
PORSCHE

928

OWNER'S MANUAL

MODEL '79

PORSCHE

928

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Model 1979

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NOTE TO OWNERS

In Canada, this manual is also available in French.
To obtain a copy contact your dealer or write to:

NOTE AUX PROPRIETAIRES

Au Canada on peut se procurer un exemplaire de ce
Manuel en français auprès du concessionnaire ou du:

Volkswagen Canada Ltd.
Porsche Customer Assistance/
Assistance à la Clientèle Porsche
1920 Eglinton Ave. East
Scarborough
Ontario M1L 2M2

Your car may have all or some of the components described in this manual. Should you find explanations of a feature or equipment not installed in your car, your Porsche dealer will be glad to assist you. Also check with your dealer on other available options or equipment.

Text, illustrations and specifications in this manual are based on the information available at the time of printing.

It has always been Porsche's policy to continuously make technical improvements at any time during the model year and specifications are subject to change without notice.

Judging by the car you have chosen, you are a motorist of a special breed, and you are probably no novice when it comes to automobiles.

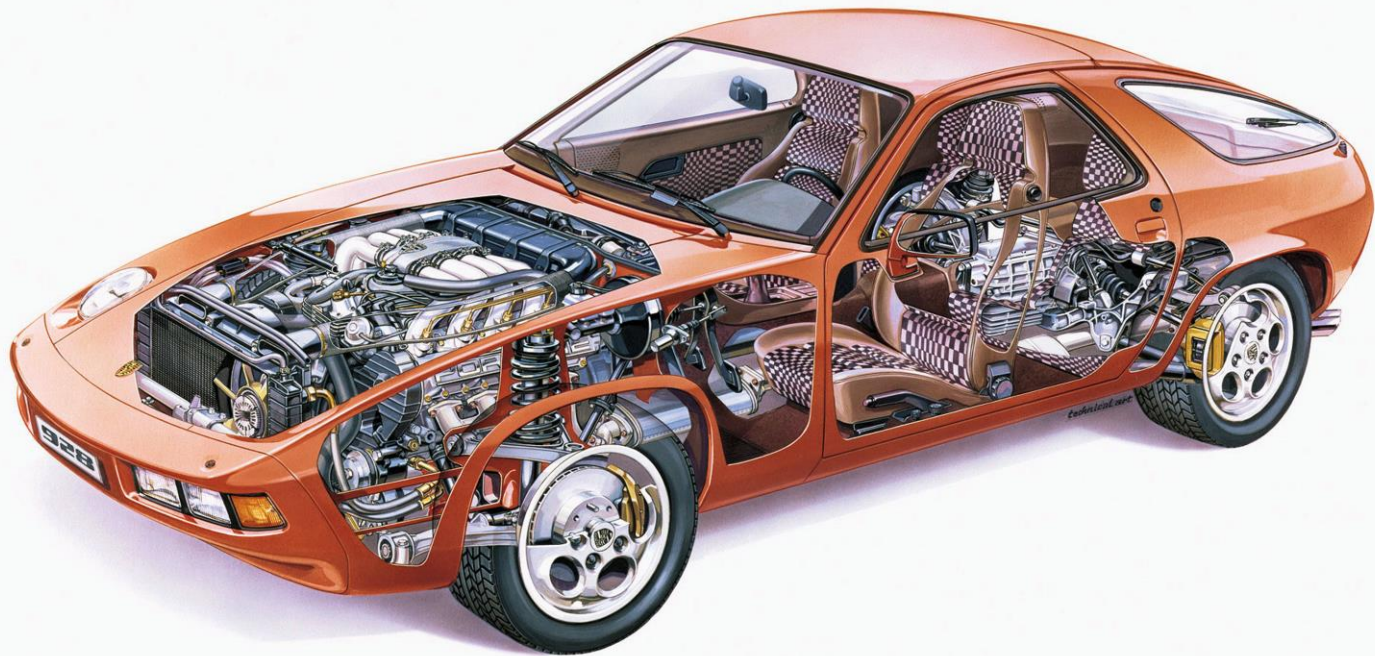
Your **Owner's Manual** contains a host of useful information. Please read this manual before you drive your new Porsche. Acquaint yourself with your car's features and know how to operate your Porsche more safely. The better you know your Porsche, the more pleasure you will experience driving your new car.

Always carry your **Warranty & Maintenance** booklet with you when you take your Porsche to an authorized dealer for service. It provides your Service Adviser with the information he needs and enables him to record each service.

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

For your own protection and longer service life of your car, please heed all operating instructions and special cautions. Ignoring them could result in serious mechanical failure or even physical injury.

PORSCHE



Index

A

Acceleration kick-down	39
Accelerator pedal	39
Adjusting headlights	67
Air compressor	57
Air conditioning	30-32
Air cleaner	55
Alternator warning light	24
Antenna	35
Antifreeze	42, 51, 79
Anti-theft alarm	10
Ashtrays/lights	29, 66
Automatic garage door	41
Automatic speed control	21
Automatic transmission	38, 39
Automatic transmission fluid (ATF)	50

B

Battery	42, 60
Brake - booster	34
- fluid	53
- pads	41
- parking	34, 39
- pedal	34
- system	77
- warning lights	23-25
Brake-in-hints	41
Bulbs - replacing	63-67
Buzzers	9, 14

C

Capacities	78
Cassette radio	35
Catalytic converter	53, 70-72
Cautions	4b
Center console	17
Central door locking	11
Central warning light system	25
Changing a wheel	58-59
Chassis number	6
Cigarette lighter	29
Cleaning	44, 45
Clutch	37
Collapsible spare tire	57
Coolant temperature gauge	23
Cooling system	51, 52, 79
Corrosion prevention	42

D

Dashboard	17
Defogging/defrosting	17, 26, 27, 30-32
Dimensions	79
Directional signals	19, 22
Doors locks	9-11, 43
Driving hints	8

E

Electrical system	60-68
Emergency flasher (HAZARD)	29
Emergency service	47
Emergency starting	39, 69
Emergency towing	69
Emission control system	71-73

Engine - compartment	46
- hood release	36
- number	6
- oil	40, 42, 48, 49, 78
- specifications	74-78

F

Fan - radiator	23
Fan switch	31
Filling capacities	78
Flasher - emergency	29
Fog lights	26, 64, 67
Fuel - economy	40
- filler cap	54
- gauge	23
- recommendations	43, 54
- tank	54, 78
Fuse panel	62
Fuses and relays	61

G

Gas station information	84-87
Gasoline - octane ratings	43, 54, 74
Gear ratios	75
Gearshifting	37
Glove boxes	9, 28, 29

H

HAZARD warning light	29
Headlights	63, 67, 68
Headlight dimmer/flasher	19
Headlight washer lever/reservoir	20, 51
Headlight switch	19
Heater/ventilation controls	30-32
Highbeam/lowbeam lever/light	19, 22
Hood release	36

I/J

Identification plates	6
Ignition/steering lock	14
Instrument cluster	12, 18
Instrument illumination	18, 19
Intensive windshield washer/ switch/reservoir	20, 55
Interior lights	11, 60
Intermittent wiper interval	20
Jack	47
Jack lifting points	58, 59

K/L

Keys	9, 10
Kickdown - acceleration	39
Lane changer	19
Lights - ashtrays	66
- fog	26, 64, 67
- interior	11, 65
- license plate	65
- parking	19, 64
- switch	19
- tail	66
- turn signal	22, 64, 65
- vanity mirror	28
- warning/indicator	22-25
Locks	9-14, 43
Loudspeaker balance control	34
Luggage compartment	12, 36

M/O

Maintenance	47
Manual transmission	37, 81
Mechanical fan	23
Mirrors	27, 28
Octane ratings	43, 54, 74, 78
Odometer	26

Oil changing/checking	48, 49
- filter	49
- grades	43, 78
- pressure gauge/warning lights	24
- transmission	50

P

Paint number	7
Parking brake lever	34
Parking lights/lever	19, 64
Performance	77
Polishing	44, 45
Power antenna	35
Power steering fluid	55
Power windows	10, 17
Pressure - tires	56, 76

R

Radiator fan	23, 46, 51
Radio	35
Rear seats	12
Rear window defogger/defroster	26
Rear window wiper switch	26
Rear view mirrors	27

S

Safe driving hints	7, 8
Safety belts	15, 16
Safety belt warning light	29
Seats, front/rear/electric	12, 13
Selector lever	38, 39
Shift points	37
Sliding roof - electric	33
Spare tire - collapsible	57
Specifications - engine	74-77
Speed control - automatic	21
Speedometer	22

Starting hints/engine	14, 40
Steering lock	9, 12-14
Sun visors	28

T

Tachometer	22
Technical data	74-83
Tires	41, 42
Tire size/pressure	56, 76
Tool kit	47
Towing	39, 69
Transmission	37-39, 50, 75
Trip odometer	26
Turn signal lights/lever	19, 22, 64, 65

U

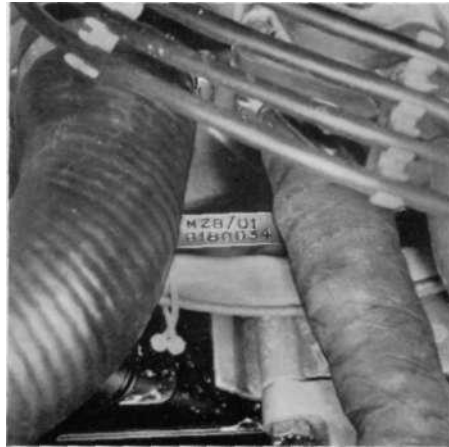
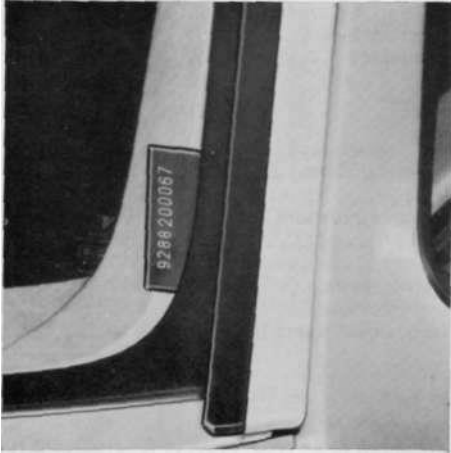
Undercoating	42
Unleaded fuel	43, 54, 70
Upholstery, care of	43, 44

V

Vanity mirror	28
Vehicle identification	6
Ventilation/heater controls	30-31
Voltmeter	24

W

Warning/indicator lights	22-25
Washer system	20, 51, 55
Weights	76
Wheels	42, 56, 76
Wheel changing	58, 59
Window switches	11, 17
Windshield washer reservoir	51
Windshield/wiper washer lever	20
Winter operation	32, 42, 43



Location of Chassis Serial Number, Paint and Engine Number

When ordering spare parts or submitting inquiries, always quote chassis and engine number to ensure correct and prompt service.

Chassis number

In accordance with Federal Safety Regulations, the chassis number of your car is located on the left windshield post and can be seen from the outside.

Engine number

The engine number is stamped on the front reinforcing rib in the top half of the crankcase.

Paint number

The paint number is on the doorjamb on the driver's side.

Dear Porsche Owner

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

the safe driver .

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

**MANUFACTURED BY Dr. Ing. h.c. F. PORSCHE AG WEST GERMANY
DATE**

GVWR

GAWR front

rear

**THIS VEHICLE CONFORMS TO ALL APPLICABLE FEDERAL MOTOR VEHICLE SAFETY AND
BUMPER STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE**

VIN

PASSENGER CAR

Safety Compliance Sticker

The Safety Compliance Sticker is your assurance that your Porsche complies with all Federal Motor Vehicle Safety Standards which were in effect at the time the vehicle was manufactured. It is located on the door-sill on the driver's side.

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

You will find helpful hints in this manual on how to perform most of the checks listed on the following page. If in doubt, have these checks performed by your Porsche dealer.

Before going on a trip . . .

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

In the drivers seat...

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

Have the engine oil, the coolant level and the ATF (in cars with automatic transmission) checked regularly, even inbetween the recommended maintenance intervals.

On the highway . . .

- 1 - Always drive defensively. Expect the unexpected.
- 2 - Use signals to indicate turns and lane changes.
- 3 - Turn on headlights at dusk.
- 4 - Always keep a safe distance from the car in front of you, depending on traffic, road and weather conditions.
- 5 - Reduce speed during night hours and inclement weather.
- 6 - Observe speed limits and obey highway signs.
- 7 - When tired, get off the highway, stop and take a rest. Turn the engine off. DO NOT sit in the car with engine idling. See warning on Engine Exhaust.
- 8 - When stopped or parked, always set the parking brake.
- 9 - When stalled or stopped for repairs, move the car well off the road. Set the emergency flasher and use road flares or other warning devices to warn other motorists.

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

Do not invite car theft!

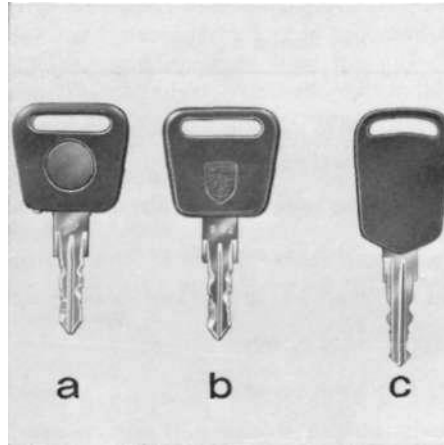
An unlocked car with the key in the ignition switch invites car theft.

A steering wheel lock and a buzzer alarm are standard equipment in your Porsche. The buzzer will sound if you open the driver's door while the key is still in the ignition lock. It is your reminder to pull the key out of the ignition lock and lock the doors.

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

The new format of the master and auxiliary keys makes unauthorized duplication of the keys virtually impossible. This means, however, that you yourself will not be able to get replacement keys cut, unless ordered from the manufacturer.

Should you need new keys, you must give the key number. This number is noted on the plastic tag on the keys. Keep this tag in a safe place - not in the vehicle.



a Master key
b Auxiliary key
c Rear seat glove box key

Keys

A set of three keys come with your Porsche (see illustration).

- a - master key for ignition lock, door locks, luggage compartment lock and glove compartment lock
- b - auxiliary key for ignition lock, door locks and luggage compartment lock
- c - key for rear seat glove box lock

Key light

The master key has a built-in flashlight in the key head. The beam from a small bulb in the key head illuminates the lower part of the key stem.

The flashlight is on as long as the contact button is depressed.

The flashlight is powered by a 1.5 Volt button battery. When the beam begins to fade, replace the battery, because **an old battery may leak and damage your clothes.**

Black key (illuminated)



Locks

driver and front-seat,
passenger doors

ignition/steering

luggage compartment

fuel cap

glove compartment

Key functions

black key only - activate alarm by locking and deactivate alarm by unlocking

red key only - lock and unlock without activating alarm

black key and red key

black key and red key - alarm must be **deactivated**

red key only

black key only

Red key



Note: A door that has been locked with the black key cannot be opened with the red key, without setting off the alarm. A door that has been locked with the red key can be opened with either **key**.

Anti-theft alarm (optional equipment)

If your Porsche is equipped with an anti-theft alarm system, you will be given the two keys illustrate and described above.

