Owner's Manual

JAMES ALBERT STATEN
116 GREYSTONE DR.
HILLSBORO, Ohio 45133

Key # 134017

Customer identification card imprint

Customer Identification Card

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

Volkswagen Owner's Manual

1968 Models

Call For Service Appointment

Service Hours: Mon, Wed, Fri 8-5, Tue-Thur 8-9, Sat 8-12

Dan Winters - Service Manager

775-3434

Warranty Voucher

for the new VW automobile

Type: 2211

Chassis No. 228183720

Engine No. _____

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

403 129

Jarvis Motors, Inc.

Ch[illegible] Ohio

(Stamp of selling VW Dealer)

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

viz. on March 1, 1968

(To be filled in by selling VW Dealer)

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

VOLKSWAGEN OF AMERICA, INC.

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

Warranty for new Volkswagen vehicles

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

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

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

Maintenance and validation by owner required to keep warranty in effect

2. In order to keep this warranty in effect the owner must do two things:
FIRST: The owner must have the vehicle maintained and serviced as prescribed in the Volkswagen Maintenance Schedule. (See page 50-51)
SECOND: Every twelve months during the warranty period the owner must obtain from an authorized United States Volkswagen dealer a Validation Stamp on the Maintenance Card to show that the vehicle has been maintained and serviced in accordance with the Volkswagen Maintenance Schedule. Validation will be made upon presentation of bills or other evidence sufficient to satisfy the dealer that the required service and maintenance have been performed. The validated Maintenance Card must be submitted whenever a claim is made under this warranty.

Items not covered by warranty

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

Warranty outside United States and Canada

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

No other warranties made

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

Let us explain the warranty . . .

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

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

In order to keep the warranty in force, you as the owner of the vehicle have certain responsibilities. It is important that the vehicle be maintained properly. To facilitate record keeping, this booklet provides on pages 52 to 54 space for listing maintenance services and oil changes as they are performed. We recommend that maintenance services are performed by Authorized Volkswagen Dealers. They offer with their factory-trained mechanics and special tools fast, efficient service in accordance with Volkswagen quality standards.

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

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

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

Maintenance services and oil changes

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

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

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

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

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

Light bulbs and fuses – are service items.

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

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

Contents

All pictures are of the Volkswagen Station Wagon and the text is based on this vehicle. Where the controls, equipment and technical data of the commercial models differ considerably, attention is drawn to the difference.

It is advisable . . .

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

The first part of this manual deals with the operation of your Volkswagen Station Wagon. Everything about winter driving, tips on care of the vehicle and numerous points on carrying out small repairs and adjustments are given in the second half. It further contains information on lubrication and maintenance and some interesting technical data.

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

Only one key

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

All Doors

of your Volkswagen Station Wagon can be unlocked from the outside.

The front doors

of the Station Wagon are equipped with vent wings.

1 – Vent wing fastener

To open the vent wing, turn knob of vent wing fastener until locking catch points in driving direction, and push knob of vent wing fastener forward.

2 – Window crank

3 – Door closing grip

4 – Locking knob

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

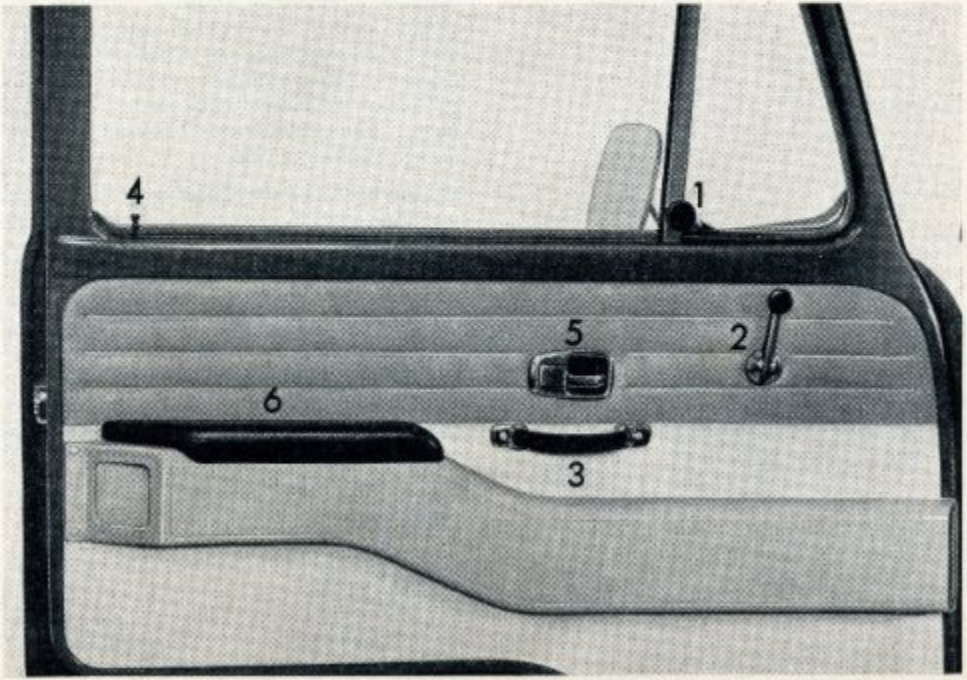
If the door closes by itself after the locking knob has been depressed, it will not lock because the locking knob will spring up automatically. This is an additional safety measure to prevent you from being locked out if the door should accidentally slam shut while the key is still inside the vehicle.

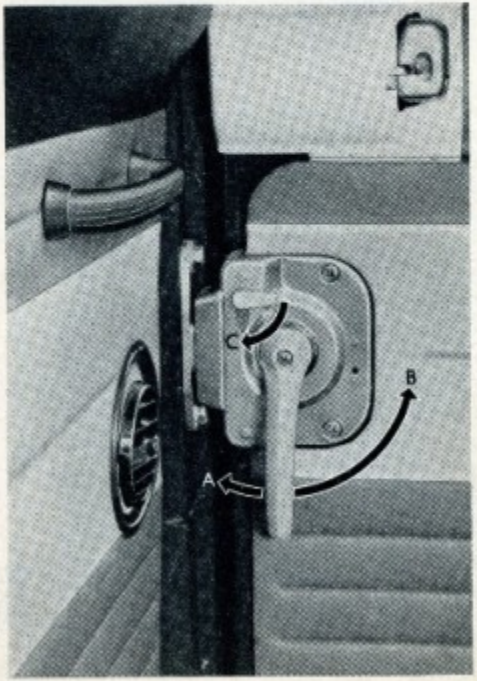
5 – Inside door handle

The doors cannot be opened from inside or outside unless the locking knobs are raised.

6 – Arm rest on fresh air ventilation duct

Only Station Wagons have this equipment.





The sliding door

opens smoothly when the door handle is pressed downward. In the fully open position it is held by a hook.

For closing, release the hook by pressing the door handle down and push the door forward until it latches. Then pull the handle up firmly until the sliding door is flush with the rear panel.

To open the door from the inside, push inner handle forward (A). To close the door, pull handle backward (B).

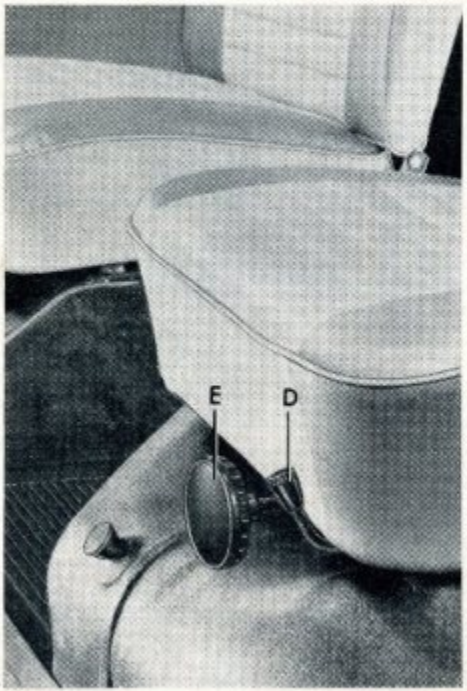
Make sure that the sliding door is fully closed while the vehicle is moving. It can be locked either from the outside with the key or from the inside by pushing the small lever to position C.

The lid for the luggage compartment

in the rear of the vehicle is opened by depressing the push button on the lower part of the door. After pulling the lid up, it is held open by springs.

To close the door, swing it down firmly. Make sure that it is properly closed.

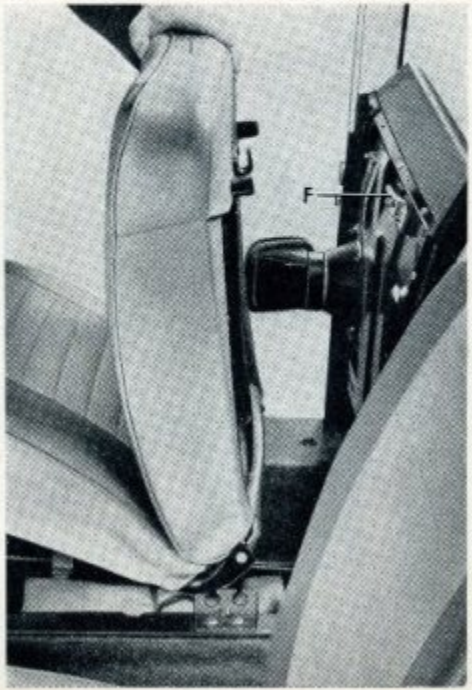
Sit down and make yourself comfortable



The seat position and back rest rake of the driver seat in your vehicle can be altered to suit your requirements. This is quite simple to do – just lift the lever on the front left hand side of the seat frame and slide the seat forward or backward. After adjusting, make sure that lever D is in a locked position, otherwise the seat may move during application of the brakes.

The back rest is secured and cannot tilt forward accidentally. It can be adjusted by turning the wheel E.

The front passenger seat and backrest can be adjusted to two positions. First, the seat is lifted up in front until the backrest becomes detached from the mounting F on the partition of the driver compartment. The seat then can be easily lifted and moved to fit into the other adjustment notch. Make sure that the backrest is secured on the mounting of the partition after adjusting.



Seat belts

Each seat
in your Volkswagen is equipped with a lap-type safety belt. The buckle is attached to the half of the belt on the inboard side of the seat, the connector to the outboard half.

Operation: After sitting down and making yourself comfortable, pull the two sections of the belt across in front of you until the buckle and connector meet. Insert the connector into the slot in the front of the buckle and push together until the flanges of connector stop against the buckle. A positive snap will be noted when connector is properly engaged.

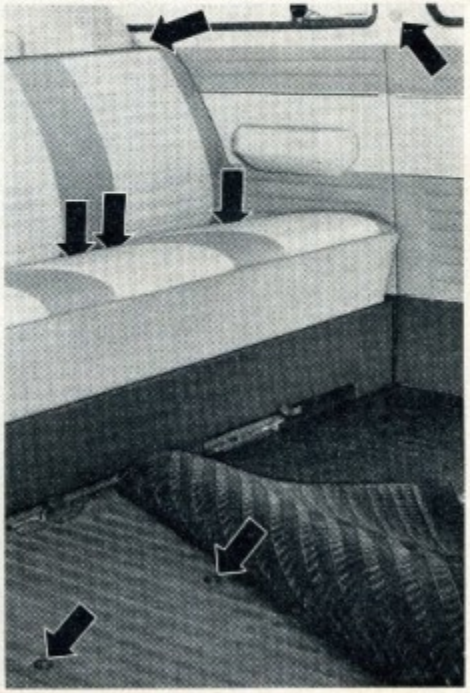
The belt should fit snugly across the pelvic area. Be sure the belt is not twisted. To tighten seat belt, pull the loose end of the webbing away from the buckle and move the slide on the free end of the webbing down the inboard belt until all the slack is taken up. To lengthen the seat belt, turn the buckle at a right angle to its webbing and pull on the inboard half of the belt.

To release the belt, lift the free edge of the front of the buckle and pull connector out of buckle.

Each outboard seat
is equipped with a third mounting point to facilitate subsequent installation of combination shoulder/lap belts.

Cleaning: To keep belts clean, wash belts with mild detergent without removing from vehicle. Do not bleach or dye the belts or use any other material to clean them because some of these agents can weaken the webbing.

Check belts, buckles and anchors periodically to make sure they function correctly and that nothing has been damaged.



