

glycerin to retain flexibility of the rubber and to protect against freezing in the winter.

Light alloy wheels

To preserve the decorative appearance of the light aluminium castings, some special care is necessary. Aside from road dirt and salt sprays, brake metal dust will exert corrosive effects.

If left on too long, brake metal dust can cause pitting. Wash the wheels with a sponge or hose brush every other week.

the hydrogen-ion concentration in a liquid. This value tells if the liquid reaction is sour (acid) or alkaline (lye solution).

At a pH value of 7, the reaction of the liquid is neutral (that is, chemically clean water), it is not an acid or alkaline. Acids have a pH value under 7, the strength of the acid increases with a lower pH value. Alkaline lies between a pH value of 7 and 14, the strength of the alkaline increases with higher pH values.

wash.

Interior

Glass

Use the same cleaning agents as for the exterior and polish dry with a soft cloth or paper towel.

Fabric

Use a vacuum cleaner or a soft bristle brush to remove dust and loose dirt from carpeting, upholstery, headliner and other trim. Dirt stains can usually be removed with lukewarm soap water or an all purpose cleaner solution, or a dry foam cleaner. For greasy, oily and other stubborn stains, use a spot remover. Do not pour the

For cleaning, use a mild soap water solution. Let belts dry out thoroughly and away from direct sun light.

Plastic, vinyl and leatherette

Use a clean, damp cloth or sponge to keep this trim free from dust. For other soilage, use a lukewarm all purpose cleaning solution or a mild saddle soap for vinyl and leather trim. Remove water spots and soap traces with a clean, damp cloth or sponge. Use a clean, soft cloth to rub dry.

Grease, tar or oil stains can be removed with a clean cloth or sponge soaked with all purpose

commended by Porsche to all of surfaces with a clean and soft w cloth. Let your Porsche dealer a you on the use of the leather preservation product.

Corrosion protection

The engine compartment, as all engine, transmission, front rear axle assembly surfaces been treated with a wax base coating at the factory for protection against corrosion.

liquid on the fabric. Dampen a clean cloth and rub carefully, starting at the edge and working inward.

Safety belts

Keep belts clean. Very dirty belts may not retract properly. Do not remove belts from the vehicle to be cleaned. **Do not use chemical cleaning agents, bleach or dyes. They contain corrosive properties which will weaken the webbing. Do not allow inertia reel safety belts to retract before they are completely dry.**

cleaner or with a solvent type vinyl or leather cleaning agent. Occasionally apply a colorless vinyl or leather preservative to retain the material's luster and pliability.

Leather and leather trim

To keep leather seats and trim beautiful and soft, they should be cleaned and cared for regularly. Clean leather with a soft, white woolen cloth and a mild soapwater solution. Do not use chemical or abrasive cleaning agents. Do not let moisture seep through perforated surfaces to safeguard against corrosion and cracking from underneath. After cleaning, apply a leather preservative re-

WARNING

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

Engine Compartment
If it becomes necessary to steam clean or otherwise wash the engine compartment, the wax based protective coating is usually lost and therefore important to reapply protective coating to all engine compartment surfaces.

ment panels, flanges, cavities, seams and engine assembly surfaces.

When washing the engine compartment, only use commercially available grease cutting solvents made especially for this purpose. Carefully follow directions printed on the container by the manufacturer.

Chassis

The lower body shell of your Porsche is thoroughly protected against corrosion. However, it is recommended to have the underbody inspected twice a year. Any detected damage to the undercoating, due to road hazards, should be repaired promptly. Oil based protective sprays must not be applied. Only tar or wax based anti corrosion protectors are compatible with the factory applied undercoating. Before application, road dirt and oily substances must be removed.

Whenever the lower body shell, axle, transmission or engine assemblies are repaired, the lost anti-corrosion coating of the affected surfaces should be renewed.

Let your Porsche dealer advise and assist you.

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Exercise Extreme Caution when Working under the Engine Hood

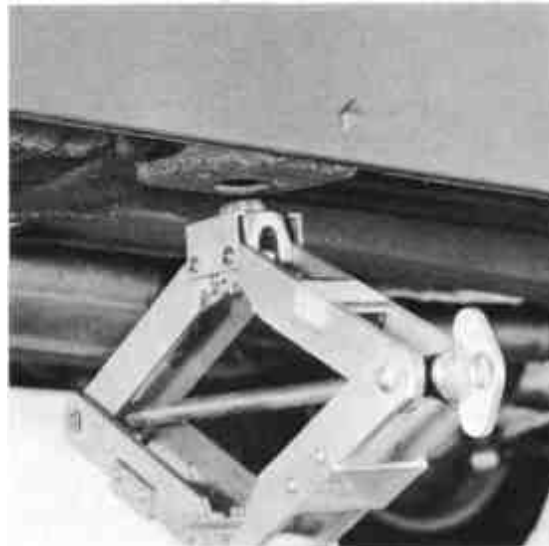
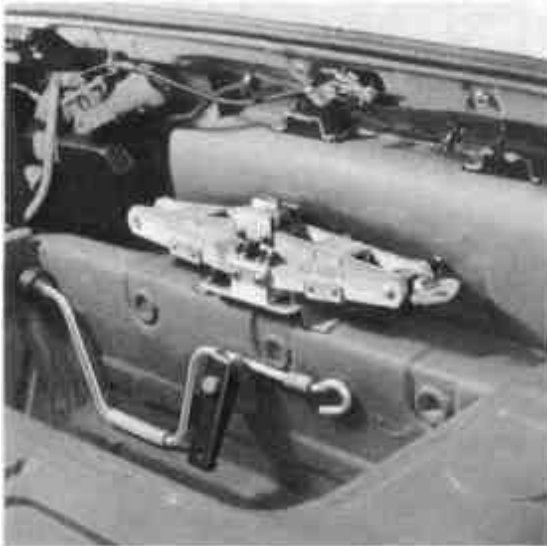
The engine compartment of any motor vehicle is a potentially hazardous area. If you are not fully familiar with proper repair procedures, do not attempt the adjustments described on the following pages. This caution applies to the entire vehicle.

- Only work on your vehicle outdoors or in a well ventilated area.

- If work has to be done with the engine running, always set the parking brake, and make sure the shift lever is in either Neutral or Park.
- Exercise extreme caution to prevent neckties, jewelry or long hair from getting caught in the fan blades, the drive belts, or any other moving engine parts.

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

- Ensure that there are no open flames in the area of your vehicles at any time when gasoline fumes might be present. Be especially cautious of such devices such as hot water heaters which ignite a flame intermittently.
- Before working on any part in the engine compartment, turn the engine off and let it cool down sufficiently. Hot engine compartment components can burn skin on contact.
- Even after the engine has stopped the radiator fan may continue running until the temperature of the coolant has dropped to a certain level. Therefore, never touch the fan blades as they will rotate spontaneously when the thermostat turns the fan on, even with ignition off.
- Be alert and cautious around engine at all times while the engine is running.
- Your Porsche is equipped with a transistorized ignition system with breakerless distributor. When the ignition is on, high voltage is present in all wires connected with the ignition system; therefore exercise extreme caution when working on any part of the engine while the ignition is on or the engine is running.
- Always support your car with safety stands if it is necessary to work underneath the car. The jack supplied with the car is not adequate for this purpose.
- When working underneath the car without safety stands but with the wheels on the ground, make sure the car is on level ground, that the wheels are blocked, and that the engine cannot be started. REMOVE THE IGNITION KEY.
- Do not smoke or allow an open flame around the battery or gasoline.
- Keep a fire extinguisher in close reach.



compartment under the floor mat.
 The car jack must be screwed open a little before it can be removed from the holder.
 The **tool kit** contains tools needed for minor emergency roadside repairs, adjustments and wheel changing.
 Regulations in some countries require additional tools. Details should be obtained prior to leaving for a foreign country.

WARNING

- **Use the jack only for changing a tire. Never jack up other vehicles or other loads with it.**
- **Follow all warnings and instructions found in this manual for changing a tire.**
- **The jack must never be used as a support to work underneath the vehicle. If the jack is accidentally dislodged, you or bystanders could be seriously injured. When working under the vehicle, always use safety stands specifically designed for this purpose.**



944

Engine Oil Level

Engine oil consumption

It is normal for your engine to consume oil. The rate of oil consumption depends on the quality and viscosity of oil, the speed at which the engine is operated, the climate, road conditions as well as the amount of dilution and oxidation of the lubricant. Because of these variables, no standard rate



944 S

- **The engine in your vehicle depends on oil to lubricate and cool all of its moving parts. Therefore, the engine oil should be checked regularly and kept at the required level.**
- **Make it a habit to have the engine oil level checked with every fuel filling.**
- **Lack of sufficient engine oil may lead to severe engine damage.**
- **The oil pressure warning light is not an oil level indicator.**



944 Turbo

Checking oil level

To get a true reading, the vehicle must be on level ground. After the engine has been stopped, wait a few minutes for the oil to settle in the oil sump.

1. Pull out dipstick and wipe it clean with a clean cloth or paper towel.
2. Reinsert dipstick fully and pull it down for an accurate reading.
3. Pull dipstick out and check the oil level.

of oil consumption can be established, but drivers should expect an increased oil consumption at high speeds and when the engine is new.

correct if it is between marks on the dipstick. 4. If oil level is below showing on dipstick. The difference between "min", marks is about liter.



Adding engine oil

Only add the amount of oil that is needed. The correct oil grade and viscosity recommendation is given under "Engine Oils".

1. Remove oil filler cap and remove dipstick.
2. Top up with quality oil labeled "API Service SE or SF".
3. Check oil level with the dipstick. The "max" mark should not be exceeded.
4. Replace cap and tighten securely.

WARNING

The oil filler cap and dipstick must be secure to avoid oil spills and resulting fire hazard.

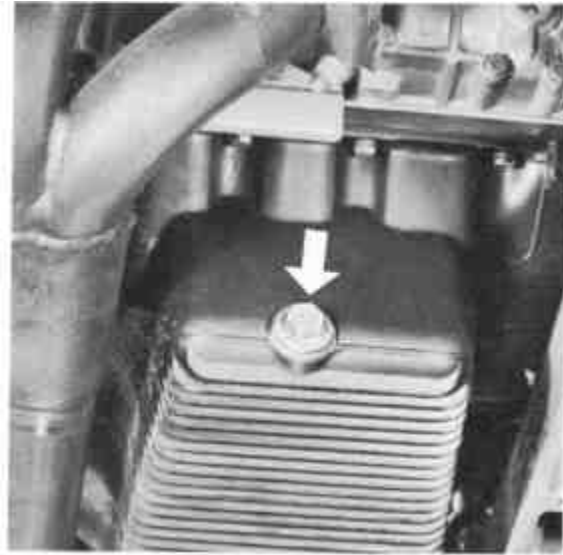


944-Turbo Engine Guard

Before working on the underside of the engine for the 944 Turbo, remove the two part engine guard.



944 / 944S



944 Turbo



Changing Engine Oil and Filter

High quality-multi-grade oils are suitable for all year round driving. Seasonal oil changes are therefore not necessary. Only if multi-grade oils are not readily available, a single-grade oil of the correct viscosity can be used. Specifications of the various oils to be used are detailed under "Filling Capacities and Engine Oil". **The use of oil additives is not recommended by Porsche.**

WARNING

- **When removing oil drain plug with your fingers, keep your arms as high as possible. This will prevent hot oil from running down your arm. Wear eye protection.**
 - **Always use a new gasket when reinstalling the plug. Do not overtighten the plug.**
- Before changing the engine oil yourself, make sure that the disposal of the engine oil and the oil filter, as special wastes, can be carried out in the proper manner. Under absolutely no circumstance should used oil find its way into the sewage system, soil, rivers, ponds, or other environmentally damaging areas. If there is no possibility of disposing of used oil in the proper manner**

(when in doubt, consult your dealer or a service center.)

Oil change intervals are specified in the Warranty & Maintenance Manual accompanying the vehicle, depending on operating conditions. For more information, see to, including intervals for severe driving. If you drive mostly in severe conditions, operate the vehicle in severe conditions, or predominantly stop and start, or when temperatures are high for extended periods, the oil should be changed more frequently. When changing the oil, the oil filter should be removed first. Drain the oil when the engine is warm.

The oil filter should be changed at the intervals listed in your **Maintenance Schedule**.

1. Unscrew the oil drain plug (arrow), remove the oil filler cap and allow oil to drain completely.
2. Loosen oil filter element with appropriate wrench and remove.
3. Lightly coat new filter seal with engine oil.
4. Screw on filter by hand until gasket contacts, tighten by one further turn and finally recheck tightness of filter with the oil filter wrench.
Specified tightening torque:
20 Nm (14 ftlb).
5. Clean oil drain plug. Always use a new gasket when reinstalling the plug. Do not overtighten the plug. Correct tightening torque is 43 ft. lb. or 60 Nm.
6. Fill the crankcase with the required amount of engine oil labeled "API Service SE or SF" (see "Filling Capacities"). **Do not overfill.**
7. Check oil level with dipstick. Top up if necessary. Reinstall oil filler cap and tighten securely.
8. Run the engine at various speeds for 3-5 minutes and check for leaks.

See Exercise Extreme Caution



Power Assisted Steering

The hydraulic assistance system allows effortless steering under all driving conditions. Slight hissing or squeaking sounds during sharp turns (turning steering wheel from lock to lock) are normal and do not indicate a defective steering mechanism.

If the engine is not running, power assisted steering is no longer effective. You can continue to steer the car but more effort will be required to turn the steering wheel.

Checking the fluid level

The hydraulic fluid level should be checked at regular intervals. The fluid reservoir is mounted on the right wheel housing in the engine compartment.

1. Unscrew cap from reservoir and wipe dipstick with a lintfree cloth.
2. Let engine run at idle speed. Reinsert dipstick and unscrew again. The fluid level should be between the upper and lower mark on the dipstick.

If necessary, top up with ATF-Dextron.

3. Reinstall cap and handtighten securely.

Cooling System



Only use additives recommended for aluminium engines and radiators. Your Porsche dealer will be able to advise you.

For year round driving, phosphate-free antifreeze is added at the factory for temperatures down to: -31 °F / -35°C

Because of its anti-corrosion properties, antifreeze should also remain in the cooling system for summer operation. Cooling system capacity and specified antifreeze and water ratios are listed under "Filling capacities". Use any quality phosphate-free anti-freeze containing ethylene glycol, available at your Porsche dealer. **Anti-freeze other than specified by Porsche for aluminium engi-**

nes and radiators may cause corrosion of the cooling system, leading to engine overheating and damage.