The alarm system is activated when the driver or front-seat passenger door is locked with the black key. Opening the driver or front-seat passenger door by any other means when the alarm system is activated, will produce an intermittent high noise for about 30 seconds.

The same alarm is also triggered when an attempt is made to open the luggage compartment lid or the engine hood. **The engine cannot be started while the alarm system is activated.**

The alarm system can only be deactivated by unlocking the driver or front-seat passenger door with the black key.

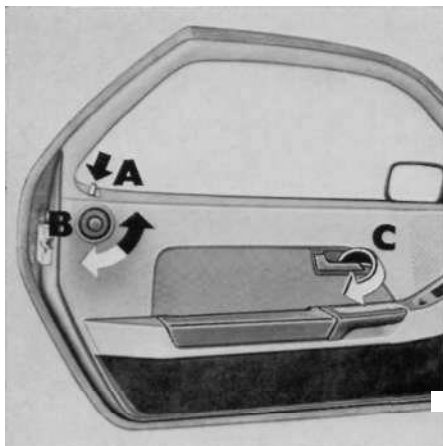
The red key can be used to lock and unlock the doors when activation of the alarm is not necessary, or when the car is being serviced.

The fuel cap can only be unlocked with the red key.

The glove compartment lock can only be unlocked with the black key.

Either key can be used for the luggage compartment lock when the alarm is **deactivated**. Either key can be used in the ignition/steering lock.

Keep the plastic tags with the key numbers in a safe place - **NOT IN THE CAR!**



With the central door locking system, both driver and passenger doors can be locked or unlocked simultaneously from the driver's side. The car is safely locked when button "A" is fully down on both doors. If button "A" of one door is not fully down, open that door again and close door firmly. To lock or unlock both doors from the outside, use either the master or auxiliary key on the driver's side. To lock or unlock both doors from the inside, turn handwheel "B" on the driver's side.

Doors

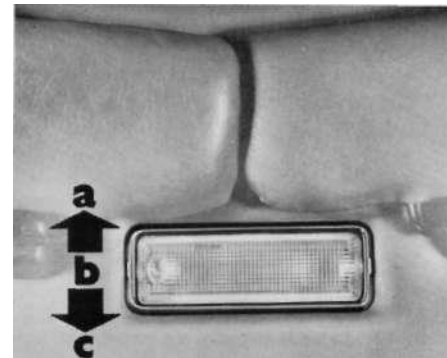
To **open** doors from **outside**, pull the recessed door handle.

To **open** doors from **inside**, pull the recessed handle "C" above armrest.

The armrests have a built-in storage compartment. To open compartment, press knob in hand cut-out and tilt armrest outward. To close, tilt compartment toward door panel.

Power windows - only work with ignition on. To open or close the windows, depress the rocker switches in the center console in front of the shift lever.

Caution: Remove the ignition key to shut off power to the window switches when the vehicle is not attended by a responsible person.



Interior lights

The two interior lights operate independently from each other. The two lights have a built-in rocker switch which is operated by tilting the lamp lens. There are three lens positions:

"a" - light on with front doors or luggage compartment door open.

"b" - light off.

"c" - light remains on continuously.

Central door locking system

The central door locking system operates on vacuum generated by the engine. A reservoir allows the locking system to be actuated about five times after the engine is turned off. To reactivate the system, operate the engine for a few seconds. Each individual door lock can be operated manually when there is no vacuum in the reservoir.

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

Front seats

Correct seat positioning is important for safe and comfortable driving. Therefore, the seat and the backrest angles in your Porsche are fully adjustable.

Seat adjustment

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

Do not attempt to adjust the driver's seat while driving! The seat may suddenly jerk forward or backward causing loss of control.

Backrest release

The backrest can be folded forward for easy access to the rear seats. To release, press the locking button on the side of the backrest (arrow) and, at the same time, tilt the backrest forward. When the backrest is tilted back, the lock will engage automatically.

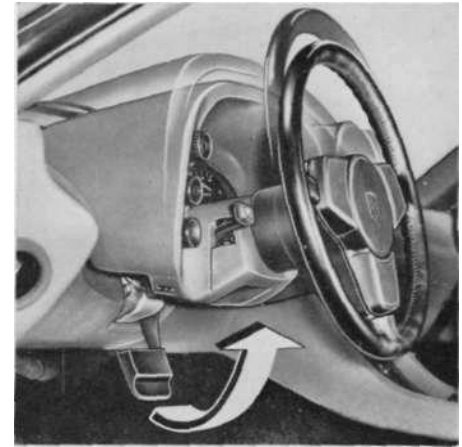


Backrest adjustment

Turn handwheel on the outboard side of the seat (arrows), with your body weight taken off the seatback.

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

For maximum legroom and unobstructed view of the instruments, the steering wheel and the instrument cluster unit can be unlocked (arrow), adjusted, and then re-locked.

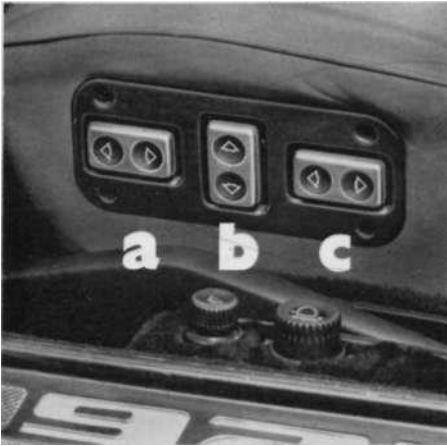


Rear seats - luggage compartment

The backrests of the rear seats can be tilted forward to provide additional luggage space.

Unsnap the luggage compartment cover from the upright rear seat backrests and the rear cross wall.

To release backrest, pull the lever on side of the backrest up and, at the same time, tilt the backrest forward.



- a backward/forward
- b height
- c backrest angle

To permit easy access to the rear, the seat will slide forward automatically when the backrest is folded down (with ignition on or off). The seat will remain in a position that permits comfortable entry to the front, when the backrest is tilted back to its upright position and securely locked.

Electric seats (optional equipment)

The rocker switches for a smooth three-way seat adjustment are located at the outboard side of the seat.

Manual operation

If the electric mechanism fails, the seat can be moved forward or backward by pushing the locking lever under the front of the seat toward outboard side of seat. Slide the seat to the desired position and let the lever go. move the seat slightly back and forth to make sure it is securely engaged.



Ignition/Starter Switch with Steering Lock

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

For your safety, fasten safety belts.

Manual Transmission:

- Move gearshift lever to **Neutral**.

Automatic transmission:

- Move gearshift lever to **Neutral** or **Park**.

Never start or let the engine run in an enclosed unventilated area. Exhaust fumes from the engine contain carbon monoxide which

the engine contain carbon monoxide which is a colorless and odorless gas. Carbon monoxide can be fatal if inhaled.

There are 4 key positions:

- 0 - **Steering locked.** All electric circuits wired through the ignition switch are turned off. The ignition key can only be withdrawn in the "0" position. The parking lights can be operated in this position by pushing the turn signal indicator lever up or down (also see "Parking lights").
- 1 - **Steering unlocked.** In this position, the following electric circuits wired through the ignition are operational: headlights, windshield wiper, rear window wiper, windshield/headlight washers, rear window defogger, sunroof, radio and cigarette lighter. The instrument cluster illumination will come on and can only be turned off with key in position "0".
- 2 - **Ignition on, steering unlocked.** All electric circuits are operational. With the engine stationary, the central warning light and all individual warning lights located in both combination instruments will light up for a bulb check.
- 3 - **The starter is operated** by turning the ignition key to the right. As soon as the engine starts, release the key. It will spring back to position "2". With the

engine running, the central and individual warning lights should go out. The STOP LAMP will go out after depressing the brake pedal and the PARK BRAKE light after fully releasing the parking brake (see "central warning light system"). While the engine is cranking, the circuits for headlights and wiper/washer motor are interrupted.

The starter should not be operated for more than 10 to 15 seconds at a time. 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. The non-repeat lock in the switch prevents the starter from being operated when the engine is running and thus from being damaged.

To remove the key and to lock the steering turn the key back to position "0" and pull it out. Turn the steering wheel until it locks.

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

See also Starting Hints and Break-in Period.

The steering column will lock when you remove the key. Therefore do not remove the key while you are driving or as the car is rolling to a stop.

Inertia Real Safety Belt

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

Your Porsche is equipped with a safety belt for each front and rear seat.

The inertia reel safety belt provides safety with freedom of movement. It adjusts automatically to your size and movements as long as the pull on the belt is slow. A sudden motion locks the belt.

Rapid deceleration during hard braking or a collision locks the belt. The belt will also lock when you drive up or down a steep hill or in a sharp curve.

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

A shoulder belt should not be worn by a person less than 4' 7"/1.40 m in height, or with an erect seating height of less than 2' 5"/74 cm, because the belt would not be in its most protective position and may therefore increase the possibility of injury in a collision.

For maximum safety and protection, we recommend that small children travel in the rear seats.

When driving in foreign countries, the wearing of safety belts may be required by law.



Safety belt warning system

An audio-visual warning system is interconnected with the driver's safety belt.

When the ignition is turned on, the warning light in the center console and the buzzer will come on for about 6 seconds. The buzzer will go off as soon as the driver has buckled up. The warning light will go off after 6 seconds.

Fastening the belt

Sit back in your seat so that your body is supported by the backrest. Grasp the belt tongue and pull the belt in a slow continuous motion across your chest and lap. Insert the belt tongue into the anchor housing on the inboard side of the seat. Push down until securely locked with an audible click.

Be sure the belts are not twisted.



Adjusting the belt

For best protection, belts should fit snugly across lap and chest. If belt has too much slack, pull shoulder section in direction of arrow to make sure the belt is drawn snug around your hips.

Make sure the shoulder belt does not press against solid or fragile items, such as ball point pens, pipe, lighter or glasses.

Do not wear the belts loosely.

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



Releasing the belt

To **unfasten** belt, push the red release button marked **PRESS**. Belt tongue will spring out of anchor housing.

To **store** lap/shoulder belt, allow belt to wind up on retractor as you guide belt tongue to its stowed position on door post. Mark section across your lap with moveable stop to keep belt tongue from sliding down when belt is wound up.

The belt of the **unoccupied passenger** seat should always be fully wound up, with belt tongue in **stowed** position. This reduces the possibility of the belt tongue becoming a striking object in case of a sudden stop.

Belt care

Belts that have been subjected to excessive stretch forces in an accident should be replaced.

If belts show damage to webbing, bindings, buckles or retractors, they should be replaced.

If belts do not work properly, see your authorized dealer to have them repaired or replaced.

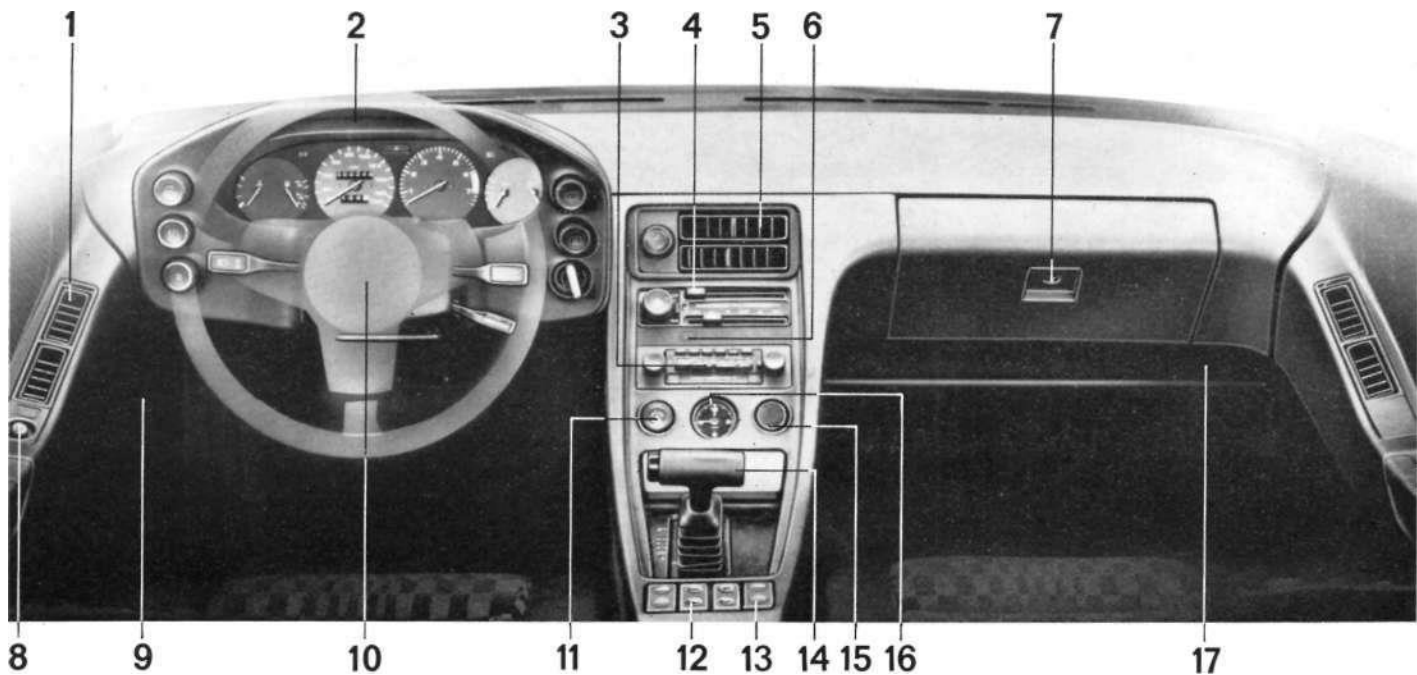
Do not modify or disassemble the safety belts in your car.

Keep belts clean. If they need cleaning, use a mild soap solution, but do not remove belts from car. Do not use other cleaning agents as they will weaken the webbing.

Never bleach or dye safety belts.

Do not allow safety belts to retract until they are completely dry. Dry belts in shade.

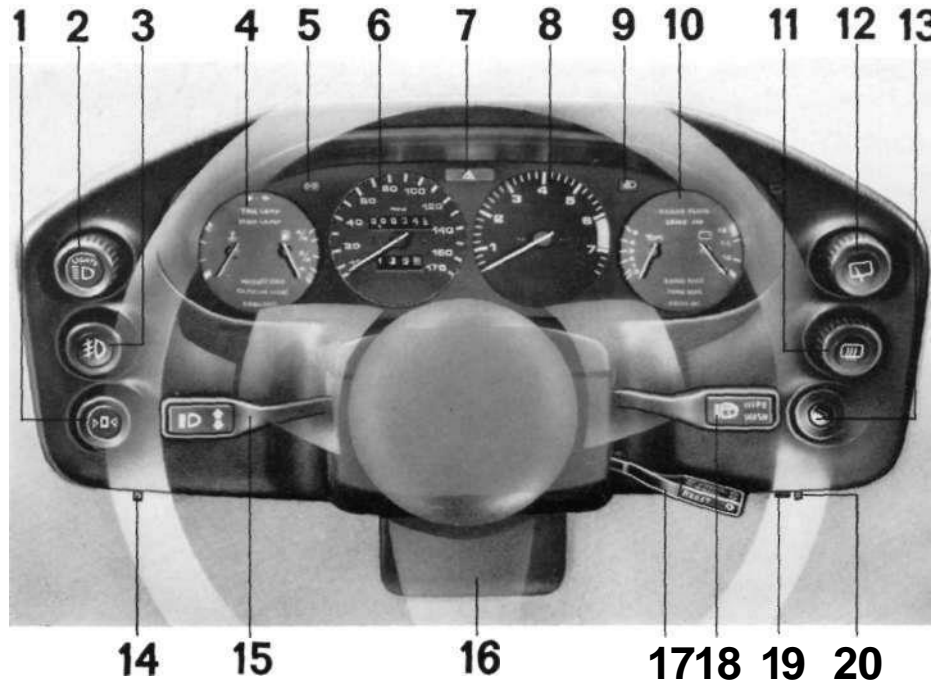
The seatbelt should not be used to hold a child's seat as the diagonal belt will not provide the needed protection.