In front of you - the instrument panel

Just have a quick look at the dash and try out the various knobs and levers with the ignition switched on:

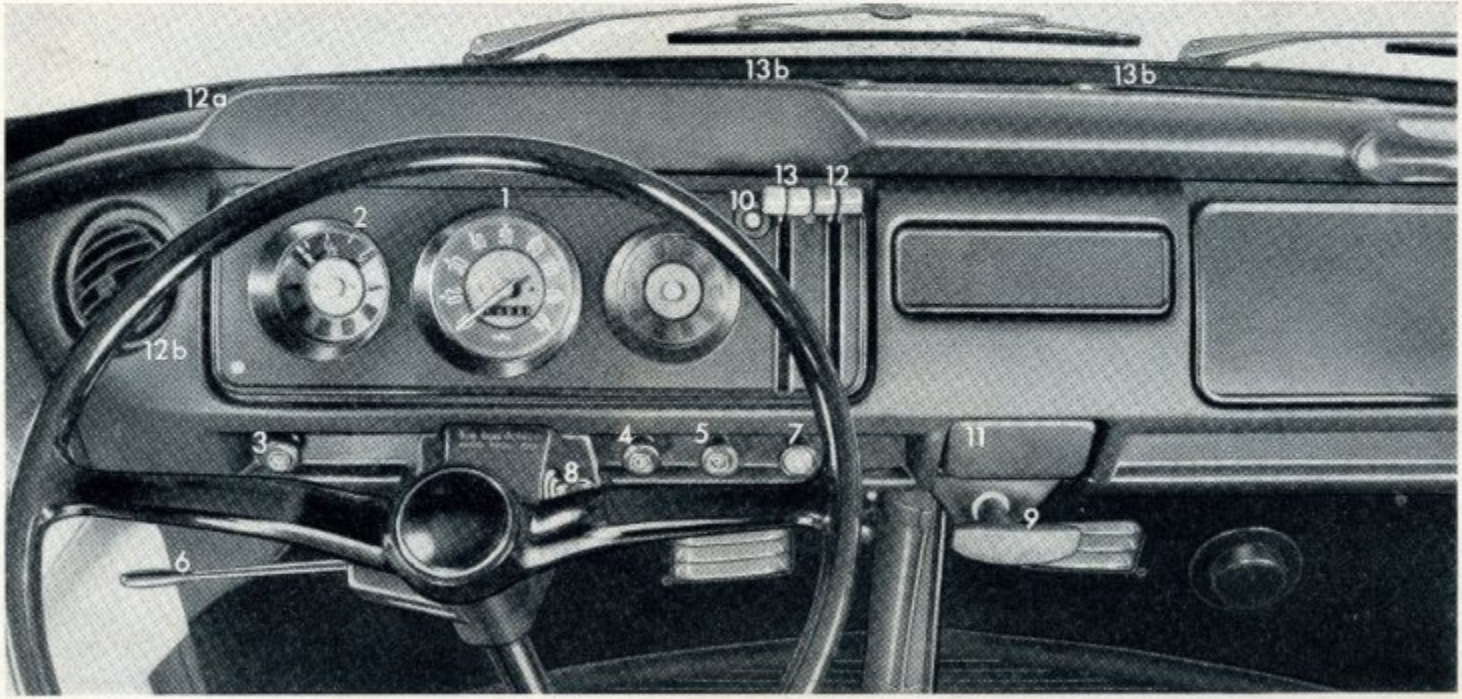
1 – Speedometer

2 – Fuel gauge

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

In addition, the fuel gauge contains the following warning lights:

dark green	– parking lights
blue	– high beams
red	– generator
light green	– oil pressure
light green arrows	– turn signals



3 – Push / pull knob for interior light at rear

When the knob is pulled out, the light in the passenger or load compartment can be switched on and off with the switch built into the lamp.

4 – Light switch

Pull the knob out to the first stop to switch on parking, license plate and tail lights. A green warning light lights up in the fuel gauge. Pulling the knob out to the next stop switches on the headlights and the green warning lamp goes out.

The headlight beams are raised or lowered by pulling the turn signal switch toward the steering wheel.

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

5 – Windshield wipers and washer

The two-speed wipers are controlled by turning the wiper switch knob.

The blades park automatically when turned off. By pressing the button in the center of the knob, wiper fluid is sprayed on the windshield.

6 – Turn signal switch

Lever forward – right turn signal
Lever to rear – left turn signal

The turn signals are canceled automatically after taking the corner.

Pull turn signal switch toward steering wheel to **raise or lower headlight beams.** A blue warning light in the fuel gauge dial shows when the headlight high beams are switched on.

7 – Emergency blinker switch

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

8 – Ignition starter switch

9 – Handbrake

To set the handbrake, just pull the handle straight out. To release it, pull handle, turn clockwise and push handle in.

10 – Warning light for dual brake system

See explanation on page 14.

11 – Ashtray

It can be removed by pressing the leaf spring downward, pulling out the ashtray at the same time.

The ashtrays – 11a – in the passenger compartment can be removed by lifting them out at the lower portion of the retaining frame. For reinstallation, insert ash trays first at the top where the leaf spring is located and push ash trays into the retaining frames.

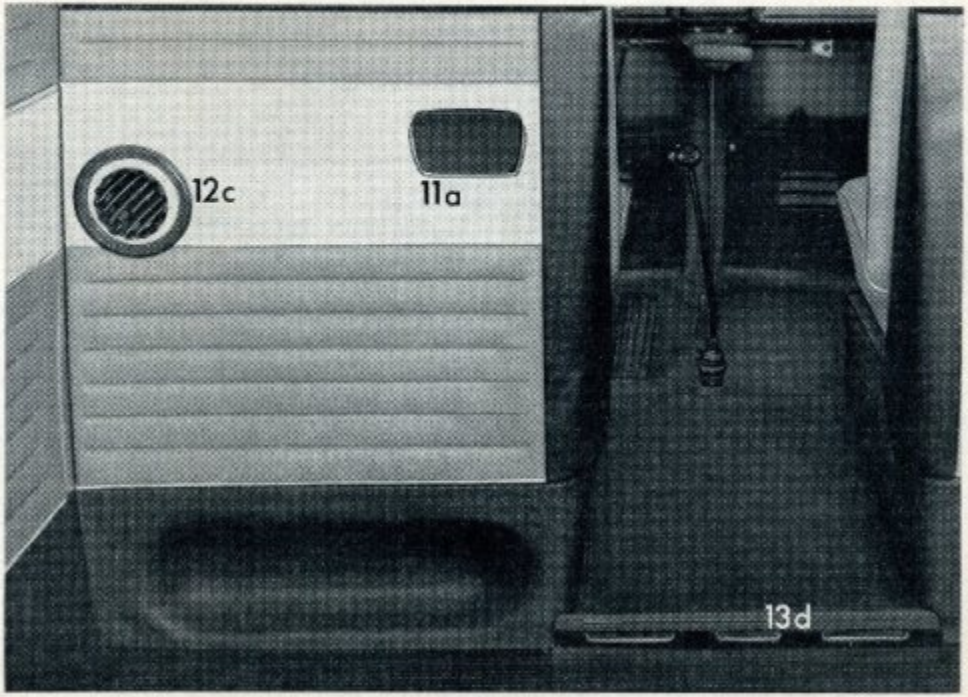
12 – Fresh air control levers

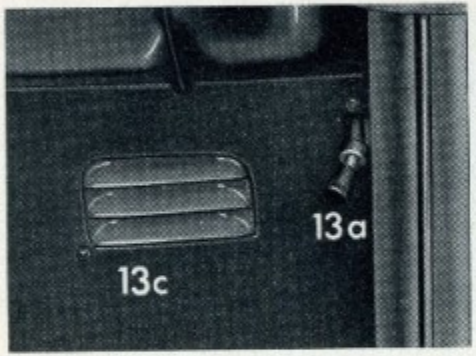
The fresh air ventilation left and right can be turned on and adjusted individually with the two blue operating levers in the dashboard.

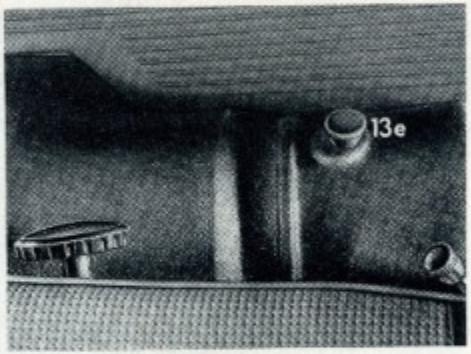
Levers upward – Ventilation closed
Levers downward – Ventilation open

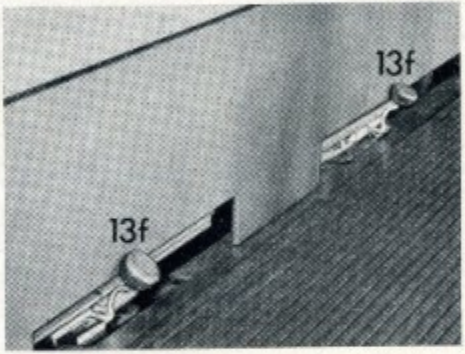
Fresh air enters through two outlets – 12a – on the lower edge of the windshield and through discharge vents – 12b – on the right and left side of the dashboard. By turning the discharge vents, the air flow can be pointed in any desired direction. Each discharge vent incorporates a flap to adjust the air volume entering the vehicle.

The Station Wagon has as standard equipment two additional adjustable discharge vents – 12c – located at the partition between driver and passenger compartments.









13 – Heating control levers

Heating for the left and right side of the vehicle can be turned on and adjusted individually by means of the two red levers in the dashboard.

Levers upward – heating off
Levers downward – heating on

The distribution of warm air in the vehicle interior can be controlled as follows:

The lever – 13a – on the front panel regulates the warm air distribution in the driver's compartment. If the lever is pulled down, warm air is discharged from the defroster vents – 13b – located at the lower edge of the windshield. If the lever is pushed up, warm air will enter the legroom from both lower outlets – 13c.

Additional warm air outlets are in the passenger compartment.

Warm air from outlet – 13d – in front of the middle seat is regulated by pulling knob – 13e – under the driver seat.

The Station Wagon has two outlets – 13f – under the rear seat bench. If the levers at the vents are moved inward, the warm air flaps are opened.

At low outside temperatures, it is suggested to keep the warm air flaps in the passenger compartment closed. By actuating the adjusting lever – 13a – the total volume of air is first distributed to the defroster vents keeping the windshield clear. Later on all remaining outlets can be opened to warm up the vehicle interior as quickly as possible.

Above you . . .

14 – Sun visors

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

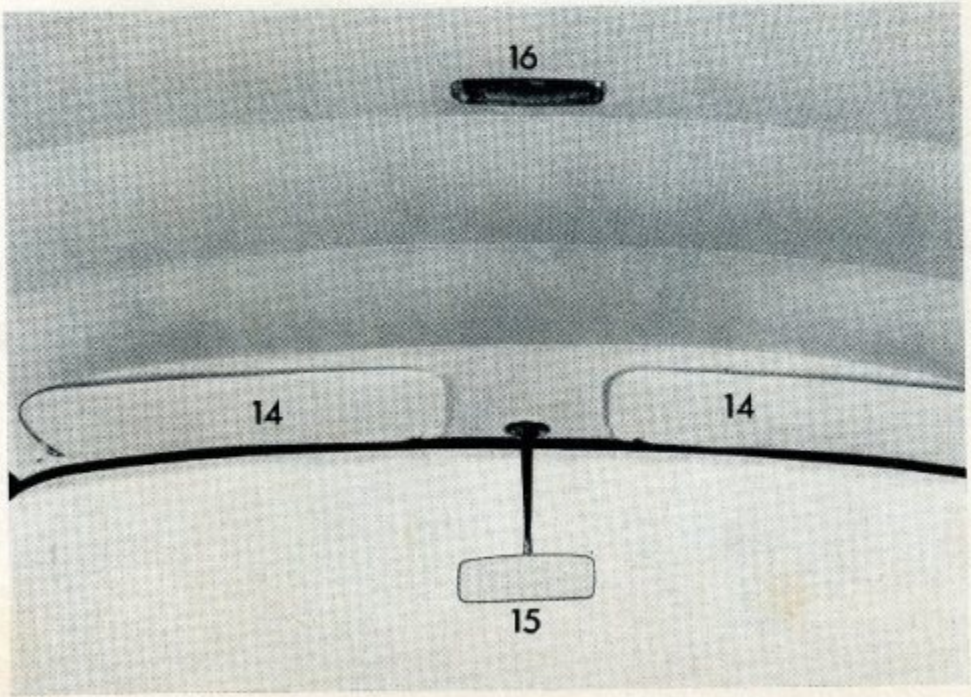
15 – Rear view mirrors

Inside and outside mirrors are ball joint mounted so that they can be set to give clear vision to the rear at all times.

