

Volkswagen Beetle Convertible



1979 Volkswagen Owner's Manual

Before Driving

Operating Controls

Climate Controls

Do-it-yourself Service

Emission Control

Technical Data

Gas Station Information

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- Your car may have all or some of the components described in this manual. Therefore you may find explanations of equipment not installed in your car.
- Check with your Volkswagen dealer on available options or accessories.
- Text, illustrations and specifications in this manual are based on the information available at the time of printing.
- It has always been Volkswagen's policy to continuously make technical improvements at any time during the model year.

BEFORE DRIVING

Your new Volkswagen

is the result of many years of technical research and endurance testing. It is a sophisticated product of engineering, a car designed for maximum efficiency and driving pleasure, a car designed with your safety in mind.

Your Owner's Manual

contains a host of useful information. Read it before you drive your new car. Acquaint yourself with your car's features and know how to operate it more safely. The more you know about your Volkswagen, the more you will enjoy driving it.

FOR YOUR OWN PROTECTION and longer service life of your car, we ask you to heed our instructions and cautions. Ignoring them could result in extensive mechanical failure or even physical injury.

Your Warranty and Maintenance booklet

explains how you can keep your Volkswagen in top driving condition by having it serviced regularly. Always have the Warranty & Maintenance booklet with you when you take your car to a VW dealer for service. Your Service Adviser will record each service . . . and that's a good record to have.

The **Owner's Manual** and the **Warranty & Maintenance** record should be left in the vehicle when sold, to make all operating, safety and maintenance service information available to the next owner.

Operating your car outside the U.S.A. or Canada

Government regulations in the United States and Canada require that automobiles meet specific emission regulations and safety standards. Therefore cars built for the U.S. and Canada differ from vehicles sold in other countries.

If you plan to take your car outside the continental limits of the United States or Canada, there is the possibility that:

- **gasoline may have a considerably lower octane rating. Excessive engine "knock" and serious engine damage could result;**
- **service may be inadequate due to lack of proper service facilities, tools or testing equipment;**
- **replacement parts may not be readily available;**
- **unleaded fuels for cars with catalytic converter may not be available.**

Volkswagen cannot be responsible for the mechanical damage that could result because of inadequate fuel, service or parts availability.

Certain Volkswagen models are available for delivery in Europe under our tourist delivery and return shipment program.

For details consult a VW dealer or write to:

in U.S.A. Volkswagen of America, Inc.
Tourist Delivery
818 Sylvan Avenue
Englewood Cliffs, N.J. 07632

in Canada Volkswagen Canada Ltd.
Tourist Delivery
1920 Eglinton Avenue East
Scarborough,
Ontario M1L 2M2

If you bought your car abroad and want to bring it back home, be sure to find out about shipping and forwarding requirements, as well as current import and customs regulations.

OPERATE YOUR CAR SAFELY

A lot has gone into the manufacture of your Volkswagen, including advanced engineering techniques, rigid quality control and demanding inspections. These engineering and safety features will be enhanced by **you**, the **safe driver**,

- who knows the car and all controls
- who maintains the car properly
- who uses driving skills wisely.

Turn the engine off before you attempt any checks or repairs on the car.

Before going on a trip . . .

- 1 - Be sure tires are inflated correctly. Look for bruises and tire wear.
- 2 - See that wheel bolts are not loose or missing.
- 3 - Check engine oil level, add if necessary. Make it a habit to have engine oil checked with every second fuel filling.
- 4 - Check V-belt to assure proper engine cooling.
- 5 - Be sure you have a well charged battery. Each cell should be filled to level with distilled water.
- 6 - Check brake fluid level. If too low, have brake system checked.
- 7 - Replenish windshield washer fluid.
- 8 - Replace worn or cracked wiper blades.
- 9 - See that all windows are clear and unobstructed.
- 10 - Check whether headlight and tail light lenses are clean.
- 11 - Be sure all lights are working and headlights are aimed correctly.
- 12 - Check under car for leaks.

You'll find helpful hints on how to perform most of these checks in this manual. If in doubt, have these checks performed by your dealer or any other qualified mechanic.

In the driver's seat . . .

- 1 - Depress plate in the center of the steering wheel to check whether horn is working.
- 2 - Position seat for easy reach of controls.
- 3 - Adjust inside and outside rear view mirrors.
- 4 - Use safety belts.
- 5 - Check operation of foot and parking brakes.
- 6 - Check all warning and indicator lights when starting the engine.
- 7 - DO NOT leave car idling unattended.
- 8 - Lock doors from inside, especially with children in the car.

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 - Always keep a safe distance from the car in front of you, depending on traffic, road and weather conditions.
- 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. Turn the engine off. DO NOT sit in the car with the engine idling. See warning on Engine Exhaust.

- 8 - When stopped or parked, always set the parking brake.
- 9 - When stopped or stalled 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.

Have the engine oil and the V belt tension checked regularly, even in between the recommended maintenance intervals.

Vehicle Identification

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

B32-153

MFD BY VOLKSWAGENWERK AG WEST GERMANY
GVWR (kg) ()
GAWR (kg) (FRONT) (REAR) () (month/year)
THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE.
TYPE PASSENGER CAR (chassis number)

B5-389

Safety Compliance Sticker

This sticker is your assurance that your new Volkswagen 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 doorjamb.

The sticker also shows the manufacturer's name, 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**.



The chassis number

is located on the instrument panel on the driver's side so that it is visible from the outside through the windshield.



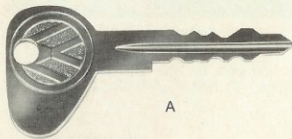
The engine number

is stamped on the alternator support flange.

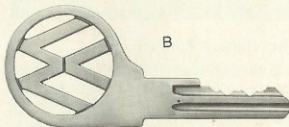
OPERATING CONTROLS

Keys

Your Volkswagen comes with a set of two keys.



The key with the elongated head (A) is for the doors and the ignition/steering lock.



The key with the round head (B) is for the glove compartment door.

DO NOT remove key from steering lock while you are driving or as the car is rolling to a stop. The steering column is locked when you remove the key, and you will not be able to steer the car.

For your protection against car theft:

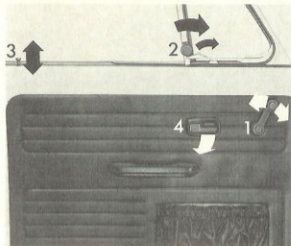
- Record the key numbers and keep in a safe place, such as your wallet.

NOT IN THE CAR.

If you should lose a key, provide your VW dealer with the key number to obtain a duplicate key.

- Do not leave your car unattended with the key in the ignition lock. Take the key and lock the doors.

The **buzzer** will sound when you open the driver's door and the key is still in the ignition lock. This is your reminder to remove the key and lock the doors.



Windows

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

- 1 - Window winder
- 2 - Knob for vent window.

To open the vent window, turn knob into driving direction, move locking lever forward and push out window.

To make closing the vent window easier, we suggest you first push on the forward part of the vent window so that it fits snugly against the weatherstripping. Then grasp the knob, and move the lever back to lock it in place.

Doors

- 3 - Locking knob
- 4 - Inside door handle

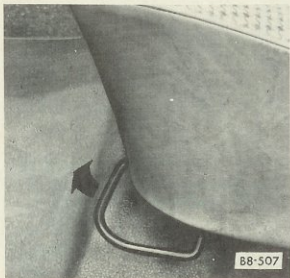
To lock and unlock doors from the outside

- Lock and unlock doors with the key by turning the key to the left or right.
- Doors can also be locked without a key. First depress locking knob (3), then squeeze trigger in outer door handle as you close door.

To lock, unlock and open doors from the inside

- Lock and unlock by depressing or raising locking knob.
- Open door by pulling inside door handle (4).

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



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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.

Seat adjustment (forward or backward)

- Pull handle in front of seat.
- Slide seat to desired position.
- Let handle go, move seat slightly back and forth to make sure it is securely engaged.



Seatback adjustment

- Turn wheel at side of seat cushion, with your body weight taken off the seatback.

Front seat passengers should not ride in a moving car with the seatback reclined. Safety belts only offer protection when the seatback is in an upright driving position.

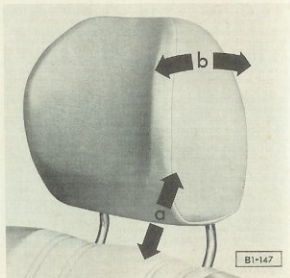


Seatback release

- Pull lever on side of seatback UP.
- Tilt seatback forward and out of the way.

If the lever cannot easily be moved upward, push the seatback slightly forward as you pull the lever up.

For your and your passenger's protection, seatback locks must be engaged at all times while the car is in motion.

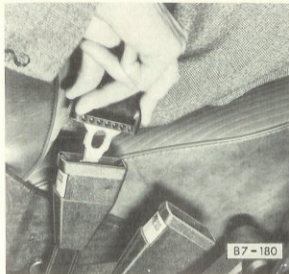


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Head restraints (adjustable)

Head restraints are designed to help reduce injuries. For maximum protection never drive the vehicle without head restraints.

- To adjust height, pull restraint up or push down (a).
To offer maximum support and protection, the upper edge of the restraint should be slightly higher than the level of your eyes.
- To tilt restraint forward or back, grasp it firmly with both hands and move to the desired position (b). If you can touch the restraint by tilting your head slightly to the rear, the restraint is properly adjusted.



Safety belts

For your and your passenger's protection, wear safety belts at all times while the car is in motion.

Belt warning system

An audio-visual warning system is interconnected with the driver's safety belt. Every time the ignition is turned on, the FASTEN BELTS warning light on the dashboard will come on for about 6 seconds as a reminder to buckle up. If the driver does not fasten the safety belt, the buzzer will also come on for the duration of this six second period. With the driver's door closed, the buzzer will go off as soon as the driver has buckled up.

Lap/shoulder belts for front seats

A shoulder belt should not be worn by a person less than 4' 7" or 1.40 m in height, because it would not be in its most protective position, and therefore may increase the possibility of injury in a collision.

The safety belts should not be used to hold a child's seat as the diagonal belt will not provide the needed protection.

To fasten belt

- To **fasten**, grasp belt tongue and pull belt in continuous slow motion across your chest and lap.
- Insert belt tongue into buckle on inboard side of seat. Push down until it is securely locked with an audible click.

Pull shoulder section up to make sure that the belt fits snugly across the hips.

To unfasten belt

- To **unfasten** belt, push in release marked PRESS on buckle. Belt will spring out of buckle.
- To **store** lap/shoulder belt, allow belt to wind up on retractor as you guide belt tongue to its stowed position on doorpost.

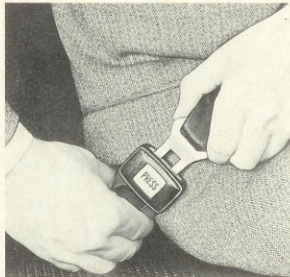
Important reminders

- Belts should fit snugly across lap and chest. Make sure any slack is wound on the retractor.
- For maximum effectiveness, the lap belt portion should be worn low across the pelvis.
- Do not strap in more than one person with each belt.
- Belts should not be worn twisted.
- 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 on the doorpost. This reduces the possibility of its becoming a striking object in case of a sudden stop.
- Do not drive with the rear seat cushion removed and the backrest folded down. In the folded-down position the backrest may interfere with the operation of the front safety belts.

Inertia reel retractor

The one-piece lap/shoulder belt with inertia reel locking mechanism adjusts automatically to your size and movements as long as the pull on the belt is slow. Rapid deceleration during hard braking or a collision locks the belt. The belt will also lock when you drive up or down a steep hill or in a sharp curve.

To release a locked belt, lean back to take the body pressure off the belt.



Lap belts for rear seats

The rear seats are equipped with lap belts with an automatic retractor. If you have pulled out too much of the belt, the retracting mechanism will take up the slack until the belt fits snugly across your lap and will stay locked in this position.

To fasten belt

- To **fasten** lap belt, grasp belt tongue on outboard side of seat, pull across lap and insert in inboard buckle.

To unfasten belt

- To **unfasten** belt, push in release marked PRESS in the buckle.
- To **store** belt, allow belt to wind up as you guide belt tongue to retractor.

Belt tongue and buckle should always be kept on top of seat for ready use.