**Dashboard panel
and center console**

- | | | |
|--|--|--------------------------------------|
| 1 Side window defogger/defroster vents | 4 Heating and ventilation controls | 11 Emergency flasher switch (HAZARD) |
| 2 Instrument cluster | 5 Center air vents (cooled air only) | 12 Electric sliding roof switch |
| 3 Radio | 6 Reset button for central warning light | 13 Power window switch |
| | 7 Glove compartment lock | 14 Gearshift lever |
| | 8 Side view mirror adjuster | 15 Safety belt warning light |
| | 9 Front hood release lever | 16 Clock |
| | 10 Horn | 17 Open storage shelf |

Instrument cluster



- 1 Odometer reset switch
- 2 Light switch
- 3 Fog light switch
- 4 Left combination instrument
- 5 Turn signal indicator light
- 6 Speedometer
- 7 Central warning light
- 8 Tachometer

- 9 High beam indicator light
- 10 Right combination instrument
- 11 Rear window defogger switch
- 12 Rear window wiper switch
- 13 Ignition/starter switch with steering lock
- 14 Instrument illumination control
- 15 Turn signal/headlight dimmer flasher/
parking light lever

- 16 Locking lever for steering column/instru-
ment cluster height adjustment
- 17 Automatic speed control lever
- 18 Windshield wiper and windshield/head-
light washer lever
- 19 Intensive washer system switch
- 20 Intermittent wiper interval control



Light switch - with ignition on

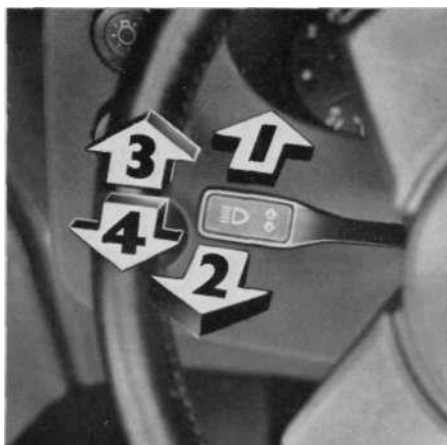
- 0 - lights off
- 1 - parking lights on
- 2 - headlights on and raised

In positions 1 and 2, the following lights are also on:

- tail lights
- instrument illumination
- shift pattern illumination for automatic transmission gearshift lever

Instrument illumination control

The brightness of the instrument illumination can be adjusted by turning the thumbwheel on the left side underneath the instrument cluster.



dimmer flasher and parking light lever - with ignition on Turn signal/highbeam/lowbeam/

Turn signal indicator

- Lever up - right turn signal (arrow 3)
- Lever down - left turn signal (arrow 4)

The turn signal lever turns off automatically when the steering wheel is straightened out after completing a turn.

If a turn signal bulb becomes defective, the indicator light flashes at about twice the normal frequency.

Lane changer

To indicate your intention when changing lanes on expressways, slightly lift or depress the turn signal indicator lever to the resistance point. The lever turns off automatically when released.

High beam/low beam - with ignition on and light switch in position 2, push lever forward to select high beam (arrow 1). The blue indicator light in the instrument cluster comes on when high beam is switched on.

Pull lever toward steering wheel (arrow 2) to select low beam.

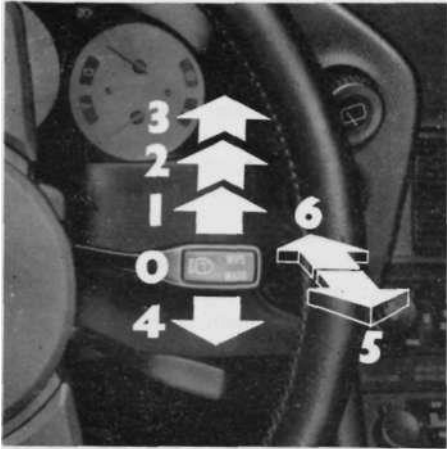
Headlight dimmer flasher - with ignition on or off

You can signal with your headlights (instead of horn) by pulling lever toward steering wheel (arrow 2) to point of resistance and then releasing it. Repeating this operation will flash the high beams during daylight and at night.

Parking lights - with ignition off

Lever up - right side parking lights on (arrow 3)

Lever down - left side parking lights on (arrow 4)



Windshield wiper and windshield/headlight washer lever

This lever has six switch positions. The electric wiper system is actuated by pulling the lever up or down to the following four positions:

- 0 - wipers turned off
- 1 - wipers on slow speed
- 2 - wipers on medium speed
- 3 - wipers on fast speed
- 4 - wipers on intermittent speed

The intermittent wiper interval can be adjusted by turning thumbwheel "A" on the right side underneath the instrument cluster.

The electric washer system is actuated by operating the lever as follows:

5 - pull lever toward steering wheel to turn windshield washer on

Fluid can be sprayed onto the windshield from any selected wiper speed position.

6 - push lever toward instrument cluster to turn headlight washer on

The headlight washer system operates only with the headlights on.

Before operating the wipers, the windshield must be sufficiently wet to prevent the glass surface from being scratched. Check wiper blades frequently and replace at least once a year.



Intensive windshield washer system

By depressing switch "B" on the right side underneath the instrument cluster, a supply of special intensive cleaning solution is pumped to the windshield. Heavy road dirt, silicone or insects can be removed quickly without smearing. The spray duration is controlled by a time relay to avoid excessive use of the special cleaner. The regular windshield wiper/washer system can then be operated to finish the cleaning process.



- 1 Set/accelerate
- 2 Reset
- 3 Cancel

Automatic Speed Control

The automatic speed control allows you to maintain a constant cruising speed of 30 mph (50 km/h) or higher, without actuating the accelerator pedal.

Any manual operation, such as accelerating, gearshifting or braking can be done independent of the automatic speed control.

The spring loaded control lever operating the automatic speed control is located just below the wiper/washer lever.

To operate the automatic speed control

- Accelerate to the desired cruising speed, push lever toward instrument cluster (arrow 1) and release. This sets the cruising speed and stores it in a memory.
- After a second or two automatic speed control will take over, and you can remove your foot from the accelerator pedal. The set cruising speed will be maintained automatically.
- **Passing:** when you want to drive faster for a brief moment, for example when passing another vehicle, actuate the accelerator. When you take your foot off the accelerator pedal, the preset speed will automatically be resumed.
- **Gearshifting:** when shifting gears, the automatic speed control is only disengaged as long as the clutch pedal is depressed. The preset speed will be resumed as soon as you take your foot off the clutch pedal.
- **Braking and stopping:** whenever you apply the brake or come to a stop, the automatic speed control is disengaged. Move the lever down (arrow 2), and the preset speed will be resumed.
- **Switching system off:** to switch the automatic speed control off, move the lever toward you (arrow 3). To resume the preset speed, move the lever down (arrow 2).

To change the preset cruising speed

Increase preset speed:

- Accelerate by depressing the accelerator pedal. When the desired speed is reached, move the lever up (arrow 1) and take the foot off the accelerator pedal. Now the new cruising speed is set and stored in the memory.
- As an alternative, you can hold the lever in the up position (arrow 1), without depressing the accelerator pedal. The car will accelerate on its own. When the desired speed is reached, release the lever.

Decrease preset speed:

- Apply the brake, which will disengage the automatic speed control. When the vehicle has slowed down to the desired speed, move the lever up (arrow 1) to set the new cruising speed.
- As an alternative, disengage the automatic speed control by moving the lever toward you (arrow 3). When the vehicle has slowed down to the desired speed, move the lever up (arrow 1) to register the new cruising speed in the memory.

Note: when driving up a hill, if the engine power is insufficient in a particular gear, the speed control will be disengaged automatically. Shift to a lower gear to avoid lugging the engine.



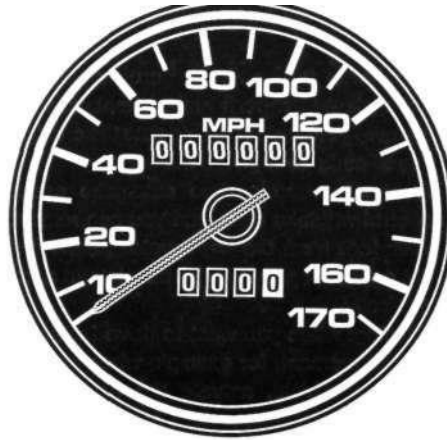
Tachometer

The transistorized tachometer operates on the pulse count principle and shows engine speed in revolutions per minute (rpm).

The red mark at the end of the scale indicates the maximum permissible engine rpm. Before reaching this area, the next higher gear should be selected. Earlier shifting saves fuel.

Shift to the next **lower** gear when the engine rpm drops below 1500 rpm.

The speed limiting governor prevents the engine from being overrevved under load.



Speedometer

The speedometer indicates driving speed per hour.

In **USA:** Miles per hour

In **Canada:** Kilometers per hour

The upper odometer records total distance driven and cannot be turned back.

The trip odometer in the lower part of the instrument can be turned back to zero by depressing the odometer reset switch on the lower left side of the instrument cluster.

High beam indicator light

The blue light in the instrument cluster will light up when the selector lever is pushed forward. The blue light will go out as soon as low beam is selected.

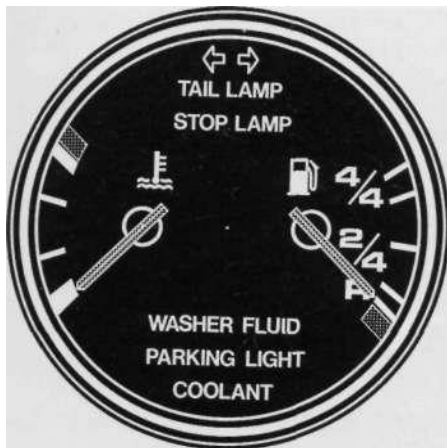
Turn signal indicator light

The green signal indicator light in the instrument cluster will flash with the selector lever in either up or down position. If a turn signal bulb becomes defective, the indicator light flashes at about twice the normal frequency.



Central warning light

The central warning light in the instrument cluster will light up or flash when a fault occurs in one of the vehicle's systems. (Refer to "Central warning system").



Combination Instrument

Coolant temperature gauge

Needle in white field - engine is cold

As long as needle is in white field, avoid high speeds and high engine rpm, until engine has reached normal operating temperature. Do not lug the engine.

Needle in center striped field - normal

Under normal driving conditions, needle should remain in center field. The needle may reach the red field, especially at high engine loads, but should return to "normal" when engine load is reduced.

Needle in red field - warning

If needle enters the red field, the engine is overheating. The central warning light will also come on. Reduce speed and engine rpm. If the needle does not return to the center field, and the central warning light remains on, pull off the road, turn off the engine and let it cool down.



Coolant temperature warning light

If this light comes on, the electric fan or the belt driven mechanical fan may not be working to provide sufficient cooling. Pull off the road and turn off the engine. If the electric fan is working, it may still be running for a while.

WARNING: Wait until engine has cooled down. The radiator fan switches on automatically when the coolant reaches 92° C (198° F) and continues running - even with engine turned off - until the coolant temperature has dropped to 87° C (189°F).

If the electric fan does not work, check for a blown fuse or contact nearest workshop.

If the mechanical fan is not working, the fan belt may be loose or broken. The belt should be re-tensioned or replaced.

Fuel Gauge

With the ignition on, the amount of fuel in the tank is indicated by the fuel gauge needle.



Fuel level warning light

This lights comes on when the fuel reserve level in the tank is down to about 2.9 U.S. gals, or 11 liters. Time to refuel.

The central warning light and the warning lights in the combination instrument light up for a bulb check when the ignition is turned on. They should go out as soon as the engine is started. Also see "**Central warning light system**".

TAIL LAMP warning light comes on when a bulb is defective.

STOP LAMP warning light comes on and goes out after depressing the brake pedal. If the light **stays on** a bulb is defective.

WASHER FLUID warning light comes on when level in the windshield/headlight washer reservoir is down to 2 U.S. qts. or 2 liters.

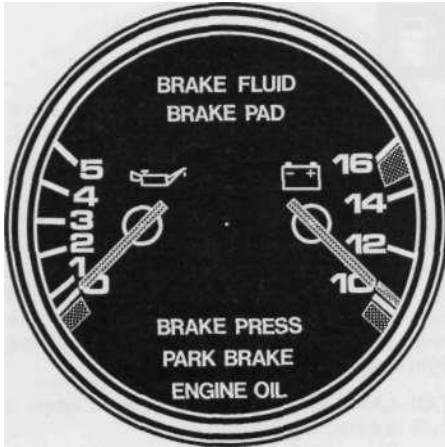
PARKING LIGHT indicator comes on when the parking lights are turned on. The light will go out as soon as the headlights are switched on.

COOLANT warning light comes on when coolant level in the expansion tank falls below the required minimum (see "Cooling system" and "Filling capacities").



Trailer turn signal indicator light

Not connected



Oil pressure warning light Oil pressure gauge

Engine oil pressure is shown in kp/cm^2 . At 5000 rpm, with the engine at normal operating temperature, the oil pressure should be about 5 kp/cm^2 . A slight drop in oil pressure at higher temperatures is normal.

If the oil pressure should drop suddenly while you are driving, this light and the central warning light will flash. Pull off the road and **stop the engine immediately**. Check the engine oil level and the ATF level. If both appear to be normal, contact the nearest workshop.



Voltmeter Alternator warning light

The voltmeter shows the overall condition of the charging system. The needle should normally stay in the 12-14 volt range when the engine is running. A temporary drop below 12 volts when starting the engine is normal.

The light comes on when the ignition is turned on and goes out as the engine rpm increases. If the light flickers or stays on while you are driving, the V-belt may be loose or broken. The belt should be re-tensioned or replaced. The fault may also be in the regulator or the alternator itself. In this case, keep electrical consumption at a minimum and drive to the nearest workshop.

The central warning light and the warning lights in the combination instrument light up for a bulb check when the ignition is turned on. They should go out as soon as the engine is started. Also see "**Central warning light system**".

