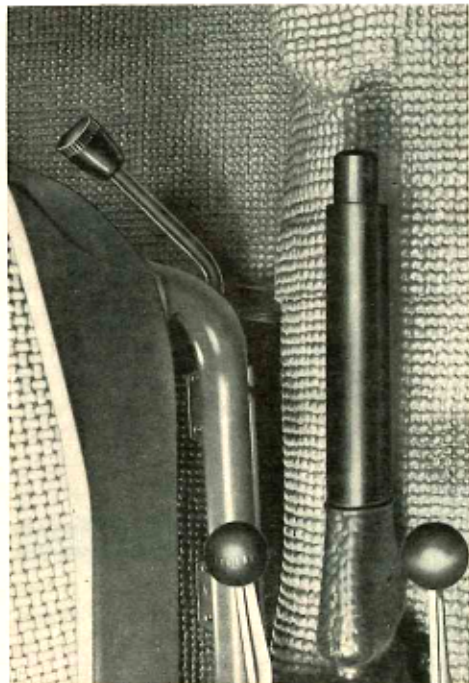
Make sure that the lever engages properly after adjusting the seat so that the seat does not move while you are driving.

The runners are slightly inclined so that the seat is raised as it goes forward.

The backrest rake can also be set to various

angles. Try them out until you find the angle which suits you best.

The backrest of the VW 1300 and the 1500 have safety catches which prevent them from tilting forward when the brakes are applied very hard. The catches can be released by pulling the knob in the side of the backrest up.

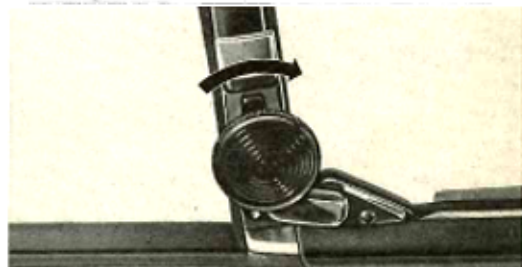
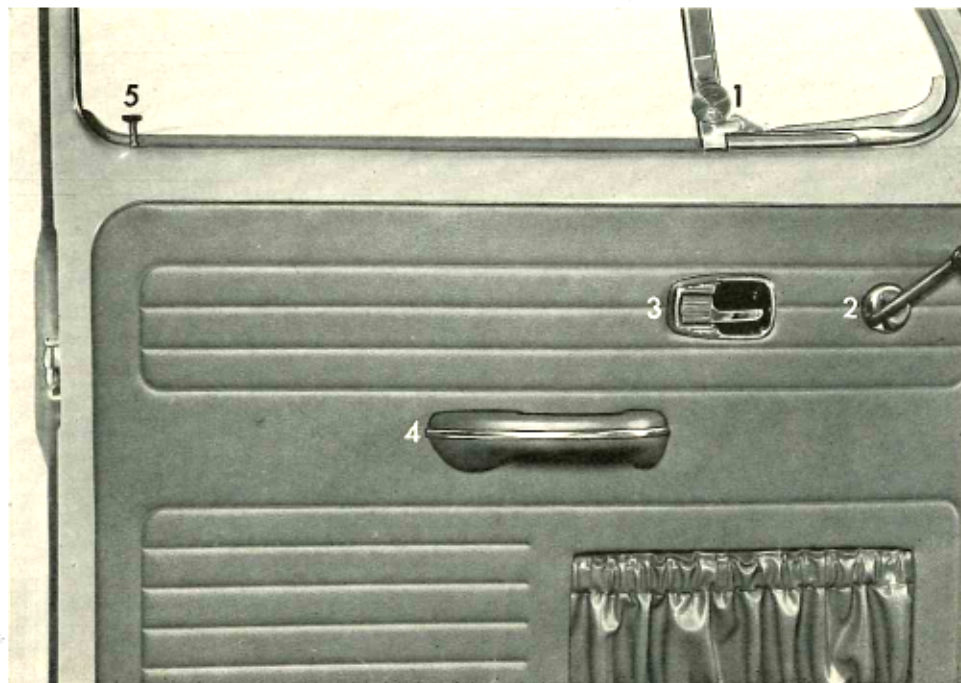


## Before closing the door

it is advisable to open a window slightly. The door will then be easier to close because the air can escape from inside the body.

### 1 – Vent wing fastener

To open the vent wing, turn the knob until the locking lug points to the front, then swing the fastener forwards.



### 2 – Window crank

### 3 – Lock release lever

### 4 – Armrest and door closing grip

### 5 – Safety knob for lock

The doors cannot be opened from inside with the lock release lever until the safety knobs have been lifted.

## In front of you — the instrument panel

Even if it is not your first Volkswagen, just have a quick look at the dash and try out the various knob and levers with the ignition switched on:

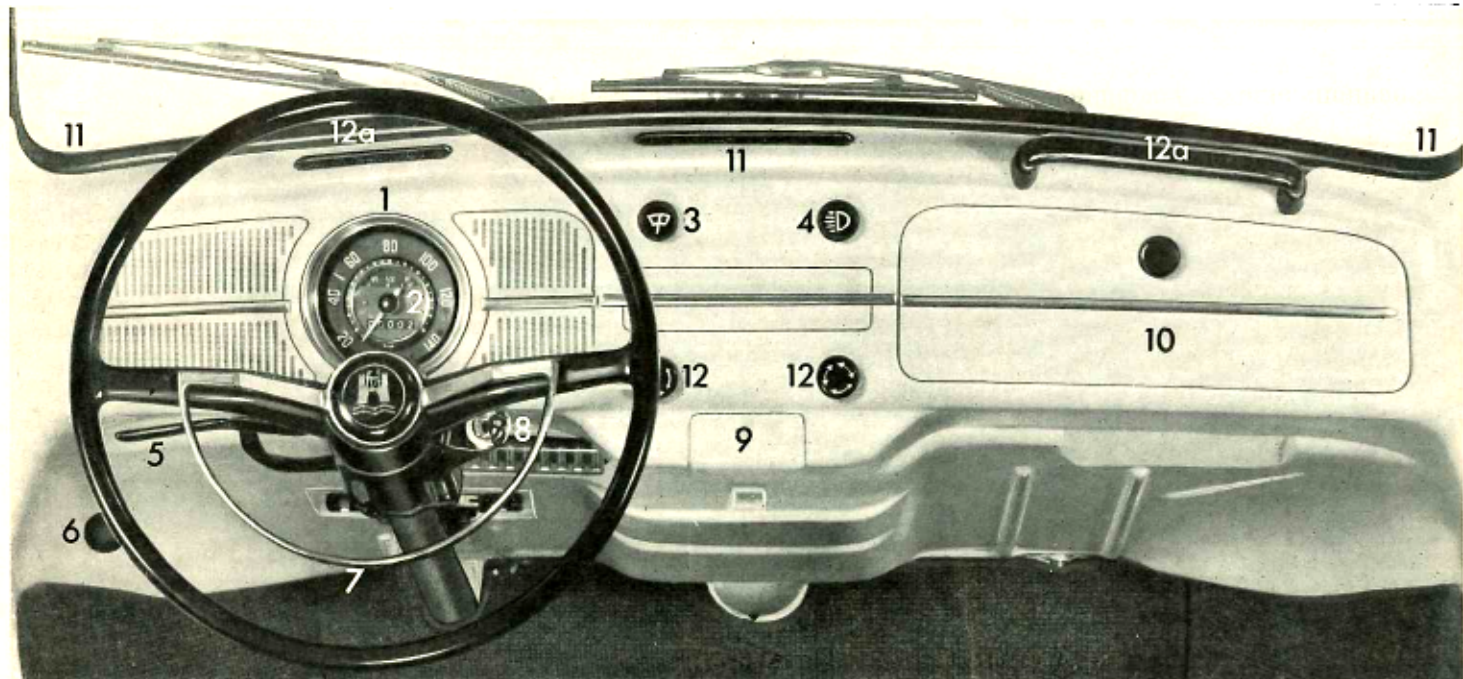
### 1 — Speedometer

The following warning lamps are in the speedometer dial:

- green — oil pressure
- red — generator and cooling
- blue — headlamp high beam
- green arrows — turn signals

### 2 — Fuel gauge

The fuel gauge is in the speedometer dial. When the needle is on the "R" mark there are about 5 liters (1 gallon) of fuel left in the tank — time to refuel at the next opportunity.





The 1200 has a fuel tap instead of a fuel gauge. Normally the tap lever should point upwards. If the engine starts to cough and stutter due to shortage of fuel, turn the lever to the right so that you can use the reserve 5 liters of fuel. Do not forget to move the lever back to the upright position when you have filled the tank. When the lever is halfway between these two positions, the tap is closed.

### 3 – Windshield wipers and windshield washer system

The two-speed wipers are switched on by turning the switch. On the VW 1300 and 1500 they park automatically when switched off. The button in the switch knob controls the windshield washer. The wipers on the VW 1200 have only one speed.

### 4 – Lighting switch

Pull the knob out to the first stop to switch on the parking, license plate, tail lights and the instrument lights. Pulling the knob out to the next stop, switches the headlamps on as well.

The instrument lights on the VW 1300 and 1500 are controlled in brightness by turning the lighting switch.

### 5 – Turn signal switch

- Lever up – right turn signals
- Lever down – left turn signals

The turn signals are cancelled automatically after taking the corner.

Lifting the lever on the VW 1300 and 1500 switches the headlamp beams up and down.

A blue warning light in the speedometer dial shows when the headlamp high beams are switched on. In the daytime or when only the parking lights are on, the lever serves as a headlamp flasher.

The VW 1200 has a foot dimmer switch on the left of the clutch pedal.



### 6 – Knob for front hood

On the Convertible, the lever for the front hood lock is inside the glove box so that luggage and spare wheel cannot be interfered with by unauthorized persons when the top is open.

### 7 – Horn ring

The VW 1200 has a horn button in the center of the steering wheel.

### 8 – Steering/ignition lock

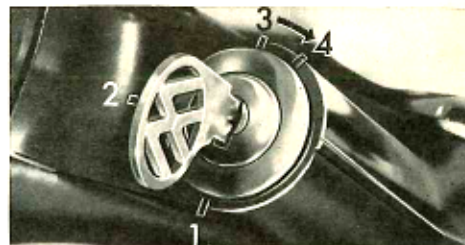
- 1 – Ignition off – Steering locked
- 2 – Ignition off – Steering free
- 3 – Ignition on
- 4 – To start

### Important

Remove key from lock only when vehicle is stationary.

### 9 – Ashtray

To remove ashtray, press leaf spring down and pull ashtray out.



### 10 – Glove compartment

To open the glove compartment lid turn the knob to the left. On the Convertible, the knob is lockable.

### 11 – Defroster vents

### 12 – Fresh air ventilation (VW 1300 and 1500)

The flow of air from the two vents on the top of the instrument panel is controlled separately for each side with the knobs.

- Turning to the left – admits air
- Turning to the right – cuts off air

## Above the windshield

### 13 – Sun visors

You can lift the visors out of the center mounting and swing them towards the door windows to prevent dazzle from the side.

The VW 1200 has only one visor on the drivers side.

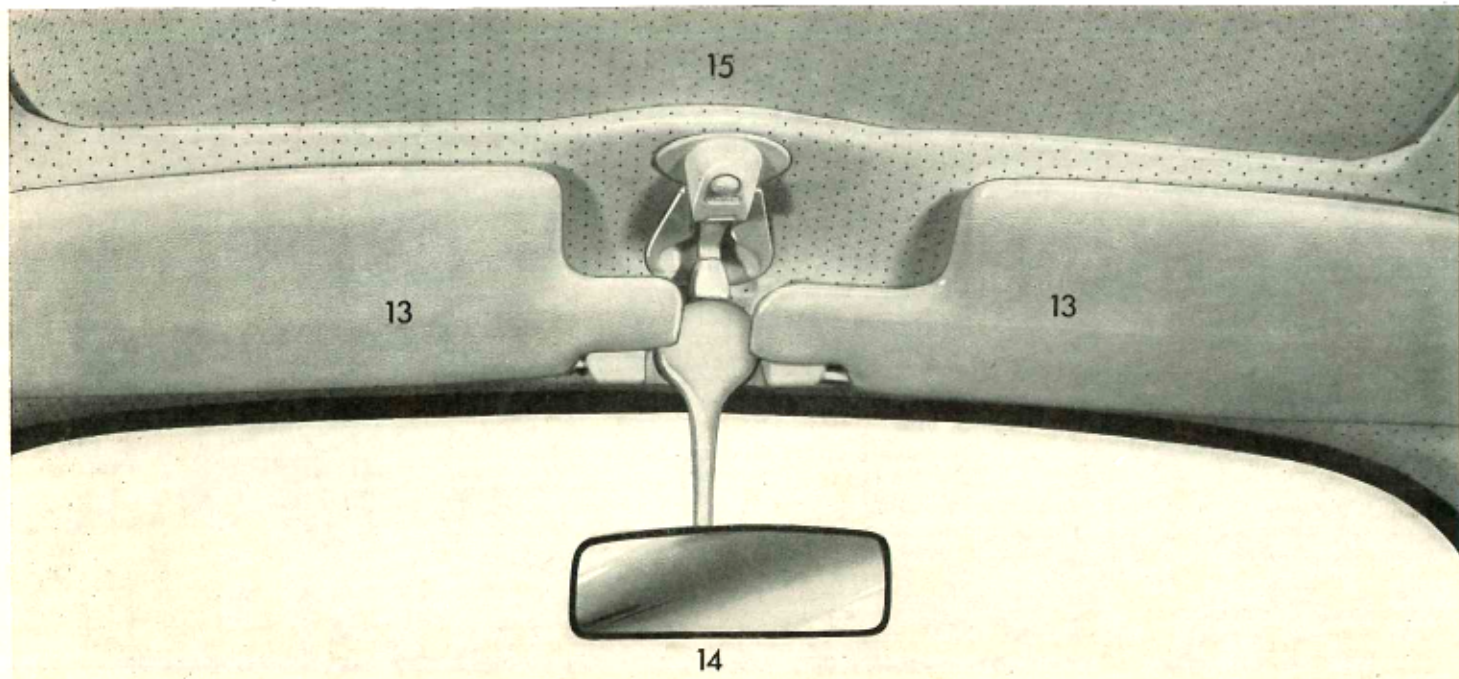
### 14 – Rear view mirrors

Inner and outer mirrors are mounted so that they can be set to give clear vision to the rear at all times.

On the Convertible, the height of the mirror can be altered by turning it 180° so that you can see to the rear properly when the top is open.

### 15 – Sliding roof

For safety reasons, the sliding roof crank should always be in the recess. When closing the roof turn the crank as far as it will go first then turn it back slightly until it can be folded into the recess.



## In the footwell and between front seats

16 – Clutch pedal

17 – Brake pedal

18 – Accelerator pedal

19 – Gearshift lever

20 – Handbrake

To release the locking knob, pull the lever up slightly first.