On some commercial models the inside mirror is not standard equipment.

16 – Cab light

The cab light is turned on and off with the switch on the lamp itself.

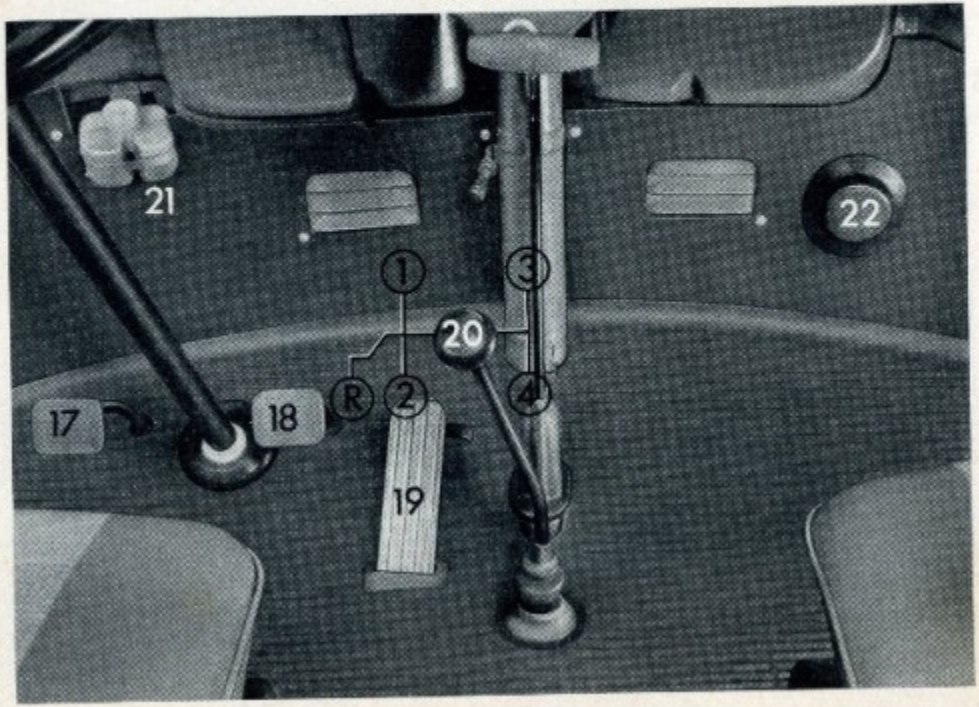


In the footwell . . .

17 – Clutch pedal

18 – Brake pedal

19 – Accelerator pedal



20 – Gear shift lever

To engage reverse gear, press the shift lever down, move it to the left and pull it back to the stop. Do not shift into reverse gear when the vehicle is moving.

21 – Brake fluid topping-up reservoir

It should always be filled to the upper edge of the mounting strap. If the brake fluid level ever falls to the lower edge of the strap, the brake system should be thoroughly examined by your Authorized VW Dealer.

Brake fluid is water-absorbent and should, therefore, be renewed every five years. This should be performed by an Authorized VW Dealer.

22 – Container for windshield washer

To refill windshield washer container, first remove the cover and then the cap.

The container can be filled with water until it overflows. There is always room for sufficient air to operate the washer. The correct air pressure is 42 psi.

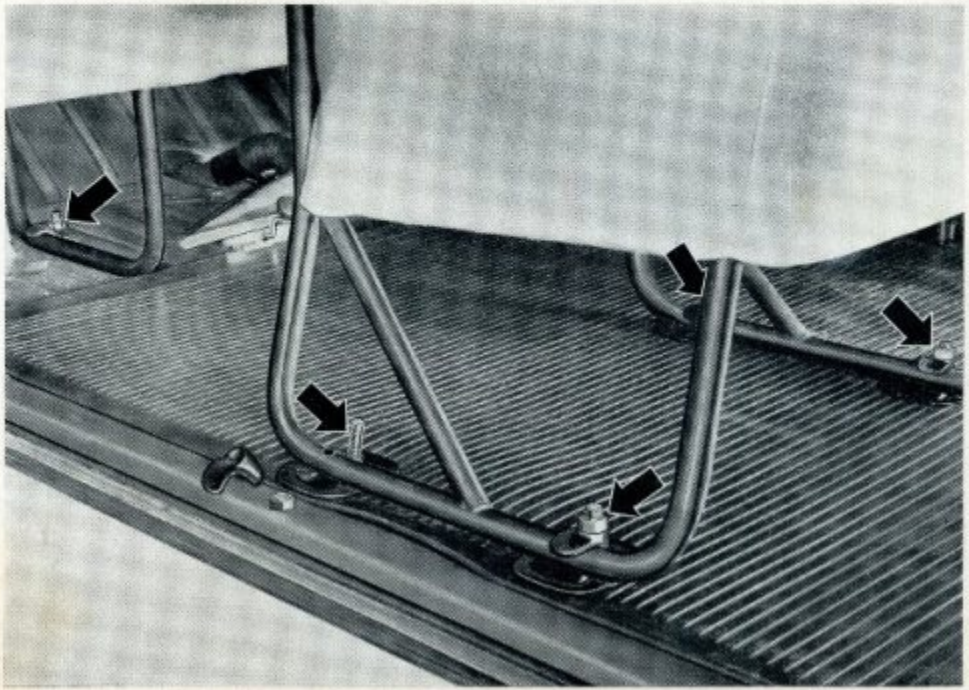
It is advisable to add a cleaning solution to the water such as Volkswagen's Windshield Washer Anti-freeze and Solvent as clear water alone is usually not adequate to ensure that the windshield is cleaned quickly and properly. If enough of this cleaning agent is put in, it also acts as a mild anti-freeze solution in the winter.

Anti-freeze fluids are also commonly available. Follow the direction on the container for the amount to be used.

This is important too . . .

In the passenger compartment

all seats can be removed for transporting bulky goods. To do this, remove the side trimming for the front and rear seat frames, unscrew the nuts and take off the mounting supports. Take out the seats and the mounting plates and remove the bolts by turning them 90°.



The spare wheel

is mounted on most models in the rear luggage compartment. On some models it is located underneath the seats in the driver's cabin.

Make sure that the spare tire pressure is always up to 44 psi. You can always partially deflate the spare tire to the recommended pressure.

The jack

is mounted with a clamping device under the right front seat. Wind jack until the end of the folded insert piece is in line with the groove on the jack (see arrow) when storing it after use.

How to operate the jack is described on page 25.

Tools and accessories

The tool kit is also kept under the right front seat. It contains:

1 fan belt
1 hub cap remover
1 pair of combination pliers
1 screwdriver with reversible blade for slotted and Phillips screws
1 open-end wrench 8 mm and 13 mm
1 double-ended socket wrench for fan pulley nut, wheel bolts and jack
1 long bar for socket wrenches and jack
1 socket wrench and small bar for spark plugs
1 socket wrench 13 mm

Now you know your vehicle fairly well. Further hints on what to do before moving off and when on the move are given on pages 14 to 17.

Before moving off, check . . .

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

The fuel supply is sufficient for driving about 300 miles if the tank is filled to its capacity of 15.9 US gallons. The filler neck is located above the right rear wheel well.

The choice of fuel is left entirely to you. The Volkswagen will run satisfactorily on all gasolines which fulfill the octane requirements of the engine (91 octane Regular).

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

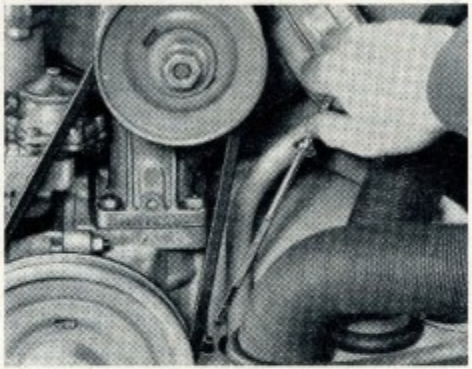
The brakes should be checked before driving off. Your Volkswagen is equipped with a dual brake system. Each system, front and rear, can function independently. Should the warning light on the instrument panel light up while applying the brakes, one of the two brake systems may have failed. See your Authorized VW Dealer as soon as possible. Though the brakes will still operate, a longer distance is required to stop the vehicle.

To test the warning light bulb, push in on the bulb itself with the ignition switch on. If the lamp does not light, the bulb should be replaced.

Remember that the brakes are subject to wear. Wear is indicated by an increase in pedal travel. Depending on individual operating conditions, brakes may have to be adjusted between specified maintenance intervals.

The lights include head lights, rear lights, license plate light, turn signals, back-up and brake lights.

The turn signals and brake lights must be checked with the ignition on. If a turn signal is defective, the warning light in the fuel gauge dial flashes much faster than usual. The brake lights only work when the brake pedal is depressed, the back-up lights only when reverse gear is engaged.



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

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

To top up the oil level, a well-known brand of oil should be selected. Although it is advisable to stick to one brand of oil, using a different brand to replenish the oil will not harm the engine. Details about the proper oil viscosities are given on page 37.

Tire pressures:

Front	28 psi
Rear	
up to ¾ payload	36 psi
with full load	41 psi
Spare wheel	44 psi

For long, high-speed trips, the tire pressures should be increased by 3 psi at front and rear.

If you operate your Volkswagen with tire pressures different from those suggested by the manufacturer, the handling characteristics may be impaired. This can also lead to excessive tire wear.

Adherance to the suggested tire pressures will assure you of the best handling characteristics and roadability.

Two more important points

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

How this is done is described on page 41.

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

Starting the engine . . .

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

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

At temperatures below freezing point or when engine is cold, depress the accelerator pedal fully once and then release it so that the automatic choke can work. Then switch ignition on and start **immediately.** When the weather is very cold, the engine may turn over slowly during starting. In this case depress the clutch while cranking; if it turns over faster, hold the clutch down until the engine starts. When starting without depressing the clutch, be sure the handbrake is on and the gearshift in neutral

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

Do not try to warm the engine up by letting it idle with the vehicle stationary – drive off immediately. Do not race the engine while it is still cold.

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

The warning lights in the fuel gauge which come on when the ignition is switched on, go out when the engine starts. Stop at once if one of these lights comes on when driving:

Red warning light for generator and cooling

Check the belt that drives the generator. If this belt breaks, the engine cooling fan also stops working. The proper way to fit a new belt is described on page 26.

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

Green warning light for oil pressure

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

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

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

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

1st gear	**0–15 mph**
2nd gear	**10–25 mph**
3rd gear	**15–45 mph**
4th gear	**30–65 mph**

When a particular traffic situation makes it essential to move rapidly, you can accelerate up to 30 mph in 2nd gear and up to 50 mph in 3rd gear for brief periods. Bear in mind, however, that full throttle acceleration raises fuel consumption considerably. It is more economical to drive smoothly and keep the top speed fairly constant. Very fast, racy-sporty driving, alternating between full throttle and hard braking will mean more frequent visits to a gas station and increased tire and brake lining wear.

You can drive very economically between:

10 and 20 mph in 2nd gear
15 and 30 mph in 3rd gear
30 and 45 mph in 4th gear

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

Volkswagen automobiles have excellent brakes which can stop the vehicles in the shortest possible distance. But do not forget that the braking distance increases very rapidly as the speed increases. At 60 mph, for example, it is four times longer than at 30 mph. Apply the brakes in good time whenever possible but do not use too much force, locked wheels increase the braking distance.

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

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

That just about covers the operation of the car and how to drive it properly.

The following pages deal with tips for winter driving, breakdowns and all there is worth knowing about the lubrication and maintenance of the vehicle.

When it snows and freezes . . .

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

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

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

Better still are M+S tires with spikes which increase the safety margin even on hard snow and ice. These tires should always be fitted on all four wheels. Check your state laws before using spiked tires.

