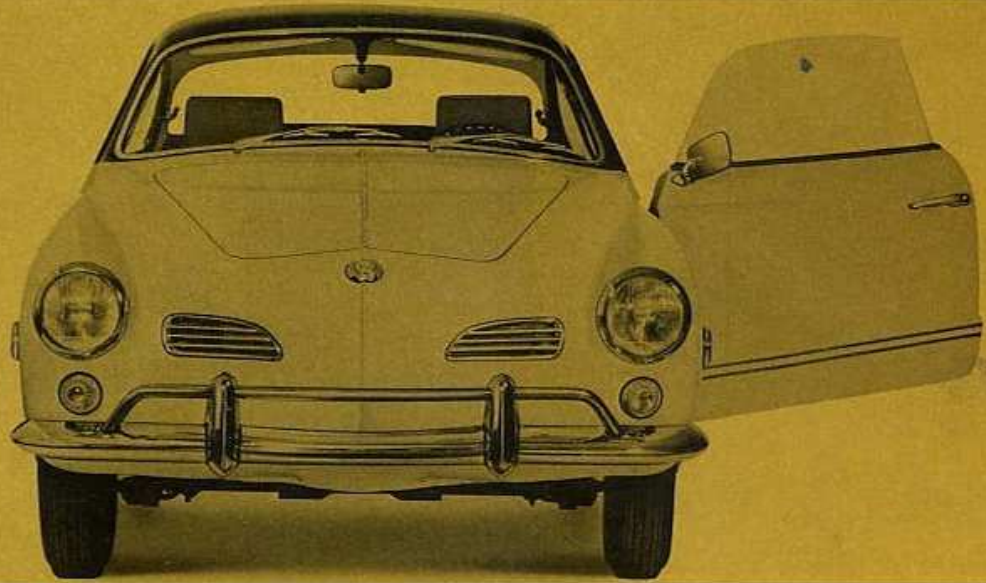


# Owner's Manual

Volkswagen Karmann Ghia 1969



ENGINE #  
H5897093  
CHASSIS #  
149863903  
LICENSE #  
ZOX 821

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 Owner's Manual

1969 Models

## Warranty Voucher

for the new VW automobile

Type: \_\_\_\_\_

Chassis No. \_\_\_\_\_

Engine No. \_\_\_\_\_

In accordance with the **terms of warranty** printed overleaf.

(Stamp of Selling  
VW Dealer)

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

viz. on \_\_\_\_\_  
(To be filled in by selling VW Dealer)

and covers a period of 24 months or the period before the vehicle has been driven 24,000 miles, whichever event shall first occur. Should any warranty claim arise, you are requested to submit this voucher to your VW Dealer.

VOLKSWAGEN OF AMERICA, INC.



No warranties, express or implied, as to Volkswagen vehicles sold in the United States are made either by Volkswagen of America, Inc. or by the manufacturer or by the selling dealer, except the following warranty by Volkswagen of America, Inc.

## Warranty for new Volkswagen vehicles

This warranty is issued by Volkswagen of America, Inc. ("VWoA"), the authorized United States importer of Volkswagen vehicles.

**Free repair or replacement  
in United States and Canada  
of defective parts  
for 24 months or 24,000 miles**

**Maintenance and validation  
by owner required to keep  
warranty in effect**

**Items not covered by warranty**

1. VWoA warrants that every Volkswagen vehicle imported by VWoA and sold as a new vehicle to a retail customer by an authorized United States Volkswagen dealer will be free from defects in material and workmanship under normal use and service for 24 months after the date of delivery of the vehicle to the original retail customer or until the vehicle has been driven 24,000 miles, whichever comes first. This warranty is limited, however, to the following: If any part of the vehicle becomes defective during this period, under normal use and service and the vehicle is brought to the workshop of any authorized Volkswagen dealer in the continental United States, Hawaii or Canada, the dealer will, without charge, either repair the defective part or replace it with a new or factory reconditioned part.

2. In order to keep this warranty in effect the owner must do two things:  
FIRST: The owner must have the vehicle maintained and serviced as prescribed in the Volkswagen Maintenance Schedule. (See page 56)  
SECOND: Every twelve months during the warranty period the owner must obtain from an authorized United States Volkswagen dealer a Validation Stamp on the Maintenance Card to show that the vehicle has been maintained and serviced in accordance with the Volkswagen Maintenance Schedule. Validation will be made upon presentation of bills or other evidence sufficient to satisfy the dealer that the required service and maintenance have been performed. The validated Maintenance Card must be submitted whenever a claim is made under this warranty.

3. VWoA's warranty does not cover:  
(i) Defects, damage or deterioration due to normal use, wear and tear or exposure; (ii) normal maintenance services, such as fuel system cleaning and wheel, brake or clutch adjustments; (iii) the replacement of service items, as, for instance, spark plugs, ignition points, V-belts, wiper blades or brake and clutch linings; (iv) deterioration of upholstery, soft trim and appearance items; (v) damage or defects due to misuse, alteration, negligence or accident; and (vi) damage or defects due to the repair of the vehicle by someone other than an authorized Volkswagen dealer or the installation of parts other than genuine Volkswagen parts.



**Warranty outside United States and Canada**

4. If the vehicle is brought to an authorized Volkswagen workshop outside the continental United States, Hawaii or Canada, VWoA's warranty will not be applicable, and defective parts will be repaired or replaced free of charge with new or factory reconditioned parts only within the terms and limitations of the warranty for new Volkswagen vehicles in effect in the country where such authorized Volkswagen workshop is located.

**No other warranties made**

**5. This warranty is in lieu of all other express or implied warranties of VWoA, the manufacturer and the selling dealer, including any implied warranty of merchantability or fitness for any particular purpose. Neither VWoA nor the manufacturer assumes, or authorizes any person to assume, on its behalf, any other obligation or liability.**

**Let us explain the warranty . . .**

Volkswagen of America, Inc. is proud of the quality of automobiles it imports. It warrants new vehicles for a period of 2 years or 24,000 miles from the date of purchase, whichever comes first. In general, but subject to certain exceptions stated in the warranty, the complete vehicle including battery and tires is covered under the provisions of the Volkswagen New Vehicle Warranty. It will be honored by any Authorized Volkswagen Dealer in all 50 States, the District of Columbia and Canada.

This warranty is transferable if the ownership of the vehicle changes within the above period.

In order to keep the warranty in force, you as the owner of the vehicle have certain responsibilities. It is important that the vehicle be maintained properly. To facilitate record keeping, this booklet provides on pages 58 to 61 space for listing maintenance services and oil changes as they are performed. **We recommend that maintenance services are performed by Authorized Volkswagen Dealers. They offer with their factory-trained mechanics and special tools fast, efficient service in accordance with Volkswagen quality standards.**

Validation is a requirement of the Volkswagen New Vehicle Warranty. One year after the date of delivery, the warranty must be validated for the second year. This can be done at any Authorized Volkswagen Dealership in the USA or Canada. For that purpose, you should present to the Authorized Volkswagen Dealer the maintenance record for your vehicle. Provided that maintenance services and oil changes were performed in accordance with Volkswagen specifications, dated bills of other than Authorized Volkswagen Dealers will be accepted as proof that these services were performed on time.

Not all repairs, adjustments and replacements, however, are the result of defects in material or workmanship. There are other circumstances beyond the control of the manufacturer that might make a workshop visit necessary. These depend mainly on where you drive and how you drive. They would include weather and atmospheric conditions, varying road surfaces, individual driving habits and vehicle usage.

**For example, you are required to pay for the following:**

**Maintenance services and oil changes**

**Wheel alignment and wheel balancing** – the frequency of such services depends on driving conditions such as rapid starts and stops, tire skidding, hitting pot holes and curbs, etc.

**Mechanical adjustments** – including brake, clutch, door locks are required as a matter of normal operation of a motor vehicle. This protects you against early or expensive replacements.

**Brake and clutch linings** – are directly affected by driving habits and use. The replacement of these linings and the reconditioning of brake drums should be performed whenever necessary.

**Spark plugs and ignition points** – are subject to wear. Periodic replacements ensure you of maximum engine performance and gasoline economy.

**Wiper blades** – life expectancy will vary widely depending on climatic conditions and extent of use. You are the best judge to decide when they should be replaced.

**Light bulbs and fuses** – are service items.

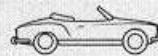
**Paint, chrome, convertible top, trim and other appearance items** – are affected by normal wear and exposure. Proper care of these items can add to their appearance and durability. (Imperfections are normally apparent during New Vehicle pre-delivery inspection. For your protection, please report any imperfection to your Dealer immediately after you notice it.)

**Tires and batteries** – are subject to wear. If there is a defect you pay only for the amount of use you have gotten. An adjustment for tires is based on the remaining tread depth, for batteries on time used based on 36 months of service. This is known as the pro-rata method of adjustment.



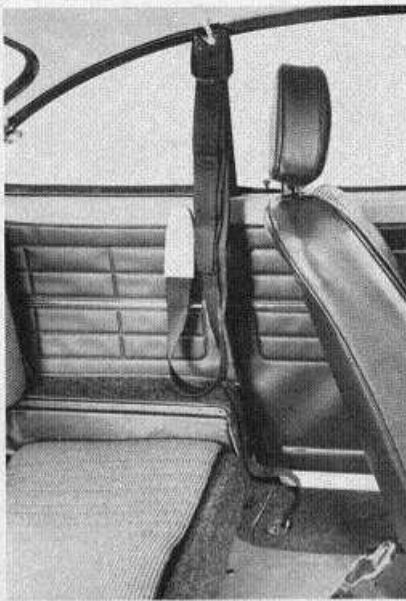
# Insert

for Instruction and Owner's Manual



1969 Models

Please note that your Karmann-Ghia is equipped with special seat belts. This is contrary to the information given on page 14 of the Instruction Manual and page 13 of the Owner's Manual.



Occupants of the vehicle should wear the belts at all times. Shoulder belts should not be worn by persons less than approximately 55 inches in height.

Each of the front seats is equipped with a combination lap/shoulder belt that is completely adjustable to fit different sized people and to allow for seat and backrest adjustment. When not in use, the belt should be hung on the hook behind the seats by means of the hole in the buckle. This prevents the belt from lying about and getting dirty and keeps the belt handy.

**Operation:** After sitting down and adjusting the seat and backrest positions, pull the belt buckle across in front of you 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. Be sure the belt is not twisted. Adjust lap and shoulder belt by pulling belts until they fit snugly across body. Take up any slack by moving the slide.

To lengthen either section of the belt, release buckle from stirrup, hold buckle at a right angle to belt and pull belts through buckle. No further adjustment should be necessary if the same person uses the seat belt each time.

To release the belts, grasp the buckle and pull upward.

This opening direction is shown by an arrow on the buckle.



**Do not strap in more than one person with each belt.**

**Cleaning:** To keep belts clean, wash belts with mild detergent without removing from vehicle. Dry belts in the shade until they are completely dry. 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.

Check buckles and fittings periodically to make sure they function correctly and belts to ensure that the webbing has not been damaged.

## Dear VW Owner:

### Congratulations!

You have just purchased one of the finest automobiles that rigid quality controls and thorough inspections can produce. Yet for all its advanced engineering and in spite of all the precision skills that have gone into it – your VW is only as good as its driver. To help you enjoy all the good miles your VW was designed to give we recommend the following good driver procedures:

#### Before starting out:

- 1 – Observe tread depths of tires. Look for wear.
- 2 – Check that all windows are clean inside and out.
- 3 – Position seat properly for easy reach of controls.
- 4 – Adjust inside and outside mirrors for unobstructed rear view.
- 5 – Check brake operation and brake warning light (ignition on).
- 6 – Check turn signal indicators both inside and out (ignition on).
- 7 – Fasten seat belts.

Once you get this check list habit (Airline Pilots use one all the time), you will wonder why everyone does not drive this way.

#### Once you are underway:

- 1 – Always drive defensively. Expect the unexpected.
- 2 – Use signals to indicate lane changes.
- 3 – Turn on headlights at dusk.
- 4 – Follow at a safe distance. A good rule of thumb is to allow a minimum of one car length for each 10 mph of speed.
- 5 – Reduce speed during night hours and inclement weather.
- 6 – Observe speed limits and obey highway signs.
- 7 – When overly tired, stop, get off the roadway and take a rest.
- 8 – Use emergency lights when stalled or stopped for repairs.

1

**Volkswagenwerk AG**  
certifies to the dealer that this  
vehicle conforms to all US federal  
motor vehicle safety standards  
applicable at time of manufacture.

This sticker assures you that your 1969 Volkswagen complies with all US Motor Vehicle Safety Standards which were in effect at the time when the vehicle was produced.



The tires of your Volkswagen conform to the US Motor Vehicle Safety Standards. When purchasing replacement tires, make sure that they show the same specifications for tire size, load carrying capacity etc. This also applies to VW recommended alternate replacement tires.

2



## Contents

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All pictures are of the Karmann Ghia Coupé with four speed synchromesh transmission and the text is based on this vehicle. Where the controls, equipment and technical data of the Automatic Stick Shift and the Convertible differ considerably, attention is drawn to the difference.

Specifications are subject to alterations without notice.



## Getting acquainted

### It is advisable

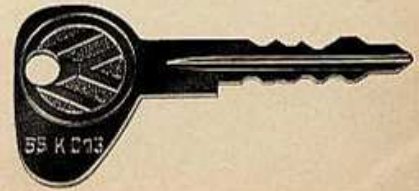
to read this Owner's Manual carefully. You will then get to know your new car quickly and will be able to start off on your first trip with complete confidence. As you will notice your Volkswagen has many features designed with your safety in mind.