21 – Heating control levers

Lever up – heating on

Lever down – heating off

The heating will be more effective if you open one of the vent wings slightly because the fan can then force the warm air into the body interior more easily.

22 – Heater control slides in front footwell

On the VW 1300 and 1500, the flow of warm air into the front footwell can be controlled separately on each side by means of slides over the outlets.

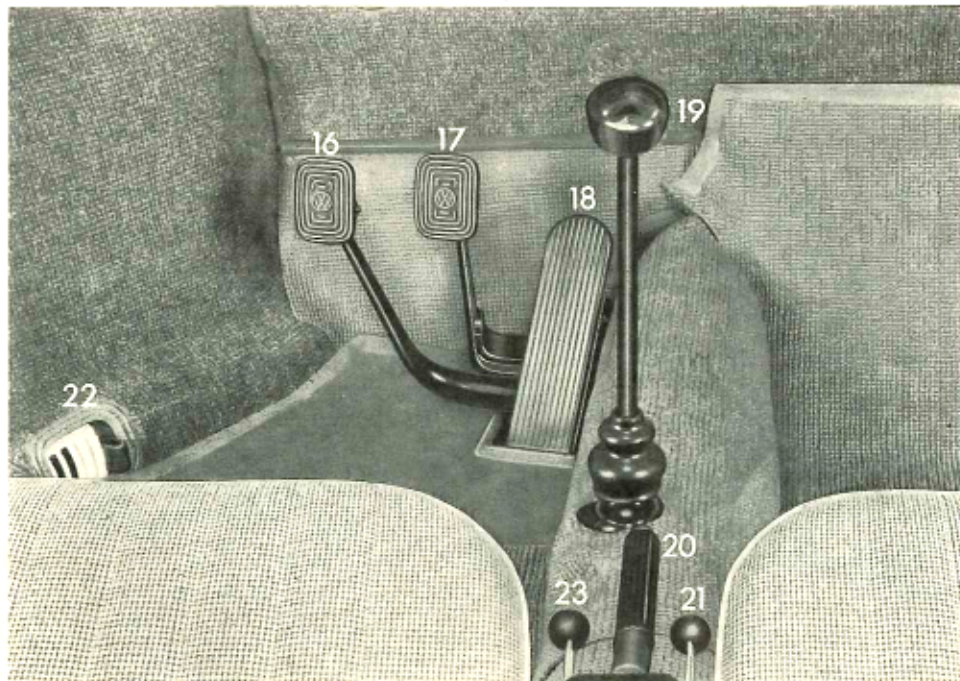
23 – Control lever for heating in rear footwell

This lever controls the flow of warm air into the rear footwell when the heating is on.

Lever up – flaps open

Lever down – flaps closed

At low temperatures it is advisable to leave the rear outlets closed when first moving off. This increases the flow of air to the windshield and also helps to prevent steaming up when the air humidity is high. As soon as the windshield is clear, the rear footwell outlets should be opened so that the interior of the body heats up as quickly and uniformly as possible.

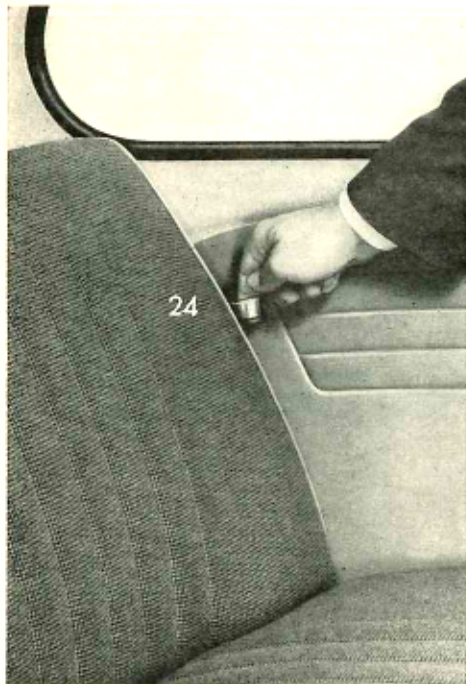




## Behind you . . .

### 24 – Rear luggage compartment

The rear luggage compartment is easy to get at if you fold the backrest of the rear seat down. To do this on the VW 1300 and the 1500, release the backrest lock by pulling the loop at the side of the seat. The lock engages automatically when the backrest is folded back again.



The rear seat backrest of the VW 1200 is secured with a rubber loop to stop it falling forward.

If you wish to carry large pieces of luggage in the VW 1300 or 1500, you can secure the rear backrest in the down position by hooking a strap under the seat support and so increase the size of the luggage compartment.



### 25 – Ashtray

To remove ashtray, press it down slightly and lift out. To put it back, insert the ashtray at the top first, then push it in.

The VW 1200 does not have an ashtray for the rear seat passengers.

### 26 – Interior lighting

#### Switch positions:

- Up – Light on only when doors are open
- Center – Light out
- Down – Light on

On the VW 1200 the interior light only has two positions: Up – Light on  
Down – Light off

On the Convertible the interior light is fitted in the mirror bracket between the two sun visors. The switch positions are:

- Right – Light on
- Center – Light off
- Left – Door contact switches

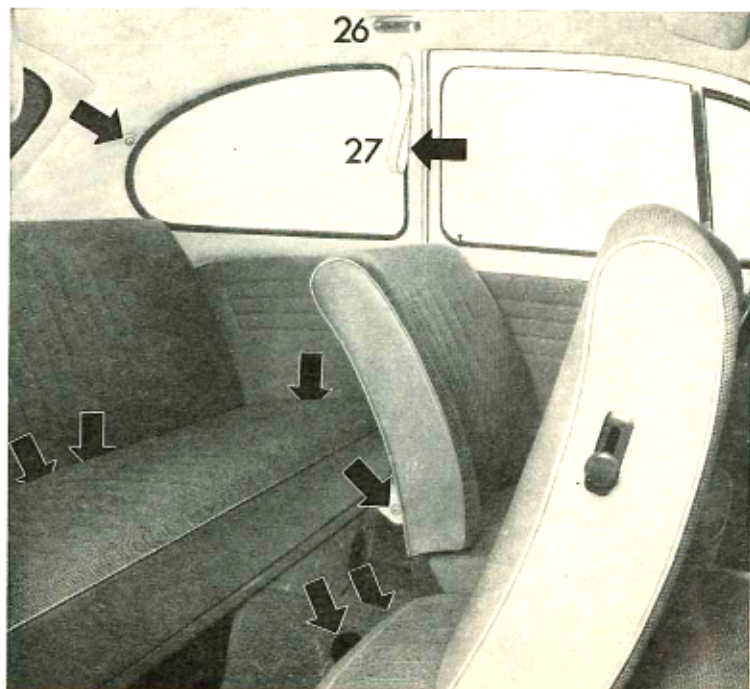
### 27 – Assist straps and coat hooks

There are no assist straps or coat hooks on the 1200.

### Safety belts

are obtainable from any VW workshop. The belts for the driver and front passenger are secured to the lock pillar and on the side of the frame tunnel in the rear footwell.

The belts for the passengers at the rear are attached to the left and right side panels under the seat and in the center of the luggage compartment floor. There are two further mounting points in the roof pillars behind the quarter windows.



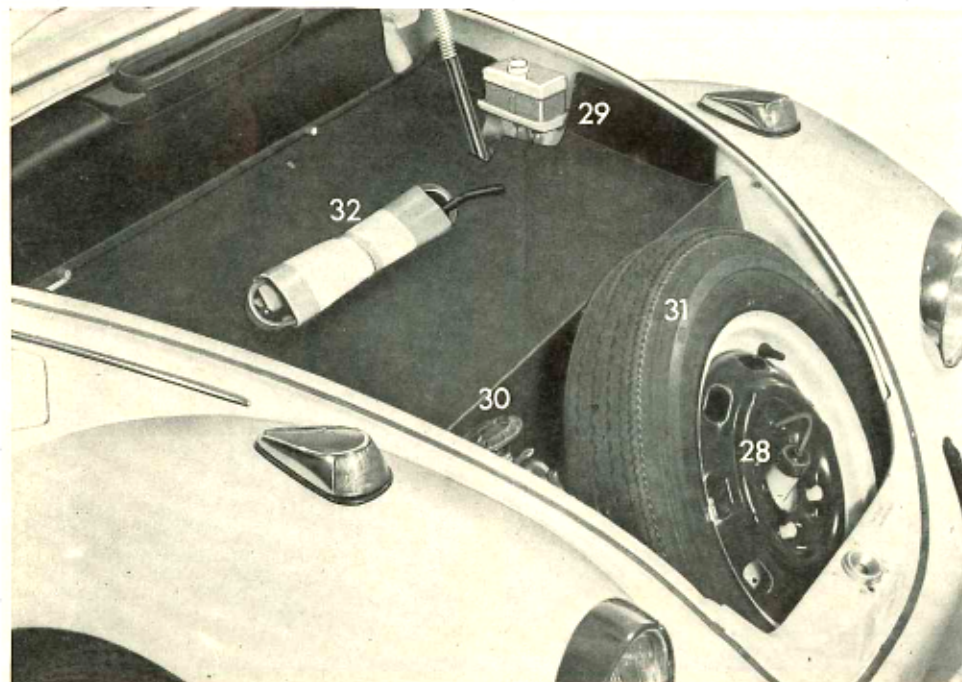
**Now let us  
have a look . . .**



## ... in the front luggage compartment

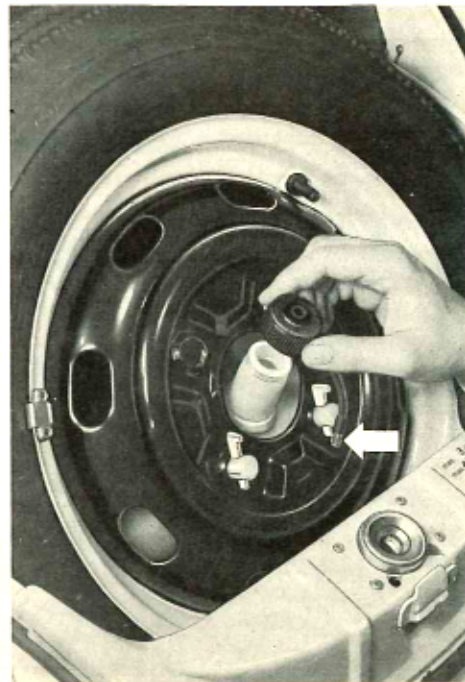
Whether you are taking a lot of luggage with you or not, please load the front luggage compartment first, using the heaviest pieces of luggage if possible. A well distributed load means good roadholding so take advantage of the possibilities offered by the Volkswagen with its two luggage compartments.

The knob which opens the front hood is on the left under the dash board. On the Convertible, the release lever for the front hood lock is in the glove box. The hood springs up slightly when the knob is pulled and can be opened fully by pressing the button in the hood handle. To close the hood, press it down firmly until you hear a click.



### 28 - Container for windshield washer

The container can be filled with water until it overflows, there is always room for sufficient air to operate the washer. The correct air pressure is in 3.0 kg/cm<sup>2</sup> (42 psi). Do not forget to put the valve hose back into the opening provided for it in the cap of the container as otherwise the valve will rattle against the spare wheel.



It is advisable to add a cleaning solution to the water as clear water alone is usually not adequate to ensure that the windshield is cleaned quickly and properly. If enough of this cleaning agent is put in it also acts as an anti-freeze solution in the winter. Details of the mixing proportions are given in the list of cleaning materials on page 27.

Methylated spirits can also be used as an anti-freeze agent. In this case a mixture of 1 part meths to 3 parts water will protect the water from freezing down to about  $-12^{\circ}\text{C}$  ( $10^{\circ}\text{F}$ ).

### **29 – Brake fluid reservoir**

The fluid should always be level with the joint round the container. If the level drops below the joint after the vehicle has been in use for some time, have your VW Dealer check the brake system.

Brake fluid is hygroscopic. Too high a water content in the brake fluid becomes detrimental to the entire brake system after a period of time so the brake fluid should be renewed about every five years. Afterwards the system must be bled.

### **30 – Jack**

How you operate the jack is described together with wheel changing on page 30.

### **31 – Spare wheel**

Have the air pressure in the spare wheel checked from time to time. Inflate it to  $2.0\text{ kg/cm}^2$  (28 psi) which is the highest pressure you will normally require. It is then easier to lower the pressure when fitting the wheel than to inflate to the pressure required.

### **32 – Tools**

in the tool bag you will find

- 1 fan belt
- 1 wheel cap remover
- 1 pair of combination pliers
- 1 screwdriver with reversible blade for slotted and Phillips screws
- 1 open-end wrench 8 mm and 13 mm
- 1 double-ended socket for plugs, fan pulley and wheel bolts
- 1 socket wrench 13 mm
- 1 bar for socket wrench (is also used to operate the jack)

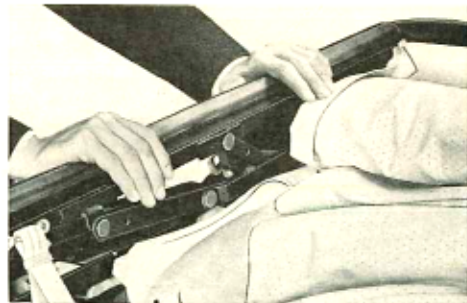
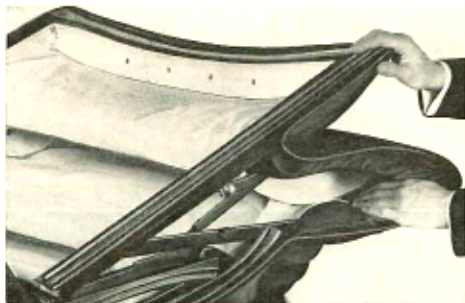
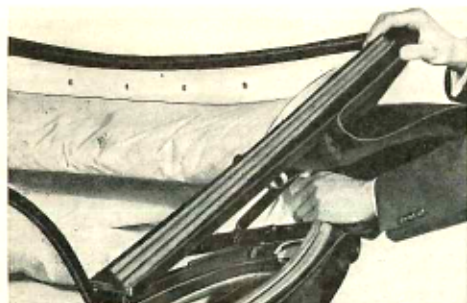
**Now you know your vehicle fairly well**

**Further hints on what to do before moving off and when on the move are given on pages 17 to 20**

**If you are a Convertible owner, you should read the following page first.**

## When the sun is shining . . .

you can open the Convertible top without effort but only open it when it is dry and clean as sharp particles of dirt will damage the material.



First release the locks at the front above the door windows and lay the top back. Now pull the top material and padding out of the top linkage to the rear.

Push the headlining inwards so that it does not get jammed between the linkage and lay the locking catches to the rear.