Only for topping up coolant, a small amount of anti-freeze containing ethylene glycol and phosphates may be used if recommended anti-freeze is not available.

The anti-corrosion properties and the antifreeze consistency will diminish gradually. We recommend renewing the coolant mixture at least every 2 years.

WARNING

The radiator fan is electrically driven. It is switched on automatically by a thermostat when the coolant reaches 198°F / 92°C.

Even when the engine is turned off, the will continue running, until the coolant temperature has dropped to 189°F / 87°C and until the engine itself has cooled down sufficiently.

Checking coolant level in expansion tank

A correctly functioning cooling system requires only minor care. The coolant level should be checked from time to time, and always before going on a longer trip. The **expansion tank** with filler cap opening is located in the engine compartment (see illustration). Since the expansion tank is transparent, the coolant level can be checked visually without removing the filler cap.

When the engine is cold, the coolant level should reach the minimum mark on the expansion tank. When the engine is warm, the coolant level will be above the minimum mark. Since the closed cooling system loses almost no coolant, **topping up** is normally not required. An obvious loss of coolant indicates leakage. In this case contact your dealer.

WARNING

• **Do not open the filler cap when the engine is hot because of the danger of scalding. Allow the engine to cool down. Protect your hands, arms and face.**

• **Using a thick rag, open the cap carefully and only enough to allow excess pressure to escape before removing the cap.**

To avoid damage to the engine, **only add cold antifreeze and cold water** to the cooling system **when the engine is also cold.**

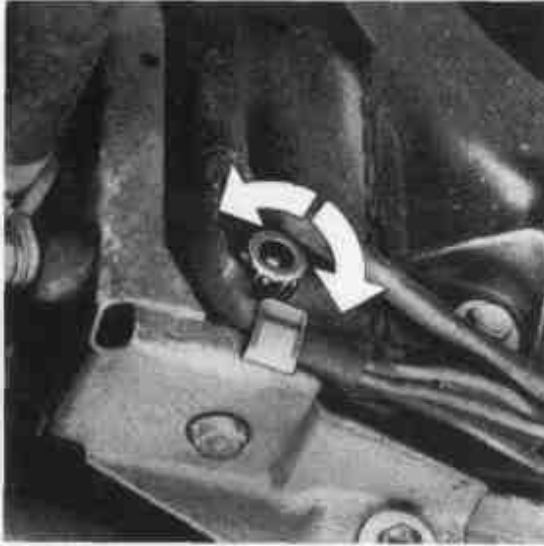
A warm engine should only be topped up if the coolant level has dropped appreciably below the minimum mark. Too much added coolant will escape through the pressure cap when coolant warms up.

If more than about 1.06 U.S qt or 1 liter must be added, the cooling system should be bled.

Winter operation

At the beginning of the winter season, have the coolant checked for anti-freeze concentration. The ratio between water and antifreeze necessary to prevent freezing depends on the outside temperatures. The ratio can be taken from the mixing chart listed under "Filling Capacity" from the container of the antifreeze manufacturer.

Increasing the anti-freeze concentration further than shown on the container is not only uneconomical, it is also detrimental to engine cooling.



944

Draining the coolant
Engine must be cold

1. Move temperature control lever to **"warm"**.
2. Remove filler cap from expansion tank.
3. Unscrew drain plug on radiator and on engine block (curved arrows). Allow coolant to drain completely.

Bleeding cooling system
and topping up coolant

1. Reinstall radiator drain plug. Do not overtighten plug (required torque is 43 in. lb/5 Nm).
2. When reinstalling engine block drain-plug, use a new gasket. Do not overtighten plug (required torque is 14 ft lb/20 Nm).
3. Move temperature control lever to **"warm"**.
4. Unscrew the vent plug (single white arrow) and remove.

5. Remove the expansion tank cap. Slowly pour coolant into the expansion tank until it is half full so as to prevent air from entering the engine when the engine is warm.
6. The expansion tank should be half full so as to prevent air from entering the engine when the engine is warm.
7. Screw in the vent plug.
8. Start the engine. Let the engine run at increased idle until the temperature gauge reaches the normal temperature (the radiator fan should be on and off).

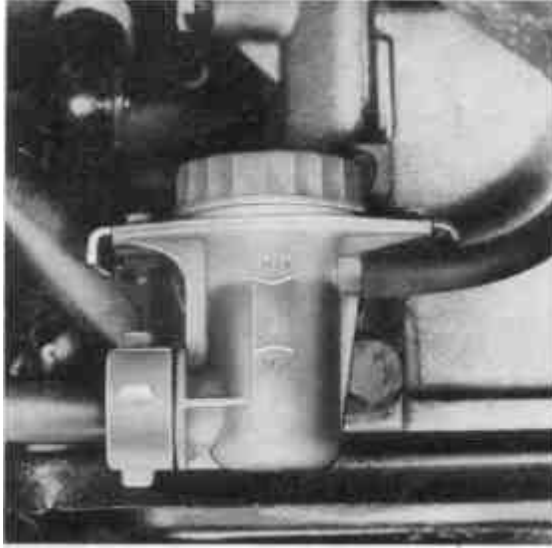


944 Turbo

9. When air bubbles at vent plug disappear, tighten the plug (required torque is 15-18 Nm or 11-13 ft lb).
 10. Check coolant level in tank and top up to "max" mark, if necessary.
 11. Reinstall the expansion tank filler cap. After a test drive recheck the coolant level.
- See "filling capacities" for amount required.**

Manual Transmission Oil

Both transmission and final drive are lubricated in one housing with the same lubricant used for engine oil. The manual transmission oil should be checked and changed at the intervals specified in the Porsche dealer's literature. See the intervals specified in your **Maintenance Schedule**.



Automatic Transmission Fluid

The torque converter and the transmission are lubricated with Automatic Transmission Fluid (ATF). The final drive requires hypoid oil SAE 90 only.

Do not tow the car or run the engine without ATF in the transmission.

Checking the ATF level

The ATF has to be checked at frequent intervals, for instance, when the engine oil is being checked or at least at the specified intervals (see Maintenance schedule). A correct ATF level is very important for the proper functioning of the transmission. The

reading should be done when the ATF is warm, with the engine idling, the selector lever in Neutral and the parking brake applied.

The level of the ATF fluid can be checked visually through the transparent reservoir. This reservoir is located at the rear end of the transmission housing. You have enough ATF if the fluid level is between the Min. and Max. marks. It should never be above or below these marks. The difference between the two marks is 1 U.S. pint or 0.4 liter. If level is too high or too low do not just add or drain ATF. Have your dealer check and correct the cause as soon as possible. For correct ATF specifications, see "Filling Capacities".

Changing the ATF

The ATF and the hypoid oil the final drive has to be changed at specified intervals (see Maintenance schedule).

Brake Fluid Reservoir



The brake fluid reservoir is in the engine compartment. The reservoir has two chambers, the front chamber for one brake circuit and the rear chamber for the second brake circuit and the hydraulic clutch.

The fluid level should be checked regularly. If the level drops below the "min" mark on the transparent reservoir, the cause should be located and corrected by your dealer.

To add brake fluid, unscrew the cap. The vent bore in the cap should be kept clean and open.

WARNING

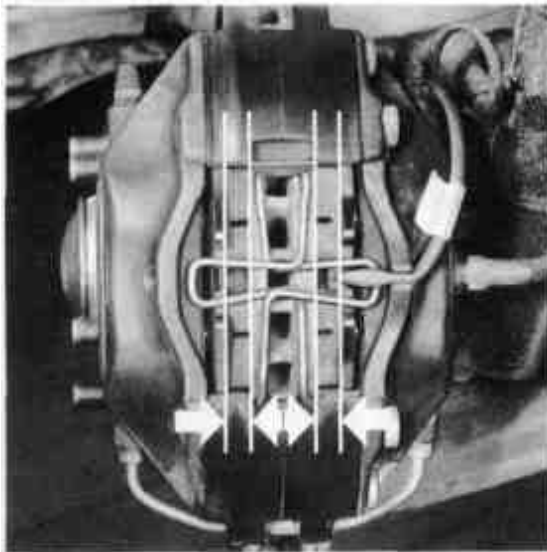
- **Every 2 years the brake fluid has to be replaced. See your Warranty & Maintenance booklet.**
- **If brake fluid must be added to the reservoir, use only new and unused DOT 3 or DOT 4 brake fluid, that meets SAE specification J1703 and conforms to Motor Vehicle Safety Standard 116.**
- **Do not use any other brake fluid or brake fluids that have absorbed moisture from the open air, or brake fluid that is dirty. It may cause premature wear or unreliable braking action.**

- **Do not add or mix DOT 5 silicone type brake fluid with the brake fluid in your vehicle as severe component corrosion may result. Such corrosion could lead to brake system failure.**
- **The brake warning light does not indicate brake fluid level. Check fluid level between regular maintenance services.**
- **Brake fluid is poisonous. Brake fluid is also harmful to the paint of your vehicle.**

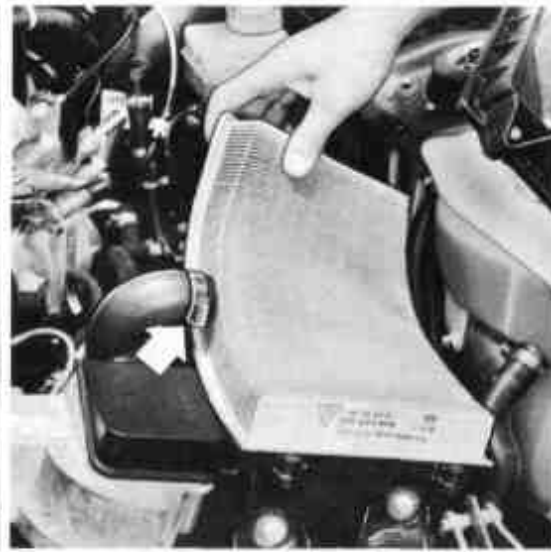
Checking Brake Pads

Brake pad wear will mainly depend on the degree of usage, and the type of driving you do.

Thickness of the pads should be checked during regular maintenance or when the wheels are taken off (visual check). The brake pads must be thick enough to allow a reserve between the brake pad plate and the spring to allow a reserve for further wear (see illustration).



The permissible wear limit has been reached once the brake pad plate comes to rest against the cross spring (brake pad thickness approx. 0.08 in or 2 mm). We also suggest that the condition of the brake pads be checked prior to going on long trips.



Air Filter

A dirty air cleaner not only reduces engine performance, but can lead to premature engine wear. If driving is mostly done in areas where the air is very dusty, the air cleaner must be checked and cleaned frequently, perhaps daily.

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



To clean or replace the filter element 944 / 944 Turbo

1. Loosen hose clamp (arrow) and pull off housing.
2. Loosen mounting screws and lift up filter housing. On Turbo, also remove the air filter housing with a slight upward pull.
3. Remove filter element and clean housing with a slight upward pull.
4. Replace filter element and clean.

5. Press together the housing cover with the air intake funnel (944 Turbo) and carefully place in position. Tighten fastening screws, connect hose and screw down hose clamp.

944 S

1. Unscrew the retaining screws and remove the filter cover.
2. Remove the filter element.
3. Clean the inside of the filter housing with a lightly oiled lint-free cloth.
4. Fit a replacement filter element. Carefully place the housing cover in position and tighten the retaining screws.



Reservoir for Windshield and Headlight Washer System

The transparent reservoir is in the engine compartment. As clear water is inadequate for cleaning windshields and headlights, add a cleaning solution or windshield washer solvent and antifreeze offered by your dealer. To assure the system also functions at freezing temperatures, antifreeze must be added to the water beforehand. Follow the instructions on the can for the right amount to be used (also see "Filling Capacity"). **Do not use engine coolant or any other solution that can damage car paint.**

rims on your Porsche comply with all applicable Federal Motor Vehicle Safety Standards.

For your driving safety remember the following:

- Wheel rims and wheel bolts are matched to fit your Porsche.
- If you intend to use other than original equipment wheels, be sure that they conform to Porsche specifications for your model.
- The use of wheel rims and wheel bolts that do not meet specifications of the original factory installed equipment will affect the safe operation of your vehicle.
- Before you plan on exchanging wheels, or winter tires already mounted on wheel rims, consult your Porsche dealer. He has the technical information necessary to advise you which wheel rims and wheel bolts are compatible with the original factory installations.

Tire pressures

WARNING

Incorrect tire pressures cause increased tire wear and adversely affect road holding of the vehicle, leading to loss of control. Always use an accurate tire pressure gauge when checking inflation pressures. Do not exceed the maximum tire inflation pressure listed on the tire sidewall. (Also refer to "Technical data"). Cold tire infla-

tion pressure means: when a car has not been driven for at least 3 hours or less than 1 mile. Never let any air out of warm tires to meet cold tire pressure specifications.

Tire traction

WARNING

When driving on wet or slushy roads, a wedge of water may build up between the tires and the road. This phenomenon is known as aquaplaning and may cause partial or complete loss of traction, vehicle control or stopping ability. Reduce speed on wet surface.

Tire Life

Tire life depends on various factors, i.e., roads, traffic and weather conditions, driving habits, type of tires and tire care.

Inspect your tires at least every 2.000 miles or 3.000 km for wear and damage. If you notice uneven or substantial wear, wheels might need alignment or tires should be balanced or replaced.

Tires must always remain on same side of vehicle.

After changing, adjust tire pressure and torque wheel nuts diagonally to 94 ft lbs (130 Nm) (see "Changing wheels").

The supposition that tire durability and performance are immune to the effects of storage and age is unfounded. Chemical additives, which make the rubber elastic, lose their effectiveness in the course of time and the rubber becomes brittle and cracks.

collapsible spare tire, should from time to time undergo a visual check. To accomplish this, pump up the collapsible spare tire.

Under no circumstances should older than 6 years be used on your Porsche. The age of the tire can be obtained from the "DOT" code number. If, for example, the last three numbers read 125, then the tire was produced in the 12th week of 1985.

Tire wear

The original equipment tires on your Porsche have built-in wear indicators. They are molded into the bottom of the tread grooves and appear as approximately $\frac{1}{2}$ in (1.6 mm) bands when the tire tread is down to $\frac{1}{2}$ of an in (1.6 mm). When the indicators appear in two or more adjacent grooves, it is time to replace the tires. We recommend, however, that you do not let the tires wear down to this extent. Worn tires cannot grip the road surface properly, and are even less effective on wet roads.

In the United States, state laws govern the minimum tread depth permissible. Follow all such laws.

