Instruction and Maintenance Manual



Key #

Customer identification card imprint



Customer identification card

This is another feature of Volkswagen Service that adds to your convenience. Just present this Manual whenever you stop for service at your Authorized Volkswagen Dealer. Your Identification Card will quickly furnish the Service Adviser with your name and address and all pertinent vehicle data.



VOLKSWAGEN

Instruction and Maintenance Manual

1967 Models

VOLKSVERGER

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1967 Madele

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It is advisable

to read the first part of this instruction manual, which deals with the operation of your Volks-wagen, 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 warranty voucher, terms of warranty and a punchcard for the free-of-charge maintenance service. The stamps in the squares show that the lubrication and maintenance services have been carried out regularly by an Authorized Volkswagen Dealer.

Only one key

is required to open the doors and start the engine. Be sure the key number is recorded in the front of the manual. If you should lose the key, you can obtain a replacement from your Authorized Volkswagen Dealer.



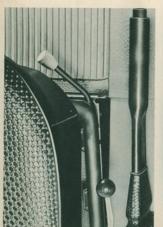
Sit down and make yourself comfortable . . .

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. After adjusting, be sure the seat is securely locked in position.

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 backrests have safety catches that 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.







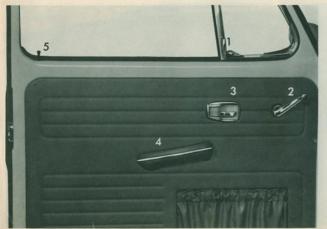
The doors ...

can be closed more easily if a window is opened slightly.

- 1 Vent wing fastener
- 2 Window crank
- 3 Inside door handle
- 4 Armrest and door closing grip
- 5 Locking knob

The doors cannot be opened until the locking knobs have been lifted.

When leaving the vehicle, just press the locking knob down and depress the button in the outer handle as you close the door. The vehicle is then locked





If the door closes by itself after the locking knob has been depressed, it will not lock because the locking knob will spring up automatically. This is an additional safety measure to prevent you from being locked out if the door should accidentally slam shut while the key is still inside the vehicle.

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 knobs and levers with the ignition switch on:



1 - Speedometer

The following warning lights are in the speedometer dial:

green – oil pressure red – generator and cooling blue – headlight high beam green arrows – turn signals

2 - Fuel gauge

When the needle is on line "R", there is about 1 gallon (4 liters) of fuel left in the tank – time to refuel at the next opportunity.

3 – Windshield wipers and windshield washer system

The two-speed wipers are controlled by turning the switch. They park automatically when switched off. The button in the switch knob controls the windshield washer.

4 - Light switch

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

The instrument lights are switched on and the brightness controlled by turning the lighting switch.

5 - Turn signal switch

Lever up - right turn signal Lever down - left turn signal

The turn signals are cancelled automatically after taking the corner. The small button in the lever switches the headlight beams up and down. A blue warning light in the speedometer dial shows when the headlight high beams are switched on.



6 - Emergency blinker switch

The emergency blinker switch is located on the dashboard underneath the windshield



wiper switch. If the vehicle is disabled or parked under emergency conditions, pull the switch to make all four turn signals blink at once. A warning light in the switch knob blinks when the system is turned on.

7 - Ignition switch

The ignition switch has three positions:

left - off center - on right - start

8 - Horn ring

9 - Ashtray

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

10 - Knob for front hood

To close the front hood, just press it down firmly until you hear it click.

On the Convertible, the knob is lockable so that luggage, spare wheel and fuel can be locked when the top is open.

11 - Defroster vents

Above the windshield . . .

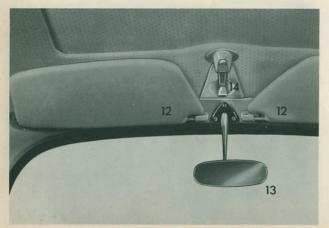
12 - Sun visors

You can pull the visors out of the center mounting and swing them toward the door windows to prevent glare from the sides.

13 - Rear view mirrors

Inner and outer mirrors are ball joint 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.



14 - Sliding roof (optional equipment)

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, then turn it back slightly until it can be folded into the recess.

In the footwell and between front seats ...

15 - Clutch pedal

16 - Brake pedal

17 - Accelerator pedal

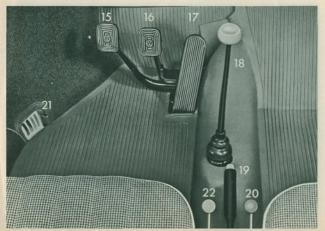
18 - Gearshift lever

19 - Handbrake

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

20 - Heating control levers

Lever up - heat on Lever down - heat 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.

21 - Heater control slides in front footwell

The flow of warm air into the front footwell can be controlled separately on each side by means of slides over the outlets.

22 - 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 — rear seat heat on Lever down — rear seat heat off

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 to prevent steaming up when 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 ...

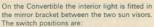
23 - Interior light

Switch positions:

Up - Light on only when doors are open

Center - Light off

Down - Light on

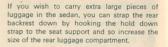


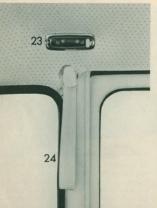
Up - Light on

Center - Light off

Down - Light on only when

doors are open





24 - Assist straps and coat hooks

25 - Ashtray

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

26 - Throwout windows

Optional rear opening throwout windows increase the ventilation of your Volkswagen. To open, loosen locking knob, pull knob to the rear and outward.

27 - Rear luggage compartment

The rear luggage compartment is readily accessible if you fold the rear backrest down. To do this, just unhook the rubber strap fitted on the top right of the backrest.



Seat Belts

The front seats of your Volkswagen are provided with lap-type, retractable safety belts. When not in use, the belts retract into plastic housings which are attached to the side members of the car in line with the lock pillars. When in use, the belts are extended and the buckles engage a chrome-plated stirrup mounted on the center tunnel.



Operation:

After sitting down and making yourself comfortable, pull the belt out of the housing and pass it across your lap to the center of the car. A light push of the center of the buckle against the stirrup will make the buckle engage with a click. If you have pulled out too much of the belt, the automatic retracting mechanism in



the housing will take up the slack until the belt contacts your body. It should fit snugly across the pelvic area. Be sure the belt is not twisted. Do not strap in more than one person with each seat belt.

To release the belt, grasp the buckle and pull upward. This opening direction is shown by an arrow. While you can disengage the buckle from the stirrup and just let the buckle go. allowing the retracting mechanism to roll the belt up automatically, we recommend that the belt be allowed to retract slowly into the housing to minimize wear on the mechanism.