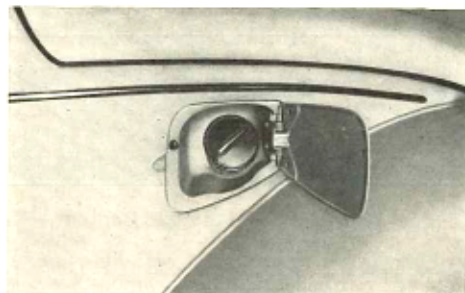
Before putting on the protective boot and securing it with the press buttons, press the top down lightly on both sides until the small catches engage. Please make sure that the top is completely covered by the boot as otherwise there will be friction marks.

## When it rains . . .

you will want to close the top again as quick as possible. Take the protective boot off, press the top down slightly so that the catches can be unhooked and pull the top forward. Pull it down on to the windshield frame with the handles of the locks until the guide pins engage in the windshield frame. Then press the hooks into the slots in the windshield frame and operate the levers.

## Before moving off, check . . .

the fuel, the brakes, the lights and, at regular intervals, the oil level in the engine and the tire inflation pressures.



**The fuel** tank holds 40 liters (8.8 gallons) which is sufficient for 400–450 kms (250–280 miles).

The tank filler neck is under a flap on the right above the front fender. On the 1200 the neck is under the front hood.

The choice of fuel is left entirely to you. The Volkswagen will run satisfactorily on all normal commercial fuels which fulfil the octane requirements of the engine:

1.2 and 1.3 liter engines 87 Octane

1.5 liter engine 91 Octane

If regular fuels with adequate anti-knock qualities are not available, premium fuels should be used or mixed with the regular fuel.

**The brakes** should be applied once or twice just after moving off to see that they are working properly.

1 – Please remember that all brakes are subject to a certain amount of wear which causes the pedal free travel to increase gradually in the course of time. It may be necessary to have the brakes adjusted in a VW workshop in between the normal maintenance services. This applies particularly to vehicles which are driven hard or frequently used in city traffic and for short distances only.

On VW 1500 vehicles which have disc brakes on the front wheels, the pedal free play does not increase because the front brake pads are adjusted automatically. However the drop in the fluid level in the reservoir shows that the pads are wearing and that it is necessary to have the brakes checked in a VW workshop.

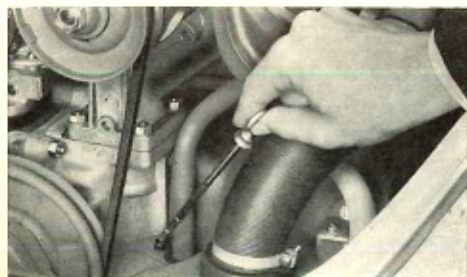
2 – The VW 1300 and 1500 are fitted with a dual circuit brake system which means that the hydraulic system is divided into a front wheel circuit and a rear wheel circuit which can each operate independently. If one circuit fails – you will notice this immediately due to the large

increase in pedal free travel – take the vehicle to a VW workshop at once. You can still stop the vehicle with the other brake circuit but the braking distance becomes somewhat longer.

**The lights** include headlamps, rear lights, license plate light, turn signals and brake lights.

The turn signals and brake lights must be checked with the ignition on. If a turn signal is defective, the warning lamp in the speedometer dial flashes much quicker than usual. The brake lights only work when the brake pedal is depressed.





The oil level should be between the two marks on the dipstick and must never be below the lower mark. Wipe the dipstick clean before checking.

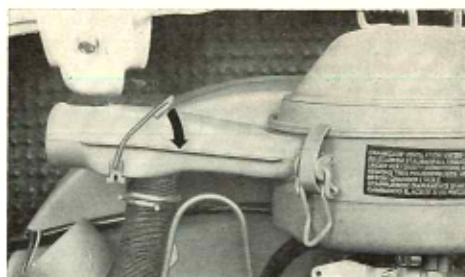
The vehicle must be on a level surface when the oil level is checked otherwise the dipstick reading will be inaccurate. Do not check the oil immediately after stopping the vehicle. Wait at least 5 minutes to give the oil in the engine time to drain down into the bottom of the crankcase.

When topping up, always use a good brand of gasoline engine HD oil. It is an advantage to use the same brand whenever possible but sometimes mixing HD oils from different manufacturers cannot be avoided. You need not fear that this will damage the engine in any way. Details of the various oil viscosity grades are given on page 41.

#### Tire pressures

	front	rear
with 1 to 2 occupants	1.1 kg/cm <sup>2</sup> (16 psi)	1.7 kg/cm <sup>2</sup> (24 psi)
fully loaded	1.2 kg/cm <sup>2</sup> (17 psi)	1.8 kg/cm <sup>2</sup> (26 psi)

For long, high-speed motorway trips, the tire pressures should be increased by 0.2 kg/cm<sup>2</sup> (3 psi) at front and rear.



#### Three more important points:

**1 – The carburetor of your Volkswagen should be drawn in preheated air at temperatures below 10° C (50° F). This helps to keep down fuel consumption in cold weather and prevent the carburetor icing which sometimes occurs when air humidity is high.**

On the 1300 and 1200 the weighted flap in the air cleaner intake pipe must be free to move in the winter and the cool seasons. If the average temperature is above 10° C, the flap must be fixed open by jamming the lever under the ridge on the intake pipe.

On the 1500 the carburetor preheating is thermostatically controlled.

**2 – If the vehicle is used mainly in very dusty conditions, the oil bath air cleaner must be checked frequently, even daily if necessary.**

How this is done is described on page 45.

## Starting the engine

3 – Never drive your vehicle with the battery disconnected because this can damage the electronic components in the electrical system.

Before turning the ignition key, make sure that the gear shift lever is in neutral.

**At temperatures above freezing point** or when the engine is still warm, depress the accelerator pedal slowly while operating the starter. When the engine is very warm, depress pedal fully but do not "pump" it.

**At temperatures below freezing point** or when engine is cold, depress the accelerator pedal fully once and then release it so that the automatic choke can work. Then switch ignition on and start immediately. Declutch so that the starter only has to turn the engine.

As soon as the engine starts, release the ignition key so that the starter is switched off.

Do not try to warm the engine up by letting it idle with the vehicle stationary – drive off straight away.

Do not race the engine while it is still cold.

If the engine does not start the first time or stalls at any time, the ignition will have to be switched off and then on again because there is a non-repeat lock in the switch which prevents the starter from being operated when the engine is running and thus being damaged.

**The warning lamps** in the speedometer dial which come on when the ignition is switched on, go out when the engine starts. On vehicles with 1.2 liter engines, the red warning light for the generator and cooling does not go out until the engine speed has increased slightly. If the red light comes on when driving, stop at once and check the belt which drives the generator. When this belt breaks, the engine cooling ceases to work. The proper way to fit a new belt is described on page 31.

If the generator stops charging for any other reason, you can drive on but try to get the vehicle into a workshop as soon as possible because the battery will soon run down.

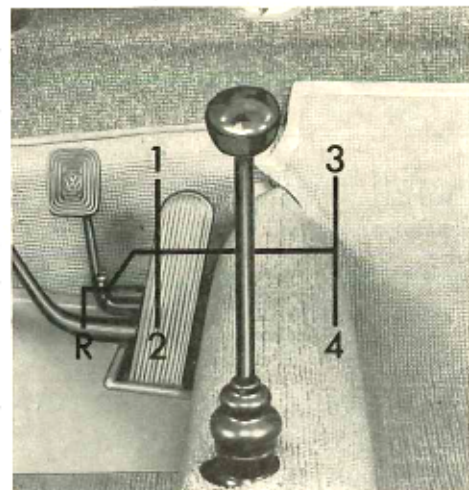
If the green warning light for the oil pressure comes on when driving, stop at once because the flow of lubricating oil in the engine may have ceased. Check the oil level first. Should the cause of the trouble be elsewhere, you are advised to get expert assistance.

**Be careful when running the engine in confined spaces.** Ensure that there is ample ventilation so that the poisonous exhaust gases can escape.

## ... it runs ... and runs ... and runs ...

You can drive your Volkswagen at full speed from the first day. There are, however, certain permissible speed ranges for the various gears:

Engine:		1.2 liter	1.3 liter	1.5 liter
1st gear	kph	0-25	0-25	0-25
	mph	0-15	0-15	0-15
2nd gear	kph	10-50	10-50	15-55
	mph	6-30	6-30	9-34
3rd gear	kph	30-80	30-85	30-90
	mph	18-50	18-53	18-56
4th gear	kph	45-115	45-120	50-125
	mph	28-72	28-74	30-77



When a particular traffic situation makes it essential to move rapidly, you can accelerate up to 60 kph (37 mph) in 2nd gear and up to 95 kph (60 mph) in 3rd gear for brief periods only. Bear in mind, however, that full throttle acceleration puts fuel consumption up considerably. It is more economical to drive smoothly and keep the top speed fairly constant. Very fast, racy-sporty driving, alternating between full throttle and hard braking will mean more frequent visits to a gas station not to mention increased tire and brake lining wear.

You can drive very economically between:

10 and 35 kph in 2nd gear (6 and 22 mph),  
30 and 55 kph in 3rd gear (18 and 34 mph),  
50 and 95 kph in 4th gear (30 and 60 mph).

Just a few words about the clutch while we are on the subject of driving. The clutch is a very hard worked part of the vehicle. A good driver slips the clutch as little as possible when moving off and changing gear. He always depresses the clutch fully when changing gear, he changes down into the appropriate gear in queues and city traffic instead of slipping the clutch and never uses the clutch pedal as a "rest" for his left foot.

Shift into reverse gear only when the vehicle is standing still. Reverse gear is fitted with a lock so that it cannot be engaged unintentionally. To engage reverse, press the lever down, move it over to the left and pull it back to the stop.

Volkswagen automobiles have first class brakes which can stop the vehicles in the shortest possible distance. But do not forget that the braking distance increases very rapidly as the speed increases. At 100 kph for example it is four times longer than at 50 kph. Apply the brakes in good time whenever possible but do not use too much force as locked wheels increase the braking distance.

Water reduces the coefficient of friction of the brake linings. The brake discs particularly are liable to get wet when driving through water and when washing the vehicle. They do dry quickly when the brakes are applied but this retards the full braking force slightly. In addition to this, the tire adhesion is reduced on wet roads. We cannot do anything about this either. You can, however, take care when driving, remain at a safe distance behind the preceding vehicle particularly when roads are wet and slippery. Safety first is the motto.

That just about covers the operation of the car and how to drive it properly. The following pages deal with tips for winter driving, breakdowns and all there is worth knowing about the lubrication and maintenance of the vehicle.

## When it snows and freezes . . .

Your car has two features which you will appreciate in the winter: Air cooling and heating. You can leave your car out in the bitter cold without fear – the aircooled engine will always start readily and supply warm air for the interior of the body.

Do not, under any circumstances, try to influence the heating of the vehicle by covering up the slots below the rear window. These slots must always be clear so that air can flow in to the carburetor and to the engine cooling fan.

**The brakes** may freeze up in the winter if water gets into the drums due to splashing or condensation so leave the car in 1st or reverse gear when parking it and do not apply the handbrake.

When parking on steep hills, turn the front wheels against the kerb as well to stop the vehicle rolling away. If there is no kerbstone, it may be advisable to place a stone or wedge under a wheel.

**Tires** with badly worn treads are very dangerous particularly in the winter so ensure that they are replaced in good time.

M+S tires with special heavy treads give good roadholding in snow and slush. They can be fitted to all four wheels but **never use** them on the front wheels only.

Better still are M+S tires **with spikes** which increase the safety margin **even** on hard snow and ice. These tires should **always** be fitted on all four wheels. The maximum speed for a vehicle fitted with M+S and **M+S spiked** tires is 130 kph (80 mph).

Even when fitting winter tires, the specified carcass strength must be **adhered to**. Always note the PR details on the tire walls **when** buying winter tires.

The specific characteristics of winter tires can be improved by raising the tire pressures to 0.2 kg/cm<sup>2</sup> (3 psi) above the normal operating pressure for the tire concerned. This inflation pressure then covers the recommended pressure increase of 3 psi for fast highway driving. M+S tires with spikes should be run at moderate speeds when new in order to give the spikes time to settle.

In general, winter tires only have real advantages when conditions on the road are really wintry. For safety reasons, it is not advisable to drive a vehicle fitted with any type of winter tire at top speed. You cannot expect a winter tire to have the same degree of adhesion on dry, wet or snow-free roads as a normal tire. Furthermore, under these conditions M+S tires wear rapidly, particularly at high speeds.

**Snow chains** can be fitted to normal and winter tires on the rear wheels only. Only thin chains which do not stand clear of the tire tread and inner side wall more than 15 mm including tensioner, are suitable. When driving over long stretches of road which are free of snow, the chains should be removed. They serve no useful purpose here but merely damage the tires and wear out quickly.



**Engine oil** of SAE 30 grade will tend to thicken at temperatures around freezing point and may cause difficult starting. As soon as winter temperatures are expected, change over in good time to a thinner grade of engine oil. Details of the various oils to be used are given on page 41.

If you only drive mainly short distances and in city traffic in the winter we recommend that you have the engine oil changed at 2500 km (1500 miles) intervals. Should you only drive a few hundred miles a month under these conditions, it is advisable to have the oil changed every 6 to 8 weeks. At other times these additional changes are unnecessary and uneconomical.

In countries with arctic climates and temperatures below about  $-25^{\circ}\text{C}$  ( $-13^{\circ}\text{F}$ ) the engine oil should be changed every 1250 km (750 miles).

**Transmission oil** of SAE 90 grade can generally be used all the year round. Only in countries with arctic climates is it necessary to use the thinner SAE 80 transmission oil.

When the temperature is below  $-13^{\circ}\text{F}$  for long periods, it is advisable to use ATF oil in the transmission. The vehicle should, however, only be driven with this oil during the cold period. As soon as the temperature rises to near freezing point, this oil **must** be replaced by SAE 80 or SAE 90 transmission oil.

**The battery** not only tends to drop in capacity as the temperature drops, it also has to work much harder in the cold weather. Quite apart from the higher current consumption when starting and using the lights more often, there are numerous other electrical items used mainly in the winter, such as heated rear windows and heater boosters. A really cold battery which may in any case not be fully charged has only a fraction of the capacity that a battery at normal temperature has and this is fatal when trying to start a cold engine. Particularly if the car is only driven short distances and in city traffic, the battery should therefore be charged from an external source from time to time. Further details are given on page 37.

**The spark plugs** should not have excessively large gaps especially in the winter. The gap is normally 0.7 mm (.028 in.) but when the weather is very cold the gap can be temporarily reduced to 0.4–0.5 mm (.016–.020 in.) to facilitate starting.

**It is a good idea** to carry a shovel or a short-handled spade in the car to clear away snow if you get stuck. A small hand brush for sweeping snow off the vehicle and a plastic scraper for the windshield are also useful.

**The chassis** is exposed to very arduous conditions particularly in the winter. The steadily increasing use of chemicals to de-ice the roads produces solutions which attack even the most durable paintwork after a time. The underside of the Volkswagen is sprayed with a wax-based compound to protect it from these influences. It is advisable to examine the protective film at the beginning of the winter and have it repaired by respraying so that the full protective effect is retained. Do not apply oily anti-corrosion compounds to the wax-coated surface.

