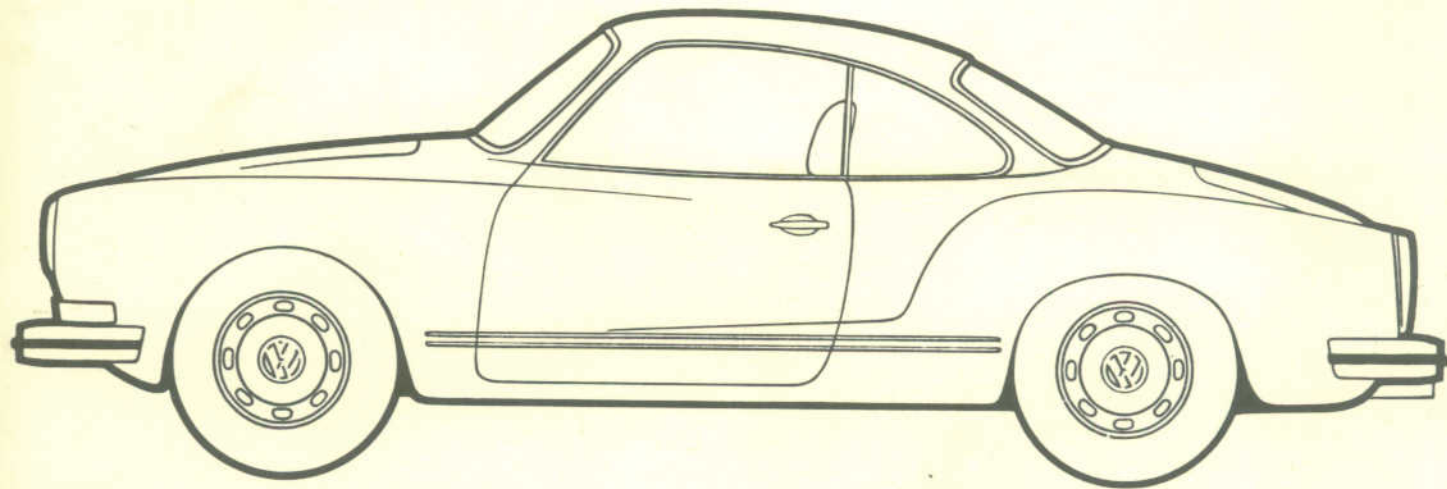


# Volkswagen Owner's Manual: Operation and Maintenance

Type 14



First Owner \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Delivery Date \_\_\_\_\_

Dealer's Name \_\_\_\_\_

Second Owner \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Tel. No. \_\_\_\_\_

Purchase Date \_\_\_\_\_ Mileage \_\_\_\_\_

### Vehicle Identification

Model \_\_\_\_\_

Model Year \_\_\_\_\_

Color \_\_\_\_\_

Chassis Number \_\_\_\_\_

License Plate No. \_\_\_\_\_

### Customer Identification Card

This is another feature of Volkswagen Service that adds to your convenience. Just present this booklet 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.

### Transmission oil

For transmission and final drive use hypoid oil Mil-L-2105, SAE 80 or SAE 80/90 (multi-grade) all year.

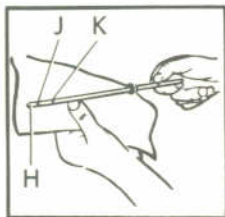
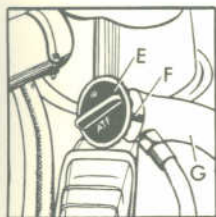
### ATF (Automatic Stick Shift)

Check ATF level with engine off. ATF tank cap has dipstick attached.

Use ATF "Dexron®" with 5-digit number preceded by B.

E - Filler cap  
F - Dip stick  
G - Fluid tank

H - Dip stick  
J - Bottom mark  
K - Top mark



Automatic Transmission Fluid

### Battery — in engine compartment

Check each cell. Top up with distilled water.

### Hood release, front

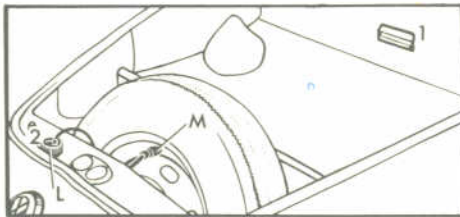
Pull lever inside glove compartment.

To lock hood, lower hood, press down firmly at front near safety catch until hood locks securely.

### Brake fluid reservoir (1)

Under front hood. Brake fluid level should be above seam edge near top.

Only use new brake fluid SAE J 1703, conforming to Mot. Veh. Safety Std. 116.



### Windshield washer container (2)

Unscrew cap, add water and cleaning solution. Follow mixture instructions on can.

Spare wheel supplies pressure to operate washer. Maintain at 42 psi (3 kg/cm<sup>2</sup>).

### Spare tire pressure

Spare tire supplies pressure to operate washer. Maintain at 42 psi (3 kg/cm<sup>2</sup>). Disconnect hose from valve (arrow). Pressurize spare tire by this valve.

### Spare tire removal

Disconnect windshield washer hose from tire valve — M.

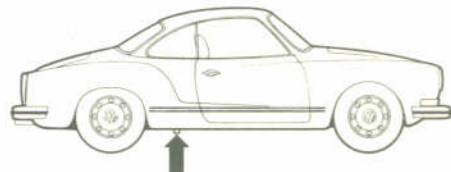
### Jack

Under rear luggage panel.



### Jack ports — one on each side

Raises entire side for front and rear wheel changing.



# NEW SAFETY REQUIREMENT

according to Federal Motor Vehicle Safety Standard No. 208, Section 7.4

**FOR ADDED SAFETY**, this 1974 model is equipped with an Ignition Switch/Safety Belt Interlock.

## 1. What is the Interlock?

Engine ignition and safety belt system for the front seats are interconnected.

To start the engine, follow these steps:

- SIT DOWN
- BUCKLE UP
- TURN KEY

Otherwise the engine cannot be started.

## 2. What happens if the engine stalls?

Keep belts on!

Turn the key back to the "off" position and restart the engine.

## 3. What happens if driver or front passenger take off belts while driving?

Engine will not stop.

Warning light and buzzer will remind driver and passenger to buckle up again.

## 4. How sensitive is the seat switch?

Shopping bags, heavy packages or pets on the seat will actuate the warning system.

Engine cannot be started until seat is cleared.

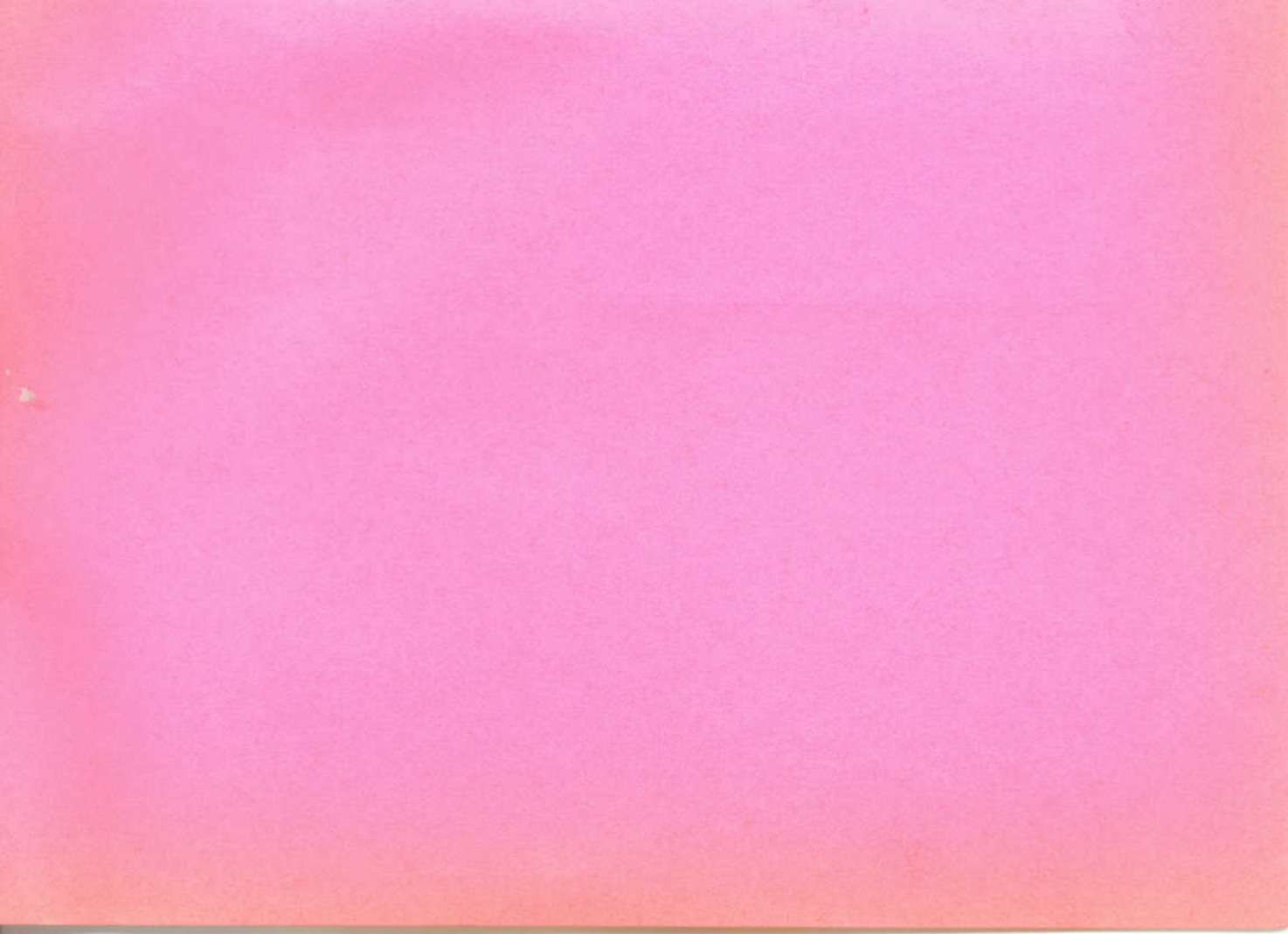
## 5. What about parking lot attendants?

The car can be started, without buckling up, within 3 minutes after the engine has been shut off.

However, the warning system will be actuated.

## 6. IMPORTANT REMINDER! NEVER attempt to defeat the Interlock!

If you tamper with the Interlock, you may not be able to start the engine, or the car may become inoperative.



# Volkswagen Owner's Manual: Operation and Maintenance

1974 Models



Karmann Ghia Coupé and Convertible

Volkswagenwerk Aktiengesellschaft



The VOLKSWAGEN OWNER'S MANUAL consists of two major parts: operation description and Computer Analysis & Maintenance record.

The first part acquaints you with your Volkswagen Warranty and the operation of your car. It also gives you information on fuel, oil, lubrication, plus technical data.

The second part deals with the maintenance of your Volkswagen. It explains what the VOLKSWAGEN COMPUTER ANALYSIS and MAINTENANCE is all about, and how to keep your Volkswagen in top driving condition. Check the mileage chart at the end of this manual. It will tell you when to bring your car to your Authorized Volkswagen Dealer for periodic oil change, computer analysis and maintenance services.



**There is no extra charge for the first maintenance service at 600 miles (you only pay for lubricants).**

**You are further entitled to a computer analysis at no extra charge at 6,000, 12,000, 18,000 and 24,000 miles.**

Always have your Volkswagen Owner's Manual with you when you take your car to an Authorized Volkswagen Dealer for service . . . it provides your Service Adviser with the information he needs and enables him to make the necessary entries for you.

Please read this manual before you drive your new Volkswagen. Acquaint yourself with the features, and know how to operate it more safely . . . because the more you know about it, the more you will enjoy driving your Volkswagen.



Pictures and text in this manual are based on the 1974 Volkswagen Karmann Ghia Coupé with Manual Transmission. Where the controls, equipment and technical data of the Automatic Stick Shift and the Convertible differ considerably, we will point this out in the text.

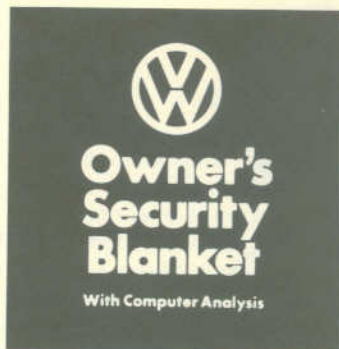
Various items shown or described in the manual may be options on certain models. Check with your Authorized VW Dealer on available options or accessories.

It has always been Volkswagen's policy to continuously make technical improvements; therefore, the right is reserved to make changes at any time during the model year without notice.

**We're in this together.**

We made the car. You own the car. So we're in this together. As long as you maintain your new Volkswagen properly we'll do most of the worrying for you.

That's what Volkswagen's Owner's Security Blanket is all about.



# **The VW Owner's Security Blanket**

**It covers a lot.**

Brochures describing details of the Volkswagen Owner's Security Blanket are available at your authorized VW dealer

# Contents

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Volkswagen offers a quality product. Maintain this quality by having your Volkswagen Karmann Ghia serviced regularly. A service schedule that we recommend is explained in the section Volkswagen Computer Analysis and Maintenance.

Should you have occasion to make use of your Volkswagen Warranty, it is always helpful to have the related service receipts handy.

# WARRANTY VOUCHER

for the new VW automobile

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

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

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

In accordance with the terms of warranty printed overleaf.

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 12 months or the period before the vehicle has been driven 20,000 miles, whichever event shall first occur. Should any warranty claim arise, you are requested to present this voucher to your VW Dealer.

VOLKSWAGEN OF AMERICA, INC.

(Stamp of Selling  
VW Dealer)



## Air Conditioner Installation

(Stamp of Installing  
VW Dealer)

Date \_\_\_\_\_

At Mileage \_\_\_\_\_

Make, Model \_\_\_\_\_

## Auxiliary Heater Installation

(Stamp of Installing  
VW Dealer)

Date \_\_\_\_\_

At Mileage \_\_\_\_\_

Make, Model \_\_\_\_\_

## Speedometer Replacement

(Stamp of Replacing  
VW Dealer)

Date \_\_\_\_\_

At Mileage \_\_\_\_\_

Make, Model \_\_\_\_\_

# 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 the United States and Canada of defective parts for 12 months or 20,000 miles

1. VWoA warrants that every 1974 Volkswagen vehicle imported by VWoA and sold as a new vehicle to a retail customer will be free from defects in material and workmanship for 12 months after the date of delivery of the vehicle to the original retail customer or until the vehicle has been driven 20,000 miles, whichever comes first. This warranty is limited, however, to the following: If the vehicle becomes defective under normal use and service and is brought during this period to the workshop of any authorized Volkswagen dealer in the continental United States, Hawaii or Canada, the dealer will, without charge, repair any defective part or replace it with a new or factory reconditioned part.

Maintenance required to keep warranty in effect

2. In order to keep this warranty in effect, the owner must have the vehicle maintained and serviced as prescribed in the Volkswagen Maintenance Schedule.

Items not covered by warranty

3. VWoA is not responsible for: (i) damage or malfunctions resulting from: (a) accident, misuse, negligence or alteration; (b) improper repair of the vehicle, (c) use of the vehicle in competitive events; or (d) failure to follow recommended maintenance requirements; and (ii) loss of time, inconvenience, loss of use of the vehicle or

other consequential damage.

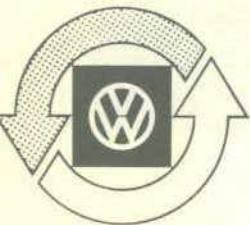
Maintenance services, and the replacement of service items, such as air and fuel filters, and lubricants and fluids are also at the expense of the owner.

Warranty outside the 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, THE 24,000-MILE OR 24-MONTH ENGINE AND TRANSMISSION POLICY UNDER THE VOLKSWAGEN OWNER'S SECURITY BLANKET AND THE EMISSION CONTROL SYSTEM WARRANTY ARE IN LIEU OF ALL OTHER EXPRESS WARRANTIES OF VWoA, THE MANUFACTURER, THE DISTRIBUTOR AND THE SELLING DEALER. NEITHER VWoA NOR THE MANUFACTURER ASSUMES, OR AUTHORIZES ANY PERSON TO ASSUME, ON ITS BEHALF, ANY OTHER OBLIGATION OR LIABILITY.



**Volkswagen parts, accessories and exchange units** are identified by these trademarks.

All meet the same exacting quality control standards as the original equipment on the car, and comply with all applicable Government safety regulations.

They are guaranteed to be free from defects in material and workmanship for a period of 6 months or 6,000 miles, whichever comes first.

All Volkswagen parts and accessories are available at your Authorized Volkswagen Dealer.

Also, ask him about rebuilt parts under the Volkswagen Exchange Service ... they cost less than new parts but carry the same warranty.



## Dear VW Owner

A lot has gone into the manufacture of your Volkswagen Karmann Ghia. Including advanced engineering techniques, rigid quality control and demanding inspections. The engineering and safety features that have gone into your VW will be enhanced by . . . you, the safe driver

- who knows his vehicle and all the controls,
- who maintains his vehicle properly,
- who uses his driving skills wisely.

Because safe driving is important to you, we urge you to read this manual carefully, to maintain your VW properly and to follow the check list shown on this page whenever you use your VW.

### Before getting behind the wheel

- 1 - Make sure that the tires are inflated correctly.
- 2 - Watch the tread depth indicator on the tires. Look for bruises and wear.
- 3 - See that all windows are clean and unobstructed.
- 4 - Check that headlight and tail light lenses are clean.
- 5 - Check that all lights are functioning properly.
- 6 - Check turn signal lamps and indicator light (ignition on).

### In the driver's seat

- 1 - Position seat properly for easy reach of controls.
- 2 - Adjust inside and outside mirrors for unobstructed rear view.
- 3 - Fasten safety belts.
- 4 - Check brake warning light when starting the engine.
- 5 - Check brake operation.
- 6 - Make sure that all doors are closed securely and locked.

### And when you are on the highway

- 1 - Always drive defensively. Expect the unexpected.
- 2 - Use signals to indicate turns and 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 tired, get off the highway, stop and take a rest.
- 8 - When stopped or parked, always set the parking brake.
- 9 - When stalled or stopped for repairs, move the car well off the road. Set the emergency flasher and use road flares or other warning devices to warn other motorists.



TYPE PASSENGER CAR  
MANUFACTURED BY VOLKSWAGENWERK AG (month/year)  
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR  
VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANU-  
FACTURE SHOWN ABOVE. (chassis number)  
GVWR LB.( . . . . )  
GAWR LB. FRONT ( . . . . )/REAR ( . . . . )

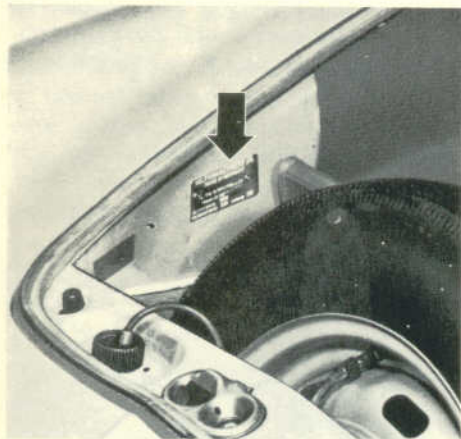
This sticker is your assurance that your 1974 Volkswagen Karmann Ghia complies with all applicable Federal Motor Vehicle Safety Standards which were in effect at the time the vehicle was manufactured. You can find this sticker on the left door-jamb.

The sticker also shows the month and year of production and the chassis number of your car (perforation) as well as the **Gross Vehicle Weight Rating** and the **Gross Axle Weight Rating**.

# Vehicle identification

## The identification plate

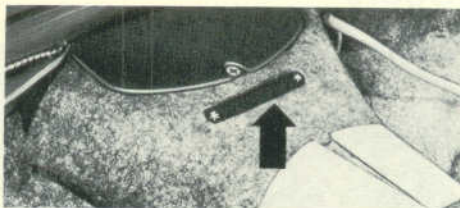
is the "birth certificate" of your Volkswagen. It is located under the front hood beside the spare wheel.



The plate shows such information as manufacturer's name, place of origin, model, weights and "Fahrgest.-Nr.", which is the chassis number of your car.