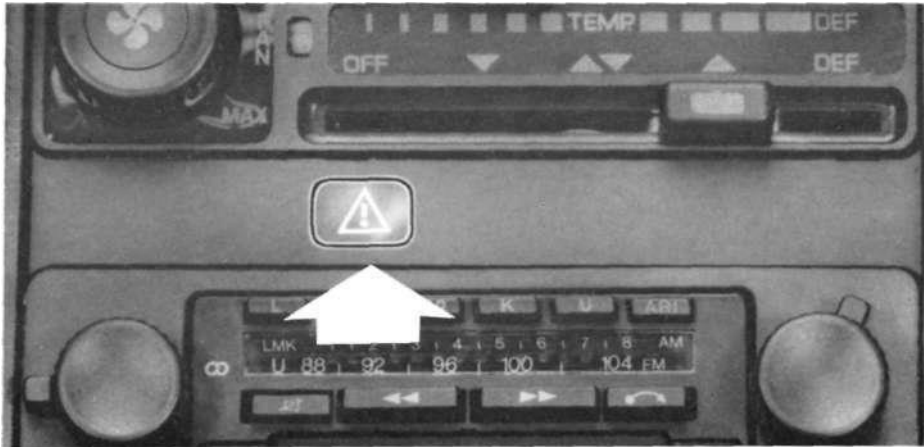
BRAKE FLUID warning light **flashes** when the brake fluid level falls below the required minimum.

BRAKE PAD warning light comes on when a brake pad is worn.

BRAKE PRESS warning light **flashes** if one of the circuits in the brake system should fail.

PARK BRAKE warning light comes on and **stays on** until parking brake is **fully** released.

ENGINE OIL warning light **flashes** if, with the ignition on, the engine stationary, and the vehicle in level position, the amount of oil in the sump is less than 1.59 U.S. gal. or 6 liters. **Do not attempt to start the engine!** **Add oil at once!**



Central warning light system

This electronic warning system monitors the most important functions of your Porsche for increased safety and reliability of performance. Should a problem arise, the central warning system will inform you immediately.

The central warning light is located in the center of the instrument cluster. The individual warning lights are divided between the two combination instruments.

When the ignition is turned on, the central warning light and all individual warning lights

will light up for a bulb check. As soon as the engine is started, the lights should go out. The STOP LAMP light will go out after the brake pedal has been depressed. The PARK BRAKE light will go out as soon as the **parking brake lever is fully released**.

Should a problem arise, the central warning light will light up or flash, together with the respective individual warning light.

Note: If the engine has been started by towing or pushing, the warning lights **will not** go out. The ignition must be turned off and the engine restarted.

The control function of the central warning light system is divided into two major groups:

- Group "A" - oil pressure (engine and ATF)
- engine oil level
 - brake circuit (pressure) failure
 - brake fluid level

Any malfunction reported by the system must be corrected immediately.

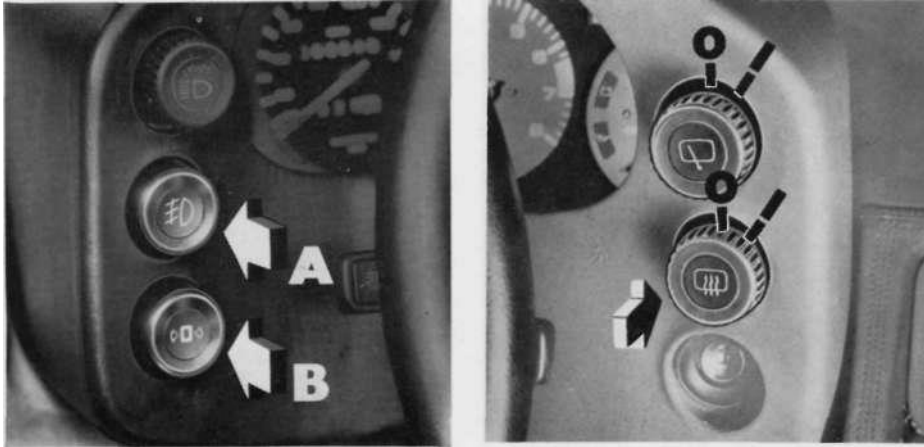
- Group "B" - brake wear (pads) indicator
- parking brake
 - coolant level
 - coolant temperature
 - fuel reserve level
 - windshield/headlight washer fluid level
 - stop lamps
 - tail lamps

Any malfunction reported by the system should be corrected as soon as possible.

Reset button (white arrow)

By pressing this button, you can turn off the central warning light for group "B" related problems. The individual warning light in the respective combination instrument will remain on as a reminder to have the fault corrected.

The reset button does not apply to group "A" related problems. Both central and individual warning lights will continue to flash because an immediate remedy of the problem is necessary.



Fog lights

With headlights on, the fog lights can be turned on or off by depressing switch "A". The switch is illuminated when the fog lights are on.

Trip odometer

The trip odometer in the lower part of the speedometer instrument can be turned back to zero by depressing switch "B".

Rear window wiper

To avoid scratching the glass, the rear window should be sufficiently wet before turning on the wiper.

To actuate the wiper, operate the one-step rotary switch on the instrument cluster.

0 - wiper off

1 - wiper on

The wiper action disengages or engages automatically when the luggage compartment lid is opened or closed.

When cleaning the rear window, the wiper should be lifted only slightly.

Rear window defogger/defroster

The rear window defogger/defroster heating element is actuated by a push button/rotary switch. The switch is illuminated when the heating element is energized.

To defog - switch **not** depressed

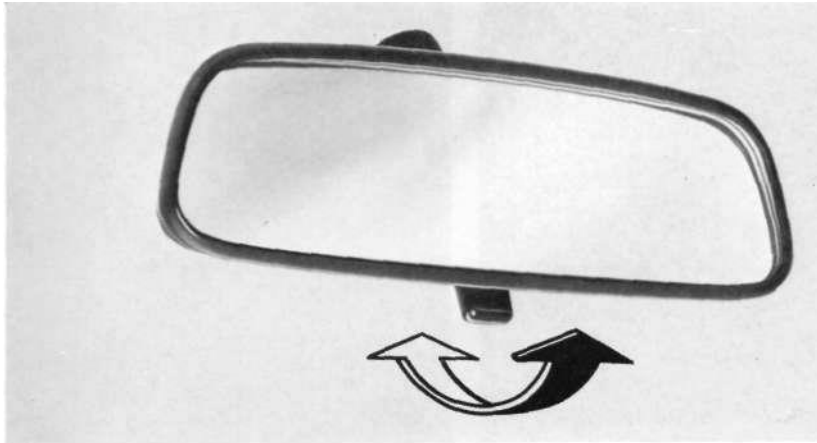
0 - heating element off.

1 - heating element on. The heating element will provide a steady energy output to keep the rear window free from fog.

To defrost - switch pressed (arrow)

0 - heating element is fully energized for defrosting. After about 15 minutes the heating turns off automatically.

1 - heating element is fully energized for defrosting. After about 15 minutes, the heating element automatically reduces energy output to "defogging".



Rear view mirrors

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

Inside day-night mirror

You can adjust the day-night mirror from clear daylight visibility to non-glare visibility at night, by moving the lever at the bottom of the mirror up or down (arrows).

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

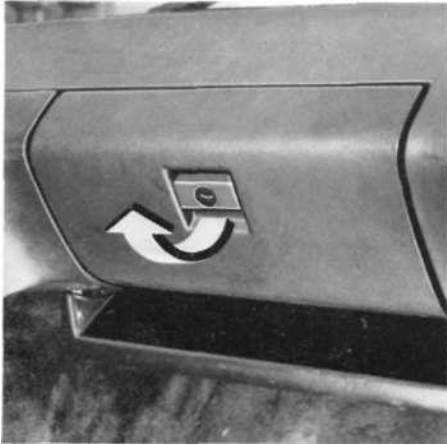
Heated outside mirror with remote control

When the rear window defogger/defroster is switched on, the outside mirror is also heated electrically. The outside mirror can be adjusted from the inside by remote control

when the ignition is turned on. The control switch is located next to the side window vents in the armrest.

The **optional** electrically heated outside mirror for the passenger side can be adjusted with the same control switch, by pressing the rocker switch beside the adjuster switch into the appropriate position.

If necessary, the outside mirror(s) can also be adjusted manually.

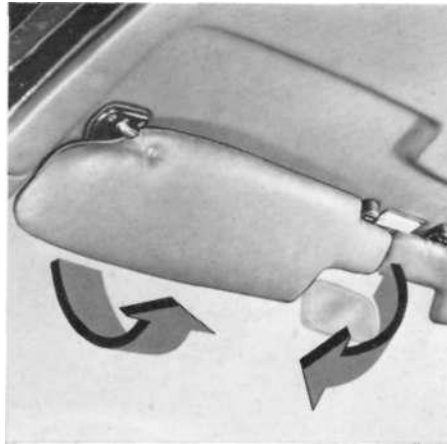


Glove compartment

The illuminated glove compartment can be opened by pulling the recessed handle in the lid (arrow).

The glove compartment can be locked or unlocked with either the master or the auxiliary key.

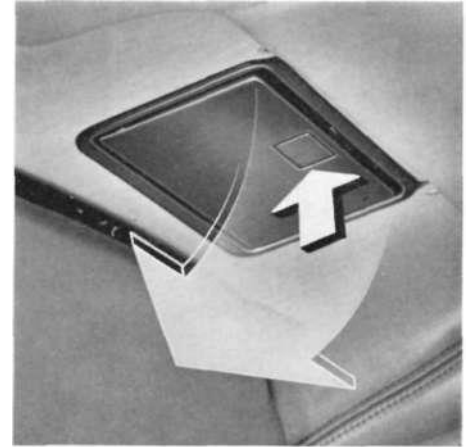
An additional storage shelf is located under the glove compartment.



Sun visors

The front sun visors can be moved to the sides as well as forward (arrows).

The rear sun visors can be moved backward.



Vanity mirror

The vanity mirror is located in the cover trim underneath the sun visor on the passenger side. The mirror lights up when opened (arrows).



Ashtrays

There are two illuminated ashtrays. One is located in front of the gearshift lever in the center console, and another in front of the lockable glove box between the two rear seats. To empty tray, pull it out of its well.

Rear seat glove box

To open the glove box, press the button (arrow) and lift the lid. The glove box is lockable.



Cigarette lighter

The cigarette lighter can be operated with the ignition in position 1 or 2. To operate, push in knob. When ready for use, the lighter will snap back. With the cigarette lighter removed, the socket may be used for small electrical appliances, such as a shaver, hand vacuum cleaner or air compressor to inflate the collapsible emergency spare tire. The maximum rating of such equipment should not exceed 120 Watt/12 Volt. **Do not damage the socket by trying to insert plugs of the wrong design.**

Safety belt warning light

When the ignition is turned on, this warning light will come on for about 6 seconds as a reminder to buckle up.

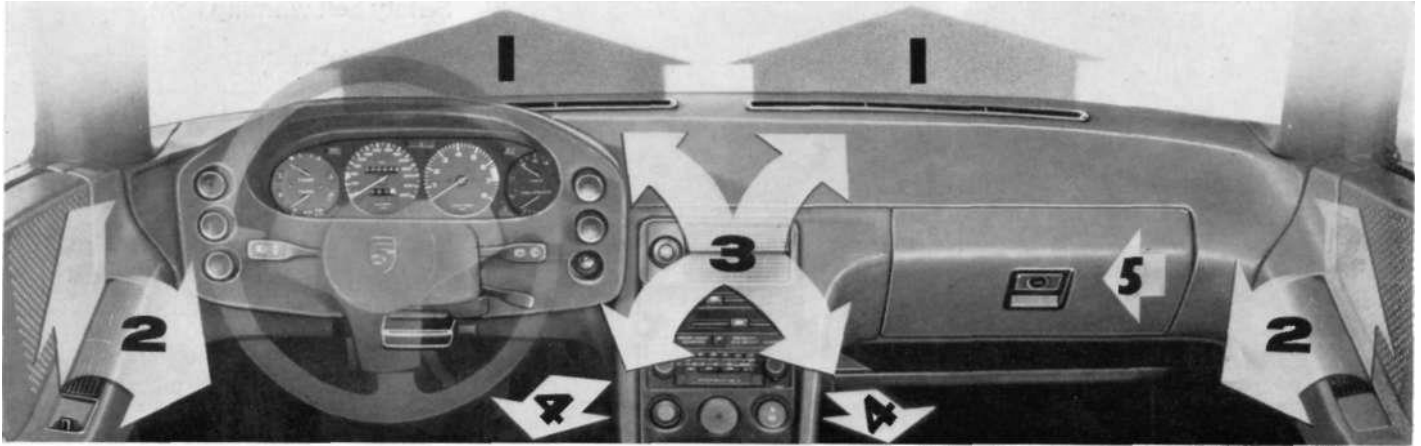
Emergency flasher switch

If your car is disabled or parked under emergency conditions, depress the switch (HAZARD) to make all four turn signals flash simultaneously. The light in the switch flashes at the same frequency.

The emergency flasher works independently of the ignition switch position.

Clock

Set the clock by depressing and turning the button in the center of the dial. With the battery connected and well charged, the electric clock is automatically wound by current pulses.



Heating/ventilation/air conditioning controls

1 - defogging/defrosting nozzles for windshield

2 - defogging/defrosting vents for side windows

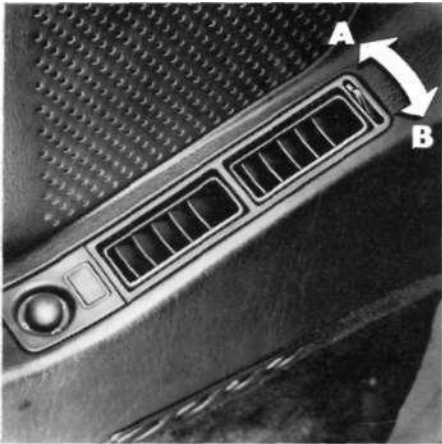
3 - air vents for passenger compartment (cooled air from air conditioner)

4 - air outlet nozzles for foot wells

5 - air nozzle inside glove compartment (cooled air from the air conditioner)

The vents in the center console are only for cooled air from air conditioner.

Each individual vent outlet is adjustable to permit the regulation of air flow within the vehicle.



Side window vents

The two air outlets in the armrests permit individual adjustment of heated, fresh or cold air flow.

- A - vents closed
- B - vents open

The vents are adjustable to direct air flow sideways or up and down.

Center air vents

The two vents in the center console are for cooled air only.

Fan speed control - rotary switch knob

The **air volume** is controlled by a 4-speed fan. When the ignition is turned on, the fan automatically operates at low speed, even with the switch in the OFF position. By turning the knob clockwise, fan speeds 1-4 can be selected to increase the air volume.

Temperature control - upper lever

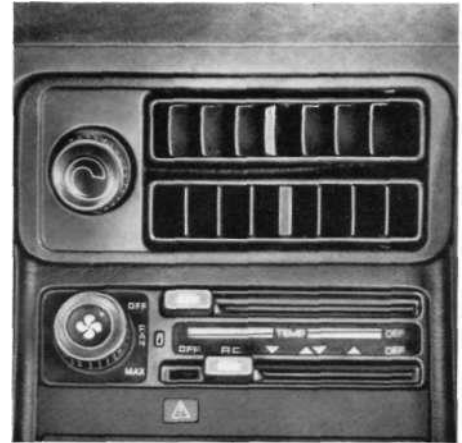
- lever to left - cold
- lever to right - increased heating

Maximum heating output is achieved when the engine has reached normal operating temperature.

The vents are adjustable to direct air flow sideways or up and down. Turn the rotary knob to shut off cool air flow.

Air distribution control - lower lever

- OFF - air vents closed
- AC - air conditioner on, center console vents open
- ▼ - air nozzles for foot wells open
- ▲▼ - air nozzles for windshield and foot wells open
- ▲ - air nozzles for windshield open



DEF - air nozzles for foot wells closed.