The first part of this manual deals with the operation of your Volkswagen. 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. It further contains information on lubrication and maintenance, and some interesting technical data.

Additionally, this book contains the warranty voucher and the terms of warranty as well as a punchcard for the free-of-charge maintenance service and a maintenance schedule. An easy-to-use maintenance record provides a stamping field, so you can tell at a glance when a maintenance service is due. The stamps in the squares show that the oil changes and maintenance services have been carried out regularly.

### 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.



5

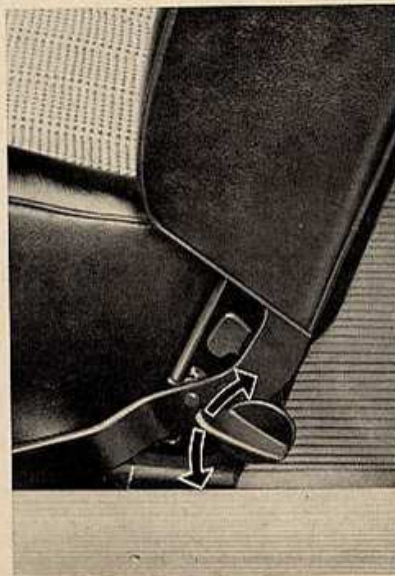
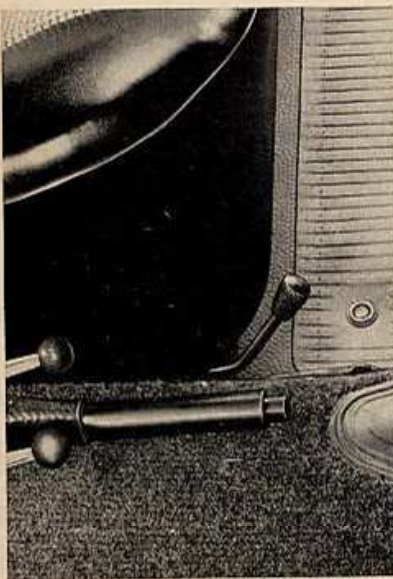
## Sit down and make yourself comfortable

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 righthand 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 angle 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.



6



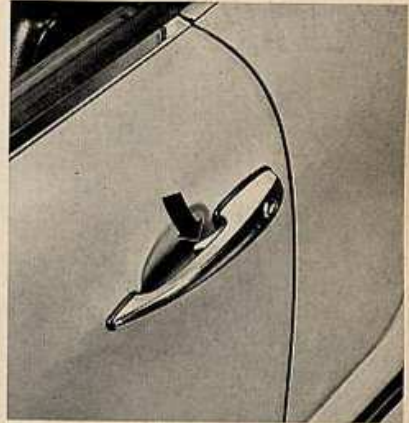
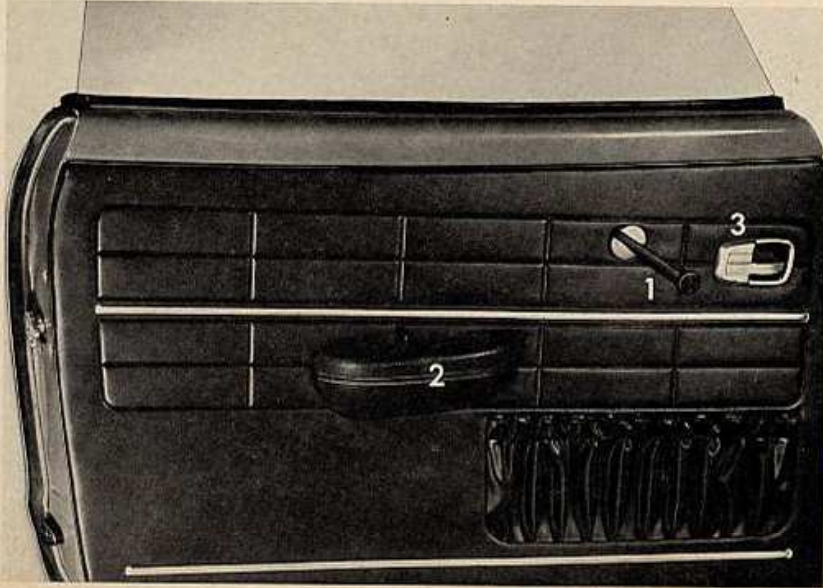
## The doors . . .

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

- 1 - Window crank
- 2 - Armrest and door closing grip
- 3 - Inside door handle with locking lever

The doors cannot be opened from inside or outside unless the locking levers are pulled out.

When leaving the vehicle, just push in the locking lever and pull the trigger in the outer handle as you close the door. The vehicle is then locked.



If the door closes by itself after the locking lever has been pushed in, it will not lock because the locking lever will spring out 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.

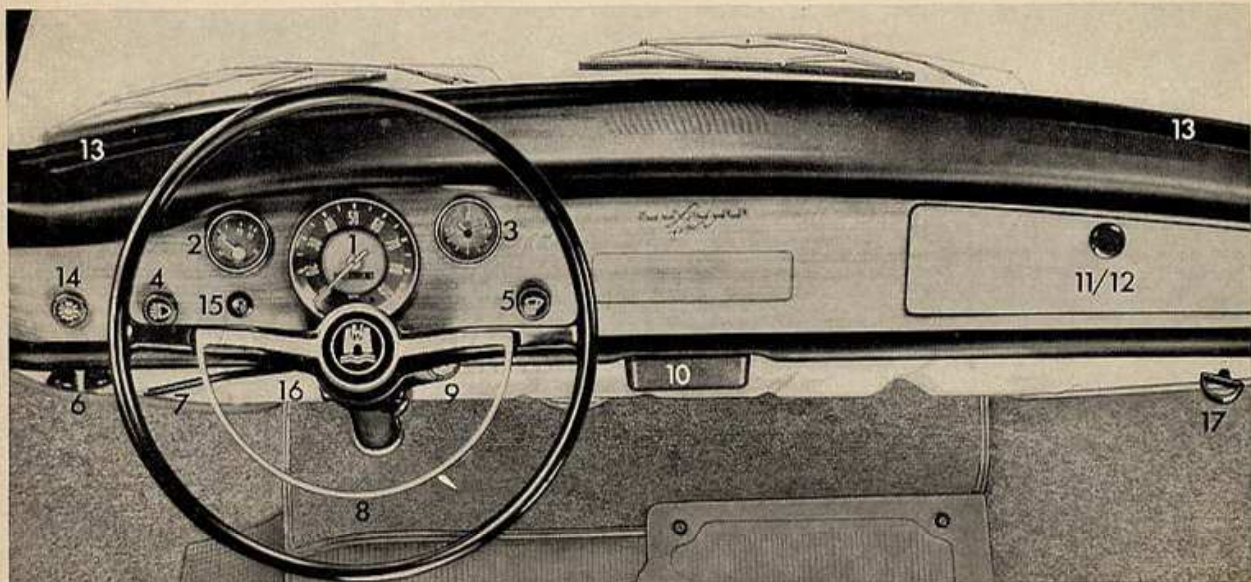
## In front of you - the instrument panel

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 switched on:

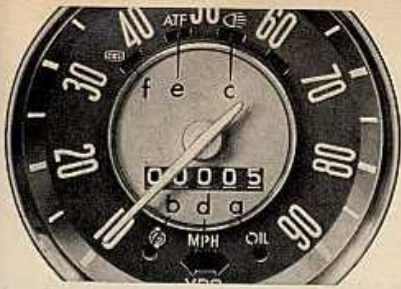
### 1 - Speedometer

The following warning lamps are in the speedometer dial:

- a - red - oil pressure
- b - red - generator and cooling
- c - blue - headlamp high beam
- d - green arrows - turn signals
- e - red - temperature Automatic Stick Shift
- f - green - rear window defogger







## 2 – Fuel gauge

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

## 3 – Clock

The clock is electrically operated. The hands can be set by pressing in and turning the knob in the center of dial.

## 4 – Light switch

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

The brightness of the instrument lights can be adjusted by turning the lighting switch knob.

## 5 – 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.

## 6 – Fresh air ventilation

The two knobs on the lower edge of the in-

strument panel control the flow of fresh air separately for each side through the defroster vents – 13 – at the bottom of the windshield.

Knobs to front – on  
Knobs to rear – off

By operating the heating and the fresh air ventilation at the same time you can admit a mixture of warm and fresh air into the vehicle.

## 7 – Turn signal and dimmer switch

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

The turn signals are cancelled automatically upon completion of a turn.

Pull the lever toward steering wheel to raise or lower headlight beams. A blue warning light in the speedometer dial shows when the headlamp high beams are switched on.

## 8 – Horn ring

## 9 – Steering / ignition lock

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

### Hint:

Should it be difficult to turn the key after inserting, gently move the steering wheel from side to side until key turns freely.



### Important

Remove key from lock only when vehicle is stationary.

## 10 – Ashtray

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

## 11 – Glove compartment

To open turn knob to the left.

Inside the glove compartment is the release lever – 12 – for the front hood.

On the Convertible the knob of the glove compartment lid can be locked. This prevents access to luggage and spare wheel by unauthorized persons while the top is down.

## 12 – Release lever for front hood

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

## 13 – Defroster vents

On the Coupé, another defroster vent is located at the lower edge of the rear window.

## 14 – Emergency flasher switch

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

## 15 – Warning light for dual circuit brakes

See explanation page 17.

## 16 – Switch for rear window defogger

The rear window defogger is actuated by this switch after switching on the ignition. The green control lamp in the speedometer will light up when the system is in operation. After the rear window has been cleared, switch off the rear window defogger so as not to place an unnecessary drain on the battery.

## 17 – Release for fuel tank flap

## Above the windshield

### 1 – Sun visors

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

### 2 – Rear view mirrors

Outside and inside mirrors are adjustable so that they can be set to give clear vision to the

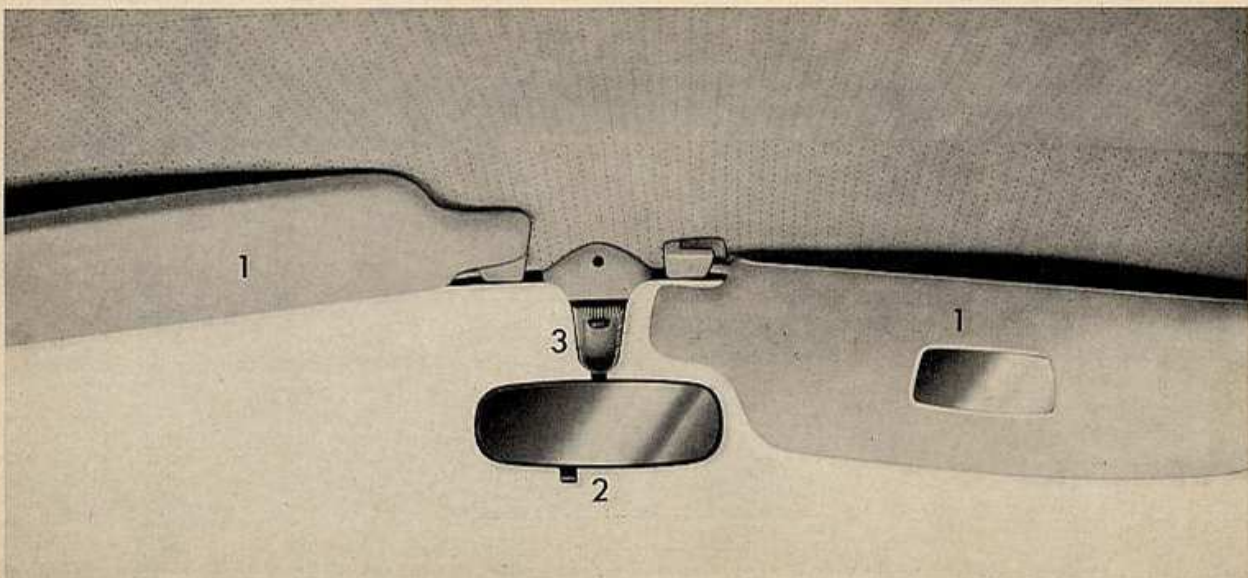
rear at all times. The outside mirror is hinged to fold flat upon contacting anything.

The inside rear view mirror is rimmed with plastic for safety and designed to detach upon impact. It is equipped with an anti-glare provision and can be adjusted at the lower portion of the mirror.

### 3 – Interior light

Switch positions:

Right – Interior light on  
Center – Interior light off  
Left – Light only on when doors are open





## In the footwell and between front seats

### 1 – Clutch pedal

(Four speed synchromesh transmission only)

### 2 – Brake pedal

Vehicles with four speed synchromesh transmission.

### 2a – Brake pedal

Vehicles with Automatic Stick Shift.



### 3 – Accelerator pedal

### 4 – Gearshift lever

Detailed instructions on Automatic Stick Shift are given on page 21.