## The chassis number

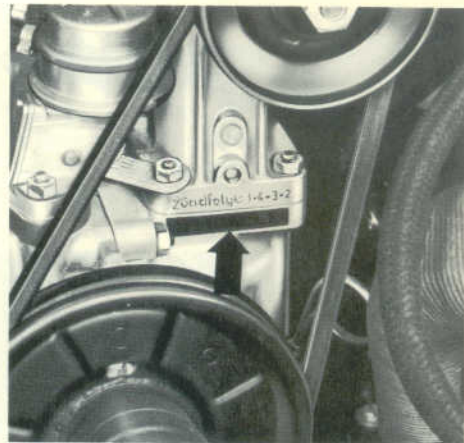
is also located on the instrument panel on the driver's side so that it is visible from the outside through the windshield. This is for your protection ... to aid in the apprehension of car thieves and the recovery of stolen vehicles.



The chassis number is also stamped on the frame tunnel under the rear luggage panel.

## The engine number

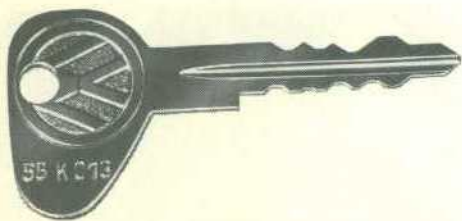
is stamped on the alternator support flange.



## Keys

Your Volkswagen Karmann Ghia comes with two sets of keys:

**The key with the elongated head** is for the doors and the ignition/steering lock.



**The key with the round head** is for the glove compartment only.



### Do not invite car theft

by leaving your car unattended with the key in the ignition lock. Take the key with you and lock the doors.

A buzzer will remind you when you open the driver's door and the key is still in the ignition lock.

It is a good idea to keep a record of your key numbers in your wallet together with your license. If you should lose a key, your Authorized VW Dealer will thus be able to quickly secure a replacement key for you.

## Doors

**Always drive with locked doors to prevent inadvertent opening of a door from the inside, especially with smaller children in the car.**

Since your Volkswagen is almost air tight it will be easier to close the door if you open a window slightly.

### To lock and unlock doors from the outside

You can lock and unlock your car with a key, of course.

But you can also lock it without a key.

First depress the locking lever in the inside door handle.

Then squeeze the trigger in the outside door handle as you close the door.

If the door, with the locking lever depressed, closes by itself, the locking device will disengage automatically. We provided this additional safety feature so you won't be locked out if the door should slam shut while the key is still inside the car.

### To lock and unlock doors from the inside —

depress or pull out the locking device.

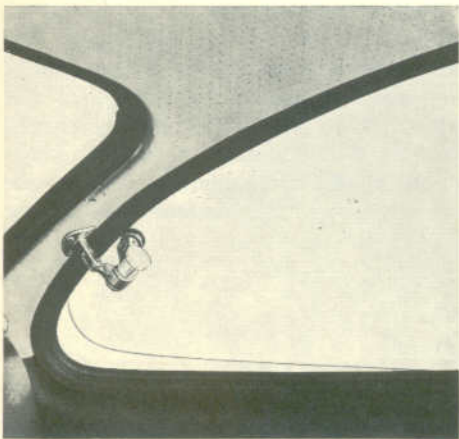


## Windows

We recommend you do not put decals or other signs on the windows of your car that will interfere with the driver's vision.

You can lower and raise the **windows in the doors** by means of winders. We cushioned the knobs for your safety.

The **hinged rear side 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.



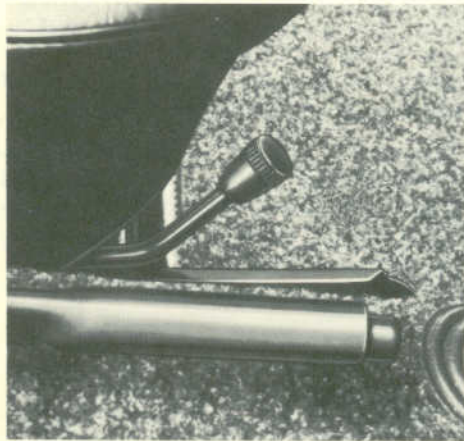
## Seats

We recommend you do not adjust the driver's seat while driving. Your seat may suddenly jerk forward or backward, which could result in loss of control.

Your Volkswagen Karmann Ghia has adjustable seats with built-in headrests.

### Seat adjustment

To move the seat forward and backward pull the lever at the front right-hand side of the seat. Now slide the seat to the desired position. Let the lever go, and move the seat slightly back and forth to make sure it is securely engaged.



### Backrest adjustment

You can adjust the backrest to four different angles.

Take the weight off the backrest and turn the lever on the outboard side of the seat.

We have installed a lock on the side of the backrest.

You can disengage this lock by pulling up the lever. Tilt the backrest forward and out of the way for easy access to the rear luggage panel.



## Safety belts

Both seats in your Volkswagen Karmann Ghia are equipped with lap/shoulder belts with an automatic locking retractor. The belt adjusts automatically to your size and movements as long as the pull on the belt is slow. **A sudden motion locks the belt.** The automatic locking mechanism in the retractor will also lock the belt when driving down a steep hill or in a curve, and when the car's speed is reduced.

For your protection, **fasten your safety belt before driving off and wear it at all times while the car is in motion.**

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

**A shoulder belt should not be worn by a person less than 4' 7" in height, because it would not be in its most protective position, and therefore may increase the possibility of injury in a collision.**

**Safety belts that were subjected to excessive stretch forces during an accident should be replaced.**

Engine ignition and safety belts for both seats are interconnected. To remind you to wear your safety belts, the engine cannot be started before the seat is occupied and the safety belts are fastened. This applies to both seats.

The sequence: sitting in your seat, buckling up and starting the engine is important.

Unfastening the belts once the engine is started does not stop the engine.

Unfastening the belts while driving also does not stop the engine; however, the buzzer and FASTEN BELT warning light will remind you to buckle up again.

Your engine can be restarted, without wearing safety belts, within approx. 3 minutes after you shut off the engine, or if the engine should happen to stall.

This applies regardless of whether you remain seated or leave the car. This feature was added to make it possible to move the car readily, e.g. by a parking attendant.

There is a small flow of current from the battery to the weight sensor in the seat switch if heavy objects are left on the seats. Therefore **keep the seats free when parking your car for an extended period of time.**



**To fasten** your lap/shoulder belt, grasp the belt tongue and pull the belt in a continuous slow motion across your chest and lap. Insert the belt tongue into the corresponding anchor housing on the center tunnel and push down until it is securely locked with an audible click. **Belts should not be worn twisted.**

**To unfasten** the belt, push in the release marked PRESS on the corresponding anchor housing. The belt tongue will spring out of the anchor housing.

**To store** the lap/shoulder belt, guide the belt tongue to its stowed position above the door post. For the passenger's comfort, the retracting forces of the belt are relatively low and winding up of the belt may be slow. Make sure the belt is fully wound up on the retractor.

Make sure the belt of the unoccupied passenger seat is fully wound up on its retractor so that the belt tongue is in its stowed position above the doorpost. This reduces the possibility of its becoming a striking object in case of a sudden stop.

### **Belt care**

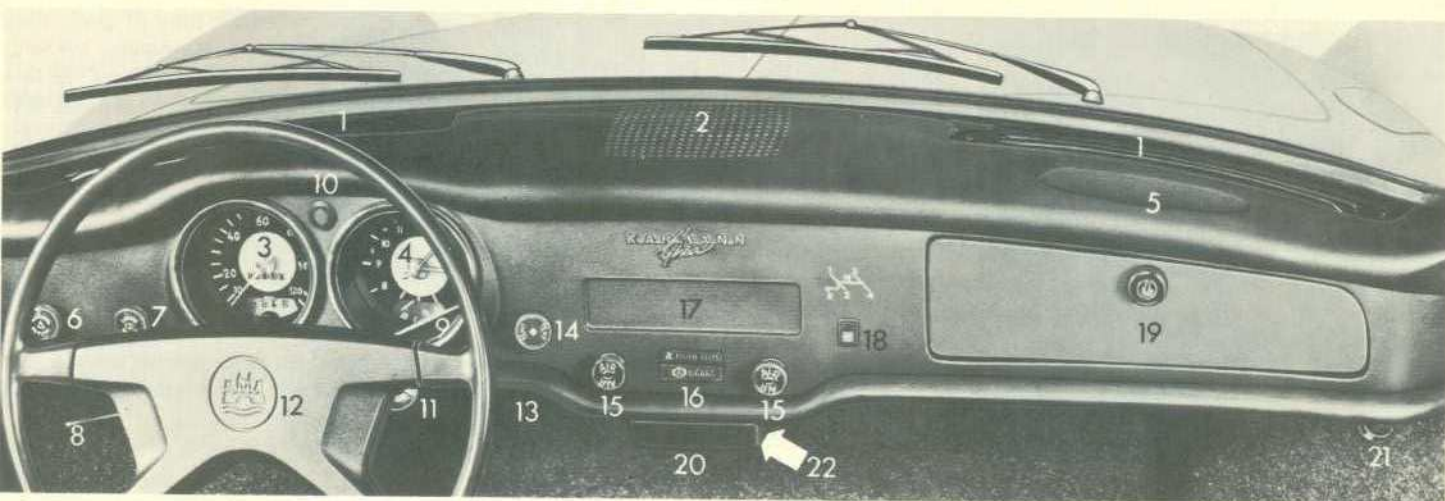
Keep safety belts clean. If cleaning is necessary, wash them with a mild soap solution, without removing them from the car.

Do not allow the belts to retract until they are completely dry.

Do not bleach or dye safety belts. Do not use any other cleaning agents. They may weaken the webbing.

Check buckles and retractors for proper function. Check belt webbing and bindings for damage.

# Instrument panel



	page		page
1 - Vents for defrosting and fresh air ventilation (there are 2) .....	21	12 - Horn .....	
2 - Loudspeaker grille .....		13 - Fuse box .....	34
3 - Speedometer dial .....	10	14 - Control knob for Auxiliary Heater (optional equipment) .....	25
4 - Clock with fuel gauge and warning lights .....	11	15 - Fresh air knobs (2) .....	21
5 - Assist handle .....		16 - Safety belt warning light/brake warning light .....	6/9
6 - Emergency flasher switch .....	9	17 - Plate over radio aperture .....	
7 - Headlight switch .....	10	18 - Switch for rear window defogger .....	13
8 - Turn signal and headlight dimmer switch lever .....	12	19 - Glove compartment, lockable .....	14
9 - Windshield wiper/washer lever .....	12	20 - Ashtray .....	14
10 - ATF warning light (Trailer hauling-Automatic Stick Shift only) .....	26	21 - Release for fuel tank flap .....	35
11 - Ignition/steering lock .....	9	22 - Spot light to illuminate the heater levers between the seats .....	20

## Ignition/steering lock

The steering is equipped with an anti-theft ignition lock.

**Fasten safety belts. Otherwise the engine cannot be started (see also pages 6 and 19). Make sure the gearshift lever is in Neutral before turning the ignition key.**

### 1 - Ignition off/steering locked.

Insert the key. If it is difficult to turn the key, gently move the steering wheel until the key turns freely.

### 2 - Ignition on/steering free (for towing).

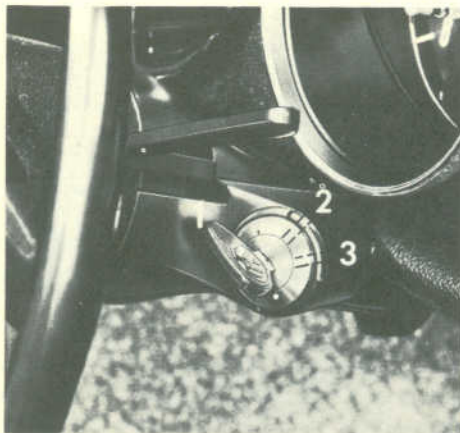
### 3 - Starter engages.

The key returns to position 2 as soon as it is released. Never operate the starter longer than a few seconds. If the engine should fail to start, turn the key back to position 1 and repeat the starting procedure. More on starting on page 19.

To remove the key and to lock the steering, turn the key back to position 1 and pull it out. Turn the steering wheel until it locks.

The steering column will lock when you remove the key. Therefore **DO NOT REMOVE the key while you are driving or as the car is rolling to a stop.**

If you leave the key in the ignition/steering lock, the buzzer will sound when the driver's door is opened. This is your reminder to remove the key.



## Emergency flasher switch



If your car is disabled or parked under emergency conditions, pull the switch to make all four turn signals flash simultaneously. The warning light in the switch knob flashes, too.

When the headlight switch is operated, the emergency flasher knob glows with reduced brightness for easy recognition in the dark. When the emergency flasher is not in operation, the brightness of the light can be regulated together with the instrument panel lights (see instrument illumination). The light has full brightness when the emergency flasher system is in operation.

**Move the car well off the road when stalled or stopped for repairs.**

## Brake warning light (B)

Your Volkswagen is equipped with a dual circuit brake system. Both circuits, one for the front brakes and one for the rear brakes, can function independently.

If the brake warning light lights up when you apply the brakes while driving, one of the two brake circuits may have failed. First make sure the parking brake is fully released.

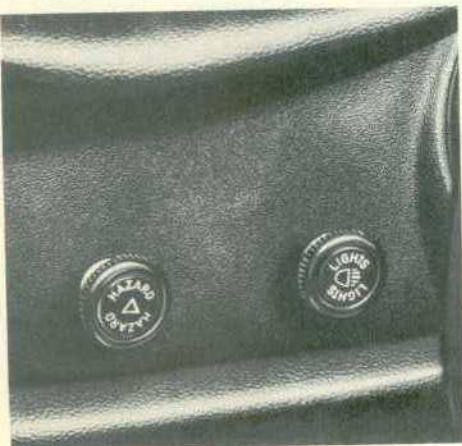


**Note:** If one brake circuit may have failed, the other brake circuit will still operate, but a longer distance and greater pedal pressure are required to bring the car to a halt.

Pull off the road and stop.

Try out the effectiveness of the brakes by carefully starting and stopping on the road shoulder.

If you judge that the brakes operate safely enough to take you to the nearest dealer, proceed cautiously and at low speed. If you do not feel it is safe to continue, have your car towed to the nearest dealer for repair.



### Proper functioning of brake warning light

The brake warning light will light up when the ignition is turned on. It will go out after the engine has been started and the parking brake released. This is your assurance that the brake warning light functions properly.

If the brake warning light does not light up when turning on the ignition, or if it does not go out after starting the engine and releasing the parking brake, there may be a defect in the electrical system. If this is the case, contact your Authorized VW Dealer.

### Headlight switch



Pull the knob to the first stop to turn on the parking and side marker, license plate, tail and instrument lights, emergency flasher light, spot light for the heater levers and the light in the TEMP-switch for the optional Auxiliary Heater.

Pull the knob to the second stop to turn on the headlights. The headlights only work with the ignition on.

To preserve the battery, the headlights will go out automatically when the ignition is turned off or when the engine is started.

### Instrument illumination

Adjust the brightness of the instrument lights and the heater lever spot light by turning the light switch knob.

### Speedometer dial

The speedometer dial indicates vehicle speed.

The 5-digit odometer records the miles driven.

The 4-digit trip odometer can be reset to zero by depressing the knob in the dial to record a driven distance. The last digit in red indicates  $\frac{1}{10}$  of a mile.



## Clock with fuel gauge and warning lights

The clock is electric. To set the clock, depress the knob in the dial center and turn.

### Fuel gauge

It is located in the clock dial and only indicates the fuel level when the ignition is turned on.

When the needle is on "R", there is a reserve of about 1.3 US gallons (1.1 Imp. gal./5 liters) of fuel left in the tank . . . time to refuel at the next gas station.

The following indicator or warning lights are in the clock dial:

- a - red oil pressure
- b - blue high beam
- c - green turn signals
- d - red alternator

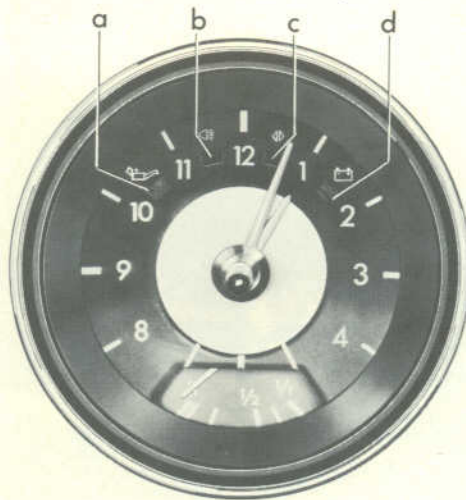
The red warning lights for alternator and oil pressure in the clock dial will light up when the ignition is turned on. They should go out after you have started the engine.

### d - Alternator warning light Stop at once . . .

if the alternator warning light comes on while you are driving.

### Turn the engine off!

Check first whether the V-belt is slipping or broken. The V-belt not only drives the



alternator but also the fan that cools the engine.

Tighten or replace the belt (see also page 50 "Trouble shooting", item 18).

### a - Oil pressure warning light Stop at once . . .

if the oil pressure warning light comes on while you are driving.

### Turn the engine off!

Check the oil level to make sure you have enough oil. If the cause is somewhere else, do not drive on but contact your nearest Authorized VW Dealer.

An occasional flickering of the oil pressure warning light when the engine is idling after a long high-speed trip is no cause for concern if the light goes out upon acceleration.

Whenever stalled or stopped for repair, move the car well off the road. Turn on the emergency flasher and mark the car with road flares or other warning devices. Before working on any part in the engine compartment, turn the engine off and wait until the engine has cooled down sufficiently.

## Turn signal/headlight dimmer switch lever and windshield wiper/washer lever

There are two levers just behind the steering wheel:

**The lever on the left side** is for the turn signal/headlight dimmer switch.

**The lever on the right side** is for the windshield wiper/washer system.

The turn signals and the windshield wipers only work with the ignition on.

### Turn signals

Lever up — right turn signal

Lever down — left turn signal

The green turn signal indicator light comes on in the clock dial when you operate the lever.

The turn signals are cancelled automatically when you have completed a turn (like driving around a corner), and the steering wheel returns to the straight-ahead position.

If a turn signal is defective, the control light flashes at about twice the normal frequency. Have your Authorized VW Dealer check and repair it for you.

### Lane changer

To indicate your intention when changing lanes on expressways, slightly lift or depress the lever to an intermediate position. The lever will return to the OFF position when released.

### Headlight dimmer

Dim the headlights by pulling the lever toward the steering wheel. The blue indicator light in the clock dial will light up when the high beams are on.

### Windshield wipers **WIPE**

The windshield wiping system operates at two speeds: low and high.

Lifting lever to first stop — low speed

Lifting lever to second stop — high speed

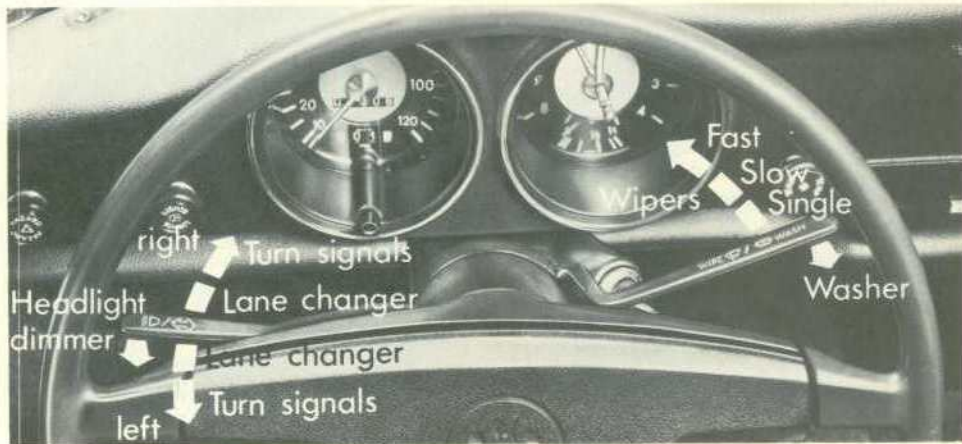
If you just slightly lift the lever before reaching the first stop, the wipers will wipe as long as the lever is held in this position and come to a stop when released.

To give you full battery power while starting the engine, operating windshield wipers will stop automatically at this moment.

### Windshield washer **WASH**

To spray washer fluid on the windshield, pull the lever toward the steering wheel. You can operate the washer from any selected wiping position.

Avoid running the wiper blades over a dry windshield . . . you may scratch the glass. Spray washer fluid on it first.