If winter tires are mounted, they should have the same ply rating (PR) as the original tires.

The specific characteristics of winter tires can be improved by raising the tire pressures to 3 psi above the normal operating pressure for the tire concerned. M+S tires with spikes should be run at moderate speeds when new in order to give the spikes time to settle.

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

Snow chains can be fitted to regular and winter tires on the rear wheels only. Only thin chains which do not protrude from the tire tread and inner side wall more than ½ inch including tensioner, are suitable. When driving over long stretches of road which are free of snow, the chains should be removed, because they serve no useful purpose and merely damage the tires and wear out quickly.

Engine oil of SAE 30 grade will tend to thicken at temperatures around freezing point and may cause difficult starting. As soon as winter temperatures are expected, change to a thinner grade of engine oil. Details of the various oils to be used are given on page 37.

If you drive mostly short distances and in city traffic, especially in the winter, we recommend that you have the engine oil changed at shorter intervals, say every 1500 miles. At other times, these additional changes are unnecessary and uneconomical.

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

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

When the temperature is below —13° F for long periods, it is advisable to use ATF oil in the transmission. The vehicle must only be run with this oil during the cold period. As soon as the temperature rises to near freezing point, this oil must be replaced by SAE 80 or SAE 90 transmission oil.

The battery not only tends to drop in capacity as the temperature drops, it also has to work much harder in the cold weather. Current consumption is higher when starting and the lights are on longer. A really cold battery which may not be fully charged has only a fraction of the capacity that a battery at normal temperature has, and this might not be enough to start a cold engine. If the car is only driven short distances and in city traffic, the battery may have to be charged from an external source from time to time. For more details see page 32.

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

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

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

Ice on windows can be removed quickly by using Volkswagen's Spray De-Icer — Part No. ZVW 241 113.

A clean smart vehicle looks better

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

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

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

Every Authorized Volkswagen Dealership stocks car cleaning materials. These materials have been tested by us and found to give the best results. These materials are listed on page 22.

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

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

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

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

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

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

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

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

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

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

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

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

Chrome parts should be treated with a chrome cleaner or polish. To give lasting protection in the winter, the chrome parts can be coated with Volkswagen's Chrome Cleaner and Protection.

The windows can be cleaned with a sponge and clear water. Always use a clean chamois to dry the windows. This chamois must not be used on the paintwork in any circumstances as most paint cleaners and polishes contain ingredients which will cause unpleasant streaks to appear on the windshield when it rains, even if only the smallest trace is present. These streaks can only be removed with a good windshield cleaner. Do not forget to clean the wiper blades.

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

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

The leatherette parts of the headlining, side trim panels and seats can be cleaned best with a soft cloth or brush. When very dirty, use Volkswagen's All Purpose Cleaner. Use only a dry foam cleaner on the leatherette of the seats and backrests because the material used for these parts is air-permeable and liquid cleaners would penetrate into the textile backing.

The driver's seat. If the driver's seat becomes hard to slide, the runners should be lubed lightly at top and bottom after being cleaned with a cloth. The seat can be removed. To do this, push it forward out of the runners.

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

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

1 – Check tires for damage occasionally and remove imbedded material.

2 – Keep oil and gasoline away from the tires.

3 – Try not to expose tires to strong sunshine for long periods.

4 – Replace missing valve dust caps as soon as possible.

Tires should be replaced when the tread depth is only $^1/_{16}$ in. all round and on full tread width because this is the absolute limit for safe usage. We advise you however not to let the tires wear down to this extent as tires with treads in this condition cannot grip the road surface properly when driving at high speeds on wet roads. If you notice that the tires are wearing unevenly, get advice from your Authorized Volkswagen Dealer.

Car care materials for the Volkswagen

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

Application	Volkswagen Product
Car Washing, Upholstery Cleaning, Whitewall Tire Cleaning.	All Purpose Cleaner-ZW 243 101.
Paint Polishing and Paint Waxing.	Combination Car Cleaner and Wax-ZVW 241 109.
Paint Polishing. Paint Waxing. Care and Cleaning of Chrome Parts.	Paint Polish – 000 096 001. Paint Preservative – 00 096 011. Chrome Cleaner and Protection – 000 096 061.
Windshield Cleaning.	Windshield Washer Anti-Freeze & Solvent – ZVW 241 101.
Paint Touch up.	Touch up Paint, all colors.

GENUINE
PARTS

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

VOLKSWAGEN
Erprobtes Zubehör

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

GENUINE VW PARTS are the proper replacement parts for the Volkswagen. They guarantee accuracy, quality and reliability. Every part of the Volkswagen is available as a Genuine VW Part and all are naturally of the same high quality as the original parts on the vehicle when it leaves the factory. The genuine parts are expertly installed at any Authorized Volkswagen Dealership.

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

APPROVED VOLKSWAGEN ACCESSORIES are not just any old accessories. They have either been designed especially for the Volkswagen or selected from the vast range of accessories available and tested for use on the Volkswagen in the Volkswagen factory. The trademark "Approved Accessories" is your guarantee for material quality, good workmanship and reliability.
Approved VW accessories are supplied by your Authorized VW Dealer who will also install them for you if necessary. You can fit many of the accessories yourself.

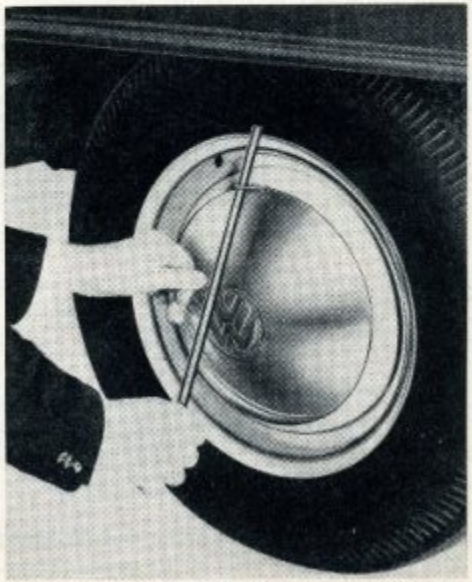
Genuine Volkswagen parts, new and rebuilt, and approved Volkswagen accessories are covered by a warranty guaranteeing them to be free of defects in material and workmanship for a period of 6 months or 6,000 miles whichever comes first.

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

Just in case . . .

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

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



Wheel changing

Apply the handbrake and block wheel on opposite side to prevent vehicle from rolling.

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

Loosen all wheels bolts about one turn with socket wrench and bar.

Insert jack into square socket under body and turn hexagon at top of jack until base touches ground.

Lift vehicle by turning hexagon with socket wrench and bar. Remove wheel bolts and take wheel off.

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

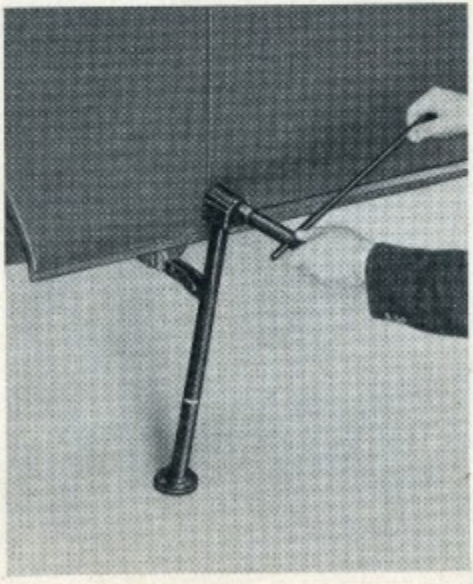
Insert one bolt and tighten it until the wheel can be swung round to align the other holes with the holes in the brake drum.

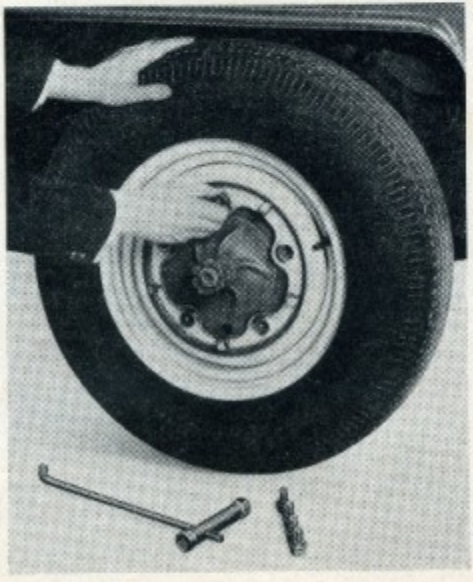
Insert remaining bolts.

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

Lower the vehicle and tighten the wheel bolts diagonally.

Install hub caps with a blow of the hand.





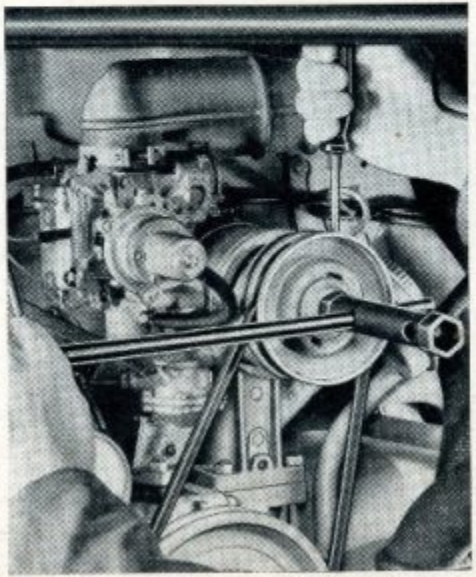
Adjusting or replacing the fan belt

The fan belt tension is correct when the belt can be pressed inward about .6 in. at the center. The belt must not be too tight or too slack. A new belt may stretch slightly at first so should be checked after about 600 miles and the tension corrected if necessary. To adjust the belt, remove the rear part of the pulley on the generator. When loosening and tightening the nut, place a screwdriver in the slot in the front half of pulley and support the screwdriver against the upper screw in the generator housing. To fit a new belt, the cover plate for the crankshaft pulley must also be removed after taking out the three screws.

The belt is tensioned 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.

Hint:

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



Cleaning fuel pump filter

Install clip on fuel hose between tank and engine compartment.

Remove screw in cover on pump and take cover off.

Take filter out and clean it in benzine.

When installing filter, do not forget the gasket for the cover.

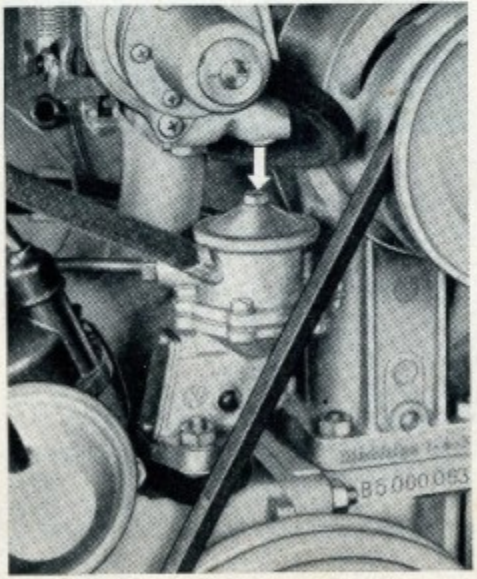
Removing and installing spark plugs

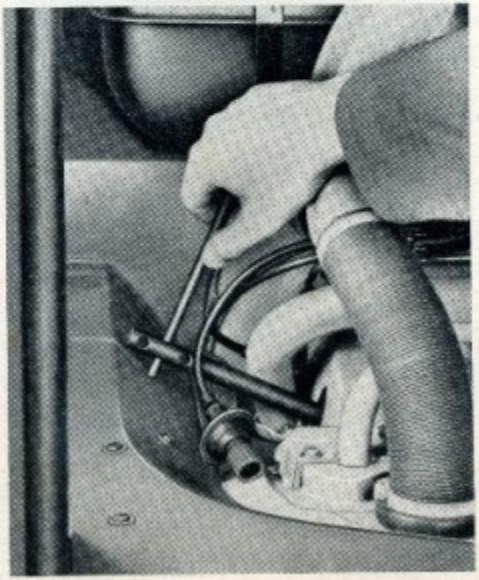
Pull connector off and screw plug out with socket wrench and bar.