**Door locks** can freeze up in winter if water gets into the lock when washing the vehicle, so do not aim the water jet directly at the locks. It is a good idea to cover the keyholes up beforehand. A frozen lock can be opened by warming the key well before inserting it. An anti-freeze solution or glycerine should then be squirted into the lock cylinder as soon as possible.

## A clean smart car looks better

We have provided your vehicle with paintwork which is not only extremely durable and has a very high gloss but which also has a long service life. This has been achieved by special chemical treatment of the body metal and the use of a four layer synthetic resin paint technique.

But even the finest paint requires a certain amount of care. This is easy to appreciate if you consider for a moment the influences to which the paint is exposed. Sunlight, rain, industrial fumes, soot, dirt and dust are constantly working on and attacking the paintwork.

In the winter all parts of the vehicle are subjected to even more severe climatic conditions and the effect of aggressive salt solutions. It is advisable to clean and wax the vehicle more frequently in this period.

Every VW Dealership has stocks of car cleaning materials. These materials have been tested by us and found to give the best results. The order numbers of these materials are given on pages 25 to 27.

**Never wash, wax or polish the car in sunshine.**

**Before waxing and polishing, the vehicle must be washed and dried thoroughly.**

**Wash** the new vehicle frequently with clear water particularly in the first two or three months as this will help to harden the paintwork. Use a soft sponge or hose brush for the body, a long handled brush for the wheels and plenty of water. Spray the body panels and wheels with a fine soft spray first to loosen the dirt then start at the top and wash downwards. Rinse the sponge out frequently to avoid scratching the paint.

Later on, the vehicle should always be washed when it is dirty. The longer the dirt is left on the paint the greater is the risk of it damaging the glossy finish. The dirt particles can have a chemical effect on the paint surface or they can cause scratches if rubbed into the paint. If the dirt cannot be removed with clear water, a suitable shampoo can be added to the water. Afterwards, rinse all traces of the shampoo off well with clear water and then leather the vehicle dry to avoid water spots.

**On the VW 1300 and 1500, the fresh air vents must be closed when washing the vehicle.**

**Waxing** should be carried out for the first time after about 8 to 10 weeks. Waxing is a means of putting back into the paint certain substances which keep it flexible and are lost in the course of time due to weathering and washing particularly when you use a detergent. The wax coating seals the pores of the paint and makes it water-repellent.

The paint should be re-waxed when water remains in large patches on the surface and does not form beads and roll off. Regular waxing will ensure that the paint retains its original high gloss for a long time.

Another way of waxing the paint is to use a wash-and-wax solution. This is easier than waxing in the normal way. Just wash the vehicle first then put the wash-and-wax solution in a bucket of water and apply it to the paintwork. All that remains is to leather off the paint until it is dry. This type of wax will only protect the paint adequately if it is used every time the vehicle is washed and the interval between washes is not more than two or three weeks.

**Polishing** should only be done when the paint has lost its gloss due to weathering or lack of proper care and the gloss can no longer be restored by waxing in the normal way. After treatment with polish, wax the paint thoroughly to retain the gloss which has been obtained.

**Tar spots** tend to penetrate into the paint in a very short time. They should be removed as soon as possible, preferably with a tar remover. Afterwards, the area affected should be washed with a solution of shampoo and water and rinsed well to remove all traces of tar remover.

**Insects** tend to stick on the front of the vehicle and on the windshield in the summertime. These should also be washed off the paint as soon as possible. When really dried on, the insects can be removed with an insect remover. The paintwork should also be washed, rinsed and leathered off afterwards.

**Parking under trees.** Vehicles which are parked under certain trees in the summer are often found to be covered with sticky spots. These spots can be taken off easily with a shampoo if the treatment is not delayed too long. It is advisable to wax the paint afterwards.

**Chrome parts** should be treated with a chrome cleaner or polish. To give lasting protection in the winter, the chrome parts can be coated with one of the patent chrome protection compounds which form a hard film. The best way to apply these compounds is by spraying. The film can be removed by washing with kerosene, then washing with shampoo and rinsing to remove all traces.

**The windows** can be cleaned with a sponge and clear water. Always use a special clean leather to dry the windows. This leather must

not be used on the paintwork in any circumstances as most paint cleaners and polishes contain ingredients which will cause unpleasant streaks to appear on the windshield when it rains, even if only the smallest trace is present. These streaks can only be removed with a good windshield cleaner. Do not forget the wiper blades.

**The windshield wiper blades** should be taken off from time to time and cleaned with a hard brush and methylated spirits or a strong detergent solution. During long dry periods particularly they tend to get clogged with tar splashes, oil and insects. New blades should be fitted once a year.

**The Convertible top** does not require any special care. It is important however, to clean the plastic material regularly. When very dirty, the top can be cleaned with a soap powder solution or one of the normal plastic cleaners. A hard brush will help to remove dirt from the grained surface of the material but care must be taken at the edges to avoid scratching the paint with the bristles. After washing the top, the complete vehicle must be rinsed thoroughly with clear water.

Spots in the top material must never be removed with paint thinner, chlorine-based spot remover or similar solutions as this will damage the material. Stubborn spots can be removed by wiping with a cloth moistened with white

spirit (benzine) and then rinsing well with a lukewarm soap powder solution.

The pivot points of the top linkage should be cleaned occasionally and a few drops of oil applied. Afterwards the joints should be wiped dry to ensure that oil does not drip on to the top material.

Noises caused by friction between the window frames of the Convertible and the rubber weatherstrips can be eliminated by rubbing in some talcum powder or glycerine.

# Approved car care materials for the Volkswagen

	Material	Package and quantity	VW Part No.	Properties	How to use
Vehicle washing	Shampoo	Tin 150 cc.	000096111	Washes effortlessly and thoroughly. Does not harm paint.	Put 1-2 beakers of shampoo in a bucket. Squirt strong jet of water in or stir well. Wash vehicle with foam, rinse with clear water and leather off.
	Shampoo	Tin 250 cc.	000096112		
	Sponge	17x11x5.5 cm	000096151		
	Leather Hose brush with replaceable bristles and water control valve	46x44 cm	000096155  000096157		
Paint waxing	Wax	Tin 250 cc.	000096011	Protects paint from weather. Keeps it flexible and durable.	Apply thinly to clean, dry paintwork with cotton. Rub gently until paint shines again.
	Wax	Tin 1000 cc.	000096012		
	Wash/wax	Tin 150 cc.	000096121	Washes and waxes in one operation. Protects paint from weather for a limited period.	Wash vehicle. Shake tin well and put 1 beaker of solution into a bucket of water. Wash vehicle again with this solution and then leather dry. Do not polish.
	Wash/wax	Tin 250 cc.	000096122		
Paint polishing	Paint care	Tube 210 grams	000096021	Cleans, polishes and protects paint and brings gloss back again.	Apply to clean dry paintwork, small areas at a time. Allow it to dry then rub with cotton until paint shines brilliantly. Do not polish in the sunshine.
	Paint polish	Tin 250 cc.	000096001	Freshens up paint which has lost gloss.	Soak cotton with polish and apply to clean dry paintwork, small areas at a time. Remove remains with clean cotton and rub briefly.
	Paint polish	Tin 1000 cc.	000096002		
	Polishing cotton	Bag 200 grams	000096161		

	Material	Package and quantity	VW Part No.	Properties	How to use
Removal of tar spots from paint and chrome	Tar remover	Tin 150 cc.	000096051	Softens and removes tar and asphalt spots.	Soak cotton with tar remover and dab it on the spots. Allow it to work for a short time then wipe tar off.
	Tar remover	Tin 250 cc.	000096052		
Removal of insects from paint chrome and glass	Insect remover	Tube 80 grams	000096081	Removes insects from paint and chrome	Dampen area to be cleaned, apply insect remover by moistening cotton, let it work for a short time and rub with cotton. Do not let it dry. Rinse area well with clear water.
	Insect sponge	11 x 7 x 4 cm	000096083	Removes insects from glass	
Removal of industrial fall-out	Industrial fall-out remover	Bottle 500 cc.	000096091	Removes industrial fall-out from paint	Apply to clean paint with a plastic sponge. Allow to work up to 25 minutes (not longer) Wash off with plenty of water.
Care and cleaning of chrome parts	Chrome cleaner	Tube 80 grams	000096061	Cleans, polishes and protects chromed parts.	Apply thinly to clean chrome surface and polish with soft cloth.
	Liquid film for chrome	Tin 500 cc.	000096063	Forms a durable, transparent film on the chrome.	Apply evenly to dry chrome. Spray on where possible (with spray gun 000096064).
	Chrome protective film remover	Tin 500 cc.	000096167	Removes protective film from chrome	Apply with sponge or spray gun. Allow to work for 5 minutes. Soak sponge with solution and rub film off. Wash with water.
	Chrome grease	Tube 80 grams	000096067	Cleans and protects chrome parts.	Apply thick or thin coat (according to time of year) with a soft cloth. Renew coating every time vehicle is washed.
Cleaning PVC Convertible top and all textile and plastic materials	Plastic cleaner (paste)	Tin 200 grams	R 3	Cleans and protects PVC material.	Apply cleaner with a damp sponge and rub with a dry cloth.

	Material	Package and quantity	VW Part No.	Properties	How to use
	Liquid plastic and textile cleaner	Bottle 500 cc.	000096072	Cleans and protects textiles and plastics	Apply with soth cloth or spray gun. Allow to work for brief period. Rub clean with dry sponge or cloth.
Cleaning windshield	Window cleaner	Bottle 200 cc.	000096105	Added to water in washer it removes stubborn dirt, silicone and grease from windshield. Can be used as antifreeze to keep washer in action in winter. Can be used neat to remove ice from windshield.	As windshield cleaner: In the summer, add about $\frac{1}{10}$ of contents of bottle or 1 sachet to water in washer.
	Window cleaner	Sachet approx. 35 cc.	000096101		As anti-freeze: At temperatures down to $-15^{\circ}\text{C}$ add entire contents of bottle to water in washer. When not so cold reduce amount. The contents of one sachet give protection down to $-2^{\circ}\text{C}$ .
	Anti-mist cloth	Cloth 35x35 cm in plastic bag	000096165	Stops windows misting-up	Rub misted-up windows dry with cloth.

**We recommend the use of spray gun 000096064 when applying liquid cleaners and preservatives.**

**The cloth upholstery** should be cleaned with a vacuum cleaner or a fairly hard brush. Spots can usually be removed with a lukewarm soap solution. Grease and oil spots can be treated with spot remover. Do not pour the liquid on to the material as this will cause marks. Dampen a clean, plain cloth with the cleaner and remove the spot by rubbing with a circular movement and working inwards.

**The leatherette parts** of the headlining, side trim panels and seats can be cleaned best with a soft cloth or brush. When very dirty use a lukewarm soap solution or a dry foam cleaner. If the seat upper surfaces and **front** of backrests are covered with leatherette as well, only use a dry foam cleaner because the material used for these parts is air-permeable and liquid cleaners would penetrate into the padding straightaway.

Grease or paint spots should be wiped off before they dry when possible. Once dry, they can be removed by rubbing carefully with a cloth moistened with benzine or methylated spirits. Shoe polish marks can be removed with turpentine but be careful because this will damage the dust repellent surface of the leatherette if allowed to work on it too long. After cleaning, rub the material dry with a soft cloth. So-called preservatives are not suitable for leatherette because they do not soak into the material and merely collect dust and make clothing dirty.

**Airing the body.** If the vehicle is left in the garage for long periods, the garage and car doors must be opened from time to time to prevent the formation of mould and damp stains inside the vehicle.

**The front seats.** If the front seats become hard to slide, the runners must be greased lightly at top and bottom after being cleaned with a cloth. The seats can be removed to do this by pushing them forward out of the runners. When putting the seats back, do not forget to hook the spring in again.



**Door and window weatherstrips** must be undamaged and supple to ensure that they seal properly. To retain the original flexibility of the rubber, coat the weatherstrips with talcum powder occasionally.

**The tires.** In addition to checking pressures regularly and driving carefully, the following points should be remembered in connection with tires:

- 1 – Check tires for damage occasionally and remove foreign bodies.
- 2 – Keep oil and gasoline away from the tires.
- 3 – Try not to expose tires to strong sunshine for long periods.
- 4 – Replace missing valve dust caps as soon as possible.

Tires should be replaced when the tread depth is only 1 mm all round and on full tread width because this is the absolute limit for safe usage. We advise you however not to let the tires wear down to this extent as tires with treads in this condition cannot grip the road surface properly when driving at high speeds on wet roads. If you notice that the tires are wearing unevenly, get advice from your VW workshop.

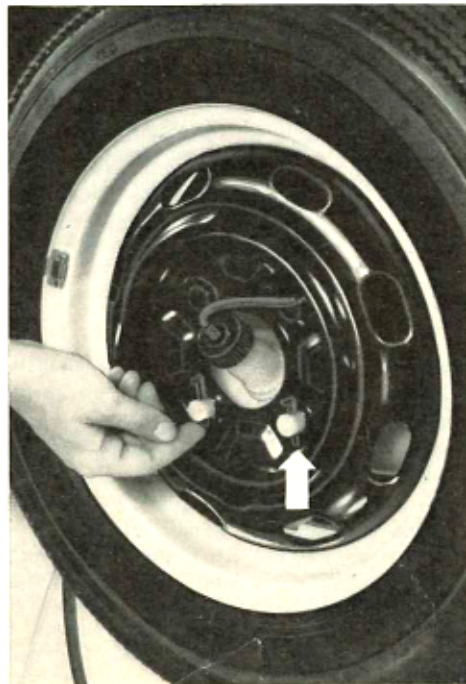
For smooth running at high speeds and long tire life it is essential that the wheels are balanced statically and dynamically. As the wheels can get out of balance after being in use for some time due to natural tire wear, the wheels should be balanced again every 10,000 km (6,000 miles). Furthermore, a wheel should always be balanced again when a tire has been repaired. This also applies to balanced wheels when a tire has lost pressure due to a faulty valve.



## Just in case . . .

you have to deal with a small defect or a breakdown yourself one of these days we have included some information on the next few pages which should help you.

All other repairs should always be carried out by one of our service stations. The service organization of the VW factory offers you a wide spread network of authorized workshops staffed by skilled mechanics and equipped with all the special tools and appliances required. Whenever you see the familiar VW sign on the roadside you can be sure of expert advice and quick efficient assistance.



### Wheel changing

Before the spare wheel can be taken out, the container for the windshield washer must be taken off. It is advisable to stand the wheel on the front apron when taking out the two wedges with which the container is attached to the wheel.