The plastic housing can be swivelled upward and clipped to the lock pillar for easy entrance to the rear seat.

Check belts, buckles, retracters, and stirrup periodically to make sure they function correctly and that the webbing has not been damaged.

There are mounting points for rear seat belts to the left and right and underneath the center of the rear seat cushion.

Cleaning:

To keep belts clean, wash belts with mild detergent without removing from vehicle. Dry belts in the shade before allowing to retract. Do not bleach or dye the belts or use any other material to clean the belts because some of these agents can weaken the webbing.

Now let us have a look . . .

... in the front luggage compartment

The knob that releases the front hood is on the left under the dashboard. Whether you are taking a lot of luggage with you or not, load the front luggage compartment first, using the heaviest pieces of luggage if possible. The correct distribution of load means the best road holding, so take advantage of the possibilities

offered by the Volkswagen with its two luggage compartments.

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 35 psi (2.5 kg/cm). It is advisable to add a cleaning solution, such as Volkswagen's Windshield Washer Anti-Freeze and Solvent, to the water as clear water alone is usually not adequate to ensure that the windshield is cleaned quickly and properly.



Follow the directions on the container for the amount to be used

29 - Brake fluid reservoir

The container must be at least three quarter full. If this is not so, have your Authorized Volkswagen Dealer check the brake system.

30 - Jack

Operation of the jack is described together with wheel changing on pages 27 and 28.

31 - Spare wheel

Have the air pressure in the spare wheel checked from time to time. Inflate it to 28 psi which is the highest pressure you will normally require.

32 - Fuel tank

The tank holds 10.6 US gallons (8.8 Imp. gallons, 40 liters). The choice of fuel is left entirely to you. The Volkswagen will run satisfactorily on all gasolines which fulfill the octane requirements of the engine: (91 octane — Regular).

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

33 - Tools

In the tool bag you will find:

- 1 fan belt
- 1 hub cap remover
- 1 pair of combination pliers
- 1 screwdriver with reversible blade for slotted and Phillips screws
- 1 open-end wrench 8 mm/13 mm
- 1 socket for plugs, fan pulley and wheel bolts
- 1 socket wrench 14 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 driving off and when
on the move are given on pages 17 to 19.

When the sun is shining . . .





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

First release the catches above the windshield and move the top back. Now pull the top material out of the top linkage to the rear. Push the headlining inward 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 quickly as possible. Take the protective boot off, press the top down lightly so that the catches can be unhooked and pull the top forward. Pull it down on to the windshield frame with the handle until the guides engage in the retaining brackets, then fold the caps of the locks over the retaining lugs and set the two 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 in the tank, when full, is sufficient for 250-280 miles (400-450 kms).

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

The lights include headlights, taillights, license plate light, turn signals, back-up 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 faster than usual. The brake lights only work when the brake pedal is depressed, the back-up lights only when reverse gear is engaged.

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 so the dipstick reading will be accurate. Do not check the oil immediately after stopping the engine. Wait at least 5 minutes to give the oil in the engine time to drain down into the bottom of the crankcase.

Always try to use the same brand of HD engine oil. Further details about the viscosity of the oil to be used are given on page 42.

Tire pressures

Will the same	Front	Rear
with 1 to 2	16 psi	24 psi
occupants	(1.1 kg/cm ²)	(1.7 kg/cm ²)
fully loaded	17 psi (1.2 kg/cm²)	26 psi (1.8 kg/cm²)

For long, high-speed trips, the tire pressures should be increased by 3 psi (0.2 kg/cm²) at front and rear.

Two more important points:

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

The weighted flaps in the air cleaner intake pipes must be free to move in the winter and the cool seasons. If the average temperature is above 50° F (10° C), the flaps should be fixed open by jamming the levers under the ridge on the intake pipes.

2 – If the vehicle is used mostly 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 46.

Starting the engine



Before turning the ignition key, make sure that the gearshift 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 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. When the weather is very cold, the engine may turn over slowly during starting. In this case depress the clutch while cranking; if it turns over faster, hold the clutch down until the engine starts. When starting without depressing the clutch, be sure the handbrake is on and the gearshift in neutral.

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 immediately.

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 the non-repeat lock in the switch prevents the starter from being operated when the engine is running and thus being damaged. The warning lights in the speedometer which come on when the ignition is switched on, go out when the engine starts. Stop at once if one of these lights comes on when driving:

Red warning light for generator and cooling

Check the belt that drives the generator. If this belt breaks, the engine cooling fan also stops working. The proper way to fit a new belt is described on page 29.

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

Green warning light for oil pressure

If this warning light comes on when driving the flow of lubrication oil in the engine may be interrupted. Check the oil level first. Should the cause of the trouble be elsewhere, contact your nearest Authorized Volkswagen Dealer.

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:

1st gear: 0-15 mph (0-25 kph) 2nd gear: 6-35 mph (10-55 kph) 3rd gear: 18-55 mph (30-90 kph) 4th gear: 30 mph and up (45 kph and up)

When a particular traffic situation makes it essential to move rapidly, you can accelerate up to 37 mph (60 kph) in 2nd gear and up to



58 mph (95 kph) in 3rd gear for brief periods only. Bear in mind, however, that full throttle acceleration raises fuel consumption 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 and increased tire and brake lining wear.

You can drive very economically between:

6 and 22 mph (10 and 35 kph) in 2nd gear 18 and 34 mph (30 and 55 kph) in 3rd gear 28 and 60 mph (45 and 95 kph) in 4th gear

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 taking off and changing gears. He always depresses the clutch fully when shifting, he changes down into the appropriate gear in 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 excellent 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 60 mph for example, it is four times longer than at 30 mph. Apply the brakes in time, but do not use too much force — locked wheels increase the braking distance.

Water reduces the tire adhesion and the coefficient of friction of the brake linings, but we cannot do anything about this. You can, however, take care when driving and remain at a safe distance behind the preceding vehicle, particularly when roads are wet and slippery.

Always set the handbrake after parking your car. On steep hills turn the front wheels toward the curb.

That just about covers the operation of the car and how to drive it properly. The following pages deal with the 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 into the carburetor and to the engine cooling fan, Tires with badly worn treads are very dangerous, particularly in the winter, so ensure that they are replaced in time.

M+S tires with special heavy treads give good traction 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. Check your state laws before using spiked tires.

The specific characteristics of winter tires can be improved by raising the tire pressures to 3 psi (0.2 kg/cm²) above the normal operating pressure for the tire concerned. This inflation pressure than 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. In addition, under these conditions, M+S tires wear rapidly, particularly at high speeds.