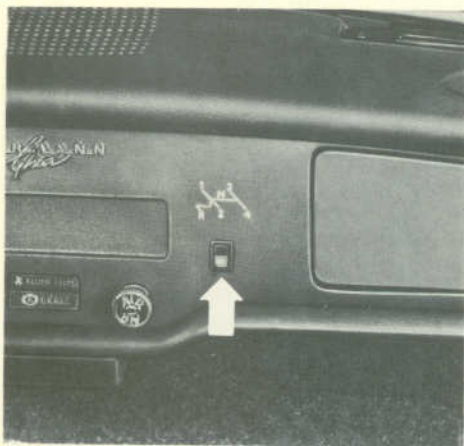
## Rear window defogger

The rear window defogger will help to keep the inside of the rear window clear of condensation and frost in the winter.

Turn the ignition on first before you switch on the rear window defogger.

The rocker switch (arrow) for the rear window defogger is located on the instrument panel on the left side of the glove compartment.

A red dot on the rocker switch will appear when the defogger is switched on. After the rear window has been cleared, switch off the rear window defogger to avoid an unnecessary drain on the battery.



The filler panel below the rear window should not be used for storage, even for small and light items. During sudden stops, these articles may cause injury when dislodged. Larger items may also reduce vision to the rear.

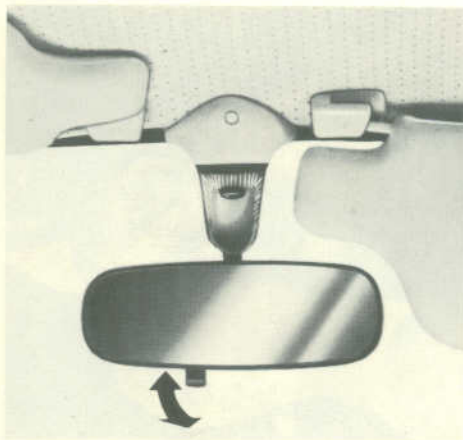
Objects with sharp edges may damage the defogger in the rear window.

## Interior light

The light and light switch are on the mirror bracket.

The switch positions are:

- Left — ON (with doors open)
- Center — OFF
- Right — ON (with doors closed)



## Sun visors

You can lift the sun visors out of the center mounting and move them toward the door windows to prevent glare from the side.

## Rear view mirrors

Adjust the outside and inside mirrors before driving off. It is important for safe driving that you have good vision to the rear.

### Outside mirror

The outside mirror is hinged and folds flat against the car when struck from either direction.

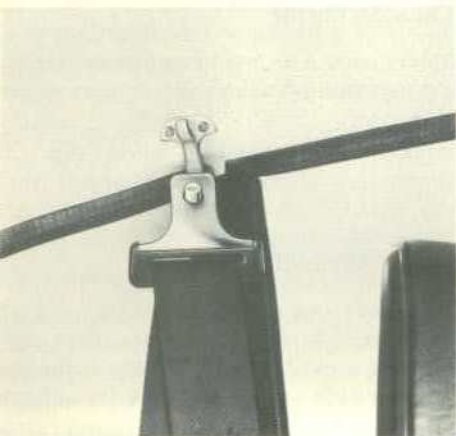
### Inside day-night mirror

You can move the day-night mirror from clear daylight visibility to non-glare visibility at night by adjusting the lever upward or downward at the bottom of the mirror.

## Coat hooks

There is one coat hook on each side above the door post.

Hang clothes in such a way that they do not impair the driver's vision.



## Ashtray

You will find an ashtray in the center just beneath the instrument panel.

Pull to open it. To remove the tray depress the leaf spring which you see on the right just beneath the top cover. Now pull out the tray.

To put it back in, fold the top cover down, insert the tray in the guide rails and push in with the heel of your hand.

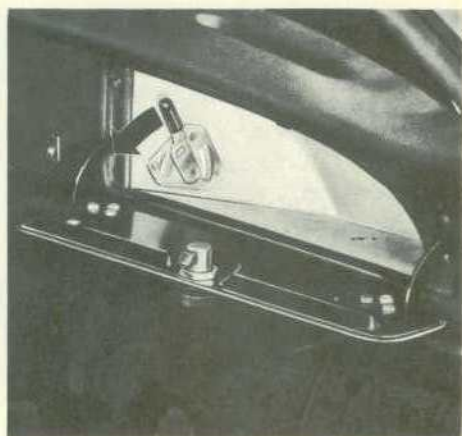


## Glove compartment

The glove compartment is lockable.

- To open — Turn knob to the left  
To close — Press door; lock engages  
To lock or unlock — Turn key to right or left

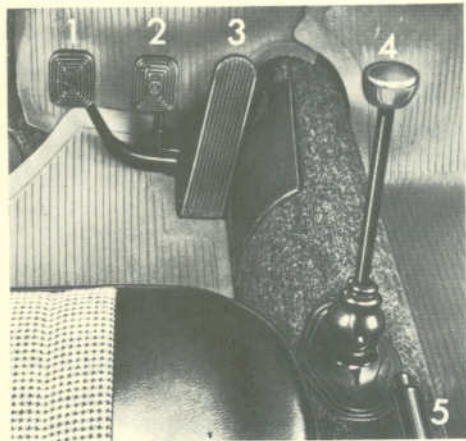
Inside the glove compartment is the **release lever for the front hood**. A locked glove compartment prevents access to the luggage compartment and the spare wheel.



# Controls for Manual Transmission

## 1 - Clutch pedal

Always depress the clutch pedal fully when changing gears. Do not hold the car on a steep hill with the clutch pedal partially depressed. This may cause premature wear or damage.



## 2 - Brake pedal

Make it a habit to check the operation of your brakes. You will remember from page 9 that the brake warning light will alert you if one brake circuit may have failed.

**Make sure that the movement of the brake pedal is not obstructed by a floor mat or any other object.**

Volkswagen automobiles have excellent brakes, but they are still subject to wear ... depending on how the brakes are used. If you find that the brake pedal travel has increased, have the brakes adjusted; if necessary, between the specified maintenance intervals.

Keep in mind that the braking distance increases very rapidly as the speed increases. At 60 mph, for example, it is not twice but four times longer than at 30 mph. Tire traction is also less effective when the roads are wet and slippery. Therefore, always maintain a safe distance.

Driving through deep water may reduce tire traction. Moisture on the brakes may also affect braking efficiency. Cautiously apply the brakes for a test. If you notice a lag in the braking action, the brakes may be wet. They will dry after you have applied the brakes a few times, but do it very cautiously.

Brake pads or linings may not have the highest possible braking efficiency when new. Therefore allow for longer braking distance during the initial 100 to 150 miles. This also applies when brake pads or shoes are renewed.

## 3 - Accelerator pedal

For good fuel economy we recommend smooth and even acceleration. Very fast, racy driving, alternating between full throttle and hard braking, raises the fuel consumption considerably. Also, tires and brake pads or linings wear faster.

You can drive most economically between:

- 12 and 31 mph in 2nd gear
- 22 and 50 mph in 3rd gear
- 31 and 62 mph in 4th gear

#### 4 - Gearshift lever

The Manual Transmission is fully synchronized. The four forward gears and a reverse gear are arranged as illustrated. The shift pattern is also shown on the dashboard.

**Resting your hand on the shift lever knob while driving will cause premature wear to the transmission.**

#### Speed ranges

You can drive your Volkswagen at full speed from the first day. You do not have a break-in schedule. There are, however, certain recommended speed ranges for the various gears:

1st gear	0—19 mph
2nd gear	12—37 mph
3rd gear	22—59 mph
4th gear	from 31 mph up

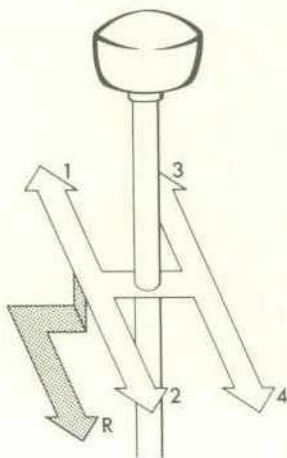
If you have a traffic situation where it is necessary for you to overtake rapidly, you can accelerate, for a brief period only, up to

43 mph	in 2nd gear
68 mph	in 3rd gear

#### Reverse

Only shift into Reverse when the car is not moving. To engage reverse gear, press the lever down, move it to the left and pull back.

The back-up lights go on automatically when you engage reverse gear (with the ignition on).



#### 5 - Parking brake lever

To **set** the parking brake, press in the release button at the end of the lever as you pull up the lever. The parking brake is engaged as soon as you release the button on the raised lever.

With the ignition switched on, the brake warning light on the instrument panel lights up and goes out as soon as the parking brake is released (see page 10).

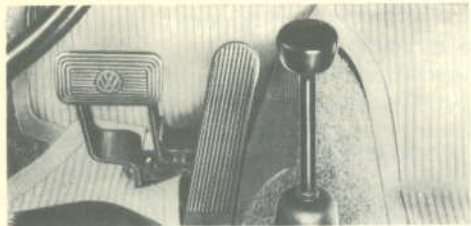
To **release** the parking brake, pull the lever up slightly as you depress the release button. Then push the lever all the way down.

Be sure it is fully released because a partially engaged parking brake promotes wear of the brake linings.

**Do not remove the key from the steering lock while the car is rolling to a stop. The steering column is locked as soon as you remove the key. Take out the key only after the car is parked.**

Always set the parking brake when parking your car. On steep hills also turn the wheels toward the curb.

# 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 is easier. We suggest you carefully read the following instructions to familiarize yourself with the operation of the transmission.

For details on the operation of the brake pedal, the accelerator pedal and the parking brake lever, see pages 15 and 16.

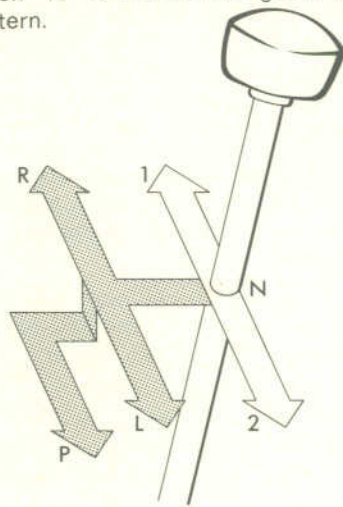
## The Automatic Stick Shift

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 — usually 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 stopping the vehicle with an engaged gear 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

With the lever mounted on the frame tunnel you can select three forward drive ranges and one reverse. The neutral position "N" is between all gears in the H-pattern.



## Neutral (N)

is the only range in which you can start the engine. In this position, the power flow to the rear wheels is interrupted. It should be used when the car is standing at idle, with the parking brake engaged. From the Neutral position you select the desired drive range.

## Driving Range 1

is for starting off and accelerating. It covers the speed range from 0—56 mph.

**Always use this range first before shifting into 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 lever is in Range 2, you may downshift into Range 1 at any speed under 56 mph.

## Driving Range 2

Always use Range 1 first before shifting into Range 2. Range 2 should normally be used for highway driving. It is the only range that can be used for speeds above 56 mph. You may shift into Range 1 at any speed under 56 mph.

## Low Range (L)

Shift into Low when you want to get the car moving up steep hills, especially when carrying a heavy load or when towing, and when driving down a steep hill or parking in tight spaces.



## Reverse (R)

Engage the reverse gear only when the car is not moving. The back-up lights go on automatically when the reverse gear is engaged (with the ignition on).

## Park (P)

The Park position may only be engaged when the car is stationary.

To shift into Park, depress the selector lever first to overcome a safety catch.

In Park, the transmission is locked, preventing the car from moving.

## Starting

Neutral is the only position in which you can start the engine.

## Moving off

With the parking brake set, move the selector lever to Neutral and start the engine. Shift into the range you wish to use, normally Range 1. After shifting be sure to remove your hand from the lever to allow the clutch to engage. To move off, release the brake and accelerate.

Do not release the brake before you are prepared to move, because power is transmitted to the wheels as soon as a gear is engaged.

## 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.

For easier selection of the driving ranges 1 and 2, which are used most, the gearshift lever always stays on the right side when in Neutral, as shown in the illustration, on the previous page.

## 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 parking brake to prevent the vehicle from creeping.

## Parking

**Do not remove the key from the ignition/steering lock until you have parked the car, because removal of the key locks the steering.**

When parking your car, apply the parking brake first, then move the selector lever to position P. To do this, move the lever to the left, depress it, move it further to the left and pull back into Park. The transmission is then mechanically locked. **Shift out of the Park position before releasing the parking brake.**

When the car is parked on a steep hill, shifting out of Park may be a little harder. This is due to the weight the car exerts on the transmission.

## If you like quiet, smooth driving,

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

## For normal driving

We recommend that you shift from driving range 1 to the driving range 2 at 40 miles per hour.

## If you want maximum acceleration

you can stay in Range 1 right up to 53 mph and then shift into Range 2. Naturally, this will use more fuel.

## Keep in mind . . .

- 1 - When starting off, shift into a driving range before releasing the parking brake.
- 2 - After shifting, remove your hand from the selector lever.
- 3 - When idling for an extended period of time, shift into Neutral and apply the parking brake. When stopped in traffic, apply either the parking or foot brake to prevent creeping.
- 4 - When parking, apply the parking brake and shift into Park position. On hills, also turn the wheels toward the curb.

## Starting hints

Never start or let the engine run in an enclosed unventilated area. Exhaust fumes from the engine contain carbon monoxide which is colorless and odorless. Carbon monoxide, however, is a very harmful gas, and can be fatal if inhaled.

Fasten safety belts, otherwise the engine cannot be started (see also page 6).

Before turning the ignition key, make sure the gearshift lever is in Neutral. The Automatic Stick Shift can be started in Neutral only.

As soon as the engine starts, release the ignition key.

If the engine does not start the first time or stalls, turn the ignition key all the way to the left and restart.

Operate the starter for a few seconds only.

### Summer starting

Operate the starter while slowly depressing the accelerator pedal.

### Winter starting

First depress the accelerator pedal fully and release slowly to activate the automatic choke. Then start the engine.

On the Manual Transmission, also depress the clutch pedal when starting so that the starter only has to crank the engine.

Do not try to warm up the engine by letting it idle with the car stationary . . . drive off immediately and maintain moderate speed until the engine is warm.

### Starting a hot engine

#### Note:

A hot engine may not start right away when the outside temperature is above 86°F. It may be necessary to operate the starter a few times.

**When you operate the starter, keep the accelerator pedal fully depressed until the engine starts. Do not release the pedal between starting attempts, or you will flood the engine.**

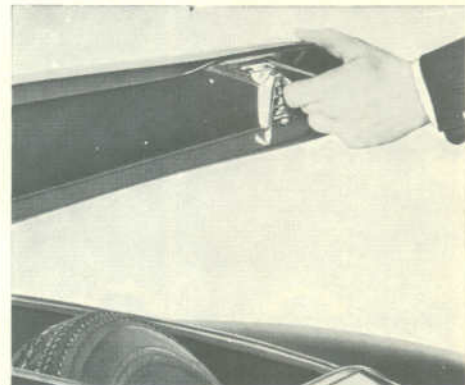
## Luggage compartments

Your VW has two luggage compartments, one under the front hood, and the other behind the seats.

Since improper weight distribution can affect the car handling, take advantage of the two luggage compartments. Load the front luggage compartment first, using the heaviest pieces of luggage, if possible.

### Front luggage compartment

To unlock the front hood, pull the release lever inside the glove compartment. See page 14.



## Engine compartment

To **lock** the front hood, lower the hood and press it down firmly. Always press down at the front near the lock. Make sure the hood is securely locked.

### Rear luggage compartment

Additional luggage can be stored in the space behind the seats.

You can expand this luggage area by folding down the rear panel. To release the panel, pull up the catch. The panel will lock in place when you fold it up again.

**We recommend you do not place articles on the filler panel below the rear window. Such items may become dangerous projectiles when dislodged during a sudden stop. They may also reduce the driver's vision to the rear.**

To unlock the engine compartment, pull out the knob in the left door pillar. Press down the lock on the engine lid and lift the lid.

The lid is held in the open position by springs.

To close and lock the lid, press down on the license plate housing until you hear a click.



## Heater/Defroster

A fresh air heater/defroster is standard equipment on your Volkswagen Karmann Ghia. The control levers are located on the tunnel between the seats.

The heater lever spot light will illuminate the levers when the parking or headlights are turned on.

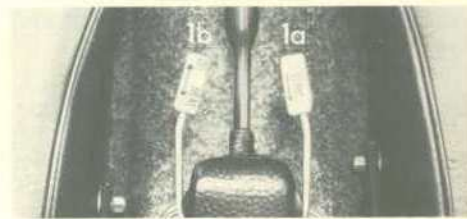
The brightness of the spot light and instrument illumination can be adjusted by turning the light switch knob.

### 1a - Heater temperature lever (TEMP)

The lever toward the passenger's seat controls the temperature level.

Lever up — heat on fully  
Lever down — heat off

By setting it at any intermediate position, you can select the degree of heat that is most comfortable for you. After a reasonable warm-up time, which also depends on the speed of your car, the warm air



## Ventilation

will enter the car through the two defroster/fresh air vents (1) at the lower edge of the windshield and outlets in the front and rear footwells.

### 1 b - Heat distribution lever for front and rear footwells (DEF-HEAT)

With the lever on the tunnel next to the driver's seat you can control the distribution of heat to the front and rear footwells.

Lever down —

front and rear footwells closed

Lever up —

front and rear footwells fully open

You can select any intermediate position to regulate the distribution of heat to the front and rear footwells.

### Hints for defogging and defrosting

Defogging and defrosting your windshield will be more effective if you direct the total air flow toward the windshield.

Here is what to do:

Heater temperature lever (1 a) all the way up (TEMP) — heat is on

Heat distribution lever (1 b) all the way down (DEF) — no heat to the front and rear footwells

To increase the air flow, turn the fresh air knobs (2) to the left. Now all air is directed toward the windshield.

Air enters the car through the grilles in the front and the inside vents below the windshield. A water separator prevents rain from entering.

### 1 - Fresh air vents

Fresh air comes out through a vent on each side below the windshield.

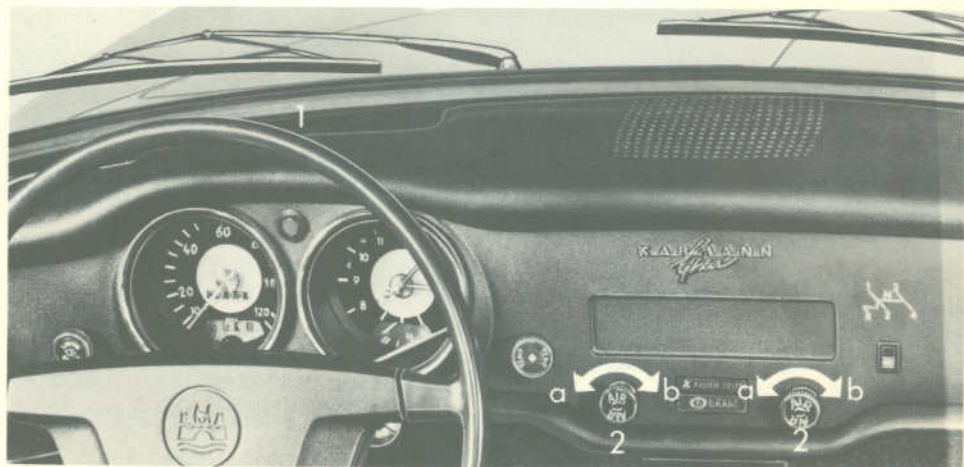
### 2 - Fresh air knobs

You can regulate the volume of fresh air for each side separately by turning the knobs.

Turn left — air flow increases (a)

Turn right — air flow decreases (b)

To stop the air flow completely, turn the knobs to the right beyond the pressure point.



# Convertible top

The top should never be opened or closed while the car is in motion.

The top should be dry before you open it.

## How to open the convertible top

Always open the rear window first (A). Remove luggage that may be in the way.