Fan automatically switches to highest speed, and the air conditioner compressor is switched on automatically to dehumidify the air. For fast defogging/defrosting move **upper lever** to extreme right.

Fan rotary switch

With the ignition turned on, the fan operates at low speed even if the switch is in the "off" position. By turning the knob clockwise, fan speeds 1-4 can be selected to increase the volume of air.

The heater temperature is dependent upon the coolant temperature. The heater **will** achieve maximum output when the engine has reached normal operating temperature.

Air conditioning

The air conditioning system works only when the engine is running. When the air distribution control lever (lower lever) is moved to the "AC" position, the air conditioning compressor is activated. Cool air temperature is kept constant by a thermostatic sensor, located between the cooling fins of the evaporator. The air from the interior of the car is drawn through the evaporator, where it is cooled. The cool air returns through air outlets in the center console and foot wells, the glove compartment nozzle and the armrest vents.

Air conditioning controls

To obtain maximum cooling . . .

- move upper lever to left
- move lower lever to "AC"
- turn fan speed rotary knob to "MAX"
- open side window vents in armrests
- close windows

Caution: Should you suspect that the air conditioner is damaged, have it checked promptly. Leaks must be sealed immediately, since loss of refrigerant may result in serious damage to the air conditioner system.

Operating hints

Direct the air flow by adjusting the air vents in the center console and in the armrests. If the car has been standing in the hot sun, it is best to open the windows first to permit the hot air to escape. Once the desired cool air temperature has been attained, reduce the fan speed. If the windows fog over in humid and cold weather, move the upper lever toward the right.

If cool air flow decreases

The thermostatic sensor will prevent the evaporator from icing up. If extreme conditions, such as high outside temperature, dense humidity or driving at high altitude cause the evaporator to ice up, you will notice a decrease of cool air flow. To permit the evaporator to defrost, move the lower lever to the center and reduce the fan speed.

After the evaporator has defrosted, the controls can be reset for maximum cooling.

If cool air stops completely . . .

Turn the air conditioner off and see your authorized dealer. He has the qualified personnel and proper workshop equipment to correct the problem.

Mixing cold and warm air

For more comfort during periods of high humidity and low temperatures, the air conditioner can be turned on together with the heating system . . .

- move upper lever toward right for desired heating output
- move lower lever to "AC"
- turn fan switch knob to desired speed

These adjustments will provide a pleasant mixture of cool/warm air circulation. The air in the car will be dehumidified and fogged up windows will clear up.

Maintenance

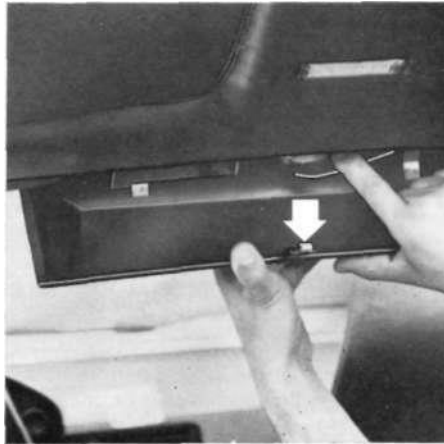
During the winter season, it is advisable to operate the air conditioner briefly at least once a month, to help keep the seals lubricated. The condenser should be checked periodically for cleanliness. If clogged with dirt or insects, the condenser should be washed down with water. After the winter months and before extended summer usage, the air conditioner should be checked and, if necessary, serviced by your authorized dealer.



Electric sliding roof (optional equipment)

The roof can be opened and closed, fully or partially, by depressing the respective symbol on the rocker switch in the center console in front of the gearshift lever.

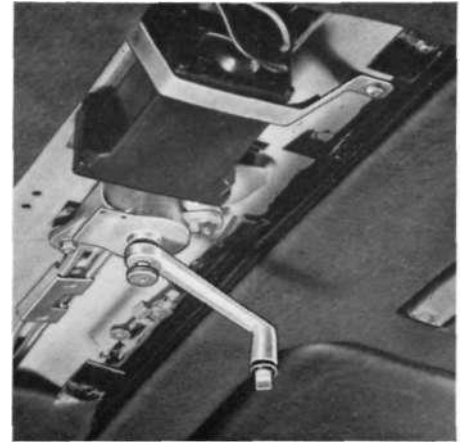
The mechanism has a built-in safety feature. Should the moving roof encounter an obstacle, it will stop automatically to avoid possible injury.



Manual operation

If the electric drive mechanism fails, the roof can be operated manually. The crank handle provided for this purpose is in the tool kit.

Remove the cover from the electric drive mechanism at the rear of the headliner by pulling it down and disengaging the spring catch.



Remove screw and washer on bottom of drive mechanism. Keep screw and washer within easy reach.

Install handle in slot of drive mechanism and tighten thumb screw.

Close the roof, remove the handle and re-install washer and screw. Replace the cover.

Do not depress the rocker switch but let your Porsche dealer correct the fault.



Parking brake lever (arrow)

Parking brake force is mechanically transferred to the rear wheels by means of cables.

To set the parking brake . . .

- press in the release button (arrow) at the end of the lever as you pull the lever up. The parking brake engages as soon as you release the button in the raised lever.

To release the parking brake . . .

- pull the lever slightly up as you depress the release button. Keep the button depressed as you lower the lever.

The central warning light and the parking brake light will go out after the engine is started and the parking brake is fully released (see "Central warning light unit").

Loudspeaker balance control

The volume of the loudspeakers in the door and in the rear of the vehicle can be balanced by turning the loudspeaker balance control knob (A), located next to the parking brake lever.

Brake Pedal

Your Porsche is equipped with a hydraulic dual circuit brake system with self-adjusting disc brakes at the front and rear. Make it a habit to check the operation of your brakes before driving off. The movement of the brake pedal should not be obstructed by a floor mat or other objects.

With correctly adjusted brakes, and a correctly working brake system, the pedal travel to the point of brake actuation should be 1-3/16" to 1-9/16" or 30 to 40 mm. Whenever the brake pedal travel exceeds this distance, have the brake system checked.

Keep in mind that the braking distance increases very rapidly as the speed increases. At 60 mph. or 96 km/h, for example, it is not twice but four times longer than at 30 mph or 48 km/h. Tire traction is also less effective when the roads are wet and slippery. Therefore, always maintain a safe distance.

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

Brake booster

The brake booster assists braking only when the engine is running. When the car is moving while the engine is not running, or if the brake booster is defective, more pressure on the brake pedal is required to bring the car to a halt.

Brake warning lights

The central warning light and the brake fluid warning light in the combination instrument will flash when the level in the brake fluid reservoir is too low. To report a brake circuit failure, the central warning light and the brake pressure warning light will flash (see "Central warning light system").



Porsche Stereo-Cassette-Radio

On: turn left knob (A) clockwise

The power antenna will rise automatically.

Off: turn knob (A) counter-clockwise

The power antenna will retract automatically.

Station selection: When radio is turned on, a light on the scale will light up to indicate the position of the selected station.

Station change: Depress right knob (B); the next station will be selected automatically.

Sensitivity control - mono/stereo

Lever (D) behind the right knob is a local and distance station search control. Depending on lever position, stations transmitting in either mono or stereo can be selected as follows:

Pos. 1: all stations that can be received are selected but are played in mono only

Pos. 2: all strong or weak stations are selected (stereo and mono)

Pos. 3: only strong stations are selected (stereo and mono)

Stereo: Stereo reception is indicated by a green light. The reception of a distant (weak) stereo station can be improved by switching

the station search lever to position 3 (mono). This does not affect the green light.

Wave band selection: Depress either one of the buttons above the scale

LW: long wave 150-285 KHZ AM1

: medium wave 520-920 KHZ AM2:

medium wave 900-1605 KHZ SW:

short wave 5.95-6.2 MHZ

FM: ultra short wave 87.5-108 MHZ

FM ∞: stereo ultra short wave 87.5-108 MHZ (in this mode only stereo FM stations are automatically selected)

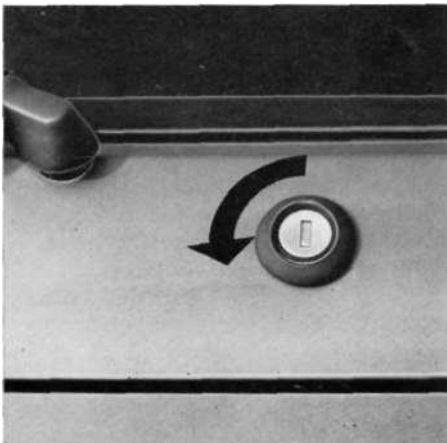
Tone modulation: Turn lever (C) behind left knob to change to high or low tone.

Channel balance: Pull out left knob (A) and turn to balance left and right speakers. Balance front to rear loudspeakers by turning the knob left to handbrake (see "Loudspeaker balance control").

Cassette player: Insert cassette with full reel on right side. Push cassette fully in to start cassette. The radio program will be shut off automatically. Cassette will be ejected automatically when tape has come to its end.

Volume, tone modulation and channel balance is the same as for the radio.

Push buttons with two arrows for either **fast forward** or **rewind**. Push the left button to stop "fast forward" or "rewind". Push the right button to eject the cassette.



Luggage compartment lid

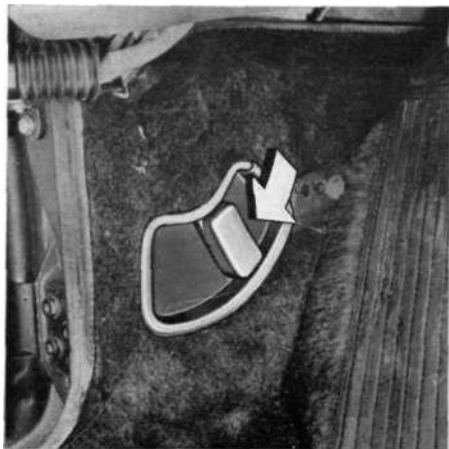
To open ...

- insert the master or auxiliary key into the lock and turn counter-clockwise. The lid springs up slightly under spring pressure. Lift the lid by hand to open.

To close ...

- lower the lid slowly and then push down with both hands until the lock snaps shut.

Protect your luggage and other belongings from the sun and "inquisitive eyes" by using the snap-on luggage cover.



Engine compartment hood

To release ...

- slide the release lever (arrow) on the left side underneath the dashboard panel. The hood springs up slightly under spring pressure.

Caution: Do not drive with the hatchback open to prevent exhaust gas from being drawn into the car. If you must drive with an opened hatchback, open the windows and turn on the fan to force fresh air inside the car.



To open

- Lift hood slightly and press safety catch handle upward (arrow). Then lift up the hood. **The windshield wipers should not be tilted forward.**

With light switch in either position 1 or 2, the engine compartment light will **come** on automatically.

To close

- lower the hood slowly and then push down with both hands until the lock snaps shut.

Gearshifting (Manual Transmission)

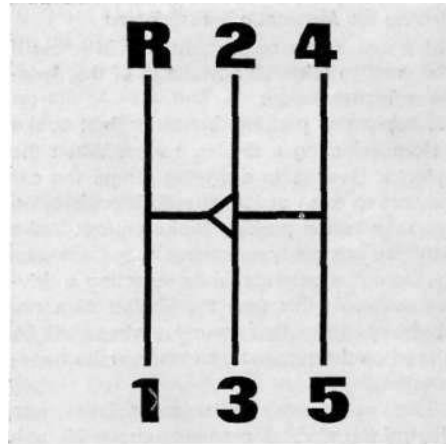
The Porsche transmission with servo-lock synchronisation permits rapid and precise shifting of gears. But be sure when changing gears that the clutch pedal is fully depressed to the floor, and that the gearshift lever is completely engaged. The engine speeds for the individual gears are listed in the chart on this page.

The clutch pedal must be depressed several seconds before shifting into reverse; only then move the gearshift lever to the left, overcoming the spring resistance, and to the front.

Both back-up lights come on when the transmission is put into reverse (with ignition on).

Reverse should only be selected after the vehicle has come to a complete stillstand.

The gear positions are shown in the diagram on the right.



Clutch

Due to the hydraulic operation of the clutch, a free travel of the clutch pedal of 0,1" or 2.5 mm is necessary.

Should this free travel suddenly become bigger, it could mean a malfunction of the clutch. Please consult your workshop for rectification.

The specified maximum rpm figures should not be exceeded when shifting down, as otherwise the engine speed would be too high. This applies to standard gear ratios only.

For smooth shifting, observe the following shift points (applies to standard gear ratios only):

Maximum downshift points

5th to 4th gear
120 mph / 192 km/h or 4500 rpm
4th to 3rd gear
89 mph / 142 km/h or 4500 rpm
3rd to 2nd gear
65 mph / 103 km/h or 4500 rpm
2nd to 1st gear
45 mph / 71 km/h or 4200 rpm

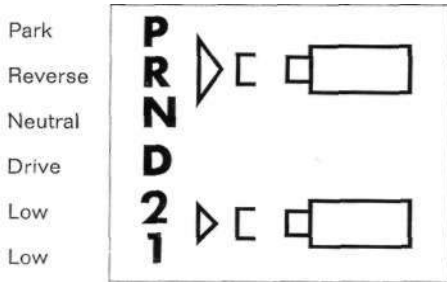
Minimum upshifting points

1st to 2nd gear
10 mph / 16 km/h or 1400 rpm
2nd to 3rd gear
20 mph / 32 km/h or 1800 rpm
3rd to 4th gear
35 mph / 56 km/h or 2300 rpm
4th to 5th gear
48 mph / 77 km/h or 2400 rpm

Please observe all local and national speed limits!

Controls for Automatic Transmission

The selector lever has 6 positions:



Start in neutral or park

The selector lever has a push button in the handle. The push button must be depressed when selecting the following positions:

From P to R	} depress push button in handle
R to P	
N to R	
2 to 1	

The selector lever can be moved freely between the other positions.

The selector console is illuminated when the ignition is turned on.

Driving the Automatic Transmission

There are a few points you should know if you want to take full advantage of the Automatic Transmission.

... Apply the parking brake or foot brake before selecting a driving range. When the selector lever is in a driving range, the car may creep even at idle speed. Therefore, do not release the parking brake or foot brake until you are ready to move.

... Do not accelerate while selecting a driving range. At this time the engine must run at idle speed so that no undue stress will be placed on the automatic clutches in the transmission.

... Do not move the selector lever into Neutral (N) at driving speeds above 30 mph or 50 km/h.

If the selector lever is unintentionally moved into Neutral (N) while driving, take your foot off the accelerator pedal and wait until the engine speed has dropped to idling before selecting a driving range.

The driving ranges

The Automatic Transmission has 3 forward driving ranges and one reverse. In the driving ranges D and 2 the Automatic Transmission changes gears automatically while driving.

Position D

is the driving range to be normally used for day-to-day driving and highway driving. It ranges from zero to top speed, and all three gears engage automatically while driving.

Position 2 and 1

are to be used for mountain driving or slow driving, and also when you want to make use of the engine's braking effect.

Position 2

should only be used to 95 mph or 150 km/h. In "2", only the first and second gears will engage automatically. Therefore, only shift down into driving range "2" when the speed is below 80 mph or 130 km/h. It is not necessary to let up on the accelerator.