### 5 – Hand brake

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

### 6 – Heating control lever

Lever up – heat on

Lever down – heat off

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

### 7 – Control lever for heating in front footwell

The flow of warm air into the front footwell can be controlled separately on each side

Push lever forward – heat on

Pull lever backward – heat off

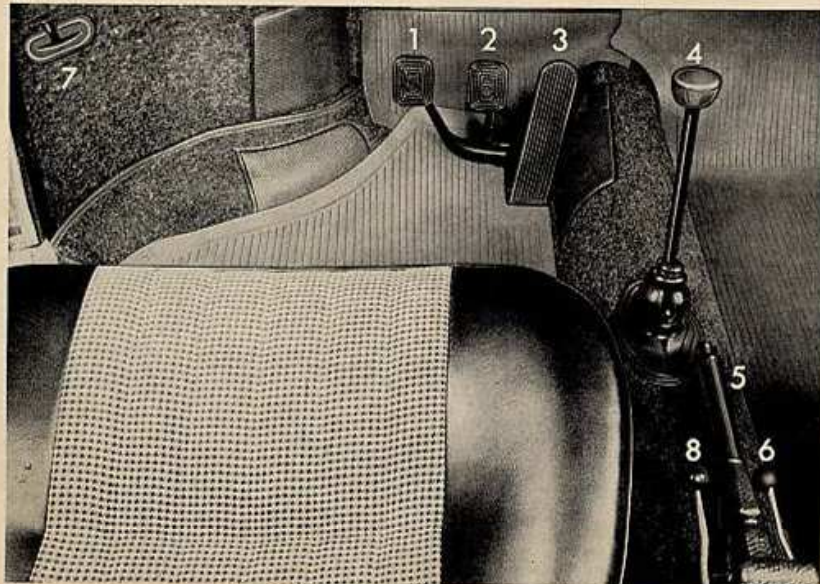
### 8 – Control lever for heating in rear footwell

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

Lever up – heat on

Lever down – 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.

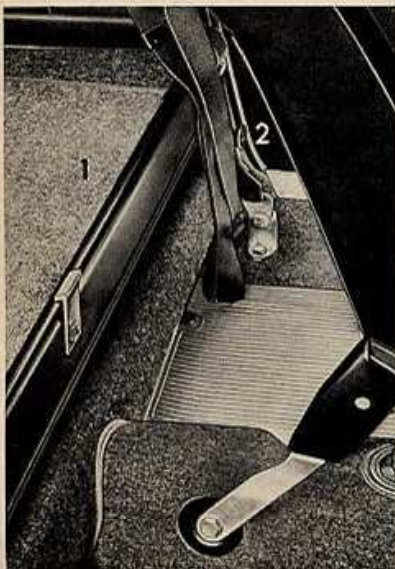


11

## Behind you

### 1 – Rear luggage compartment

There is a second luggage compartment behind the jump seat. To stow luggage, just fold the backrest forward. You can leave the backrest in this position if you are in need of additional luggage space. In the normal upright position, the backrest is secured to the parcel shelf by a plastic retaining plate.



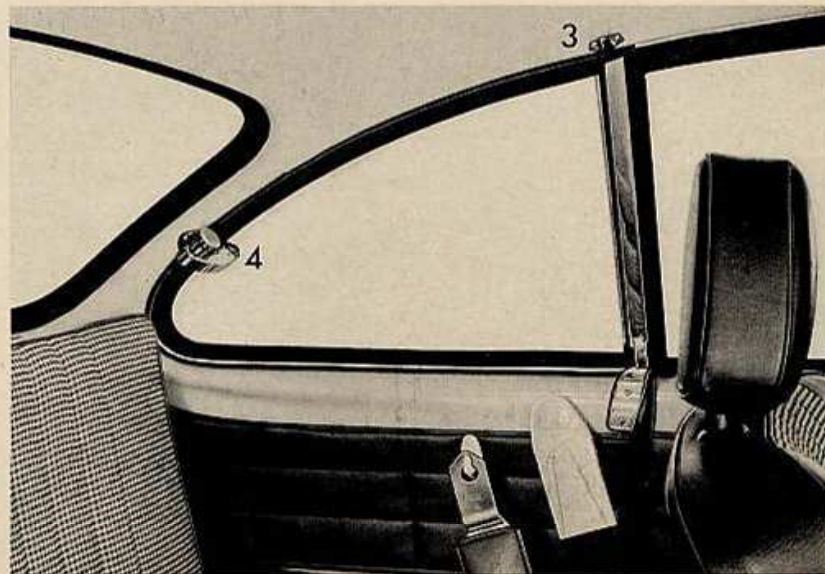
### 2 – Knob for engine compartment

The lid for the engine compartment is unlocked with the knob near the left door lock pillar. The lid is held in the open position by springs. To close the lid, press down on the license plate lamp housing until you hear a click.

### 3 – Coat hooks

### 4 – Hinged quarter window

The windows can be opened as required after releasing the fastener. We recommend that you make full use of these windows, particularly under unfavorable weather conditions. They assure ventilation of the vehicle interior and, therefore, prevent the windows from fogging.



12



## Seat Belts

Each of the front seats in your Volkswagen Karmann Ghia is equipped with a seat belt. Occupants of the vehicle should wear the belts at all times. Shoulder belts should not be worn by persons less than approximately 55 inches in height. Each of the front seats is equipped with a combination lap/shoulder belt that is completely adjustable to fit different sized people and to allow for seat and backrest adjustment.



When not in use, the lap section of the belt retracts and the belt should be hung on the hook behind the door by means of the hole in the buckle tongue. This prevents the belt from lying about and getting dirty and keeps the belt handy.

**Operation:** After sitting down and adjusting the seat and backrest positions, pull the belt buckle across in front of you to the center of



the car. Insert the buckle tongue into the opening in the housing on the center tunnel and press it in lightly. A click will be heard when the buckle locks. Be sure the belt is not twisted. Pull lap belt through buckle until belt is completely unrolled from retractor and belt fits snugly across lap. Take up any slack by moving slide. Adjust shoulder belt by pulling belt until it fits snugly across chest. Take up any slack by moving slide. To lengthen either section of the belt, release buckle from housing, hold buckle at a right angle to belt and pull belt through buckle. No further adjustment should be necessary if the same person uses the seat belt each time.

To release the belt, pull the unlocking lever on the tunnel housing upward. Only a light pull and a small movement of the lever is necessary.

**Do not strap in more than one person with each belt.**

**Cleaning:** To keep belts clean, wash belts with mild detergent without removing from vehicle. Dry belts in the shade and do not allow lap belts to retract until completely dry. 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.

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

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

13

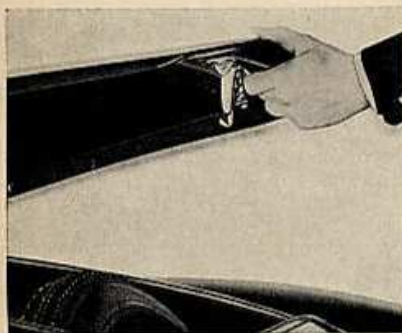
## . . . in the front luggage compartment

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.

### 1 - Spare wheel

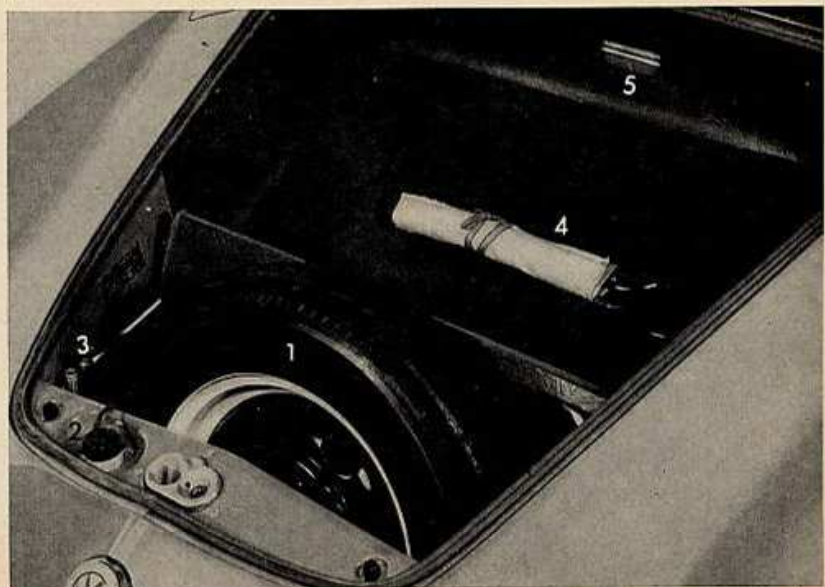
It also serves as an air supply for the windshield washer container, therefore, the spare tire pressure should occasionally be checked and inflated to 43 psi. The air flow from the spare tire to the washer container will be

interrupted if the tire pressure ever falls below 26 psi. This is done automatically by means of the filler cap valve. As a result, the spare tire will always have the required pressure should it be needed.



**The front hood** is opened by pulling out the lever at the left in the glove compartment. The hood springs up slightly first under spring pressure and can be opened fully when the safety hook near the lock has been pressed up.

To close the hood, press it down firmly until you hear a click. Never try to close the hood by pressing at the side, always press it in the center near the lock.





## 2 - Container for windshield washer

As soon as the filler cap of the container is opened, the air supply from the spare tire to the windshield washer container is interrupted by means of a valve in the filler cap. The washer container can be filled completely with washer fluid. 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. If enough of this cleaning agent is put in, it also acts as a mild anti-freeze solution in the winter.

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

After filling container ensure that the filler cap is always screwed on tightly.

## 3 - Jack

Operation of the jack is described, together, with wheel changing, on page 30.

## 4 - Tools

In the tool bag you will find

- 1 V belt of the size 9.5x900
- 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 and 13 mm
- 1 socket wrench for spark plugs, fan pulley nut and wheel bolts
- 1 socket wrench 13 mm
- 1 bar for socket wrench (also used to operate the jack)

## 5 - Brake fluid reservoir

The brake fluid level should always be above the protruding edge near the top of the container. If the brake fluid level ever falls below this edge, the complete brake system should be thoroughly examined by your Authorized VW Dealer.

**Brake fluid** is water absorbent and should, therefore, be **renewed every 2 years** by an Authorized VW Dealer.

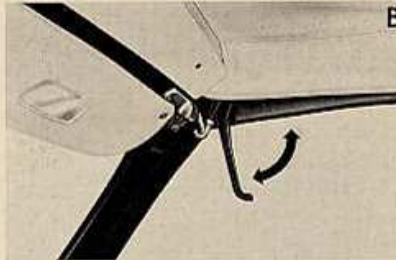
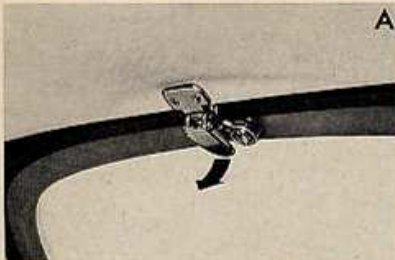
## Now you know your vehicle fairly well.

Further hints on what to do before moving off and when on the move are given on pages 17 to 22. If you own a Convertible, read the next page first.

15

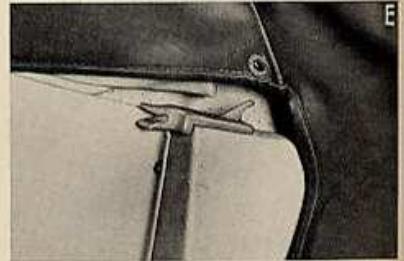
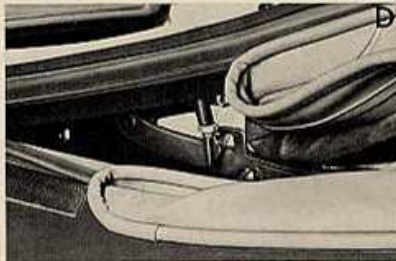
## When the sun is shining . . .

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.



### Opening the Convertible top

Always open the rear window first -A- and lower it until it rests on the rubber buffers properly. Remove pieces of luggage that may be in the way. Release the locking levers for the top above the windshield and disengage the hooks from the brackets on the windshield frame -B-. Fold the top back, ensuring that the headlining folds inward and the top and padding fold outward between the bows -C-. Press the top down until the catches engage -D-.



Lower the locking levers onto the top, then lay the protective cover over the top. Attach the protective cover first at the back by the press buttons on the vehicle body, then pull the cover toward the front over the top. Secure the protective cover with the other four press buttons near the doors and hook the two eyes in the cover over the projections on the jump seat backrest retainers -E-.

### Closing the Convertible top

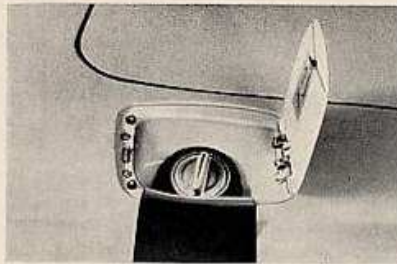
Take the protective cover off. Press the top down so that the catches can be unhooked. Pull the top forward as far as the windshield and lower the locking levers. From inside the car, pull the top down to the windshield frame with one hand and with the other hand guide the hooks into the holes of the brackets on the windshield frame. After the hooks have been engaged, tension the top by setting the locking levers. Finally, close and lock the rear window.

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## 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. The filler neck is located behind a flap above the right front fender. The flap opens if you pull the release on the right hand side underneath the instrument panel.

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).

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

### The brakes

should be checked before driving off. Your Volkswagen is equipped with a dual brake system. Each system, front and rear, can function independently.

### An indicator lamp on the instrument panel

monitors the brake systems. Should the indicator lamp light up while applying the brakes, see your Authorized VW Dealer as soon as possible because one of the two brake systems may have failed. The brakes will still operate however, a longer distance is required to bring the vehicle to a halt.

Push indicator lamp after switching the ignition on. If the lamp does not light up, the bulb should be replaced.