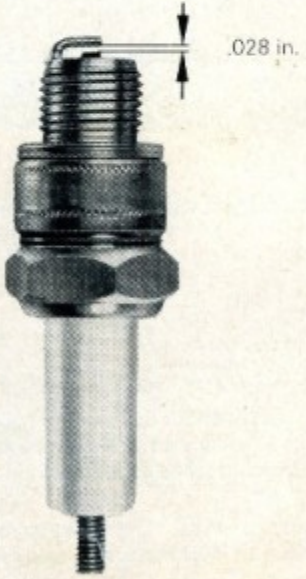
The plugs should be clean and dry inside and outside, in order to avoid shorting and tracking. Never use a wire brush for cleaning spark plugs. Instead remove residues from electrodes and insulator by means of a piece of wood. The gap can be set by bending the outside electrode. The gap should normally be .028 in. but when the weather is very cold the gap can temporarily be reduced to .016–.020 in. to facilitate starting.

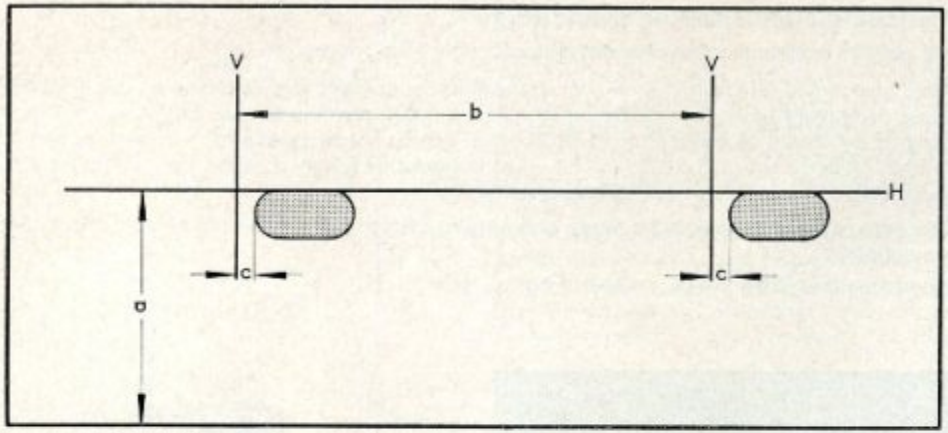
Take care not to crossthread the plugs when inserting them and tighten them firmly but do not overtighten.

New plugs should be installed every 12,000 miles.









a = Height of headlight centers from ground
b = Distance between headlights = 44½ in.
c = 2 in.

A – Lateral aim
B – Vertical aim

Headlight adjustment

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

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

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

Opposite the center of each headlight, draw (V) vertical lines intersecting the horizontal.

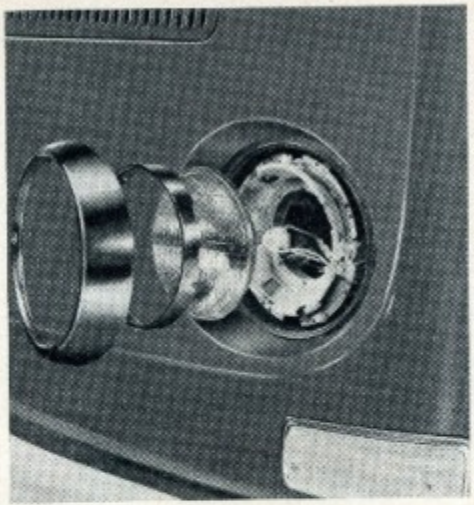
These lines should be 44½ inches apart. Drawing a vertical line for the center of the vehicle might help aligning vehicle with screen.

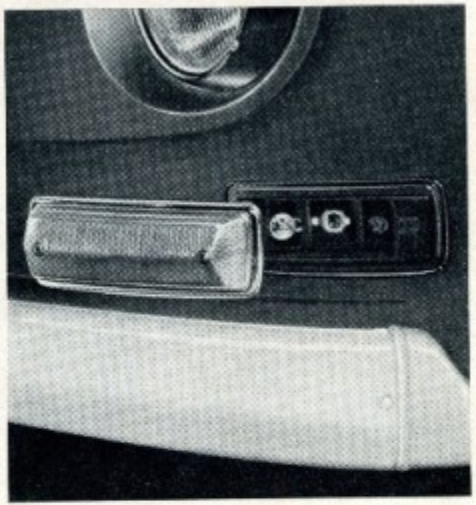
Loosen the screw in the trim ring and take ring off.

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

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

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





Bulb replacement

Sealed-Beam

A double filament, type 2, seven inch sealed beam unit of domestic manufacture is used in your Volkswagen. Should it become necessary to replace the unit, loosen screw in the trim ring and take the trim ring off.

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

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

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

Check headlight settings.

Front turn signal and parking light bulb

Remove two Phillips screws.

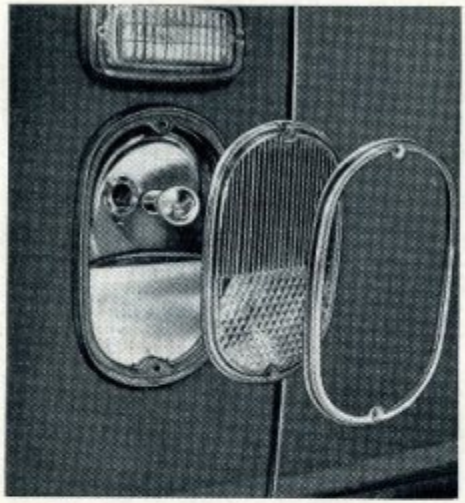
Take lens off.

Press bulb into holder lightly, turn and take out.

Install new bulb.

Ensure that gasket is located properly when installing.

Do not overtighten screws.



Rear turn signal/stop/tail light bulb

Remove two Phillips screws and take lens off.

Press bulb in lightly, turn and take out.

Insert new bulb.

When installing lens, ensure that gasket is located properly.

Tighten lens securing screws evenly but do not overtighten.

License plate light bulb

Remove two Phillips screws. Take lens and bulb holder off.

Press bulb in lightly, turn and take out.

Insert new bulb.

When installing lens, ensure that gasket is located properly.

Tighten lens securing screws evenly but do not overtighten.

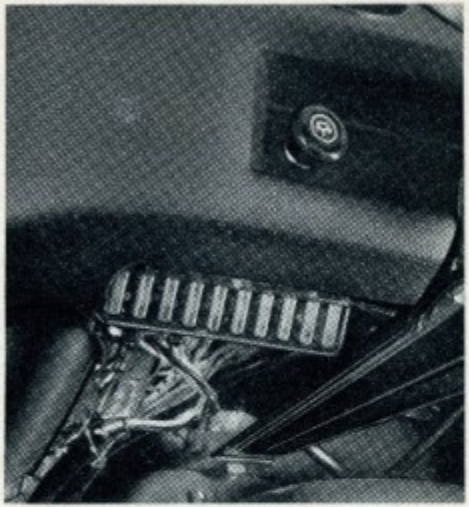
Back-up light bulb

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

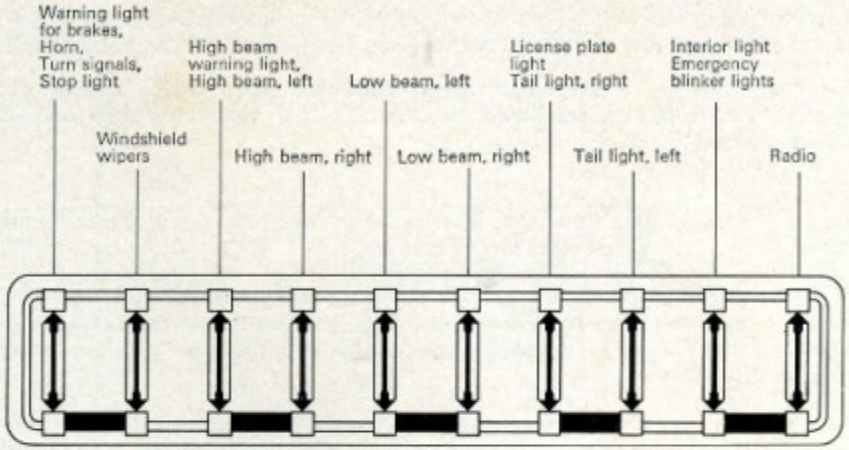
Press bulb lightly into reflector, turn and take out.

Install new bulb.

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



Fuse box



Replacing fuses

The fuse box is located under the instrument panel on the left.

When a fuse blows it is not sufficient to merely replace it with a new fuse. The cause of the short circuit or overload must be established. On no account should fuses be patched up with tin foil or wire as this can cause serious damage elsewhere in the electrical system.

It is advisable to always carry a few spare 8 Ampere fuses on the vehicle.

Bulb chart

Bulb for	US replacement bulb	VW Part No.
Headlight	6012	111 941 261 A
Front turn signal / parking light	1034	N 177382
Rear turn signal and stop light / tail light	1034	N 177382
License plate light	89	N 177192
Warning and instrument lights	—	N 177512
Warning light for emergency blinker system	—	N 177512
Warning light for dual brake system	—	N 177512
Interior lights	—	N 177232
Back up lights	1073	N 177332

Checking battery

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

The battery is fitted in the engine compartment on the right-hand side. It should be taken out for checking and maintenance purposes. To do this, the oil bath air cleaner has to be removed first. For details see page 41.

Attention

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

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

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

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

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

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

Here is what to do when trouble troubles you

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

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

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

Problem	Probable cause	What to do
VW will not start: engine will not turn over or turns over too slowly	1. Run down or dead battery	1. Push to start the vehicle (turn on ignition, put in 3rd gear at a speed of approximately 15 mph, release clutch slowly). Have battery charged and cause of high current consumption checked.
	2. Loose connection A. At battery B. At starter C. At connections under dash board	2. Make sure that all connections are tight. A. Check both cable connections on battery and grounded end of ground strap. B. Check connections at solenoid, mounted on starter, under right rear of vehicle. C. Check push-on connectors under dashboard for tightness.
	3. Starter defective	3. Have vehicle started by pushing and take it to nearest Authorized VW Dealer.
VW will not start: engine turns over	4. Loose connection in ignition system	4. Check for loose connections at coil, distributor and spark plugs.
	5. Loose connection in primary circuit to coil	5. Turn on ignition. Remove thin black cable from ignition coil, hold it by insulation and strike it against blower housing or other ground, **being careful of gasoline and its fumes.** If no spark, electricity does not reach coil from battery. Check push-on connectors under dashboard for tightness, and connectors at fuse box. If still no spark see the nearest Authorized Volkswagen Dealer.

Problem	Probable cause	What to do
VW will not start: engine turns over	6. If spark at black coil cable, trouble is in ignition system	6. Check in this sequence: A. Turn on ignition, remove distributor cap, and turn engine by the fan-belt until ignition points are closed. Open and close ignition points several times with a non-metal object. A visible and audible spark will appear between the points. If this is not the case, the cables on ignition coil and distributor should be checked for tightness. If even then no spark is visible, see your nearest Authorized VW Dealer. B. If spark appears at points, remove high tension wire from center of distributor cap and hold it against a metal part of the engine at a distance of approximately ¼ in. Switch on ignition and turn over engine or open ignition points as described under A. A strong blue spark must appear. If this is not the case, see your Authorized VW Dealer. C. If a spark appears at high tension cable, the distributor cap should be cleaned inside and outside. Reconnect high tension cable. Remove all spark plugs. If plugs are clean and dry, reconnect ignition cables to spark plugs and bring spark plugs in connection with metal (ground). **Hold cable with dry piece of cloth to avoid shock.** A spark should appear between spark plug electrodes when the engine is turned over. If not, clean and dry ignition cables and spark plug connectors and check that ignition cables are tight in distributor cap and plug connectors. See your Authorized VW Dealer if the above steps do not ensure proper ignition. D. Dirty or wet spark plugs should be cleaned and dried. Install new plugs if necessary. Unburned gasoline on plug electrodes points to excessive fuel supply.
	7. If spark is fairly good at plugs, trouble is most likely in fuel system A. Caused by improper starting procedure. If the gas pedal is	7. Check fuel system in the following sequence: A. Depress gas pedal completely and operate starter for a prolonged period. If engine does not start, remove and dry spark plugs, turn over engine with plugs removed for approximately 30 seconds. Reinstall plugs and start engine.