Snow chains can be fitted to regular and winter tires on the rear wheels only. Only thin chains which do not protrude from the tire tread and inner side wall more than ½ inch including tensioner, are suitable. When driving over long stretches of road which are free of snow, the chains should be removed because they serve no useful purpose and 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 to a thinner grade of engine oil. Details of the various oils to be used are given on page 42. If you drive mostly short distances and in city traffic, especially in the winter, we recommend that you have the engine oil changed at shorter intervals, say every 1500 miles (2500 km). At other times, these additional changes are unnecessary and uneconomical.

In countries with arctic climates and temperatures below about —13° F (—25° C), the engine oil should be changed every 750 miles (1250 km).

Transmission oil of SAE 90 grade can generally be used all year round. Only in countries with arctic climates is it necessary to use the thinner SAE 80 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. Current consumption is higher when starting and the lights are on longer. A really cold battery which may not be fully charged has only a fraction of the capacity that a battery at normal temperature has, and this might not be enough to start a cold engine. If the car is only driven short distances and in city traffic, the battery may have to be charged from an external source from time to time.

Door locks can freeze 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 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.

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

Ice on windows can be removed quickly by using Volkswagen's Spray De-Icer - Part No. ZVW 241113

A clean smart car looks better

We have provided your vehicle with enamel 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 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 Authorized Volkswagen Dealer stocks 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 page 25.

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 panel and wheels with a fine soft spray first to loosen the dirt, then start at the top and wash downward. 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. Afterward, rinse all traces of the shampoo off with clear water and then wipe the vehicle dry to avoid water spots.

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 wipe 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.

Never wash, wax or polish the car in the sunshine

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

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. Afterward, the area concerned 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. Afterward, the paintwork should be washed, rinsed and wiped dry with a chamois.

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 afterward.

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 Volkswagen's Chrome Cleaner and Protection.

The windows can be cleaned with a sponge and clear water. Always use a clean chamois to dry the windows. This chamois 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 to clean the wiper blades.

The windshield wiper blades should be taken off from time to time and cleaned with a hard brush and alcohol 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 Volkswagen's All Purpose Cleaner. 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 removers or similar solutions, as this will damage the material. Stubborn spots can be removed by wiping with a cloth moistened with benzine and then rinsing well with a lukewarm soap solution.

The pivot points of the top linkage should be cleaned occassionally and a few drops of oil applied. Afterward 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 silicone spray.

Car care materials for the Volkswagen

Since beauty is "skin-deep", your Volkswagen has been given a pretty deep skin. Four layers, as a matter of fact. (Each coat of enamel sprayed on, sanded and baked individually). The items listed below will help you preserve the built-in beauty of your Volkswagen. Compounded especially for use on your VW, they are available at your local Authorized Volkswagen Dealer. Detailed instructions on how to use the various products are imprinted on the individual containers.

Application	Volkswagen Product	
Car Washing, Convertible Top Cleaning, Upholstery Cleaning, Whitewall Tire Cleaning	All Purpose Cleaner – ZVW 243101	
Paint Polishing and Paint Waxing	Combination Car Cleaner and Wax – ZVW 241 109	
Paint Polishing	Paint Polish - 000 096 001	
Paint Waxing	Paint Preservative - 000 096 011	
Care and Cleaning of Chrome Parts	Chrome Cleaner and Protection - 000 096 061	
Windshield Cleaning	Windshield Washer Anti-Freeze & Solvent - ZVW 241 101	
Paint Touch up	Touch up Paint, all colors	

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 soot 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 Volkswagen's All Purpose Cleaner. Use only a dry foam cleaner on the leatherette of the seats and backrests because the material used for these parts is air-permeable and liquid cleaners would penetrate into the textile backing.

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 alcohol. 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 mold and damp stains inside the vehicle.

The front seats. If the front seats become hard to slide, the runners should be lubed 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 seat 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 or silicone spray 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 imbedded material.
- 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 I_{fe} in. (1 mm) all round and on full tread width because this in 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 Authorized VW Dealer.

Just in case ...

you have to carry out a repair yourself we have included some information on the next few pages which should help you.

All other repairs should always be performed by an Authorized Volkswagen Dealer. The Volkswagen service organization offers you a wide spread network of authorized dealers staffed by skilled mechanics and equipped with all the special tools and appliances required. Whenever you set the familiar VW sign on the roadside, you can be sure of expert advice and quick, efficient assistance.

Wheel changing

Apply the hand brake.

Remove hub 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 socket wrench and bar.









Insert jack into socket 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 until the holes in the wheel are roughly in line with the threaded holes. Insert one bolt and tighten it until the wheel can be swung around to align the other holes.

Insert remaining bolts.

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

Insert bar in lower link of jack and lower the vehicle by pumping handle up and down.

Tighten the wheel bolts diagonally.

Install hub cap with a blow of the hand.

Adjusting or replacing the fan belt

The fan belt tension is correct when the belt can be pressed inward about. 6 in. (1.5 cm) at the center. The belt must not be too tight or too slack. A new belt may stretch slightly at first so it should be checked after about 300 miles (500 km) 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 tension is adjusted by varying the number of washers between the pulley halves. Taking washers out increases the tension, putting them in decreases it. Extra washers are stored on the outside of the pulley half.







Adjusting the carburetor

Each carburetor is checked at the factory and adjusted on the engine. Special knowledge and experience is required for checking and adjusting the carburetor with automatic choke and for carrying out repairs on the accelerator pump. For this reason, these operations should only be carried out by an Authorized Volkswagen Dealer. Do not alter the adjustment by replacing the jets with other than the prescribed sizes. This would be detrimental under normal operating conditions.

Only the idling speed may require-occasional readjustment. The adjustment must be carried out when the engine is at operating tempera-

ture. Check that the idling adjusting screw is no longer resting on the fast idle cam of the automatic choke.

Turn the idling adjusting screw until an idling speed of 700–800 rpm. has been attained (1). Turn the volume control screw clockwise until the engine speed begins to drop and then turn in the opposite direction to the point where the engine runs fastest (2).

If necessary, adjust idling screw again (1).

The adjustment is correct if the engine does not stall when the throttle is either suddenly opened or shut.

Poor idling may also be the result of damaged gaskets, loose intake manifold flanges, faulty ignition or leaky valves.





Cleaning fuel pump filter

Pull suction line off pump and seal it.
Remove plug and take filter out.

Wash filter in clean benzine and blow it out.