Please bear in mind that brakes are subject to wear. An increase in pedal travel will indicate this wear. Depending on individual operating conditions, the brakes may have to be adjusted between specified maintenance intervals.

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**The lights** include headlights, back-up lights, tail lights, license plate lights, turn signals and brake lights. The turn signals, brake lights and back-up lamps 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 or goes out. 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 vehicle. Wait at least 5 minutes to give the oil in the engine

time to drain down into the bottom of the crankcase.

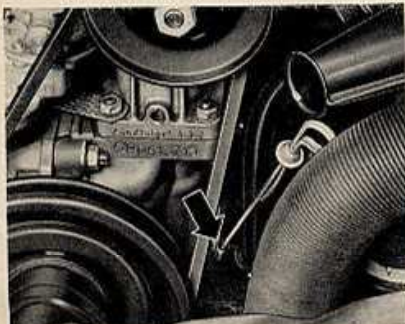
To top up the oil, a well known brand should be selected. Although it is advisable to stick to one brand of oil, using a different brand to replenish the oil will not harm the engine. Details about the proper oil viscosities are given on page 42.

**The correct tire pressure** is most important in the interest of safety. Too low as well as too high a tire pressure reduces the life expectancy of the tires and, furthermore, adversely affects the road holding of the vehicle. Although the tubeless tires of your car will hold the inflated tire pressure for a long time, you should check the pressure before you start out on a long trip or at least once a week.

The specified tire pressure can be found in the table on page 48 and also on the label inside the glove compartment lid.

### Two more important points:

- 1 – 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.
- 2 – Do not drive your car with a disconnected battery. This may lead to damage to the electronic components of the electrical equipment.





## Starting the engine

Before turning the ignition key, make sure that the gear shift lever is in Neutral. Vehicles with Automatic Stick Shift can be started in Neutral only.

**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. 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 when declutching, 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 lights in the speedometer will come on when the ignition is switched on. As soon as the engine starts, these lights will go out. 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 31.

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.

**Red 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.**

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## ... 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
2nd gear:	10-35 mph
3rd gear:	20-55 mph
4th gear:	30 mph and up

When a particular traffic situation makes it essential to move rapidly, you can accelerate up to 37 mph in 2nd gear and up to 58 mph 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:

10 and 25 mph in 2nd gear
20 and 35 mph in 3rd gear
30 and 60 mph 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, changes down into the appropriate gear, 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 good time whenever possible, but do not use too much force — locked wheels increase the braking distance.

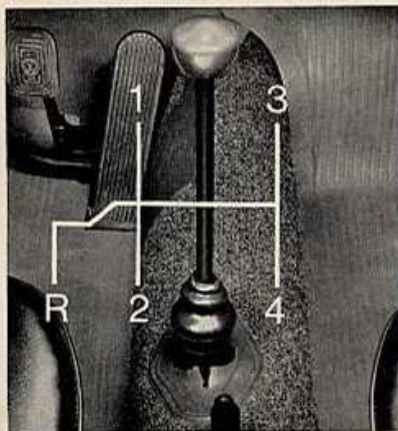
The friction value of the brake pads can be reduced if water reaches the brake discs during heavy rains for instance. Although the discs dry immediately, a lag in braking action may be noticeable after applying the brakes. Reduced traction of the tires during rain adds to this condition.

Therefore 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 operating of the car and how to drive it properly. From page 23 on you find the tips for winter driving, breakdowns and all there is worth knowing about the lubrication and maintenance of the vehicle.**

**Before driving a vehicle with Automatic Stick Shift be sure to read the following pages:**





# VW Automatic Stick Shift

## At first glance

you will notice the lack of a clutch pedal. Driving with the Automatic Stick Shift is simpler and shifting easier. We suggest you carefully read the following instructions to familiarize yourself with the operation of the transmission.

## The Automatic Stick Shift

transmission consists of a torque converter, a power-operated clutch for shifting, and a mechanical three speed transmission. The torque converter multiplies the torque produced by the engine and allows the vehicle to be driven with very little shifting – normally only two driving ranges will be used. It automatically changes the torque from the engine in an infinitely variable ratio according to driving conditions. Since the torque converter is a fluid coupling, it also permits the vehicle to be stopped while the engine is running. The clutch interrupts the flow of power from the engine to permit the gears in the transmission to be shifted. Because the power-operated clutch is actuated by the first slight movement of the gearshift lever, there is no need for a clutch pedal.

## Driving ranges

Your Automatic Stick Shift has three forward driving ranges and one reverse. They have been designed so that you will very quickly know which range to use to produce the best performance under all driving conditions.

## Neutral

is between all gears in the H-pattern. Neutral

is the only range that completely interrupts the flow of power to the rear wheels. It should be used when the car is standing at idle for any length of time, with the hand brake set. Neutral is also the only range in which the engine may be started.

## Starting

With the hand brake set, move the shift lever to Neutral and start the engine. Move the shift lever into the range you wish to use, normally Range 1, and then release the hand brake. It is important to release the brake after shifting because, under certain conditions, the vehicle may creep when a driving range is selected. After shifting, be sure to remove your hand from the gearshift lever to allow the clutch to engage.

## Low Range

or the load range is not normally used in day to day driving. It is only used to get the car moving on steep slopes with a full load or when descending a very steep hill to take advantage of the additional engine braking. Low is also recommended for particularly slow driving over rough ground. Speeds from 0–35 mph can be obtained in this range.

## Driving Range 1

is for starting off and accelerating, and covers the speed range from 0–55 mph. Under normal driving conditions, the vehicle is started in this range before shifting to Range 2. Range 1 is also recommended for use in city traffic, slow moving lines of vehicles and whenever maximum acceleration is required for passing.

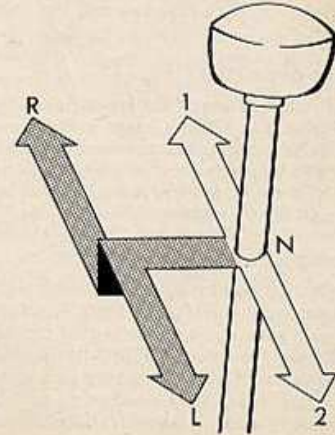
If the vehicle is in Range 2, you may down-shift into Range 1 at any speed under 55 mph.

## Driving Range 2

is the range that should normally be used for highway driving. While this range may be used at any speed from 0–top speed, it is the only range that can be used above 55 mph. At low speeds, however it is better to use Range 1 to take advantage of its better acceleration.

## The Reverse Range

should only be engaged when the vehicle is standing still. The gearshift lever must be depressed to get past the safety stop to shift into Reverse.



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## Shifting

is easy. Simply release the accelerator pedal and move the gearshift lever from the range you are in to the range you want, remove your hand from the gearshift lever, and again step on the accelerator.

## If you like quiet, smooth driving.

which saves fuel, we recommend that you shift to Range 2 soon after starting off at about 20 to 25 mph.

## If you want to drive fast

and want maximum acceleration, you can stay in Range 1 right up to 55 mph and then shift into Range 2. Naturally, this will use more fuel.

## Driving downhill

If you make full use of the braking power of the engine, just select a lower driving range as with a conventional transmission. When parking in tight spaces, it is advisable to use the driving ranges Reverse and Low. Shift into Reverse only when the vehicle is stopped.

## Warning light in speedometer

There is a red warning light in the upper half of the speedometer dial (see page 9). If the light ever goes on, it indicates that the ATF (Automatic Transmission Fluid) has reached too high a temperature. If you drive for a longer time under heavy load conditions, such as when pulling a trailer up a hill, and the warning

light goes on, shift to a lower driving range. However, if the car is loaded so heavily that it barely moves or does not move at all, shift to a lower gear immediately without waiting for the warning light to go on.

## Stopping

Release the accelerator and apply the foot brake. If you are going to start off again in another range, you may shift into the new range while the vehicle is standing still, but if you remain in a driving range, apply the foot or hand brake to prevent the vehicle from creeping.

## Towing

It is possible to tow a trailer with the Automatic Stick Shift. However, it is better to start in the Low driving range with this extra load. When climbing or descending steep hills, shift to a low range early.

## Push starting

If the engine should ever fail to start, the Low driving range should be used in such instances and the vehicle moved at a minimum speed of 15 mph. For further hints about towing and pushing see page 38.

## Some basic rules

1. When parking, apply the hand brake.
2. When idling for an extended period of time, shift into Neutral and apply the hand brake. When stopped in traffic, apply either the hand or foot brake to prevent creep.

3. When starting out, shift into a driving range before releasing the hand brake.
4. After shifting, remove your hand from the gearshift lever. Do not try to drive with your hand resting on the lever.

**An 8 Amp. fuse** in a fuse holder above the ignition coil protects the control valve of the Automatic Stick Shift. If this fuse should ever burn out, the transmission cannot be shifted.



## 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 in the engine compartment lid. 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 (Mud + Snow) 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 studs 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 studded tires.

The specific characteristics of winter tires can be improved by raising the tire pressures to 3 psi 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 studs should be run at moderate speeds when new in order to give the studs time to settle.

In general, winter tires only have real advantages when conditions on the road are really wintry.

M+S tires do not fulfil their purpose if the tread depth is less than 5/32" (4 mm).

Radial ply tires are suitable all year round. If winter conditions are not too severe, they may very well replace conventional snow tires.

Even more suitable for operation of the vehicle during the winter season are radial ply M+S and tires with studs. An increased tire pressure of 3 psi (0.2 kg/cm<sup>2</sup>) applies to these tires also.

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.

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**Snow chains** can be fitted to the rear wheels only. Only thin chains which do not stand clear of the tire tread and inner side wall more than 1/2 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. At other times, these additional changes are unnecessary and uneconomical.

In countries with arctic climates and temperatures below about -15° F, the engine oil should be changed every 750 miles.

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

When the temperature is below -15° F for long periods, it is advisable to use Automatic Transmission Fluid (ATF) in the transmission and final drive also. The vehicle must only be run with this fluid during the cold period. As soon as the temperature rises to near freezing point, this fluid 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. 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 is fatal when trying 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. For more details see page 37.

**The spark plugs** should not have excessively large gaps especially in the winter. The gap is normally .028 in., but when the weather is very cold, the gap can be temporarily reduced to .020 in. to facilitate starting.

**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.

**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.



## 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 synthetic resin enamel 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 at work attacking the paintwork.

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

Every Authorized VW Dealer 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 page 27.

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

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

**Wash** a newly painted 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. Afterward, rinse all traces of the shampoo off with clear water and then use a chamois to dry the vehicle 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.

**Minor paint damages**, such as scratches, stone chips and the like, can easily be touched up with a paint stick available at your Authorized VW Dealer.

In the spare tire compartment you will find a sticker showing a number. This is the code number for the paint color of the vehicle.

**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. The paintwork should also be washed, rinsed and leathered off afterward.

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**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 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 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 they tend

to get clogged with tar splashes, oil and insects. New blades should be fitted as often as necessary.

**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 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 occasionally 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.

**The front seats.** If the front seats get hard to slide, the runners should be lubed with dry stick lubricant 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.

**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.



## Car care materials for the Volkswagen

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 241109
Paint Polishing	Paint Polish – 000096001
Paint Waxing	Paint Preservative – 000096011
Care and Cleaning of Chrome Parts	Chrome Cleaner and Protection – 000096061
Windshield Cleaning	Windshield Washer Anti-Freeze & Solvent – ZVW 241101
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 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 brush. When very dirty use a lukewarm soap solution or a dry foam 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.

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## Tires

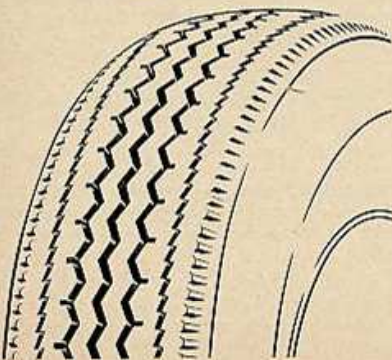
In addition to checking pressures regularly and driving carefully, the following points should be remembered in connection with tires:

- 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 sunshine for long periods.
- 4 – Replace missing valve dust caps as soon as possible.

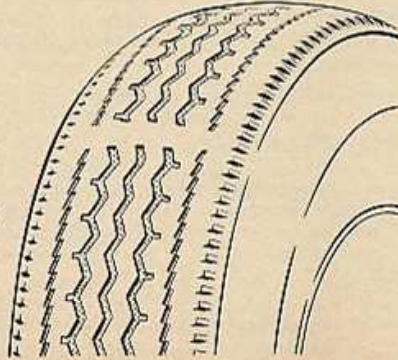
The original equipment tires on your Volkswagen incorporate built-in tread wear indicators to assist you in determining when your tires have been worn to the point of needing replacement. These indicators are molded into the bottom of the tread grooves and will appear as approximately 1/8-inch wide bands when the tire tread depth becomes 1/16 of an inch. When the indicators appear in two or more adjacent grooves, tire replacement due to tread wear is recommended.

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.

Tread still good



Tread worn out





## 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 VW Dealer. The Volkswagen service organization offers you a widespread network of authorized dealers 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 taking out the spare wheel, disconnect the hose leading to the valve of the spare wheel.