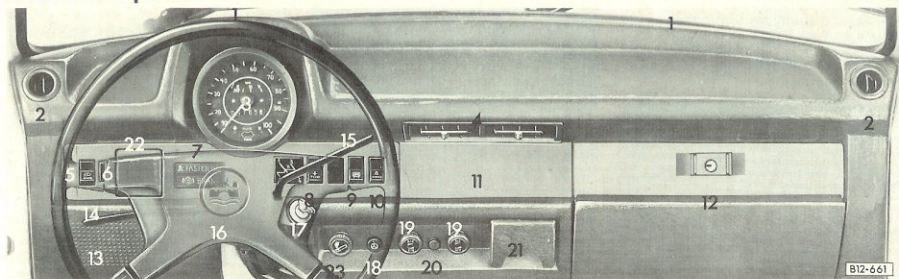
Important reminders

- **For maximum effectiveness, the lap belt portion should be worn low across the pelvic crest.**
- **Do not strap in more than one person in each belt.**

Belt care

- Belts that have been subjected to excessive stretch forces in an accident should be replaced. If in doubt, see your dealer.
- If belts show damage to webbing, bindings, buckles or retractors, they should be replaced.
- If belts do not work properly, see your VW dealer to have them repaired or replaced.
- Do not modify or disassemble the safety belts in your car.
- Keep belts clean. If they need cleaning, use a mild soap solution, but do not remove belts from car. **DO NOT** use other cleaning agents as they will weaken the webbing.
- **NEVER** bleach or dye safety belts.
- **DO NOT** allow safety belts to retract until they are completely dry.

Instrument panel



- | | | | |
|---|--------|--|----|
| 1 - Vents for heating/defrosting and fresh air ventilation
(there are 2) | 28, 30 | 11 - Plate over radio aperture | 20 |
| 2 - Vents for heating/defrosting and fresh air ventilation
for the front side windows
(there is one on each side) | 28, 30 | 12 - Glove compartment, lockable | 20 |
| 3 - Speedometer dial with fuel gauge and warning lights. | 14 | 13 - Loudspeaker grille | 18 |
| 4 - Vents for fresh air ventilation (2) | 30 | 14 - Turn signal and headlight dimmer switch lever | 18 |
| 5 - Headlight switch. | 16 | 15 - Windshield wiper/washer lever | 18 |
| 6 - Instrument illumination | 16 | 16 - Horn | 14 |
| 7 - Safety belt and brake warning light | 10, 16 | 17 - Ignition/steering lock | 14 |
| 8 - Control switch for Auxiliary Heater
(optional equipment) | 31 | 18 - Knob for fresh air fan | 30 |
| 9 - Switch for rear window defogger. | 17 | 19 - Fresh air control knobs (2) | 30 |
| 10 - Emergency flasher switch | 17 | 20 - Spot light to illuminate the heater levers between
the front seats | 28 |
| | | 21 - Ashtray. | 20 |
| | | 22 - Clock. | 15 |
| | | 23 - Cigarette lighter | 20 |

Ignition/steering lock

The steering is equipped with an antitheft ignition lock.

Important reminders before starting

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

For your protection, fasten safety belts.

Move gearshift lever to Neutral before turning the ignition key.

NEVER LEAVE ENGINE IDLING UNATTENDED.

If warning lights should come on to indicate improper operation, they would go unheeded. This could result in severe damage to the car.

Switch positions

- 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 the key is released.



Do not operate starter continuously for more than 10 to 20 seconds. If engine fails to start, turn key back to Pos. 1 and restart. Allow about 1 minute between each starting attempt. See also "Starting hints".

Remove key and lock steering wheel

- Turn key back to Pos. 1 and pull out. Turn steering wheel until it locks.

Only remove key after car has come to a standstill and parking brake is engaged. **NEVER remove key while driving or as car is rolling to a stop.** Since steering wheel locks, you could lose control of the car.

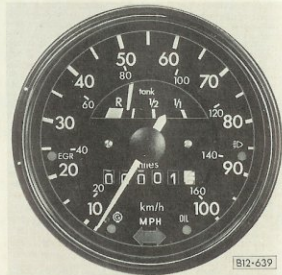
Warning lights

Warning lights for **alternator, oil pressure, exhaust gas recirculation (where applicable) and brake system** will light up when the ignition is turned on. The lights should go out after the engine is started. The **brake warning light** will go out after the parking brake has been fully released.

Buzzer

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.

Instruments



Speedometer dial

The speedometer indicates the road speed; the odometer records the distance driven. The last digit in red indicates 1/10 of a mile (kilometer in Canada).

Fuel gauge

The fuel gauge is located in the speedometer dial. When the ignition is turned on the needle will indicate the fuel level within a few seconds.

When the needle is on "R", there is a reserve of about 1 gallon of fuel left in your tank... time to refuel at the next gas station.

The following **indicator** or **warning lights** are in the speedometer dial:

Oil pressure warning light

OIL

lights up when the ignition is turned on. It should go out after the engine is started.

Stop at once...

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

(Brake warning light also comes on due to design of electrical system. In case of brake failure, only brake warning light will come on.)

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 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.

Note:

The oil pressure warning light is not an indicator for low engine oil level. To check the oil level, always use dipstick (see page 52).

Alternator warning light



lights up when the ignition is turned on. It should go out after the engine is started.

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 "Do-it-yourself Service".

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.

Exhaust gas recirculation light

EGR

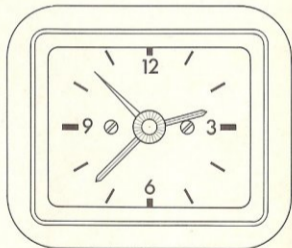
(Service reminder - in Canada models not connected).

The EGR indicator lamp will light up every 15,000 miles or 24,000 kilometers. This is your reminder to take your car to your VW dealer for the scheduled emission control and maintenance services.

Turn signals and High beam



see "Turn signal/headlight dimmer switch lever".



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Clock

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

Brake warning light

(⊙) BRAKE

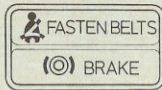
lights up when the ignition is turned on. It should go out after the engine is started and the parking brake is fully released. This is your assurance that the brake warning light functions properly.

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

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

Note: If one brake circuit may have failed, the other 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.



B32-039

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 safe to continue, have your car towed to the nearest dealer for repair.



Headlight switch



Depress the rocker switch to the first stop to turn on the parking, side marker, license plate, tail and instrument lights.

Depress the switch to the second stop to turn on the headlights (ignition on).

When the high beams are on, the blue indicator light will light up (see "Turn signal/headlight dimmer switch lever").

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

Instrument illumination

Turn the thumb wheel next to the rocker switch to adjust the brightness of the instrument lights and the heater lever spot light.

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.

To turn on rear window defogger:

- Turn on ignition first.
- Depress **lower half (symbol)** of rocker switch. The control light in the switch will light up to remind you that the defogger is switched on.

To give you full battery power while starting the engine, the operating rear window defogger will turn off automatically at this moment.

After the rear window has been cleared, switch off the rear window defogger to avoid an unnecessary drain on the battery.

To turn off rear window defogger:

- Depress **upper half (blank)** of rocker switch.

Be careful when removing objects from the luggage compartment behind the rear seat. Sharp edges may damage the defogger wires in the rear window. Larger items may also reduce vision to the rear.



Emergency flasher switch



If your car is disabled or parked under emergency conditions, make all four turn signals flash simultaneously.

To turn on emergency flasher:

- Depress **lower half (HAZARD)** of rocker switch. The warning light in the switch flashes, too.

To turn off emergency flasher:

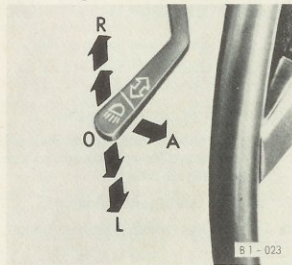
- Depress **upper half (blank)** of rocker switch.

When the headlight switch is operated, the emergency flasher switch 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.

Do not park or operate the car in areas where the hot exhaust system may come in contact with dry grass, brush, fuel spill or other flammable material.

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



Turn signals



- Lever in position O - OFF
Lever up (R) - right turn signal
Lever down (L) - left turn signal

The green turn signal indicator light in the speedometer dial comes on 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 fails, the control light flashes at about twice the normal frequency. Have your VW Dealer check and repair it for you.

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.

Lane changer

To indicate your intention when changing lanes on expressways, lift or depress the lever up to the point of resistance. The lever will return to the OFF position when released.

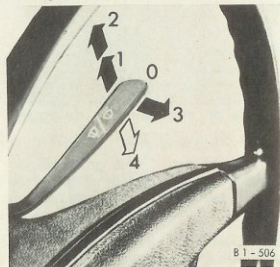
Headlight dimmer



To switch to either high or low beam, pull the lever toward the steering wheel (A). When high beams are on, the blue indicator light will light up.

Headlight flasher

You can signal with your headlights (in lieu of horn) during daylight, by repeatedly pulling and releasing the lever.



Windshield wipers



The windshield wipers can be operated at the following speeds:

- Lever in position O - OFF
Lever up to position 1 - low speed
Lever up to position 2 - high speed
Lever down to position 4 - Intermittent wiping. The wipers sweep the windshield approximately every 10 seconds.

Lifting the lever slightly without engaging the first stop allows the wipers to operate for as long as the lever is held in this position. The lever will return to the OFF position when released.

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

Always make sure that the wiper blades are in good condition. Poor blades reduce visibility and might create hazardous driving conditions.

Be sure that the blades are not frozen to the windshield in winter.

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

Windshield washer

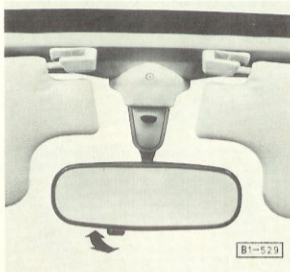


WASH

To spray washer fluid on the windshield, pull the lever toward the steering wheel (position 3). You can operate the washer from any selected wiping position.

Automatic wash/wipe device

If you pull the lever to position 3 from the OFF position, washer fluid is sprayed on the windshield and the wipers work. When lever is released, washer stops immediately, but wipers will continue to run several times to dry the windshield.



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)

Assist handle and straps, coat hooks

On the roof linkage just behind the head liner, there is an assist handle for the front seat passenger. There are also assist straps for the rear seat passengers and coat hooks on each side of the linkage.

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

Sun visors

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

A vanity mirror is on the back of the sun visor on the passenger's 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 adjust the day-night mirror from clear daylight visibility to non-glare visibility at night by moving the lever upward or downward at the bottom of the mirror.



Ashtrays

Front ashtray (picture)

Pull to open the ashtray in the instrument panel. To remove the tray, depress 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.

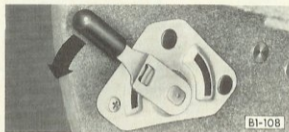
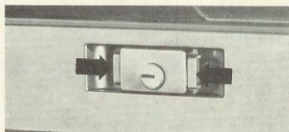
Rear ashtray

To remove the ashtray in the rear passenger compartment, press down on the tray and pull out. To reinstall, just push the ashtray back in again.

Cigarette lighter

Push knob in. When lighter is ready for use, it will spring back.

The socket of the cigarette lighter may be used for 12 volt appliances with maximum consumption of up to 200 watts, such as hand spot light, small vacuum cleaner, etc.



Glove compartment

(lockable)

- To open - Squeeze the two lock latches together
- To close - Press door upward until lock engages
- To lock or unlock - Turn key to right or left

The release for the front hood is inside the glove compartment. A locked glove compartment prevents unauthorized access to the luggage compartment and the spare wheel.



Luggage compartments

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

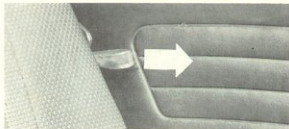
Since improper weight distribution can affect car handling, take advantage of the two luggage compartments. Load the front luggage compartment first, using the heaviest pieces of luggage, if possible.

Front luggage compartment

To **unlock** the front hood, pull the release lever inside the glove compartment.

Now open the front hood by depressing the release button in the hood handle.

To **lock** the front hood, lower the hood and press the handle down firmly. Do not press on either side of the hood. Make sure the hood is securely locked.

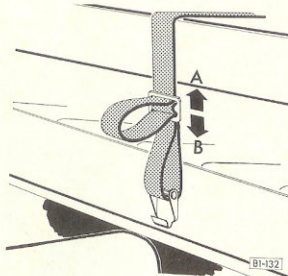


Rear luggage compartment

Additional luggage can be stored in the space behind the rear seat. You can expand this luggage area by folding the backrest down and fastening it in this position.

To **release** the backrest, pull the strap on the left, as seen in driving direction. When you fold the backrest back, it locks automatically in its place.

After folding the rear seat forward to increase the loading area, make sure the front seats and seat backs are in securely latched positions.

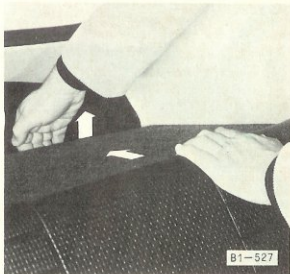


A - to shorten the strap
B - to lengthen the strap

To **hold** the backrest in the folded-down position, hook the retaining strap (on the back of the backrest) under the clamp on the seat rail.

To **adjust** the length of the strap, unhook the strap and move the slide.

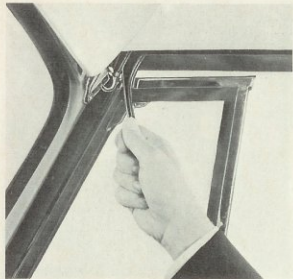
Do not drive with the rear seat cushion removed and the backrest folded down. In the folded down position, the backrest may interfere with the operation of the front safety belts.