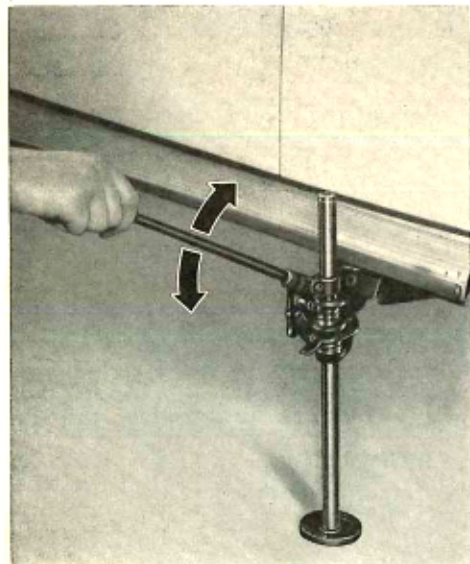
Apply the hand brake.

Remove wheel cap with puller and jack bar by hooking the puller into the holes in the edge of the cap and levering against the wheel rim with the jack bar.

Loosen all wheel bolts about one turn with double-ended socket wrench and bar.







Insert jack into square hole under sill panel and push the jack tube down until it touches the ground.

Place bar in upper link of jack and raise vehicle.

Unscrew wheel bolts and take wheel off.

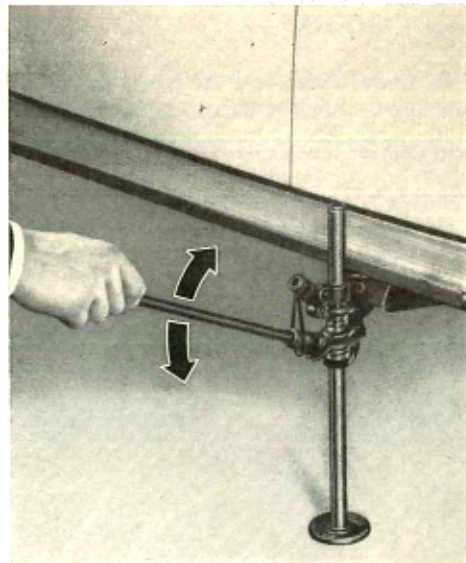
Place spare wheel against drum and raise or lower vehicle as necessary until the holes in the wheel are roughly in line with the threaded holes.



Insert one bolt and tighten it until the wrench can be swung round to align the other holes with the holes in the brake drum.

Insert remaining bolts.

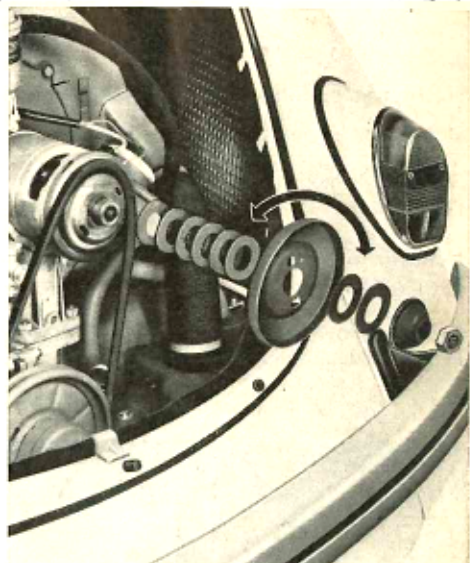
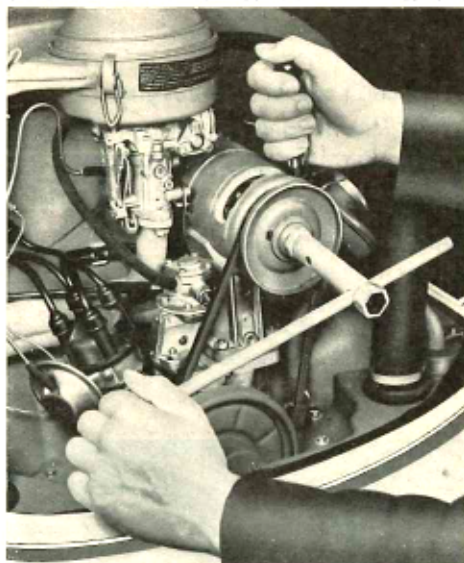
Tighten bolts until the wheel, centered by the spherical shape of the bolt heads, contacts the wheel hub evenly.



Place bar in lower link and lower the vehicle. Tighten the wheel bolts evenly and diagonally. Install wheel caps by giving them a smart blow with the hand.

Have the wheel bolts checked with a torque wrench in the next filling station or workshop. The correct torque is 94 lb.ft. (13 mkg).

Do not forget to check the air pressure in the wheel you have fitted. The inflation pressures are given on page 18.



### Adjusting or replacing the fan belt

The fan belt tension is correct when the belt can be pressed inwards about 1.5 cm (.6 in.) at the center. The belt must not be too tight or too slack. New belts may stretch slightly at first so they should be checked after about 500 km (300 miles) and the tension corrected if necessary. Even though the belt normally has a long service life, it is advisable to carry a spare on the vehicle.

To adjust the belt, remove the rear part of the pulley on the generator. When loosening and tightening the nut, place a screwdriver in the slot in the front half of pulley and support the screwdriver against the upper screw in the generator housing. To fit a new belt, the cover plate for the crankshaft pulley must also be removed after taking out the three screws.

The belt is tensioned by varying the number of washers between the pulley halves. Taking washers out increases the tension, putting them in decreases it.

### Cleaning fuel pump filter

Remove plug and take filter out.

Put plug back immediately to stop fuel leakage.

Wash filter in clean benzine and blow it out.

When installing the filter, ensure that the washer for the plug is located properly.

### Removing and installing spark plugs

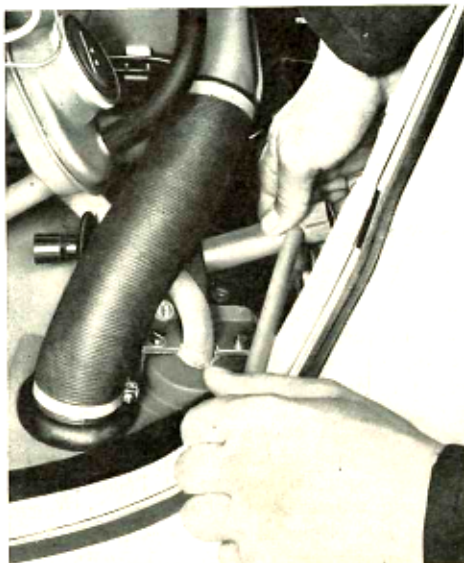
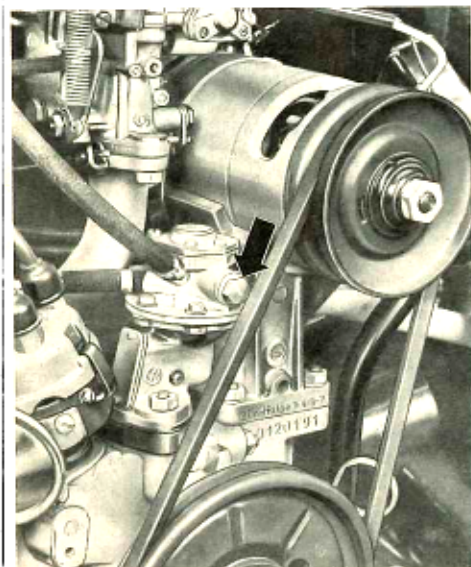
Pull connector off and screw plug out with socket wrench and bar.

Dirty plugs should be cleaned with a sand blaster but in an emergency the carbon can be removed with a chip of wood. Please do not use a wire brush. The plugs should also be clean and dry on the outside as well, in order to avoid shorting and tracking.

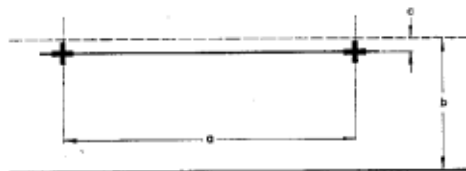
The gap can be set by bending the ground electrode. The gap should normally be 0.7 mm but when the weather is very cold, the gap can be reduced temporarily to 0.4–0.5 mm (.016–.020 in.) to facilitate starting.

Take care not to crossthread the plugs when inserting them and tighten them firmly but do not overtighten.

New plugs should be fitted every 20,000 km (12,000 miles).







$a = 1044 \text{ mm (42.1 in.)}$

$b = \text{Height of headlamp center from ground}$

$c = 50 \text{ mm (2 in.) at a distance of 5 m from the screen}$

### Aiming the headlights

If a headlight aiming device is not available, proceed as follows:

Position the vehicle on a level surface 5 m (16 ft. 5 in.) away from a vertical wall. The tire pressures must be correct and the rear seat loaded with one person or a weight of 70 kg (154 lbs.).

Draw two crosses with setting lines on the wall to the measurements in sketch. The longitudinal center line of the vehicle must be aligned exactly with the center between the two crosses and at right angles to the wall.

Aim the headlights individually by turning the two screws in the headlight rim with the beams dimmed. Cover up the second headlight.

A – Lateral aim

B – Vertical aim

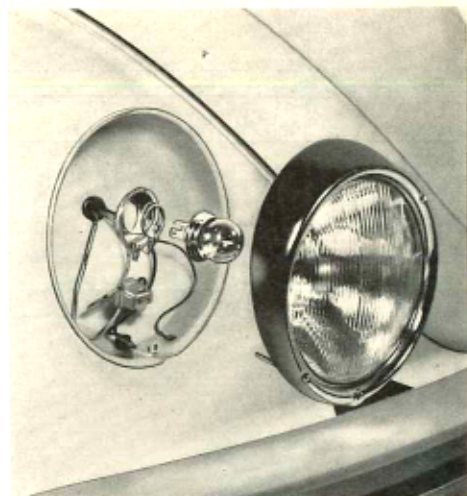
The headlights are correctly aimed when the light-dark border line is horizontal on the adjusting line to the left of the cross and the angle in the light-dark border line is exactly on the cross.



## Bulb chart

V = volts, W = watts

Bulb for	12 volt system		6 volt system	
	German designation	Part No.	German designation	Part No.
Headlight .....	A 12 V 45/40 W	N 177053	A 6 V 45/40 W	N 177051
Parking light .....	HL 12 V 4 W	N 177172	HL 6 V 4 W	N 177171
Stop/tail light .....	SL 12 V 21/5 W	N 177382	S 6 V 18/5 W	N 177371
License plate light .....	G 12 V 10 W	N 177192	G 6 V 10 W	N 177191
Speedo and warning lights ..	F 12 V 2 W	N 177222	J 6 V 1.2 W	N 177221
Interior light .....	K 12 V 10 W	N 177232	K 6 V 10 W	N 177231
Turn signals, front and rear ..	RL 12 V 21 W	N 177322	R 6 V 18 W	N 177311



## Bulb replacement

### Headlight bulb

Remove the screw in the center of the rim at the bottom.

Take lamp insert out.

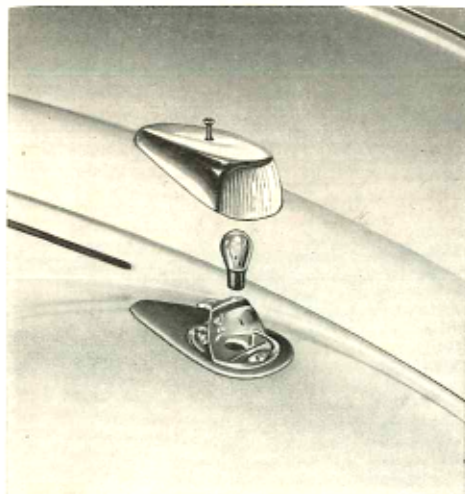
Pull connector off bulb base.

Turn cap to left and take it off.

Fit new bulb. The lug on the bulb holder must engage in the notch provided in the reflector. Do not touch the glass part of the bulb with the fingers.

Fit the cap so that the contact strip is resting on the base of the parking light bulb.

Check the headlight setting.



### **Front turn signal bulb**

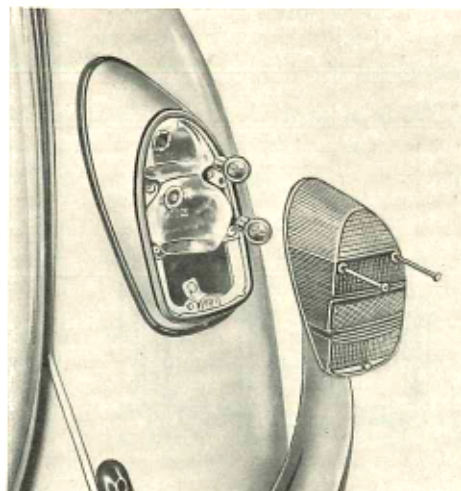
Remove Phillips screw.

Take housing and lens off.

Press bulb into holder lightly, turn and take out.

Install new bulb.

When fitting housing, ensure that gasket is located properly.



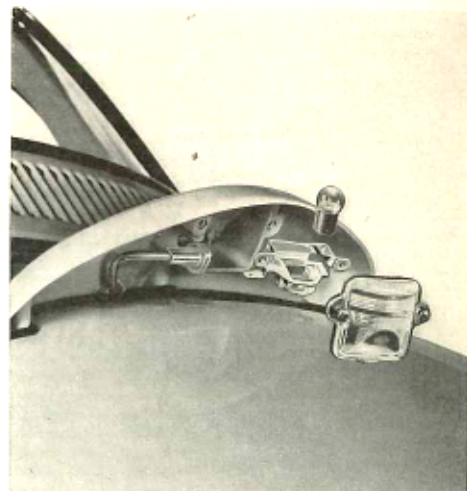
### **Rear turn signal or stop and tail light bulbs**

Unscrew three Phillips screws so far that the lens can be taken off.

Press bulb lightly into holder, turn and take out.

Top – turn signal  
Bottom – stop and tail

When inserting the stop and tail light bulb, the retaining pin nearest to the bulb glass must be downwards. Tighten lens securing screws evenly but do not overtighten.



### **License plate light bulb**

Open rear hood.

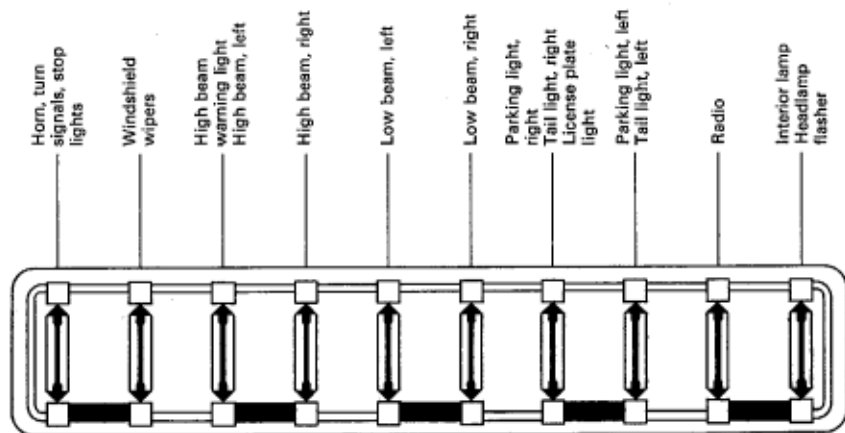
Remove screws on each side of lens and take off lens with bulb holder.