WARNING

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

If you notice that tires are wearing unevenly, consult your Porsche dealer. Uneven wear

may not always be due to improper wheel alignment. It can be the result of individual driving habits such as cornering at high speeds. If the tire pressure is not checked and adjusted regularly, abnormal tire wear can also occur.

tire specially dealer and that the dealer complies with all manufacturers warnings for those tires.

In case of tire damage where it is uncertain whether there is a break in

Wheels

If you intend to use other than original equipment wheels, be sure that they conform to Porsche specifications for your model. Check with your Porsche dealer regarding the correct wheel

Tire care

WARNING

- **Avoid damaging tires and wheel rims. If you must drive over a curb or other obstacle, drive slowly and at an obtuse angle. Frequently check tires for uneven wear and damage.**
- **Remove imbedded material.**
- **Replace worn or damaged tires immediately.**
- **Replace missing valve dust caps.**
- **Keep oil, fuel, brake fluid, etc. away from tires.**
- **Keep tires inflated correctly.**

Tire replacement

In the interest of maximum safety and best all-around car handling, always buy replacement tires that have the same specifications with regard to tire size, design, load carrying capacity, tread pattern, tread depth etc. This also applies to Porsche recommended alternate replacement tires. If you do not use a Porsche recommended replacement tire, make sure that you purchase your new tires from a reputable

the ply with all its consequences or, tire damage caused by thermal or mechanical overloading due to a loss of pressure or any other prior damage, we recommend that the tire be replaced for safety reasons.

If one faulty tire on an axle is replaced it should be noted that the difference in tread depth on one axle must not be more than 30%.

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

When replacing tubeless tires, always install new valve stems.

When replacing tires requiring an inner tube, always install new tubes.

New tires do not possess maximum traction. They tend to be slippery. Break new tires in by driving at moderate speed for the first 60-120 miles or 100-200 kilometers.

Wheel balancing

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

When balancing light alloy wheels, use only adhesive balancing weights supplied through the Porsche parts service.

specifications for type and year.

Removing and storing tires

The driving direction should be clearly marked on all tires. When removing them for storage, make sure they are mounted and run in the same direction as before. Store tires in a cool, dry place. Tires without rims should be stored upright! Avoid contact with grease or gasoline. When remounting, put tires with the most tread depth at the front.

Snow tires

For a better grip on snow, use radial M + S tires or studded tires with studs. Check with your local Motor Vehicle Bureau for possible restrictions.

Radial ply M+S tires should be inflated with the same cold inflation pressures required for the regular radial ply tires. However, do not exceed the maximum tire inflation pressure listed on the tire sidewall. Snow tires should have the same load capacity as original equipment tires and should be mounted on all four wheels. Tires with studs should be used at moderate speeds when necessary in order to give the studs time to settle.

WARNING

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

Do not drive a vehicle equipped with snow tires at prolonged high speed. Snow tires do not have the same degree of traction on dry, wet or snowfree roads as a normal tire. Furthermore, snow tires wear rapidly under these conditions.

Snow tires do not fulfill their purpose if the tread depth is less than 5/32 in. / 4 mm. **Comply with all state and local laws governing snow tire and tread depth requirements.**

must be mounted on the drive wheels only.

Check with local authorities for possible restrictions.

Use only Porsche-approved snow chains with fine pitch links, so that enough space remains between the chains and the inside of the wheel arches.

Drive wheels must rotate freely with chains mounted to prevent damage to body, axle or brake components. Follow instructions issued by the supplier of the chains.

Remove chains as soon as roads are free of ice and snow.

manufacturers have changed their tire identification systems. SR and HR-tires pertaining to maximum permissible speed and maximum load carrying capacity for belted tires. The following is an example of a tire. During the transition period some tires might show both old and new identification codes such as: 215/60 SR 15 M+Q. In this instance, the new codes apply.

The identification codes VR tires remain unchanged for example: 205/55 VR 16 maximum permissible speed radial tires, i.e. over 130 mph (210 km/h).





Collapsible Spare Tire

The spare tire is stored underneath the luggage compartment cover.

Due to tread and space saver design features of the collapsible tire, car handling may be affected. **Therefore, do not drive more than 50 mph (80 km/h) when using the collapsible spare tire. It is for emergency use and short distances only. Remount the original road tire as soon as possible.**

Inflating the collapsible tire

WARNING

Do not overinflate your spare tire.

Inflate the collapsible tire with the electric air compressor that comes with your Porsche. Do not use other equipment!

1. Mount spare wheel before inflating the tire.

The wheel nuts for the light alloy wheels of the vehicle can be used to mount the spare wheel. This applies to emergency use and short distances only.

2. Attach hose to tire valve. Insert plug of electric cord into cigarette lighter socket.

3. The required tire pressure is 36 psi or 2.5 bar/atm (front or rear). Check pressure with tire pressure gauge.

4. Disconnect hose and electric cord and store air compressor.

5. Have flat road tire repaired and remounted on car at next service stop. Remember, **the collapsible tire is for emergency use and short distances only.**

When the air is released from the collapsible tire, it will return to its original shape after cooling down for several hours. Store collapsible tire in luggage compartment.

The collapsible spare tire cannot be repaired or mounted on the rims with standard workshop equipment. Repair and remounting must only be done by the tire manufacturer.

depth of the collapsible tire is the same as that of the original equipment tire. Replace the collapsible spare tire.

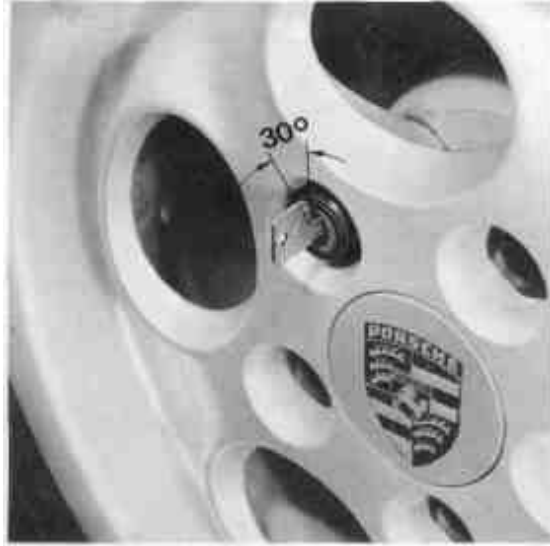
If air compressor does not work

... Check if tobacco or foreign matter is lodged in the cigarette lighter socket. Clean carefully with a wooden stick. Do not use metal objects. This may cause a short circuit.

... Check if fuse is blown. Replace with new equipment fuse.

Maintenance of air compressor

The air compressor is maintenance-free. Do not use oil or any other lubricant. The air filter should be replaced periodically to assure the efficiency of the unit.



Lockable Wheel Nuts

You can guard against wheel theft by installing lockable wheel nuts on your wheels. Each kit contains three keys and four wheel nuts with lock sleeve. The locking mechanism is identical for all four wheel nuts. When taking the vehicle to your Porsche dealer or to a workshop for wheel or tire service, remember to leave one key with the service attendant.

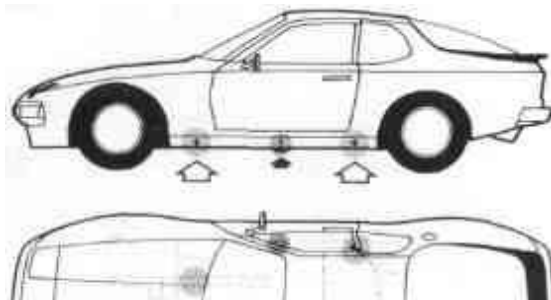
In case of loss, duplicate keys cannot be furnished by your Porsche dealer. Do not leave these keys in the vehicle. Keep them in a safe place.

To unlock a wheel

1. Remove protective plastic cap from wheel nut.
2. Insert key all the way and turn left about 30°.
3. Remove lock sleeve together with inserted key.

To lock a wheel

1. Turn the key again approximately 30° to the right and remove.
2. Push the lock onto the wheel nut until you can feel it latch.
3. Check whether the sleeve (the lock) is up against the center of the wheel nut.
4. Generally it is not necessary to balance the wheels after installing the lockable wheel nuts.



Jack support points

Black arrow: Jackport for car jack
 White arrows: Lift points for workshop hoist or floor jack

front on the inboard side members

rear on the side reinforcement brackets

Jacking at any other place may damage

the vehicle or may result in personal injuries.

Changing a Tire

WARNING - Failure to follow these instructions may result in serious personal injuries to you or to bystanders.

- **If you have a flat tire, move a safe distance off the road. Turn the emergency flasher on and use other warning devices to alert other motorists.**
- **Passengers must not remain in the vehicle when it is jacked up.**
- **Before you change a tire, be sure the ground is level and firm. If necessary, use a board under the jack to ensure that the jack does not sink into the ground.**
- **Set the parking brake and block the wheels opposite the flat tire on the other side of the vehicle.**
- **The jack is only to be used for changing**

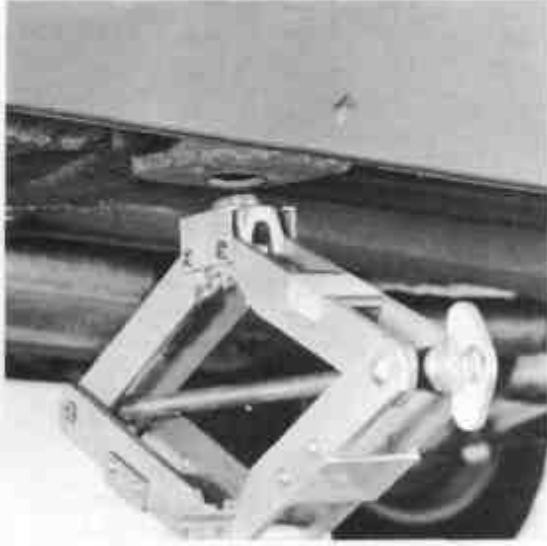
a tire. Do not use it as a support to work under the car.

- **Never jack the car up by the body or the bumpers.**

Sequence of operations:

1. Loosen all wheel nuts. Do not yet remove nuts.
2. Securely place the jack in the jack support at the indicated point. Place the jack at an angle so that the jack base rests firmly on the ground. If the ground is not firm under the jack, use a board.
3. Raise the car by turning the handle clockwise. Only raise the car as much as is needed to change a wheel.
4. Fully unscrew wheel nuts and remove wheel.

5. After you have moved the spare wheel, insert the spare wheel nuts and handtighten them crosswise. Snug wheel nuts with the socket wrench and breaker bar.
 6. To lower the car, turn the handle counterclockwise until the jack touches ground.
 7. Then go crosswise from one nut to another tightening them firmly with the socket wrench and breaker bar.
 8. Fully lower the vehicle and remove jack.
 9. Correct the air pressure in the tire you have just put on. After the flat tire repaired at next stop.
- Correct tightness of the wheel nuts is important. The correct torque (94 ft lb (130 Nm) can be obtained with a socket wrench and breaker bar by a person of average strength. If you are unsure about the correct tightness of the wheel nuts, have it checked with a torque wrench by your dealer or a service station.



Lifting Vehicle

The jack ports are located below the middle of the door underneath the left and right rocker panels, hidden from view.

Lifting with car jack

The car jack must never be used as a support to work underneath the vehicle. If the jack is accidentally dislodged, you could be seriously injured. When working under the vehicle always use safety stands specifically designed for this purpose.

WARNING

- **Jacking at any other place may damage the vehicle or may result in personal injuries.**

The vehicle should never be lifted or jacked up from underneath the engine oil pan, the transmission housing, or the front or rear axle. This could lead to serious damage.

Lifting with workshop hoist

Make sure there is sufficient clearance between pads and vehicle before driving vehicle onto hoist, especially if the vehicle has a large front panel or spoiler. The vehicle must be lifted only at the lift points illustrated.

The front lift points are located on the inboard side members of the underbody.

The rear lift points are located on the side reinforcement brackets of the underbody.

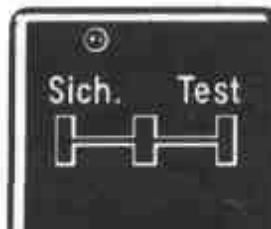
Take care to avoid damaged components which are not lift points.

WARNING

When removing components such as engine block, transmission, fuel tank, wheels, front or rear suspension, vehicle to hoist or add weights to maintain tension. Otherwise the vehicle will be damaged by the hoist, causing serious personal injury.

Lifting with floor jack

The same lift points as shown also apply when using a floor jack. It is also necessary to insert a wooden block between the floor jack and the lift point.



If it fails to light, the fuse is defective and must be replaced. Replace blown fuses with the correct rating and type. Replace the fuse cover. The central electrical system contains relays for various electrical switching functions. Defective relays should be tested and replaced if necessary.

by an authorized
dealer.
To prevent damage to the
electrical system, we
recommend that you do not
work - including the
installation of electrical
accessories - on the vehicle
by your authorized
Porsche dealer.

Fuses and Relays

The individual circuits are protected by fuses to prevent damage to electrical leads and components due to short-circuits and overload.

The fuse box with a black plastic cover is located on the left side in the engine compartment directly in front of pivot point for left windshield washer arm.

The use of the fuses and relays is shown in a list on the inside of the cover of the fuses and relays.

Replacing a Fuse

Before replacing a fuse, turn off all electrical components and the ignition; remove

the key. Replacing a fuse or relay with the engine running or the ignition on could cause electrical shock.

A blown fuse indicates an overload in the circuit. When a fuse is blown it is not sufficient to merely replace it. The cause of the short circuit or overload must be located. **Fuses should never be patched up with tin foil or wire as this may cause serious damage elsewhere in the electrical circuit.**

Open snap-on latches and remove plastic cover.

To find out whether a fuse is serviceable, pull it out with the plastic pliers specifically provided for this purpose. Insert the fuse at the test point on relay (G 3). If the fuse is in proper condition, the green indicator light will come on.

Loudspeakers

When installing a
booster amplifier,
ensure that the output
power is compatible with
the capacity of the
loudspeakers
with the vehicle.
Rated capacity
(Sinus)
Front Rear
2x10 2x10
HiFi Audio Pa
25 2 x 25

Battery-12 Volt

The battery is located under the front hood in the cowl area.

A replacement battery should always have the same rating as the original equipment battery. Specifications are printed on the battery housing.

Before work is done on the electrical system, the battery must be disconnected to prevent short circuiting. First disconnect the negative ground wire and then the positive cable. To reconnect battery, reverse the procedure.