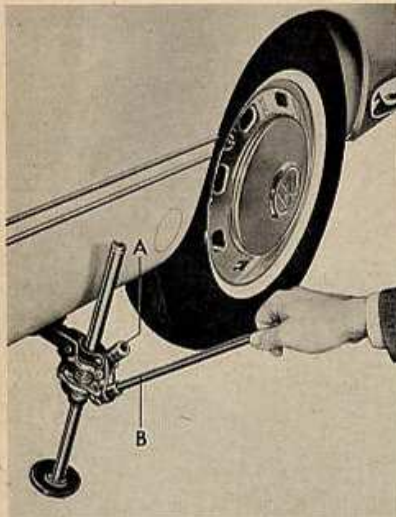
Apply the hand brake and block the opposite wheel.

Take off hub cap with remover and jack bar by hooking the remover 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.



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

Place bar in **upper link -A-** of jack and **raise** vehicle by pumping handle up and down.

Unscrew wheel bolts and take wheel off.

Place spare wheel in position and raise or lower vehicle as necessary until a hole in the



wheel is roughly in line with a threaded hole. Insert the bolt and tighten it until the wheel can be swung round 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.

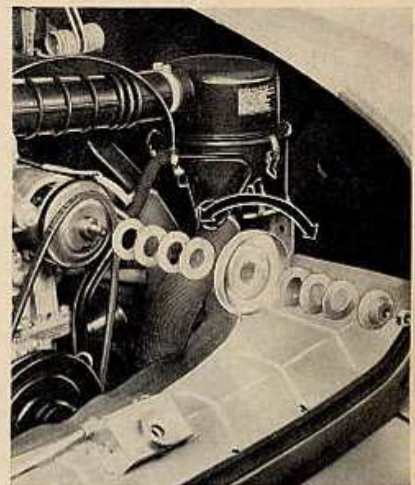
Place bar in **lower link -B-** of jack and **lower** the vehicle by pumping handle up and down.



Insert bar into wrench and tighten the wheel bolts diagonally to 110 ft. lbs. Have it checked at a service station with a torque wrench because correct tightness of the wheel bolts is important for safety.

Place trim ring in wheel and install hub cap with a blow of the hand. Be sure to check the pressure in the tire you have just put on. For correct tire pressure see page 50.





### Adjusting or replacing V belt

The V belt tension is correct when the belt can be pressed inward about .6 in. 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 600 miles and the tension corrected if necessary.

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.

#### Hint:

Although the life expectancy of the V belt of your VW is very high, you should always carry a replacement belt in the car.

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### Cleaning fuel pump filter

Remove plug and take filter out.

Reinstall plug immediately to prevent 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

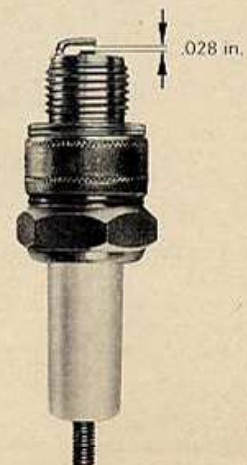
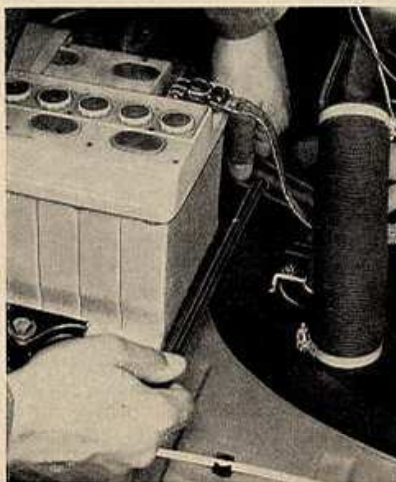
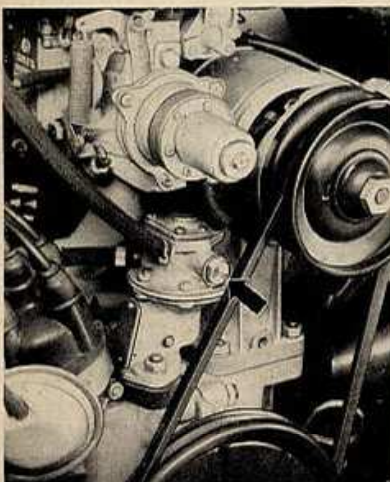
Pull connector off.

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., but when the weather is very cold it can be reduced to .020 in. temporarily to facilitate starting.

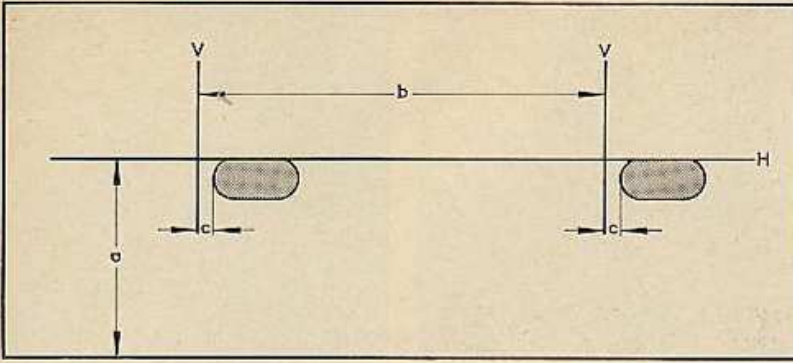
Take care not to crossthread the plugs when inserting them, and tighten them firmly, but not overtight.

New plugs should be fitted every 12 000 miles.



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a = Height of headlamp center from floor  
 b = Distance between headlamps (48.8 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.

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 48.8 in. apart. Drawing

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

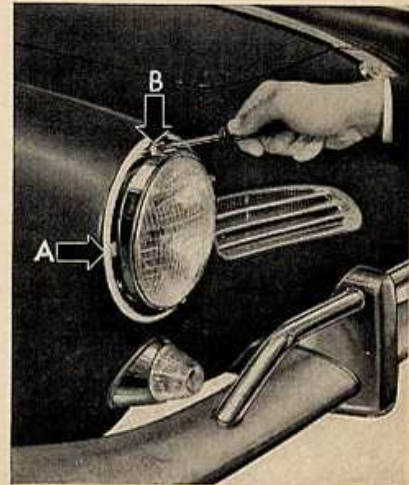
Loosen the screw in the center below the headlight and take the trim ring off.

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 this dimension.

A - Lateral aim      B - Vertical aim



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### Bulb replacement



#### Sealed Beam 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 unit, ensure that the three glass lugs engage properly in the support ring.

Check headlight settings.



#### Front turn signal and parking light bulb

Loosen two Phillips screws and take lens off. Press bulb into holder lightly, turn and take out. Install new bulb.

When fitting lens, ensure that gasket is located properly.

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### Rear turn signal, stop and tail light bulbs

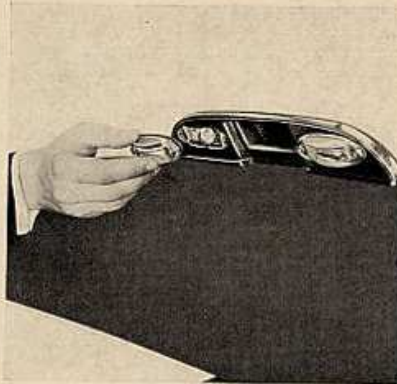
Unscrew two Phillips screws and remove lens.

Bulb positions:  
 Top - turn signal  
 Center - stop  
 Bottom - tail

Press bulb lightly into holder, turn and take out.

Install new bulb.

When fitting lens, ensure that gasket is located properly. 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.

Press bulb lightly into holder, turn and take out.

Install new bulb.

When installing, ensure that the gasket 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.

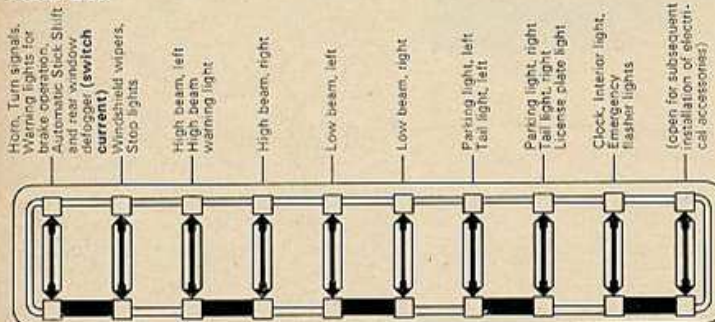
Install new bulb.

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

### Bulb Chart

	U.S. Replacement Bulb	VW Part Number
Headlight	6012	111 941 261 A
Parking Light / Turn Signal	1034	N 177382
Tail Light	67	N 177182
Stop Light	1073	N 177322
Rear Turn Signal	1073	N 177322
License Plate Light	67	N 177182
Back-up Light	1073	N 177332
Interior light	—	N 177252
Speedometer, clock, fuel gauge, warning lights	—	N 177512
Warning lights for emergency flasher, brake operation, rear window defogger and Automatic Stick Shift	—	N 177512

### Fuse box



Three additional 8 amp. fuses in separate fuse holders are located in the engine compartment: The fuse above the generator protects the back-up lights.

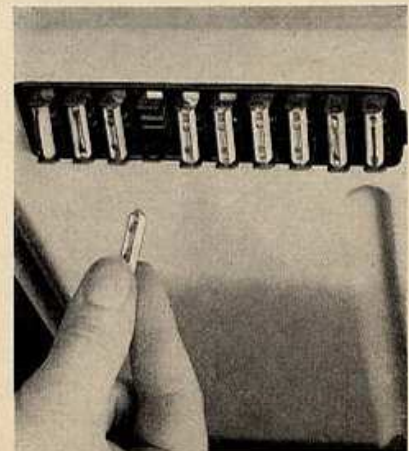
An additional fuse above the ignition coil is for the control valve of the Automatic Stick Shift. If this fuse should ever burn out, the transmission cannot be shifted.

Another fuse near the voltage regulator is for the main current of the rear window defogger.

### Replacing fuses

The fuse box is located under the instrument panel near the steering column. The transparent lid on the fuse box has symbols embossed on it showing the various circuits.

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 in 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.

The battery is secured to the floor plate of the engine compartment with two brackets.

To check the electrolyte level, remove the plugs. The electrolyte level should always be in accordance with the mark. If the level is too low, it must be topped up with distilled water.

### Attention

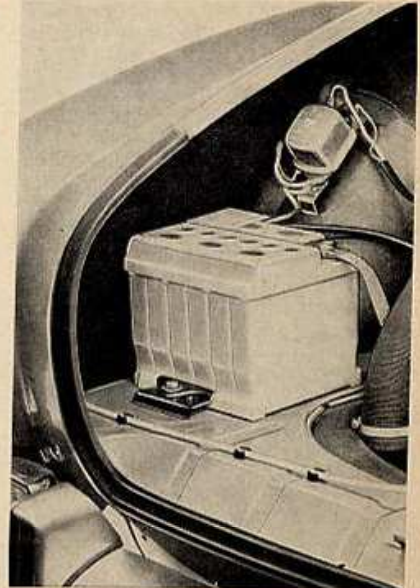
When working on the battery, take care not to short-circuit the terminals. This would cause the battery to heat up very quickly which could lead to damage.

The electrolyte 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 electrolyte level must be checked more often in the summer than in the winter. VW drivers in hot countries who do a 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 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.



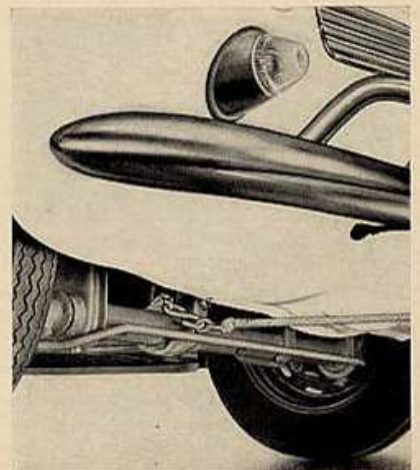
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### Towing

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

The driver of the vehicle that is being pulled must take care to keep the tow rope taut.

On page 22 you will find hints to observe when towing with the VW Automatic Stick Shift.



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## Here is what to do when trouble troubles you

Your Volkswagen should repay you with trouble free driving if it receives regular 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 VW Dealer as soon as possible.