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

Ignition timing

Particular attention should be paid to correct ignition timing. In many cases, poor performance, high fuel consumption and even damage to the engine can be the result of incorrect ignition setting. The ignition should not be advanced arbitrarily.

Before setting the ignition timing, the breaker contact point gap must be checked. With the breaker arm fully lifted by the cam the clearance should be .016 in. (0.4 mm). The ignition must be set at 7.5° before top dead center.

Adjust ignition timing only with the engine cold or slightly warm.

Adjusting contact points

Remove distributor cap and rotor.

Turn the engine by means of the generator until the contact arm rests on the highest point of the cam lobe.

Loosen the breaker point locking screw.

Insert a screwdriver between the two lugs on the contact plate and the slot in the point carrier and adjust the gap to "a" = .016 in. (0.4 mm).

Tighten locking screw and install rotor.

After the contact points have been adjusted, the ignition timing must be reset.



Setting ignition timing

Turn the engine clockwise until the left-hand mark on the crankshaft pulley lines up with the crankcase joint and the distributor rotor arm is pointing to the number 1 cylinder mark on rim of distributor.

Loosen clamp screw on distributor retainer.

Connect a 12 Volt test lamp to terminal labeled No. 1 of the ignition coil and to ground.

Switch on ignition.

Rotate the distributor clockwise until the contact points are closed and then slowly counter-clockwise until the contact points just start to open and the test lamp comes on.



Tighten the clamping screw of distributor retainer.

Install distributor cap.

The ignition is correctly set if, on cranking the engine slowly clockwise, the test lamp comes on when the left-hand mark on the crankshaft pulley is in line with the crankcase joint. Beforehand, the engine should be turned back counter-clockwise approximately a quarter of a revolution to take up the clearance in the distributor drive.



Removing and installing spark plugs

Pull connector off.

Screw plug out with socket wrench and bar.

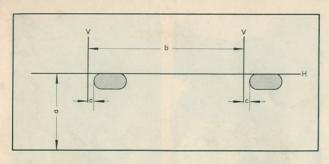
Dirty plugs should be cleaned with a sand blaster but in an emergency, the carbon can be removed with a chip of wood. Do not use a wire brush. The plugs should also be clean and dry on the outside as well in order to avoid shorting and tracking. The gap can be set by bending the outside electrode. The gap should normally be .028 in. (0.7 mm), but when the weather is very cold it can be reduced to .016-.020 in. (0.4--0.5 mm) temporarily to facilitate starting.

Take care not to crossthread the plugs when inserting them, and tighten them firmly, but not overtight.

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







a = Height of headlamp center from floor b = Distance between headlamps (39.5 in.) c = 2 in.

Headlight adjustment

It is best to check the headlight alignment with a regulation screen or aiming device. If none is available, proceed as follows:

Adjust tires to correct pressures and park vehicle on level surface squarely facing a wall or screen 25 feet in front of the headlights. The driver's seat must be loaded with one person or a weight of 154 lbs. (70 kg).

Measure height (a) of center of headlights from ground and draw a horizontal line (H) on screen at this height the full width of the vehicle.

Opposite the center of each headlight, draw vertical lines (V) intersecting the horizontal. These lines should be 39.5 in, apart, Drawing

a vertical line for the center of the vehicle might help aligning vehicle with screen.

Loosen the screw in the center below the headlight and take the trim ring off.

Aim the headlights individually by turning the two aiming screws with low beams switched on. Cover up the second headlight.

The headlights are correctly aimed when the top edge of the high intensity zone is on the horizontal line H and the left edge is 2 in. to the right of the vertical line V.

Check with your State Bureau of Motor Vehicles for variations from these dimensions.

A - Lateral aim
B - Vertical aim







Bulb replacement

Sealed-Beam

A double filament, type 2, seven inch sealedbeam unit of domestic manufacture is used in your Volkswagen. Should it become necessary to replace the unit, loosen screw in the center below the headlight and take the trim ring off. Remove three screws in sealed-beam retaining ring and take ring off.

Take sealed-beam unit out of support ring and pull cable connector off.

When installing new sealed-beam units, ensure that the three glass lugs engage properly in the support ring.

Check headlight settings.

Front turn signal and parking light bulb

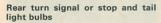
Remove Phillips screw.

Take housing and lens off.

Press bulb into holder lightly, turn and take out.
Install new bulb.

When inserting the bulb, the retaining pin nearest to the bulb glass must be downwards. When fitting housing, ensure that gasket is located properly.





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

Bulb positions:

Top - turn signal Bottom - stop and tail

Press bulb lightly into holder, turn and take out.
Install new bulb

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.



Back-up light bulb

Unscrew the two lens securing screws until the rim and lens can be taken off.

Take reflector out of housing.

Press bulb lightly into reflector, turn and take out.

Install new bulb.

When fitting rim, ensure that rubber seal is located properly.

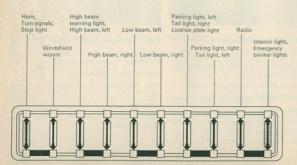
Bulb Chart	U.S. Replace- ment bulbs	VW Part Number
Headlights	. 6012	111 941 261 A
Front park/turn, tail/stop lights	. 1034	N 177382
Rear turn signal	. 1073	N 177322
License		N 177192
Back-up lights	. 1073	N 177102
Speedometer, fuel gauge, warning lights		N 177222
Interior light		N 177232
Warning light for emergency flasher system		N 177512

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 with tinfoil or wire as this can cause serious damage elsewhere in the system. It is advisable to always carry a few spare 8 ampere fuses in the vehicle.

Fuse box





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.

When the rear seat is lifted, the filler plugs can be removed from the battery. The electrolyte level should always be just above the plate tops. If the level is too low, add distilled water,

The electrolyte level drops when the battery is charged due to the dissociation of the water used to dilute the electrolyte 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 operated under different conditions. As a general rule, the battery electrolyte level must be checked more often in the summer than in the winter. WV drivers in hot countries who do a lot of driving are advised to check the battery at least once a week.

Do not put in more distilled water than is necessary because if the level is too high, the electrolyte will overflow when the battery is being charged 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.

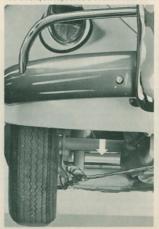
If you store your vehicle for a prolonged period, it is advisable to take the battery to an Authorized Volkswagen dealer. A battery which is not in constant use will discharge itself in time and this can cause permanent damage to the plates if the battery is not checked about every four weeks and charged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



Towing

Just in case you wish to attach a towrope to your vehicle, 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.





Here is what to do when trouble troubles you

Your Volkswagen should repay you with trouble free driving if it receives regular preventive maintenance.