Articles stored in the luggage area behind the rear seat can be concealed from the outside view by a **cover**. This cover is attached with hinges to the backrest.

To make use of the cover, release the backrest and fold it forward. Lift the cover up. Then move backrest and cover back. The cover will rest on the edge below the rear window. Press the backrest back to lock it in place.

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



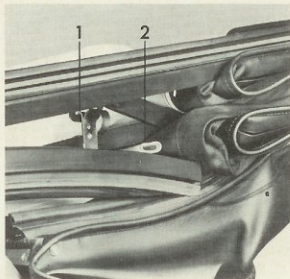
Convertible top

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

How to open the convertible top

The top should be dry before you open it.

- 1 - First release the locking levers on the sides above the windshield and fold the top back.
- 2 - Press down the top and engage the locking catches - 1 - on both sides. Make sure the padding does not get caught under the fold-down stop - 2 - or in the linkage.

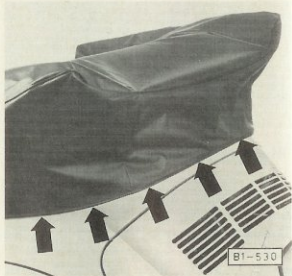


- 3 - Now take the covering boot (a separate cover that comes with every new VW Convertible) and slide it over the folded-down top. Fasten inner and outer snaps on both sides. Pull boot down over edge where top joins body at rear as shown (arrows). Then fasten and snug up straps on inside.

Do not drive without covering boot and convertible top down. Wind velocity could loosen the folded padding and cause damage.

How to close the convertible top

- 1 - First take off the boot and turn down



- 2 - From inside the car, grasp both levers and pull the top forward until the pins enter the guide holes on the windshield frame.
- 3 - Engage the hooks at the end of the lever into the grasping brackets above the windshield frame. Now lock the top tightly by pushing the levers upward.
- 4 - As a last step, close the rear windows.

Starting hints

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

For your protection, wear safety belts at all times while the car is in motion.

Before turning the ignition key, make sure the gearshift lever is in **Neutral**.

It is not necessary to depress the accelerator pedal when starting. This holds true for a cold engine and an engine at operating temperature no matter what the outside temperature is. The electronic fuel injection system, with which your Volkswagen is equipped, automatically supplies the required amount of fuel for starting.

Winter starting

Depress the clutch pedal when starting so that the starter only has to crank the engine.

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

If engine should fail to start after 10 to 20 seconds, turn key back to position 1 and repeat starting procedure (see also "Ignition/steering lock").

Allow about 1 minute between each starting attempt.

The warning lights for oil pressure and alternator in the speedometer dial and the brake warning light on the dashboard will light up when the ignition is turned on. The oil pressure and alternator warning lights should go out after you have started the engine. The brake warning light should go out after releasing the parking brake.

NEVER LEAVE CAR WITH ENGINE IDLING

When starting engine, be ready to drive off immediately. Maintain moderate speed until engine is warm. If you leave engine idling unattended, warning lights that may come on to indicate improper operation would go unheeded. This could result in severe damage to the car.

Do not park or operate the car in areas where the hot exhaust system may come in contact with dry grass, brush, fuel spill or other flammable material.

Cars with catalytic converter

If your Volkswagen is equipped with a catalytic converter as part of the emission control system, the following is important to know:

After the engine is warmed up (not during or shortly after engine start-up) a malfunction in the ignition system, caused by a faulty spark plug for instance, could reduce the effectiveness of the converter. To keep the converter operating properly, we advise you to slow down immediately if you should notice a sudden interruption in the pull of the engine under normal acceleration. This interruption could be for brief moments or of longer duration. Drive slowly (with half or less throttle) to the nearest VW dealer or other qualified workshop to have your ignition system checked and if necessary corrected.

Fuel supply

UNLEADED FUEL ONLY

for cars with a catalytic converter (California models only). Such vehicles are so identified by a sticker on the dashboard and another sticker next to the fuel tank flap.

Cars with catalytic converter

Cars with catalytic converter need unleaded fuel. The catalytic converter is an efficient "clean-up" device built into the exhaust system of the car. The catalytic converter burns the undesirable pollutants in the exhaust gas before it is released into the atmosphere.

Deposits from leaded gasolines destroy the catalytic converter and thus defeat its purpose to control harmful exhaust emissions.

Cars with a catalytic converter, requiring unleaded fuel, have a **smaller fuel tank opening, and gas station pumps have smaller nozzles.** This will prevent accidental pumping of leaded fuel into cars with a catalytic converter.

Unleaded fuels may not be available outside the continental U.S. and Canada. Therefore, we recommend you do not take your car to areas or countries where unleaded fuel may not be available.

REGULAR including low-lead and unleaded fuel, of 91 RON octane rating, for cars without special marking.

Min. octane rating is listed on a label on the inside of the fuel tank flap.

Regular fuel and octane rating

Octane rating indicates a gasoline's ability to resist detonation. Therefore, buying the correct octane gas is important to prevent engine "knock".

Regular fuels have an octane rating ranging from 91 to 95 **RON** (Research Octane Number) or 87 to 91 **CLC** (U. S. Cost of Living Council Octane rating).

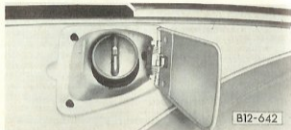
The 91 RON octane rating which you will find on a label on the inside of the fuel tank flap of your car is based on the research method. The CLC octane rating usually displayed on U. S. gasoline pumps is calculated as follows: research octane number plus motor octane number, divided by 2, that is

$$\frac{\text{RON} + \text{MON}}{2}$$

The CLC octane rating is usually 4 points less than the RON rating:

91 RON equals 87 CLC

95 RON equals 91 CLC



Fuel filler neck is on the side panel above the right front fender. When putting cap back on, twist it clockwise until it stops with an audible click.

Fuel tank capacity is listed under "Technical Data/Capacities".

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 a colorless and odorless gas. Carbon monoxide can be fatal if inhaled.

Engine exhaust is dangerous if inhaled

Therefore:

- Never start or let the engine run in a closed garage.
- Exhaust fumes from the engine contain carbon monoxide, which is a colorless and odorless gas. Carbon monoxide can be fatal if inhaled.
- If you smell gas fumes in the car, drive with the windows open. Have the cause immediately located and corrected.
- Never carry additional fuel in portable containers in your car. Such containers, full or partially empty, may leak, cause an explosion, or result in fire in case of a collision.

How you drive affects gas mileage

Your Volkswagen gives you excellent fuel mileage. However fuel economy will vary depending on where, when and how you drive, optional equipment installed in your car, and the condition of your car.

- Keep a light foot on the gas pedal.
- Drive smoothly, avoid abrupt changes in speed as much as possible.
- Avoid jack rabbit starts and sudden stops.
- Avoid unnecessary idling. Turn the engine off.
- "Warm up" idling wastes gas. Start the car just before you are ready to drive. Accelerate slowly and smoothly.
- Do not carry unnecessary weight.
- Organize your trips to take in several errands.
- Use air conditioner only when needed.

How to improve fuel mileage

A well tuned and properly maintained car will help you get maximum fuel economy.

- Have your car tuned to specifications.
- Fuel injection should be adjusted to specifications.
- Spark plugs should be clean, properly gapped and firing efficiently.
- Air cleaner should be dirtfree to allow proper engine "breathing".
- Battery should be fully charged.
- Wheels should be aligned.
- Tires should be inflated at correct pressures.

Hand and foot controls



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

Brake system

Your VW is equipped with a hydraulic dual circuit brake system with drum brakes at front and rear.

Brake operation and brake warning light

Make it a habit to check the operation of your brakes before driving off. The brake warning light will light up if one of the brake circuits should fail. The warning light is explained under "Brake warning light".

Keep in mind that the braking distance increases very rapidly as the speed increases. At 60 mph or 100 km/h, for example, it is not twice but four times longer than at 30 mph or 50 km/h. Tire traction is also less effective when the roads are wet and slippery. Therefore, always maintain a safe distance.

Moisture of brakes affects braking

Driving through water may reduce the tire traction. Moisture on the brakes from road water or from washing the car 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 wear

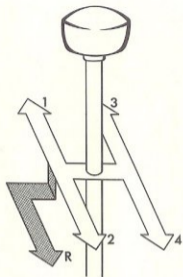
Volkswagen automobiles have excellent brakes, but they are still subject to wear ... depending on how the brakes are used. If you find that the brake pedal travel has increased, have the brakes adjusted; if necessary, between the specified maintenance intervals.

New brake linings

Brake linings may not have the highest possible braking efficiency when new. Therefore allow for longer braking distance during the initial 100 to 150 miles or 150 to 250 kilometers.

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 linings wear faster.



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 instrument panel below the speedometer.

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; there is no break-in schedule. There are, however,

certain recommended speed ranges for the various gears:

- 1st gear up to 16 mph or 26 km/h
- 2nd gear 11-34 mph or 18-54 km/h
- 3rd gear 22-56 mph or 35-90 km/h
- 4th gear from 31 mph or 50 km/h 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

- 37 mph or 60 km/h in 2nd gear
- 62 mph or 100 km/h in 3rd gear

Reverse

Only shift into Reverse when the car is not moving.

To engage **Reverse** gear smoothly (especially after some driving), depress the clutch pedal fully and rest the shift lever in Neutral for a few seconds before shifting into **Reverse**.

To engage the reverse gear, press the lever down, move it to the left and pull back.

The back-up lights go on automatically when you engage the 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 on, the brake warning light will light up.

To **release** the parking brake, pull the lever slightly up, depress the release button, and then push the lever all the way down.

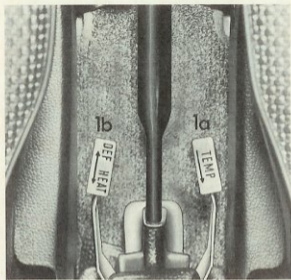
When the parking brake is fully released, the brake warning light will go out.

Be sure the parking brake 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.

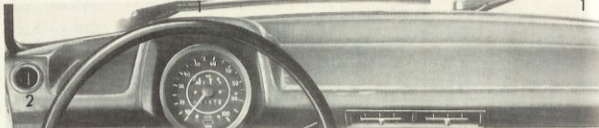
CLIMATE CONTROLS



Heater/Defroster

A fresh air heater/defroster is standard equipment on your Volkswagen. The control levers are located on the tunnel between the front 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 thumb wheel next to the light switch. See also page 16.



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 the car, warm air will enter the car's interior through the windshield vents - 1 -, the side window vents - 2 - and outlets in the front and rear footwells.

Footwell outlets

There are four footwell outlets, two in the front and two in the rear. The front outlets are located just beneath the doors, the rear outlets are under the rear seat. Front and rear footwells are opened and closed with the heat distribution lever - 1b -.

1b - 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.

2 - Defroster vents for front side windows

Volume and direction of the air coming from the outlets on the dashboard can be controlled separately by adjusting the flaps in the outlets. They can be opened or closed by pressing against one side of the flaps. When the flaps are closed, the entire volume of warm air flows through the vents at the windshield (- 1 -).

Hints for defogging and defrosting

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

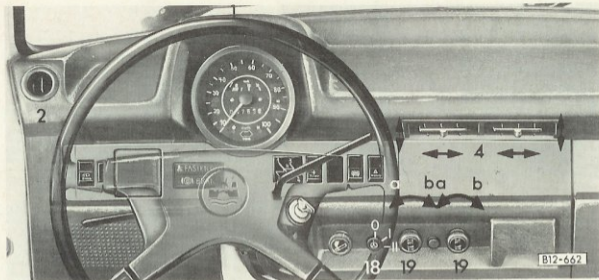
Here is what to do:

1. Heater temperature lever - 1a - all the way up (TEMP) - heat is on.
2. Heat distribution lever - 1b - all the way down (DEF) - no heat to the front and rear footwells.
3. Open the flaps in the front side window vents - 2 -.

For defogging purposes it may be advisable to add fresh air to the warm air flow:

4. Turn the left fresh air knob - 19 - to the left and turn on the fresh air fan - 18 - (see next page).

Now all air is directed toward the windshield and to the front side windows.



Ventilation

Air enters the car through the grille on the front hood and inside vents. A water separator prevents rain from entering.

A two-speed electric fan behind the instrument panel increases the flow of air when driving at low speeds and also supplies fresh air when the car is standing still (ignition on).

19 - Fresh air knobs

You can regulate the volume and distribution of fresh air with the two knobs.

Left knob - turn to left:

Air flow to windshield vent - 1 - and side window vents - 2 - increases.

Right knob - turn to left:

Air flow toward passenger compartment increases (vents - 4 -). The vanes in the vents can be adjusted upward, downward or sideways.

To **decrease** the air flow, turn the knobs to the right.