Disconnecting the battery while the engine is running will damage the alternator. This also applies to cars equipped with a battery main switch.

disconnected battery as this will damage the alternator.

WARNING

- **Do not lay tools or other metal objects on the battery as they could cause a short circuit across the battery terminals.**

- **Do not expose the battery to an open flame or electric spark. Hydrogen gas generated by the battery is explosive.**

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

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

- **Spilled electrolyte must be rinsed off at once with a solution of water and baking soda to neutralize the acid and prevent damage to fabric and metal.**

Checking the electrolyte fluid level

The electrolyte fluid level in your battery can be checked by unscrewing and opening the filler vent caps of **each** cell. The fluid level should meet the indicator mark in each cell. If necessary, top off with distilled water.

How often water must be added depends on operating conditions and on the time of year.

Generally, the electrolyte level must be checked more often in the summer than in the winter, and more often when driving long distances.

Only fill up to mark, otherwise the electrolyte will overflow when the battery is being charged and cause damage.

Battery care

- Battery should be securely mounted

- Terminals and connections should be kept clean and properly tightened. Corrosion can be prevented by coating terminals and connections with petroleum jelly or silicone spray.

- Vent caps must be securely tightened to prevent spillage.

Winter operation

During the winter months, battery capacity tends to decrease as temperatures drop. Additionally, more power is consumed while starting, and the headlights, heater, rear window defogger, etc., are used more frequently. Curtail unnecessary power consumption, particularly in traffic or when travelling short distances only. Let your Porsche dealer test the battery's capacity before winter sets in. A well-charged battery will not only prevent starting problems but will also live longer.

Battery charging

Automotive batteries lose their efficiency when not in use. The charge available in your battery can be measured with a hydrometer. We recommend that battery voltage be tested by your Porsche dealer who has the appropriate equipment. If your car is not driven for prolonged periods, the battery

weeks. A discharged battery allows rapid formation of sulfates, leading to premature deterioration of the plates.

WARNING

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

• **Electrolyte fluid that may spill during charging should be washed off with a solution of warm water and baking soda to neutralize the acid.**

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

• **Never charge a frozen battery. It may explode because of gas trapped in the ice. Allow a frozen battery to thaw out first.**

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

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

Slow battery charging

WARNING

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

• **Disconnect battery cables and remove the battery.**

• **All vent caps should be open. If fluid level is low, it should be topped up to the full mark in each cell.**

• **Connect charger cables.**

Charger cables must be connected POSITIVE (+) to POSITIVE (+) and NEGATIVE (-) to NEGATIVE (-).

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

• **Switch on charger.**

• **Normally, a battery should be charged at no more than 10 percent of its rated capacity. Rated capacity of the battery in your vehicle is listed on the battery housing.**

• **After charging, turn off charger and disconnect charger cables.**

• **Tighten the vent caps and reinstall battery.**

**Emergency Starting
with Jumper Cables**

**How to use jumper cables
WARNING**

• **To avoid serious personal injury and damage to the**

7. **Reconnect ground cable of booster battery.**



WARNING

- Improper use of booster battery to start a vehicle may cause an explosion.
- Lead-acid batteries generate explosive gases. Keep sparks, flame and lighted cigarettes away from batteries.
- Do not charge a frozen battery, thaw it out first. Gas trapped in the ice may cause an explosion.
- No attempt should be made to jump start any vehicle with a low electrolyte level in the battery.
- Check electrolyte level of each cell. If necessary, fill with distilled water to just above plates.
- Make sure the voltage of both batteries is the same.
- The capacity (Ah) of the booster battery should not be lower than that of the discharged battery.
- Vehicle with discharged battery: turn off lights and accessories, remove key, move lever to N or P and set parking brake.
- Vehicle with booster battery should not be running. Disconnect ground cable.
- Remove vent caps from booster battery and discharged battery. Preferably lay a cloth over open vents to reduce explosion hazard.

vehicle, heed all warnings and instructions of the jumper cable manufacturer.

- The jumper cables must be long enough so that neither vehicles nor cables touch another.

Improper hook-up of jumper cables can ruin the alternator. Always connect **POSITIVE (+)** to **POSITIVE (+)**, and **NEGATIVE (-)** to ground on engine block.

1. Connect clamp of plus-cable to positive (+) terminal of discharged battery (1).
2. Connect clamp on opposite end of cable to positive (+) terminal of booster battery (2).
3. Connect clamp of minus-cable to negative (-) terminal of booster battery (3).
4. Connect clamp on opposite end of cable to a bare metal part bolted directly to the engine block or to the engine block itself (x) of car with discharged battery. Connect clamp as far away from battery as possible.
5. Start engine in the usual manner. If engine fails to start, do not continue to crank but contact nearest workshop.
6. With engine running, remove jumper cables from both cars in exact reverse order: Steps 4 through 1.

A - Discharged Battery

B - Booster Battery

Do not try to start car by pushing or towing. Damage to the catalytic converter, the transmission, and/or other components of the car may result.



To avoid short circuits, turn off the respective electrical components when changing light bulbs.

Keep bulbs free of grease and dirt. Hold them only with a clean cloth or soft paper. Do not use chemical cleaning agents on the plastic lenses. Plastic lenses should only be cleaned with water or a mild soap/ water solution.

We recommend that you have an assortment of spare bulbs in the car. When traveling abroad don't forget that some countries require spare bulbs as part of the safety equipment.

Front - Turn Signal Lights / Parking Lights

1. Remove the Phillips screws from lamp lens and remove lens.
2. Push bulb into holder and twist to the left (bayonet mount).
3. Remove bulb.
4. Insert new bulb and turn to the right so that it snaps into position.

5. Install lamp lens and tighten the screws evenly, alternating from one to the other. **Do not overtighten screws or they may crack the lens.**
 6. Check lights.
-



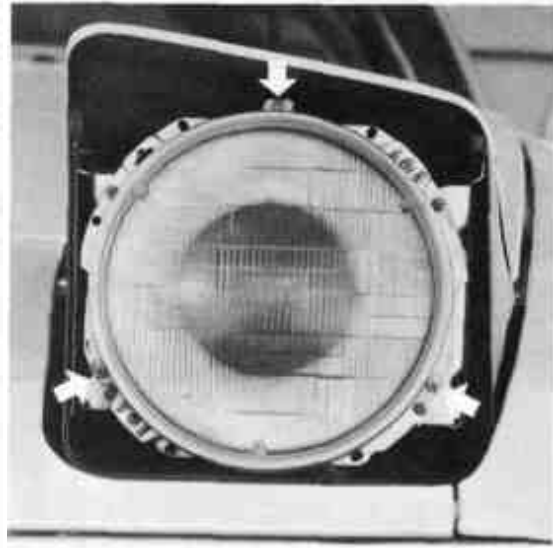
**Rear - Turn Signal Lights /
Stop Lights / Parking Lights /
Back-up Lights**

1. Open hatchback and unsnap carpeting.
2. Remove knurled nut and take off bulb holder
3. Press defective bulb into socket and turn to left (bayonet mount). Discard bulb.
4. Press new bulb into socket, turn to right until it snaps into position.
5. Install bulb holder and tighten knurled nut.
6. Snap carpeting back in place.

Side Marker Lights

To change the bulb, open the flap at the front of the plastic shell beneath the fender. The rear housing is in the stowage well beneath the mat.

1. Unscrew knurled nut and remove the plastic cover.
2. Unclip lamp socket (arrow), remove defective bulb and fit replacement (bayonet mount).
3. Clip socket into place and refit plastic cover.
4. Check that light is functioning correctly.



Sealed Beam Headlights Replacing light units

1. Turn on the ignition and depress light switch to the second stop to raise the concealed headlights. Then turn off the ignition.
2. Remove Phillips screw from headlight trim (arrow), take off the plastic cover.
3. Remove only the three recessed screws (arrows) which secure the lamp unit retaining ring, remove retaining ring, and take out sealed beam unit.
4. Disconnect plug from rear of unit.
5. Attach plug to rear of new unit.

6. Insert sealed beam unit and retaining ring, tighten hold-down screws.

7. Check headlight adjustment.

8. Install headlight trim and tighten retaining screw.

Adjusting Headlights

Headlight adjustment should be done with a headlight aiming device under the following conditions:

At curb weight of car (i. e. car ready for use and with full fuel tank).

Driver's seat should be adjusted for a person

or a weight of approximately 150 lbs.

Tire pressure must be correct.

Roll car forward a few feet.

Adjust suspension seeks its normal position.

Headlight adjustment

Screw "A" (lateral adjustment)

right turn = beam moves right

left turn = beam moves left

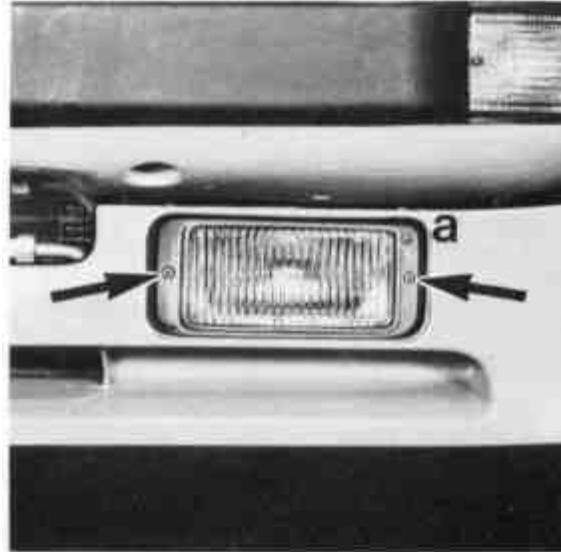
Screw "B" (vertical adjustment)

right turn = beam moves up

left turn = beam moves down



944-Turbo



944 / 944 S

Fog Lights

On the 944 Turbo, before adjusting or removing the fog lamp unit, loosen the transparent side parts which are secured with Phillips-head screws.

1. Loosen the Phillips screws (arrows) and pull out the entire light unit.
2. Pull out cable connector plug and un-snap holding clamps.
3. Replace defective bulb. Be sure the new bulb is installed correctly.

4. Refasten holding cable connection.
5. Reinstall light unit and screws securely.

Screw "a" (vertical)

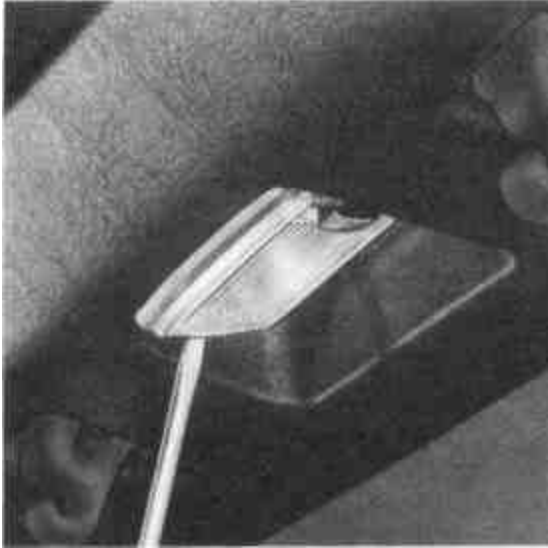


944-Turbo



944-Turbo

6. Check functioning of light and whether light beam is aimed correctly.
Replace the transparent side parts (944-Turbo)
Screw "a" (vertical adjustment)
right turn = beam moves down
left turn = beam moves up



Interior Light

1. Carefully insert small screwdriver at cutout and pry out the whole lamphousing.

Note: When removing lamp, retaining clip may fall out.

2. Remove defective bulb between contact springs and insert new bulb.

3. Insert one side of the light firmly back into the housing cut-out and press on the other side. Light unit will snap in place.

Ashtray Light

1. Remove ashtray by pulling it up.

2. Push • lamp holder with bulb out of support (towards the front).

3. Replace defective bulb with new bulb.

4. Check bulb for operation with lights turned on.

5. Reinstall ashtray so that light "window" points toward bulb on left side of well.

License Plate Light

1. Open hatchback, un

2. Remove screws and

3. Replace defective b

holder. Check for prop

4. Snap carpeting back



Manual Operation of Retractable Headlights

If the retractable headlights do not open, they can be operated manually by turning the knob on the end of the motor drive shaft located in the front of the engine compartment. The connecting rod assembly is designed in such a way that it need only be turned to the left to either close or open the headlights.

WARNING

- Do not turn the knob on the motor drive shaft as long as the automatic mechanism is operating.
- The motor may turn suddenly and cause injury. Before turning the knob, check first whether the headlights will work by turning the ignition and by depressing the light switch to the stop position.

In the Interest of Clean Air

Pollution of our environment has become a problem that is of increasing concern to all of us. We urge you to join us in our efforts for cleaner air in controlling the pollutants emitted from the automobile. Porsche has developed an emission control system that controls or reduces those parts of the emission that can be harmful to our environment. Your Porsche is equipped with such a system. Porsche warrants the Emission Control System in your new car under the terms and conditions set forth in the Warranty & Maintenance booklet. You, as the owner of the vehicle, have the responsibility to provide regular maintenance service for the vehicle and to keep a record of all maintenance work performed. To facilitate record keeping, have the service performed by authorized Porsche dealers. They have Porsche trained mechanics and special tools to provide fast, efficient service.

WARNING

To assure efficient operation of the Emission Control System:

- **Have your vehicle maintained properly and in accordance with the recommendations described in your Warranty & Maintenance booklet. Lack of proper maintenance, as well as improper use of the vehicle, will impair the function of the emission control system and could lead to damage.**
- **Do not alter or remove any component of the emission control system unless approved by the manufacturer.**
- **Do not alter or remove any device, such as heat shields, switches, ignition wires, valves, etc., which are designed to protect your vehicle's emission control system.**
- **Do not continue to operate your vehicle if you detect engine misfire or other unusual operating conditions.**

Starting

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

Parking

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

Undercoating

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

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

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

To reduce these pollutants, your Porsche is equipped with a precisely calibrated fuel injection system to assure a finely balanced air/fuel mixture under all operating conditions.

exhaust pipe continuously senses the oxygen content of the exhaust and signals the information to an electronic control unit. The control unit corrects the air/fuel ratio, so that the engine always receives an accurately metered air fuel mixture.

Crankcase Ventilation

Through Crankcase Ventilation undesirable emissions from the engine crankcase are not permitted to reach the outside atmosphere. These emissions are recirculated from the crankcase to the air intake system. From here the emissions mix with the intake air and are later burned in the engine.

Catalytic converter

The catalytic converter is an efficient "cleanup" device built into the exhaust system of the vehicle. The catalytic converter burns the undesirable pollutants in the exhaust gas before it is released into the atmosphere.