**Note: The adjustment of idling, ignition timing and — on vehicles with four speed synchromesh transmission — throttle positioner requires special equipment and training. We suggest that you consult your authorized VW Dealer.**

Problem	Probable Cause	What To Do
VW will not start: engine will not turn over or turns over too slowly	<ol style="list-style-type: none"> <li>Run down or dead battery</li> <li>Loose connection                             <ol style="list-style-type: none"> <li>At battery</li> <li>At starter</li> <li>At connections behind dash board</li> </ol> </li> <li>Starter defective</li> <li>On vehicles with Automatic Stick Shift: The gear shift lever is not in Neutral</li> </ol>	<ol style="list-style-type: none"> <li> <ol style="list-style-type: none"> <li>Four speed synchromesh transmission: Push to start the vehicle (turn on ignition, put in third gear at a speed of approximate 20 mph. Release clutch slowly). Have battery charged and cause of high current consumption checked.</li> <li>Automatic Stick Shift: Push to start the vehicle (turn on ignition, shift into driving range L. When towing or pushing, the engine should start at a minimum speed of 15 mph.). Have battery charged and cause of high current consumption checked.</li> </ol> </li> <li>Make sure that all connections are tight                             <ol style="list-style-type: none"> <li>Check both cable connections on battery and grounded end of ground strap</li> <li>Check connections at solenoid, mounted on starter, under right rear of vehicle</li> <li>Check push-on connectors behind dash board</li> </ol> </li> <li>Have vehicle started by pushing (see paragraph 1) and take it to nearest Authorized VW Dealer</li> <li>Shift to Neutral</li> </ol>
VW will not start: engine turns over	<ol style="list-style-type: none"> <li>Loose connection in ignition system</li> <li>Loose connection in primary circuit to coil</li> <li>If spark at black coil cable, trouble is in ignition system</li> </ol>	<ol style="list-style-type: none"> <li>Check for loose connections at coil, distributor and spark plugs.</li> <li>Turn on ignition. Remove thin black cable from ignition coil, hold it by insulation and strike against blower housing or other ground, <b>being careful of gasoline and its fumes</b>. If no spark, electricity does not reach coil from battery. Check push-on connectors behind dash board. If still no spark, see the nearest Authorized VW Dealer.</li> <li>Check in this sequence:                             <ol style="list-style-type: none"> <li>Turn on ignition, remove distributor cap and turn engine by the fanbelt until the ignition points are closed. Open and close ignition points several times with a nonmetal object. A visible and audible spark will appear between the points. If this is not the case, the cables on ignition coil and distributor should be checked for tightness. If even then no spark is visible, see your nearest Authorized VW Dealer.</li> <li>If spark appears at points, remove high tension wire from center of distributor, cap and hold it against a metal part of the engine at a distance of approximately <math>\frac{1}{4}</math>". Switch on ignition and 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 VW Dealer.</li> </ol> </li> </ol>

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Problem	Probable Cause	What To Do
VW will not start: engine turns over	<ol style="list-style-type: none"> <li>If spark is fairly good at plugs, trouble is most likely in fuel system                             <ol style="list-style-type: none"> <li>Caused by improper starting procedure. If the gas pedal is depressed too often, the accelerator pump in the carburetor injects too much gasoline</li> <li>Carburetor may be flooded, float or needle valve may be sticking</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>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 bring spark plugs in connection with metal (ground). <b>Hold cable with dry piece of cloth to avoid shock</b>. 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.</li> <li>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.</li> </ol> <ol style="list-style-type: none"> <li>Check fuel system in the following sequence:                             <ol style="list-style-type: none"> <li>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.</li> <li>Tap around outside of carburetor with wooden or plastic tool handle. Wait a few minutes and try starting again as described at 8A.</li> </ol> </li> </ol>
Engine stalls shortly after starting	<ol style="list-style-type: none"> <li>Poor fuel supply</li> <li>Automatic choke does not open, excessive fuel supply</li> </ol>	<ol style="list-style-type: none"> <li>See paragraph 12 through 14.</li> <li>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 closed position, open at fast idle cam and if necessary, retain with wire. See your Authorized VW Dealer.</li> </ol>
Engine stalls while vehicle is driven	<ol style="list-style-type: none"> <li>Defect in ignition system</li> <li>Fuel supply is exhausted</li> <li>Fuel pump filter may be clogged</li> <li>Gasoline may be contaminated by water, dust or dirt</li> </ol>	<ol style="list-style-type: none"> <li>See paragraph 5 through 7.</li> <li>Check whether any gasoline is left in tank.</li> <li>After removing the screw plug, the fuel filter can be taken out for cleaning.</li> <li>See your VW dealer for cleaning of all components of the fuel system.</li> </ol>
Red warning light for oil pressure comes on while you are driving	<ol style="list-style-type: none"> <li>If light goes on, the oil pressure is too low</li> </ol>	<ol style="list-style-type: none"> <li>Stop at once and check oil level. Add oil as necessary. If the oil level is sufficient and light goes on during driving, contact the nearest Authorized VW Dealer before driving on.</li> </ol>
Red warning light for generator and cooling comes on while you are driving	<ol style="list-style-type: none"> <li>If light goes on, V belt may be torn or generator does not charge</li> </ol>	<ol style="list-style-type: none"> <li>If belt drives generator without slipping, switch off all unnecessary electrical equipment (radio, etc.). Drive to nearest VW dealer as otherwise the battery will soon get run down. If belt is broken, replace it before driving on, because engine cooling fan is no longer working.</li> </ol>
Vehicles with Automatic Stick Shift: Lever cannot be shifted	<ol style="list-style-type: none"> <li>Control valve fuse burned out</li> </ol>	<ol style="list-style-type: none"> <li>Replace fuse (see page 36). Check cable connections on control valve located on the left in the engine compartment.</li> </ol>

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## Proper lubrication . . .

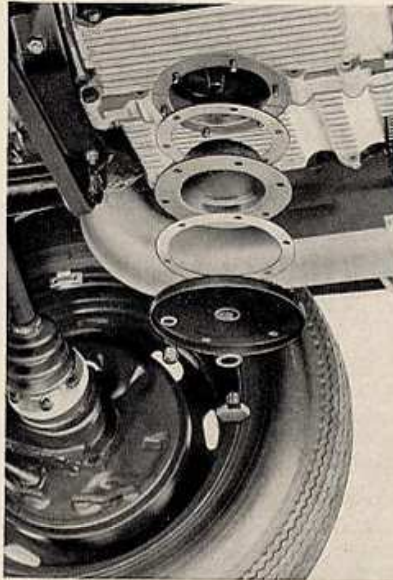
means regular and careful lubrication. Page 56 shows you at which intervals the various points require attention.

### Engine

Regular oil changes are necessary even if the very best brand of 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 oil (4.4 Imp. pints) - labeled "For Service MS".

Due to the detergent properties, 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. We only recommend more frequent oil changes - every 1500 miles - 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  $-13^{\circ}\text{F}$  the oil should be changed every 750 miles.



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### Some more information about oil

Always use a name brand oil labeled "For Service MS" for the engine of your Volkswagen. The quality of oil produced by reputable firms is so good that the choice of brand is entirely up to you. The Volkswagen engine makes no special demands with respect to oil quality which cannot be met by the well-known and popular brands. It is suggested that you select "your" brand of oil at the first oil change at 600 miles and that you stick to this brand if at all possible.

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

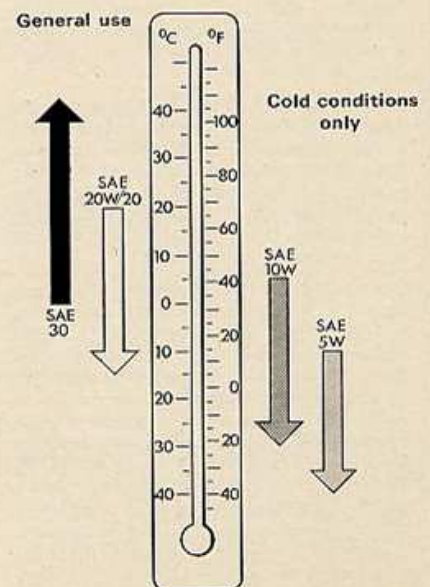
\*) Avoid driving at high speeds for long periods if using SAE 10 W oil and the outside temperature is above  $32^{\circ}\text{F}$  or if using SAE 5 W oil when the temperature is above  $5^{\circ}\text{F}$ .

All SAE grades cover a temperature range of about  $60^{\circ}\text{F}$  and the ranges of two neighboring grades overlap by at least  $30^{\circ}\text{F}$ . Brief variations in temperature between seasons can therefore be disregarded. For the same reason, it is also all right 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.

**No additives of any sort should be mixed with oils classified "For Service MS".**

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### Temperature ranges of SAE grades

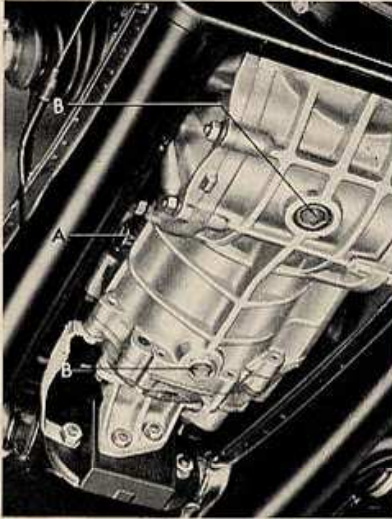




## Transmission

Transmission and final drive 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 (A).

At oil changes every 30000 miles, the old oil should be drained when warm. The magnetic oil drain plugs – two on the four speed synchromesh transmission (both B) and one only on Automatic Stick Shift (C) – must be cleaned carefully. On vehicles with Automatic Stick



Shift, additionally the transmission oil pan has to be removed and the oil pan gasket must be replaced.

Fill up 5.3 US pints on four speed synchromesh transmission and 6.3 US pints on Automatic Stick Shift of quality SAE 90 hypoid oil. 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 already full although actually only about 2–3 pints have been put in. It is essential to the service life and silent running of the transmission that the correct amount of oil is used.

The oil level in the transmission should be checked every 6000 miles. At the same time the transmission should be checked for leaks and, on vehicles with Automatic Stick Shift, additionally the mounting bolts (D) of the transmission oil pan have to be checked for tightness.

### Additives should not be used with hypoid oil.

On vehicles with **Automatic Stick Shift**, the **ATF** in the torque converter does **not** have to be **changed**, but the level should be checked every 6000 miles with engine switched off.

An ATF tank filler (E) with a dipstick attached to its cover is provided for this purpose on the right side in the engine compartment. The fluid level should be between the two marks on the dipstick and should never fall below the lower

mark. If necessary, fill up with ATF and check for leaks.

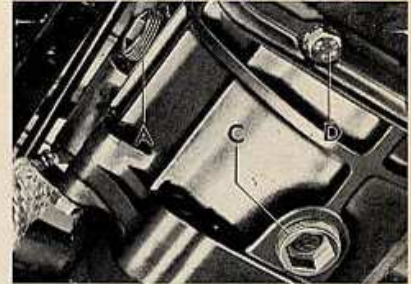
It is imperative that only those ATF's be used which show on the container the following designations:

1 – Brand name

2 – "DEXRON®"

3 – 5 digit number preceded by the letter "B"

**Note:** Additives must not be used with ATF.

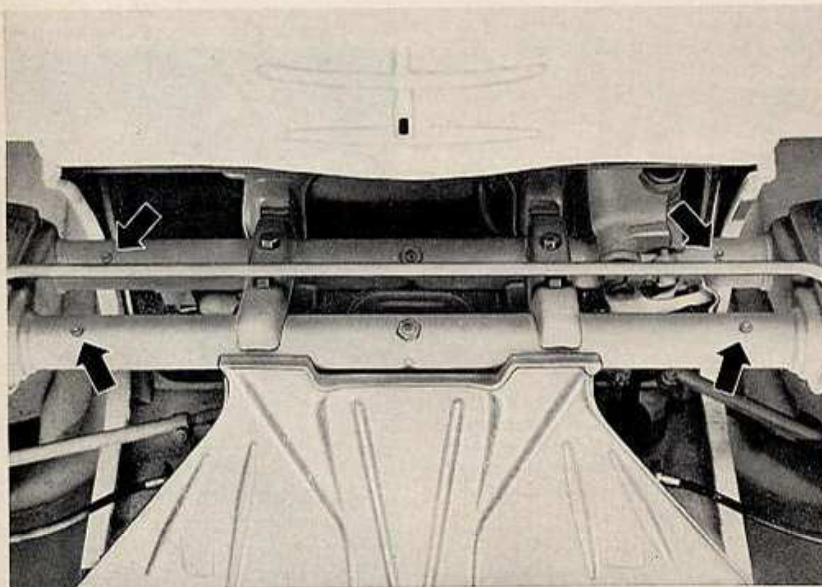


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## Front axle

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 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 per year, the front axle must be lubricated once a year.

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## 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  $\frac{3}{16}$ " 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:

Loosen clip - A - on intake elbow and take elbow off.

Pull crankcase ventilation hose - B - off.

Loosen clip - C - on hose for preheated intake air and pull hose off.

Remove retaining clamp - D - of cable for warm air control flap and disconnect cable.

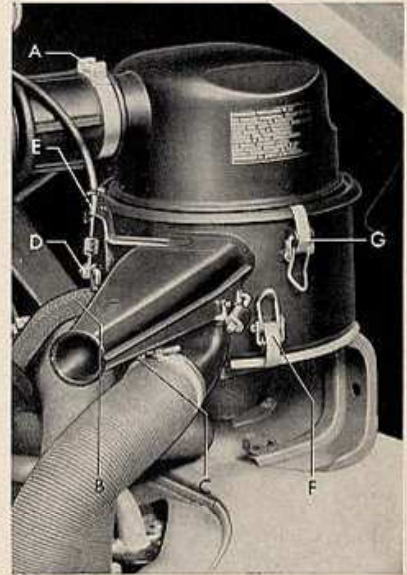
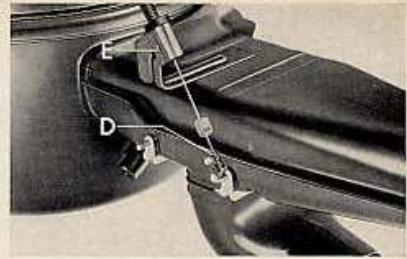
Loosen screw - E - on outer cable retainer and pull cable out.

Release clips - F - securing cleaner to bracket and take cleaner off.

Loosen the three upper clips - G -, take cleaner upper part off and put it down with the filter element downward.

Clean bottom part carefully and put in .95 pint of fresh engine oil. SAE 30 oil should be used all the year except in countries with arctic climates where SAE 10W oil 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.

After assembling the cleaner, secure it to the bracket in the engine compartment with the two clips. Before connecting the cable for the warm air control flap, check that the flaps move freely. Then push the outer cable into the retainer as far as it will go. After fixing the screw - E - attach the end of the inner cable with the clamp - D - to the lever of the non-weighted flap. Tighten intake elbow clip carefully.