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

18 - Fresh air fan

You can increase the regular air flow by turning on the two-speed fan.

The switch positions are:

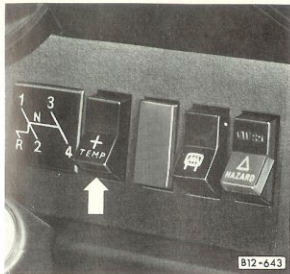
0 - off

I - low speed

II - high speed

The fan operation is most effective if you have opened the fresh air vents by turning the fresh air knobs all the way to the left.

To give you full battery power while starting the engine, the operating fresh air fan will stop automatically at this moment.



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 a colorless and odorless gas. Carbon monoxide can be fatal if inhaled.

To turn the heater on, depress lower half (symbol) of the rocker switch. A green indicator light will light up in the switch.

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 switch 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 turn the heater off, depress upper half (blank) of the rocker switch. The indicator light then goes out but the blower motor continues to run until the heater has cooled down.

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

When it is very cold, 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.

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 U.S. pint/h or 0.3 liter/h

Electric consumption: 40 watts



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 speeds is:

OFF - LOW - MEDIUM - HIGH

2 - Air temperature control ("TEMP")

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

3 - Air vents

All vents can be adjusted up, down or sideways as follows:

Up and down: by the small tab on the lower edge of the vent housing.

To the sides: by the vanes in the vent housing.

Starting the Air Conditioner

With the windows and fresh air regulator knobs 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 vents 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 operating air conditioner will turn off automatically at this moment.

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.

You can also mix fresh air with air conditioned air by turning on fresh air ventilation (see page 30).

- **If cool air stops completely, turn the air conditioner off.** Contact your VW dealer. He has the qualified personnel and proper workshop equipment to correct the problem.
- **If the engine tends to overheat, turn the air conditioner off** until the coolant temperature reaches a normal level.
- **If cool air flow decreases,** the evaporator may be icing up. To permit the

evaporator to defrost, turn the air conditioner off or reduce the fan speed and turn the temperature control knob to the left. After the evaporator has defrosted, the controls can be reset for maximum cooling.

Caution

Should you suspect that your air conditioner is damaged, have it checked promptly for leaks or other damage. Leaks must be sealed immediately since loss of refrigerant may result in serious damage to the air conditioning system.

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.

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 a VW dealer for straightening of the condenser fins.

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

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 power supply of the air conditioning system is located under the rear seat. It is connected directly to the battery.

Payload reduction

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).

DO-IT-YOURSELF SERVICE

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

listed some of the car-care products that you may find at your 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 and wax solution and a soft sponge or hose brush. Begin by spraying water over the dry car to remove all loose dirt before applying the car-wash and wax 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 the car-wash and wax solution. If you do not use a car wash liquid with wax, apply wax to preserve the natural shine of the car.

To obtain a long lasting wax finish, apply hard 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.

Application	Volkswagen Product*
Car wash and liquid wax	Car Wash and Wax
Paint waxing	Car Wax
Paint polishing and paint waxing to remove paint oxidation	Wax Polish combination
Preservation of chrome parts	Chrome Cleaner
Paint touch-up	Touch-Up Paint (all colors)
Convertible top cleaning	All Purpose Cleaner
Leatherette and interior trim cleaning	
Whitewall tire cleaning	
Windshield cleaning and washer anti-freeze	Windshield Washer Anti-Freeze & Solvent

Polishing

Use a 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 if the polish you are using does not contain a wax.

Any wax polish combination polishes your car, removes paint oxidation and also waxes your car.

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 chrome cleaner.

Care of plastics

If your car has decorative plastic stripes or panels, they will come clean during the normal car washing process. Should additional cleaning or spot removal be necessary, use a soft brush or cloth soaked with all purpose cleaner. Do not use wax

or polish which could mar the plastic finish of the surface.

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. If you do not have a tar 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.

Leatherette and interior trim

Use all purpose cleaner or a dry foam cleaner. Grease or paint spots can be removed by wiping with a cloth soaked with 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 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.

To remove spots, use a stronger solution of 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 **pivot 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.

Fuses and relays

A failure in the electrical system may be caused by a blown fuse or a malfunctioning relay.

The fuse/relay box is located under the dashboard.

The fuses are protected by a transparent cover.



Replacing a fuse

Before replacing a fuse, the ground terminal of the battery should be disconnected. If this is not possible, turn off all electrical components and the ignition; remove the key. Replacing a fuse or relay with the engine running or the ignition on could cause electrical shock, burns to hands and fingers.

- Take cover off.
- To replace a fuse, simply depress a contact on either side of the fuse.
- Carefully install new fuse with metal strip facing you. The fuse must fit tightly between the contact springs – do not bend the springs.
- Reinstall cover.

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 fuses in the car.

Plug-in relays

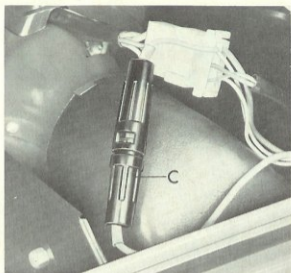
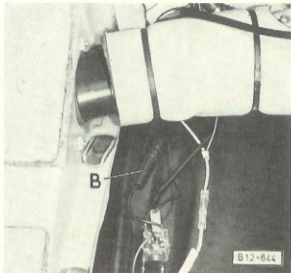
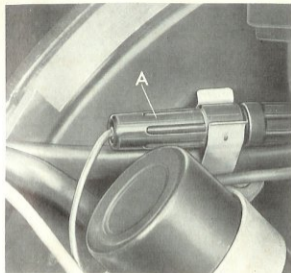
To preclude any possibility of damage, we recommend you have a malfunctioning relay checked and replaced by your VW dealer.

Fuse arrangement

according to the numbers on the fuse box cover:

- 1 - Tail light left
- 2 - Tail light right, parking and side marker lights, license plate light
- 3 - Low beam left
- 4 - Low beam right
- 5 - High beam left, high beam warning light
- 6 - High beam right
- 7 - (free for subsequent installation of electrical equipment)
- 8 - Emergency flasher, clock
- 9 - Interior light, cigarette lighter
- 10 - Windshield wipers, fresh air fan, rear window defogger (switch current)
- 11 - Safety belt warning system incl. warning light, stop lights, brake warning light, horn
- 12 - Turn signals, fuel gauge, warning lights for alternator, engine oil pressure, turn signals and EGR (exhaust gas recirculation)

Fuse No. 9 and 10 = 16 amps. (red color)
all other fuses = 8 amps. (white color)



Additional fuses

Electrical equipment	Fuse	Location of fuse holder
Back-up lights	8 amp.	In the engine compartment above the ignition coil (A)
Rear window defogger (main current)	8 amp.	Underneath the rear seat on the left (B), (as seen in driving direction).
Auxiliary heater (optional equipment)	16 amp.	In the front luggage compartment near the heater (C)

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.

Removing and installing rear seat

When taking out the rear seat, follow these steps:

- Unscrew Phillips screw in the center of the seat rail.
- Raise the front edge of the seat and pull it slightly toward you.
Reposition the safety belts!
- For easier removal, tilt one side of the seat up and hold the seat diagonally while taking it out of the car.

When putting the seat back in again, follow the same steps in reverse order:

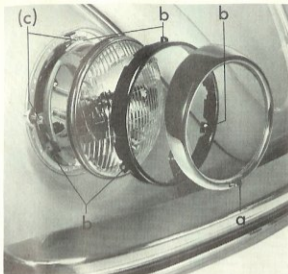
- Lift the seat into the car, holding the seat diagonally with one end tilted up.
- With the front end of the seat tilted up, slide the seat fully back under the backrest. **Position the safety belts on top of the seat cushion.**
- Press down the front edge of the seat to firmly position it in place.
- Tighten Phillips screw.

Do not drive with the rear seat cushion removed and the backrest folded down. In the folded down position, the backrest may interfere with the operation of the front safety belts.

Bulb chart

Always verify part number with your dealer

Bulb for	Trade bulbs	U.S. VW Part No.	Canada VW Part No.
Sealed beam (headlights)	6014	ZVP 118 114	N 17 614 6
Front turn signal/parking lights	1034	ZVP 118 034	N 17 738 2
Side marker lights	1816	ZAP 118 816	N 17 717 2
Rear turn signal.	1073	ZVP 118 073	N 17 731 2
Stop lights	1073	ZVP 118 073	N 17 731 2
Tail lights	67	ZVP 118 067	N 17 718 2
Back-up lights	1073	ZVP 118 073	N 17 731 2
License plate light	89	ZVP 118 089	N 17 719 2
Warning, indicator and instrument lights in speedometer	-	N 17 722 2	N 17 722 2
Warning and indicator lights for brake operation, emergency flasher, rear window defogger and Auxiliary Heater	-	N 17 751 2	N 17 751 2
Spot light for heater levers.	-	N 17 751 2	N 17 751 2
Interior light.	1816	ZAP 118 816	N 17 717 2



Replacing bulbs

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 - a - (non-removable) and pull trim ring off.

Remove three short screws - b - in sealed beam retaining ring and take ring off.

Do not alter the position of the long headlight adjustment screws (- c -).

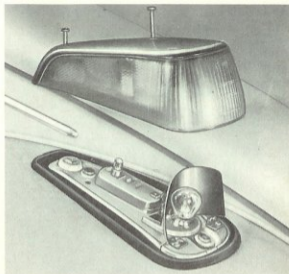
Take sealed beam unit out of support ring and pull cable connector off.

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

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.



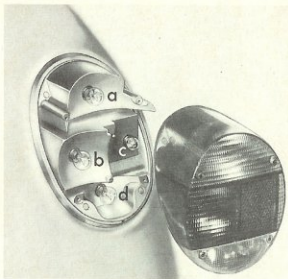
Front turn signal/parking light bulb or side marker light bulb

Remove two Phillips screws. Take off housing and lens.

Gently press bulb into holder, turn and take out.

Install new bulb.

Be sure the gasket is properly positioned when reinstalling the housing and lens. Tighten screws evenly. Do not over-tighten as this may crack the lens.



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

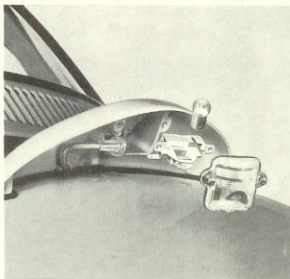
Unscrew four Phillips screws and remove lens.

Bulb positions:

- a - turn signal light
- b - stop light
- c - tail light
- d - back-up light

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.



License plate light bulb

Open rear hood.

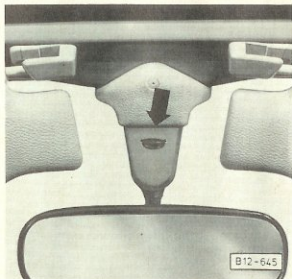
Remove screws on each side of lens and take off lens with bulb holder.

Pull bulb holder out of lens.

Gently press bulb into holder, turn and take out.

Install new bulb.

When installing, ensure that the cable grommet fits properly.



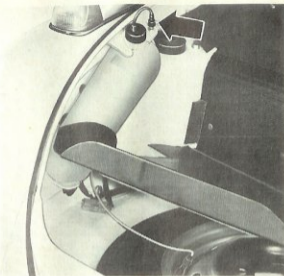
Interior light bulb

Insert screwdriver between upper edge of light housing cutout and mirror bracket and carefully pry out.

Take out bulb.

Install new bulb.

Insert lower edge of light housing first and then press upper part into place on mirror bracket.



Spare wheel

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/cm²). This prevents the spare tire from being deflated below the required pressure.

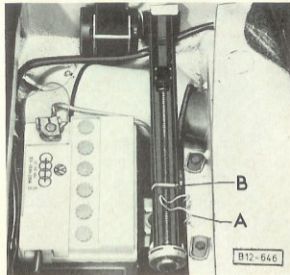
Check the tire pressure from time to time and maintain it up to a maximum of 42 psi (3.0 kg/cm²). This pressure level is only required for the operation of the windshield washer system. For road use,

adjust the spare tire pressure as specified on the sticker on the inside of the glove compartment door.

The spare wheel is stored horizontally under the luggage compartment cover under the front hood. To unlock the hood, pull the lever inside the glove compartment.

Checking or correcting the tire pressure

First unscrew the hose from the valve near the filler cap of the windshield washer container. The spare wheel is connected to this valve and can therefore be pressurized via this valve. Reconnect the hose to the valve after checking or inflating the spare tire.



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 seat next to the battery. It is held in storage position by a clamp (A). To take out the jack, take out the rear seat (see page 38) and lift the clamp. Before placing the jack back in storage, wind it down sufficiently and fasten the handle with the rubber band (B). Tighten the clamp (A).

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.