Position 1

is needed on rare occasions. It should only be used up to 65 mph or 105 km/h. In "1" the transmission will stay in first gear and not shift into the second or third gear. **Only shift down into "1" when the car speed is below 45 mph or 75 km/h.**

The reverse driving range

The reverse driving range should be selected only when the car has come to a full stop and the engine is running at idle speed. At driving speeds above 10 mph or 15 km/h, a hydraulic lock prevents the driver from unintentionally moving the selector lever into position R or P.

The back-up lights come on automatically when you engage Reverse (with ignition on).

Starting the engine

is only possible when the selector lever is in **Neutral** or in **Park**. As long as one of the driving ranges is engaged a safety switch prevents the engine from being started.

Moving off

With the parking brake or foot brake set, shift into the range you wish to use, usually position D. To move off, release the brake and accelerate.

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

Selecting a driving range while driving

is easy. Simply release the accelerator pedal and move the selector lever from the range you are into the range you want. Then step on the accelerator again.

Stopping

When stopping temporarily, at traffic lights for example, it is not necessary to move the selector lever to Neutral. Simply apply the brakes. To start again release the brake and accelerate.

Parking

When parking your car, apply the parking brake first, and then move the selector lever to position P. To do this, depress the button and push the lever through R to P. The transmission is then mechanically locked.

Park may only be engaged when the car is stationary. At driving speeds above 10 mph or 15 km/h, a hydraulic lock prevents the driver from unintentionally moving the selector lever into position R or P.

Shift out of the Park position, before releasing the parking brake.

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

Mountain driving

When driving on long, steep and winding mountain roads select range 2 or 1.

Emergency starting

Your Porsche with Automatic Transmission cannot be started by pushing or towing. Should the engine fail to start consult your nearest authorized Porsche dealer.

DO NOT START OR TOW the car without ATF in the transmission, as this will result in serious damage to transmission and torque converter.

Accelerator Pedal

For good fuel economy we recommend smooth and even acceleration. Very fast, racy driving, alternating between full throttle and hard braking, raises the fuel consumption considerably. Also, tires and brake linings wear faster. It is more economical to drive smoothly and at fairly constant speed.

Accelerator "Kickdown"

If you need quick acceleration to pass moving vehicles or to climb steep grades, make

use of the accelerator "kickdown" in your Porsche with Automatic Transmission.

It gives you the possibility to shift into a lower gear without moving the selector lever. The accelerator kickdown can only be applied with the selector lever in the driving ranges D and "2".

When depressing the accelerator pedal you will find resistance at the throttle position. By applying greater pressure the pedal can be pushed beyond this point to the kickdown position. The transmission will now shift automatically into the next lower gear to give you maximum acceleration, and only shift up again after the engine has reached maximum speed in that particular gear.

Be careful when using the kickdown on slippery roads. Rapid acceleration may cause skidding.

Please observe the following when applying the accelerator kickdown:

With the selector lever in D, you can apply the kickdown to make the transmission shift down into second gear when driving below 80 mph or 130 km/h and down to first gear when driving below 45 mph or 75 km/h.

With the selector lever in "2", you can apply the kickdown to make the transmission shift down into first gear when driving below 45 mph or 75 km/h.

As soon as you release the pedal from the kickdown position the next higher gear is automatically engaged.

Starting Hints

For your safety, fasten your seat belts!

Before starting the engine, make sure the gearshift lever is in **Neutral**.

If the engine fails to start after 10 to 15 seconds of cranking, wait about 10 seconds before restarting.

When starting at low outside temperatures, also depress the clutch pedal, so that the starter only has to crank the engine.

Starting at low outside temperatures

When starting in cold weather, fully depress the clutch pedal so that the starter only has to crank the engine.

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

Starting Engine

Temperature sensors on the engine automatically provide the correct fuel/air mixture required for starting. **Do not depress the accelerator pedal when starting the engine. This applies to a warm or cold engine.**

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

If the engine does not start the first time or stalls, turn the ignition key to the "off" position and restart.

Don't heat up the engine in idling. Start at once, however, avoid high speeds or full throttle before the engine has reached its normal operating temperature.

If you have an automatic garage door...

The transistorized ignition system in your Porsche may interfere with your electronically operated garage door. To check this: drive your Porsche close to the garage door and run the engine at different speeds.

If the garage door opens or closes without your operating the garage door unit in your car, contact the dealer who installed the automatic garage door to have the frequency and/or coding of the garage door signal modified.

Fuel Economy

Fuel economy will vary depending on where, when and how you drive, optional equipment installed, and the general condition of your car. A car tuned to specifications and correctly maintained, will help you get maximum fuel economy.

- Keep a light foot on the gas pedal.
- Drive smoothly, avoid quick acceleration, sudden changes in speed and abrupt stops.
- Avoid unnecessary idling. Turn the engine off.
- Do not carry unnecessary weight.
- Use air conditioner only when needed.
- Wheels should be aligned and tires inflated at correct pressures.

Engine Oil Consumption

Oil consumption in the engine is normal. 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.

During the break-in period oil consumption may be slightly higher than normal.

Break-in Hints for the first 1.000 miles/ 1.600 kilometers

There are no specific break-in rules for your Porsche; however, by observing a few precautions during the first miles, you can increase the service life and performance of your engine.

During the first 1.000 miles/1.600 km, all working components of the engine adjust to each other to a certain degree. Therefore:

Avoid full throttle starts and abrupt stops. Change speeds frequently. Vary the throttle load.

Do not exceed max. engine speed of 5.000 rpm (revolutions per minute).

Do not run a cold engine at high rpm or in Neutral.

Do not let the engine labor, especially when driving uphill. Shift to the next proper gear in time (use the most favorable rpm range).

There may be as slight stiffness in the steering, gearshifting or other controls during the break-in period, which will gradually disappear.

Never lug the engine in high gear at low speeds. This rule applies all the time, not just during the break-in period.

Maximum engine speed

The red mark on the tachometer dial serves as an optical reminder not to overrev the engine. The speed limiting governor prevents overrevving the engine under load by limiting the engine speed. The tolerance of the speed governor is + 200 rpm.

Breaking in brake pads

Brake pads do not have maximum braking efficiency when the car is new. Therefore more pedal force is necessary during the first 120 miles/200 km. This also applies to replacement brake pads.

Breaking in new tires

New tires do not have maximum traction. They tend to be slippery. Break in new tires by driving at moderate speeds during the first 60 to 120 miles/100 to 200 km.

Hints for Winter Operation

Engine oil

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 should a single-grade oil of the correct viscosity be used for winter weather driving. Specifications of the various oils to be used are detailed under "Filling Capacities". **The use of oil additives is not recommended by Porsche.**

Battery

When outside temperatures fall, the battery's capacity decreases, but at the same time the load placed on it increases considerably. Therefore check the condition of the battery in time and, if necessary, have it charged. Check also the level of the electrolyte and add distilled water if required. Battery terminals should be greased with petroleum jelly.

Corrosion prevention

The road salts used to keep the roads and highways free of ice and snow promote corrosion. For this reason, we recommend that any damage to the factory-applied undercoating be repaired before the winter. Protective sprays containing oil should not be used as they attack both the rubber components and the protective undercoating.

In addition, the body should be coated with wax for protection, and the chrome ornamentation on the car, including hub caps and bumpers, with a chrome preservative.

Coolant

For year round driving, the Porsche 928 is delivered with anti-freeze coolant in the radiator for temperatures down to
-23° F / -30° C for U.S.A.
-40° F / -40° C for Canada.

Antifreeze consistency

At the beginning of the winter season, have the coolant checked for antifreeze consistency, particularly if you have added only clear water before. Use any quality antifreeze containing ethylene glycol. The mixing ratios between water and antifreeze depend on outside temperatures to be expected and are listed under "Capacities". They can also be taken from the container of the anti-freeze manufacturer.

Washer reservoir

To assure that the windshield washer and the headlight washer systems also function at freezing temperatures, antifreeze must be added to the water beforehand. Follow the instructions on the can for the right amount to be used.

Winter tires, snow chains

Winter radial ply tires give good traction in snow or slush. For a better grip on hard

snow or ice, you can use winter tires with studs, but check with your local Motor Vehicle Bureau for possible restrictions.

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

Winter tires should always be mounted on all four wheels. They should also conform to the same load requirements as original equipment tires.

For safety reasons, it is not advisable to drive with winter tires at prolonged high speeds. Winter tires do not have the same degree of traction on dry, wet or snow-free roads as regular tires. Winter tires would wear rapidly under these conditions.

Snow chains can only be mounted on the rear wheels. Use only snow chains with fine pitch links, so that enough space remains between the chains and the inside of the wheel arches.

Wheels must rotate freely in all steering positions with chains mounted to prevent damage to body, rear axle or brake components. Follow instructions issued by the supplier of the chains. Remove chains as soon as roads are free from snow.

Ski Racks and Roof Racks

Ski racks and roof racks must never be attached to the drip molding around the roof panel. Your authorized Porsche dealer can assist you in obtaining and installing the correct equipment.

Rubber moldings

Rubber moldings around the doors and the rear hood should be lightly coated with glycerine or talcum to protect them against freezing.

Locks

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

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

Emergency equipment

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

Note: We recommend to have a maintenance service performed prior to the cold season and in accordance with the Maintenance Schedule.

Operating your Porsche in other Countries

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

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

- unleaded fuel may not be available;
- unleaded fuel may have a considerably lower octane rating. Excessive engine knock and serious damage to both engine and catalytic converter could result;
- service may be inadequate due to lack of proper service facilities, tools or diagnostic equipment;
- replacement parts may not be available or very difficult to get.

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

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

Cleaning your Porsche

The Porsche paint finish is of a high quality baked synthetic enamel. The color and enamel type designation is indicated on a plate attached to the left front doorpost. In correspondence pertaining to the paint finish, make sure to include the car's identification numbers.

Car washing

Pamper your Porsche! Wash it by hand! The mechanical brushes in an Automatic Car Wash may not reach every angle of the vehicle, and some **tracks may cause damage to the underbody.**

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

Therefore dirt should be washed off as soon as possible. Do not wash the car as long as the surface is hot from exposure to the sun or engine heat, or in direct sunlight.

Dust should never be wiped off the car with a dry rag since dust particles are abrasive and will rapidly dull the finish and cause scratches that may be difficult to repair.

Use plenty of water, a car-wash soap and a soft sponge or hose brush. Begin by spraying water over the dry car to remove all loose dirt before applying the lukewarm soap/water solution.

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

Since water will usually wet the brakes, resulting in poor braking or one-sided pulling, it is important to test the brakes after the car has been washed.

Care of the finish

Oils contained in the paint are the most important ingredients contributing to the elasticity of the finish. Because these oils are gradually lost, due to weather and similar causes, they must be replenished through regular and proper care of the finish. Given proper care, the original finish will retain its luster for many years. Ask your dealer for approved cleaning agents. The use of polishes is recommended only after it becomes evident that the normal preservatives no longer accomplish the job.

Keep silicone polishes off the windshield to avoid wiper smear in rain.

Spots and stains

Road tar, grease, oil, and insects cannot always be removed with soap and water alone and require special treatment. Spots of any sort should be removed without delay before they change the color of the paint and cause permanent damage. Only use an adequate cleaning solution.

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

Whenever using commercial cleaning agents, follow the directions on the containers. Be aware of warning or caution labels.

Cloth upholstery and carpet

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

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

Leather and leatherette

The best way to clean leather and leatherette is by using a lukewarm soap water solution and a soft brush. Wipe dry with a soft rag. Occasionally a colorless leather preservative should be applied.

Windows

The road dust settling on the windows contains tire abrasives and oil. Use a lukewarm soap water solution or commercial window cleaning agents for the inside and outside. Also clean the wipers.

If a chamois is used for polishing the glass, it should exclusively be used for that purpose.

Never use chemical cleaning agents for the plastic covers of the front and rear turn signals. They should only be cleaned with water or a soap/water solution.

Touch-up paint

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

Door, hood, and window seals

The rubber seals become brittle and crack if they are not occasionally treated with glycerine or talcum.

Windshield wiper blades

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

Storing your car

Before placing your car in storage for a prolonged period of time, consult your authorized dealer regarding corrosion prevention.

Exercise Extreme Caution when working under the Engine Hood

- Before working on any part in the engine compartment, turn the engine off.
- If work has to be done with the engine running, exercise extreme caution to prevent neckties, jewelry or long hair from getting caught in the electric radiator fan or the V-belt driven mechanical fan.
- **Even when the engine is turned off, the electric radiator fan will continue running until the coolant temperature has dropped to 87° C/189° F. As long as the engine is still hot, the electric fan may also switch itself on suddenly. Wait until the engine has cooled down sufficiently.**
- Always support your car with safety stands if it is necessary to work underneath the car. The jack supplied with the car is not adequate for this purpose.
- When working under the car without safety stands but with the wheels on the ground, make sure the car is on level ground, that the wheels are blocked with wedges, and that the engine cannot be started. REMOVE THE IGNITION KEY TO PREVENT INADVERTENT STARTING OF ENGINE.
- Your Porsche 928 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.
- Do not smoke or allow an open flame around the battery or gasoline.
- Keep a fire extinguisher in close reach.

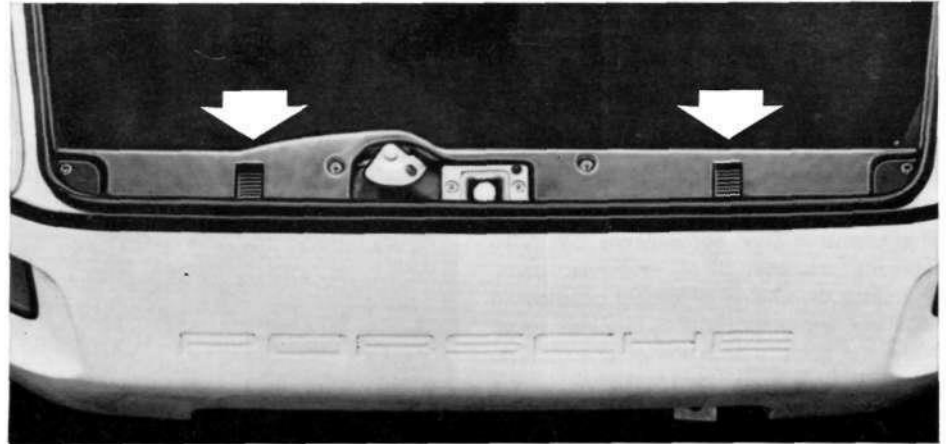
Maintenance and Emergency Service

The recommended service intervals, as listed in the Maintenance Record, apply under normal driving conditions.

The condition of oil, and of wear and tear items depends greatly on the amount of driving and on driving habits. Therefore, oil and wear and tear items should be checked more frequently and possibly changed at shorter intervals.

Incomplete or improper servicing may cause problems in the operation of the car and affect your warranty coverage. If in doubt about any servicing, have it done by a qualified mechanic or by your authorized dealer.

See also "Cautions" on page 46.



Tool-kit

The tool kit is a lift-out tray (arrows) fitted into the rear cross wall of the car. It contains the tools needed for minor road side repairs or adjustments and a set of spare bulbs.

Regulations in some countries require additional tools. Details should be obtained before leaving for a foreign country.