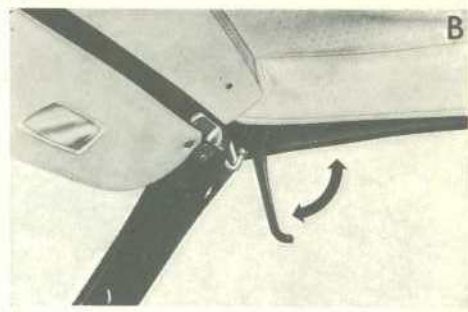
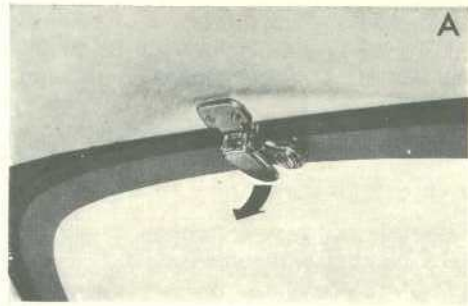
Release the locking levers on the sides (B) above the windshield and disengage the hooks. While folding the top back, pull the top material and padding to the rear and the headliner toward the front so that the top material does not get caught in the linkage (C).

Press the top down to engage the locking catches on both sides (D).

Now take the top cover (a separate cover that comes with every new Convertible) and place it over the convertible top. Fasten all snaps, starting at the back and hook the two eyes over the hooks as shown in the picture (E).

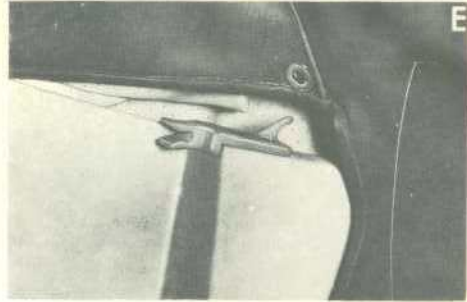
## How to close the convertible top

The top should be dry before closing it. First take off the top cover. Press the top down lightly to disengage the locking catches on both sides. Fold the top up and toward the front.



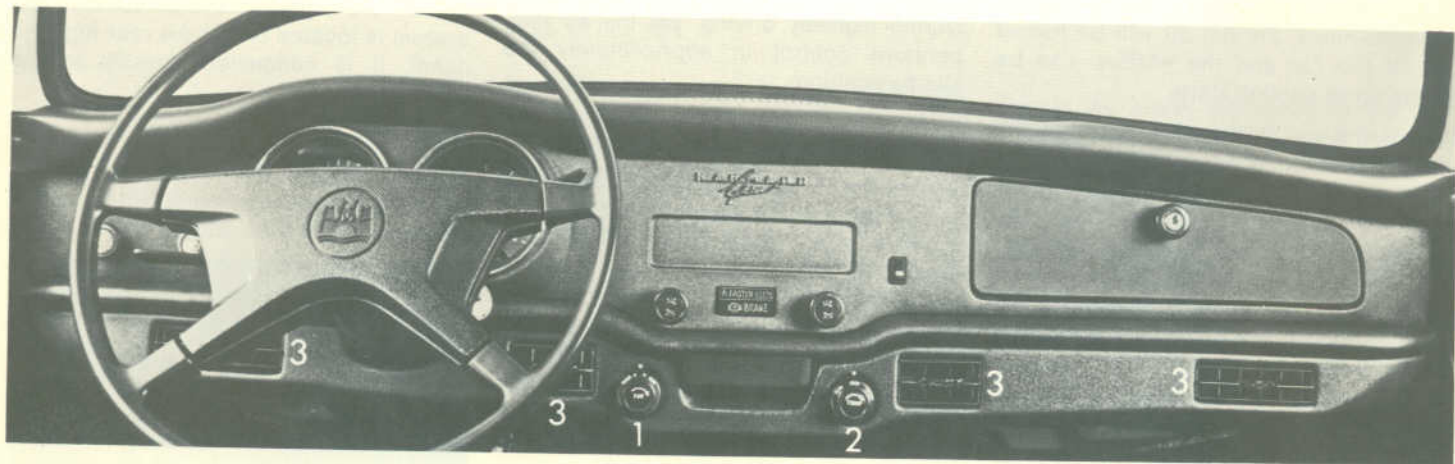
From inside the car, grasp both levers and pull the top forward. Engage the hooks into the grasping brackets above the windshield frame and lock the top tightly by pushing the levers upward.

As a last step, close and lock the rear window.



# VW Air Conditioner (optional equipment)

## Operating controls



### 1 - Air volume switch ("FAN")

This switch serves two functions. It turns the air conditioning system on and off and controls the fan speed.

The sequence of the fan positions is:

OFF — LOW — MEDIUM — HIGH

### 2 - Air temperature control ("TEMP")

By progressively turning the control to the right, the desired cooling range can be selected. It is in the coldest position when turned as far as possible to the right.

### 3 - Air discharge louvers

These movable louvers can be adjusted by moving the center vane to direct the conditioned air flow upward, downward or sideways.

## Starting the Air Conditioner

With the windows and fresh air regulator closed, turn the air temperature control to the desired position and select the air volume speed desired.

On extremely hot days turn the air volume to full capacity and open a window. Within a few minutes, the hot air will be forced out of the car and the window can be rolled up as cooling starts.

Adjust the air discharge louvers to the desired position.

## Stopping the Air Conditioner

Turning the air volume switch to the "OFF" position stops the entire air conditioning system.

When restarting a stalled engine, it is not necessary to turn off the air conditioner. The current to the air conditioner is interrupted during the starting process.

## Operational hints

If the car interior becomes too cold after adjusting the air volume, turn the air temperature control to the left until the desired comfort level is reached.

If the windows fog over on the exterior on warm, humid days, turn the air temperature control to the left until the windows clear up, or turn the windshield wipers on.

If the windows fog over on the interior, they can be quickly cleared by turning on the air conditioner.

During highway driving, set the air temperature control in approximately the middle position.

## Maintenance hints

During the winter season, it is advisable to operate your Air Conditioner for a brief moment every week. This will help to keep the seals and fittings properly lubricated.

After the winter months and before extended summer usage, the air conditioner should be checked and, if necessary, serviced by an Authorized VW Dealer.

The condenser should be checked periodically for cleanliness. If clogged in any area with dirt or insects, the condenser should be washed down with water.

If the condenser fins are bent, the car should be taken to an Authorized VW Dealer for straightening of the condenser fins.

An air-conditioned Volkswagen should only be raised on a lift that provides adequate clearance to prevent damage to the refrigerant hoses.

## Circuit breaker

An automatic resetting circuit breaker for the current supply of the air conditioning system is located under the rear luggage panel. It is connected directly to the battery.

## Note:

When a VW Air Conditioner is installed, the vehicle capacity weight will be reduced accordingly (see sticker on the inside of the glove compartment door).

## VW Auxiliary Heater (optional equipment)

Do not start or let the engine or heater run in an enclosed, unventilated area to warm up the car. Exhaust fumes from the engine or gasoline heater contain carbon monoxide, which is colorless and odorless. Carbon monoxide, however, is a very harmful gas, and may be fatal if inhaled.

To switch the heater on, pull the knob out (arrow). This lights up a green indicator light in the knob.

The indicator light will also glow when the headlight switch is operated while the heater is not in operation. This feature has been provided for easy recognition of the knob in the dark.

To avoid an unnecessary drain on the battery switch the heater off after about 25–30 minutes if the engine has not been started in the meantime.

A heat limit switch will turn the heater off periodically. The heater will come on again automatically within 3 minutes.

To switch the heater off, push the knob in. The indicator light then goes out but the blower motor continues to run until the heater has cooled down.

The heater must be switched off when filling the fuel tank.

When it is very cold, the full battery capacity is required to start the engine. To avoid starting difficulties, it is advisable not to preheat the vehicle interior under these conditions, that is, do not switch the heater on until the engine is running.

The heater normally requires no special maintenance. It is advisable, however, to have the heater plug checked once a year before the cold weather sets in and a new plug installed if necessary. The fuel system should also be checked for cleanliness and the electrical connections for tightness.

During the winter and when driving over very poor roads, mud or snow may tend to accumulate in the exhaust and combustion air intake pipes. Have these pipes checked for blockage from time to time so that the heater continues to work properly.

When the heater is not in use for long periods, for instance during the summer, the fuel in the heater can evaporate. It is therefore advisable to operate the heater briefly once a month when it is not in regular use.

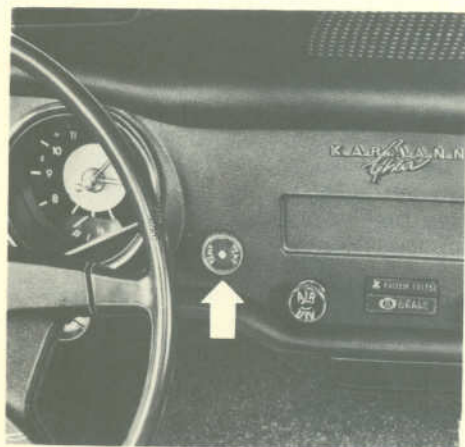
Heat output: 8,000 BTU/h

Fuel: Gasoline from fuel tank

Fuel consumption:

appr. 0.7 pint/h (0.6 Imp. pint/h or 0,3 liter/h).

Current consumption: 40 watts





# Towing and trailer hauling

## A - Towing

Your Volkswagen is equipped with two towing eyes, one at the front and one at the rear. They are for emergency towing over short distances only.

### Front

A towing eye is welded to the right-hand side of the lower axle tube.

### Rear

A towing eye is attached to the left rear bumper bracket.

**When towing your VW place the gearshift lever in Neutral. Turn the ignition on to be able to operate the parking lights, turn signals and stop lights. Be sure to release the parking brake.**

**Always observe local laws and municipal ordinances governing towing.**

### Please keep in mind ...

The towing eyes on your Volkswagen Karmann Ghia are not designed for towing by commercial tow trucks. Also, never have your car towed by the bumper. The driver of the towing car must be very careful when driving off and shifting to avoid sudden and abrupt jerks.

The driver of the towed car must always keep the tow rope taut.

## B - Trailer hauling

It is possible to tow a trailer with your Volkswagen Karmann Ghia.

When towing a trailer with the **Automatic Stick Shift**, start out in the low driving range with this extra load.

Always shift to a lower range or gear when driving up or down steep hills.

The total weight of a trailer (without brakes) should not exceed 882 lbs./ (400 kg). The total weight of a trailer with brakes should not exceed 1433 lbs./ (650 kg). The trailer tongue load should be 55 to 88 lbs. 25 to 40 kg.

Distribute load in the trailer evenly. And remember: the additional trailer weight affects the braking of your car so that a longer distance is needed to bring the car and trailer to a stop. Test the brakes before starting out on a trip with a trailer.

### VW Automatic Stick Shift

If you plan to tow a trailer with the VW Automatic Stick Shift, have an ATF warning light installed on the dashboard by your Authorized VW Dealer (see item 10 on page 8).

When towing a trailer, start out in the low driving range. Always shift to a lower range when driving up or down steep hills.

### ATF warning light

#### Stop at once ...

If the ATF warning light comes on. It indicates that the Automatic Transmission Fluid may have reached too high a temperature. This may be caused by stop-and-go traffic, mountain driving, etc.

Stop the engine and check the ATF level. If it is not as required, do **not** continue driving. Contact your nearest Authorized VW Dealer.

If you have enough ATF, you may continue driving, **but only in a lower driving range**. The ATF warning light should go out after a while when the ATF has sufficiently cooled down.

If the ATF warning light has come on while driving in **Low range**, stop the engine to permit the ATF to cool down. You may continue driving after the ATF warning light has gone out.

## Winter operation

Your VW has an air-cooled engine. Do not, under any circumstances, try to influence the engine temperature by covering the louvers in the rear hood. These louvers must always be kept open so that air can flow to the carburetor and the engine cooling fan.

### Battery

During the winter months, the battery is subjected to greater use than in the summer months. More current is consumed when starting at very low temperatures. Lights and the rear window defogger are used more often. Besides, the battery tends to decrease in capacity as the temperature drops.

Therefore, it is very important to keep your battery in the best possible condition. See also "Battery" on page 35.

**Do not expose battery to open flame or electric spark as hydrogen gas generated by the battery is explosive. Do not let battery acid come in contact with skin, eyes, fabric or painted surfaces.**

A really cold battery may not have the same capacity as a battery at normal temperature. If you mainly drive short distances or in city traffic, have the battery checked and, if necessary, charged between regular inspections.

### Door locks

can freeze in the winter if water gets into them. When washing your car in the winter, do not aim the water jet directly at the locks. It is a good idea to put tape over the keyholes to prevent water from seeping in. Water in the locks must be removed with compressed air afterwards. Squirt lock de-icer, anti-freeze, or glycerine into the lock cylinders to prevent the locks from freezing.

To open a frozen lock, warm up the key before inserting it. It might also help to warm the lock. Do not use hot water as it will later freeze in the lock.

### Emergency equipment

It is good planning to carry emergency equipment in your car. Some of the things you should have are: window scraper, snow brush, container or bag of sand or salt, flares, small shovel, first-aid kit, etc.

### Engine oil

To make starting easier during the cold winter months, we suggest you choose a thinner grade motor oil. Turn to page 46 for the recommended oil grades.

If you drive mostly short distances and in city traffic, we recommend you have your engine oil changed at 1500-mile intervals in the winter.

### Transmission oil

SAE 80W or SAE 80W/90 (multi-grade) hypoid oil can generally be used all year.

In arctic climate and areas with temperatures consistently below  $-13^{\circ}\text{F}$ , use Automatic Transmission Fluid (ATF) for the manual transmission and final drive. When the temperature rises, replace the ATF with SAE 80W or 80W/90 (multi-grade) hypoid oil. See also page 47.

### Windshield washer

Add anti-freeze to the washer fluid, such as Volkswagen's Windshield Washer Anti-Freeze & Solvent, to prevent it from freezing. Follow the instructions on the can for the right amount to be used.

### Spark plugs

Make sure the spark plugs are not worn or have a gap larger than 0.028 in. or 0.7 mm. For further details on spark plugs see page 41.

# Tires

Your Volkswagen Karmann Ghia is equipped with tubeless bias ply tires. Volkswagen tires comply with all applicable Federal Motor Vehicle Safety Standards.

## Tire pressures

For good car handling and long tire service life, it is important to maintain recommended tire pressures. Tires which are inflated above or below specifications can cause increased tire wear, increased gas consumption and affect the road holding of the car.

VW-recommended **cold tire inflation pressures** are listed on a sticker on the lock pillar of the right door.

In the interest of safety, check the tire pressure of all tires, including the spare tire, at least once a week, and always before going on a long trip.

For road use do not exceed the maximum tire inflation pressure listed on the tire side wall.

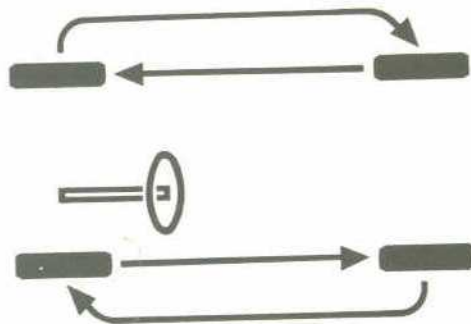
## Spare tire pressure

Since the spare tire supplies the pressure to operate the windshield washer, the pressure of the spare tire should be between 29—42 psi (2.0—3.0 kg/cm<sup>2</sup>). This pressure level is only to be maintained for the operation of the windshield washer system.

For road use, the pressure in the spare tire should be adjusted as specified on the sticker on the lock pillar of the right door. See also next page.

## Tire rotation

If uneven tire wear should occur, we recommend that the tires be rotated as shown in the sketch below. Afterwards, the tire pressure must be corrected. The wheel bolts should be torqued diagonally to 94 ft. lbs. (13 mkg). Also see page 32.



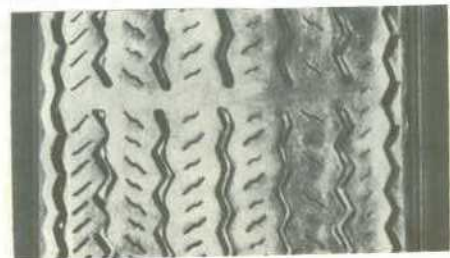
## Wheel balancing

A wheel should always be balanced after a tire repair. Also, since regular use can cause tire imbalance, the wheels should be balanced from time to time. Unbalanced wheels may affect car handling and tire life.

## Tire wear

The original equipment tires on your VW have built-in tread wear indicators. They are molded into the bottom of the tread grooves and will appear as approximately 1/2 inch bands when the tire tread depth becomes 1/16 of an inch. When the indicators appear in two or more adjacent grooves, it is time to replace the tires. We recommend, however, that you do not let the tires wear down to this extent. Worn tires cannot grip the road surface properly, and are even less effective on wet roads.

Indicator visible — tread worn



If you notice that tires are wearing unevenly, consult your Authorized VW Dealer. Uneven wear may not always be due to improper wheel alignment. It can be the result of individual driving habits such as cornering at high speeds. If the tire pressure is not checked and adjusted regularly, abnormal tire wear can also occur.

**Do not drive with worn tires or tires showing cuts or bruises as they may lead to sudden deflation.**

### Tire replacement

In the interest of maximum safety and best all-around car handling, always buy replacement tires that show the same specifications with regard to tire size, design, load carrying capacity, tread pattern, etc. This also applies to VW-recommended alternate replacement tires.

Tire specifications are imprinted on the sidewall of the tires. If in doubt, check with your Authorized VW Dealer.

Replace all 4 tires at the same time. If this is not possible, replace tires in pairs, either front or rear.

New tires do not possess maximum traction. They tend to be slippery. Break new tires in by driving at moderate speed for the first 60–100 miles.

### Winter tires

Winter tires give good traction in snow or slush.

For a better grip on hard snow or ice, you can use winter tires with studs, but **check with your local Motor Vehicle Bureau** for possible restrictions. Winter tires with studs should be run at moderate speed when new to give the studs time to settle. Winter tires should preferably be mounted on all four wheels. They should also conform to the same load requirements as original equipment tires.

Winter tires do not fulfill their purpose if the tread depth is less than  $\frac{5}{32}$ " (4 mm). For safety reasons, it is not advisable to drive with winter tires at top speeds. Winter tires do not have the same degree of traction on dry, wet or snow-free roads as regular tires.

Inflation pressures for winter tires are listed on the sticker on the lock pillar of the right door. **Do not exceed the maximum tire inflation pressure listed on the tire side wall.**

The driving direction should be clearly marked on all tires before removing them for storage. This is to make sure that they are mounted and run in the same direction as before.

### Tire care

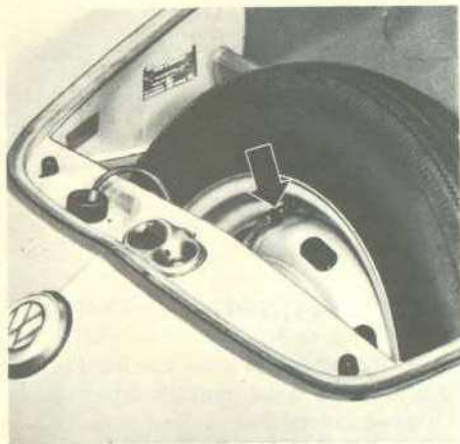
- 1 - Frequently check tires for damage. Remove imbedded material.
- 2 - Keep oil and gasoline away from tires.
- 3 - Replace worn tires in time.
- 4 - Replace missing valve dust caps as soon as possible.

## Spare wheel

The spare wheel is under the front hood. To unlock the hood, pull the lever inside the glove compartment. See page 14.

The spare wheel is connected to the windshield washer container and supplies the pressure to operate the washer. The air supply to the windshield washer will be interrupted automatically by a cut-off valve if the tire pressure drops to 26 psi (1.8 kg/cm<sup>2</sup>). This prevents the spare tire from being deflated below the required pressure.

Check the tire pressure from time to time and maintain it up to a maximum of 42 psi (3.0 kg/cm<sup>2</sup>). This pressure level is only required for the operation of the windshield washer system. For road use, adjust the spare tire pressure as specified on the sticker on the lock pillar of the right door.

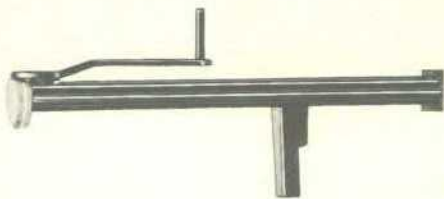


To check or correct the pressure, first disconnect the windshield washer hose from the valve of the spare tire (arrow). Reconnect the hose to the valve after inflating or checking.

## Jack

The jack is only to be used for changing a wheel. Do not use it as a support to work underneath the car.

The jack is located under the rear luggage panel. It is held in stowage position by a clamp. To take out the jack, lift the clamp. Before putting the jack back in again, wind it down sufficiently. Tighten the clamp.