Pull bulb holder out of lens.

Press bulb lightly into holder, turn and take out.

Install new bulb.

When installing, ensure that the cable grommet fits properly.

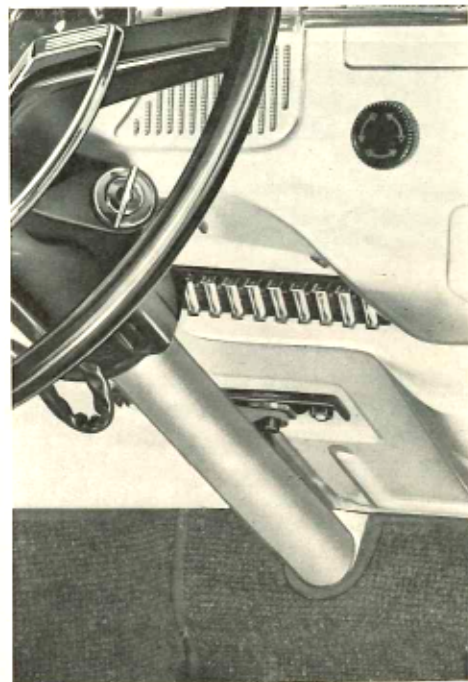


### Replacing fuses

The fuse box which has a transparent cover is located under the instrument panel near the steering column.

When a fuse blows, it is not sufficient to merely replace it with a new fuse. The cause of the short circuit or overload must be established.

On no account should fuses be patched up with tin foil or wire as this can cause serious damage elsewhere in the electrical system. It is advisable to always carry a few spare 8 ampere fuses on the vehicle.



### Checking battery

The ability of the engine to start readily depends to a great extent on the condition of the battery. For this reason the battery should be checked regularly and given a certain amount of attention.

To inspect the battery, lift the rear seat and take the cover off after releasing the securing strap.

Batteries with casings of light colored plastic do not have securing straps. They are secured to the floor plates with two small brackets. The cover is just pressed on.

To check the acid level, remove the plugs. The acid should always be just over the tops of the plates and up to the mark if there is one. Some batteries have a small plastic cup in the filler hole and others have a bar across the top of the plates. If the level is too low it must be topped up with distilled water only.

The acid level drops when the battery is charged due to the dissociation of the water used to dilute the acid and to a lesser extent, to evaporation. How often the battery has to be topped up depends mainly on operating conditions and indirectly on the time of year. When a vehicle is often driven long distances in the daytime with hardly any current being used, the battery will have to be topped up with distilled water much more often than in the case of a vehicle which is operating under different conditions. As a general rule, the battery acid level must be checked more often in the summer than in the winter. VW drivers in hot countries who do lot of driving are advised to check the battery at least every week.

Do not put in more water than is necessary because if the level is too high the acid will overflow and cause damage.

The terminals and connections should be kept clean and greased with battery terminal grease. Ensure that the ground connection to the body is free of corrosion and tight.

If you lay your vehicle up for a prolonged period, it is advisable to take the battery to a workshop. A battery which is not in constant use will discharge itself in time and this can cause permanent damage to the plates if the battery is not checked about every four weeks and charged as necessary.

### Important

When working on the battery, be very careful not to short the terminals as this causes the battery to heat up quickly and it may burst. Furthermore, the sparks can ignite the gas generated during the charging process.

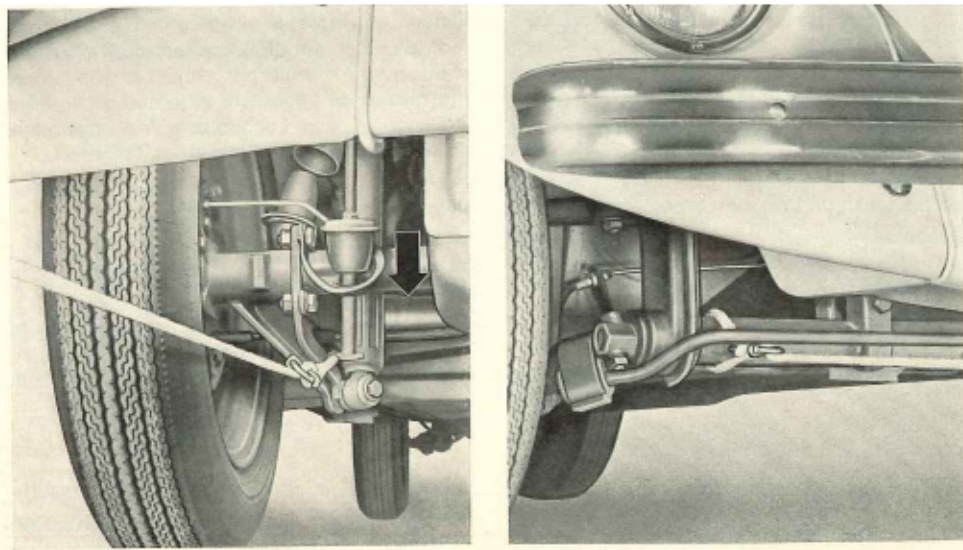




### Towing

Just in case you wish to attach a towrope to your vehicle one day, please note that the bumpers are not suitable for this purpose. If you do not expect the towing effort to be excessive, the rope can be attached at the rear to a lower shock absorber bracket. Otherwise we advise you to use the cross tube which houses the torsion bar for the rear suspension. Neither of these points are very easy to reach but they do at least ensure that your desire to help does not result in damage to your vehicle.

At the front the rope should be attached to the lower axle tube as near to the frame head as possible.



**Give your Volkswagen that individual touch.**

**Fit approved Volkswagen accessories**

Approved Volkswagen accessories are not just any old accessories. They have either been designed specially for the Volkswagen or selected from the vast range of accessories available and tested for use on the Volkswagen in the Volkswagen factory. The trademark "Approved Accessories" is your guarantee for material quality, good workmanship and reliability.

Approved VW accessories are supplied by your VW Dealer who will also fit them for you if necessary. You can fit lots of the accessories yourself.

<b>VOLKSWAGEN</b>	<b>Approved Accessories</b>
	<b>Accessoires Agréés</b>
	<b>Accessori Approvati</b>
	<b>Accesorios Aprobados</b>
<b>Erprobtes</b>	<b>Utprovade Tillbehör</b>
<b>Zubehör</b>	<b>Acessórios Aprovados</b>
	<b>Beproefde Accessoire</b>

## Proper lubrication

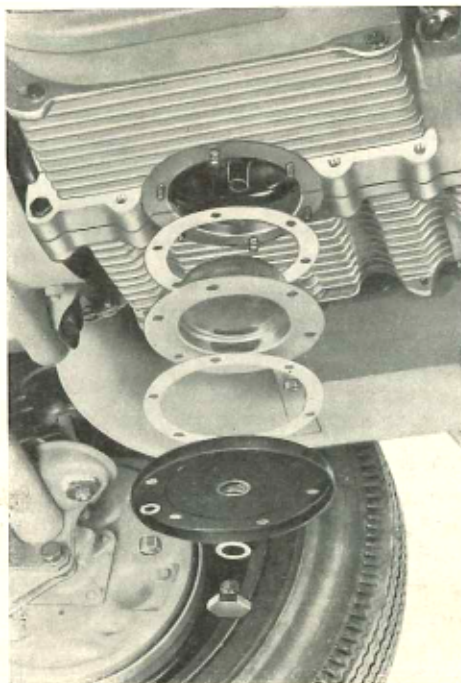
means regular and careful lubrication. The lubrication chart on page 54 shows you at which intervals the various point require your attention.

### Engine

Regular oil changes are necessary even if the very best brand of HD oil is used, because dirty oil in the engine means increased wear and reduces service life.

The oil is drained, when warm, by removing the plug in the oil strainer cover plate. Flushing is not necessary but the strainer must be removed and cleaned at every oil change. The gaskets and the copper washers under the cap nuts must always be renewed. The engine is then filled with 2.5 liters of HD oil (5.3 US pints/ 4.4 Imp. pints).

Due to the detergent properties of the HD oil, the fresh oil will look very dark after the vehicle has been running for only a short time. This need not worry you and under normal operating conditions there is no reason whatever to change the oil at shorter intervals than every 5000 km (3000 miles). We only recommend more frequent oil changes – every 2500 km/ 1500 miles – in the winter if you drive mainly short distances and in city traffic. If you only drive a few hundred miles a month under these conditions it is advisable to have the oil changed every 6 to 8 weeks. In countries with arctic climates where average temperatures are about  $-25^{\circ}\text{C}$  the oil should be changed every 1250 km (750 miles).



### Some more information about oil

Always use a good brand of gasoline engine HD oil for the engine of your Volkswagen. The quality of modern oils produced by reputable firms is so good that the choice of brand is left entirely to you. The VW engine makes no demands in respect of oil quality which cannot be fulfilled by every well known and popular brand. We advise you to select "your" oil at the first oil change at 1000 km (600 miles) and use the same brand whenever possible, because, from the lubrication point of view this is an advantage. On other hand you need not fear that your engine will be damaged in any way if sometimes you cannot avoid using another brand of oil for an oil change or to top up the level.

The classification of oil into various viscosity grades is shown by the designations SAE 30, SAE 20 W/20 and so on. The viscosity of a lubricant indicates its resistance to flow at a given temperature. The VW engine only requires two different viscosity grades which are used, according to season of year, as follows:

- |                                 |  |
|---------------------------------|--|
| SAE 30                          | In warm seasons and all the year in countries with hot climates.   |
| SAE 20 W/20<br>or<br>SAE 10 W*) | In the winter.<br><br>In areas where the average temperature is below $-15^{\circ}\text{C}$ ( $5^{\circ}\text{F}$ ). |
| SAE 5 W*)                       | In countries with arctic climates and temperatures below $-25^{\circ}\text{C}$ ( $-13^{\circ}\text{F}$ ).            |

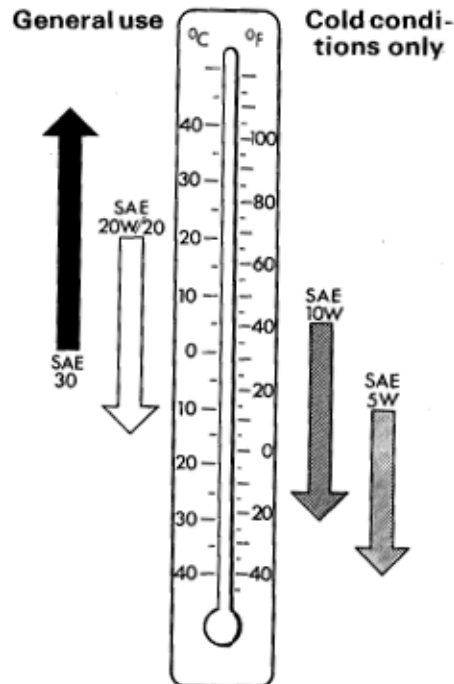
\*) Avoid driving at high speeds for long periods when using SAE 10 W oil and the outside temperature is above  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ ) or if using SAE 5 W oil when the temperature is above  $-15^{\circ}\text{C}$  ( $5^{\circ}\text{F}$ ).

All SAE grades cover a temperature range of about  $35^{\circ}\text{C}$  and the ranges of two neighbouring grades overlap by at least  $20^{\circ}\text{C}$ . Brief variations in temperature between seasons can therefore be disregarded. For the same reason it is also quite in order to mix oils of different viscosities when oil has to be added between oil changes and the viscosity of the oil in the engine no longer corresponds to the actual temperature.

In some countries, oils are classified according to the API system (American Petroleum Institute). Under this system HD oils suitable for the VW engine are designated "For Service MS".

No additives of any sort should be mixed with HD oil.

### Temperature ranges of SAE grades



## Transmission

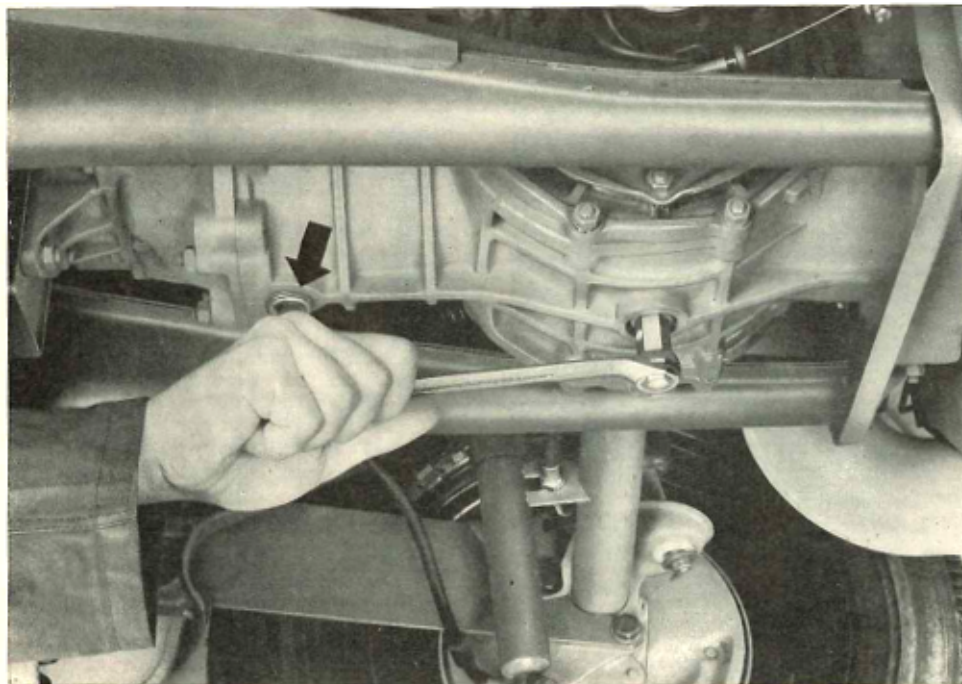
Transmission and differential are combined in one housing and both lubricated with the same hypoid oil. The oil should be up to the edge of the filler hole.

At oil changes the old oil should be drained when warm. The two magnetic oil drain plugs

must be cleaned carefully and 2.5 liters of good quality SAE 90 hypoid oil put in. In countries with arctic climates, the thinner SAE 80 should be used all the year.

The oil sometimes runs into the transmission housing very slowly. If one attempts to put the oil in too quickly it may overflow and give the impression that the housing is already full although actually only about 1–1.5 liters have been put in. It is essential to the service life and silent running of the rear axle that the correct amount of oil is used in the transmission.