Should you ever encounter difficulty in starting your engine or have trouble on the road, there are a few simple repairs which you can make to get your VW going again. Locate the problem and probable cause of your trouble in the guide on the following pages and follow the directions on what to do.

If the trouble is serious or you are uncertain as to its origin, be sure to see an Authorized Volkswagen Dealer as soon as possible.

Problem	Probable Cause	What To Do
VW will not start: engine will not turn over	1. Run down or dead battery	Push to start the vehicle (turn on ignition, put in 3rd gear at a speed of approximately 20 mph release clutch slowly). Have battery charged and cause of high current consumption checked
or turns over too slowly	Loose connection A. At battery B. At starter C. At connections behind dash board	Make sure that all connections are tight A. Check both cable connections on battery and grounded end of ground strap B. Check connections at solenoid, mounted on starter, under right rear of vehicle C. Check push-on connectors behind dash board
	3. Starter defective	3. Have vehicle started by pushing and take it to nearest Authorized VW Dealer
VW will not start:	4. Loose connection in ignition system	Check for loose connections at coil, distributor and spark plugs
VW will not start: engine turns over 5. Loose connection in ignition system 5. Loose connection in primary circuit to coil 6. If spark at black coil cable, trouble is in ignition system	5. Turn on ignition. Remove thin black cable from ignition coil, hold it by insulation and strike against blower housing or other ground, being careful of gasoline and its fumes. If no spark, electricity does not reach coil from batter, Chack push-on connectors behind das board, if still no spark, see the nearest Authorized VW Dealer.	
	6. Check in this sequence: A Jurn on signition, remove distributor cap, and turn engine by fan belt until the ignition point are closed. Open and close ignition points several times with a nonmetal object. A visible audible spark will appear between the points. If this is not the case, the cables on ignition coil and distributor should be checked for tiphiton Clean and adjust points. If even then no spark is visible, see your nearest Authorized VW Deale	
		B. If spark appears at points, remove high tension wire from center of distributor cap and hold against a metal part of the engine at a distance of approximately ¼". Switch on ignition are turn over engine or open ignition points as described under A. A strong blue spark must appear if this is not the case, see your Authorized WD bealer.

Problem	Probable Cause	What To Do
VW will not start: engine turns over		C. If a spark appears at high tension cable, the distributor cap should be cleaned inside and outside. Reconnect high tension cable. Remove all spark plugs. If plugs are clean and dry, reconnect ignition cables to spark plugs and thing spark plugs in connection with metal (ground). Hold cable with dry piece of cloth to avoid shock. A spark should appear between spark plug electrodes when the engine is turned over. If not, clean and dry ignition cables and spark plug connectors and check that ignition cables are tight in distributor cap and plug connectors. See your Authorized VW Dealer if the above steps did not ensure proper ignition
		D. Dirty or wet spark plugs should be cleaned and dried. Install new plugs if necessary. Unburned gasoline on plug electrodes points to excessive fuel supply.
	If spark is fairly good at plugs, trouble is most likely in fuel system	7. Check fuel system in the following sequence:
	A. Caused by improper starting procedure. If the gas pedal is depressed too often, the accelerator pump in the carburetor injects too much gasoline	A. Depress gas pedal completely and operate starter for a prolonged period. If engine does not start, remove and dry spark plugs, turn over engine with plugs removed for approximately 30 seconds. Reinstall plugs and start engine
	B. Carburetor may be flooded, float or needle valve may be sticking	B. Tap around outside of carburetor with wooden or plastic tool handle. Wait a few minutes and try starting again as described at 7 A.
Engine stalls shortly after starting	Poor fuel supply Automatic choke does not open, excessive fuel supply	See paragraph 11 through 13 Check whether choke valve is in vertical position after ignition has been switched on for 2–5 minutes (depending on outside temperatures). Cover for choke unit must be hot. If choke valve is binding in a closad position open at fast idle cam and, if necessary, retain with wire. See your Authorized VW Dealer
Engine stalls while	10. Defect in ignition system	10. See paragraph 4 through 6
vehicle is driven	11. Fuel supply is exhausted	11. Check whether any gasoline is left in tank
	12. Fuel filter pump may be clogged	12. Disconnect intake fuel line from fuel pump and plug up line. After removing the screw plug, the fuel filter can be taken out for cleaning
	13. Gasoline may be contaminated by water, dust or dirt	13. See your VW dealer for cleaning of all components of the fuel system
Green warning light comes on while you are driving	14. If green light goes on, the oil pressure is too low	14. Stop at once and check oil level. Add oil as necessary. If the oil level is sufficient and green light goes on during driving, contact the nearest Authorized VW Dealer before driving on
Red warning light comes on while you are driving	15. If red light goes on, V belt may be torn or generator does not charge	15. If belt drives generator without slipping, switch off all unnecessary electrical equipment (radio, etc.). Drive to nearest WV dealer as otherwise the battery will soon get run down. If bc.t is broken, replace it before driving or

Proper Iubrication

means regular and careful lubrication. Page 55 shows you at which intervals the various points require 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 5.3 US pints of HD oil (2.5 liters/4.4 lmp. pints).

Due to the detergent properties of 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 3000 miles (5000 km). We only recommend more frequent oil changes - every 1500 miles (2500 km) - in the winter if you drive mostly 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 -13° F (-25° C) the oil should be changed every 750 miles (1250 km).





Some more information about oil

When changing and topping up the oil, try to always use the same brand of HD oil. 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. It is best to select "your" oil at the first 300 mile oil change and stick to this brand on all occasions. Should you have any doubts at all, your Authorized VW Dealer will be pleased to advise you.

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 usually requires only two different viscosity grades which are used, according to season of year, as follows:

SAE 30	In warm seasons and all year round in countries with hot climates

SAE 20 W/20 In the winter.

SAE 10 W*) In areas where the average temperature is below 5° F (-15° C).

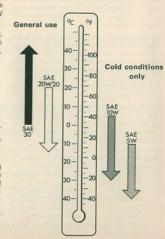
SAE 5 W*) In countries with arctic climates and temperatures below -13° F (-25° C).

All SAE grades cover a temperature range of about 35°C and the ranges of two neighbouring grades overlap by at least 20°C. Brief variations in temperature between seasons can therefore be disregarded. For the same reason, it is also alright 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. The same brand of oil must be used, however.