## Changing a wheel

If you have a flat tire, move off the road. Turn on the emergency flasher. In addition, mark the position of your car with flares or other warning devices to alert other motorists.

Before you change a wheel, be sure the ground is level and firm, especially near the rear wheels where the jack ports are.

Set the parking brake and block the wheels opposite the defective wheel on the other side of the car.

For a more efficient and safe changing of a flat tire, observe the following 10 steps.

Further on, we expand on these steps in greater detail.

- Step 1 - Take out tools, jack and spare wheel.
- Step 2 - Remove hub cap.
- Step 3 - Loosen wheel bolts. **Do not take them out.**
- Step 4 - Securely insert the jack in jack port. There is **one** for each side. It is under the body toward the rear, and is used for front or rear wheel changing.

**Never jack the car up by the bumper or the body.**

- Step 5 - Jack up car.
- Step 6 - Change wheel and handtighten wheel bolts.
- Step 7 - Lower car.
- Step 8 - Further tighten the wheel bolts.
- Step 9 - Replace hub cap.
- Step 10 - Torque and air pressure adjustment.

### Step 1

Take out your tool kit. Take out the **jack** from under the rear luggage panel. Lift the clamp that is holding the jack in stowage position.

Before you take out the **spare wheel**, disconnect the hose leading to the windshield washer container.

### Step 2

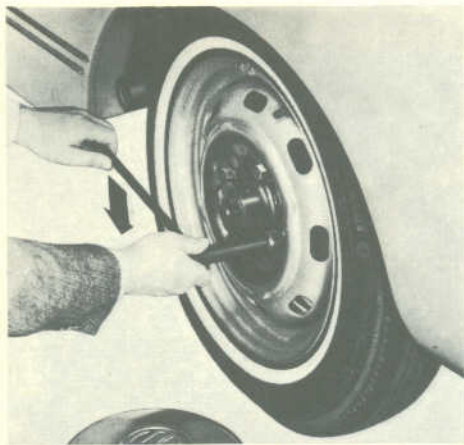
With the wheels still firmly resting on the ground, remove the hub cap of the defective wheel.



Insert the puller in the holes at the rim of the hub cap. Put the breaker bar through the puller, brace one end of the bar on the wheel rim and tug lightly on the other end. When you place the hub cap face down you can use it as a tray for your wheel bolts.

### Step 3

Loosen all wheel bolts counterclockwise about one turn with the socket wrench. Insert the breaker bar to make full use of its leverage. **Do not yet remove the bolts.**



### Step 4

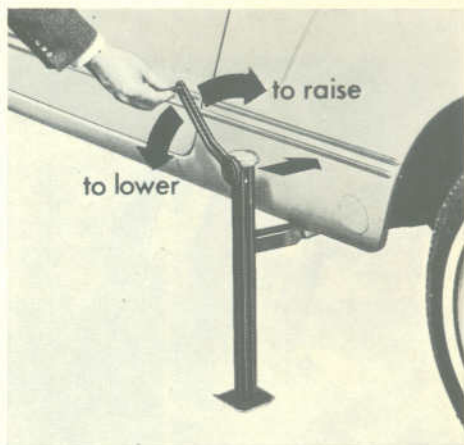
Securely insert the jack into the jack port. There is one on each side under the body toward the rear and is used for front and rear wheel changing. **Never jack the car up by the bumper or body.**

Provide for a firm base for the jack on the ground. If necessary, use a board. Passengers should not remain in the car when the car is jacked up.

### Step 5

**Do not raise the car until you are sure the jack is securely engaged.**

To raise the car, turn the handle clockwise.



To get the jack as vertical as possible, push the upper part of the jack toward the body while you are jacking up the car. Only raise the car as much as is needed to change a wheel.

### Step 6

Fully unscrew the wheel bolts and place them into the hub cap. Place the spare wheel against the wheel hub so that the

bolt holes in the wheel are in line with the threaded holes in the wheel hub. Insert the wheel bolts and handtighten them crosswise before jacking the car down.

### Step 7

To lower the car, turn the handle counter-clockwise.



### Step 8

Then go crosswise from one bolt to another tightening them firmly with the socket wrench and breaker bar.



### Step 9

To install the hub cap, place it around the lower part of the wheel center, and with a firm push on the upper part, the hub cap will snap into place. Make sure it is properly seated.

### Step 10

**Correct tightness of the wheel bolts is important.**

Correctly tightened bolts should have a torque of 94 ft. lbs. (13 mkg). This torque can be obtained with socket wrench and breaker bar by any person of average strength. If in doubt about the correct tightness of the wheel bolts, have it checked with a torque wrench by your dealer or a service station.

Also, correct the pressure of the tire you have just put on.

## Container for windshield washer fluid (1)

The windshield washer container has a capacity of 1.8 US quarts. (1.5 Imp. quarts./1.7 liters). To add washer fluid, just unscrew the filler cap. The container can be filled to the top.

As clear water is usually not adequate for cleaning the windshield, add a cleaning solution to the water such as Volkswagen's Windshield Washer Anti-Freeze & Solvent. It is a concentrate, so follow the directions on the can for the correct amount to be used.

You can use Volkswagen's Windshield Washer Anti-Freeze & Solvent all year. It helps to keep your windshield clean, and prevents freezing of the washer fluid in the winter.

Since the spare tire supplies the pressure to operate the washer, it should always be kept up to a pressure of 42 psi (3.0 kg/cm<sup>2</sup>). To pressurize the spare tire, see page 29.

## Brake fluid reservoir (2)

The brake fluid should always be above the seam edge near the top of the reservoir. If it drops below this point, the cause should be corrected by your Authorized Volkswagen Dealer.

**Every 2 years, the brake fluid has to be replaced.**

See "Scheduled Maintenance" on page D7 and "Additional Services Record" on page D11.

Only **new, unused** brake fluid that meets the SAE recommendation J 1703 and conforms to Motor Vehicle Safety Standard 116 must be used.





# Fuses

The 12-point fuse box with plug-in arrangement for relays is located under the instrument panel on the right of the steering column.

When a fuse is blown, it is not sufficient to merely replace it. The cause of the short circuit or overload must be found. On no account should fuses be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit. It is advisable to always carry a few spare 8 amp. and 16 amp. fuses in your car.

To replace a fuse, simply depress a contact on either side of the fuse.

There are ten 8 amp. fuses (white) and two 16 amp. fuses (red). No. 9 and No. 10 are the two 16 amp. fuses.

To replace a fuse in an inline fuse holder, pull the holder out of the clip, where necessary. To open the holder, grasp both ends of the holder, press lightly together and twist counterclockwise. Install fuse.



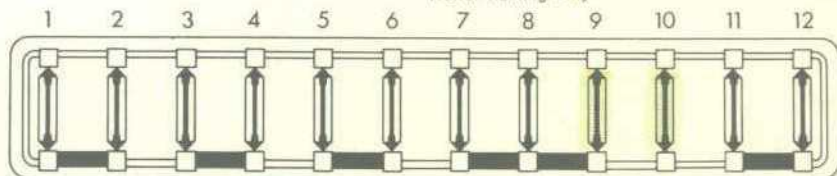
To close the holder, put both ends together again, press lightly and twist clockwise.

- 1 - Parking and side marker lights, Tail light left
- 2 - Tail light right  
License plate lights
- 3 - Low beam left
- 4 - Low beam right
- 5 - High beam left,  
High beam indicator light
- 6 - High beam right
- 7 - Accessories
- 8 - Emergency flasher

- 9 - Safety belt interlock system,  
Interior light
- 10 - Windshield wipers,  
Rear window defogger  
(switch current)
- 11 - Safety belt interlock system, Horn,  
Stop lights, Automatic Stick Shift  
control valve\*  
and ATF warning light\*\*
- 12 - Warning lights for turn signals,  
oil pressure and alternator,  
Fuel gauge, Turn signals,  
Brake and safety belt warning light

\* If this fuse is defective, the transmission cannot be shifted.

\*\*Trailer hauling only



## Additional fuses

⇐ 8 amp.

⇐ 16 amp.

Electrical equipment

Fuse

Location of fuse holder

Back-up lights

8 amp.

on a support (A) in the engine compartment near the ignition coil

Rear window defogger  
(main current)

8 amp.

on a support (B) in the engine compartment near the ignition coil

Auxiliary heater  
(optional equipment)

16 amp.

in the front luggage compartment near the heater.

## Fuel supply

In the interest of cleaner air, the VW engine is designed to run also on low-lead or lead-free gasoline.

The engine requires "Regular" gasoline. The minimum octane rating is shown on the label on the inside of the fuel tank flap. If regular fuels with adequate anti-knock qualities are not available, premium fuels should be used or mixed with regular fuel. This might be necessary when traveling outside the United States or Canada if regular gasolines have a lower octane rating than recommended by the manufacturer.

The Auxiliary Heater (optional equipment) must be turned off when filling the fuel tank.

Never start or let the engine run in an enclosed unventilated area. Exhaust fumes from the engine contain carbon monoxide which is colorless and odorless. Carbon monoxide, however, is a very harmful gas, and can be fatal if inhaled.

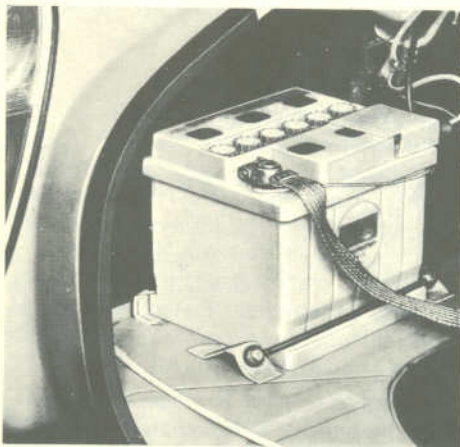
The filler neck to the fuel tank is located behind a flap above the right front fender. The flap opens if you pull the release on the right underneath the instrument panel. The fuel tank has a capacity of 10.6 US gallons (40 liters or 8.8 Imp. gal.).

When putting the cap back on, turn the threaded filler cap until you hear a click.

## Battery

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

The electrical system depends mainly on the battery. Therefore, the battery should be checked regularly and kept in good working condition.



Never drive the car with a disconnected battery as this may damage the electrical system.

Do not expose the battery to an open flame or electric spark. Hydrogen gas generated by the battery is explosive. Do not let battery acid come in contact with skin, eyes, fabric, or painted surfaces.

Each filler plug has to be unscrewed to check the fluid level in each cell. If it is **below** the indicator, top it up with distilled water. **Only fill up to indicator**, otherwise the electrolyte will overflow when the battery is being charged and cause damage.

How often water must be added to the battery depends mainly on operating conditions and on the time of year. As a general rule, the battery electrolyte level must be checked more often in the summer than in the winter, and more often when driving long distances.

The terminals and connections should be kept clean and greased with silicone spray or petroleum jelly. Make sure the ground connection to the body is tight and free of corrosion.

**When working on the battery, be sure not to short circuit the terminals. This would cause the battery to heat up very quickly, which could lead to damage.**

Before having a quick-charge performed on a battery installed in a car, **disconnect both terminals to avoid serious damage to the electronic components of the electrical equipment.**

If you have not used your car for an extended period of time, have the battery recharged.

## Cleaning your VW

The paint on your VW is very durable, and so is the upholstery. But a car can get a lot of abuse from industrial fumes and corrosive road salt to half-eaten lollipops and muddy dog feet.

A well-cared-for VW can look like new 10 years later. It all depends on the owner and the amount of care he is willing to give to his car.

Here are a few hints on how to keep your VW looking young and beautiful. We have also compiled a list of cleaning products. They are available at any VW Dealer.

Whenever using VW-recommended products or other cleaning agents, **follow the directions on the containers. Be aware of warning or caution labels.**

### Washing your VW

The longer the dirt is left on the paint, the greater the risk of damaging the glossy finish, either by scratching if the dirt is rubbed into the paint, or simply by the chemical effect dirt particles have on the paint surface.

Therefore dirt should be washed off as soon as possible. **NEVER WASH IN DIRECT SUNLIGHT.**

Use plenty of water, a car-wash soap, such as VW's Car Wash and Wax, and a soft sponge or hose brush. Begin by

Application	Volkswagen Product
Car wash and liquid wax	Car Wash and Wax — ZVW 243 201
Paint preservative	Paint Preservative and Wax — 000 096 011
Paint waxing	Classic Car Wax — ZVW 246 101
Paint polishing and paint waxing	Combination Car Cleaner and Wax — ZVW 241 109
Paint polishing, remove paint oxidation	Paint Polish — 000 096 001
Preservation of chrome parts	Chrome Preservative — 000 096 067
Paint touch-up	Touch-Up Paint (all colors)
Convertible top cleaning, Upholstery cleaning, Whitewall tire cleaning	All Purpose Cleaner — ZVW 243 101
Windshield cleaning and washer anti-freeze	Windshield Washer Anti-Freeze & Solvent — ZVW 241 101

spraying water over the dry car to remove all loose dirt before applying the lukewarm soap/water solution.

Use plenty of water to rinse the car off. Wipe the car dry with a chamois to avoid water spots.

### Waxing

Waxing is not really needed when you have washed your car with VW's Car Wash and Wax. If you do not use a car wash liquid with wax, apply Paint Preservative and Wax to preserve the natural shine of the car.

To obtain a long lasting wax finish apply hard wax, such as VW's Classic Car Wax, eight to ten weeks after buying the car. Wax again when water remains on the surface in large patches instead of forming beads and rolling off.

### Polishing

Use a polish such as VW's Paint Polish later in the car's life when the paint appears dull and loses its shine. **Do not polish the new car.**

Always apply wax after polishing.

### **Cleaning windows**

Clean windows with a sponge and warm water. Dry with a chamois.

### **Weatherstrips**

To seal properly, weatherstrips around windows and doors must be pliable. To retain flexibility of the rubber, spray with silicone, available from your VW Dealer, or coat with talcum powder.

### **Windshield wiper blades**

Remove the wiper blades periodically and scrub with a hard bristle brush and alcohol or a strong detergent solution.

### **Chrome care**

To protect the car's chrome, apply VW's Chrome Preservative.

### **Touch-up paint**

Your dealer has touch-up paint for minor scratches and stone chips. Scratches should be touched up soon after they occur.

### **Care of chassis**

The underside of the car picks up dirt and salt and should be sprayed with a powerful jet of water. This is easier to do after the car has been driven in rain.

### **Removing spots**

**Do not use gasoline, kerosene, naphtha, nail polish remover or other volatile cleaning fluids. They may be toxic or flammable or hazardous in other ways. Only use spot removing fluids in well ventilated areas. Keep them out of reach of children.**

### **Tar**

Do not allow tar to remain on the paint finish. Remove it as soon as possible with a cloth soaked with a special paint cleaner, such as Paint Preservative and Wax. If you do not have a spot remover, you may substitute with turpentine. After applying a cleaning fluid, always wash with a lukewarm soap/water solution and apply a new wax coat.

### **Insects**

Remove as soon as possible with a lukewarm soap/water solution or apply insect remover.

### **Tree sap**

Remove with a lukewarm soap/water solution. Do not allow tree sap to harden on the paint surface.

### **Cloth upholstery and carpet**

Clean with a vacuum cleaner or a hard bristle brush. Dirt spots can usually be removed with a lukewarm soap/water solution.

Use spot remover for grease and oil spots. Do not pour the liquid on the cloth material. Dampen a clean cloth and rub carefully, starting at the edge and working inward.

### **Leatherette and interior trim**

Use VW's All Purpose Cleaner or a dry foam cleaner.

Grease or paint spots can be removed by wiping with a cloth soaked with VW's All Purpose Cleaner. Leatherette parts of the headliner and side trim panels can be cleaned with a soft cloth or brush and All Purpose Cleaner.

### **Cleaning the convertible top**

The top does not require any special care. Wash off dirt as soon as possible. **Do not wash in direct sunlight.** Use lukewarm water together with VW's All Purpose Cleaner. A hard bristle brush will help to loosen dirt from the grained surface of the material. Avoid scratching the body of the car with the bristles.

## Replacing bulbs

To remove spots, use a stronger solution of VW's All Purpose Cleaner. Never use paint thinner, nail polish remover or similar agents as they may have adverse effects on the top material.

After cleaning and washing the top, rinse the car well with clear water.

Clean the **pivoted points of the top linkage** from time to time, and lubricate them lightly with a few drops of oil. Wipe off excessive oil to prevent oil from dripping on the top material.

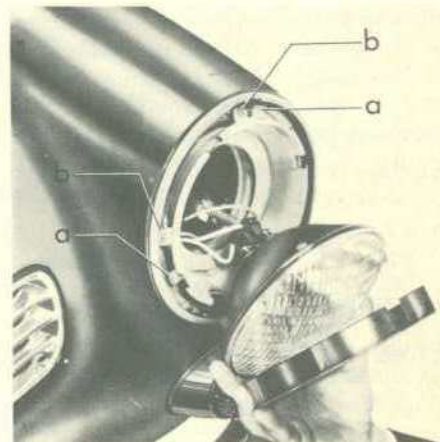
### Bulb chart

	U. S. Replacement bulbs	VW Part No.
Sealed beam (headlights) .....	6014	ZVP 118 114
Front turn signals/parking lights .....	1034	ZVP 118 034
Side marker lights .....	57	ZPP 118 057
Rear turn signals .....	1073	ZVP 118 073
Stop/tail lights .....	1034	ZVP 118 034
Back-up lights .....	1073	ZVP 118 073
License plate lights .....	67	ZVP 118 067
Instrument and warning lights .....	—	N 17 751 2
Spot light for heater levers .....	—	N 17 751 2

### Headlights

Your Volkswagen is equipped with double filament seven inch sealed beam units. Should it become necessary to replace a unit, loosen screw in the center of the trim ring below the headlight and take off the trim ring.

Firmly grasp the loose screw (non-removable) and pull trim ring off.



Remove three short screws (a) in sealed beam retaining ring and take ring off.

**Do not alter the position of the long headlight adjustment screws (b).**

[Positions (a) and (b) see lower picture on page 38.]

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

When installing new sealed beam units, be sure the three glass lugs engage properly in the support ring.

Before installing trim ring be sure the rubber gasket is in place. Loosely insert the screw for the trim ring and turn for 2 or 3 turns.

Position edge of trim ring over upper lug. Press ring over lug and tighten screw.

If no other headlight part as described here was removed or its position changed, it should not be necessary to aim the headlights. If in doubt have the adjustment checked at your dealer.

### **Front turn signal/parking light bulb or side marker light bulb**

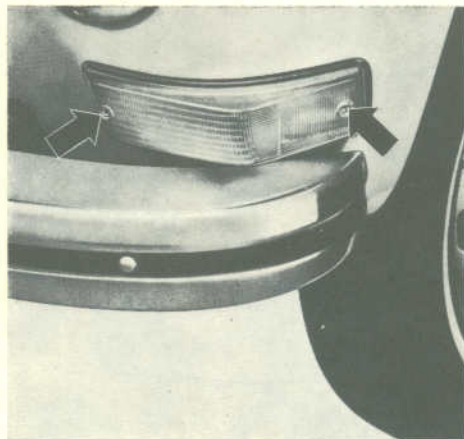
Remove two Phillips screws.  
Take off lens.

Gently press bulb into holder, turn and take out.

Install new bulb.

Be sure the gasket is properly positioned when reinstalling the lens.

Tighten screws evenly. Do not overtighten as this may crack the lens.



### **Rear turn signal, stop/tail light or back-up light bulb**

Unscrew two Phillips screws and remove lens.

Bulb positions:

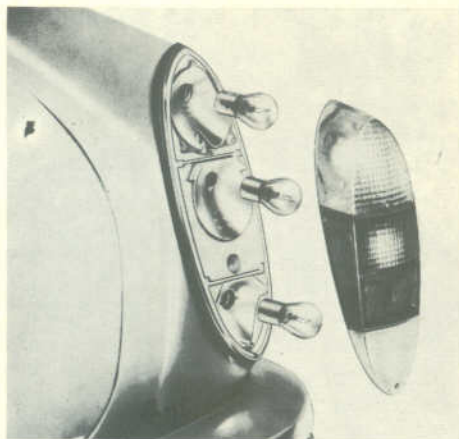
Top — turn signal light

Center — stop/tail light

Bottom — back-up light

Gently press bulb into holder, turn and take out.

Install new bulb.



When inserting the stop/tail light bulb, the retaining pin nearest to the bulb glass must be downward.