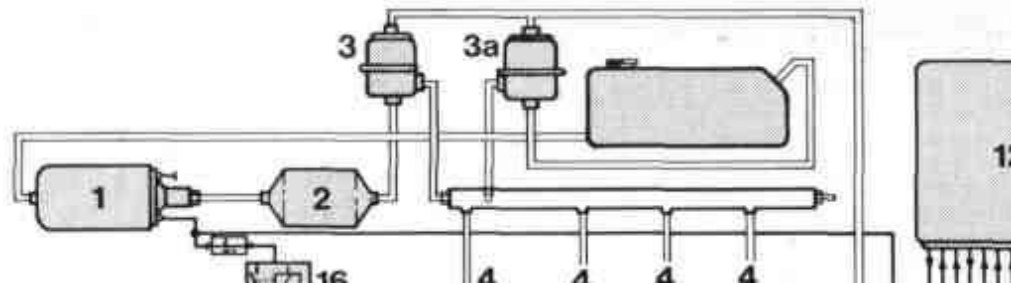
The exclusive use of unleaded fuel is critically important to the life of the catalytic converter. Therefore, only unleaded gasoline without additives must be used. The catalytic converter will be damaged by

- push or tow starting your vehicle
- misfiring of the engine
- turning off the ignition while the vehicle is moving or
- by other unusual operating conditions.

Do not continue to operate your vehicle under these conditions as otherwise fuel can reach the catalytic converter. This will result in overheating of the converter.

Federal law prohibits use of leaded gasoline in this car. The Emission Control System and its other related components are illustrated and described on the following pages.

Emission Control System



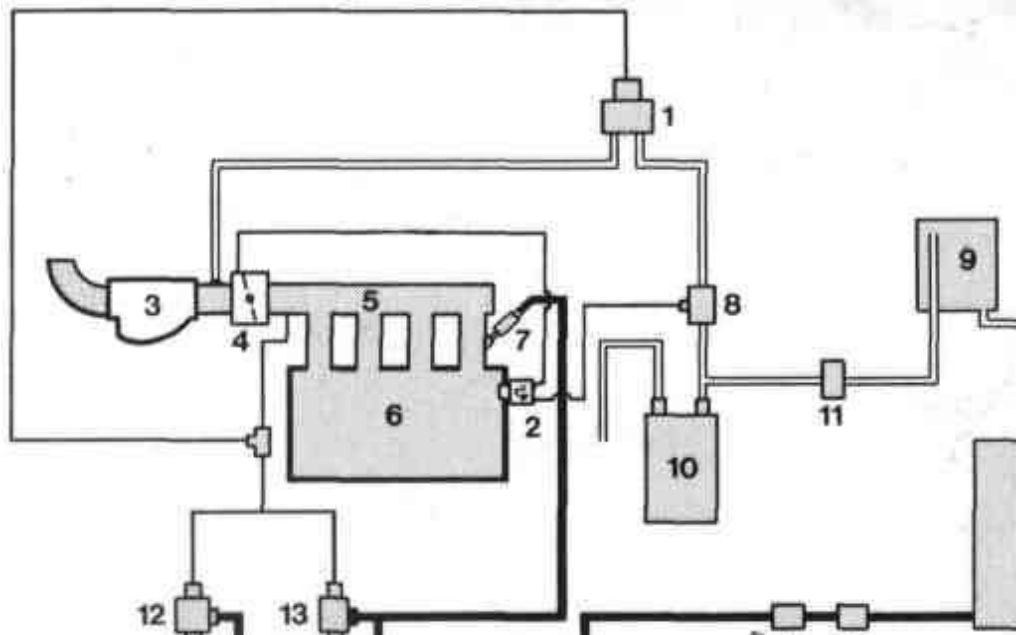
- 1 Fuel pump
- 2 Fuel filter
- 3 Pressure damper
- 3a Pressure regulator
- 4 Injector
- 5 Auxiliary air valve
- 6 Air flow meter
- 7 Throttle valve switch
- 8 Temperature sensor
- 9 Engine temperature sensor
- 10 Speed sensor
- 11 Reference mark sensor (TDC)
- 12 Control unit
- 13 Ring gear
- 14 Ignition coil
- 15 Distributor
- 16 Relay (fuel pump / control unit)
- 17 Oxygen sensor
- 18 Catalytic converter
- 19 Muffler

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Fuel Evaporation Control

Fuel Tank Venting

The expansion chamber and the roll over valve prevent fuel from escaping to the outside at extreme high outside temperatures and when the car is driven or parked at an incline or in any other nonlevel position. The safety valve works as a restrictor in the tank



vent line between the expansion chamber and the canister.

Vapor Control System and Storage

When the fuel tank is filled, vapors are collected in the expansion chamber and filler tube by a vent line leading the vapors via a roll over valve to the activated carbon canister where they are stored as long as the engine does not run. During engine operation, the vapors are stored in the activated carbon canister as long as the control valve I (ON/OFF valve) is in the OFF-position.

The control valve I stops purging of the canister during all other operating conditions of the engine if the coolant temperature of the engine is below a defined temperature.

Purge System

Fuel vapors from the carbon canister will be mixed with fresh air taken from the ambient

1 Control valve II
2 Temperature switch
3 Air flow meter
4 Throttle valve
5 Intake manifold
6 Engine
7 Injection valve
8 Control valve I (ON/OFF)

9 Expansion chamber
10 Charcoal canister
11 Roll over valve
12 Pressure regulator

13 Pressure damper
14 Fuel filter
15 Fuel pump
16 Fuel tank

of the carbon canister or fuel vapors from the fuel tank. The vapors will be directed via a control valve I and control valve II to the air intake system housing. The control valve I has the following functions:

To stop purging of the canister (the rich vapor flow from the canister would influence the mixture characteristic).
To allow purging of the canister under other operating conditions of the engine. The control valve II controls the vapor flow to the engine.

Technical Data

Engine

Number of cylinders	4
Bore	3.94 in. / 100 mm . . -
Stroke	3.11 in. / 78.9 mm
Displacement	151 cu. in. /2479cm ³
Compression ratio	9.7:1
SAE net-power	147 hp/ 110 kW at 5800 rpm
SAE net-torque	140 ft lb / 190 Nm at 3000 rpm
Output per liter	59,3 SAE net-hp / 44,4 SAE net-kW
Max. permissible rpm	6500
Fuel octane rating	Unleaded fuel only 91 RON (87 CLC or AKI ((R+M)/2) rating on fuel pumps in U.S.A.)
Spark plugs	Bosch WR 7 DC or Champion RN 9 YC
Electrode gap	0.028 + 0.004 in. / 0.7 + 0.1 mm
Battery capacity	12 volts, 63 Ah
Alternator output	1610W/115A
Firing order	1-3-4-2
Ignition timing	Self-adjusting DME (Digital-Motor-Electronic)
Ignition	Transistorized ignition system with breakerless distributor
Belt for alternator	Polyrib K6 1000 Lw
Belt for servo pump	9.5 x 950 LA

Valve clearance

Hydraulic valve clearance compensation

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Engine

Number of cylinders	4
Bore	3.94 in. / 100 mm
Stroke	3.11 in. / 78.9 mm
Displacement	151 cu. in./ 2479 cm ³
Compression ratio	10.9:1
SAE net-power	188 hp/ 140 kW at 6000rpm
SAE net-torque	170 ft lb / 230 Nm at 4300 rpm
Output per liter	75.8 SAE net-hp / 56.5 SAE net-kW
Max. permissible rpm	6800
Fuel octane rating	Unleaded fuel only 95 RON (90 CLC or AKI ((R+M)/2) rating on fuel pumps in U.S.A.)
Spark plugs	Bosch WR 7 DC
Electrode gap	0.028 + 0.004 in. / 0.7 + 0.1 mm
Battery capacity	12 volts, 63 Ah
Alternator output	1610W/115A
Firing order	1-3-4-2 ' . . .
Ignition timing	Self-adjusting DME (Digital-Motor-Electronic)
Ignition	Transistorized ignition system with breakerless distributor
Belt for alternator	Polyrib K6 1000 Lw
Belt for servo pump	9.5 x 950 LA
Valve clearance	Hydraulic valve clearance compensation ""

Number of cylinders	4
Bore	3.94 in. / 100 mm
Stroke	3.11 in. / 78.9 mm
Displacement	151 cu. in. / 2479 cm ³
Compression ratio	8.0:1
SAE net-power	217 hp / 162 kW at 5800 rpm
SAE net-torque	243 ft lb / 330 Nm at 3500 rpm
Output per liter	87.5 SAE net-hp / 65.3 SAE net-kW
Max. permissible rpm	6500
Fuel octane rating	Unleaded fuel only 95 RON (90 CLC or AKI ^(R+M) /2) rating on fuel pumps in U.S.A.)
Spark plugs	Bosch WR 7 DC
Electrode gap	0.028 + 0.004 in. / 0.7 + 0.1 mm
Battery capacity	12 volts, 63 Ah
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Valve clearance	Hydraulic valve clearance compensation

Engine Design Specifications

Design	4-cylinder, in-line engine, front mount with two balance-shafts
Operating cycle	4-stroke
Lubrication	Pressure oil circulation from oil sump, full flow filter
Cylinder block	Light metal
Cylinder head	Light metal
Valve operation	Overhead camshaft (944 S: 2 overhead camshafts)
Camshaft drive	Spur belt drive
Crankshaft	Forged, 5 main bearings
Fuel injection	AFC (Air Flow Control)

Power Train

Manual transmission	Gear ratio 944	Gear ratio 944 S	Gear ratio 944 Turbo
Gear ratio 1st gear	3.600:1	3.500:1	3.500:1
2nd gear	2.125:1	2.059:1	2.059:1
3rd gear	1.458:1	1.400:1	1.400:1
4th gear	1.071:1	1.034:1	1.034:1
5th gear	0.730:1	0.829:1	0.829:1
Reverse gear	3.500:1	3.500:1	3.500:1
Axle ratio	3.889:1	3.889:1	3.375:1
Clutch	Single plate dry disc, hydraulically operated		
Power transmission	Double constant velocity joints and drive shaft		
Automatic transmission	944		
Gear ratio 1st gear	2.714:1		
2nd gear	1.500:1		
3rd gear	1.000:1		
Reverse gear	2.429:1		
Axle ratio	3.455:1		
Clutch	Hydrodynamic torque converter		

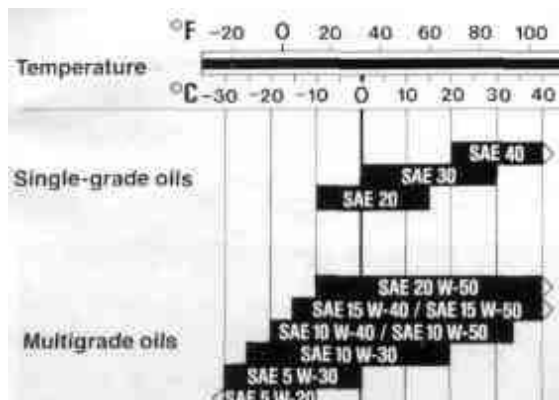
Filling Capacities

Engine oil	With filter change approx. 6.34 (Turbo: approx. 6.87) U.S. qts. or 6 (Turbo approx. 6.5) liters. Check oil level with dipstick a few minutes after engine has stopped. The difference between the max. and min. marks on the dipstick is approx. 1 U.S. qt. or 1 liter. Only use brand name oil which has been tested and approved by Porsche. Your authorized Porsche dealer will be glad to advise you.
Cooling system with heating	Porsche does not recommend the use of oil additives. See also "Engine Oil". Approx. 8,2 U.S. qts. or 7,8 liters. Factory filled to -31°F (-35°C). Only use phosphate-free anti-freeze containing ethylene glycol recommended for aluminum engines and radiators.
Manual transmission	Approx. 0.53 U.S. gal. or 2.0 liters. Use hypoid oil SAE 80 labeled "For Severe Service" API/GL4 or Mil-L 2105".
Automatic transmission with torque converter	Approx. 1.72 U.S. gal. or 6.5 liters ATF Dexron®. At oil changes 3 U.S. qts. or 2.8 liters are required.
Differential of automatic transmission	Approx. 1 U.S. qts. or 1 liter hypoid oil SAE 90 according to API classification GL 5 or Mil-L 2105 B.
Power steering	Approx. 0.63 U.S. qts. or 0.6 liter ATF Dexron®
Fuel tank	Approx. 21.1 U.S. gals, or 80 liters including a reserve of 2.1 U.S. gals, or 8 liters. Unleaded fuel only! Minimum octane rating 944 91 RON (87 CLC or AKI ((R+M)/2) rating on fuel pumps in U.S.A.), 944 S / 944 Turbo 95 RON (90

or AKI ((R+M)/2) rating on fuel pumps in U.S.A.)

Brake fluid	Approx. 0.42 U.S. pint or 0.2 liter. Only use brake fluid conforming to specifications
Windshield and headlight washer system	SAE J 1703, DOT 3 or DOT 4. Approx. 1.59 U.S. gals, or 6.0 liters.
Refrigerant for air conditioning	Approx. 33.5 oz or 950 g. Refrigerant R 12 (CCl ₂ F ₂)

Cooling system mixing chart (Approximate values)	Temp, down to	Anti-freeze	Water	Anti-freeze	Water
Anti-freeze-Water Consult your authorized dealer about the approved anti-freeze mixtures.	-13° F (-25°C)	40%	60%	3.1 liters / 3.3 U.S. qts.	4.7 liters / 5.0 U.S. qts.
	-23° F (-30° C)	45%	55%	3.5 liters / 3.7 U.S. qts.	4.3 liters / 4.5 U.S. qts.
	-31° F (-35° C)	50%	50%	3.9 liters / 4.1 U.S. qts.	3.9 liters / 4.1 U.S. qts.



If your vehicle is used frequently in stop-and-go traffic in winter, the engine will not always be properly warmed up. Condensation from products of combustion may accumulate in the oil. In this case, it is advisable to change the oil in spring so that your engine once again has a 100% efficient engine oil.