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



or

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

Transmission

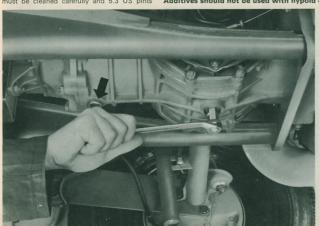
Transmission and differential are combined in one housing and both lubricated with the same hypoid oil. The oil should be up to the edge of the filler hole.

At oil changes, the old oil should be drained when warm. The two magnetic oil drain plugs must be cleaned carefully and 5.3 US pints

(2.5 liters) of quality SAE 90 hypoid oil put in. Only in countries with arctic climates is it necessary to use the thinner SAE 80 transmission oil.

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 full although actually only about 2–3 pints 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 used with hypoid oil.



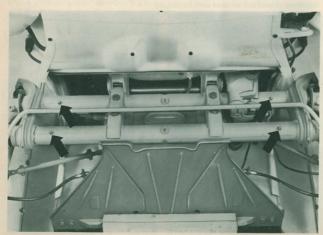


Front axle

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

There are four nipples on the axle tubes which must be lubricated with a lithium-based multipurpose grease. The nipples and the grease gun nozzle should be cleaned carefully before greasing commences. 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 6000 miles (10,000 kms) per year, the front axle must be lubricated once a year.



Doors and hoods

At least every three months, the door hinges should be lubricated. There is a small slot at the top of each hinge for this purpose. Wipe the hinges clean first and then put a few drops of oil into the slots. Any oil which drips off the hinges should be removed with a cloth.

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 edge of the door which is normally sealed with a plug. The hood hinges are also oiled and the hood locks

lightly lubricated. 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 lubed lightly.





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.

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 $^3t_{cb}$ in. (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:

Pull crankcase breather hose off air cleaner.

Pull pre-heater hoses off air cleaner intake pipes.

Remove screw from air cleaner support bracket.

Loosen air cleaner clamp screw.

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.

Oil viscosity: SAE 30 all the year. In countries with arctic climates only, SAE 10 W should be used 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.

When installing the cleaner, ensure that the space between the intake pipes and the fan housing is uniform. Tighten the clamp screw carefully but do not overtighten.

Check that the warm air flaps in the intake pipes move freely. At temperatures above $50^{\circ}F$ ($10^{\circ}C$) these flaps should be fixed in position but at temperatures below $50^{\circ}F$ ($10^{\circ}C$) they should be free to move and regulate the flow of warm air according to the speed of the engine.



Technical data

Engine

Four cylinder, four stroke, horizontally opposed, in rear. Air cooling by fan, thermostat 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-heaters.

Bore								-	-		3.27 in. (83 mm)
Stroke											2.72 in. (69 mm)
Capacity							,		,	,	91.10 cu. in. (1493 cc)
Compression ratio								1			7.5:1
Maximum output SAE	(0)			×.							53 bhp. at 4200 rpm.
Maximum torque SAE											78.1 lb. ft. at 2600 rpm.
Average piston speed .											
Valve clearance with eng	ine	cold	5.0								intake and exhaust .004 in. (0.10 mm)
Fuel consumption1)		2 .					-				
											Metric - 8.8 liters per 100 km
											Imp 32.1 miles per gallon
Fuel rating	-				-				-		91 Octane Regular
Oil consumption				*							
											Metric - 0.5-1.0 liters per 1000 km
											Imp 1.4-2.9 pints per 1000 miles

¹⁾ Measured consumption plus 10%, with half load at a steady % of maximum speed on level road.

Power transmission

Single plate, dry clutch

Baulk synchronized four-speed gearbox and bevel gear differential in one housing

Swing axles

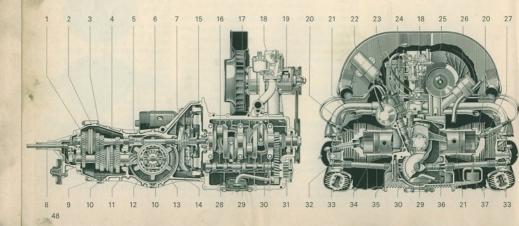
Gear ratios: 1st gear 3.80:1, 2nd gear 2.06:1, 3rd gear 1.26:1, 4th gear 0.89:1, Reverse gear 3.88:1
Differential ratio: 4.125:1

Clutch pedal free play: .4-.8 in. (10-20 mm).

- 1 4th speed gears 2 - 3rd speed gears
- 3 2nd speed gears 4 - Main drive shaft, front
- 5 Reverse gear
- 6 Main drive shaft, rear 7 - Clutch release bearing
- 8 Transmission shift lever
- 9 1st speed gears
- 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 gear 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 link arms at front, swing axles with spring plates 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 dual-circuit foot brakes

Mechanical hand brake effective on rear wheels

Wheelbase 94.5 in. (2400 mm)
Turning circle diameter 36 ft. (11 m)
Track at front 51.4 in. (1305 mm)

Toe-in .08 to .18 in. (2 to 4.5 mm) unladen

Camber 30'±15' unladen

Track at rear 53.5 in. (1358 mm)
Wheels 4 J × 15 Perforated w

Wheels 4 J × 15 Perforated wheel discs with drop center rims

Tires 5.60×15 4 PR tubeless

Tire pressures 5.60×15 4 PR tubeless
With 1 or 2 occupants:

front 16 psi (1.1 kg/cm²), rear 24 psi (1.7 kg/cm²)

With 3 or 5 occupants:

front 17 psi (1.2 kg/cm²), rear 26 psi (1.8 kg/cm²)

For long, high speed trips, the pressures should be increased by

3 psi (0.2 kg/cm²) at front and rear.

Electrical system

 Voltage
 12 volts

 Battery
 36 Ah

 Starter
 0.7 bhp

Generator max. 30 ampere, early cut in lgnition distributor with vacuum spark advance

Firing order 1–4–3–2
Basic ignition timing 7.5* before TDC
Contact breaker gap .016 in. (0.4 mm)