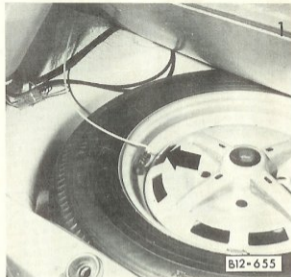
For a more efficient and safe changing of a flat tire, observe the following 10 steps.

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

- Step 1 - Take out tools, jack and spare wheel.
- Step 2 - Remove protective caps.
- 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 running board toward the rear, and is used for front or rear wheel changing.

Never jack the car up by the bumper or the running board.

- 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 - Reinstall protective caps or hub cap.
- Step 10 - Check and correct tire pressure.

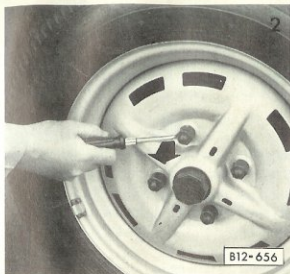


Step 1

Take out the **jack** from under the rear seat next to the battery (see previous page).

Take out **tool kit and spare wheel** from front luggage compartment.

Before you take out the **spare wheel**, disconnect the hose leading to the wind-shield washer container (see arrow on picture 1).



Step 2

Remove protective caps for hub and wheel bolts with screwdriver.



Step 3

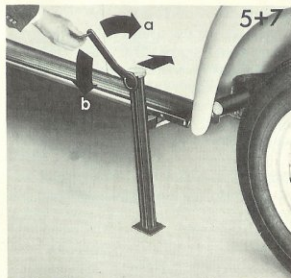
Loosen all wheel bolts counterclockwise about one turn with the socket wrench. Insert the breaker bar to make full use of its leverage. **Do not yet remove the bolts.**

Step 4

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

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.



a = to raise

b = to lower

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. Place the spare wheel against the brake drum so that the bolt holes in the wheel are in line with the threaded holes in the brake drum. Insert the wheel bolts and hand-tighten 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.

Correct tightness of the wheel bolts is important.

Correctly tightened bolts should have a

torque of 94 ft lb or 13 mkg. This torque



Step 9

Reinstall the protective caps for the hub and the wheel bolts.

Make sure the caps are properly seated.

Step 10

Correct the **pressure of the tire** you have just put on.

Recommended tire pressures are listed on a sticker on the inside of the fuel tank flap.

Place jack, wheel and tool kit in storage position (see also page 41).

Have flat tire repaired as soon as possible because the spare wheel supplies the air pressure for the windshield washer.

Winter operation

Engine oil

tends to thicken at low outside temperatures, which may cause starting difficulties.

Refer to the viscosity chart under "Lubricants" to be sure the viscosity of the engine oil in your car still corresponds to the outside temperature recommendation.

When using multigrade oils, there is generally no need for a seasonal oil change.

Make it a habit to check the engine oil level with every second fuel filling. Lack of oil may lead to serious damage of the engine.

Engine oil is necessary to lubricate all moving parts in the engine and also for engine cooling.

If you drive mostly short distances in city traffic in the winter, have your engine oil changed more frequently.

Transmission oil

For the Transmission there are no special winter instructions.

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 see page 50.

Battery

During the winter months, more energy is consumed when starting at very low temperatures. Lights and the rear window defogger are used more often. Besides, the battery capacity tends to decrease as the temperature drops.

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

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.

If you mainly drive short distances or in city traffic in the winter, have the battery checked and, if necessary, charged between regular inspections.

See "Battery Charging"

Windshield wipers

Always loosen frozen wiper blades from windshield. They may tear otherwise.

Windshield washer

Always use a windshield washer anti-freeze & solvent, to prevent the fluid from freezing. Follow the instructions on the can for the right amount to be used.

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 the 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 free 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, firstaid kit, etc.

Tires

Your Volkswagen is equipped with tubeless steel belted radial tires. The original equipment tires on your car comply with all applicable Federal Motor Vehicle Safety Standards.

Tire pressures

VW-recommended **cold tire inflation pressures** are listed on a sticker on the inside of the glove compartment 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.

Do not exceed the maximum tire inflation pressure listed on the tire sidewall.

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.

Cold tire inflation pressure means:

when a car has **not been driven** for at least 3 hours or less than 1 mile.

Always use tire pressure gauge when checking inflation pressures.

Spare tire pressure

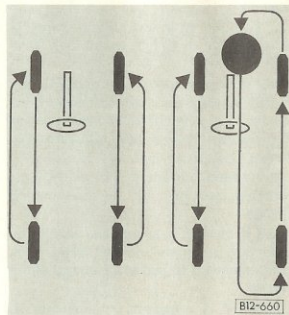
Since the spare tire supplies the pressure to operate the windshield washer, the pressure of the spare tire should be between 29-42 psi (2.0-3.0 kg/cm²). This pressure level is only to be maintained for the operation of the windshield washer system. For road use, the pressure in the spare tire should be adjusted as specified on the sticker on the inside of the glove compartment door.

Wheel balancing

A wheel should always be balanced after a tire repair. Even with regular use a wheel can get out of balance, and should therefore be balanced from time to time. Unbalanced wheels may affect car handling and tire life.

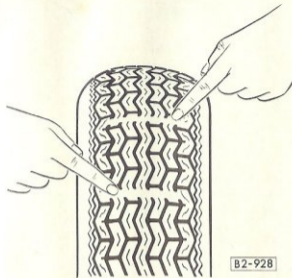
Tire rotation

Inspect your tires at regular intervals of 2,000 miles or 3,000 kilometers. If you notice unusual or uneven wear, wheels might need alignment or tires should be balanced. Consult your VW dealer.



Tire manufacturers recommend rotation every 7,000 miles or 12,000 kilometers to promote longer tire wear. Wheel rotating and balancing, although an expense to you, will help to increase tire life.

The above sketch illustrates how tires can be rotated, depending on whether or not you want to include your spare tire. After rotation adjust tire pressure and torque wheel nuts diagonally to 94 ft lb/13 mkg (please refer to "Changing a wheel" on pages 42-44).



This tire is unsafe, since tread wear indicators are visible across two adjacent grooves.

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 $\frac{1}{2}$ in (12 mm) bands when the tire tread depth is down to $\frac{1}{16}$ of an in (1.6 mm). 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.

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

If you notice that tires are wearing unevenly, consult your 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.

Tire replacement

In the interest of maximum safety and best all-round 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. For further details, consult your VW dealer.

Replace all 4 tires at the same time. If this is not possible, replace tires in pairs, either front or rear. Do not combine tires of different design, size or tread pattern.

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

Whenever replacing a tubeless tire, always install a **new** valve stem.

New tires do not possess maximum traction. They tend to be slippery. Break new tires in by driving at moderate speed for the first 100 miles or 160 kilometers.

Tire care

- Frequently check tires for uneven wear and damage.
- Remove imbedded material.
- Replace worn or damaged tires promptly.
- Replace missing valve dust caps.
- Keep oil and gasoline from tires.
- Keep tires inflated correctly.

Winter tires

Winter tires give good traction in snow or slush.

For more traction on snow and ice, you may want to use winter tires with studs, but **check with your local Motor Vehicle Bureau for possible restrictions.**

Winter tires should have the same load capacity as original equipment tires, and should always be mounted on all **four wheels**.

Winter tires with studs should be run at moderate speeds when new in order to give the studs time to settle.

Tires with badly worn treads and studs are very dangerous. Make sure they are replaced in time.

Winter tires do not fulfill their purpose if the tread depth is less than $\frac{5}{32}$ in (4 mm).

For safety reasons, it is not advisable to drive a vehicle mounted with winter tires at prolonged high speed. You cannot expect winter tires to have the same degree of traction on dry, wet or snow-free roads as a normal tire.

Furthermore, winter tires wear rapidly under these conditions, particularly at high speeds.

Removing and storing winter tires

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.

Store tires in a cool and dry place.

Snow chains

Snow chains may only be used on the rear wheels.

Check with your local authorities regarding restrictions.

Only use chains with fine pitch links protruding no more than $\frac{1}{2}$ in/15 mm from tire tread and side walls, including tensioner.

Remove the chains as soon as the roads become free of snow as they may promote increased tire wear.

Exercise extreme caution when working under the engine hood

The engine compartment of any motor vehicle is a potentially hazardous area. If you are not fully familiar with proper repair procedures, do not attempt the adjustments described on the following pages.

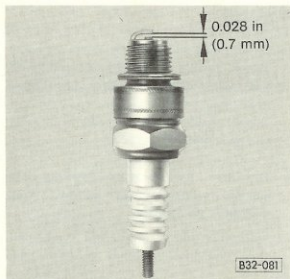
This caution applies to the entire vehicle.

- Before working on any part in the engine compartment, turn the engine off 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.
- Be alert and cautious around engine at all times while the engine is running.
- Do not smoke or allow an open flame around gasoline.
- Keep a fire extinguisher in close reach.

- Always support your car with safety stands if it is necessary to work underneath the car. The jack supplied with the car is not adequate for this purpose.

- When working under the car without safety stands but with the wheels on the ground, make sure the car is on level ground, that the wheels are blocked with wedges and that the engine cannot be started. REMOVE THE IGNITION KEY.

- Incomplete or improper servicing may cause problems in the operation of the car. If in doubt about any servicing, have it done by your VW dealer or any other properly equipped and qualified workshop.
- Improper maintenance during the warranty period may affect your warranty coverage.



Cleaning or replacing spark plugs

Turn the engine off!

Removing spark plugs

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

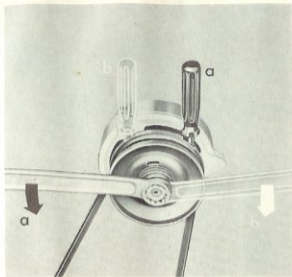
Dirty spark plugs should be cleaned with a sand blaster, but if not available, the carbon can be removed with a wooden or plastic pick. Do not use a wire brush. The plugs should also be clean and dry on the outside to avoid shorting and arcing.

The gap can be set by bending the outside electrode. The gap should be 0.028 inch (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).

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.

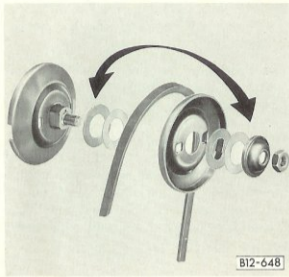


a - to loosen b - to tighten

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 picture.



The belt tension is adjusted by varying the number of washers between the pulley halves. Taking washers out increases the tension, putting them in decreases it. Extra washers are stored on the outside of the pulley half.

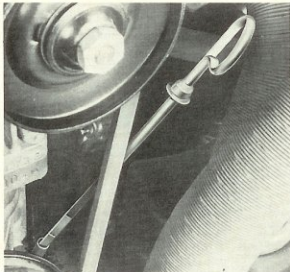
The V-belt must not be too tight or too loose when you are making the following belt tension check: Depress one side of the belt at the center between the two pulleys. The tension is correct if the belt can be depressed between 0.43 ($7/16$) in. or 11 mm and 0.55 ($9/16$) in. or 14 mm at a pressure of 16.5 lb 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 slightly tighter when first installed. The deflection should be between 0.35 ($11/32$) in. or 9 mm and 0.43 ($7/16$) 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 68.



Engine oil

Checking the level

Caution:

Lack of sufficient engine oil may lead to severe engine damage.

- To get a true reading, the car should be on level ground. After turning off the engine, wait a few minutes for the oil to return to the crankcase.
- Pull out dipstick and wipe it clean with a rag.
- Reinsert dipstick; push it in all the way for an accurate reading.
- Pull dipstick out again. The oil level is correct if it is between the "max" and "min" marks on the dipstick.

- If oil level is below "min" mark or not showing on dipstick, add oil immediately.

The difference between the "min" and "max" marks is about 1.3 U.S. quarts or 1.25 liter.

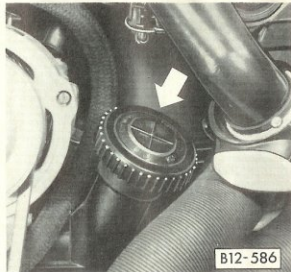
The engine in your car depends on oil to lubricate and cool all of its moving parts. Therefore the engine oil should be checked regularly and kept at the required level. Make it a habit to have the engine oil level checked with every second fuel filling.

Engine oil consumption

It is normal for your engine to consume oil. The rate of oil consumption depends on the quality and viscosity of oil, the speed at which the engine is operated, the climate road conditions as well as the amount of dilution and oxidation of the lubricant.

Because of these variables, no standard rate of oil consumption can be established, but drivers should expect an increased oil consumption at high speeds and when the engine is new.

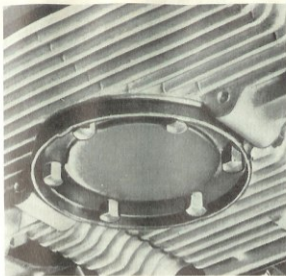
The oil consumption can be up to: 1.7 U.S. quarts or 1.6 liters per 1000 miles or 1600 kilometers.