Car jack

The car jack is located underneath the luggage compartment, together with the collapsible spare tire. The tire is covered by a lid with a quick release catch.

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

Engine oil

Always use a quality oil labeled "For Service API/SE". Let your Porsche dealer assist you with selecting the correct grade and viscosity according to the seasons.

Porsche recommends not to use any oil additives.

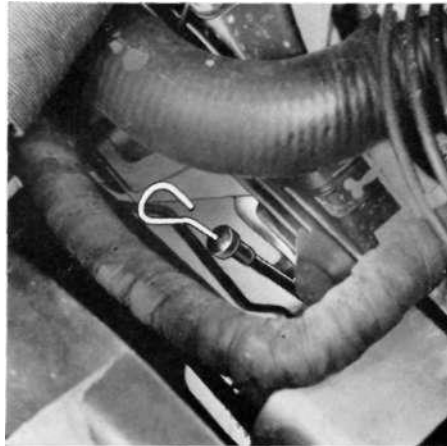
The engine in your car depends on oil to lubricate and cool all of its moving parts. Therefore the engine oil should be checked regularly and kept at the required level. Make it a habit to have the engine oil level checked with every second fuel filling.

Checking oil level

To get a true reading, the car should be on level ground. After turning off the engine, wait a few minutes for the oil to return to the oil sump.

1. Pull out dipstick and wipe it clean with a rag.
2. Reinsert dipstick; push it in all the way for an accurate reading.
3. Pull dipstick out again. The oil level is correct if it is between the "max" and "min" marks on the dipstick.
4. If oil level is below "min" mark, or not showing on dipstick, add oil immediately.

The difference between the two marks is about 1.6 U.S. qt. or 1.5 liter.

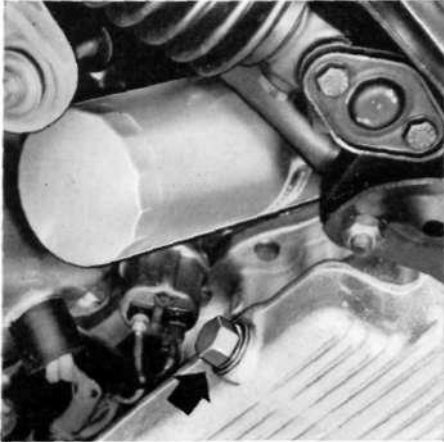


Should the engine oil level be too low, the central warning light and the engine oil level warning light will flash as soon as the ignition is turned on (see "Central warning light system"). Do not start the engine but add oil immediately or contact your Porsche dealer.

Adding engine oil

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

1. Remove oil filler (arrow).
2. Top up with quality oil labeled "For Service API/SE".
3. Check oil level on dipstick - upper mark should not be exceeded.
4. Replace cap and tighten.



Changing engine oil

The engine oil should be changed at the intervals listed in your **Maintenance Schedule**. If you drive mostly short distances or in dusty areas, the engine oil should be changed more frequently.

With the engine at operating temperature and the ignition off,

- 1 - loosen and remove oil filler cap
- 2 - loosen oil drain plug (arrow) on oil pan and allow oil to drain completely
- 3 - clean oil drain plug and replace, using a new gasket. **Do not overtighten the plug.**
- 4 - fill the crankcase with about 8.5 U.S. qts. or 8 liters of engine oil labeled "For Service API/SE" (see "Filling Capacities")
- 5 - check the oil level with dipstick and re-install oil filler cap
- 6 - run engine to operating temperature and check for leaks.

Changing oil filter

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

- 1 - loosen oil filter element with appropriate wrench and remove
- 2 - lightly coat new filter seal with oil
- 3 - screw on new filter element until seal just contacts the crankcase. Only hand-tighten according to filter manufacturer's instructions on container or filter element.
- 4 - run the engine and check for leaks.

Be mindful of how you dispose of used engine oil. Do not dump it on garden soil, wooded areas, into open streams or down sewage drains. Your zoning regulations or environmental rules will tell you how you can dispose of it. Should the disposal of old engine oil present a problem, we suggest that you have your oil changes at your dealer or at a service station.

Manual transmission fluid

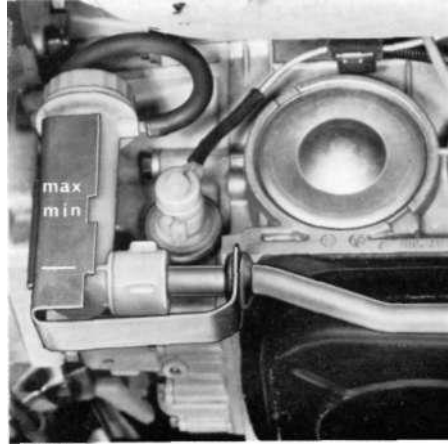
The transmission oil has to be changed at the intervals listed in your **Maintenance Schedule**.

Hypoid oil SAE 75W-90 labeled "For Service API/GL5 or Mil-L 2105B" **must be used for the manual transmission** (also for limited slip differential). Also see "Filling Capacities".

If multi-grade hypoid oil is not readily available, use ATF Dexron®.

We recommend that you have the transmission oil changed at your Porsche dealer, who has the required lubricants and the necessary filling equipment.

If you suspect an oil leak in the transmission, have your dealer check it out immediately.



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.

The automatic transmission may be damaged by even a tiny speck of dirt. Only a clean funnel or spout must be used when adding ATF.

Checking the ATF level

The ATF should be checked at the intervals listed in your **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 can be checked visually through the transparent reservoir, located at the rear end of the transmission housing. You have enough ATF, if the fluid level is between the MAX and the MIN mark on the reservoir. **The level should never be above or below these two marks.**

Should the fluid level in the transparent reservoir drop below the MIN mark or rise above the MAX mark, do not just add or drain ATF. Have your dealer check and correct the cause promptly.

In the event of a noticeable loss of ATF, contact your dealer immediately.

Changing the ATF

The ATF has to be changed at the intervals listed in your **Maintenance Schedule**. When refilling, the level must reach **the mark below the MIN mark**. Also see "Filling Capacities". The hypoid oil in the final drive does not have to be changed.



Windshield/headlight washer reservoir

The transparent fluid reservoir is located in the right rear of the engine compartment, in front of the expansion tank (see illustration). Clear water is normally not adequate to keep your windshield and headlights clean. Add a solution, such as windshield washer solvent and antifreeze offered by your dealer.

Cooling system

For year round driving, antifreeze is added at the factory for temperatures down to:

- 23° F / -30° C for U.S.A.
- _ 40° F / - 40° C for Canada

Because of its anti-corrosion properties, anti-freeze should also remain in the cooling system for summer operation.. Cooling system capacity and specified antifreeze and water ratios are listed under "Filling capacities".

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

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

Warning: The radiator fan is electrically driven. It is switched on automatically by a thermostat when the coolant reaches 92° C / 198° F. Even when the engine is turned off, the fan will continue running, until the coolant temperature has dropped to 87° C / 189° F and until the engine itself has cooled down sufficiently.

See also "Cautions" on page 46.

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 right rear of the engine compartment (see illustration). Since the expansion tank is transparent, it is not necessary to unscrew the filler cap.

When the engine is cold, the coolant level should reach the filler mark on the expansion tank. When the engine is warm, the coolant level will be above the filler 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. Open the filler cap to the first catch 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.

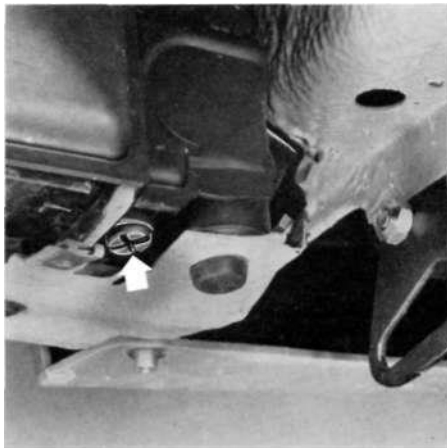
A warm engine should only be topped up if the coolant level has dropped appreciably below the filler mark. Too much added coolant will escape through the pressure cap when coolant warms up.

Bleeding cooling system

If more than about 1.1 U.S. qt. or 1 liter must be added, the cooling system should be bled.

- 1 - move the temperature control lever (upper lever) in the center console all the way to the right
- 2 - start the engine and allow it to run at increased idle for about one minute
- 3 - turn the engine off
- 4 - recheck the coolant level and add as necessary.

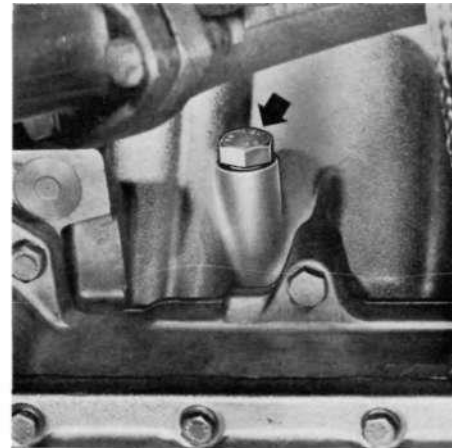
For antifreeze/water mixing ratios and cooling system capacity, see "Winter Operation" and "Filling Capacities", respectively.



Changing coolant

(with cold engine only)

- 1 - set heater lever at "warm"
- 2 - remove filler cap from expansion tank
- 3 - unscrew and remove drain plug (arrow) from radiator and drain coolant
- 4 - unscrew and remove drain plugs (arrow) from left and right hand sides of crankcase and drain coolant
- 5 - replace seals for drain plugs on crankcase and the O-ring for drain plug on radiator.



Tightening torques:

- radiator plug:
1.1-1.5 lbft or 1.5-2.0 Nm
 - crankcase drain plugs:
33 - 37 lbft or 45 - 50 Nm
- 6 - add coolant until level reaches edge of filler cap opening (with heater lever set at "warm")
 - 7 - run engine at increased idle until it reaches operating temperature and recheck coolant level
 - 8 - coolant level should be in the middle of expansion tank.



Brake fluid reservoir

The brake fluid reservoir is located in the engine compartment.

The brake fluid reservoir has three chambers: one for each of the dual brake circuits, and one for the clutch.

Check the brake fluid level regularly. Since **the** reservoir is transparent, the fluid level can be checked without removing the filler cap. The fluid level should always be between the MIN and MAX marks.

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

Warning: Brake fluid is poisonous!

Caution: Brake fluid must not come into contact with paintwork.

Brake fluid absorbs moisture from the air and must therefore be replaced every 2 years.

Only new, unused brake fluid that meets SAE specification J 1703 or DOT 3, which conforms to Motor Vehicle Safety Standards No. 116 should be used.

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

If the brake fluid level should drop below the MIN mark, the central warning light and the brake fluid warning light will flash (see "Central warning light system").

Pull off the road, stop the engine and add brake fluid immediately or contact the nearest Porsche dealer to have the cause located and corrected.

Catalytic Converter

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

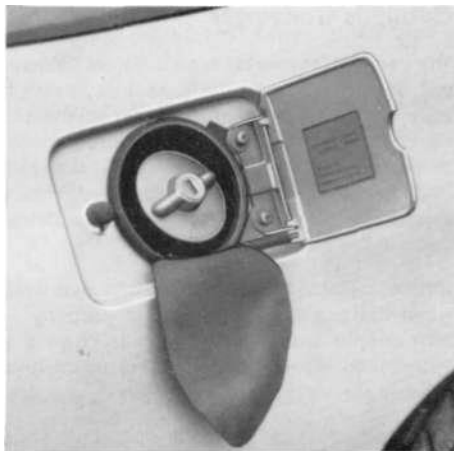
Caution: Catalytic converters can overheat when the engine is not working properly - for example when spark plugs misfire or the ignition timing is off (see sticker on the driver's sun visor).

Therefore do not continue operating your car if you detect engine misfire or other unusual operating conditions.

Continued driving with an overheated catalytic converter, may damage the converter and cause it to lose its efficiency in controlling exhaust emissions.

Immediate damage to the catalytic converter will result if you turn the ignition off while your car is moving, or if you try to push-start the car, because under these conditions unburned fuel can reach the catalytic converter.

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



Fuel filler cap

The fuel filler cap is located under the flap in the rear quarter panel behind the right rear wheel.

When putting the cap back on the fuel filler neck, be sure cap is securely seated. Twist cap counter-clockwise, until it stops with an audible click.

We recommend you turn off the engine when filling the fuel tank.

Fuel tank capacity

Fuel tank capacity is listed under "Filling Capacities".

Fuel Recommendation

Your Porsche is equipped with a catalytic converter and must use **UNLEADED FUEL ONLY**. Minimum octane rating is 91 RON (87 CLC rating on U.S. fuel pumps).

The use of **UNLEADED FUEL ONLY** is critically important to the life of the catalytic converter. Deposits from leaded gasolines will ruin the converter and make it ineffective as an emission control device.

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

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

Porsche recommends not to use any fuel additives.

Octane ratings

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

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

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

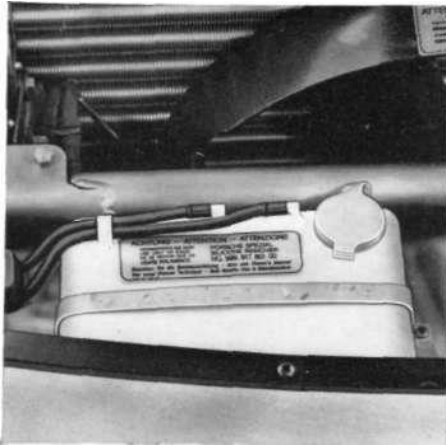
$$\frac{\text{RON} + \text{MON}}{2}$$

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

91 RON equals 87 CLC

95 RON equals 91 CLC

Never carry additional fuel in portable containers in your car. Such containers, full or partially empty, may leak, cause an explosion, or result in fire in case of an explosion.



Intensive windshield washer system reservoir

The transparent reservoir is located in the engine compartment in front of the radiator.

To avoid paint damage, we recommend the exclusive use of a "special silicone remover" cleaning agent. Clear water and antifreeze will not be sufficient.

Your Porsche dealer can advise you which product to use.

(Also refer to "Filling capacities" and "Cooling system mixing ratios".)



Power steering fluid reservoir

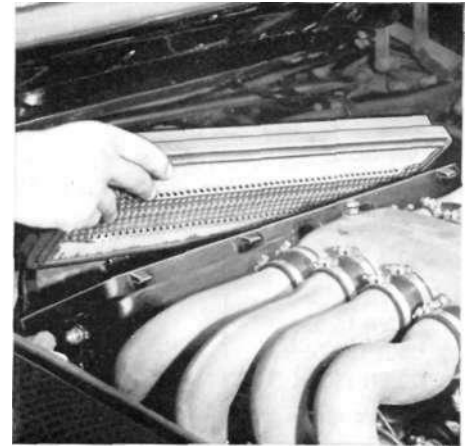
The reservoir is located in the engine compartment on the left side.

To check fluid level. . .

- 1 - remove cap from reservoir
- 2 - with engine running at operating temperature, the fluid level should meet the mark on the reservoir.
If necessary, top up with ATF Dexron.
- 3 - reinstall cap and make sure that sealing ring is seated correctly.