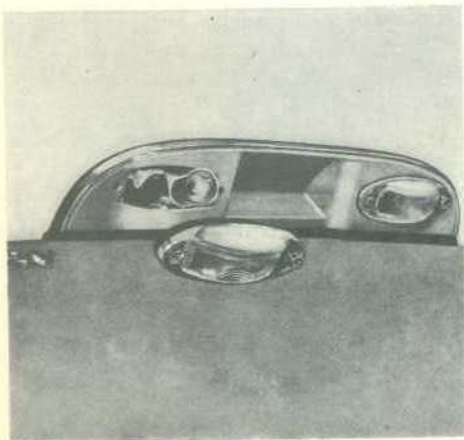
Be sure the gasket is properly positioned when reinstalling the lens. Tighten screws evenly. Do not overtighten as this may crack the lens.

## License plate light bulb

Open rear hood.

Remove screws on each side of lens and take off lens.

Gently press bulb into holder, turn and take out.



Install new bulb.

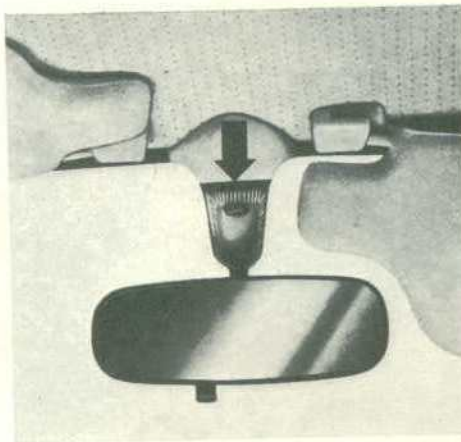
When installing, make sure the gasket fits properly.

## Interior light bulb

Insert screwdriver in lens cut-out (arrow) on the upper side of the lens and carefully pry out.

Take bulb out.

Install new bulb.



Insert lens at bottom first, then press it in until it engages.

## General services

Before working on any part in the engine compartment, turn off the engine and let it cool down sufficiently. If work has to be done with the engine running, exercise extreme caution to prevent neckties, jewelry or long hair from getting caught in the V-belt.

Incomplete or improper servicing may cause problems in the operation of the car. If in doubt about any servicing, have it done by your Authorized VW Dealer or any other properly equipped and qualified workshop.

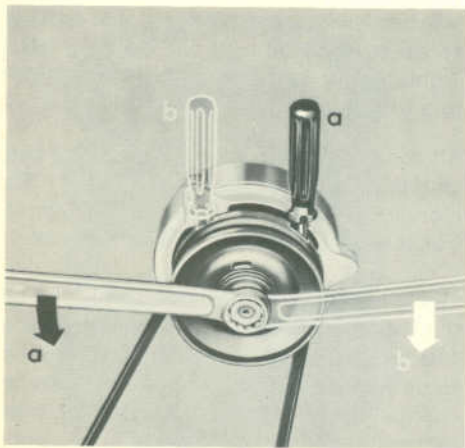
## Adjusting or replacing V-belt

### Turn the engine off!

To adjust the belt, remove the rear half of the pulley on the alternator. When loosening and tightening the nut, place a screwdriver through the cut-out in the front half of pulley and support the screwdriver as shown in the left picture on the next page.

To adjust the belt, remove the rear half of the pulley on the generator. When loosening and tightening the nut, place a screwdriver through the cut-out in the front half of pulley and support the screwdriver at the generator housing.

The V-belt must not be too tight or too loose when you are making the following belt tension check: Depress one side of the belt at the center between the two pulleys. The tension is correct if the belt can be depressed between 0.43 ( $\frac{7}{16}$ ) in. or 11 mm and 0.55 ( $\frac{9}{16}$ ) in. or 14 mm at a pressure of 16.5 lbs. or 7.5 kg (a firm press with your thumb). **This is only a temporary adjustment. Have final adjustment made by your dealer.**



A new belt may stretch slightly at first. To compensate for this, the belt should be tightened slightly more when first installed. The deflection should be between 0.35 ( $\frac{11}{32}$ ) in. or 9 mm and 0.43 ( $\frac{7}{16}$ ) in. or 11 mm at the same pressure. The correct belt tension will then be reached after about 30 minutes of operation.

The heavy-duty V-belt has a very low stretch factor. When properly installed, the belt tension will remain fairly constant. Volkswagen-recommended V-belts have a relatively long service life, however, it is good planning to always carry a spare belt in your car.

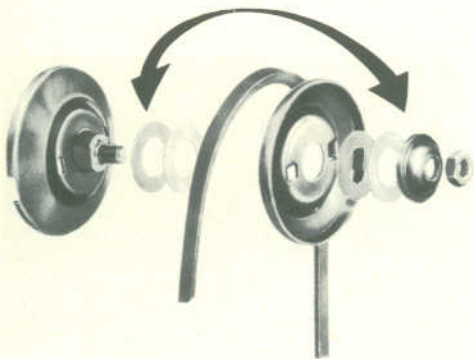
For the correct designation on the belt, see page 56.

## Cleaning, or replacing spark plugs

The correct spark plug gap is 0.028 inch. or 0.7 mm. Since the spark plug gap tends to increase in time during normal operation, it is advisable to replace spark plugs periodically (see Maintenance Schedule).

### Removing spark plugs Turn the engine off!

Grasp the spark plug connector and pull it off. Do not pull on the ignition wires as they may separate from the connectors. Unscrew the spark plugs with a suitable spark plug wrench.





## Cleaning spark plugs

Dirty spark plugs should be cleaned with a sand blaster, but if not available, the carbon can be removed with a wooden or plastic pick. Do not use a wire brush. The plugs should also be clean and dry on the outside to avoid shorting and arcing. **The gap can be set by bending the outside electrode. The gap should be 0.024 inch. or 0.6 mm.**

## Installing spark plugs

Insert them by hand and screw them into the cylinder head as far as they will go. Only then use the spark plug wrench to tighten them firmly. Do not overtighten.

0.024 inch. or 0.6 mm



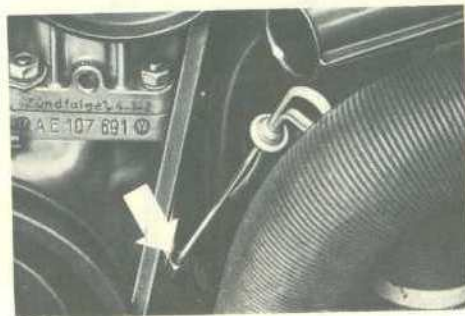
## Checking the engine oil level

You should check the oil level from time to time. To get a true reading, be certain the car is on level ground.

Wait at least 5 minutes after the engine has been stopped; give the oil time to collect in the crankcase.

To check the oil level, take the dipstick out and wipe it clean first. Now, insert and pull it out again. You have enough oil in the engine if the oil level is between the upper and lower marks on the dipstick.

Only add the amount of oil that is needed. Always select a well-known brand and the recommended grade. Details about the correct oil viscosities are on page 46.



## Changing the engine oil

### Engine off!

Change the oil in your engine regularly (see Maintenance Schedule). This is very important as the lubricating properties of oil diminish gradually during normal operation of the car.

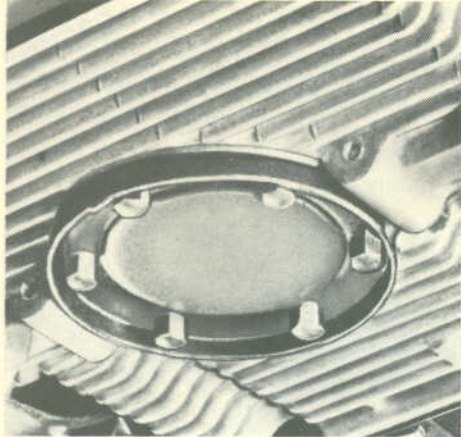
Drain the oil when the engine is still warm.

Loosen all six cap nuts. Then, after removing five of the nuts, pry the oil strainer cover loose. Allow the oil to drain.

After the oil is drained, remove the oil strainer to clean it. The cleaning of the strainer should be done with every oil change. Use new gaskets and copper washers when re-installing the strainer to be sure no oil leak will develop later. Tighten cap nuts in a crosswise pattern to a torque of 5 ft. lbs. (0.7 mkg).

Fill the engine with 2.6 US quarts (2.2 Imp. quarts/or 2.5 liters) of oil labeled "For Service SD" or "SE" (or combination). For the right oil viscosity, see page 46.

Because of detergent additives in the oil the fresh oil will look dark after the engine has been running for a short time. This is to be expected, and there is no reason to change the oil at intervals shorter than recommended by the manufacturer.



We recommend more frequent oil changes (every 1,500 miles) if you drive your car only short distances during the winter months. If you drive for only a few hundred miles a month under these conditions, we advise you change the oil every 6 to 8 weeks. In areas with arctic climate where average temperatures are below  $-13^{\circ}\text{F}$ , the oil should be changed every 750 miles.

## Manual Transmission oil

Both transmission and final drive are combined in one housing. The lubricant used is hypoid oil that is changed by your dealer only one time at 600 miles as part of the lubrication service. See page D3.

Should the need arise to add oil, it should only be done with the necessary workshop equipment. Also hypoid oil is generally not marketed in small quantities.

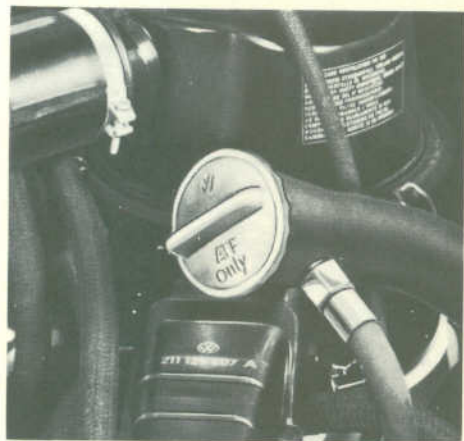
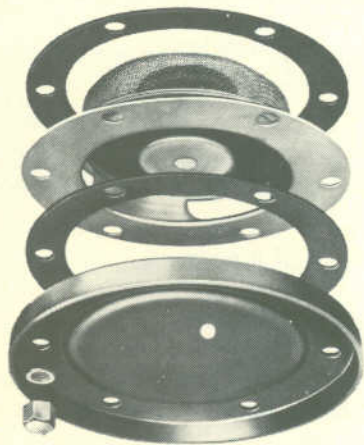
## Automatic Transmission Fluid

On vehicles with Automatic Stick Shift, the ATF in the torque converter does not

have to be changed, but the level should be checked at specified intervals (see Maintenance Schedule) **with the engine turned off.**

An ATF tank filler with a dipstick attached to its cover is provided for this purpose on the right side in the engine compartment.

Wipe the dipstick clean first before inserting it to take a level reading. The fluid level should be between the two marks on the dipstick, and should never fall below the lower mark. Only add the required amount of ATF. Check for leaks. For ATF specifications, see page 47.



## Air cleaner

All the dust present in the air drawn in by the engine is retained by the filter element in the air cleaner.

A dirty filter 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 serviced frequently, even daily if necessary.

Under normal conditions it is not necessary to service the filter element more frequently than is mentioned in the Maintenance Schedule.

To check the filter element, the air cleaner must be removed. Here is what to do:

Loosen clamp —A— and take intake elbow off.

Loosen clamp —B— and pull hose off.

For easier reinstallation note the hose attachments; interchanging of hoses affects the operation of the engine.

Pull off hoses C through E.

Release the two clips —F— and take cleaner off the bracket. Keep air cleaner upright to avoid spilling oil. Release the three clips —G— and take top part of air cleaner off. The top part must be put down with the filter element downward.

When there is only  $\frac{3}{16}$  in. of oil above the sludge layer in the bottom of the lower air cleaner part, it must be cleaned and filled with fresh oil:

Clean bottom of lower part of air cleaner carefully.

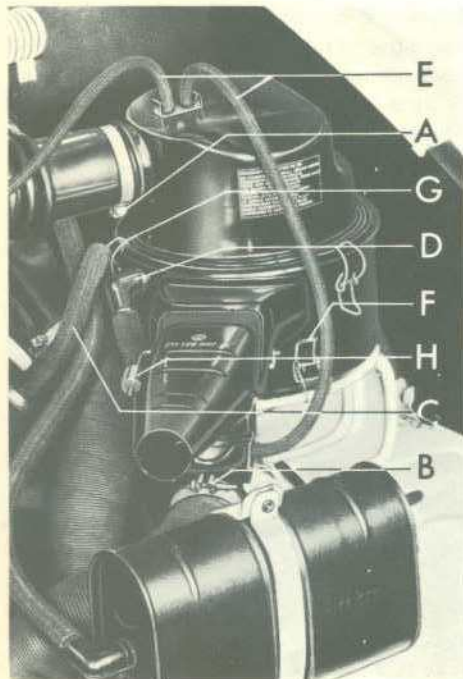
Fill cleaner to the mark with 0.48 U.S. quarts (0.40 Imp. quarts/0.45 liter) of fresh engine oil. SAE 30 oil should be used all the year except in areas with arctic climate where SAE 10W oil should be used all year.

The top part does not normally need cleaning. If the bottom part or the filter element has become so dirty that the air inlet holes on the underside are partly blocked, the encrusted dirt should be scraped off with a wooden or plastic scraper.

Check that the weighted control flap —H— for the crankcase ventilation is always free to move.

After assembling the cleaner, secure it to the bracket in the engine compartment with the two clips —F—.

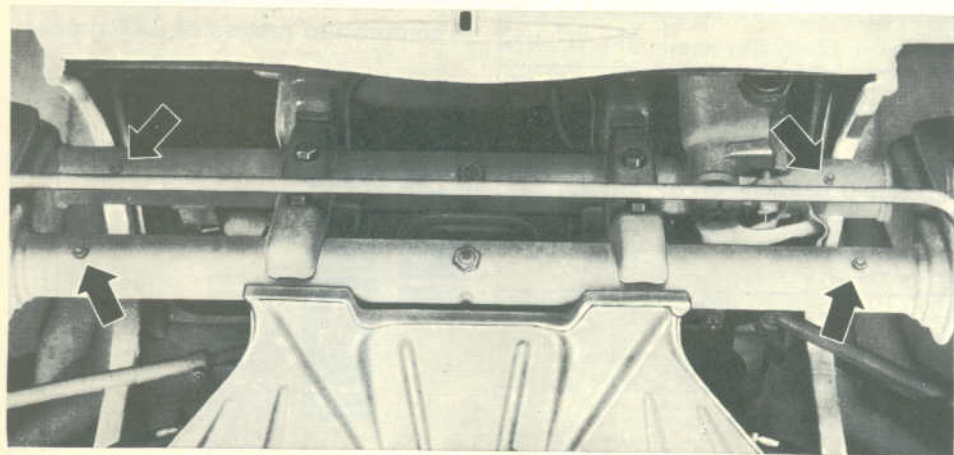
Tighten intake elbow clamp —A— carefully. **Make sure all hoses are properly connected.**



## Lubrication

### Front axle

Lubricate the front axle once a year or at the specified mileage intervals (see Maintenance Schedule).



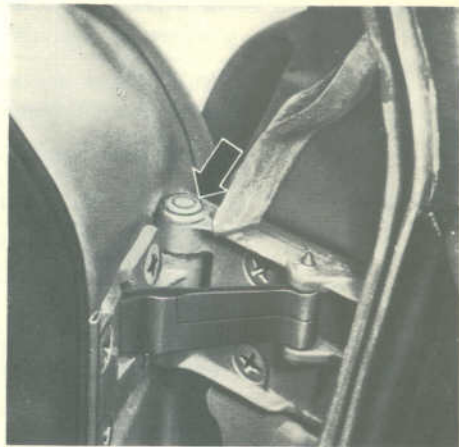
Lift the front end of the car to take the weight off the front wheels. This is necessary to free the bearings to accept the lubricant. There are 4 grease fittings for the front axle. For their location, see arrows in the illustration.

Before forcing grease into the fittings, be sure to wipe them clean with a piece of cloth. Force lithium-based multi-purpose grease into the fittings until fresh grease starts to emerge at the torsion arm sealing rings.

Wipe off any grease or oil that may have come in contact with tires or brake hoses because grease and oil have an adverse effect on rubber.

### Door hinges and locks

The **door hinges** should be lubricated at specified intervals (see Maintenance Schedule) by putting a few drops of engine oil into the small oil chamber above each door hinge pin. The oil chamber is accessible after lifting the top plastic plug (arrow). After oiling, reinstall the plug and wipe off excess oil.



The **door locks** should also be lubricated with a few drops of engine oil.

The **hood locks** and the sliding surfaces of the **striker plates** should be lubricated with dry stick lubricant.

Lubricate the **door lock cylinders** with graphite. Dip the key into graphite and turn it in the lock a few times.

## Engine oil

Always use a name brand oil labeled "For Service SD" or "SE" (or combination) for the engine of your Volkswagen.

Engine oils are graded according to their viscosity. The proper grade to be used in your engine depends on existing climatic or seasonal conditions.

The following table contains the grading for oils to be used in VW engines:

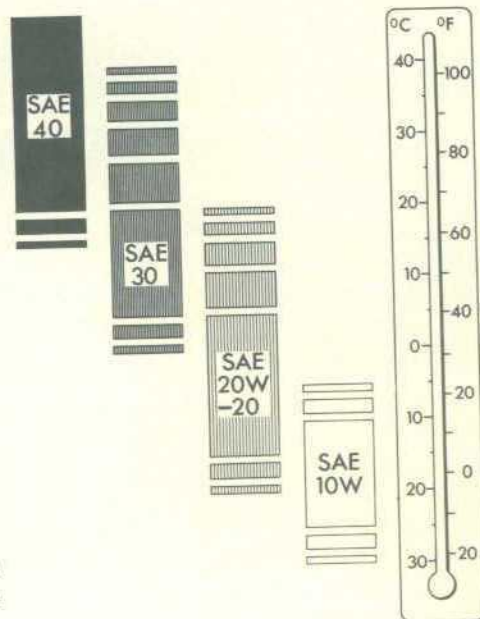
Tropical climate	Hot season		SAE 40
	Cool season		SAE 30
Moderate climate	Summer		SAE 20 W-20
	Winter	At average outside temperature above 5° F	SAE 20 W-20
At average outside temperatures not lower than -13° F			SAE 10 W*

If outside temperatures are continuously below -13° F use SAE 5W\*.

\* Avoid high speed long distance driving when using SAE 10W or SAE 5W if outside temperatures rise above the indicated limits.

As temperature ranges of the different oil grades overlap, **brief** variations in outside temperatures are no cause for alarm. It is also permissible to mix oil of different viscosities if you find it necessary to add oil.

Temperature ranges of SAE grades



# Transmission oil and Automatic Transmission Fluid (ATF)

Transmission and final drive are both lubricated with hypoid oil according to Mil-L-2105 specifications (additive basis: sulphur-phosphorus):

SAE 80 W	}	In general all year
or		
SAE 80 W/90 (multi-grade oil)		

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ATF      In areas with arctic climate and temperatures consistently below  $-13^{\circ}$  F.

ATF is a special fluid for automatic transmissions, but ATF can also be used in the Manual Transmission under the above mentioned climatic conditions.

The torque converter of the Automatic Stick Shift requires ATF all year.

All ATF's labeled "Dexron®" with a five-digit number preceded by the letter "B" can be used.

## Lubricant additives

If a VW engine is properly maintained, it is uneconomical to mix any type of additive with fuel, or lubricating oils and transmission fluids.

## Grease

- 1 - **Multi-purpose grease with a lithium base** should be used for the front axle.
- 2 - **Dry stick lubricant** should be used for the hood locks and the sliding surfaces of the striker plates.
- 3 - **Silicone spray or petroleum jelly** should be used for the battery terminals and posts.

## Troubleshooting

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 the trouble in the guide on the following pages and follow the directions on what to do.