Problem	Probable cause	What to do
VW will not start: engine turns over	depressed too often, the accelerator pump of the carburetor injects too much gasoline B. Carburetor may be flooded, float or needle valve may be sticking	B. Tap around outside of carburetor with wooden or plastic tool handle. Wait a few minutes and try starting again as described at 7 A.
Engine stalls shortly after starting	8. Poor fuel supply 9. Automatic choke does not open, excessive fuel supply	8. See paragraph 11 through 13. 9. Remove intake elbow from carburetor. Check whether choke valve is in vertical position after ignition has been switched on for 2–5 minutes (depending on outside temperature). The cover for choke unit must be hot. If choke valve is binding in a closed position, open at fast idle cam and, if necessary, retain with wire. See your Authorized VW Dealer.
Engine stalls while vehicle is driven	10. Defect in ignition system	10. See paragraph 4 through 6.
	11. Fuel supply is exhausted 12. Fuel filter in pump may be clogged 13. Gasoline may be contaminated by water, or dirt	11. Check whether any gasoline is left in tank. 12. Disconnect intake fuel line from fuel pump and plug up line. After removing the pump cover, the fuel filter can be taken out for cleaning. 13. See your VW dealer for cleaning of all components of the fuel system.
Green warning light comes on while you are driving	14. If green light goes on, the oil pressure is too low	14. Stop at once and check oil level. Add oil as necessary. If the oil level is sufficient and green light goes on during driving, contact the nearest Authorized VW Dealer before driving on.
Red warning light comes on while you are driving	15. If red light goes on, fan belt may be torn 16. Generator does not charge	15. Do not continue driving because engine cooling fan is no longer working. Fit spare belt. 16. Switch off all unnecessary electrical equipment (radio, etc.). Drive to nearest VW Dealer as otherwise the battery will soon run down.

Proper lubrication

means regular and careful lubrication. The list on page 50 shows you at which intervals the various lubrication points require your attention.

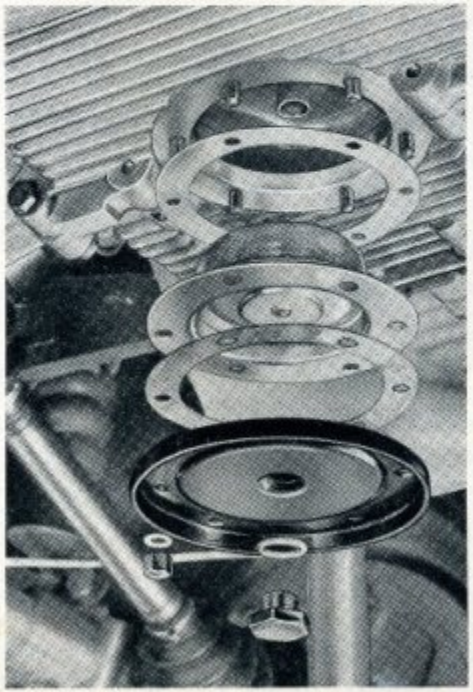
Engine

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

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

Due to the detergent properties of the HD oil, the fresh oil will look very dark after the vehicle has been running for only a short time. This need not worry you and under normal operating conditions there is no reason whatever to change the oil at shorter intervals than every 3000 miles. We only recommend more frequent oil changes – every 1500 miles – in the winter if you drive mainly short distances and in city traffic. If you only drive a few hundred miles a month under these conditions, it is advisable to have the oil changed every 6 to 8 weeks.

In countries with arctic climates where average temperatures are about —13° F the oil should be changed every 750 miles.



Some more information about oil

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

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

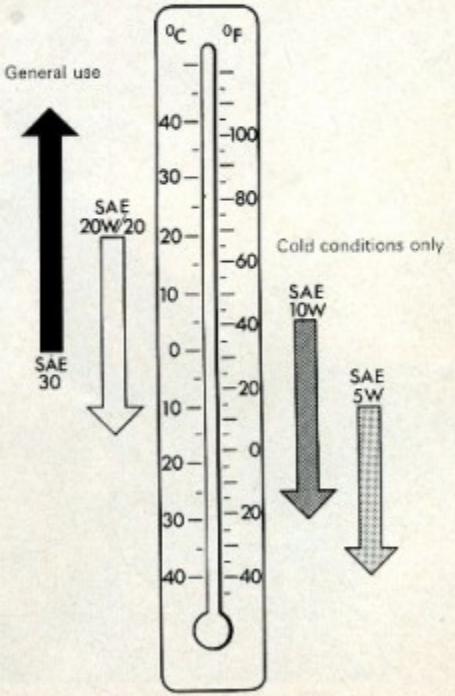
SAE 30	In warm seasons and all year round in countries with hot climates.
SAE 20W/20	In the winter.
or	
SAE 10W*)	In areas where the average temperature is below 5° F.
SAE 5W*)	In countries with artctic climates and temperatures below —13° F.

*) Avoid driving at high speeds for long periods when using SAE 10 W oil and the outside temperature is above 32° F or if using SAE 5 W oil when temperature is above 5° F.

All SAE grades cover a temperature range of about 60° F and the ranges of two neighboring grades overlap by at least 30° F. Brief variations in temperature between seasons can therefore be disregarded. For the same reason it is also all right to mix oils of different viscosities when oil has to be added between oil changes and the viscosity of the oil in the engine no longer corresponds to the actual temperature.

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

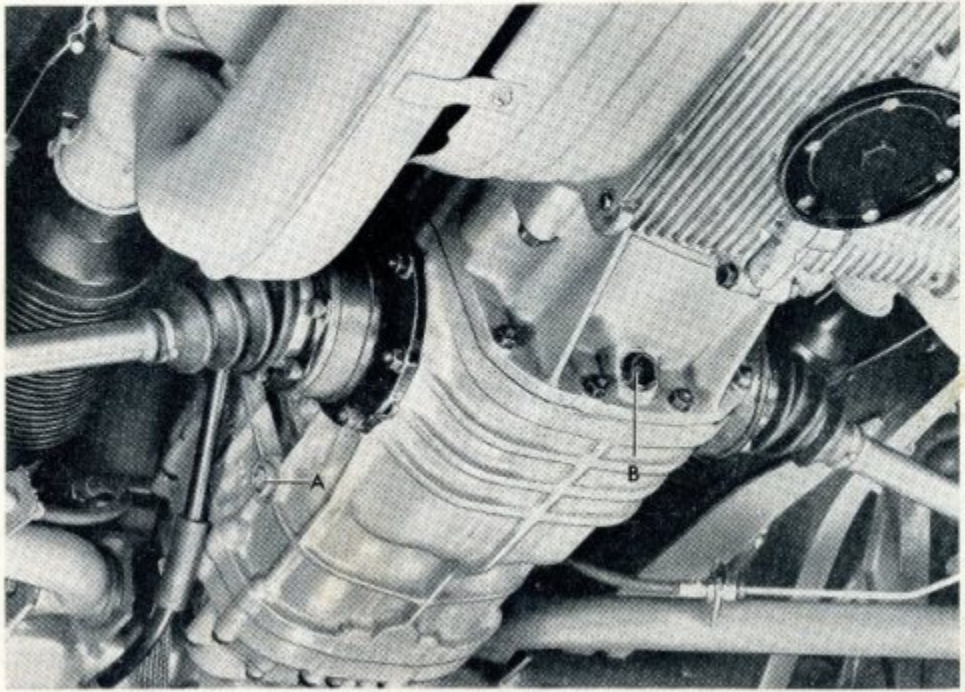
Temperature ranges of SAE grades



Transmission

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

The magnetic drain plug – B – should be removed and the old oil drained off while it is still warm. The plug must be cleaned thoroughly and 7.4 pints of good quality SAE 90 hypoid oil put in. In countries with arctic climates, SAE 80 oil should be used throughout the year.



The oil sometimes runs into the transmission housing very slowly. If one attempts to put the oil in too quickly, it may overflow and give the impression that the housing is already full although actually only about 2–3 pints have been put in. It is essential to the service life and silent running of the transmission that the correct amount of oil is used.

The oil level in the transmission should be checked every 6000 miles. At the same time the transmission should be checked for leaks.

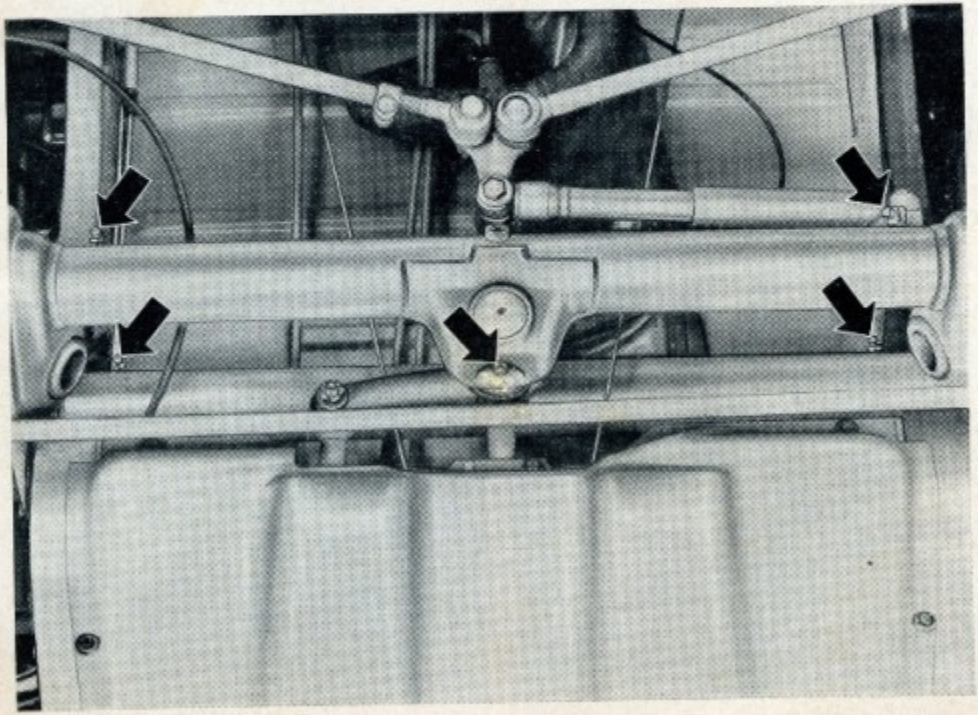
Additives should not be used with hypoid oil.

Front axle

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

The four nipples on the axle tubes and the one for the swing lever shaft should be lubricated with a lithium-based **multi-purpose** grease.

The nipples and the grease gun nozzle should be cleaned carefully before greasing.
Place gun on nipples and inject grease until fresh grease starts to come out of the bearing.



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

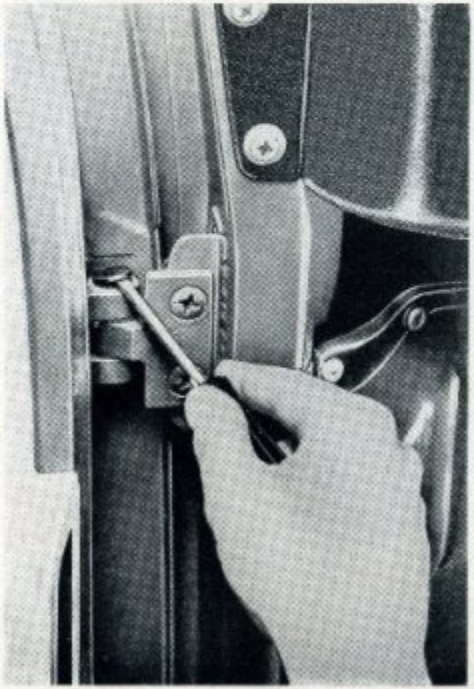
If the vehicle is driven less than 6000 miles in a year, we recommend lubricating the front axle once a year.