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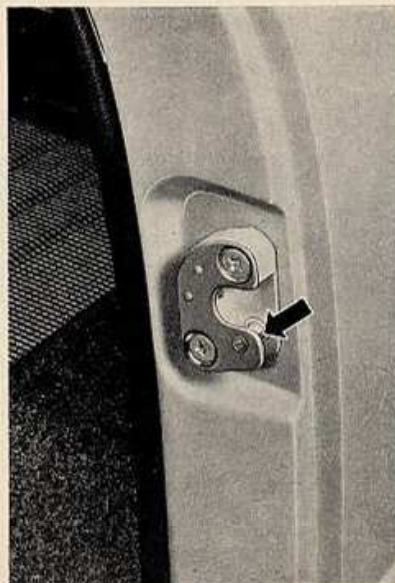
## Doors and hoods

Above the door hinge pin is a small oil chamber which is sealed with a plastic plug. At least every three months, the amount of oil in the chamber should be checked after lifting the plug with a screwdriver. The chamber should be filled with SAE 30 engine oil. Press plug in and wipe off excess oil with a cloth.

The friction surfaces of the striker plates should be lubricated lightly as and when required.

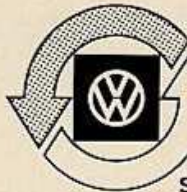
The hood hinges should be oiled and the hood locks greased lightly.

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.



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



Approved Accessories  
Accessoires Agréés  
Accessori Approvati  
Accesorios Aprobados  
Utvprovade Tillbehör  
Accessórios Aprovados  
Beproeefde Accessoires

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

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 less expensive 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.

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 guarantee 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 Volkswagen parts, new and rebuilt, and approved Volkswagen accessories are covered by a warranty guaranteeing them to be free of defects in material and workmanship for a period of 6 months or 6000 miles whichever comes first.**

**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.**

## 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 thermostat controlled air pre-heating. Exhaust emission control system.

Bore	3.27 in. (83 mm)
Stroke	2.72 in. (69 mm)
Capacity	91.10 cu. in. (1493 cc)
Compression ratio	7.5:1
Maximum output SAE	53 bhp. at 4200 rpm.
Maximum torque SAE	78.1 lb. ft. at 2600 rpm.
Valve clearance with engine cold	Intake and exhaust .004 in. (0.10 mm)

Fuel consumption<sup>1)</sup> Four speed synchromesh transmission: Automatic Stick Shift:

U.S.	— 27.5 miles per gallon	U.S.	— 26.1 miles per gallon
Metric	— 8.5 liters per 100 km	Metric	— 9.0 liter per 100 km
Imp.	— 33 miles per gallon	Imp.	— 31.4 miles per gallon

Fuel rating 91 Octane (Regular)

Oil consumption	U.S.	— 1.7—3.4 pints per 1000 miles
	Metric	— 0.5—1.0 liter per 1000 km
	Imp.	— 1.4—2.9 pints per 1000 miles

<sup>1)</sup> Measured consumption plus 10%, with half load at a steady ¾ of maximum speed on level road.

### Power transmission

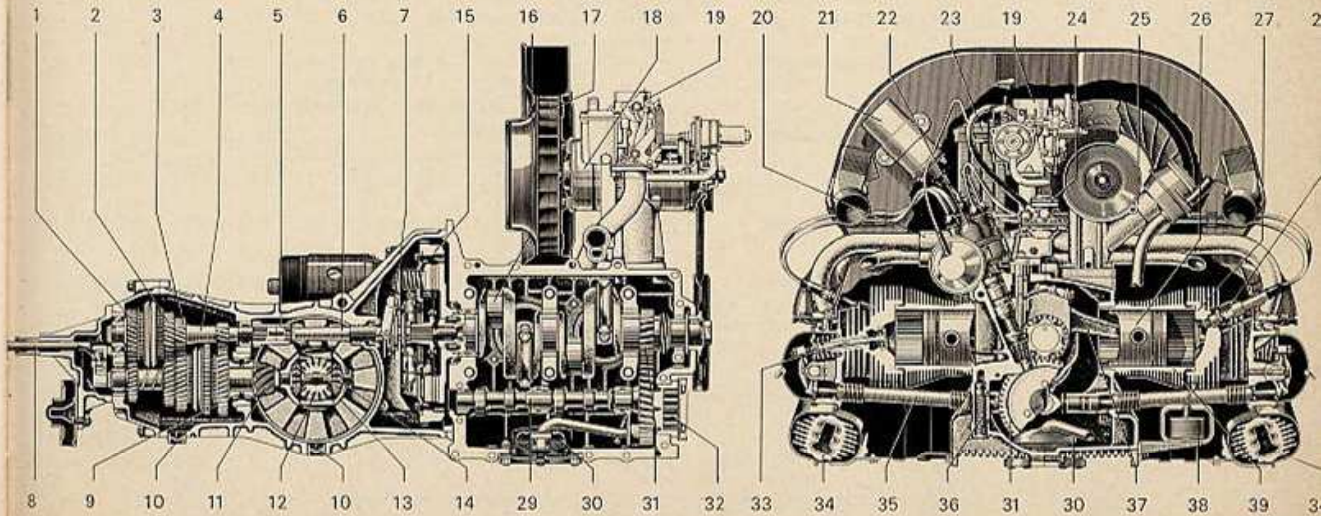
a — Four speed synchromesh transmission:  
Single plate, dry clutch. Clutch pedal free play: 4—8 in. (10—20 mm).  
Balk synchronized four-speed gearbox and bevel gear differential in one housing.  
Gear ratios: 1st gear 3.80:1, 2nd gear 2.06:1, 3rd gear 1.26:1, 4th gear 0.89:1, Reverse gear 3.61:1.  
Differential ratio: 4.125:1. Drive shafts with two constant velocity joints per shaft.

b — Automatic Stick Shift:  
Hydrodynamic torque converter with three speed synchromesh transmission, combined with final drive in one housing.  
Gear ratios: Driving range L: 2.06:1, Driving range 1: 1.26:1,  
Driving range 2: 0.89:1, Reverse range: 3.07:1.  
Differential ratio: 4.375:1. Drive shafts with two constant velocity joints per shaft.



### Engine with four speed synchromesh transmission

- |                              |  |                                |
|------------------------------|--|--------------------------------|
| 1 - 4th gear                 | 14 - Differential pinion                 | 27 - Cylinder head             |
| 2 - 3rd gear                 | 15 - Flywheel                            | 28 - Spark plug                |
| 3 - 2nd gear                 | 16 - Crankshaft                          | 29 - Camshaft                  |
| 4 - Drive shaft, front       | 17 - Fan                                 | 30 - Oil strainer              |
| 5 - Reverse gear             | 18 - Generator                           | 31 - Camshaft drive gears      |
| 6 - Drive shaft, rear        | 19 - Carburetor with throttle positioner | 32 - Oil pump                  |
| 7 - Clutch release bearing   | 20 - Intake manifold                     | 33 - Valve                     |
| 8 - Transmission shift lever | 21 - Ignition coil                       | 34 - Heat exchanger            |
| 9 - 1st gear                 | 22 - Distributor                         | 35 - Push rod tube             |
| 10 - Oil drain plugs         | 23 - Oil cooler                          | 36 - Oil pressure relief valve |
| 11 - Drive pinion            | 24 - Fuel pump                           | 37 - Connecting rod            |
| 12 - Differential side gear  | 25 - Oil filler and breather             | 38 - Thermostat                |
| 13 - Differential housing    | 26 - Piston                              | 39 - Cylinder                  |



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### Chassis

Platform frame with tunnel-shaped center member — Front axle bolted to frame head, engine/transmission unit bolted to frame fork — Independent wheel suspension: torsion arms at front, trailing arms and diagonal links at rear  
 Torsion bar springing, telescopic shock absorbers, stabilizer at front  
 Roller steering with maintenance free tie-rods and hydraulic steering damper  
 Hydraulic four-wheel dual circuit foot brakes, disc brakes at front  
 Mechanical hand brake effective on rear wheels  
 Wheelbase 94.5 in. (2400 mm)  
 Turning circle diameter 37 ft. (11.25 m)  
 Track at front 51.6 in. (1310 mm)  
 Toe-in .08 to .18 in. (2 to 4.5 mm) unladen  
 Camber 30' ± 20' unladen  
 Track at rear 53.3 in. (1350 mm)  
 Wheels 4½ J × 15 safety rim wheels

Tires, tubeless

Bias Ply Tires

5.60 S 15  
 load capacity 970 lbs. at 32 psi

Tire pressures, cold

with 1 or 2 occupants

fully loaded

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

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

### Electrical system

Voltage	12 volts
Battery	45 Ah
Starter	0.7 hp
Generator	max. 360 watts, early cut in
V belt size	9.5 × 900
Ignition distributor	with vacuum spark advance
Firing order	1-4-3-2
Basic ignition timing	TDC - engine at operating temperature



Contact breaker gap	.016 in. (0.4 mm)	} or plugs with similar values from other manufacturers
Spark plugs	Bosch W 145 T1 Beru 145/14	
Plug thread	14 mm	
Plug gap	.028 in. (0.7 mm)	

### Dimensions and weights

Length	163.0 ins. (4140 mm)
Width	64.3 ins. (1634 mm)
Height	52.4 ins. (1330 mm)
Ground clearance	5.9 ins. ( 150 mm)
Unladen weight (ready for use)	1918 lbs. ( 870 kg)
Permissible load	727 lbs. ( 330 kg)
Gross vehicle weight	2645 lbs. (1200 kg)
Permissible front axle load	1102 lbs. ( 500 kg)
Permissible rear axle load	1565 lbs. ( 710 kg)
Permissible roof and trailer weight:	
Roof weight <sup>1)</sup>	110 lbs. ( 50 kg)
Trailer without brakes	880 lbs. ( 400 kg)

<sup>1)</sup> Applies only to roof rack mounted to rain gutters of the Coupé. Distribute load evenly!

### Capacities

Fuel tank		10.6 U.S. galls (40 liters; 8.8 Imp. galls)
Engine		5.3 U.S. pints (2.5 liters; 4.4 Imp. pints)
Transmission and final drive		5.3 U.S. pints (2.5 liters)
On vehicles with Automatic Stick Shift:		
Torque converter circuit approx.	7.6 U.S. pints ATF <sup>2)</sup>	(3.6 liters; 6.3 Imp. pints)
Transmission and final drive approx.	6.3 U.S. pints Hypoid oil	(3.0 liters; 5.3 Imp. pints)
Brake system	approx.	.53 U.S. pints (0.25 liter; .44 Imp. pints)
Oil bath air cleaner	approx.	.95 U.S. pints (0.45 liter; .79 Imp. pints)
Windshield washer	approx.	3.6 U.S. pints (1.7 liter; 3 Imp. pints)
		operating pressure 43 psi (3 kg/cm <sup>2</sup> )

<sup>2)</sup> Does not have to be changed

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### Performance

	Four speed synchromesh transmission	Automatic Stick Shift
Maximum and cruising speed	82 mph. (132 kph)	80 mph. (128 kph)
Acceleration time from 0-50 mph (0-80 kph)	approx. 13 seconds	approx. 15 seconds
Climbing ability		
1st gear	45%	Driving range L 36%
2nd gear	23%	Driving range 1 22%
3rd gear	13%	Driving range 2 15%
4th gear	8%	

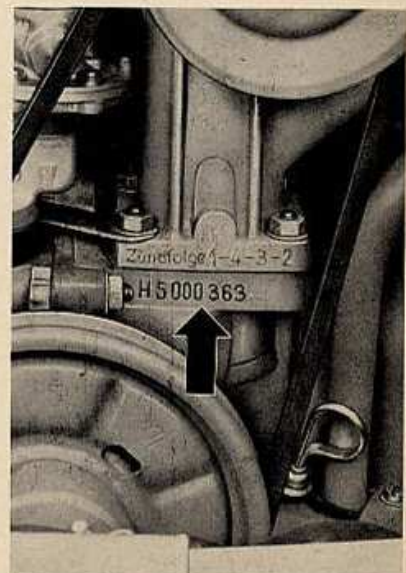
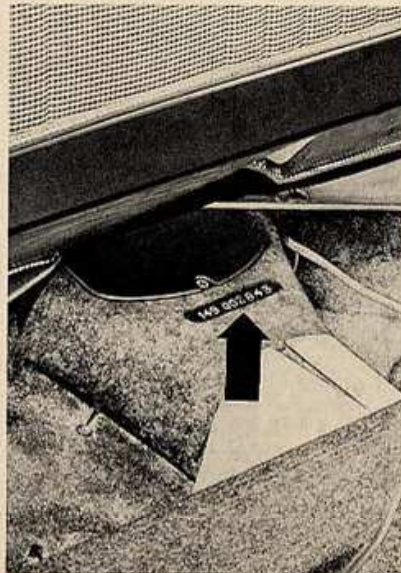
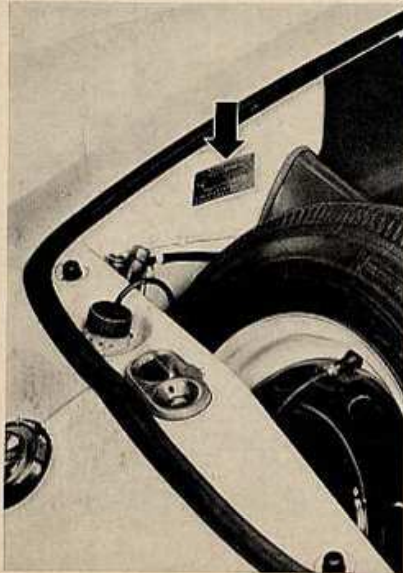


The **identification plate** is found under the front hood beside the spare tire. The 9 digit number after the words "Fahrgest. Nr." is the chassis number. It describes the model number, model year and serial number of the vehicle as shown in this sample:

14 9 002843  
 Model Year Serial Number

The **Chassis Number** is found on the frame tunnel under the jump seat.