**Exercise extreme caution when working on any part of the car to prevent accidental injury. To prevent sparking or accidental fires, disconnect battery ground cable when working on the electrical or fuel systems. Incomplete or improper servicing may also cause problems in the operation of the car. If in doubt about any servicing, have it done by a qualified mechanic or by your Authorized VW Dealer.**

**Note: The adjustment of idling and ignition timing requires special equipment and training. We suggest that you consult your Authorized VW Dealer.**

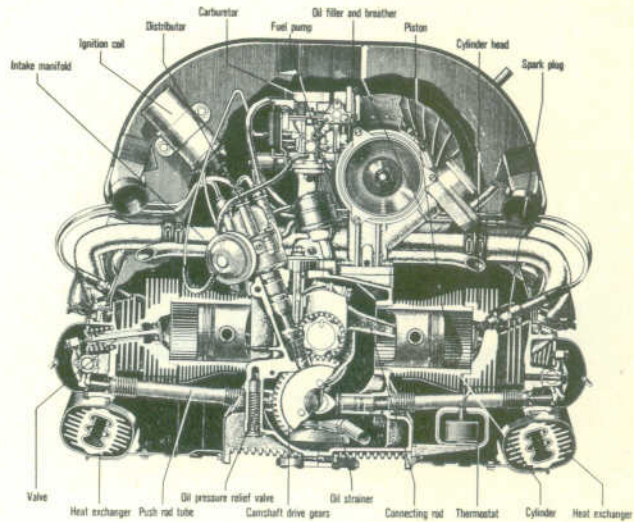
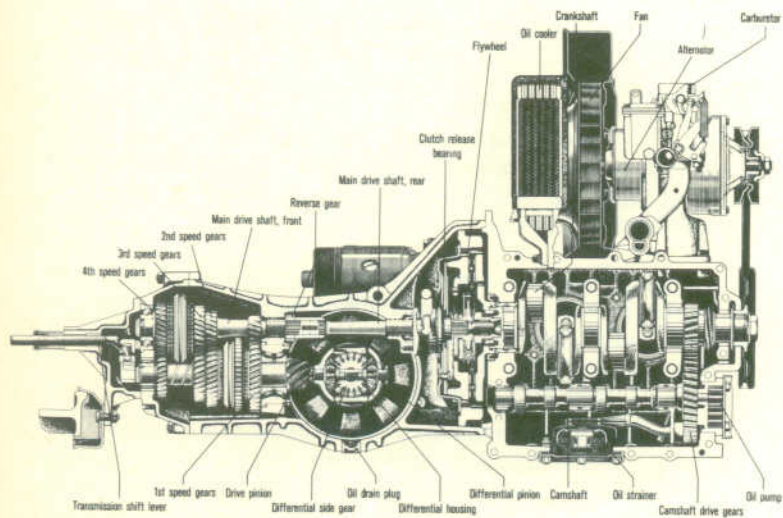
Problem	Probable Cause	What To Do
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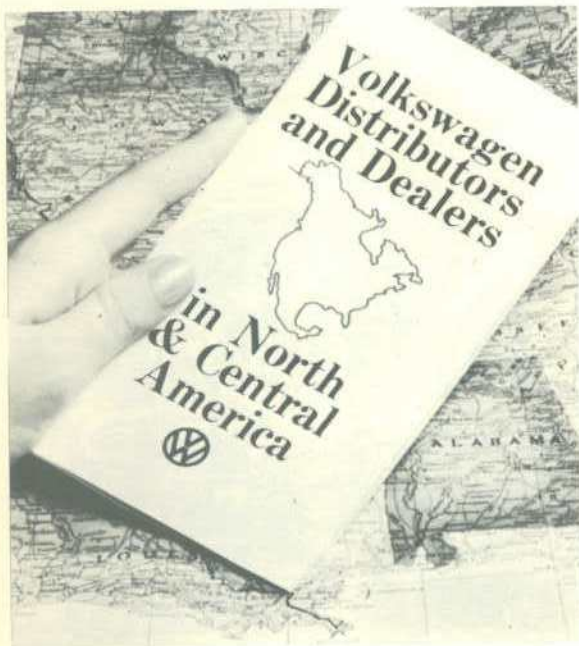
VW will not start: engine will not turn over or turns over too slowly	<ol style="list-style-type: none"> <li>1. Driver and front passenger are not wearing safety belts</li> <li>2. Run down or dead battery</li> <li>3. Loose connection</li> <li>A. At battery</li> <li>B. At starter</li> <li>C. At connections behind dashboard</li> <li>4. Starter defective</li> <li>5. On vehicles with Automatic Stick Shift: The gear shift lever is not in Neutral</li> </ol>	<ol style="list-style-type: none"> <li>1. Put on safety belts, then start the engine (see also pages 6, 9 and 19).</li> <li>2. Charge or replace battery</li> <li>3. Make sure that all connections are tight</li> <li>A. Check both cable connections on battery and grounded end of ground strap</li> <li>B. Check connections at solenoid, mounted on starter, under right rear of vehicle</li> <li>C. Check push-on connectors behind dashboard</li> <li>4. See your nearest Authorized VW Dealer</li> <li>5. Shift to Neutral</li> </ol>
VW will not start: engine turns over	<ol style="list-style-type: none"> <li>6. Lose connection in ignition system</li> <li>7. Loose connection in primary circuit to coil</li> </ol>	<ol style="list-style-type: none"> <li>6. Check for loose connections at coil, distributor and spark plugs.</li> <li>7. Check push-on connector on coil (thin black wire). Check push-on connectors behind dashboard. Should the engine not start, ask for assistance.</li> </ol>

Problem	Probable Cause	What To Do
<p>VW will not start: engine turns over</p>	<p>8. If spark is present at black coil cable, trouble is in ignition system</p> <p>9. If spark is fairly good at plugs, trouble is most likely in fuel system</p> <p>A. Caused by improper starting procedure. If the gas pedal is depressed too often, the accelerator pump in the carburetor injects too much gasoline</p>	<p>8. Check in this sequence:</p> <p>A. Turn ignition off. Remove distributor cap and rotor. Clean distributor contacts with stiff paper (post card). Have someone turn engine over with starter. Sparks should be visible between contacts. If no spark, check contact of cable connectors between coil and distributor cap. Check if contacts open. If there is still no spark, see your nearest Authorized VW Dealer.</p> <p>B. If sparks are visible between contacts disconnect high tension cable from center connection of distributor cap. With starter cranking the engine point cable to a metal object in the engine leaving a gap of approximately 1/4". Strong arcing sparks should appear. If there are no sparks, contact your nearest Authorized VW Dealer.</p> <p>C. If sparks appear at high tension cable, the distributor cap should be cleaned inside and out. Reconnect high tension cable. Remove all spark plugs. If plugs are clean and dry, reconnect ignition cables to spark plugs and bring spark plugs into contact with metal (ground). <b>Hold cable with dry piece of cloth to avoid shock.</b> Sparks 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. Ask for assistance if the above steps did not ensure proper ignition.</p> <p>D. Dirty or wet spark plugs should be cleaned and dried. Install new plugs if necessary. Unburned gasoline on plug electrodes indicates excessive fuel supply.</p> <p>9. Check fuel system in the following sequence:</p> <p>A. Depress gas pedal completely and operate starter for a prolonged period. If engine does not start, remove and dry spark plugs, turn over engine with plugs removed for approximately 30 seconds. Reinstall plugs and start engine.</p>



Problem	Probable Cause	What To Do
VW will not start: engine turns over	B. Carburetor may be flooded, float or needle valve may be sticking	B. Tap around outside of carburetor with wooden or plastic tool handle. Wait a few minutes and try starting again as described at 9 A.
Engine stalls shortly after starting	10. Poor fuel supply 11. Automatic choke does not open, excessive fuel supply	10. See paragraph 13 through 15. 11. 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.
Engine stalls while vehicle is driven	12. Defect in ignition system 13. Fuel supply is exhausted 14. Fuel pump filter may be clogged 15. Gasoline may be contaminated by water, dust or dirt	12. See paragraph 6 through 8. 13. Check whether any gasoline is left in tank. 14. After removing the upper part of the pump, the fuel filter can be taken out for cleaning. 15. See your VW dealer for cleaning of all components of the fuel system.
Red warning light for oil pressure comes on while you are driving	16. If light goes on, the oil pressure is too low 17. Fuse 12 in the fuse box (see page 34) may be blown	16. 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. 17. Replace fuse. If it blows again, do not drive on, because the turn signals will not work. Ask for assistance.
Red warning light for alternator and cooling comes on while you are driving	18. If light goes on, V belt may be broken or alternator does not charge	18. If belt drives alternator without slipping, switch off all unnecessary electrical equipment (radio, etc.). Drive to nearest VW dealer as otherwise the battery will soon run down. If belt is broken, replace it before driving on, because engine cooling fan is no longer working.
Vehicles with Automatic Stick Shift: Lever cannot be shifted	19. Control valve fuse burned out	19. Replace fuse 11 (see page 34). Check cable connections on control valve located on the left in the engine compartment.





### Owner Relations

There are more than 1500 authorized Volkswagen dealers in North and Central America. Their addresses and telephone numbers are listed in a booklet which is available at your VW Dealer.

Any one of these dealers is well equipped to help you with virtually all VW-related matters; and your dealer should be your primary source.

Should there be an occasion where you need further assistance, you may want to contact the Volkswagen regional office in your area. We have listed their addresses and telephone numbers on the next page.

Should you feel that you require assistance beyond that offered by your dealer, distributor or regional office, you may want to contact in the U.S.A. Volkswagen of America, Inc., Englewood Cliffs, New Jersey 07632. In Canada contact Volkswagen Canada Ltd., Golden Mile, Toronto 375, Ontario M1L2M2.

However, remember that ultimately your questions will be resolved in the dealership with dealer personnel and dealer equipment. We therefore suggest you contact your dealer first.

## Authorized Volkswagen Distributors and Regional Offices in the U. S.

**Maine** Volkswagen of America, Inc.  
**Massachusetts** Northeastern Region  
**New Hampshire** Volkswagen Customer Relations  
**Rhode Island** 100 Fordham Road  
**Vermont** Wilmington, Massachusetts 01887  
(617) 658-6700

**Illinois** Volkswagen of America, Inc.  
**Iowa** North Central Region  
**Minnesota** Volkswagen Customer Relations  
**North Dakota** 3737 Lake Cook Road  
**South Dakota** Deerfield, Illinois 60015  
**Wisconsin** (312) 272-5500

**Kentucky** Midvo, Incorporated  
**Ohio** Volkswagen Customer Relations  
5000 Post Road  
Dublin, Ohio 43017  
(614) 889-2911

**Indiana** Import Motors Ltd., Inc.  
**Michigan** Volkswagen Customer Relations  
P.O. Box 2008  
2660 28th Street, S.E.  
Grand Rapids, Michigan 49501  
(616) 949-7788

**Delaware** Volkswagen Atlantic, Inc.  
**Pennsylvania** Volkswagen Customer Relations  
P.O. Box 830  
1001 South Trooper Road  
Valley Forge, Pennsylvania 19482  
(215) 666-7500

**Alabama** International Auto Sales & Service, Inc.  
**Louisiana** Volkswagen Customer Relations  
**Mississippi** P.O. Box 29127 Michoud Station  
**Tennessee (West)** 4200 Michoud Boulevard  
New Orleans, Louisiana 70129  
(504) 254-1500

**Connecticut** World-Wide Volkswagen Cooperation  
**New York** Volkswagen Customer Relations  
**New Jersey** Greenbush Road  
Orangeburg, New York 10962  
(914) 359-5000

**Florida** Volkswagen of America, Inc.  
**Georgia** Southeastern Region  
**Maryland** Volkswagen Customer Relations  
**North Carolina** 9300 George Palmer Highway  
**South Carolina** Lanham, Maryland 20801  
**Tennessee (East)** (301) 577-2600  
**Virginia**  
**West Virginia**  
**Washington, D. C.**

**Arizona** Volkswagen of America, Inc.  
**California** Western Region  
**Nevada** Volkswagen Customer Relations  
**Utah** 11300 Playa Street  
**Hawaii** Culver City, California 90230  
(213) 390-8011

**Alaska** Riviera Motors, Inc.  
**Idaho** Volkswagen Customer Relations  
**Montana** P.O. Box 2963  
**Oregon** Portland, Oregon 97208  
**Washington** (503) 645-5511

**Arkansas** Volkswagen Mid-America, Inc.  
**Kansas** Volkswagen Customer Relations  
**Missouri** 8825 Page Boulevard  
**Nebraska** St. Louis, Missouri 63114  
(314) 429-2141

**Colorado** Volkswagen of America, Inc.  
**New Mexico** South Central Region  
**Oklahoma** Volkswagen Customer Relations  
**Texas** P.O. Box 2207  
**Wyoming** San Antonio, Texas 7898  
(512) 341-8881

## Authorized Volkswagen Zone Offices in Canada

**Eastern Zone** Volkswagen Canada Ltd.  
Volkswagen Customer Relations  
3500 Trans Canada Highway  
Pointe Claire, Quebec  
(514) 697-5930

**Central Zone** Volkswagen Canada Ltd.  
Volkswagen Customer Relations  
1920 Eglinton Ave. East  
Scarborough, Ontario M1L 2M2  
(416) 750-4700

**Western Zone** Volkswagen Canada Ltd.  
Volkswagen Customer Relations  
8081 Lougheed Highway  
Burnaby, B.C. V5A 1X1  
(604) 299-9321

## 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.

Air cleaner with load and temperature sensitive intake air pre-heating.

Exhaust emission control system. Activated charcoal filter in the fuel system.

Bore ..... 3.36 in. (85.5 mm)

Stroke ..... 2.72 in. (69 mm)

Displacement ..... 96.6 cu. in. (1584 cc)

Compression ratio ..... 7.3 : 1

Maximum output SAE net ..... 46 hp at 4000 rpm.

Maximum torque SAE net ..... 72.0 lb. ft. at 2800 rpm.

Valve clearance with engine cold ..... Intake and exhaust 0.006 in. (0.15 mm)

Fuel rating ..... "Regular" gasoline incl. low-lead or lead-free fuels \*

\* The correct fuel octane rating for your VW engine is listed on a sticker on the inside of the fuel tank flap.

### Transmissions

#### Manual Transmission

Single plate, dry clutch.

Clutch pedal free play:  $\frac{3}{8}$ — $\frac{3}{4}$  in. (10—20 mm).

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

Drive shafts with two constant velocity joints per shaft.

#### Automatic Stick Shift

Hydrodynamic torque converter with three speed synchromesh transmission, combined with final drive in one housing.

Drive shafts with two constant velocity joints per shaft.

## Chassis

### General specifications

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 (energy absorbing) with maintenance free tierods and hydraulic steering damper.

Foot-brakes: Hydraulic, dual circuit system with discs at front and drums at rear.

Parking brake: Mechanical, effective on rear wheels.

Wheelbase ..... 94.5 in. (2400 mm)

Turning circle diameter ..... 37 ft. (11.25 m)

Track at front ..... 51.7 in. (1314 mm)

Track at rear ..... 53.0 in. (1348 mm)

Wheels ..... 4½ J×15 safety rim wheels

Tires, tubeless ..... Bias Ply Tires

Tire size and pressures .... Tire size and VW-recommended cold tire inflation pressures are listed on a sticker on the lock pillar of the right door.

## Electrical system

Voltage .....	12 volts	
Battery .....	45 Ah	
Starter .....	0.7 hp, with Automatic Stick Shift 0.8 hp	
Alternator .....	max. 700 watts	
V-belt size .....	9.5×900 LA "DA", 9.5×905 LA "DA", 9.5×905 LA "XDA" ("DA" = Low stretch factor)	
Ignition distributor .....	with combined vacuum and centrifugal spark advance	
Firing order .....	1—4—3—2	
Ignition timing .....	for correct specifications for your engine, see label in engine compartment	
Contact breaker gap .....	0.016 in. (0.4 mm)	
Spark plugs .....	Bosch W 145T 1, Bosch W 175T 1 * Beru 145/14, Beru 175/14 * Champion L 88 A	} or plugs with similar values from other manufacturers
Plug thread .....	14 mm	
Electrode gap .....	0.024 in. (0.6 mm)	

\* To be used in vehicles driven at high speed for long periods in areas, where the average temperature is above 77° F.

## Dimensions and weights

Length .....	165.7 in.	(4210 mm)
Width .....	64.3 in.	(1634 mm)
Height .....	52.0 in.	(1320 mm)
Ground clearance .....	5.9 in.	( 150 mm)
Unladen weight (ready for use) .....	2094 lbs.	( 950 kg)
Vehicle capacity weight** .....	550 lbs.	( 250 kg)
Gross vehicle weight .....	2645 lbs.	(1200 kg)
Gross axle weight, front .....	1102 lbs.	( 500 kg)
rear .....	1565 lbs.	( 710 kg)
Permissible roof weight*** .....	110 lbs.	( 50 kg)
Permissible trailer weights:		
Trailer without brakes .....	882 lbs.	( 400 kg)
Trailer with brakes .....	1433 lbs.	( 650 kg)
Trailer tongue load .....	55—88 lbs.	(25—40 kg)

\*\* Less, if an VW Air Conditioner is installed (see page 23)

\*\*\* Applies only to roof rack mounted to rain gutters of the Coupé. Distribute load evenly!

## Capacities

Fuel tank	10.6 U. S. gal. (40 liters; 8.8 Imp. gal.)
Engine	2.6 U. S. quarts of engine oil (2.5 liters; 2.2 Imp. quarts)
Transmission and final drive	3.2 U. S. quarts of hypoid oil (3 liters; 2.6 Imp. quarts) refill with 2.6 U. S. quarts (2.5 liters; 2.2 Imp. quarts)

On vehicles with Automatic Stick Shift:

Torque converter circuit\* approx. 3.8 U.S. quarts ATF (3.6 liters; 3.2 Imp. quarts)

Transmission  
and final drive 3.2 U. S. quarts of hypoid oil (3 liters; 2.6 Imp. quarts)

Oil bath air cleaner . . . . . approx. 0.48 U. S. quarts of engine oil (0.45 liter;  
0.40 Imp. quarts)

Windshield washer . . . . . approx. 1.8 U. S. quarts of fluid (1.7 liters; 1.5 Imp. quarts)  
operating pressure 42 psi (3 kg/cm<sup>2</sup>)

\* Does not have to be changed

## Performance

	Manual Transmission	Automatic Stick Shift
Maximum and cruising speed . . . . .	90 mph	88 mph



**Volkswagen** offers a quality product. You can help maintain this quality by having your car serviced regularly. Your authorized Volkswagen dealers have Volkswagen-trained mechanics and the proper workshop equipment for performing all required maintenance services to help you maintain your car in top driving condition.

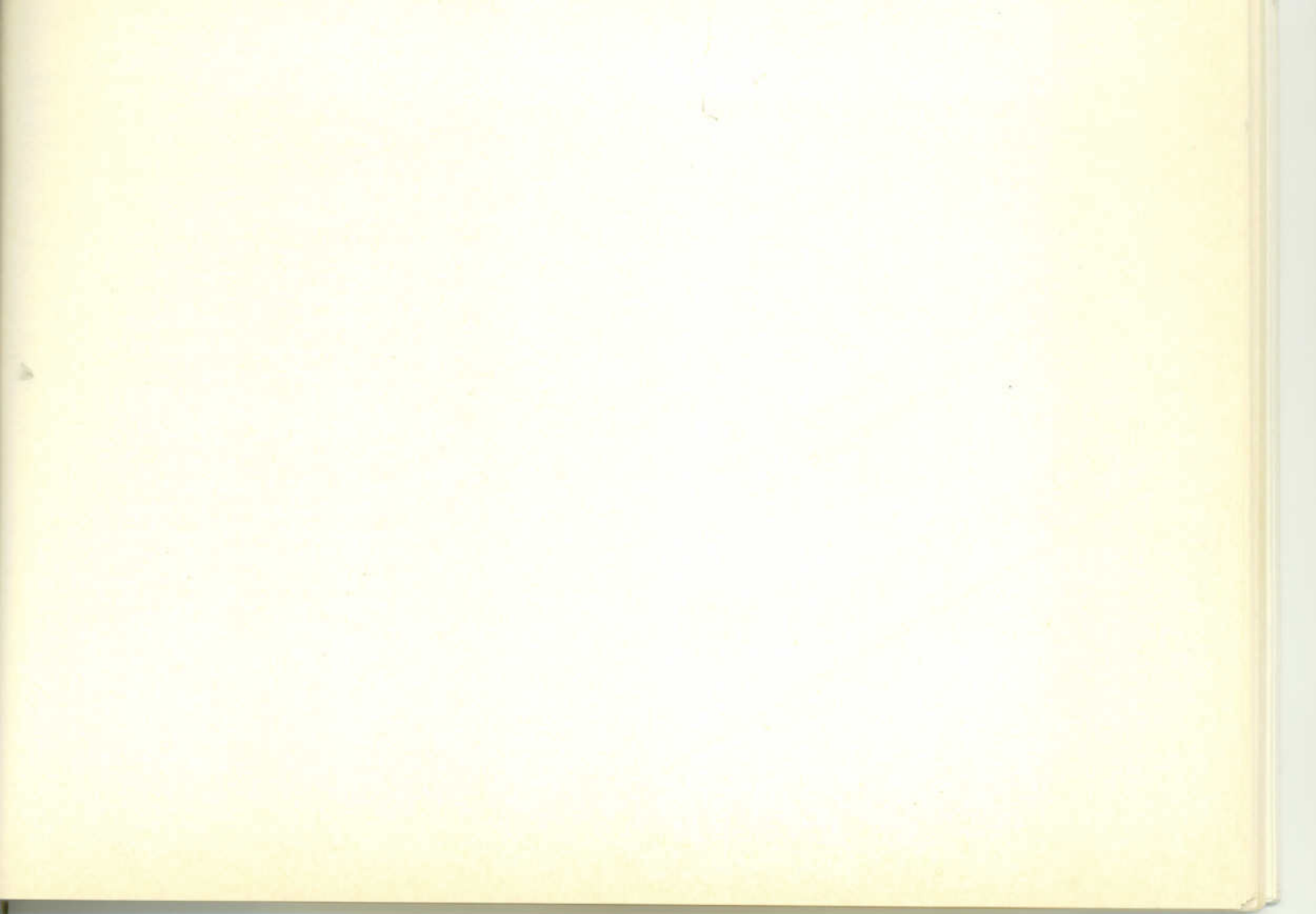
A service schedule that we recommend is listed in the VOLKSWAGEN COMPUTER ANALYSIS and MAINTENANCE RECORD on the following pages. The emission control maintenance is listed in the brochure which you received from your authorized dealer when you bought your new Volkswagen.