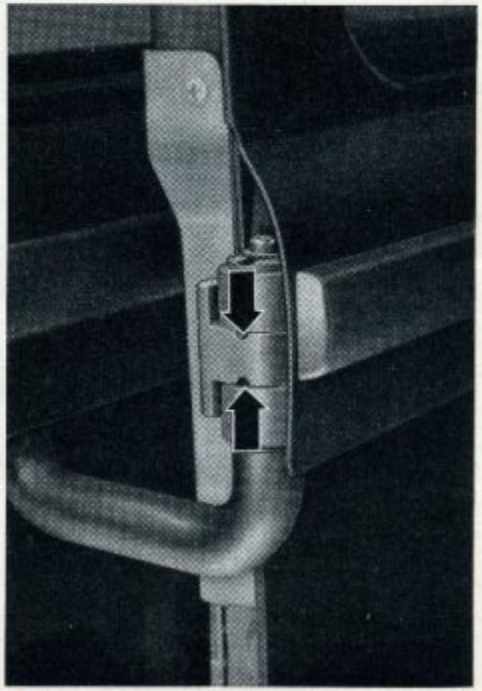
Doors and hoods

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

At the same time, the hinge for sliding door (see arrows), the rear lid hinges and the hinges and the lock of the engine compartment lid should be oiled. The striker plates of the doors and the support spring for the engine compartment lid should be lubricated with stick lubricant.

All lock cylinders should be treated with graphite. Dip the key into the graphite, insert key and move it back and forth several times.

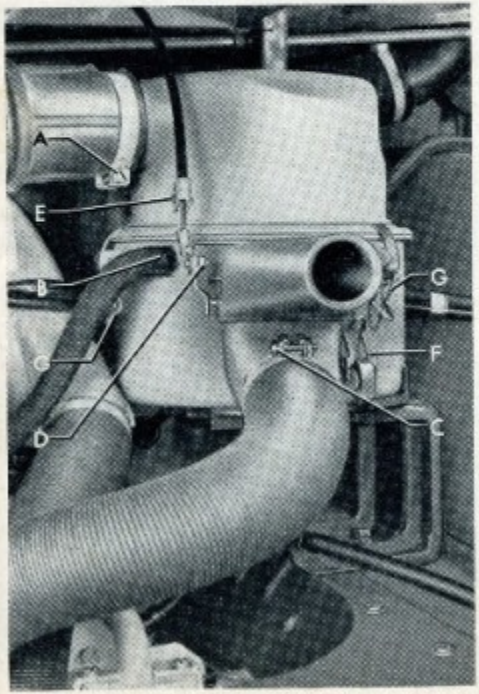




Oil bath air cleaner

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

The dust present in the air drawn in by the engine is retained by the filter element in the upper part of the air cleaner and washed out when the vehicle is in motion by the oil in the lower part. In time, this cause a layer of sludge to form at the bottom of the lower part. When there is only $^{3}/_{16}$ in. of oil above the sludge layer, the lower part must be cleaned and filled with fresh oil. The cleaner must be removed to do this:



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

Pull crankcase ventilation hose – B – off.

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

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

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

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

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

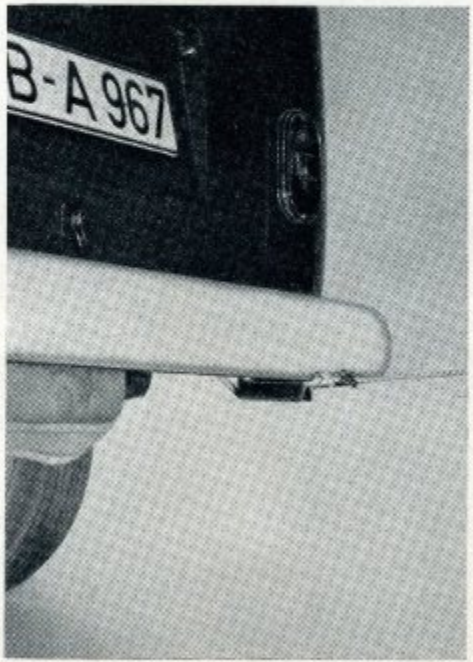
Clean bottom part carefully and put in .6 pint of fresh engine oil. Oil viscosity: SAE 30 all the year except in countries with artic climates where SAE 10 W oil should be used.

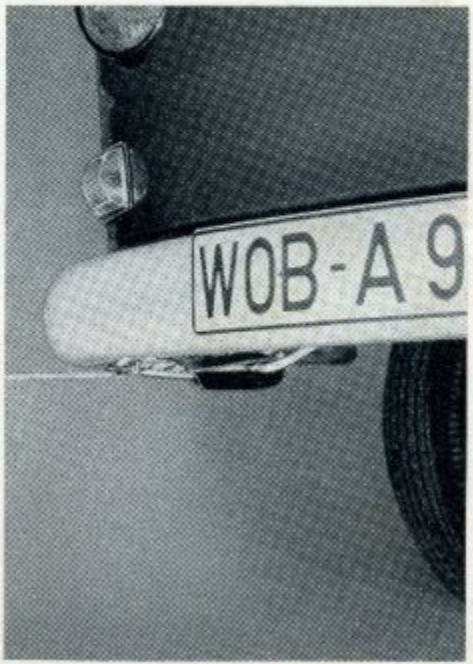
The top part does not normally need cleaning. If the filter element has become so dirty due to delayed cleaning of the bottom part or oil shortage that the air inlet holes on the underside are partly blocked, the encrusted dirt should be scraped off with a piece of wood.

After assembling the cleaner, secure it to the bracket in the engine compartment with the two clips. Before connecting the cable for the warm air control flap, check that the flap moves freely. Then push the outer cable into the retainer and the cable into the clamp screw as far as they will go and secure both properly. Tighten intake elbow clip carefully.

Towing

The towrope can easily be attached to your Station Wagon. There are towing eyes on the right side underneath the front and rear bumpers.





The identification plate

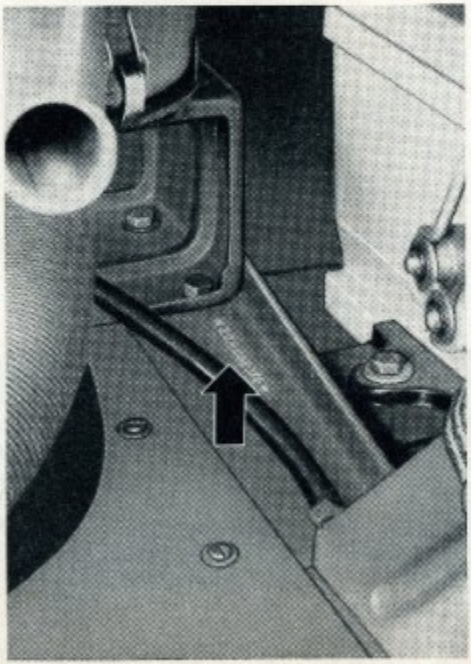
is in the cab on the right-hand side of the partition for driver cabin. The 9 digit number after the words "Fahrgest. Nr." is the chassis number. It describes the model number, model year and serial number of the vehicle as shown in this sample.

22 8 000376

Model Year Serial Number

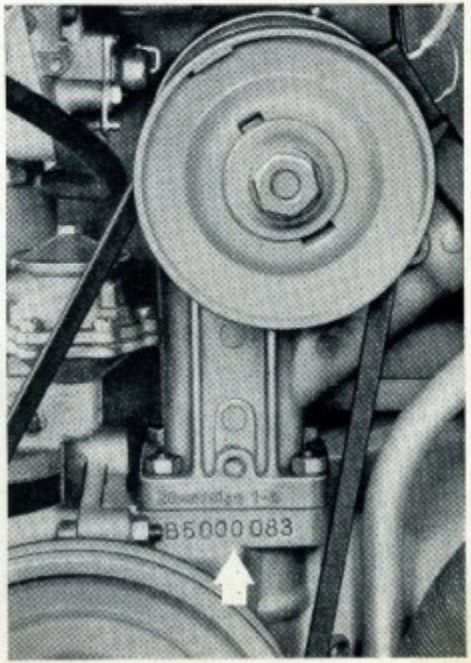
The chassis number

is also stamped on the right-hand engine cover plate.



The engine number

is on the generator support flange.



Technical data

Engine

Four cylinder, four stroke, horizontally opposed in rear
Air cooling by fan, thermostatically controlled
Pressure oil feed with gear-type pump
Oil cooler
Mechanical fuel pump
Downdraft carburetor with automatic choke
Oil bath air cleaner with thermostat controlled pre-heating
Exhaust emission control system

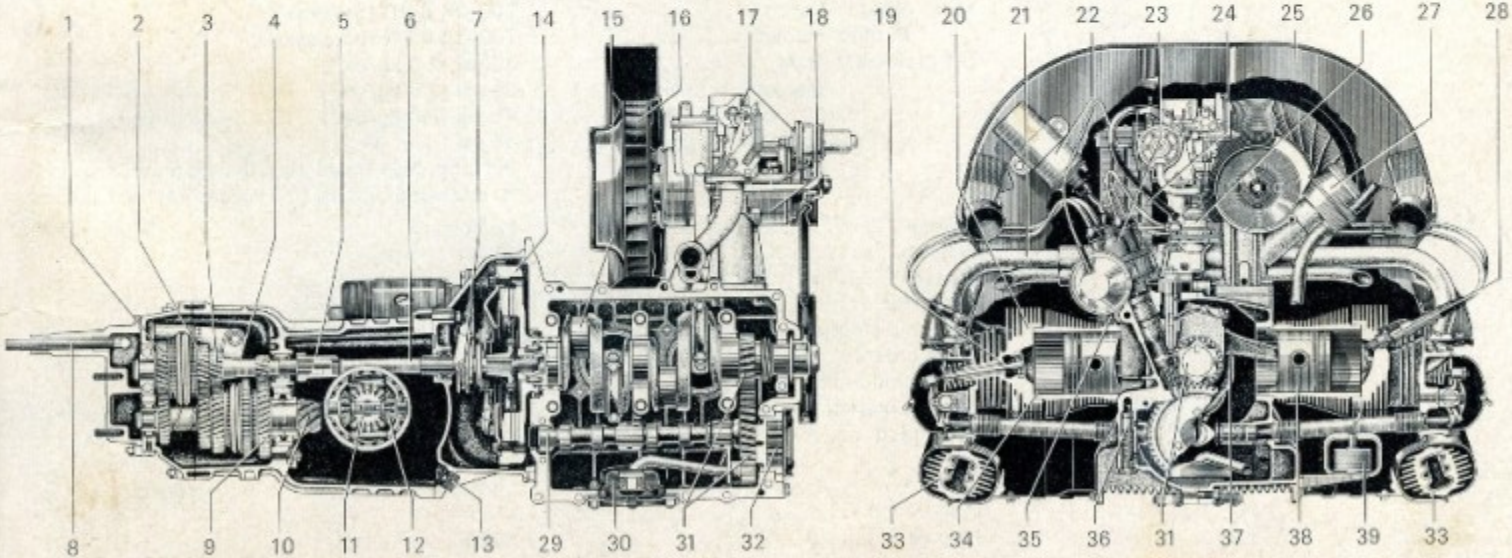
Bore	3.36 in. (85,5 mm)
Stroke	2.72 in. (69 mm)
Capacity	96.6 cu. in. (1584 cc)
Compression ratio	7.7 : 1
Maximum output SAE	57 bhp at 4400 rpm
Maximum torque SAE	81.7 ft. lb. at 3000 rpm
Valve clearance with engine cold	.004 in. (0.1 mm) intake and exhaust
Fuel consumption[1])	22.6 mpg (10.4 liters per 100 km)
Fuel rating	91 Octane Regular
Oil consumption	Approx. 1.7–4.8 US pints per 1000 miles (1.4–4.0 Imp. pints per 1000 miles)

[1]) Measured consumption plus 10%, with half load at a steady ¾ of maximum speed (53 mph) on level road.

Power transmission

Single plate, dry clutch
Clutch pedal free play: ¾ in. (10–20 mm)
Baulk synchronized four-speed gearbox with bevel gear differential in one housing
Gear ratios:
1st gear 3.80 : 1, 2nd gear 2.06 : 1, 3rd gear 1.26 : 1, 4th gear 0.82 : 1, reverse gear 3.61 : 1
Differential ratio: 5.375 : 1
Double joint axles

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



Chassis

Unit body, frame plates reinforced with side and cross members, front axle bolted to frame side members, engine/transmission suspended in 3 rubber-metal mountings.
Independent suspension: twin cranked link arms with ball joints at front, double jointed axles with three point trailing links at rear, torsion bar springing. Double-acting, telescopic shock absorbers, stabilizer at front.
Ross type steering gear with maintenance-free tie-rods and hydraulic steering damper.
Hydraulic dual-circuit foot brakes, mechanical hand brake effective on rear wheels.