	Spark plugs Plug thread Plug gap	Bosch W 175 T 1 Beru 175/14 Champion L 87 y 14 mm .028 in. (0.7 mm)	or plugs with similar values from other manufacturers
Dimensions and weights		Sedan	Convertible
	Length Width Height Ground clearance Unladen weight (ready for use) Permissible load Gross vehicle weight Permissible front axle load Permissible rear axle load	13 ft. 4 in. (4070 mm) 60.6 in. (1540 mm) 59.0 in. (1500 mm) 6.0 in. (152 mm) 1764 lbs. (800 kg) 838 lbs. (380 kg) 2602 lbs. (1180 kg) 1080 lbs. (490 kg) 1565 lbs. (710 kg)	13 ft. 4 in. (4070 mm) 60.6 in. (1540 mm) 59.0 in. (1500 mm) 6.0 in. (152 mm) 1852 lbs. (840 kg) 794 lbs. (360 kg) 2646 lbs. (1200 kg) 1080 lbs. (490 kg) 1565 lbs. (710 kg)
Capacities	Fuel tank Engine Rear axle and transmission Brake system Oil bath air cleaner Windshield washer	10.6 U.S. galls (40 liters; 8. 5.3 U.S. pints (2.5 liters; 4. 5.3 U.S. pints (2.5 liters) approx53 U.S. pints (0.25 approx8 U.S. pints (0.4 lit approx. 2.1 U.S. pints (1 lit approx. 2.1 U.S. pints (1 lit	4 Imp. pints) 5 liter; 44 Imp. pints) ter)
Performance	Maximum and cruising speed Acceleration time from 0–50 mph. (0–80 kph.) Climbing ability 1st gear 2nd gear 3rd gear 4th gear	78 mph. (125 kph.) approx. 13 seconds Sedan Convertible 46% 45% 24% 23% 13% 13% 8% 8%	

The identification plate is found under the front hood behind the spare tire. The 9 digit number after the words "Fahrgest. Nr." is the chassis number. It describes the model number, model year and serial number of the vehicle as shown in this sample:

11 7 000001

Model Year Serial Number



The Chassis Number is also found on the frame tunnel under the rear seat.

The Engine Number is on the generator support flange.





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VOLUME Approved Accessories Accessoires Agrées Accessori Approvati Accesorios Aprobados Utprovade Tillbehör Acessórios Aprovados Beproefde Accessoires



APPROVED VOLKSWAGEN ACCESSORIES are not just any old accessories. They have either been designed especially 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 quarantee for material quality, good workmanship and reliability.

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

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 new vehicles. The genuine parts are expertly installed at any Authorized Volkswagen Dealership.

Austauschdienst Exchange Service Service d'échange-standard Servizio rotazione Servicio de Canjeo Utbytessystem Servico de Troca Ruil-Systeem VW EXCHANGE PARTS 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 Dealership. 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.

Please consult your Authorized Volkswagen Dealer on all questions concerning repairs. He will be pleased to advise you and your vehicle will be in good hands.

Lubrication and maintenance

A. The free maintenance Service at 300 miles - W 1 - consists of the following:

Oil Change

- Engine: Change oil, clean oil strainer. Check for leaks.
- 2 Transmission: Change oil, clean magnetic drain plugs. Check for leaks.
- 3 Windshield washer: Check fluid.

nga oil alaan magaatia

drain plugs. Check for leaks.

Maintenance Service

The Mechanic:

- 1 Check rear axle shaft nuts, tighten if necessary.
- 2 Check V belt, adjust if necessary.
- 3 Clean fuel pump filter.
- 4 Check contact points, lubricate distributor, adjust ignition timing.

- 5 Adjust valve clearance.
- 6 Adjust clutch pedal free-play.
- 7 Check dust seals on ball joints and tie rod ends. Check tie rods, tigthen if necessary.
- 8 Check front wheel camber and toe-in.
- 9 Check tire pressures. Check wheel bolts, tighten if necessary.
- 10 Check brake system for damage and leaks, check brake fluid level, add if necessary. Adjust foot and hand brakes.
- 11 Check operation of electrical system and headlight adjustment.

The Service Adviser (Quality Control)

During roadtest:

Check efficiency of braking, steering and heating systems. Check overall performance.

After roadtest:

Check cylinder head covers for leaks. Check and adjust idling.

B. An oil change service every 3,000 miles - WS 5 - consists of:

- 1 Engine: Change oil, clean oil strainer. Check for leaks.
- 2 Door and hood locks, door hinges: Lubricate.
- 3 Carburetor linkage: Oil.
- 4 Battery: Check, add distilled water if necessary, clean and grease terminals.
- 5 Windshield washer: Check fluid.

C. A lubrication and maintenance service every 6,000 miles - W10 consists of:

Lubrication Service

- 1 Engine: Change oil, clean oil strainer.
 Check for leaks.
- 2 Transmission: Check oil level, add if necessary. Check for leaks.
- 3 Front end: Lubricate.
- 4 Door and hood locks, door hinges: Lubricate.
- 5 Carburetor linkage: Oil.
- 6 Air cleaner: Check, clean lower part if necessary and fill in fresh oil.
- 7 Battery: Check, add distilled water if necessary, clean and grease terminals.
- 8 Windshield washer: Check fluid.

Maintenance Service

The Mechanic:

1 - Check V belt, adjust if necessary.

- 2 Clean fuel pump filter.
- 3 Check contact points, replace if necessary: Lubricate distributor, adjust timing.
- 4 Adjust valve clearance.
- 5 Clean spark plugs, check and adjust plug gap. Check compression.
- 6 Check control flap for carburetor preheating.
- 7 Check rubber valve for crankcase ventilation, replace if necessary. Check exhaust system for damage.
- 8 Adjust clutch pedal free-play.
- 9 Check dust seals on ball joints and tie rod ends. Check tie rods, tighten if necessary.
- 10 Check front wheel camber and toe-in.
- 11 Steering gear: Check and adjust play between roller and worm.
- 12 Check tires for wear and damage, check tire pressures.
- 13 Check brake system for damage and leaks, check brake fluid level, add if necessary. Adjust foot and hand brakes.

- 14 Check thickness of brake linings.
- 15 Check operation of electrical system, and headlight adjustment.

The Service Adviser (Quality Control)

During roadtest:

Check efficiency of braking, steering and heating systems. Check overall performance.

After roadtest:

Check cylinder head covers for leaks. Check and adjust idling.

 In addition, every 30,000 miles, the transmission oil is changed
 W 10 - and the front wheel bearings repacked - W 50.



MAINTENANCE CARD The Importance of Preventive Maintenance

- 1. You naturally expect your Volkswagen to be reliable and economical and to last a long time, no matter how many miles you travel, how you drive or how bad the weather and roads are. This Maintenance Card in the Instruction Manual with its reminders for regular lubrications and maintenance services will help you achieve this.
- 2. The empty spaces will tell you when oil changes, lubrications and maintenance services are due. These maintenance services keep your Volkswagen in good running condition and contribute to your safety and help retain your vehicle's value. The mileages printed in the spaces tell you at a glance when the next oil change, lubrication or maintenance service is due.
- 3. Just hand this Instruction Manual to an Authorized Volkswagen Dealer he will do the rest. The details are subject to
- 4. The first oil change and maintenance service at 300 miles and the oil change at 3 000 miles are particularly important if your Volkswagen is to be properly broken in so that it can enjoy a long, trouble-free life. This Maintenance Card contains a punchcard for the free-of-charge maintenance service at 300 miles.
- 5. From 6 000 miles onward, the combined lubrication and maintenance service should be performed every 6 000 miles. Engine oil should be changed every 3 000 miles. If your Volkswagen is driven less than 3 000 miles in 3 months, have the oil changed every 3 months: If driven less than 6 000 miles in 12 months, have the front end lubricated once a year.
- Every Authorized Volkswagen Dealer at home or abroad guarantees to perform all the operations listed for maintenance and lubrication services in accordance with Volkswagen quality standards.