The viscosity of an oil therefore, always the same number class. E. g.: A 10 W-30 oil and a 40 oil have the same viscosity when cold (below 0°C) (at 100°C) the oil with the number 30 is thinner than with the number 40. **Single-grade/multigrade** Oils with two viscosities

Engine Oils

Use only engine oils which meet the specifications designated by PORSCHE. Your Porsche dealer will be glad to advise you on the correct type of oil for your engine. All current engine oils are compatible with each other, i. e. when making an oil change it is not necessary to flush the engine if you wish to use a different brand or grade of oil. Since, however, each brand of oil has a special composition, you should, if possible, use the same oil brand if it becomes necessary to top up between oil changes. PORSCHE engines have long intervals between oil changes. You can make best use of these long oil change intervals by using multigrade oils since these are largely independent of seasonal fluctuations in temperature. . . .

Engine oil performance class

Engine oil is not only a lubricant, but also serves to keep the engine clean, to neutralize the dirt which penetrates into the engine through combustion and to protect the engine against corrosion. To perform these functions, the oil is provided with additives which have been specially developed for these functions. So-called mineral oils are produced directly from crude oil. The oils can be further refined (hydrocrack oils) or totally converted through a number of chemical processes (synthetic oils). These oils are structurally more efficient and require fewer additives than simple mineral oils.

The efficiency of an oil is expressed, for example, by the API classifications which are divided into categories "S" and "C". The degrees of quality are expressed by final letters in alphabetical order: The requirements for PORSCHE engines are API class SE/CC to SF/CD.

Viscosity

Like all liquids, engine oil is viscous when cold, and thin-bodied when warm. The viscosity of an oil is expressed by its SAE class. For cold viscosity (measured at temperatures below 0°C) the SAE class is given as a number and the letter "W" (as in winter); for hot viscosity (measured at 100°C) the SAE class is given only as a number.

called multi-grade oils; only one viscosity are single-grade oils. Single-grade oils can only be used for the narrow temperature range identified by the number; multigrade oils cover a wider temperature range (see chart).

Fuel efficient oils

Fuel efficient oils reduce friction in the engine. Porsche approves only fuel efficient oils which are structurally such that they can be used in PORSCHE engines both in summer and winter oils. See chart of areas of application. Oils of different viscosities under different conditions are currently available by synthetic or hydrocrack efficient oils.

Tires, Rims (Rim offset 52,3 mm)	215/60 VR 15 front and rear on rims 7 J x 15 H2 or 205/55 VR 16 on 7 J x 16 H2 front and 225/50 VR 16 on 8 J x 16 H2 rear
Snow tires (Rim offset 52,3 mm)	195/65 R 15 80 Q M + S front and rear on rims 7 J x 15 H2 or 215/60 R 15 80 Q M + S front and rear on rims 7 J X 15 H2 or 205/55 R 16 80 Q M + S front and rear on rims 7 J x 16 H2 or 205/55 R 16 80 Q M + S on rims 7 J x 16 H2 front and 225/50 R 16 80 Q M + S on 8 J x 16 H2 rear The load rating and identification letter for allowable maximum speed (e.g. 80 Q/VR 15) represent minimum requirements.
Collapsible spare tire	165-15 8 PR 89 P on rim 5 ¹ / ₂ J x 15 H2 Tire pressure always 36 psi (2.5 bar/atm.), front or rear use. Maximum speed is 50 mph (80km/h).
Cold tire pressure	front 29 psi (2.0 bar), rear 36 psi (2.5 bar)
Snow chains	Should snow chains be necessary, they must be mounted on the drive wheels only. Maximum speed is 30 mph (50 km/h). Always use Porsche - approved snow chains.

Important hint:

For tires with **VR quality standard**, there are currently no final standards concerning tire strength at speeds above 80 km/h. For this reason, only use tire makes and types tested by Porsche. If you intend to use other than original equipment wheels, be sure that they conform to Porsche specifications for your model. Check with your Porsche dealer regarding the correct wheel specifications for type and model year.

Tires, Rims

Tires, Rims (Rim offset 52,3 mm)	205/55 VR 16 on rims 7 J x 16 H2 front and 225/50 VR 16 on rims 8 J x 16 H2 rear
Snow tires (Rim offset 52,3 mm)	205/55 R 16 82 Q M+S on rims 7 J x 16 H2 front and rear or 205/55 R 16 82 Q M + S on rims 7 J x 16 H2 front and 225/50 R 16 82 Q M + S on rims 8 J x 16 H2 rear The load rating and identification letter for allowable maximum speed (e.g. 82 16) represent minimum requirements.
Collapsible spare tire	165-15 8 PR 89 P on rim 5 ¹ / ₂ J x 15 H2 Tire pressure always 36 psi (2.5 bar/atm.), front or rear use. Maximum speed is 50 mph (80 km/h).
Cold tire pressure	front and rear 36 psi (2.5 bar)

Snow chains

Should snow chains be necessary, they must be mounted on the drive wheels.
Maximum speed is 30 mph (50 km/h). Always use Porsche - approved snow chains.

Important hint:

For tires with **VR quality standard**, there are currently no final standards concerning tire strength at speeds above 100 km/h. For this reason, only use tire makes and types tested by Porsche.
If you intend to use other than original equipment wheels, be sure that they conform to Porsche specifications for your model. Check with your Porsche dealer regarding the correct wheel specifications for type and model year.

Dimensions

	944 / 944 S	944 Turbo
Length	168.90 in. / 4290 mm	168.90 in. / 4290 mm
Width	68.31 in. / 1735 mm	68.31 in. / 1735mm
Height	50.20 in. / 1275 mm	50.20 in. / 1275 mm
Wheel base	94.49 in. / 2400 mm	94.49 in. / 2400 mm
Wheel track, front	58.15 in. / 1477 mm	58.15 in. / 1477 mm
Wheel track, rear	57.13 in. / 1451 mm	57.13 in. / 1451 mm
Ground clearance*	4.72 in. / 120 mm	4.72 in. / 120 mm
Tuning circle (curb to curb)	31.17 ft. / 9.5 m	31.17 ft. / 9.5 m
Tuning circle (wall to wall)	33.80 ft./ 10.3 m	33.80 ft. / 10.3 m
Overhang angle, front*	14°	12,5°
Overhang angle, rear*	15°	15°

Weights

	944	944 S	944 Turbo
Curb weight	2778 lbs. / 1260kg	2866 lbs. / 1300 kg	2998 lbs. / 1360 kg
Maximum load capacity	661 lbs. / 300 kg	661 lbs. / 300 kg	650 lbs. / 285 kg
Total permissible weight	3439 lbs. / 1560kg	3527 lbs. / 1600 kg	3626 lbs. / 1645 kg
Maximum axle load, front**	1587 lbs. / 720kg	1609 lbs. / 730kg	1675 lbs./ 760kg
Maximum axle load, rear**	1984 lbs. / 900kg	1984 lbs. / 900 kg	2028 lbs. / 920 kg
Permissible rack load**/**	165 lbs. / 75kg	165 lbs. / 75kg	165 lbs. / 75kg

* At total permissible weight. ** Do not exceed total permissible weight.

*** Applies only if the basic rack of the original Porsche Roof Transport System is used. If old type Porsche skid luggage racks are used the permissible roof weight is 35 kg (77 lbs.).

The vehicle capacity weight (max. load), the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Ratings (GAWR) for front and rear, are listed on the sticker on the left upper side member in the engine compartment.

The gross vehicle weight rating includes the weight of the basic vehicle plus full tank, oil and coolant, plus maximum load which combines passenger (150 pounds / 68 kg per designated position) and luggage weight. Luggage weight is increased by the use of roof, ski or luggage racks, unless passenger capacity is reduced accordingly.

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Wheel Alignment

Wheel camber*	Front	-20' ± 15', maximum difference left to right 20'
	Rear	-1° ± 20', maximum difference left to right 30'
Toe-in*	Front	+ 10' ± 5'
	Rear	0° ± 10', maximum difference left to right 20'
Toe angle difference*		at 20° to left and right -1° ± 20'
Caster*		2,5° + 30' - 15'

* at DIN curb weight

Brake System

Hydraulic dual circuit brake system with
front/rear brake circuits
internally ventilated disc brakes front and rear
Brake power assist
Parking brake acting on rear wheels

Chassis, Suspension

Unitized construction	
Front suspension	Independent coil/shock absorber struts, positive king-pin offset
Rear suspension	Independent - diagonal arm, one torsion bar each
Shock absorbers	Double acting hydraulic shock absorbers, front and rear
Stabilizers	Diameter - front: 20 mm (optional 21,5), Turbo: 22.5 mm or 24 x 3.7 mm rear: 14 mm or 20 mm (optional), Turbo: 18 mm

Performance*

	Manual transmission			Automatic transmission
	944	944 S	944 Turbo	944
Maximum speed	131 mph (210 km/h)	142 mph (228 km/h)	152 mph (245 km/h)	131 mph (210 km/h)
Acceleration 0-60 mph	8.3 seconds	7.7 seconds	6.1 seconds	9.8 seconds
Time at end 1/4 mile*	16.2 seconds	15.4 seconds	14.4 seconds	17.2 seconds
Time at end 1 km*	30.1 seconds	27.8 seconds	26.0 seconds	31.4 seconds

* At curb weight and half-load capacity, excluding optional equipment and accessories.

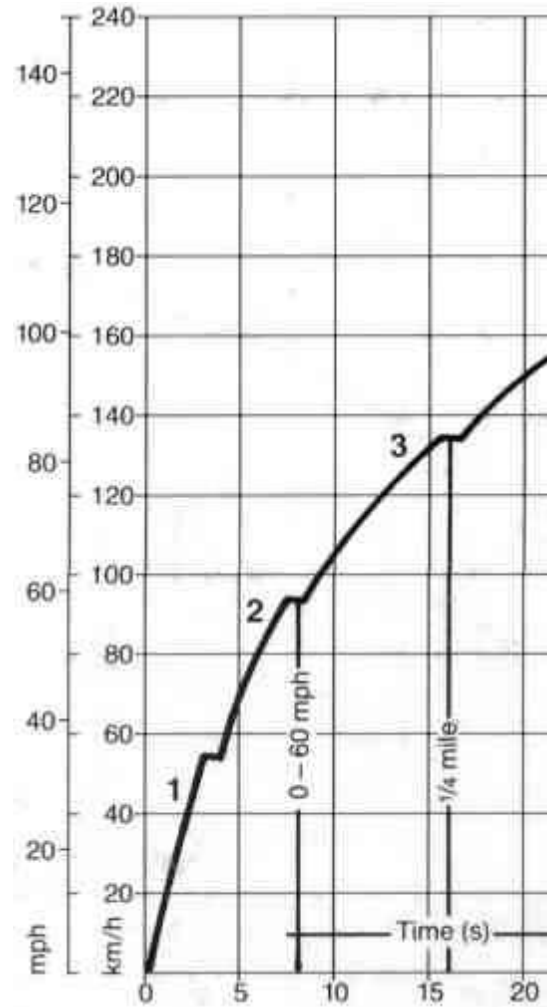
Climbing Performance

	Manual transmission			Automatic transmission
	944	944 S	944 Turbo	944
1st gear	approx. 61 %	approx. 62%	approx. 62%	approx. 36%
2nd gear	approx. 33%	approx. 36%	approx. 49%	approx. 18%
3rd gear	approx. 21 %	approx. 22%	approx. 30%	approx. 10%
4th gear	approx. 14%	approx. 14%	approx. 20%	
5th gear	approx. 8%	approx. 9%	approx. 14%	

Full-power Curves

944

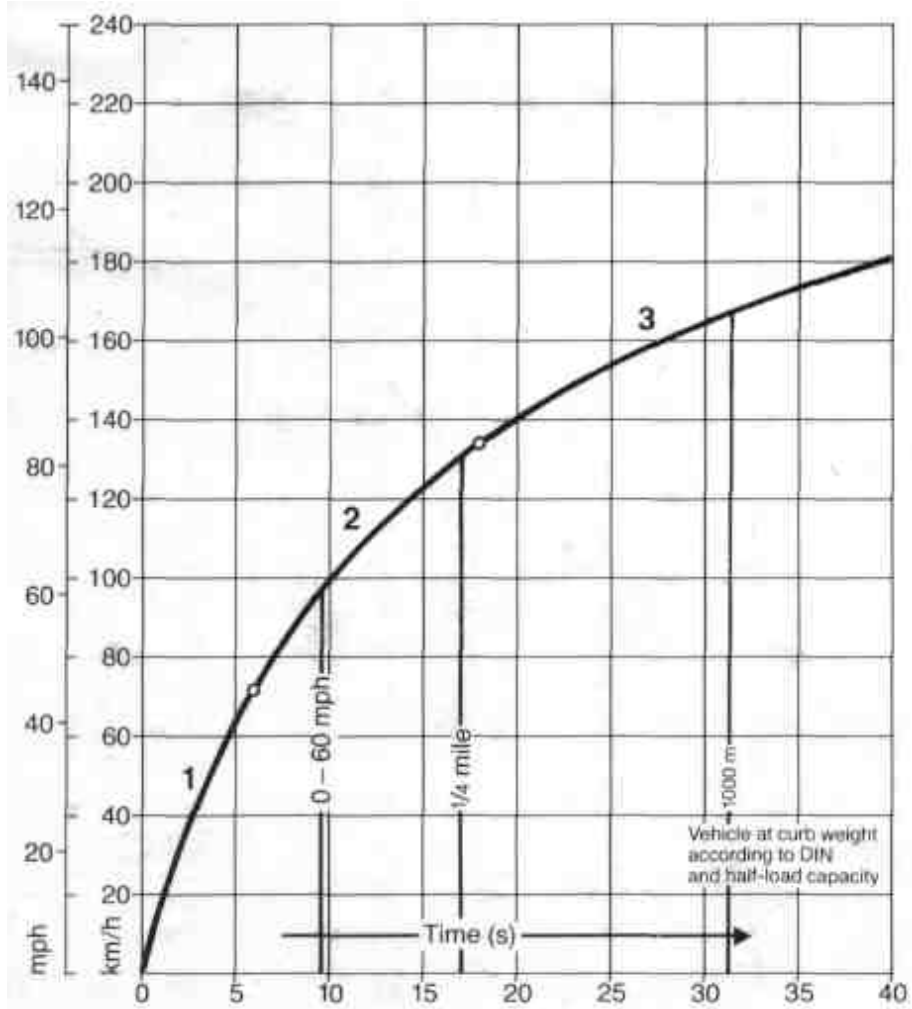
**Acceleration Curve
Manual gearbox**



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Acceleration Curve
Automatic