Adding engine oil

- Unscrew cap from oil filler neck.
- Only add the amount of oil that is needed. Always select a quality oil. The correct oil grade and viscosity recommendation is given under "Lubricants".
- When putting the threaded cover (arrow) back on, turn it clockwise, but do not overtighten.

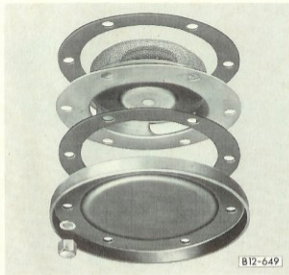
See also CAUTIONS on page 49.



Changing the engine oil

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.

If you drive mostly short distances or in dusty areas, the engine oil should be changed more frequently.



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 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 lb (0.7 mkg).

- Fill the engine with oil labeled "For Service API/SE".

Engine oil capacity is listed under "Capacities".

Be mindful of how you dispose of used engine oil. Do not dump it on garden soil, wooded areas, into open streams or down sewage drains.

Local zoning ordinances or environmental regulations will tell you how you can dispose of it. Should the discarding of the old oil present a problem to you, we suggest you have the oil changed at your dealer or a service station.

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

See also CAUTIONS on page 49.

Transmission Oil

Both transmission and final drive are combined in one housing. The lubricant used is hypoid oil which does not have to be changed.

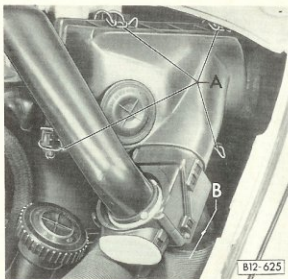
Should the need arise to add oil, it should only be done with the necessary workshop equipment.

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 but can also cause premature engine wear. Under normal conditions it is not necessary to service the filter element more frequently than is mentioned in the Maintenance Schedule. If local conditions are such that the vehicle is often driven on very dusty roads, the cleaner must be serviced more frequently, even daily if necessary.

To clean or to replace the filter element, do the following:



Release the four clips - A - and take top part of air cleaner off.

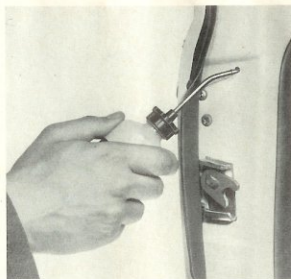
Pull hose - B - off.

Take the filter element out and clean or replace it. Remove the dirt by shaking the filter element out, with the dirttrapping side down.

Note

The paper filter element must never be cleaned or soaked with gasoline, cleaning fluids or oil.

When installing the air cleaner, make sure the element is properly seated and hose - B - is properly connected.

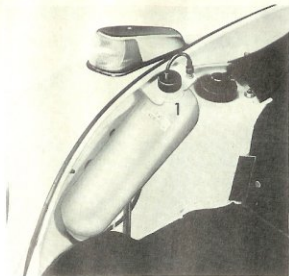


Lubrication

Door hinges and locks

The door hinges have to be lubricated at specified intervals (see also Maintenance Schedule). Your VW dealer uses a grease gun with a tapered nozzle.

If upon inspection the door locks are not working properly they should be lubricated with a few drops of oil after the plug has been removed from the access hole. To lubricate the lock cylinder dip the key into graphite, insert it and turn it a few times in the lock.



Container for windshield washer fluid (1)

As clear water is usually not adequate for cleaning the windshield, add a cleaning solution to the water such as a windshield washer anti-freeze & solvent.

It is a concentrate, so follow the directions on the can for the correct amount to be used.

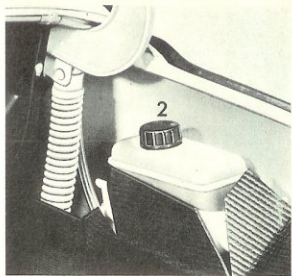
You can use this solution all year round. It helps to keep your windshield clean, and prevents freezing of the washer fluid in the winter.

The windshield washer container is located under the front hood.

To add washer fluid, just unscrew the filler cap. The container can be filled to the top.

The capacity of the container is listed under "Capacities".

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/cm²). To pressurize the spare tire, see page 41.



Brake fluid reservoir (2)

The brake fluid reservoir is located under the front hood on the left side as seen in driving direction.

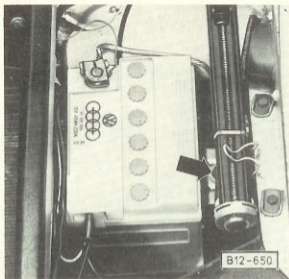
The brake fluid should always be above the seam edge near the top of the reservoir. If it drops below this point, the cause should be corrected by your Volkswagen dealer.

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

See Maintenance Schedule.

Only new, unused DOT 3 - or DOT 4 - brake fluid that meets the SAE recommendation J 1703 and conforms to Motor Vehicle Safety Standard 116 must be used.

Do not add or mix DOT 5 silicone type brake fluid with the brake fluid in your car as severe component corrosion may result. Such corrosion could lead to brake system failure.



Battery (12 Volt)

The battery is under the rear seat on the right, as seen in driving direction. Just take the rear seat out (see page 38).

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

See also CAUTIONS on page 49.

Checking battery fluid level

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.

Do not let battery acid come in contact with skin, eyes, fabric, or painted surfaces.

If you get electrolyte, which is an acid, in your eyes or on your skin, immediately rinse with cold water for several minutes and call a doctor.

Cleaning terminals and connections

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.

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.

Charging of Battery

WARNINGS

Charge battery in a well ventilated area. Keep away an open flame or electrical spark. Do not smoke. Hydrogen gas generated by the battery is explosive.

Electrolyte fluid that has squirted out during charging should be washed off with a solution of warm water and baking soda to neutralize the acid.

If you get electrolyte, which is an acid, in your eyes or on your skin, immediately rinse with cold water for several minutes and call a doctor.

Never charge a frozen battery. It may explode. Allow a frozen battery to thaw out first.

Never use a fast charger as a booster to start the engine. This may seriously damage the car's electrical system and the charger.

Fast charging a battery is dangerous and should only be attempted by a competent mechanic with the proper equipment.

See also CAUTIONS on page 49.

Slow battery charging

- It is not necessary to take out the battery from under the rear seat, and it is also not necessary to disconnect the cables. Vent caps may be left on, but loosen them to assure proper venting.
- Make sure the electrolyte level in each cell is near the indicator. If necessary, top up with distilled water.

Heed all warnings and follow instructions that come with your battery charger.

1 - Charging rate not over 6 Amp.

Normally, a battery should be charged at no more than 10 percent of its rated capacity. For example, a charging current of 4.5 Amp. would be used on a battery having 45 Ah. Rated capacity of the battery in your car is listed on the battery housing.

2 - Connect charger cables and switch on charger.

Do not connect or disconnect charger cables while charger is operating.

3 - After charging, turn off charger and disconnect charger cables.

4 - Tighten vent caps.

To take out battery from car

- 1 - Take out the rear seat (see page 38).
- 2 - Take out the jack (see page 41).
- 3 - Disconnect negative ground strap.
- 4 - Disconnect positive cable.
- 5 - Unscrew bolt of holding plate (see arrow in picture on previous page) with socket wrench.

Vent caps should be on when taking out the battery to avoid fluid spillage.

To reinstall battery in car

- 1 - Place battery in car and tighten bolt of holding plate.
- 2 - Reconnect positive cable.
- 3 - Reconnect negative ground strap.
- 4 - Reinstall jack (see page 41).
- 5 - Reinstall rear seat (see page 38).

Emergency starting with jumper cables

Warnings

- Improper use of a booster battery to start a car represents an explosion hazard.
 - Lead - acid batteries generate explosive gases. Keep sparks, flame and lighted cigarettes away from batteries.
 - If battery is frozen, thaw it out first. Otherwise it may explode.
-
- Check electrolyte level of each cell. If necessary, fill with distilled water up to indicator in each cell.
 - Make sure the voltage of both batteries is the same. You can tell by checking whether each battery has the same number of vent caps. A 12-Volt battery has 6 vent caps.
-
- Make sure vehicles are not touching.
 - Car with discharged battery: turn off lights and accessories. Ignition key should be removed. Move lever to Neutral. Set parking brake.

- Car with booster battery should be running.
- Remove vent caps from booster battery and discharged battery. Preferably lay a cloth over open vents. This reduces explosion hazard.

To avoid serious injury and damage to car, heed all warnings and instructions.

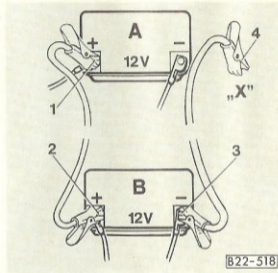
See also CAUTIONS on page 49.

How to use jumper cables

Improper hook-up of booster cables can ruin the alternator. Always connect POSITIVE (+) to POSITIVE (+), and NEGATIVE (-) to NEGATIVE (-).

- 1 - Using red jumper cable, connect one end with clamp to positive (+) terminal (1) of discharged battery.
- 2 - Connect opposite end of cable to positive (+) terminal (2) of booster battery.
- 3 - Using black cable, connect one end with clamp to negative (-) terminal (3) of booster battery.
- 4 - Connect opposite end of cable (4) to chassis connection of ground strap of the car with discharged battery.

- 5 - Start your car in the usual manner.
- 6 - Remove jumper cables from both vehicles in exact reverse order: Steps 4 through 1.



- A - DISCHARGED BATTERY
B - BOOSTER BATTERY
X - To chassis connection of ground strap

CAUTION - Cars with Catalytic Converter

Do not push or tow such a car to start. Damage to the catalytic converter and/or other parts of the car may result.

Emergency towing with tow rope

Always observe local laws and municipal ordinances governing towing.

In an emergency, your VW can be towed with a tow rope, **but for short distances only.**

Securely fasten the tow rope around the left or right bumper bracket at front or rear.

- Place gearshift in Neutral.
- Release parking brake.
- Turn on ignition to unlock steering and to be able to operate turn signals, horn, stop lights and, if necessary, windshield wipers and washer.

Caution

Do not leave the ignition on for long periods of time with the engine not running, as damage to the ignition system may result.

- 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.

If you are towing another car, it should not be heavier than your VW.

Emergency towing by commercial tow truck

When your car has to be towed by a commercial tow truck, do not let the vehicle be raised by the bumper brackets, as this may damage the energy absorbing elements in the brackets.

Never allow passengers to ride in a towed vehicle for any reason.

Trailer hauling

Your Volkswagen was primarily designed for **passenger transportation**. It is possible, however, to tow a trailer with your car. **The maximum permissible trailer gross weights, trailer tongue loads and high altitude load limits are listed under "Permissible Trailer Weights"**.

When towing a trailer, **your safety and satisfaction** depend upon . . .

. . . an appropriate trailer hitch (available through VW dealers), or other suitable towing equipment specifically designed for your car.

. . . brakes installed on the trailer, if your trailer will exceed 882 lb or 400 kilograms loaded weight. Keep in mind that "loaded weight" includes the trailer's weight **plus** everything you add to it. **Never exceed the specified load capacity of the trailer nor the specified towing capacity of your car.**

. . . the necessary electrical hook-ups between car and trailer to operate turn signals, stop lights, parking lights and emergency flashers.

. . . installation of extended outside mirrors on either side to give you a view of vehicles behind the trailer and the actions of your trailer.

. . . correct and even load distribution. **All** objects inside the trailer should be held securely in place to guard against shifting, be it forward, backward or sideways. **Never carry a passenger in a moving trailer.**

. . . your own ability and experience to use special driving skills when you begin your "trailer". Be constantly alert to the fact that you are operating two units "hitched" together. **You are responsible for the safe movement of both!**

. . . adequate maintenance of your "rig". Primarily designed for passenger transportation, your car is now performing a service it was not intended for. The additional load will affect durability and economy of performance. More frequent lubrication and maintenance services than normally required will be necessary to keep car and trailer in top notch conditions.

. . . your own good judgement and knowledge of "trailer". Be informed about laws and regulations of the Interstate Commerce Commission and of the individual states you plan on visiting. Consult your VW dealer and the trailer manufacturer **before you take to the highways.**

Troubleshooting

Your Volkswagen should repay you with troublefree driving if it receives regular maintenance and proper care. Should you ever encounter difficulties in starting your engine or have trouble on the road, there are a few repairs which you can make to get your car going again.

- Move disabled car well off the road. Turn on emergency flasher lights. If necessary mark vehicle with road flares or other warning devices.
- If you are not fully familiar with proper repair procedures, do not attempt the checks, adjustments or repairs described on these pages.

- Always support your car with suitable stands if it is necessary to work underneath the vehicle. The jack supplied with the car is not adequate for this purpose.

- Be extremely cautious when working on any part of the car to prevent accidental injury. Remove neckties or necklaces; tie long hair back behind your head. Disconnect the battery ground cable after turning off the engine before working on the electrical or fuel system to prevent sparking. Only connect battery if this is necessary for certain tests.