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for the new VW	automobile WWWWWWWWWWWWWWW
Type: 1	3/50 to the transfer to the tr
Chassis No.	117793609
Facine No.	4 1806 844

In accordance with the terms of warranty printed overleaf.

100 (000
VW-WERK AG
WOLFSBURG
Grand W Selvey

EXPORT

The warranty commences at the date the VW automobile is delivered to the original purchase

viz. on 216 1000

and covers a period of 6 months of the period before the vehicle has been driven 6000 miles. Whichever event shall first occur. Should any warranty claim arise, you are requested to submit this voucher to your VW Dealer.

VOLKSWAGENWERE JAKTIENGESELLSCHAFT

GARAGE

Warranty of Volkswagenwerk Aktiengesellschaft for New Volkswagen Automobiles and Genuine Volkswagen Parts

This warranty applies to automotive vehicles of Volkswagenwerk Aktiengesellschaft (VW) of all models and types, as well as parts for such automotive vehicles (including exchange units), to the extent that such automotive vehicles and parts are supplied by VW (VW Products). This warranty covers parts manufactured by VW itself, as well as such parts which VW acquires from other manufacturers and either installs or supplies as parts.

- 1. Warranty claims can be made only through an authorized VW dealer or authorized VW repair shop They must be made forthwith upon ascertainment of the defects. The repairs must be performed in the repair shop of an authorized VW dealer or in an authorized VW repair shop.
- 2. VW warrants VW Products to be free of defects in material and workmanship according to current industrial standards. The warranty becomes effective at the time of delivery of the VW Product by the authorized VW dealer, or the authorized VW repair shop, to the customer. The warranty expires six months thereafter or when the VW Product has been driven or used over a distance of six thousand miles, whichever event shall first occur.

As to VW vehicles assembled outside of Germany, the warranty of VW is limited to those components which are supplied by VW.

The obligation under this warranty is limited, at the election of VW, to the replacement or repair of such parts as shall be acknowledged by VW to be defective in material or workmanship. At the request of VW, parts to be replaced must be exhibited or shipped from the office where the claim is made through the proper distributor or Exclusive Importer to VW or its designee. All parts which shall have been replaced shall become the property of VW.

No charge will be made to the customer with respect to the removal or installation of parts or with respect to freight incurred pursuant to this warranty.

4. This warranty is expressly in lieu of all other express or implied warranties, obligations or 7. Normal wear and tear is excepted from the liabilities of VW and of the selling dealer, whether for direct or consequential damage or otherwise. Including obligations for breach of express or implied conditions and including.

but not by way of limitation, express or implied warranties of merchantability or fitness for any particular purpose.

- 5. There shall be no right of rescission or to a reduction of the purchase price unless VW should not be in a position to cure the defect.
- 6. The warranty is fully discharged:
 - a) If the VW Product has been interfered with by unauthorized persons in any manner not approved by VW; or
 - b) If parts have been installed the use of which has not been approved by VW: and if in the sole judgment of VW the damage is causally related to the interference in case (a) or to the installation of unapproved parts in case (b).

The warranty will also be fully discharged if the customer has not complied with the instructions (Instruction Manual) of VW for the operation of the VW Product.

warranty. The same applies to damage brought about by negligent or improper handling, including, but not by way of limitation, damage due to storage or corrosion.

Delivery	300 m	300 miles W 1					
Inspection	Engine and Transmission Oil change	Free Maintenance Service	WS 5 Oil change				
(Dealer Stamp) Importateur GARAGE Martin O CH	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)				
Date 1.1 (7)	Date	Date	Date				
Miles	Miles	Miles	Miles				

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6 000 miles	9 000 miles	12 000 miles	15 000 miles	18 000 miles	21 000 miles
W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date	Date	Date	Date	Date	Date
Miles	Miles	Miles	Miles	Miles	Miles
24 000 miles	27 000 miles	30 000 miles	30 000 miles	33 000 miles	36 000 miles
W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service, Trans- mission Oil change	W 50 Repack front wheel bearings	WS 5 Oil change	W 10 Lubrication and Maintenance Service
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date	Date	Date	Date	Date	Date
Miles	Miles	Miles	Miles	Miles	Miles
39 000 miles	42 000 miles	45 000 miles	48 000 miles	51 000 miles	54 000 miles
WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date	Date	Date	Date	Date	Date
	50.0	00.0		-	-

War	57 000 miles	60 000 miles	60 000 miles	63 000 miles	66 000 miles	69 000 miles
This w Volksw models automo the ext are sur	WS 5 Oll change	W 10 Lubrication and Maintenance Service, Trans- mission Oil change	W 50 Repack front wheel bearings	WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change
covers as such factures	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
1, Warr			Western Company of the Company of th		A STATE OF	
shop	Date	Date	Date	Date	Date	Date
tainn	Miles	Miles	Miles	Miles	Miles	Miles
vw	72 000 miles	75 000 miles	78 000 miles	81 000 miles	84 000 miles	87 000 miles
2. VW in to curre come	W 10 Lubrication and Maintenance Service	WS 5 Oil change	W 10 Lubrication and Maintenance Service	, WS 5 Oil change	W 10 Lubrication and Maintenance Service	WS 5 Oil change
the a The when over ever	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
	Date	Date	Date	Date	Date	Date
	Miles	Miles	Miles	Miles	Miles	Miles
1000	90 000 miles	90 000 miles	93 000 miles	96 000 miles	100 000 miles	100 000 miles
	W 10 Lubrication and Maintenance Service, Trans- mission Oil change	W 50 Repack front wheel bearings	WS 5 Oil change	W 10 Lubrication and Maintenance Service	W 10 Lubrication and Maintenance Service, Trans- mission Oil change	W 50 Repack from wheel bearings
	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
© 196	Date	2.4		-		
All rigi		Date	Date	Date	Date	Date
Typ 1 u	Miles	Miles	Miles	Miles	Miles	Miles

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