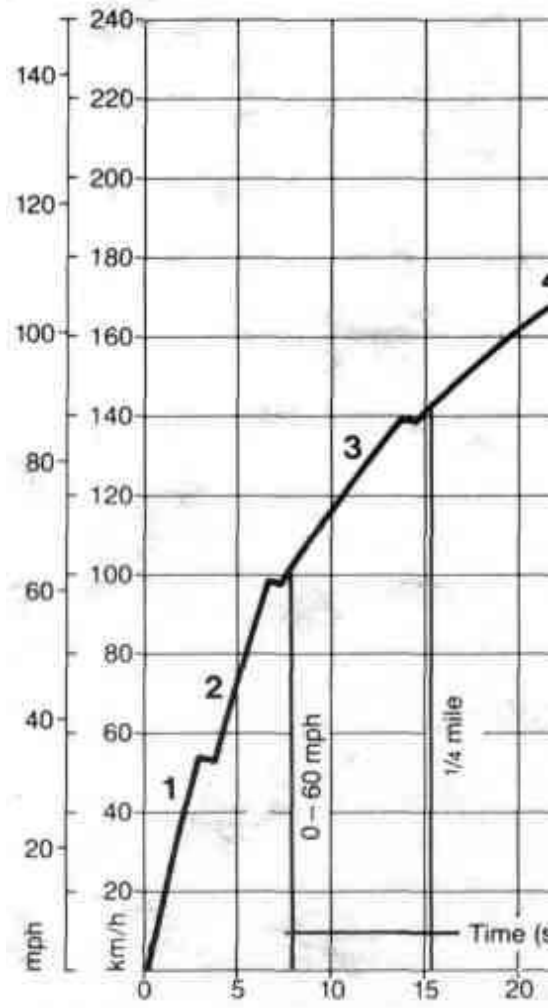
944



Full-power Curves

944S

Acceleration Curve
Manual gearbox

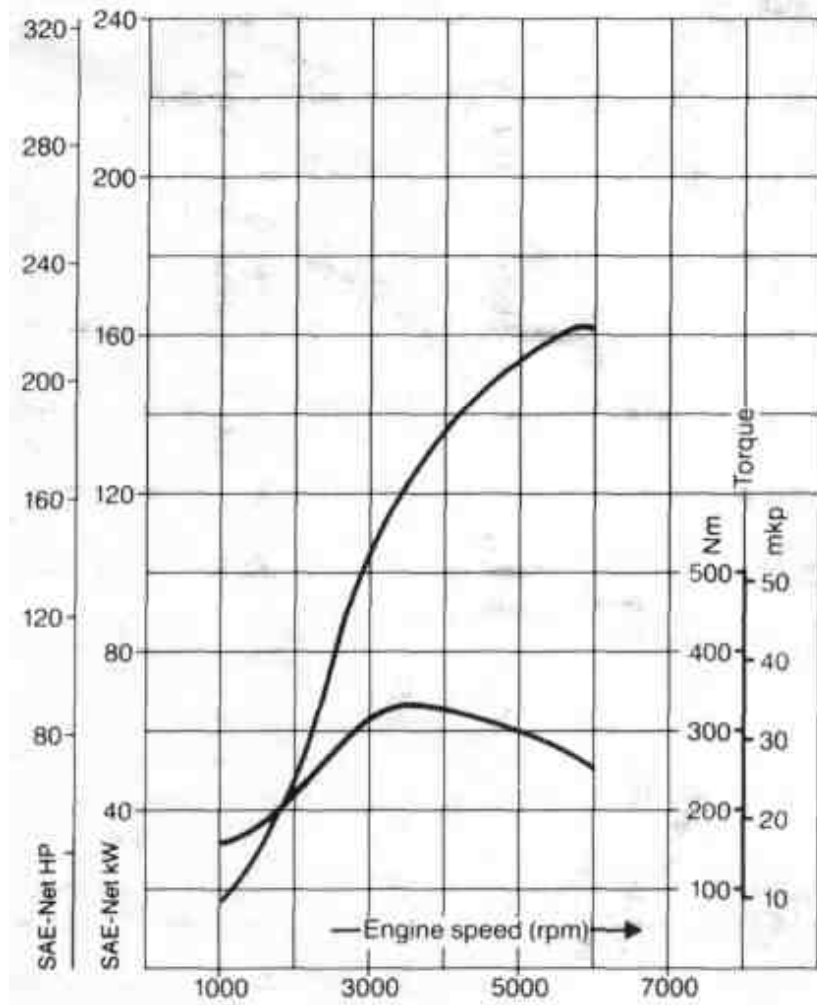


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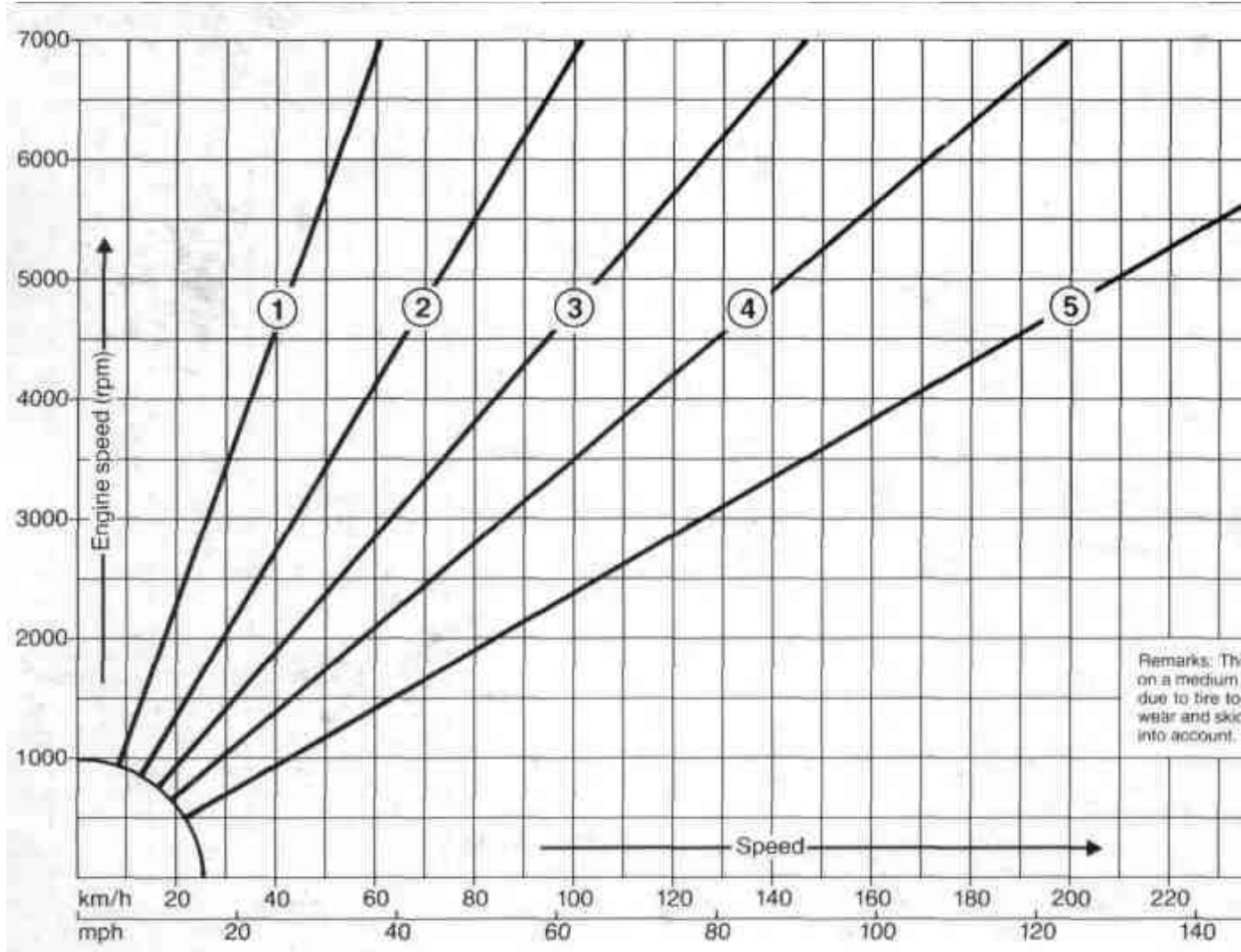
Full-power Curves

944Turbo

Acceleration Curve
Manual gearbox

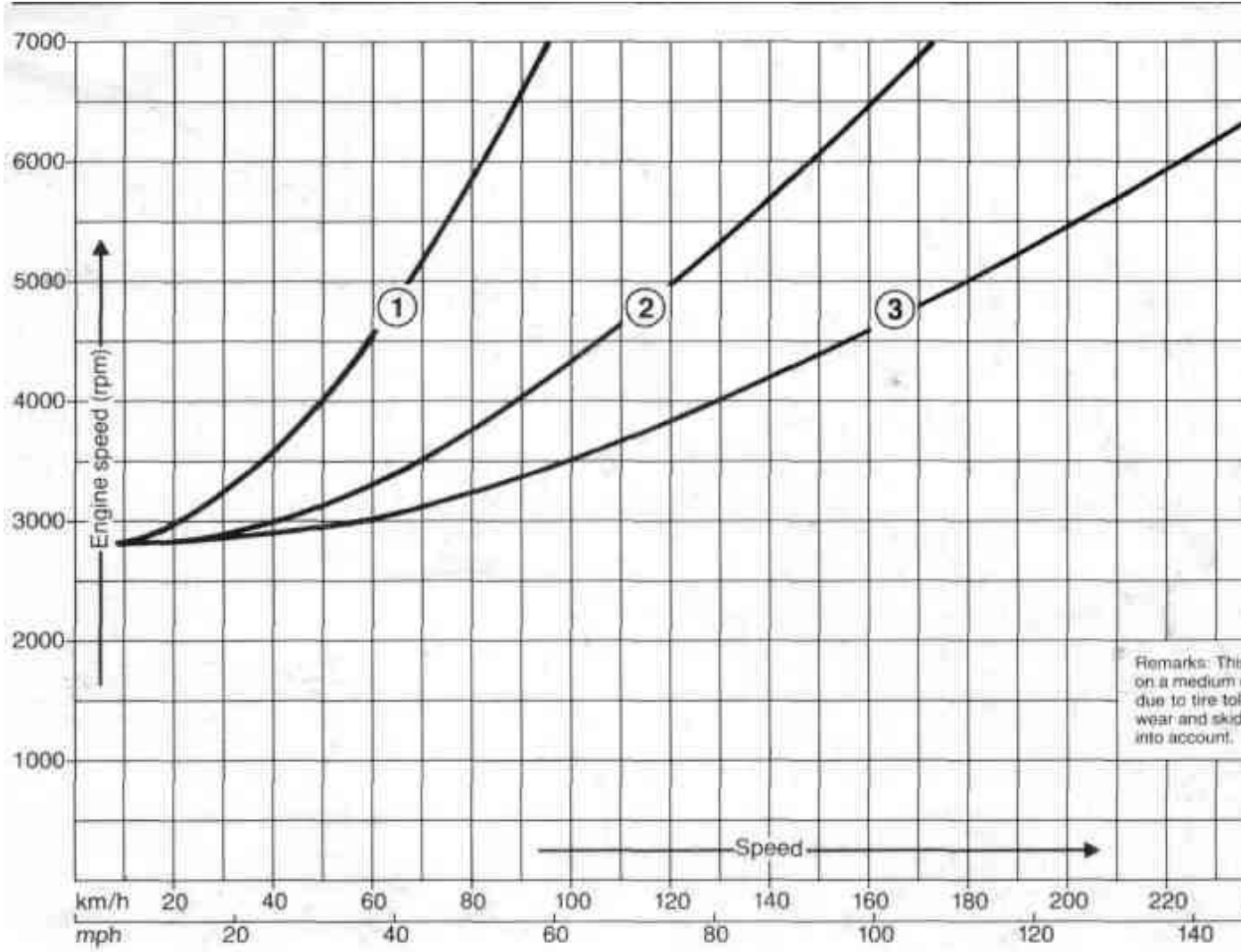


Transmission Diagram
Manual gearbox

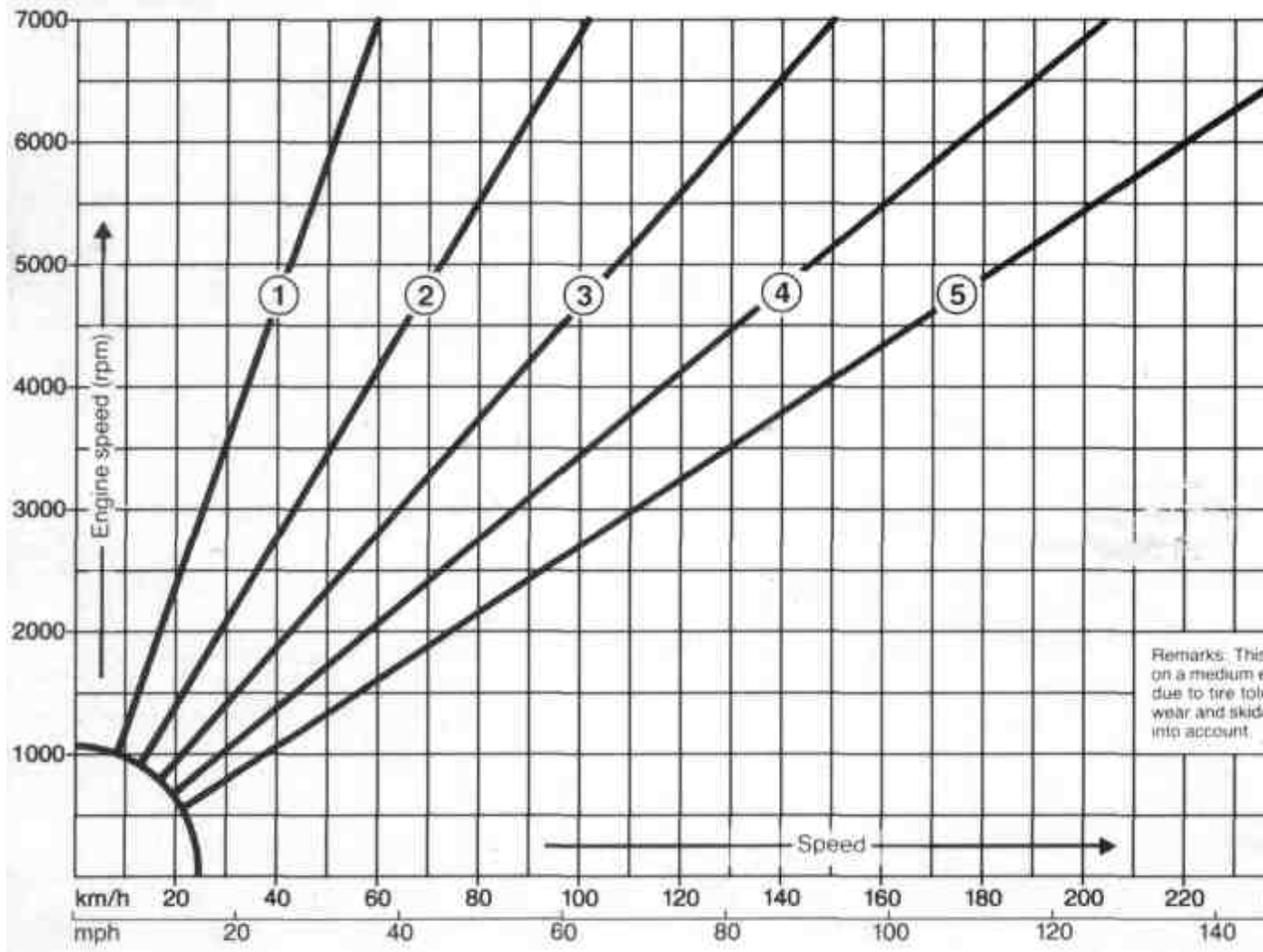


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**Transmission Diagram
Automatic**