Wheelbase	94.5 in. (2400 mm)
Turning circle diameter	approx. 40 ft. (12.3 m)
Track at front	54.5 in. (1385 mm)
Toe-out (wheels pressed together)	.0–.08 in. (0–2 mm)
Camber	0°40′ ± 15′
Track at rear	56.1 in. (1462 mm)
Wheels	5 JK × 14 (Wheel discs with drop center rims)
Tires: Station Wagon	700–14 6 PR (tubeless)
all other models	700–14 8 PR (tubeless)
Tire pressures: front	28 psi (2.0 kg/cm²)
rear with ¾ payload	36 psi (2.5 kg/cm²)
with full load	41 psi (2.9 kg/cm²)
spare wheel	44 psi

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

Electrical system

Voltage	12 Volts
Battery	45 Ah
Starter	0.7 hp
Generator	360 Watts, early cut-in
Ignition distributor	with vacuum spark advance
Firing order	1 – 4 – 3 – 2
Basic ignition timing	TDC, engine at operating temperature
Contact breaker gap	.016 in. (0.4 mm)
Spark plug	Bosch W 145 T 1, Beru 145/14, Champion L 95 y } or plugs with similar values from other manufacturers.
Plug thread	14 mm
Plug gap	.028 in. (0.7 mm)

Dimensions and weights

		Station Wagon	Kombi	Delivery Van	Pick-up		Double Cab	
					Without Tarpaulin	With Tarpaulin	Without Tarpaulin	With Tarpaulin
Length	in.	174.0	174.0	174.0	174.0	174.0	174.0	174.0
Width	in.	69.5	69.5	69.5	69.5	69.5	69.5	69.5
Height, unladen	in.	77.0	77.0	77.0	77.0	88.5	77.0	88.5
Ground clearance	in.	7.3	7.3	7.3	7.3	7.3	7.3	7.3
Unladen weight	lbs.	2723	2624	2425	2425	2503	2536	2591
Payload	lbs.	1962	2171	2370	2370	2292	2259	2204
Gross vehicle weight	lbs.	4685	4795	4795	4795	4795	4795	4795
Permissible front axle load	lbs.	2149	2149	2149	2149	2149	2149	2149
Permissible rear axle load	lbs.	2535	2646	2646	2646	2646	2646	2646
Permissible trailer weights								
Trailer with brakes	lbs.	1760	1760	1760	1760	1760	1760	1760
Trailer without brakes	lbs.	1100	1100	1100	1100	1100	1100	1100

Capacities

Fuel tank	15.8 US gallons (13.2 Imp. gallons)
Engine	5.3 US pints (4.4 Imp. pints)
Transmission and differential	7.4 US pints (6.2 Imp. pints)
Brake system	.63 US pint (.53 Imp. pint)
Oil bath air cleaner	.95 US pint (79 Imp. pint)
Windshield washer	1.45 quarts (approx.)

Performance

Maximum and cruising speed	65 mph
Pick up with tarpaulin	59 mph
Climbing ability	1st gear 27%
	2nd gear 14%
	3rd gear 7%
	4th gear 4%

Index

Lubrication and maintenance

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

Oil change

1 – Engine: Change oil, clean oil strainer. Check for leaks.

2 – Transmission: Change oil, clean magnetic drain plug. Check for leaks.

3 – Windshield washer: Check fluid.

Maintenance Service

The Mechanic:

1 – Check rear axle shaft nuts, tighten if necessary.

2 – Check V-belt, adjust if necessary.

3 – Check contact points, lubricate distributor.

4 – Check and adjust valve clearance.

5 – Check and adjust clutch pedal free-play.

6 – Check rubber boots of axle shaft universal joints for leaks and damage.

7 – Check dust seals and proper fit of plugs on ball joints. Check dust seals on tie rod ends. Check tie rods and tighten if necessary.

8 – Check tire pressures. Check wheel bolts, tighten if necessary.

9 – Check brake system for damage and leaks, check brake fluid level, add if necessary. Adjust foot and hand brakes.

10 – Check operation of electrical system and headlight adjustment.

The Service Adviser (Quality Control)

During roadtest:

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

After roadtest:

Adjust ignition timing with stroboscopic light. Check and adjust idling. Check throttle positioner for correct functioning. Check cylinder head covers for leaks.

*** Lubricants and fluids are paid by the customer.**

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

1 – Engine: Change oil, clean oil strainer. Check for leaks.

2 – Door locks, door hinges and sliding door mounting points: Lubricate.

3 – Battery: Check, add distilled water if necessary. Clean and grease terminals.

4 – Windshield washer: Check fluid.

C. A lubrication and maintenance service every 6,000 miles - W 10 - consists of:

Lubrication Service

1 – Engine: Change oil, clean oil strainer. Check for leaks.

2 – Transmission: Check oil level, add if necessary. Check for leaks.

3 – Front end: Lubricate.

4 – Door locks, door hinges and sliding door mounting points: Lubricate.

5 – Carburetor linkage: Oil.

6 – Air cleaner: Check, clean lower part if necessary and fill with fresh oil.

7 – Battery: Check, add distilled water if necessary. Clean and grease terminals.

8 – Windshield washer: Check fluid.

Maintenance Service

The Mechanic:

1 – Check V-belt, adjust if necessary.

2 – Clean fuel pump filter.

3 – Check contact points, replace if necessary, lubricate distributor.

4 – Check and adjust valve clearance.

5 – Clean spark plugs, check and adjust plug gap. Check compression.

6 – Check control flap for carburetor preheating.

7 – Check rubber valve for crankcase ventilation, replace if necessary. Check exhaust system for damage.

8 – Check and adjust clutch pedal free-play.

9 – Rear axle: Check screws for universal joints, tighten if necessary. Check rubber boots of axle shaft universal joints for leaks and damage.

10 – Check dust seals and proper fit of plugs on ball joints. Check dust seals on tie rod ends. Check tie rods, tighten if necessary.

11 – Check front wheel camber and toe-in.

12 – Steering gear: Check and adjust play between peg and worm.

13 – Check tires for wear and damage, check tire pressures.

14 – Check brake system for damage and leaks, check brake fluid level, add if necessary. Adjust foot and hand brakes. Check brake switch and warning light for correct operation.

15 – Check thickness of brake linings.

16 – Check operation of electrical system and headlight adjustment.

17 – Check wiper blades, replace if necessary.

The Service Adviser (Quality Control)

During roadtest:

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

After roadtest:

Adjust ignition timing with stroboscopic light. Check and adjust idling. Check throttle positioner for correct functioning. Check cylinder head covers for leaks.

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

E. In addition, every 60,000 miles, the rear wheel bearings have to be cleaned and repacked (including removal and re-installation of both drums and rear axle shafts).

Maintenance Record

Tue-Thurs 8-9 SAT 12:00

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

1 – You expect your Volkswagen to be reliable and economical and to last a long time, no matter how many miles you travel, how you drive or how bad the weather and roads are. This Maintenance Record in the Owner's Manual with its reminders for regular lubrications and maintenance services will help you achieve this.

2 – The empty spaces will tell you when oil changes, lubrications and maintenance services are due. These maintenance services keep your Volkswagen in good running condition, contribute to your safety and help retain your vehicle's value. The mileages printed in the spaces tell you at a glance when the next oil change, lubrication or maintenance service is due.

3 – Just hand this Owner's Manual to an Authorized Volkswagen Dealer – he will do the rest. The details are subject to alteration without notice.

4 – The first oil change and maintenance service at 600 miles and the oil change at 3000 miles are particularly important for a long, trouble-free service life. The rear cover of this Owner's Manual contains a punchcard for the free-of-charge maintenance service at 600 miles.

5 – From 6000 miles onward, the combined lubrication and maintenance service should be performed every 6000 miles. Engine oil should be changed every 3000 miles. If your Volkswagen is driven less than 3000 miles in 3 months, have the oil changed every 3 months; if driven less than 6000 miles in 12 months, have the front end lubricated once a year.

6 – Every Authorized Volkswagen Dealer at home or abroad guarantees to perform all the operations listed for maintenance and lubrication services in accordance with Volkswagen quality standards.

Call For Service Appointment
Service Hours: Mon-Wed, Fri 8-5, Tue-Thur 8-9, Sat 8-12
Dan Winters - Service Manager
775-3484

12 months
WARRANTY VALIDATION
Jarvis Motors, Inc.
Chillicothe, Ohio
(Dealer Stamp)
Date 01-04-69
Miles 8751

Delivery Inspection	600 miles W 1	3000 miles	6000 miles	9000 miles
403 129 (Dealer Stamp) Jarvis Motors, Inc. Chillicothe, Ohio	Engine and Transmission Oil change (Dealer Stamp) Jarvis Motors, Inc. Chillicothe, Ohio	WS 5 Oil change (Dealer Stamp)	W 10 Lubrication and Maintenance Service (Dealer Stamp) Jarvis Motors, Inc. Chillicothe, Ohio	WS 5 Oil change (Dealer Stamp)
Date	Date 28.03.68	Date 7-31-68	Date 26.11.68	Date 4-17-69
Miles	Miles 00611	Miles 3067	Miles 06029	Miles 9063

Free Maintenance Service (Dealer Stamp) Jarvis Motors, Inc. Chillicothe, Ohio
Date 28.03.68
Miles 00611

3201 S. HIGH & MAIL ST. HILLSBORO, OHIO 45133

12000 miles W 10 Lubrication and Maintenance Service Jarvis Motors, Inc. Chillicothe, Ohio Date 23.10.9 Miles 12036	**15000 miles** WS 5 Oil change (Dealer Stamp) Date Miles 89 051-01-5+8 320 HIGH & WALNUT 202 S. HIGH ST. HILLSBORO, OHIO 45133	**18000 miles** W 10 Lubrication and Maintenance Service Jarvis Motors, Inc. Chillicothe, Ohio Date 77.07.0 Miles 18083	**21000 miles** WS 5 Oil change (Dealer Stamp) Date 1-19-71 Miles 21030	**24000 miles** W 10 Lubrication and Maintenance Service Volkswagen Of Chillicothe Chillicothe, Ohio (Dealer Stamp) Date 11-30-72 Miles 24233	**27000 miles** WS 5 Oil change (Dealer Stamp) Date 1-24-74 Miles 26988
30000 miles W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles	**30000 miles** W 50 Repack front wheel bearings Transmission Oil change (Dealer Stamp) Date Miles	**33000 miles** WS 5 Oil change (Dealer Stamp) Date Miles	**36000 miles** W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles	**39000 miles** WS 5 Oil change (Dealer Stamp) Date Miles	**42000 miles** W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles
45000 miles WS 5 Oil change (Dealer Stamp) Date Miles	**48000 miles** W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles	**51000 miles** WS 5 Oil change (Dealer Stamp) Date Miles	**54000 miles** W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles	**57000 miles** WS 5 Oil change (Dealer Stamp) Date Miles	**60000 miles** W 10 Lubrication and Maintenance Service (Dealer Stamp) Date Miles

60000 miles **W 50 Repack front wheel bearings Transmission Oil Change** (Dealer Stamp) Date Miles	**63000 miles** **WS 5 Oil change** (Dealer Stamp) Date Miles	**66000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**69000 miles** **WS 5 Oil change** (Dealer Stamp) Date Miles	**72000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**75000 miles** **WS 5 Oil change** (Dealer Stamp) Date Miles
78000 miles **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**81000 miles** **WS 5 Oil change** (Dealer Stamp) Date Miles	**84000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**87000 miles** **WS 5 Oil change** (Dealer Stamp) Date Miles	**90000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**90000 miles** **W 50 Repack front wheel bearings Transmission Oil change** (Dealer Stamp) Date Miles
93000 miles **WS 5 Oil change** (Dealer Stamp) Date Miles	**96000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**100000 miles** **W 10 Lubrication and Maintenance Service** (Dealer Stamp) Date Miles	**100000 miles** **W 50 Repack front wheel bearings Transmission Oil change** (Dealer Stamp) Date Miles		

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

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

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

Please quote the VW chassis number as it appears on the identification plate of the vehicle, its location is shown on page 43. Do not use the abbreviated serial number as shown on the vehicle registration.

Additional cards can be obtained from any Authorized Volkswagen Dealer.

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NOTICE OF USED CAR PURCHASE ☐

please check one of the above boxes

Mo. Day Yr.

VW Chassis Number

Last Name First Name Initial

Number Street

City State Zip Code

Please print and give complete information.

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