**Additives should not be put into hypoid oil.**





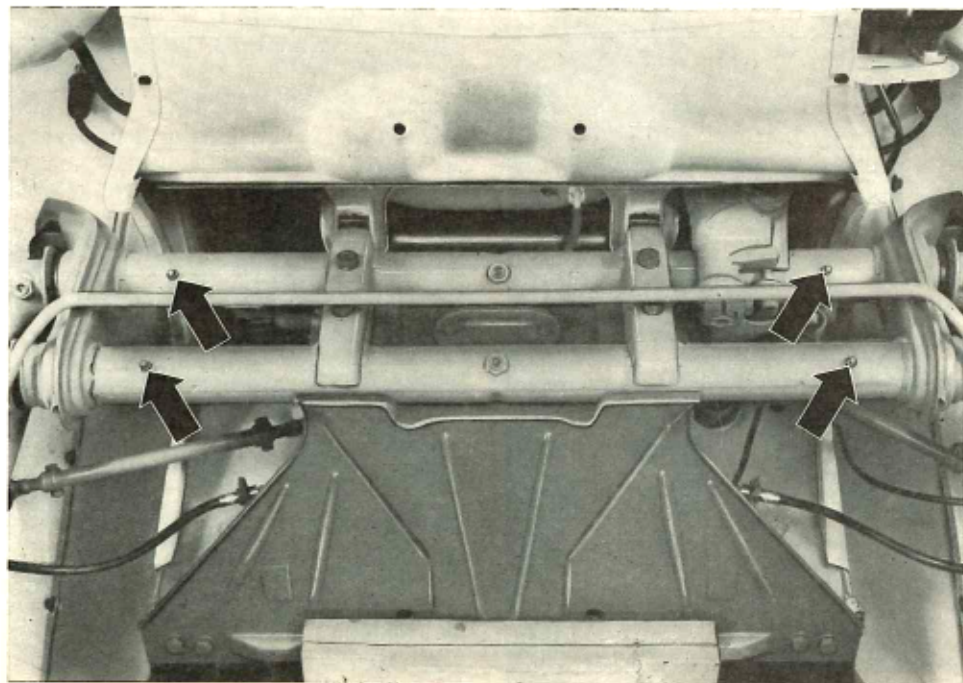
### Front axle

The front axle can only be lubricated properly when the axle is free of load, that is with the front end lifted.

There are four nipples on the axle tubes which must be lubricated with a lithium-based multi-purpose grease. The nipples and the grease gun nozzle should be cleaned carefully. Place gun on nipples and inject grease until fresh grease starts to come out at the torsion arm sealing rings.

Grease and oil must not be left on tires and brake hoses for long periods. Even small traces should be wiped off immediately.

If the vehicle is driven less than 10,000 kms per year, the front axle must be lubricated once a year.



## Doors and hoods

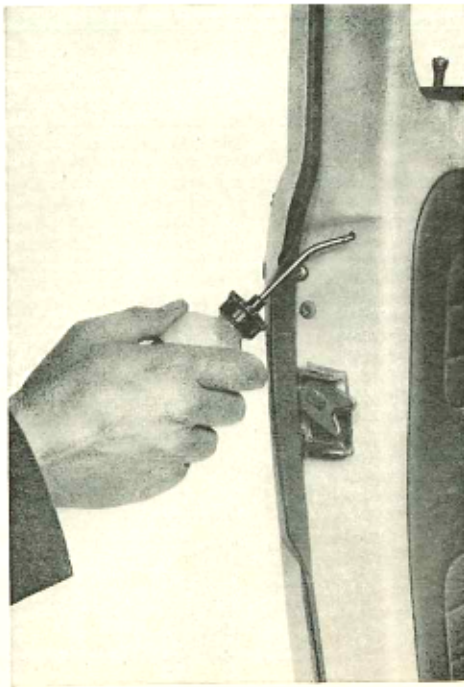
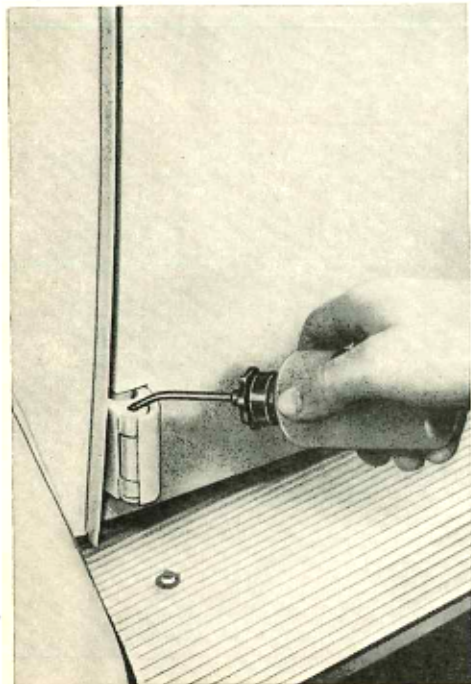
Above the hinge pins in the door hinges are small oil chambers which are sealed with plastic plugs. At least every 3 months the oil level should be checked after levering out the plugs with a small screwdriver. The chamber should

then be filled with SAE 30 engine oil. Any oil which overflows should be caught with a cloth, the plug pressed back in again and the hinge wiped carefully.

The door and hood locks and the hood hinges should be lubricated at the same intervals. The

door lock should be given a few drops of engine oil through a hole in the end of the door which is normally sealed with a plug. The hood hinges are also oiled and the hood locks greased lightly with petroleum jelly. Surplus oil on the hood hinges should be wiped off.

The lock cylinder is treated with graphite as necessary. The key can be dipped into the graphite and then turned in the lock a few times. The friction surfaces of the striker plates should be greased lightly with petroleum jelly.



### Air cleaner

A dirty cleaner element not only reduces the engine output it can also cause premature engine wear. If local conditions are such that the vehicle is often driven on very dusty roads, the cleaner must be checked frequently, even daily if necessary.

All the dust present in the air drawn in by the engine is retained by the filter element in the upper part of the air cleaner and washed out when the vehicle is in motion by the oil in the lower part. In time, this causes a layer of sludge to form at the bottom of the lower part. When there is only 4–5 mm of oil above the sludge layer, the lower part must be cleaned and filled with fresh oil. The cleaner must be removed to do this:

#### VW 1300 and 1200

Pull crankcase breather hose off air cleaner.

Pull pre-heater hose off air cleaner intake elbow.

Loosen air cleaner clamp screw and take cleaner off carburetor.

#### VW 1500

Pull crankcase ventilation hose – A – off the air cleaner.

Loosen clip – B – on hose for preheated intake air and pull hose off connection on air cleaner.

Hold screw – C – for warm air control flap cable with a pair of pliers and loosen hexagon nut.

Loosen screw – D – on outer cable retainer and pull cable out.

Loosen screw in air cleaner support bracket.

Loosen air cleaner clamp screw and take cleaner off carburetor.

Release the clips and take top part off. The top part must not be laid down with the filter element upwards.

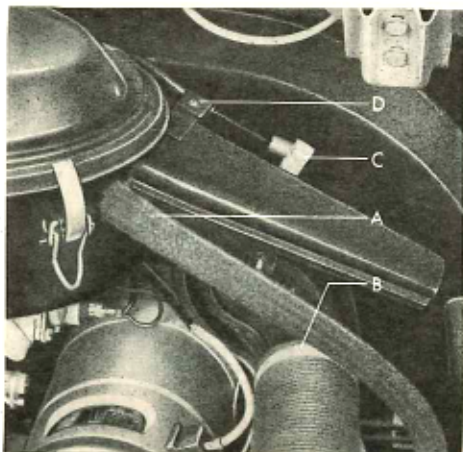
Clean bottom part carefully and fill to mark with fresh engine oil. The cleaner on the 1.2 and 1.3 liter engines requires 0.25 liter of oil and the 1.5 liter engine cleaner 0.4 liter. Use SAE 30 oil all the year. In countries with arctic climates use SAE 10 all the year.

The top part does not normally need cleaning. If the filter element has become so dirty due to delayed cleaning of the bottom part or oil shortage that the air inlet holes on the underside are partly blocked, the encrusted dirt should be scraped off with a piece of wood.

Check that the warm air control flap moves easily. The cleaner on the VW 1500 has two flaps. At temperatures above 50° F, the warm air control flap on the VW 1200 and 1300 models must be fixed open but at temperatures below 50° F the flap regulates the flow of pre-heated air to the carburetor according to the speed of the engine.

On the VW 1500 the left flap is always free to move but the right-hand flap is thermostatically controlled.

When installing the air cleaner, ensure that there is a uniform gap between the recess in the bottom of the cleaner and the housing of the automatic choke. Tighten the cleaner clamp screw carefully but do not overtighten it. On the VW 1500 connect the cable for the warm air control flap again. When doing this, push the outer cable into the retainer first and then push the cable into the clamp screw and secure both properly.



# Technical data

## Engine

Four cylinder, four stroke, horizontally opposed in rear · Air cooling by fan, thermostatically controlled · Pressure oil feed with gear-type pump · Oil cooler · Mechanical fuel pump · Downdraft carburetor with automatic choke and accelerator pump · Oil bath air cleaner with air pre-heater · Thermostatically controlled on the VW 1500

### 1.2 liter engine

Bore .....	77 mm (3.03 in.)
Stroke .....	64 mm (2.52 in.)
Capacity .....	1192 cc. (72.74 cu. in.)
Compression ratio .....	7.0:1
Maximum output DIN	34 bhp. at 3600 rpm.
SAE	41.5 bhp. at 3900 rpm.
Maximum torque DIN	8.4 mkg. at 2000 rpm.
SAE	65 ft. lbs. at 2400 rpm.
Average piston speed ..	7.68 m/s 1512 ft./min. at 3600 rpm.
Fuel consumption*) .....	approx. 7.5 liters per 100 km
	31 miles per US gallon
	38 miles per Imp. gallon
Fuel rating .....	87 Octane (Res. F 1)
Oil consumption .....	0.3-1.0 liter per 1000 km
	1.0-3.4 U.S. pints per 1000 miles
	0.9-2.9 Imp. pints per 1000 miles

Valve clearance with engine cold .....

inlet and exhaust 0.10 mm (.004 in.)

### 1.3 liter engine

Bore .....	77 mm (3.03 in.)
Stroke .....	69 mm (2.72 in.)
Capacity .....	1285 cc. (78.41 cu. in.)
Compression ratio .....	7.3:1
Maximum output DIN	40 bhp. at 4000 rpm.
SAE	50 bhp. at 4600 rpm.
Maximum torque DIN	8.9 mkg. at 2000 rpm.
SAE	69 ft. lbs. at 2600 rpm.
Average piston speed ..	9.2 m/s 1811 ft./min. at 4000 rpm.
Fuel consumption*) .....	approx. 8.5 liters per 100 km
	27.5 miles per US gallon
	33 miles per Imp. gallon
Fuel rating .....	87 Octane (Res. F 1)
Oil consumption .....	0.3-1.0 liter per 1000 km
	1.0-3.4 U.S. pints per 1000 miles
	0.9-2.9 Imp. pints per 1000 miles

inlet and exhaust 0.10 mm (.004 in.)

### 1.5 liter engine

Bore .....	83 mm (3.27 in.)
Stroke .....	69 mm (3.72 in.)
Capacity .....	1493 cc. (91.10 cu. in.)
Compression ratio .....	7.5:1
Maximum output DIN	44 bhp. at 4000 rpm.
SAE	53 bhp. at 4200 rpm.
Maximum torque DIN	10.2 mkg. at 2000 rpm.
SAE	78 ft. lbs. at 2600 rpm.
Average piston speed ..	9.2 m/s 1811 ft./min. at 4000 rpm.
Fuel consumption*) .....	approx. 8.8 liters at 100 km
	27 miles per US gallon
	32 miles per Imp. gallon
Fuel rating .....	91 Octane (Res. F 1)
Oil consumption .....	0.5-1.0 liters per 1000 km
	1.7-4.8 U.S. pints per 1000 miles
	1.4-4.0 Imp. pints per 1000 miles

inlet and exhaust 0.10 mm (.004 in.)

\*) Measured consumption plus 10%, with half load at a steady  $\frac{3}{4}$  of maximum speed on level road.

## Power transmission

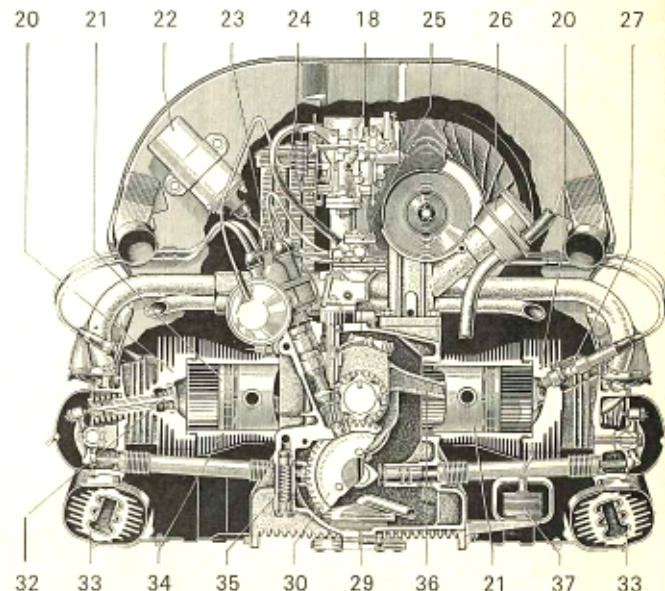
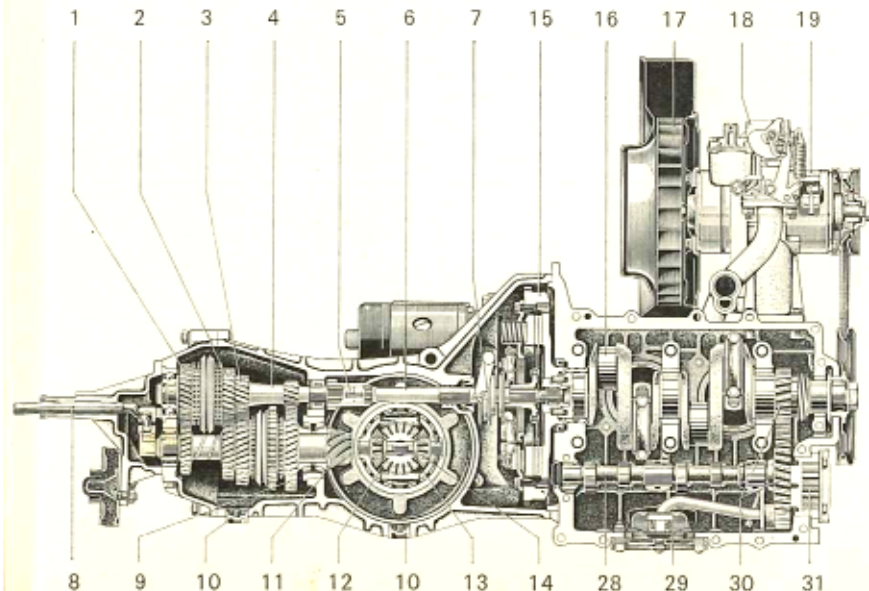
Single plate, dry clutch · Clutch pedal free play: 10-20 mm (.4-.8 in.) · Baulk synchronized four-speed gearbox with bevel gear differential in one housing · Swing axles · Gear ratios: 1st gear 3.80:1, 2nd gear 2.06:1, 3rd gear 1.26:1, 4th gear 0.89:1, Reverse gear 3.61:1 · Differential ratio: for 1.2 and 1.3 liter engines 4.375:1, for 1.5 liter engine 4.125:1



- 1 - 4th gear
- 2 - 3rd gear
- 3 - 2nd gear
- 4 - Drive shaft, front
- 5 - Reverse gear
- 6 - Drive shaft, rear
- 7 - Clutch release bearing
- 8 - Transmission shift lever
- 9 - 1st gear
- 10 - Oil drain plugs
- 11 - Drive pinion
- 12 - Differential side gear
- 13 - Differential housing

- 14 - Differential pinion
- 15 - Flywheel
- 16 - Crankshaft
- 17 - Fan
- 18 - Carburetor
- 19 - Generator
- 20 - Cylinder head
- 21 - Piston
- 22 - Ignition coil
- 23 - Distributor
- 24 - Oil cooler
- 25 - Fuel pump
- 26 - Oil filler and breather

- 27 - Spark plug
- 28 - Camshaft
- 29 - Oil strainer
- 30 - Camshaft drive gears
- 31 - Oil pump
- 32 - Valve
- 33 - Heat exchanger
- 34 - Cylinder
- 35 - Oil pressure relief valve
- 36 - Connecting rod
- 37 - Thermostat



## Chassis

Platform frame with tunnel-shaped center member · Front axle bolted to frame head, engine/transmission unit bolted to frame fork · Independent suspension: twin, cranked trailing arms at front, swing axles with trailing arms at rear · Torsion bar springing, double-acting telescopic shock absorbers, stabilizer at front, equalizer spring at rear · Roller steering with maintenance free tie-rods and hydraulic steering damper · Hydraulic foot brakes, dual circuit system on VW 1300 and 1500, disc brakes at front on 1500 · Mechanical hand brake effective on rear wheels.