The **Engine Number** is on the generator support flange.



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## Lubrication and maintenance

### A. The free maintenance service at 600 miles - W 1 - consists of the following \*:

#### Oil Change

- 1 - 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.

#### Maintenance Service

##### The Mechanic:

- 1 - Check slotted nut of both rear brake drums, tighten if necessary.
- 2 - Check V-belt, adjust if necessary.
- 3 - Check contact points, lubricate distributor.
- 4 - Check and adjust valve clearance.
- 5 - Check and adjust clutch pedal free-play (four speed synchromesh transmission only).
- 6 - Rear axle: Check torque of bolts for constant velocity joints.

7 - Drive shafts: Check boots for leaks.

8 - Check dust seals and proper fit of plug on ball joints. Check dust seals on tie rod ends. Check tie rods, tighten if necessary.

9 - Check tire pressures. Check wheel bolts, torque to factory specifications 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, heating and ventilation systems. Check overall performance.

##### After roadtest:

Adjust ignition timing with stroboscopic light. Check and adjust idling. Check throttle positioner for correct functioning (four speed synchromesh transmission only). Check cylinder head covers for leaks.

\* Lubricants and fluids are paid by the customer.

### B. An oil change service every 3000 miles - WS 5 - consists of:

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

### C. A lubrication and maintenance service every 6000 miles - W 10 - consists of:

#### Lubrication Service:

Perform WS 5 plus the following items:

- 5 - Transmission: Check oil level, add if necessary. Check for leaks.
  - 6 - Front end: Lubricate.
  - 7 - Air cleaner: Check, clean lower part if necessary and fill with fresh oil.
- In addition, on vehicles with Automatic Stick Shift:
- 8 - Check ATF level, fill up if necessary. Check torque converter circuit for leaks.
  - 9 - Oil pan: Check bolts, tighten if necessary.



## Maintenance Service

### The Mechanic:

- 1 - Check V-belt, adjust if necessary.
- 2 - Check contact points, replace if necessary, lubricate distributor.
- 3 - Check and adjust valve clearance.
- 4 - Check spark plugs, check and adjust plug gap. Check compression.
- 5 - Check control flaps on oilbath air cleaner.
- 6 - Check rubber valve for crankcase ventilation, replace if necessary. Check exhaust system for damage.
- 7 - Check and adjust clutch pedal free-play (four speed synchromesh transmission only).
- 8 - Check dust seals and proper fit of plugs in ball joints. Check dust seals on tie rod ends. Check tie rods, tighten if necessary.
- 9 - Check axial play of ball joints.
- 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 the tire pressures.

13 - Check brake system for damage and leaks, check brake fluid level, add if necessary. Adjust foot and hand brakes. Check operation of brake warning light.

14 - Check thickness of brake linings and pads.

15 - Rear axle: Check torque of bolts for constant velocity joints.

16 - Drive shafts: Check boots for leaks.

17 - Check operation of electrical system and headlight adjustment.

18 - Check wiper blades and replace if necessary.

In addition, on vehicles with Automatic Stick Shift:

19 - Servo clutch: Check clearance on clutch servo rod and adjust, if necessary.

20 - Control valve: Clean air filter.

21 - Shift lever: Check and clean contacts, replace if necessary. Adjust clearance.

The Service Adviser (Quality Control)

### During roadtest:

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

### After roadtest:

Adjust ignition timing with stroboscopic light. Check and adjust idling. Check throttle positioner for correct functioning (four speed synchromesh transmission only). Check cylinder head covers for leaks.

**D. In addition, every 30000 miles change the transmission oil (includes removing and installing oil pan on vehicles with Automatic Stick Shift) - W10. Repack front wheel bearings, clean and lubricate rear wheel bearings - W 51.**

**E. Every two years, replace brake fluid. Check functioning of brake warning light switch.**

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## Maintenance Record

Maintenance is only a word. It covers many things. Proper maintenance guarantees the best economy, dependability, safety and convenience. All kinds of "maintenance" are available to you. Naturally, we believe that the best maintenance is obtainable from Authorized Volkswagen Dealers.

- 1 - You 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 Record in the Owner's 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, 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 Owner's Manual to an Authorized Volkswagen Dealer - he will do the rest. The details are subject to alteration without notice.
- 4 - The first oil change and maintenance service at 600 miles and the oil change at 3000 miles are particularly important for a long, trouble-free service life. The rear cover of this Owner's Manual contains a punchcard for the free-of-charge maintenance service at 600 miles.
- 5 - From 6000 miles onward, the combined lubrication and maintenance service should be performed every 6000 miles. Engine oil should be changed every 3000 miles. If your Volkswagen is driven less than 3000 miles in 3 months, have the oil changed every 3 months; if driven less than 6000 miles in 12 months, have the front end lubricated once a year.
- 6 - 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.

### Delivery Inspection

(Dealer Stamp)

Date \_\_\_\_\_

Miles \_\_\_\_\_

### 12 months WARRANTY VALIDATION

(Dealer Stamp)

Date \_\_\_\_\_

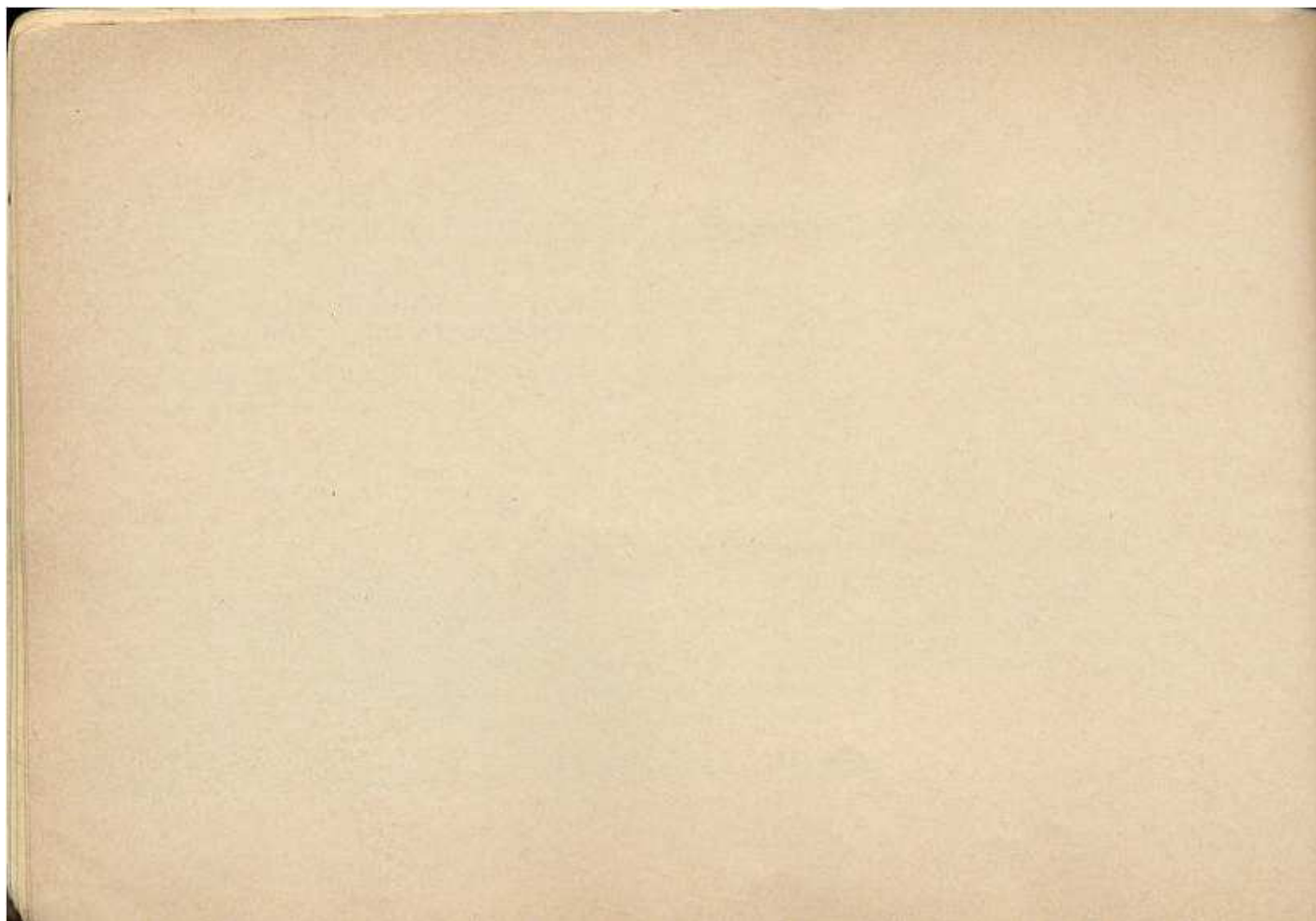
Miles \_\_\_\_\_

Brake Fluid Renewal and checking of brake warning light switch			600 miles W 1 Engine and Transmission Oil change		3000 miles WS 5 Oil change
after 2 years of operation	after 4 years of operation	after 6 years of operation	Free 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 _____

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<b>6000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>9000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>12000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>15000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>18000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>21000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____
<b>24000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>27000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>30000 miles</b> <b>W 10 Lubrication and Maintenance Service</b> <b>Transmission Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>30000 miles</b> <b>W 51 Repack front and rear wheel bearings</b>  (Dealer Stamp)  Date _____ Miles _____	<b>33000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>36000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____
<b>39000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>42000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>45000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>48000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>51000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>54000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____





<b>57 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>60 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b> <b>Transmission Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>60 000 miles</b> <b>W 51 Repack front and rear wheel bearings</b>  (Dealer Stamp)  Date _____ Miles _____	<b>63 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>66 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>69 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____
<b>72 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>75 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>78 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>81 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>84 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>87 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____
<b>90 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b> <b>Transmission Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>90 000 miles</b> <b>W 51 Repack front and rear wheel bearings</b>  (Dealer Stamp)  Date _____ Miles _____	<b>93 000 miles</b> <b>WS 5 Oil change</b>  (Dealer Stamp)  Date _____ Miles _____	<b>96 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>100 000 miles</b> <b>W 10 Lubrication and Maintenance Service</b>  (Dealer Stamp)  Date _____ Miles _____	

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The "National Traffic & Motor Vehicle Safety Act of 1966" requires manufacturers to be in a position to contact vehicle owners if a correction of a product defect becomes necessary.

Please fill in the attached postcard if you change your address or purchase a Used Volkswagen.

You need not use this card if you purchased your car through an Authorized Volkswagen Dealer.

Please quote the VW chassis number as it appears on the identification plate of the vehicle. Its location is shown on page 53. Do not use the abbreviated serial number as shown on the vehicle registration.

Additional cards can be obtained from any Authorized Volkswagen Dealer.

**NOTICE OF ADDRESS CHANGE**

**NOTICE OF USED CAR PURCHASE**

please check one of the above boxes

Mo. Day Yr.

VW Chassis Number

Last Name First Name Initial

Number Street

City State Zip Code

Please print and give complete information.



# Delivery Inspection

CHECKLIST FOR .....  
(chassis number)

Check Mark

## BEFORE ROADTEST

- Engine
- Clutch
- V belt tension
- Starting

## Chassis

- Control pin for slotted nut on rear brake drum
- Wheel bolts
- Tire pressures
- Brake fluid reservoir
- Brake lines and hoses
- Steering components
- Engine and transmission for leaks
- ATF level (Automatic Stick Shift only)

## DURING ROADTEST

### Clutch

- Clutch pedal free-play (four speed synchromesh transmission only)

### Transmission

- Gear shifting

### Chassis

- Foot and hand brake
- Steering, position of steering wheel
- Heating
- Fresh air ventilation

## Electrical system and instruments

- Warning lights
- Generator
- Oil pressure
- Turn signals
- High beam
- Parking lights
- Brake operation
- Emergency flasher
- Rear window defogger
- Horn
- Windshield wipers and washer
- Speedometer
- Fuel gauge
- Clock

## AFTER ROADTEST

### Engine (swarm)

- Idle speed
- Functioning of throttle positioner (four speed synchromesh transmission only)

### Electrical system

- Headlight dimmer switch
- Tail and stop lights
- Parking lights
- License plate light
- Instrument light
- Interior light
- Turn signal and parking lights
- Emergency flasher lights
- Back-up lights

### Body

- Paintwork
- Chromium plated parts
- Optometry, mirror trim
- Operation of seat adjustment
- Seat belts
- Windows and regulators
- Mirrors
- Door and hood locks
- Tools, jack
- Spare V belt
- Spare wheel

Remarks: .....

Vehicle in perfect condition. ....

(Signature of Service Adviser/Date) .....

## Oil Change and Maintenance Service 600 miles

**W 1**

When the punch card "Free Maintenance Service — 600 miles" found in this pocket is presented to any Authorized Volkswagon Dealer, between 500 and 750 miles, the services listed on the back of this coupon will be performed without charge, except for the cost of lubricants used.

Typ 14

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