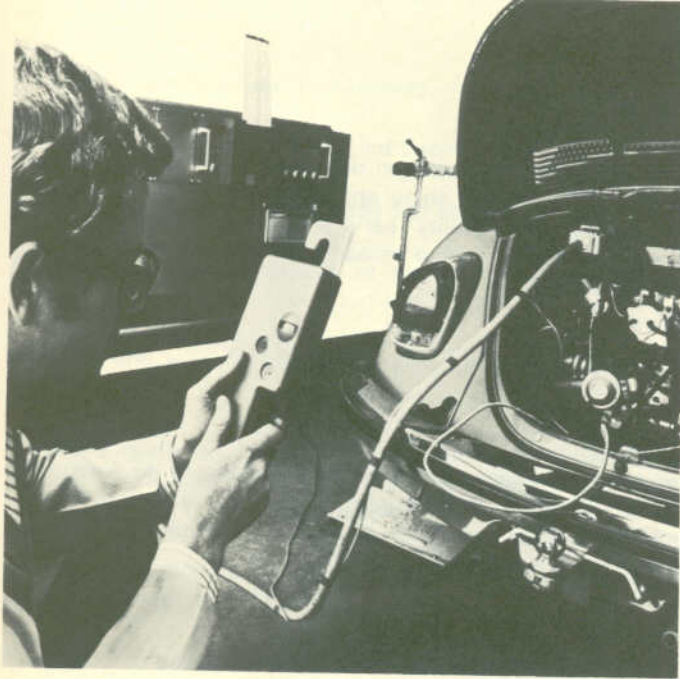
The **Emission Control** brochure explains what emission control is all about, and what you can do to keep it effective. It also contains the **Emission Control System Warranty**.



**VOLKSWAGEN**

**Emission Control System  
Maintenance Requirements and Warranty**





**Authorized VW Dealers use a unique service system specially developed for the VW.**

Lots of service stations say they can repair Volkswagens and a lot of them really can.

But they cannot offer you VW Computer Analysis.

Instead of giving every VW the same basic maintenance, we treat each one as an individual.

Specially trained diagnosticians will check your VW directly using special testing equipment; that means your car gets just the maintenance it needs. No more, no less.

And you get a test report so you know the exact condition of your VW.

It tells you a lot about the car you drive.

## VW Computer Analysis and Maintenance

The VW Computer Analysis and Maintenance Record shows you the mileage intervals at which computer analysis and maintenance services should be performed to keep your VW in top driving condition. It also tells you which services are provided **at no extra charge to you, and which are at your expense.**

**VW Computer Analysis** establishes the proper amount of service that your car needs.

At 6,000, 12,000, 18,000 and 24,000 miles, the computer analysis will be performed at no extra charge to you. From then on, at 6,000-mile intervals, the VW computer analysis is at your expense.

With each analysis you receive a **test report**. It will tell you everything about your car's "health". On the basis of this test report, your service adviser will help you to decide what work should be done.

Of course, you can obtain a VW computer analysis at any time — outside the regular schedule — at your authorized VW dealer. Especially if you drive less than 6,000 miles a year, we recommend you have a VW computer analysis performed at least once a year.

Your VW also needs **regular lubrication and maintenance**. The first oil change and maintenance service will be performed at 600 miles. There is no extra charge for this service; you only pay for lubricants. From then on, every 3,000 miles and every 6,000 miles we recommend regular lubrication and maintenance, as outlined on the following pages.

Every authorized Volkswagen dealer at home and abroad will perform all necessary tests and maintenance in accordance with Volkswagen quality service standards. Your service adviser will certify on the mileage chart which services have been completed.

**Regular maintenance services are necessary to keep your warranty in effect.** Should you have occasion to make use of your Volkswagen warranty, it is always helpful to have the related service receipts handy.

### Scheduled Maintenance at 600 miles

(includes oil change and emission control maintenance)

The first maintenance service will be performed at 600 miles. **There is no extra charge for the service; you only pay for lubricants.**

- 1 - Engine: Change oil, clean oil strainer.
- 2 - Manual Transmission: Change oil, clean magnetic drain plug.
- 3 - V-belt: Check, adjust if necessary.
- 4 - Valves: Check and adjust clearance.
- 5 - Clutch pedal free play: Check and adjust.
- 6 - Rear axle: Check torque of bolts on constant velocity joints.
- 7 - Tires and wheels: Check tire pressures, including spare wheel.
- 8 - Brake system: Check for damage and leaks. Check brake fluid level, add if necessary. Check brakes: adjust foot and parking brakes if necessary.
- 9 - Electrical system: Check operation of all components, adjust headlights if necessary.
- 10 - Fuel cap, tank and connections: Check visually.

### During road test:

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

### After road test:

- 1 - Engine: Check and adjust idle speed.
- 2 - Cylinder head covers: Check for leaks.

### **Oil Change Service every 3,000 miles**

The engine in the Volkswagen requires little oil. But for long engine life, the oil should be changed every 3,000 miles. **This oil change is at your expense.** It includes:

Engine: Change oil, clean oil strainer.

### **VW Computer Analysis**

A physical checkup of your VW is extremely important for determining the amount of additional maintenance your vehicle may need for continuing peak performance.

Listed on the following pages is the VW Computer Analysis procedure which applies to your vehicle.

Chances are, if you have regularly maintained your vehicle, it is in good running condition.

The VW Computer Analysis Test Report will be given to you so you will know the exact condition of your VW.

It is something you should know.

### **VW Computer Analysis every 6,000 miles**

(only applicable operations on your vehicle will be performed)

The first four computer analysis at **6,000, 12,000, 18,000 and 24,000** miles will be done **at no extra charge to you.** From then on, at **6,000 mile intervals the VW computer analysis test is at your expense.**

#### **Engine and clutch:**

- 1 - V-belt: Check tension and condition.
- 2 - Ignition system: Check with electronic equipment.
- 3 - Compression: Check.
- 4 - Exhaust system: Check for damage.
- 5 - Manual transmission  
Clutch: Check pedal free play.
- 6 - Engine: Check oil level.

#### **Rear axle and transmission:**

- 7 - Drive shafts: Check boots for leaks.

### Front axle and steering

- 8 - Front axle: Check dust seals on ball joints and dust seals on tie rod ends, check tie rods.
- 9 - Ball joints: Check play.
- 10 - Steering: Check play.
- 11 - Front wheels: Check camber and toe.

### Brakes, wheels, tires

- 12 - Brake system: Check for damage and leaks.
- 13 - Brake pedal: Check pedal travel.
- 14 - Parking brake: Check adjustment.
- 15 - Brake fluid: Check level.
- 16 - Brake linings or pads: Check thickness.
- 17 - Tires, including spare wheel: Check for wear and damage, check and correct pressure.

### Electrical system

- 18 - Cranking system: Check with electronic equipment.
- 19 - Charging system: Check with electronic equipment.
- 20 - Check operation of headlights, high beam indicator light, parking lights, side marker lights, license plate light, emergency flasher, stop lights, tail lights, back-up lights, turn signals, horn, rear window defogger and brake warning light.
- 21 - Headlights: Check adjustment.
- 22 - Windshield wiper: Check operation.
- 23 - Windshield washer: Check operation and fluid.
- 24 - Battery: Check electrolyte level, check voltage under load.

### Test Drive

Test drive if computer analysis is not followed by maintenance or repair. If maintenance or repair follows the computer analysis, test drive after the job is completed.

- 1 - Check braking, clutch, steering, heating, ventilation system and overall performance.
- 2 - Check interior lights and instrument lights.
- 3 - Check ignition/steering lock and buzzer alarm.
- 4 - Check warning lights for alternator and oil pressure.
- 5 - Automatic Stick Shift: Check ATF level.

## Scheduled Maintenance

(includes oil change and emission control maintenance — at your expense)

After your vehicle receives a VW Computer Analysis, your Authorized Volkswagen Dealer can perform the VW Maintenance.

The maintenance which should be performed at specified mileage intervals is shown below.

There may be additional maintenance required which will show up on the VW Computer Analysis Test Report.

Your VW Service Manager or Service Adviser will explain the results of the VW Computer Analysis in detail.

This will help keep a small maintenance problem from growing into a big maintenance problem.

So that your VW will keep running like a VW.

### Every 6,000 miles — at your expense

- 1 - Engine: Change oil, clean oil strainer.
- 2 - Valves: Check and adjust clearance.
- 3 - Door hinges and door check: Lubricate.
- 4 - Manual Transmission: Check oil level, add if necessary.
- 5 - Automatic Stick Shift  
Fluid pan: Check torque of bolts.
- 6 - Safety belt warning light and buzzer alarm: Check.
- 7 - Brakes: Check, adjust if necessary.
- 8 - Clutch: Check, adjust if necessary.
- 9 - Heater lever spot light: Check.

### During Road Test

Check braking, clutch, steering, heating, ventilation and overall performance. Check operation of Automatic Stick Shift transmission.

### After Road Test

- 1 - Cylinder head covers: Check for leaks.
- 2 - Engine: Check and adjust idle speed.

### At 12,000 miles — no extra charge

Spark plugs and ignition points replacement, including adjustment of dwell angle and timing needed at the 12,000-mile service will be provided by your authorized Volkswagen dealer at no extra charge, if performed from 11,000 to 14,000 miles.

The necessary replacement at subsequent 12,000-mile intervals thereafter is at your expense.

### In addition:

#### Every 12,000 miles — at your expense

- 1 - Contact breaker points and spark plugs: Replace  
Adjust dwell angle and timing.
- 2 - Ignition wires, distributor cap and rotor: Check visually,  
replace if necessary.
- 3 - Activated charcoal filter: Check visually.
- 4 - Timing vacuum hose: Check visually.

#### Every 18,000 miles — at your expense

- 1 - Front axle: Lubricate (at least once a year).
- 2 - Air cleaner: Replace filter element (at least every 2 years).



**Every 24,000 miles — at your expense**

- 1 - Exhaust recirculation valve: Check, replace if necessary.
- 2 - Filter element for exhaust recirculation: Replace (at least every 2 years).
- 3 - Fuel cap, tank and connections: Check visually.
- 4 - Crankcase ventilation hoses: Check visually.

**Every 48,000 miles — at your expense**

Activated charcoal filter: Replace.

**Every 2 years — at your expense**

- 1 - Brakes: Replace brake fluid.
- 2 - Brake warning light switch: Check functioning.

<b>Delivery Inspection</b>	<b>600 miles</b>	
	<b>Engine and Transmission Oil Change</b>	<b>Maintenance Service (No charge *) Valid only between 500 and 1,000 miles</b>
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date _____	Date _____	Date _____
Miles _____	Miles _____	Miles _____

\* (Lubricants are paid for by the customer)

<b>3,000 miles</b> <b>Oil Change Service</b>	<b>6,000 miles</b> <b>Computer Analysis (No charge *)</b> <b>Valid only between 5,000 and 8,000 miles</b>	<b>6,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>	<b>9,000 miles</b> <b>Oil Change Service</b>	<b>12,000 miles</b> <b>Computer Analysis (No charge *)</b> <b>Valid only between 11,000 and 14,000 miles</b>	<b>12,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date _____	Date _____	Date _____	Date _____	Date _____	Date _____
Miles _____	Miles _____	Miles _____	Miles _____	Miles _____	Miles _____
<b>15,000 miles</b> <b>Oil Change Service</b>	<b>18,000 miles</b> <b>Computer Analysis (No charge *)</b> <b>Valid only between 17,000 and 20,000 miles</b>	<b>18,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>	<b>21,000 miles</b> <b>Oil Change Service</b>	<b>24,000 miles</b> <b>Computer Analysis (No charge *)</b> <b>Valid only between 23,000 and 26,000 miles</b>	<b>24,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date _____	Date _____	Date _____	Date _____	Date _____	Date _____
Miles _____	Miles _____	Miles _____	Miles _____	Miles _____	Miles _____

<b>27,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>30,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>30,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____	<b>33,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>36,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>36,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____
<b>39,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>42,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>42,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____	<b>45,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>48,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>48,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____
<b>51,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>54,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>54,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____	<b>57,000 miles</b> Oil Change Service  (Dealer Stamp)  Date _____ Miles _____	<b>60,000 miles</b> Computer Analysis  (Dealer Stamp)  Date _____ Miles _____	<b>60,000 miles</b> Oil Change Service Maintenance  (Dealer Stamp)  Date _____ Miles _____

<b>63,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>66,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>66,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____	<b>69,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>72,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>72,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____
<b>75,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>78,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>78,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____	<b>81,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>84,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>84,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____
<b>87,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>90,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>90,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____	<b>93,000 miles</b> <b>Oil Change Service</b>  (Dealer Stamp)  Date _____ Miles _____	<b>96,000 miles</b> <b>Computer Analysis</b>  (Dealer Stamp)  Date _____ Miles _____	<b>96,000 miles</b> <b>Oil Change Service</b> <b>Maintenance</b>  (Dealer Stamp)  Date _____ Miles _____

<b>99,000 miles</b>	<b>100,000 miles</b>	<b>100,000 miles</b>
Oil Change Service	Computer Analysis	Oil Change Service Maintenance
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date	Date	Date
Miles	Miles	Miles

## Additional Services Record

The boxes to the right indicate a brake service that is required in addition to the preceding Maintenance schedule.

Your Authorized Volkswagen Dealer will perform this service at the recommended intervals.

It is the best way to keep your VW running. And running. And running.

Brake Fluid Renewal and checking of brake warning light switch		
after 2 years of operation	after 4 years of operation	after 6 years of operation
(Dealer Stamp)	(Dealer Stamp)	(Dealer Stamp)
Date	Date	Date
Miles	Miles	Miles

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 one of the attached postcards 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 3. Do not use an abbreviated serial number.

Additional cards can be obtained from any Authorized Volkswagen Dealer.

Headlights, check adjustment  
Wheel mounting bolts/nuts, check torque  
Cotter pins for rear axle nuts, visually check for correct installation (except Type 4)  
Tire pressure (incl. spare wheel), check  
Engine and transmission, visually check for leaks  
Brake system, all brake lines and hoses, visually check for leaks  
Steering components lock plates and cotter pins, visually check for proper setting  
Tie rod ends and tie rods, visually check  
Hose connections of cooling and heating, check

#### D. Road test

Foot and parking brakes, check operation  
Clutch and gearshifting, check operation  
Ventilation and heating (incl. fresh air fan and heater booster where applicable), check operation  
Speedometer, check operation  
Kickdown switch, check operation (where applicable)

#### E. After road test

ATF level, check  
Engine idle speed, check and adjust

Remarks: \_\_\_\_\_

Vehicle in perfect condition: \_\_\_\_\_

\_\_\_\_\_  
(Signature of Service Adviser)

\_\_\_\_\_  
(Date)

**VOLKSWAGEN of AMERICA, Inc.**  
818 Sylvan Avenue  
Englewood Cliffs, N.J. 07632

POSTAGE WILL BE PAID BY

**BUSINESS REPLY MAIL**

No Postage Stamp Necessary if Mailed in the United States

FIRST CLASS  
Permit No. 785  
Englewood, N.J.  
07631



**NOTICE OF ADDRESS CHANGE**

**NOTICE OF USED CAR PURCHASE**

please check one of the above boxes

VW Chassis Number

Mo.

Day

Yr.

Last Name

First Name

Initial

Number

Street

City

State

Zip Code

Please print and give complete information.

**New Vehicle Delivery Inspection**

Checklist for \_\_\_\_\_  
(Chassis Number)

**A. Install following items**

- Windshield wiper arms and blades
- Floor mats (where applicable)
- Hub caps
- Outside mirror(s)
- Fuse for heater booster (Type 4)
- Interlock system: Connect (where applicable)

**B. Preparatory services**

- Battery electrolyte level, check
- Brake fluid level, check
- Engine oil level, check and add oil

**C. Operation and safety items**

- Door lock functioning, check
- Seat operation and adjustment, check
- Safety belts, locking mechanism, warning light and buzzer alarm, check
- Ignition lock, check (where applicable)

Check operation of:

- Headlights, dimmer switch, high beam indicator light, parking lights, stop lights, turn signals and indicator lights,
- tail lights, side marker lights, license plate lights, back-up lights, horn, windshield wipers and washer, rear window defogger, emergency flasher, brake warning light, alternator/generator and oil pressure warning lights, instrument lights, incl. heater lever spot light (where applicable)



**NOTICE OF ADDRESS CHANGE**

**NOTICE OF USED CAR PURCHASE**

please check one of the above boxes

VW Chassis Number

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Mo.	Day	Yr.	

Last Name

First Name

Initial

Number

Street

City

State

Zip Code

Please print and give complete information.

**NOTICE OF ADDRESS CHANGE**

**NOTICE OF USED CAR PURCHASE**

please check one of the above boxes

VW Chassis Number

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Mo.	Day	Yr.	

Last Name

First Name

Initial

Number

Street

City

State

Zip Code

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818 Sylvan Avenue  
Englewood Cliffs, N. J. 07632

# Gas-Station-Information

## Gas Station Information

### Starting

**Sit on seat. Buckle up. Start engine.** This sequence must be observed by driver and passenger.

To move car within 3 minutes after engine shut-off, it is not necessary to buckle safety belts. For details see page 19.

### Driving ranges

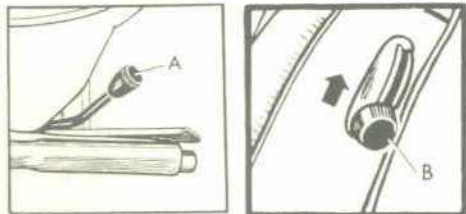
See shift pattern on dashboard.

### Chassis number (Serial No., VIN)

Visible through driver's side of windshield.

### Seat adjustment

Pull lever at front right side of seat (A).



### Backrest release, front

Lift lever on outboard side of backrest (B).

### Fuel recommendation

"Regular", low-lead or lead-free. Min. octane rating listed on label inside fuel tank flap.

**Auxiliary Heater (option) must be off when filling fuel tank.**

### Fuel cap

Above right front fender. To close, turn cap until it clicks.

### Tire pressure

See sticker on lock pillar of right door.

### Fuse box — under dashboard

Details on page 34.

### Additional fuses for:

Back-up lights and rear window defogger (main current) — in engine compartment on support near ignition coil.

Auxiliary heater (option) — under front hood near heater.

### Engine hood release

Pull out knob in door pillar on driver's side.

### Engine oil dipstick

Check oil level 5 min. after engine has stopped. Level should be between upper and lower marks on dipstick. Difference between marks is 1.1 U.S. qt (0.9 Imp. qt/1 liter).

C - Oil dip stick

D - Oil filler cap



Engine oil

### Engine oil grades

Use name brand oil labeled "For Service SD" or "SE" (or combination). See oil viscosity chart on page 46.