Wheelbase .....	2400 mm (94.5 in.)
Turning circle diameter ..	11 m (36 ft.)
Track at front .....	1310 mm (51.6 in.) on vehicles with drum brakes 1316 mm (51.8 in.) on vehicles with disc brakes
Toe-in" .....	2 to 4.5 mm (.08 to .18 in.) unladen
Camber .....	30' ± 20' unladen
Track at rear .....	1350 mm (53.1 in.)
Wheels .....	4 J×15 Perforated wheel discs with drop center rims
Tires .....	5.60-15 4 PR tubeless
Tire pressure .....	With 1 or 2 occupants front 1.1 kg/cm <sup>2</sup> (16 psi), rear 1.7 kg/cm <sup>2</sup> (24 psi) With 3 or 5 occupants front 1.2 kg/cm <sup>2</sup> (17 psi), rear 1.8 kg/cm <sup>2</sup> (26 psi) For long, high speed motorways, the pressures should be increased by 0.2 kg/cm <sup>2</sup> (3 psi) at front and rear.

## Electrical system

Voltage .....	12 volt	VW 1200: 6 volt
Battery .....	36 Ah	VW 1200: 66 Ah
Starter .....	0.7 bhp	VW 1200: 0.5 bhp
Generator .....	max. 30 ampere	early cut in VW 1200: 45 ampere
Ignition distributor .....	with vacuum spark advance	
Firing order .....	1-4-3-2	
Basic ignition timing ...	7.5° before TDC	(Rotor arm towards No. 1 cylinder mark on edge of distributor housing and center mark on crankshaft pulley in line with crankcase joint).
Contact breaker gap ...	0.4 mm (.016 in.)	

Spark plugs .....	Bosch W 145 T 1 Beru 145/14 Champion L 95 y	or plugs with similar values from other manufacturers
Plug thread .....	14 mm	
Plug gap .....	0.7 mm (.028 in.)	

#### Dimensions and weights

	<b>Sedan</b>	<b>Convertible</b>	<b>VW 1200</b>
Length .....	4030 mm (158.6 in.)	4030 mm	4070 mm (160.2 in.)
Width .....	1550 mm (61 in.)	1550 mm	1550 mm
Height .....	1500 mm (59 in.)	1500 mm	1500 mm
Ground clearance .....	150 mm (5.9 in.)	150 mm	150 mm
Unladen weight .....	820 kg (1808 lbs.)	870 kg (1918 lbs.)	760 kg (1675 lbs.)
Permissible load .....	380 kg (837 lbs.)	360 kg (793 lbs.)	380 kg (837 lbs.)
Gross vehicle weight ..	1200 kg (2645 lbs.)	1230 kg (2711 lbs.)	1140 kg (2513 lbs.)
Permissible front axle load	490 kg (1080 lbs.)	500 kg (1110 lbs.)	490 kg (1080 lbs.)
Permissible rear axle load	730 kg (1609 lbs.)	740 kg (1631 lbs.)	710 kg (1565 lbs.)

#### Permissible trailer weights<sup>1)</sup>

Trailers with brakes ....	500 kg (1110 lbs.)	500 kg	500 kg
Trailers without brakes ..	400 kg (880 lbs.)	400 kg	400 kg
Caravans or trailers for carrying boats or gliders - with brakes .....	650 kg (1430 lbs.)	650 kg	650 kg

#### Permissible load on roof<sup>1)</sup>

Roof load <sup>2)</sup> .....	50 kg (110 lbs.)	—	50 kg
-------------------------------	------------------	---	-------

<sup>1)</sup> Subject to local regulations which may differ.

<sup>2)</sup> Use only roof racks which are supported in rain channel and ensure that load is distributed evenly.

## Capacities

Fuel tank .....	40 liters (10.6 US galls.; 8.8 Imp. galls.)
Engine .....	2.5 liters (5.3 US pints; 4.4 Imp. pints)
Rear axle and transmission	2.5 liters
Brake .....	approx. 0.25 liter (.53 US pints; .44 Imp. pints)
Oil bath air cleaner ....	approx. 0.25 liter (0.40 liter, 0.8 US pints; 0.7 Imp. pints on 1.5 liter)
Windshield washer .....	approx. 1 liter (2.1 US pints; 1.75 Imp. pints) engine

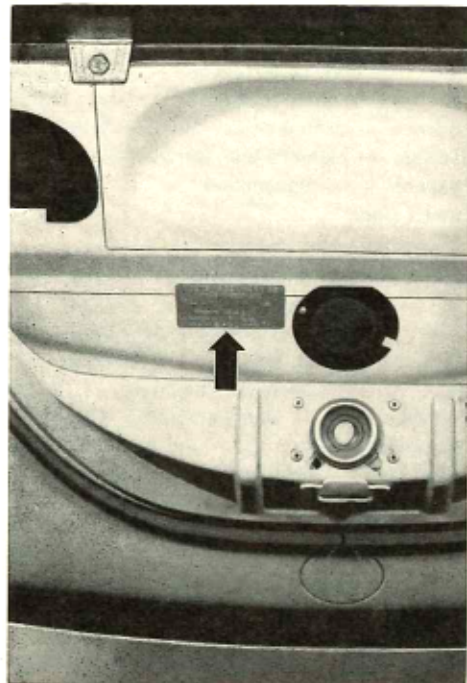
## Performance

	1.2 liter engine	1.3 liter engine	1.5 liter engine	
Maximum and cruising speed	115 kph. (72 mph.)	120 kph. (75 mph.)	125 kph. (78 mph.)	
Acceleration time from 0-80 kph. (0-50 mph.)	approx. 18 seconds	approx. 14 seconds	approx. 13 seconds	
Climbing ability			Sedan	Convertible
1st gear .....	41%	44.0%	46%	45%
2nd gear .....	21%	23.0%	24%	23%
3rd gear .....	12%	12.5%	13%	13%
4th gear .....	7%	8.0%	8%	8%

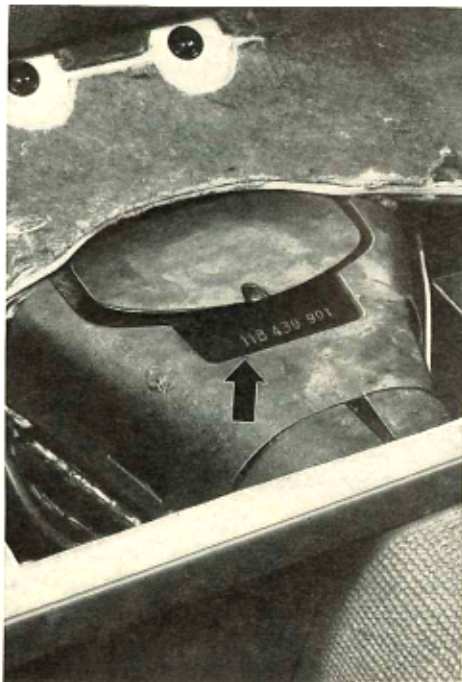


**The model designation and the Chassis and Engine numbers are entered in the vehicle documents. The police or Traffic Department attach much importance to these details.**

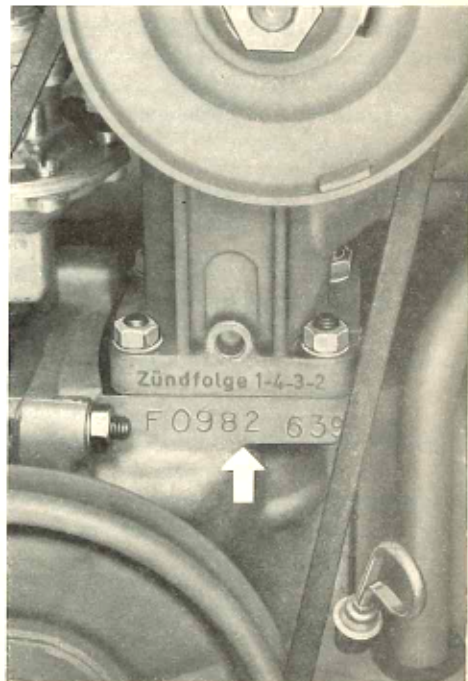
**The identification plate** is behind the spare wheel underneath the front hood.



**The chassis number** is on the frame tunnel under the rear seat.



**The engine number** is on the crankcase flange for the generator support.



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# The lubrication and maintenance charts

List all the operations which we specify for the lubrication and maintenance services. Having this work carried out regularly by an authorized VW Dealer is an essential part of the instructions regarding the operation of your Volkswagen. Please see paragraph 6 of our Warranty conditions in this connection.

Every VW Dealer is interested in keeping your Volkswagen reliable and roadworthy so please have the 3000 mile lubrication services carried out regularly by your VW specialist. If you drive hard or mainly in city traffic, it is advisable to ask him to check the brakes at the same time.

## Lubrication chart

Operation	W 1 At 800 to 1,200 km (500 to 750 miles)	WS 5 At 5,000; 15,000 km (3,000; 9,000 miles) and so on	W 10 At 10,000; 20,000 km (6,000; 12,000 miles) and so on
Engine: Change oil, clean strainer, check for leaks	x	x	x
Rear axle and transmission: Change oil, clean magnetic drain plugs, check for leaks	x		Only at 50,000; 100,000 km (30,000; 60,000 miles) and so on
Rear axle and transmission: Check oil level, add oil as necessary, check for leaks			x
Front axle: Lubricate torsion arm bearings			x
Door and hood locks, door hinges: Lubricate		x	x
Carburetor linkage: Lubricate			x
Air cleaner: Check, clean lower part if necessary and put fresh oil in			x
Battery: Check voltage and acid level, add distilled water if necessary Clean and grease terminals		x	x
Windshield washer: Fill	x	x	x

**Important!** If your Volkswagen is driven less than 10,000 km (6,000 miles) a year, have the torsion arm bearings in the front axle greased once a year. The door and hood locks and the door hinges should be lubricated at least every 3 months.

# Maintenance chart

Operation	W 1 At 800 to 1,200 km (500 to 750 miles)	W 10 At 10,000; 20,000 km (6,000; 12,000 miles) and so on
Rear axle shafts: Check security of nuts and tighten if necessary	x	
Fan belt: Check, tighten or replace if necessary	x	x
Fuel pump: Clean filter	x	x
Distributor: Lubricate, check breaker contacts and replace if necessary, adjust breaker gap and ignition timing	x	x
Engine: Adjust valve clearance and fit new cylinder head cover gaskets	x	x
Spark plugs: Clean, check and adjust gaps, check compression		x
Carburetor pre-heating: Check control flap		x
Crankcase ventilation: Check rubber valve and replace if necessary		x
Exhaust system: Check for damage		x
Clutch: Check pedal free play	x	x
Tie-rods: Check security, tighten if necessary, check seals	x	x
Lower steering ball joints: Check axial play		x
Steering ball joints: Check seals and security of plugs	x	x
		W 50 Only at 50,000 and 100,000 km (30,000 and 60,000 miles) and so on
Front wheel bearings: Clean, pack with grease and adjust (includes removing and installing both brake drums or discs)		
Front wheels: Check camber and toe-in	x	x
Steering gear: Check and adjust play between peg and worm		x
Wheels: Check security of wheel bolts and tighten if necessary, rectify tire pressures	x	
Tires: Check for wear and damage, rectify pressures		x
Brake system: Check lines, hoses and connections for leakage and damage. Check fluid level and top-up if necessary, adjust foot and handbrakes	x	x
Warning device for dual circuit brakes: Check operation of switch and lamp		x
Brake linings: Check thickness		x
Electrical system: Check operation, adjust headlamps	x	x
Wiper blades: Check and replace if necessary		x
Road test: Check efficiency of foot and handbrakes, check and adjust heating and idling. Check fresh air ventilation	x	x



## Genuine VW Parts



are the proper replacement parts for the Volkswagen. They guarantee accuracy, quality and reliability. Every part of the Volkswagen is available as a Genuine VW Part and all are naturally of the same high quality as the original parts on the vehicle when it leaves the factory. That is why Genuine VW Parts are covered by the same Warranty conditions as brand new vehicles. The genuine parts are expertly installed in every VW workshop.

Please consult your VW workshop on all questions concerning repairs. They will be pleased to advise you and your vehicle will be in good hands.

## VW Exchange Parts



Austauschdienst  
Exchange Service  
Service  
d'échange-standard  
Servizio rotazione  
Servicio de Canjeo  
Utbytessystem Serviço de Troca  
Ruil-Systeem

are also replacement parts for your Volkswagen just like the Genuine VW Parts. They are covered by the same Warranty conditions as Genuine VW Parts and are available in every VW workshop. But there is one difference: The price. VW Exchange Parts are cheaper than Genuine VW Parts but exactly the same in quality. The exchange parts are not new parts, but parts which have been reconditioned in the Volkswagen factory. That is why you have to hand in the old repairable part to get an exchange part.