Note: The adjustment of idling and ignition timing requires special equipment and should only be carried out by a VW dealer.

See also CAUTIONS on page 49.

Locate the condition and probable cause of your trouble in the list on the following pages and follow the directions on what to do. If the trouble is serious or if you are uncertain as to its origin, be sure to see a VW dealer or qualified mechanic as soon as possible.

Condition	Probable Cause	What to do
A - Car will not start, engine will not turn over or turns over too slowly	<ol style="list-style-type: none">1. Run down or dead battery.2. Loose connections:<ol style="list-style-type: none">a - at batteryb - at starter3. Starter failure.	<ol style="list-style-type: none">1. Charge or replace battery. Check cause of high current consumption.2. Make sure that all connections are tight:<ol style="list-style-type: none">a - check connections at battery and ground strap, retighten as necessaryb - check solenoid connections on starter.3. Contact dealer.

If you are not fully familiar with proper repair procedures do not attempt the checks or repairs described on this page. See also CAUTIONS on page 49.

Condition	Probable Cause	What to do
B - Engine turns over but will not start.	<ol style="list-style-type: none">1. No fuel in the tank.2. Improper starting.3. Dampness in engine compartment.4. Dampness in distributor.5. Spark plugs wet, sooty or dirty.6. Other failure in ignition or fuel injection system.	<ol style="list-style-type: none">1. Fill up tank.2. Refer to "Starting hints".3. Dry ignition coil, ignition wires and distributor components.4. Remove distributor cap and rotor and dry them carefully, especially inside of cap, with lint-free cloth.5. Install new plugs and check electrode gaps (0.028 in/0.7 mm).6. Contact nearest VW dealer.
C - Warm engine hard to start, or car hard to start in winter.	<ol style="list-style-type: none">1. Improper starting.2. Failure in fuel injection system.	<ol style="list-style-type: none">1. Refer to "Starting hints".2. Check all electrical and fuel connections in engine compartment for tightness. If engine still does not start, contact nearest VW dealer.
D - Engine stutters, misfires and stalls after starting.	<ol style="list-style-type: none">1. Failure in ignition system.2. Failure in fuel injection system.	<ol style="list-style-type: none">1. Refer to para. B 3 and B 4.2. Check all electrical and fuel connections in engine compartment for tightness. If cause cannot be corrected, contact nearest VW dealer.

If you are not fully familiar with proper repair procedures, do not attempt the checks or repairs described on this page. See also CAUTIONS on page 49.

Condition	Probable Cause	What to do
E - Engine at proper operating temperature stalls while driving car, especially when accelerating.	<ol style="list-style-type: none">1. Dirty spark plugs.2. Failure in ignition system.3. Failure in fuel injection system.	<ol style="list-style-type: none">1. Clean plugs, check for carbon deposits, replace plugs if necessary.2. Refer to para. B 3 and B 4. Check points.3. Contact nearest VW dealer.
F - Engine knocks (pinging).	<ol style="list-style-type: none">1. Octane rating of gasoline not correct.2. Incorrect ignition timing.	<ol style="list-style-type: none">1. Fill up tank with fuel of proper octane rating. See "Fuel supply".2. Ignition timing should be set to specifications. See your VW Dealer.
G - Oil pressure warning light comes on while driving. (Brake warning light also comes on due to design of electrical system. In case of brake failure, only brake warning light will come on.)	Oil pressure too low.	Stop immediately, turn off engine and check oil level. If oil level is as required (see "Engine oil checking"), check warning light and oil pressure switch connections. If cause cannot be corrected, contact nearest VW dealer.

If you are not fully familiar with proper repair procedures, do not attempt the checks or repairs described on this page. See also CAUTIONS on page 49.

Condition	Probable Cause	What to do
H - Alternator warning light comes on while driving.	1. V-belt for alternator and blower fan may be slipping or broken. 2. Alternator does not charge. 3. Fuse 12 in the fuse box (see page 36) may be blown	1. Stop at once, turn off engine and adjust or replace V-belt (see "Adjusting or replacing V-belt") because the blower fan has stopped working and no longer provides for engine cooling . 2. Do not touch V-belt when engines is running. If V-belt runs properly without slipping, turn off all unnecessary electrical equipment and drive to the nearest VW dealer, as other wise the battery will soon run down. 3. Replace fuse. If it blows again, do not drive on, because the turn signals will not work. Ask for assistance.
J - Brake warning light comes on when the brakes are applied.	Failure in one circuit of the dual brake system.	See "Brake warning light" for what to do.
K - Strong fuel odor while parked or driving.	Leak in fuel cap, fuel lines or fuel evaporation control system.	Turn off engine. Check fuel cap, all lines and connections. Seal leaks if possible. Contact nearest VW dealer. <div style="border: 1px solid black; padding: 5px; text-align: center;"> Warning Never smoke or use an open flame that could ignite fuel vapors. </div>
L - Strong odor of hot oil and increased engine noise.	Crankcase ventilation system disconnected or broken.	Turn off engine. Reconnect crankcase ventilation hose, or replace if necessary.

EMISSION CONTROL SYSTEM

In the Interest of Clean Air

Pollution of our environment is of increasing concern to all of us. We urge you to join us in our efforts for cleaner air in controlling the pollutants emitted from the automobile.

Volkswagen has long recognized its responsibilities not only toward its customers but also toward the public in general. We have developed an emission control system that controls or reduces those parts of the emission that can be harmful to our environment. Your Volkswagen is equipped with such a system.

Volkswagen warrants your new vehicle under the terms and conditions set forth in the Warranty and Maintenance booklet. You, as the owner of the vehicle, have the responsibility to provide regular maintenance service for the vehicle, as specified in the maintenance schedule, and to keep a record of all maintenance work performed. Volkswagen dealers have VW trained mechanics and special tools to offer fast, efficient service.

How Emission Control Works

When an automobile engine is running, it uses energy generated through the combustion of a mixture of air and fuel. Depending on whether a car is driven fast or slow or whether the engine is cold or hot, some of the fuel (hydrocarbons) may not be burned completely but be discharged into the engine crankcase or exhaust system. Additional hydrocarbons may enter the atmosphere through evaporation of fuel from the fuel tank. These hydrocarbons released into the air contribute to undesirable pollution.

In addition, carbon monoxide (CO) and oxides of nitrogen (NOx) contribute to harmful engine emissions. They, too, are formed during combustion and discharged into the exhaust system.

To reduce these pollutants all Volkswagens are equipped with a special emission control system.

Your Volkswagen may have all or part of the following major components:

Controlled Combustion System

The amount of pollutants emitted from an engine greatly depends on the combustion of the air/fuel mixture. Complete burning of the air/fuel mixture is, therefore, very important. An improved combustion process in your Volkswagen makes it possible to keep harmful emissions from the engine at the required low level.

Your Volkswagen is equipped with a precisely calibrated fuel injection system to assure a finely balanced air/fuel mixture under all operating conditions.

Crankcase Ventilation

Through crankcase ventilation harmful emissions from the engine crankcase are not permitted to reach the outside atmosphere. These emissions are recirculated to the air cleaner. From here the emissions mix with the air/fuel mixture in the intake system and are later burned in the engine (see illustration).

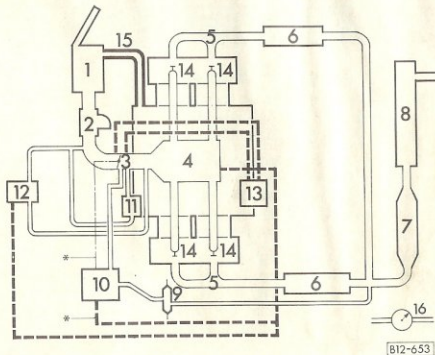
Exhaust Gas Recirculation (EGR)

Some of the exhaust gas from the engine is diverted before it enters the muffler. This gas is routed back into the intake manifold. An exhaust gas recirculation valve controls the flow to the intake manifold. The exhaust gas recirculated into the combustion chambers of the engine helps lower the formation of oxides of nitrogen (NOx) during the combustion process (see illustration).

Catalytic Converter (where applicable)

The catalytic converter is an efficient "clean up" device built into the exhaust system of your car to further help reduce engine pollutants. Harmful carbon monoxide and hydrocarbons in the exhaust gas are chemically changed into harmless carbon dioxide and water vapors before they pass to the outside through the muffler (see illustration).

The use of **unleaded fuel**, however, is **critically important** for the life of the converter. Deposits from leaded gasolines and fuel additives containing sulfur, zinc, nickel or barium will ruin the catalyst and make it ineffective as an emission clean-up device. Therefore, **only unleaded gasoline without harmful additives must be used.**



Emission Control System

- 1 - Air cleaner
 - 2 - Air metering device
 - 3 - Throttle valve unit
 - 4 - Intake manifold
 - 5 - Exhaust manifolds
 - 6 - Heat exchangers
 - 7 - Catalyst (Catalytic converter)*
 - 8 - Muffler
 - 9 - EGR-filter*
 - 10 - EGR-valve
 - 11 - Auxiliary air valve
 - 12 - Decel. Control valve
 - 13 - Distributor
 - 14 - Fuel injection valves
 - 15 - Crankcase ventilation
 - 16 - Indicator light for EGR*
- * where applicable
- Exhaust and air lines
- - - - -
Control lines (vacuum)
· · · · ·
mechanical linkage

Fuel Evaporation Control

The sealed Volkswagen fuel evaporation system prevents gasoline vapors from escaping to the atmosphere through the following controls:

Fuel tank venting

A separator for the fuel tank and vent lines are part of the fuel tank vent system. These components prevent fuel from escaping to the outside at extreme high outside temperatures and when the car is driven or parked at an incline or in any other non-level position.

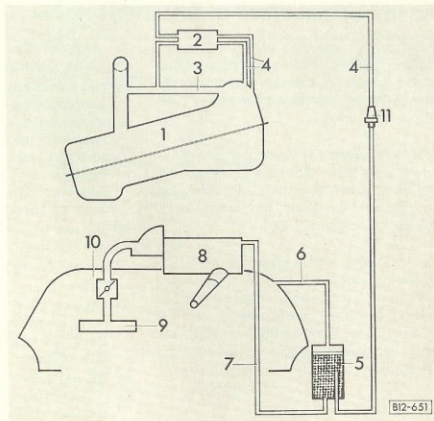
Carbon canister

Vapors from the fuel tank are trapped in a canister filled with carbon. This canister is also connected to the fuel tank vent system.

This is how it works:

Fuel vapors pass through the carbon canister and deposit hydrocarbons on the surface of the carbon. When the engine is running, fresh air entering the carbon canister through an opening cleans the carbon and routes the hydrocarbons via the air cleaner back to the engine where they are burned during normal combustion.

How fuel evaporation control works is shown in the illustration.



- 1 - Fuel tank with expansion chamber
- 2 - Separator
- 3 - Filler vent line
- 4 - Fuel tank vent lines
- 5 - Carbon canister
- 6 - Canister vent line (pressure)

- 7 - Canister vent line (vacuum)
- 8 - Air cleaner
- 9 - Intake manifold
- 10 - Fan housing
- 11 - Gravity controlled shut-off valve

An important word of CAUTION on the Emission Control System in your car

Your car is equipped with an Emission Control System. The major components of this system are **Exhaust Gas Recirculation (EGR)** and **Catalytic Converter** (California cars only).

The **EGR system** is designed to recirculate a portion of the exhaust gases into the combustion chambers of the engine, and thus helps lower the formation of oxides of nitrogen (NO_x).

The **catalytic converter**, an efficient "clean-up" device built into the exhaust system of your car, changes carbon monoxide and hydrocarbons in the exhaust gas into carbon dioxide and water vapors before being released to the atmosphere.

To assure efficient operation of the Emission Control System:

- Have your car maintained properly in accordance with the service recommendations listed in the Maintenance Schedule. Lack of proper maintenance, especially of the fuel and ignition systems, as well as improper use of the vehicle could lead to damage.
- Do not alter or remove any component of the Emission Control System unless approved by the manufacturer.
- Do not alter or remove any device, such as switches, valves, which are designed to protect your car and the environment.
- Do not continue to operate your car if you detect engine misfire or other unusual operating conditions.

Starting

Do not leave engine idling unattended after starting. If warning lights should come on to indicate improper operation, they would go unheeded. Extended idling also produces heat, which could result in overheating or other damage to the car or other property.

Parking

As with any vehicle, do not park or operate your car in areas where combustible materials, such as dry grass or leaves, can come into contact with a hot exhaust system.

Undercoating

Do not apply additional undercoating or rustproofing on or near the exhaust manifold, exhaust pipes, or catalytic converter. During driving, the substance used for undercoating could overheat and cause a fire.

Cars with catalytic converter (California models)

Do not turn the ignition off while the car is moving. Immediate damage to the catalytic converter will result if you turn the ignition off while your car is moving, or if you try to push-start the car... because under these conditions unburned fuel can reach the catalytic converter.