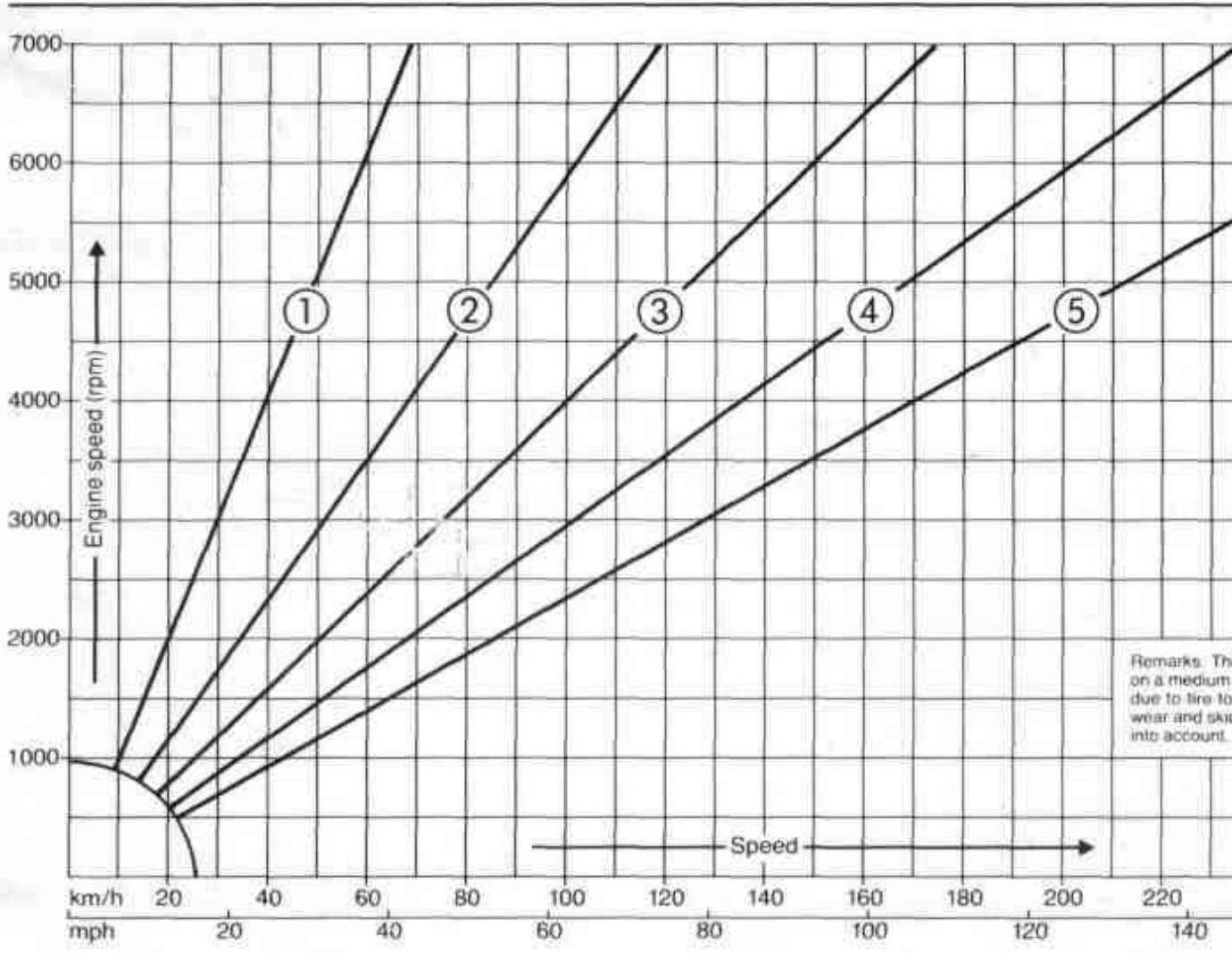


Transmission Diagram
Manual gearbox



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Transmission Diagram
Manual gearbox



Gas Station Information

Fuses and relays

The fuses are located within the central electric box at the rear left of the engine compartment in front of the pivot point for the left windshield wiper arm (under black plastic cover). **The use of the fuses and relays is shown in a list on the inside of the cover of the fuses and relays.**

Fuel recommendation

944: 91 RON (87 CL ((R+M)/2) rating on fuel in U.S.A.) minimum.
944 S / 944 Turbo: 91 CLC or AKI ((R+M)/2) fuel pumps in U.S.A.

UNLEADED FUEL ONLY

Fuel tank capacity: 21

gals, or 80 liters.
Federal law prohibits
leaded fuel in this ve

Starting

Manual transmission: Only start in Neutral, clutch pedal depressed.

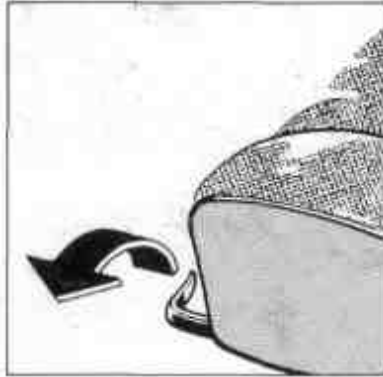
Automatic transmission: Start in Park.

Starting cold or hot engine

Just turn ignition key. No need to depress accelerator pedal.

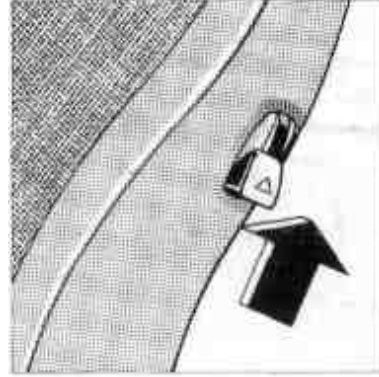
Emergency starting

Car must not be started by pushing or towing.



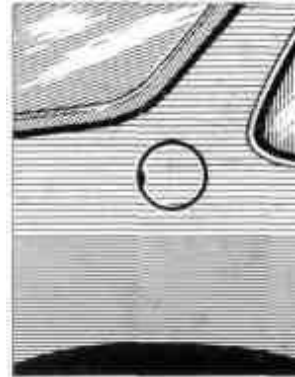
Seat adjustment

Pull lever in front of seat.



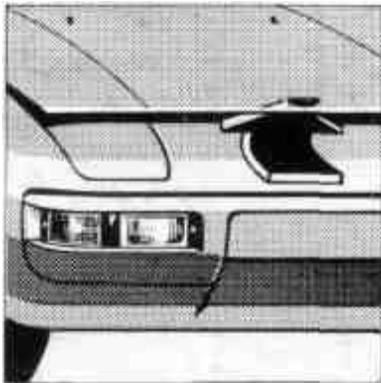
Backrest

Lift lever on side of seatback.



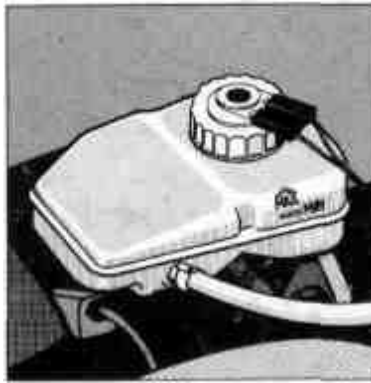
Fuel cap

Located in the right rear panel. To close, turn cap clockwise to stop.



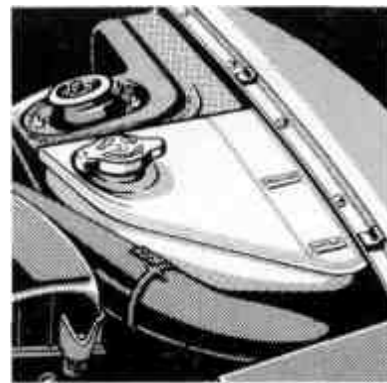
Engine hood release

Pull lever on left underneath dashboard. Disengage safety catch and lift engine hood up.



Brake fluid reservoir

Level should be between MIN and MAX marks. Only use new brake fluid



Coolant reservoir

Antifreeze must remain in cooling system all year round. Coolant level should be between 1.6 U.S. gal. or 6.



Windshield and headlight washer reservoir

Battery

In cowl area in engine compartment. Check each cell. Top up with distilled water.

Never disconnect battery while engine is running. It can ruin the alternator.

Before connecting quick-charger, battery must be disconnected.

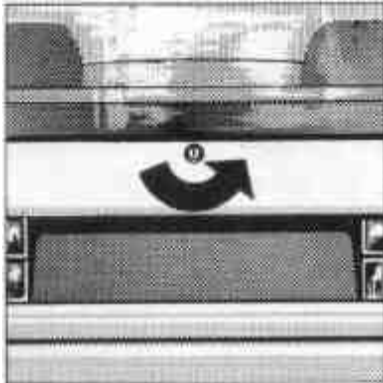
according to SAE recommendation J 1703, DOT 3 or DOT 4 and conforming to Motor Vehicle Safety Standard 116.

Do not use silicone base brake fluid (DOT 5). Even the smallest traces may cause severe corrosion in the brake system.

minimum and maximum mark when engine is cold.

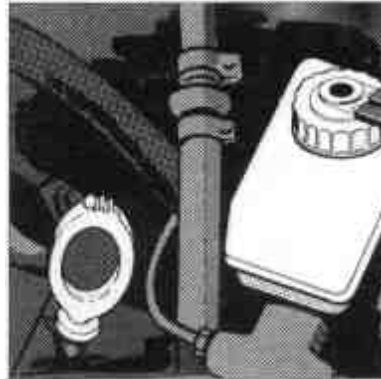
Always add antifreeze and water in ratio specified under "Filling Capacities".

Use quality antifreeze containing ethylene glycol.



Rear Lid

Unlock by turning door/ignition key counter-clockwise or operating the control switch.



Engine oil dipstick

Check oil level a few minutes after engine has stopped. Level should be between upper and lower marks on dipstick. Difference between marks is approx. 1 U.S. qt. or 1 liter.

WARNING

Before checking anything in the engine compartment, let the

Engine oil

Always use quality oil labeled "API" **SE or SF**. Details under "Engine Oil". With filter change approx. 6.34 U.S. qts (liters)

944 Turbo: approx. 6.87 U.S. qts. (6.5 l) Check oil level as described on "Engine level".

Manual transmission oil with differential

Hypoid oil SAE 80 according to API classification GL 4 or Mil-L 2105.

Automatic transmission

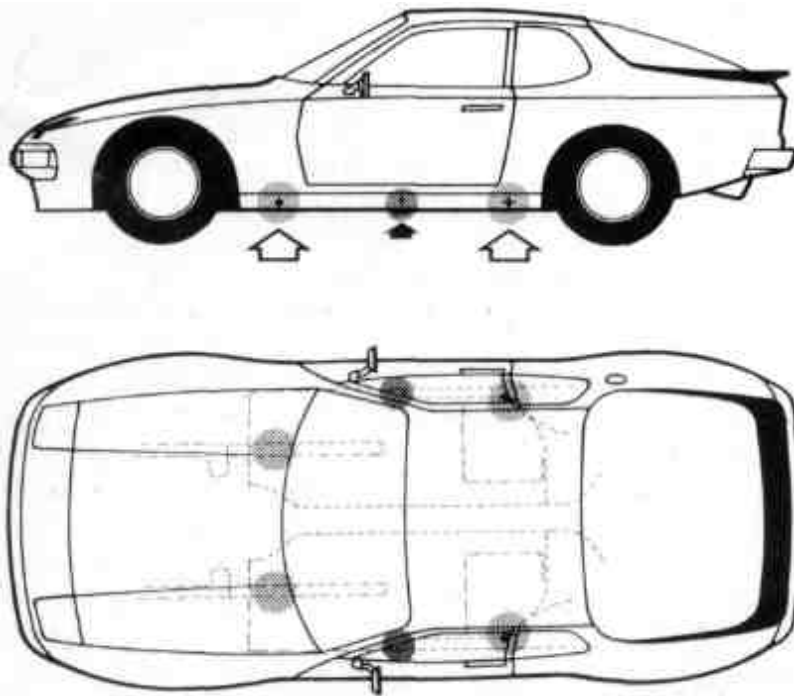
ATF lubricates torque converter and transmission. Use ATF "Dex-ron®" only. Quantity at oil change: approx. 3 U.S. qts (2.8 liters).

Check ATF level visually through transp. reservoir at rear end of transmission housing. Difference between marks approx. 1 U.S. qt. or 0.4 liter. Check ATF level when ATF warm, with engine idling, selector lever in Neutral and car on level ground.

For differential use oils API/GI 5 (or Mil-L 2105 B), viscosity SAE 90.

engine cool down. The fan blades will rotate spontaneously (even with ignition off) until coolant temperature drops.

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Jack support points

Black arrow: Jackport for car jack

White arrows: Lift points for workshop hoist floor jack

front on the inboard side member
rear on the side reinforcement brackets

Spare tire

Under luggage compartment cover

Car jack

Behind spare tire wheel well under luggage compartment cover

Use jack only to change a wheel

Never lift car by bumpers

Toolkit

In right-hand storage well beneath carpet

Tire pressure

Cold tire pressures

29 psi (2.0 bar/atm) - front

36 psi (2,5 bar/atm) - front **Turbo**

36 psi (2,5 bar/atm) - rear

Collapsible spare tire front and rear 36 psi (2,5 bar/atm)