Do not drive if you detect engine misfire or other unusual operating conditions, as this could result in overheating of the catalytic converter.

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.
Electric fuel pump. Electronically controlled fuel injection.
Paper element air cleaner with temperature sensitive intake air pre-heating.
Exhaust emission control system. Activated charcoal filter (carbon canister) in the fuel system.

Bore	3.36 in/85.5 mm
Stroke	2.72 in/69 mm
Displacement	96.6 cu in/1584 cm ³
Compression ratio	7.3 : 1
Maximum output SAE net	48 hp at 4200 rpm
Maximum torque SAE net	75 lb ft at 2200 rpm.
Valve clearance with engine cold	Intake and exhaust 0.006 in/0.15 mm
Fuel rating*	VWs with catalytic converter: Unleaded fuel only. All other VWs: "Regular", incl. low-lead or unleaded fuels. See also page 24

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

Transmission

Single plate, dry clutch.
Balk synchronized four-speed transmission and bevel gear differential in one housing.
Drive shafts with two constant velocity joints per shaft.

Chassis

Platform frame with tunnel shaped center member; engine/transmission unit bolted to rear frame fork. Frame head for front suspension attachment.

Independent wheel suspension, trailing arms and diagonal links at rear.

Suspension struts at front, attached to frame head by track control arms and stabilizer.

Springing: torsion bars at rear, telescopic shock absorbers both front and rear. Coil springs at front.

Steering (energy absorbing) with maintenance free tie rods. Rack and pinion steering.

Hydraulic dual-circuit foot **brakes** with drums at front and rear; mechanical parking brake effective on rear wheels.

Wheelbase 95.3 in/2420 mm

Turning circle, curb to curb . . . 29.5 ft/9 m

Track at front 54.9 in/1394 mm

Track at rear 53.1 in/1349 mm

Wheels 4¹/₂ J x 15 safety rim wheels

Tires, tubeless Steel belted radial tires

Tire and rim size,

tire pressures See sticker on the inside of the fuel tank flap.

Electrical system

Voltage	12 Volt
Battery	45 Ah
Starter	1.1 hp
Alternator.	700 Watt (14 Volt/50 Amp.)
V-belt size	11.3 x 912 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 145 M 1, Beru 145/14 L, Champion L 288
Plug thread.	14 mm
Electrode gap	0.028 in/0.7 mm

Dimensions and weights

Length	164.8 in/4187 mm
Width	62.4 in/1585 mm
Height	59.1 in/1500 mm
Ground clearance	5.9 in/ 150 mm
Vehicle capacity weight*	see sticker on the inside of the fuel tank flap
Gross vehicle weight	} see Safety Compliance Sticker on the left doorjamb (see also page 7).
Gross axle weight, front.	
rear	
Permissible trailer gross weights**:	
Trailer without brakes.	882 lb/400 kg
Trailer with brakes.	1764 lb/800 kg (on gradients up to 12%)
Trailer tongue load	110 lb/ 50 kg

* Less, if an VW Air Conditioner is installed (see page 33)

** Trailer weights listed are in accordance with maximum vehicle engine and brake capacity. They apply to gradients specified up to 3000 ft/1000m above sea level. For higher altitudes, vehicle and trailer loads should be reduced by 10% for each additional 3000 ft/1000m. The listed weights also depend on the weight rating specified by the trailer hitch manufacturer.

Capacities

	U.S.	Metric	
Fuel tank	11.0 gal	41.5 liters	{ VWs with catalytic converter: Unleaded fuel only. All other VWs: "Regular", incl. low-lead and unleaded fuels (see also page 24).
Engine	2.6 qt	2.5 liters	
Transmission: at oil change	2.6 qt	2.5 liters	{ Engine oil "For Service API/SE" (see page 73)
Windshield washer container	2.1 qt	2.0 liters	
Operating pressure	42 psi	3.0 kg/cm ²	{ Hypoid oil * (see page 73)
			Fluid (see page 55)

* Does not have to be changed.

Performance

Maximum and cruising speed 80 mph/128 km/h

Lubricants

Engine oil

Always use a name brand oil labeled "For Service API/SE" 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 table on the right contains the grading for oils to be used in your VW engine.

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.

Transmission oil

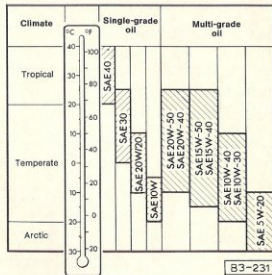
In general all year round, the transmission of your Volkswagen requires hypoid oil SAE 80 W or SAE 80 W/90 (multigrade) according to MIL - L 2105 API/GL 4 specifications. This hypoid oil does not have to be changed.

Lubricant additives

If your Volkswagen is properly maintained, it is uneconomical to mix any type of additive with fuel or lubricating oils.

Grease

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



When using single grade SAE 10 W or multi grade SAE 5 W-20 engine oil avoid high speed long distance driving if the outside temperature rises above the indicated limit.

GAS STATION INFORMATION

Fuel recommendation

"Regular", incl. low-lead or unleaded fuels, 91 RON (87 C.L.C. rating).

California cars:

UNLEADED FUEL ONLY

Fuel cap

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

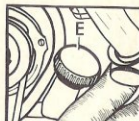
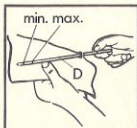
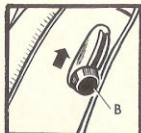
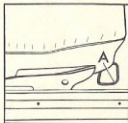
Front seats

Seat adjustment:
Pull lever - A -
in front of seat

Backrest release:
Lift lever - B -
on outboard side
of backrest.

A = Seat
adjustment

B = Backrest
release



Starting

Start in Neutral only.

It is not necessary to depress the accelerator pedal when starting. Electronic fuel injection automatically provides correct fuel/air mixture for starting.

Refer to page 58 for "Emergency starting with jumper cables".

Engine oil dipstick

Check oil level 5 min. after engine has stopped. Level should be between "min" and "max" marks on dipstick. Difference between marks is approx. 1.3 U.S. qt or 1.25 liter).

C = Oil dipstick

D = Dipstick with
min. and max.
marks

Chassis number (Serial No., VIN)

Visible through driver's side of windshield.

Engine oil grades

Use quality oil labeled "For Service API/SE". See oil viscosity chart on page 73.

Transmission oil

Transmission and final drive have a lifetime filling of hypoid oil Mil-L-2105 API/GL 4 SAE 80 W or SAE 80 W/90 (multi grade) all year.

E = Engine
oil filler cap

Fuse box

Under dashboard

Additional fuses for:

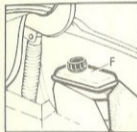
Back-up lights - in engine compartment above ignition coil.

Rear window defogger (main current) - under rear seat on left.

See page 37.

Hood release, front

Pull release inside glove compartment. To lock hood, lower hood, press handle down firmly until hood locks.



Brake fluid reservoir

Under front hood

Brake fluid level should be above seam edge near top (F).

Only new, unused DOT 3 - or DOT 4 - brake fluid that meets the SAE recommendation J 1703 and conforms to Motor Vehicle Safety Standard 116 must be used.

Do not add or mix DOT 5 silicone type brake fluid with the brake fluid in your car as severe component corrosion may result. Such corrosion could lead to brake system failure.

Tire pressure

See sticker on inside of fuel tank flap.

Spare wheel

Under front hood.

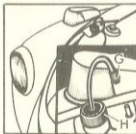
Spare tire supplies pressure to operate washer. Maintain at 42 psi (3 kg/cm²). Disconnect hose from valve (G). Pressurize spare tire by this valve.

Spare tire removal

Disconnect windshield washer hose from tire valve.

Windshield washer container

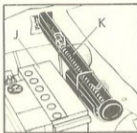
Unscrew cap (H), add water and cleaning solution. Follow mixture instructions on can.



Battery

Under rear seat.

Take out rear seat first - see page 38. Check each cell. Top up with distilled water.



J = Battery

K = Jack

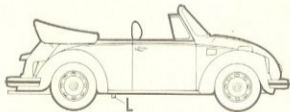
Jack

Under rear seat next to battery.

Take out rear seat first - see page 38.

Jack port (L)

Raises entire side for front or rear wheel changing.



At a glance . . .

ENGINE

Horsepower SAE net	48 at 4200 rpm
No. of cylinders	4
Displacement	1584 cm ³ /96.6 cu in
Type	cylinder horizontally opposed, rear mount
Cooling	air-cooled
Fuel/air supply	electronically controlled fuel injection
Fuel tank capacity	11.0 U.S. gal/41.5 liters
Engine oil capacity	2.6 U.S. qt/2.5 liters

VEHICLE LENGTH	164.8 in/4187 mm
WIDTH	62.4 in/1585 mm
HEIGHT (unladen)	59.1 in/1500 mm

BRAKES

dual circuits, drums at front and rear

SUSPENSION

independent front and rear, suspension struts at front, torsion bars at rear

STEERING

rack-and-pinion

DRIVE TRAIN

Type	rear wheel drive
Gears	4 forward, 1 reverse

ELECTRICAL SYSTEM (12 Volt)

Battery	45 Ah
Alternator	50 Amp. max.

**Genuine VW Parts:
The people who built
your VW
used them.
And so should you.**



**There's nothing but
Genuine VW Parts in
your new VW.**

**That's one reason why it
runs like a new VW.**

No one knows your new VW in quite the same way as the people who built it. And when it comes to replacement parts, we build them to the same standards and specifications as original equipment. So you can be sure of proper VW fit and customary VW performance every time.

As your VW gets on in years, you may find that some genuine VW replacement parts are different from the original parts. That's because when we improve a part for new VWs, there are times when we make the same improvement available for older VWs.

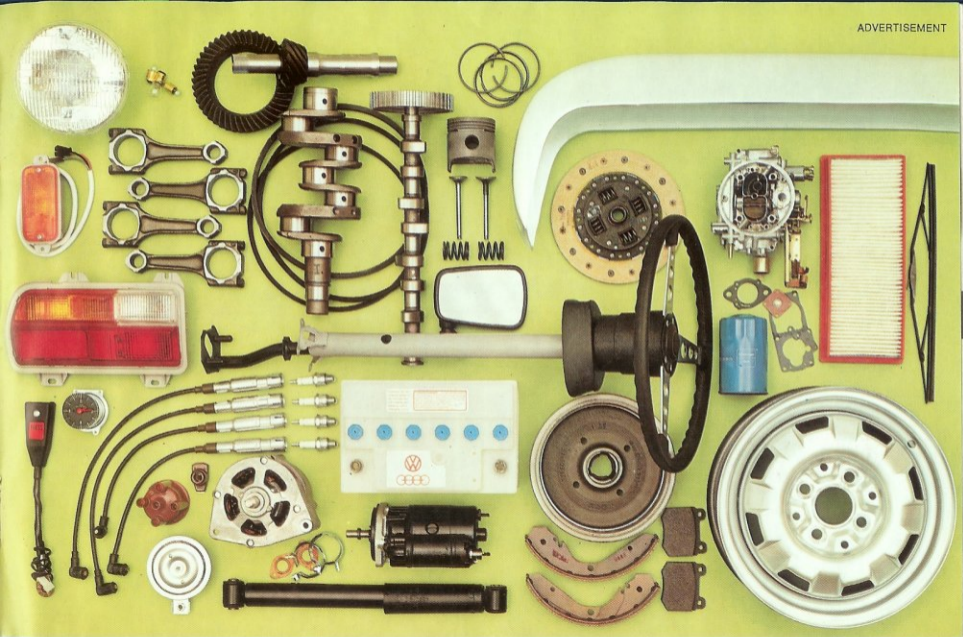
And the only way you can be sure of getting these improvements is with Genuine VW Parts.

One more thing you get with Genuine VW Parts—even after your new car warranty has run out—is warranty protection on every replacement part. Under our Limited Parts Warranty we will repair or replace every defective Genuine VW Part for 6 months or 6,000 miles, whichever comes first.*

And to be sure you're getting Genuine VW Parts, look for this symbol on the package. It stands for VW quality.

Shown on the opposite page are just a few of the genuine VW replacement parts available at our Parts Department. We'll be glad to help you select the right ones for your VW.





Autobahn® Accessories.

The luxurious extras that don't end up looking like add-on extras.

Autobahn Accessories look like they belong in your VW because they match your VW exactly. And fit exactly, too.

You can add versatility to your VW with our permanent luggage carrier that lets you take more gear along. Or our sturdy steel trailer hitch that lets you tow your boat, motorcycle or what have you.

And for your sound choice, there's a wide selection of entertainment components, ranging from basic AM to AM/FM stereo radio with tapeplayer.

For your driving pleasure and driving safety, there are fog lamps, bumperettes, shift knobs, splash guards, ventshades and much more.

Come into our Parts Department for complete information on the selection of Autobahn Accessories available for your VW. We'll be pleased to help you add the luxurious extras that don't look like add-on extras.

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