Changing air cleaner filter element

A dirty air cleaner not only reduces engine performance, but can lead to premature



engine wear. The filter element must be replaced at the intervals listed in your **Main•tenance Schedule**. If driving is mostly done in areas where the air is very dusty, the air cleaner should be checked and cleaned frequently - perhaps daily.

- 1 - Detach air intake hoses from air cleaner housing. Make sure that each hose stays connected to the toothed belt covers.
- 2 - Loosen rubber fasteners and remove top of filter housing together with filter element.
- 3 - Clean filter housing with lint-free rag and install new filter element.
- 4 - Reattach air intake hoses to air cleaner housing.

Tires, Wheels

The original equipment radial tires on your Porsche comply with all applicable Federal Motor Vehicle Safety Standards.

Tire pressures

Check tire pressure when the tires are still cold. Also check spare tire.

Tire size:

225/50 VR 16
215/60 VR 15
205/55 R 16M + S
185/70 SR 15 M + S

Tire pressure:

36 psi or 2.5 bar

Collapsible spare

32 psi or 2.2 bar

Do not exceed the maximum tire inflation pressure listed on the sidewall of the tire. All tire inflation pressures are also listed inside the fuel filler flap. Tire pressure and maximum speed information for the collapsible spare tire is located on the lid of the spare wheel well underneath the luggage compartment covering.

The tire pressure will increase progressively with increasing temperature; therefore, never let any air out of warm tires to meet cold tire pressure specifications.

In the interest of safety, check the tire pressure of all tires at least once a week, and always before going on a long trip. Also, check for unusual wear or damage such as cuts, broken cord and punctures.

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

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

When purchasing replacement tires, make sure that they show the same specifications for tire size, load carrying capacity, tread pattern, etc. This also applies to Porsche-recommended replacement tires.

New tires do not grip the road as well during the first 60 to 120 miles (100 to 200 km) as after this period. Therefore extra care should be taken when driving with new tires.

Tire wear

If you notice that tires are wearing unevenly, consult your authorized 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 rotation

By rotating the wheels periodically (approx. every 3.000 miles/5.000 km), it is possible to obtain a certain amount of uniform wear.

Only rotate wheels on the same side so that the direction of tire rotation remains the same.

Tire replacement

If you replace tires on one axle only, be sure to use tires of the same make and type. Always put the new pair of tires on the front axle.

When replacing tubeless tires, always install a new valve stem. When replacing tires requiring an inner tube, always install new tubes.

Repairs of tires and inner tubes should be done by qualified repair shops only.

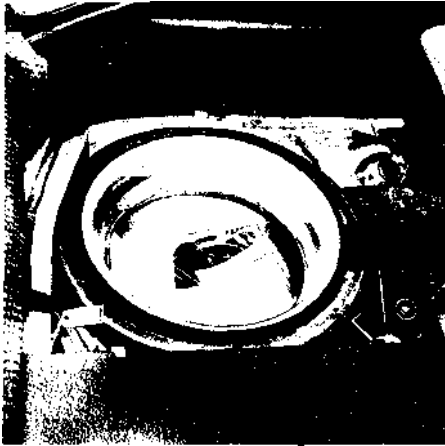
Wheels

If you intend to use other than original equipment wheels, be sure that they conform to Porsche specifications for your model.

Wheel balancing

A wheel should always be balanced after a tire repair. Also, since regular use or hard braking can cause tire imbalance, the wheels should 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.



Collapsible spare tire

The collapsible spare tire is located underneath the luggage compartment. It is covered by a lid with a quick release catch. The car jack is stored behind the spare tire. Stored inside the wheel rim is the electric air compressor kit. This kit also includes a plastic cover for the road wheel to keep luggage compartment or car interior clean.

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 or 80 km/h when using the collapsible spare tire. It is for emergency use and short distances only. Use the original road tire as soon as possible.

Inflating the collapsible tire

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

1. Install spare wheel before inflating the tire.
2. Attach hose of air compressor to tire valve and insert plug of electric cord into cigarette lighter socket.
3. **The required tire pressure is 32 psi or 2.2 bar.** Check pressure with tire pressure gauge.
4. 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 compartment underneath the luggage compartment.

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

Tire tread depth

As required by law, the tread depth of the collapsible tire is the same as that of the original equipment tire. Replace a worn collapsible spare tire in time.

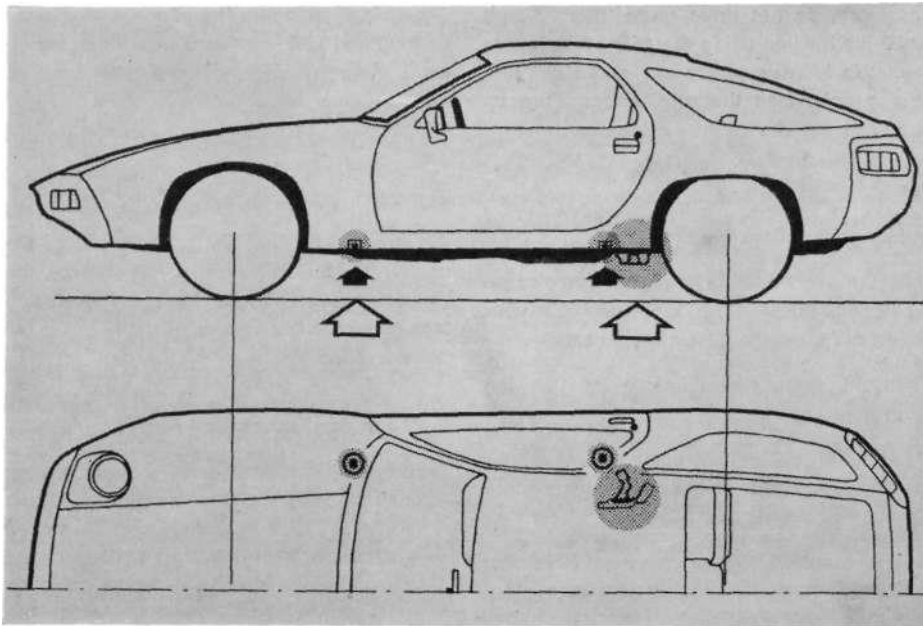
If air compressor does not work

- ... Check if tobacco or any other foreign matter is lodged in the cigarette lighter socket. Remove carefully with a wooden pick. Do not use metal object to prevent short circuit.
- ... Check if fuse is blown. Replace with new equivalent fuse.

Maintenance of air compressor

The air compressor is maintenance-free. Do not apply oil or any other lubricant.

The air filter should be cleaned periodically to assure maximum efficiency of the unit.



Black arrows: Jackports for car jack
 White arrows: Lifting points for workshop hoist or floor jack

Changing wheels

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

Before you change a wheel, be sure the ground is level and firm, especially near the jack supports.

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

The car jack is only to be used for changing a wheel. Do not use it as a support to work under the car. Never jack the car up by the bumpers or the body. Passengers should not remain in the car when the car is jacked up.

Sequence of operations:

- 1 - Loosen the wheel nuts about one turn. Do not yet remove the nuts.
- 2 - Securely insert the car jack in the jackport located under the body. There are two on each side; front and rear.
- 3 - To raise the car, turn the handle clockwise. Only raise the car as much as is needed to change the wheel.
- 4 - Fully unscrew all wheel nuts and remove the wheel.
- 5 - When the spare wheel is in position, re-install the nuts and handtighten them crosswise. Be sure the wheel nuts are inserted with the beveled edge toward the wheel. When tightened crosswise, the nuts will center the wheel correctly.
- 6 - Inflate the collapsible spare tire with the air compressor (refer to page 57). Check pressure with tire pressure gauge.
- 7 - To lower the car, turn the jack handle counterclockwise. Remove the jack.
- 8 - Firmly tighten the wheel nuts again in a crosswise pattern.

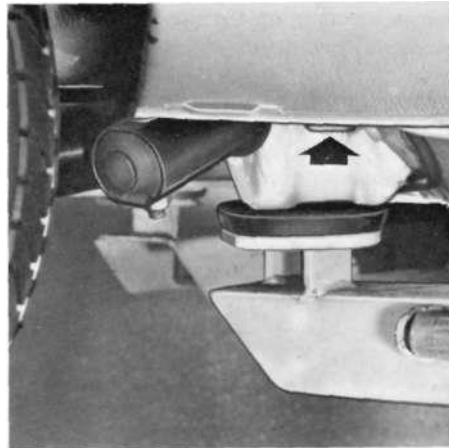
Correct tightness of the wheel nuts is important. Correctly tightened nuts should have a torque of 94 ft. lb. (13 kpm). This torque can be obtained with the wheel nut wrench by any person of average strength. If in doubt about the correct tightness of wheel nuts, have it checked with a torque wrench by your dealer or at a service station.



Lifting car with car jack

The car should be jacked up only at the jack-support points illustrated above and on preceding page (black arrows).

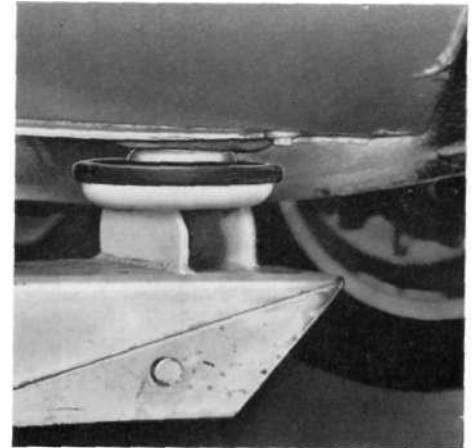
Caution: If work is to be done underneath the vehicle, the car must be supported by suitable chassis stands or raised with a workshop hoist.



Lifting car with workshop hoist

Make sure there is sufficient clearance between pads and vehicle, before driving car on hoist. The car must only be lifted at the lift pad points illustrated on preceding page (white arrows).

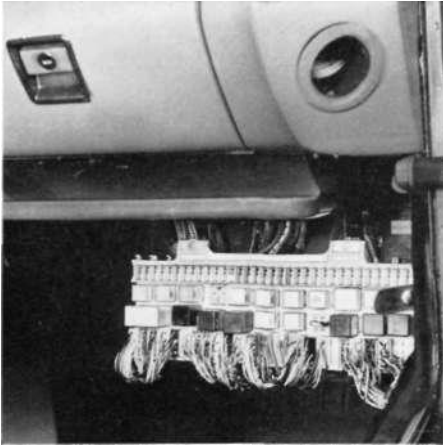
The rear lifting points are located on the rear axle control arm mount illustrated above (arrow).



Lifting car with floor jack

The same lifting points illustrated for the hoist also apply when using a floor jack. The rear end of the car can also be lifted with a floor jack in the center of the rear suspension cross member. To avoid possible damage, it is recommended to insert a block of wood or a rubber pad between the floor jack and the lift point pads as illustrated above.

Caution: The vehicle should never be jacked up from underneath the engine oil pan or the transmission. Severe damage could result.



Fuses and relays

A failure in the electrical system may be caused by a burned fuse or a faulty relay. The central fuse/relay board is located in the passenger's footwell and protected by a cover plate.

The relay board holds a row of 34 fuses along the top edge, numbered 1 through 34. Underneath are two rows of relays, identified with Roman numerals I-XXII.

Before replacing a fuse, turn off all electrical components and the ignition; remove the key. Replacing a fuse or a relay with the

engine running or the ignition on could cause electrical shock.

A burned 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.

To replace a fuse ...

- 1 - lift carpet in the passenger's footwell and remove protective cover plate from fuse/relay board
- 2 - turn fuses between contact springs until metal fuse strip faces upward. In a blown fuse the metal strip is separated
- 3 - take out blown fuse by carefully depressing the upper contact spring
- 4 - carefully install new fuse so that the metal strip is visible. The fuse must fit tightly between the contact springs - do not bend the contact springs
- 5 - replace cover plate and carpeting.

It is advisable to always carry a few spare fuses in the car.

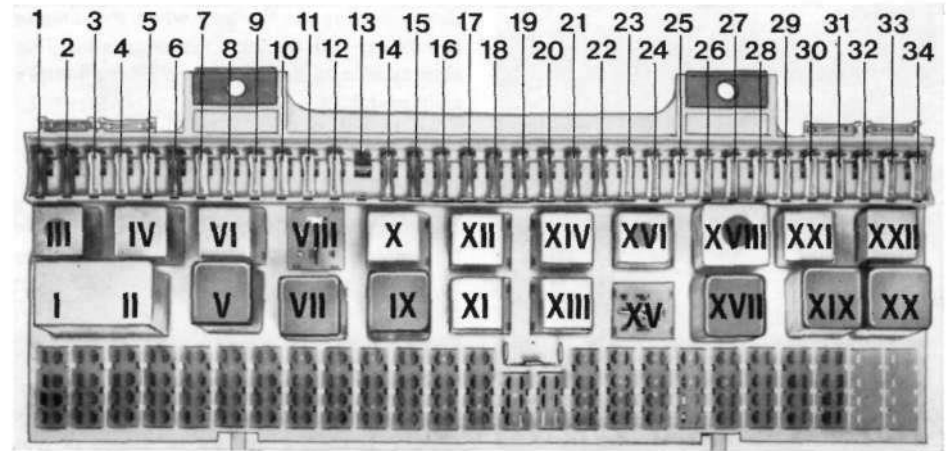
Relays

- I & II - rear window defogger
- III - headlight motor control relay
- IV - main power supply relay (headlights)
- V VI - turn signal flasher unit
- VII - power window controls
- VIII - headlight washer pump
- IX - not connected
- X - time relay for seat belts
- XI - two-tone horn
- XII - AC compressor
- XIII - fog lights
 - headlight beam power supply relay (on/off)
- XIV X - high/low beam relay
- XVII - bridge (starter relay)
- XVIII - safety relay for headlights
- XIX - fuel pump
- XX - extra cooling fan for AC
- XXI - intermittent wiper relay
- XXII - intensive washer system pump
 - heating and AC blower switch
 - defroster

To preclude any possibility of damage, we recommend you have a faulty relay checked and exchanged by your authorized Porsche dealer.

Fuse Chart

No.	Electrical component	Amperes
1	fog lights	16
2	not connected	
3	engine compartment/license plate lights	8
4	switch illumination lights	8
5	cigarette lighter/instrument illumination	8
6	windshield wipers	16
7	rear window wiper	8
8	sliding roof (optional equipment)	8
9	backup lights/outside mirror control	8
10	brake lights/automatic speed control	8
11	combination instrument warning lights/left	8
12	combination instrument warning lights/right	8
13	not connected	
14	power seat controls (optional equipment)	25
15	power antenna rear	16
16	electric radiator fan	25
17	heating and AC blower	25
18	rear window defogger	25



19	headlight motor	25	27	low beam/right	8
20	headlight washer	16	28	side marker light/left	8
21	power window controls	25	29	side marker light/right	8
22	fuel pumps	16	30	turn signal/front left	8
23	interior lights/clock	8	31	turn signal/rear left	8
24	high beam/left	8	32	turn signal/front right	8
25	high beam/right	8	33	turn signal/rear right	8
26	low beam/left	8	34	not connected	



Battery - 12 Volt

The battery is located underneath the collapsible spare tire in the luggage compartment. The battery is accessible after taking out the spare tire.

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

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

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 up with distilled water.

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

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

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
- spilled electrolyte fluid should be rinsed off at once with a baking soda and water solution to neutralize the electrolyte fluid and to prevent damage to fabric and metal.

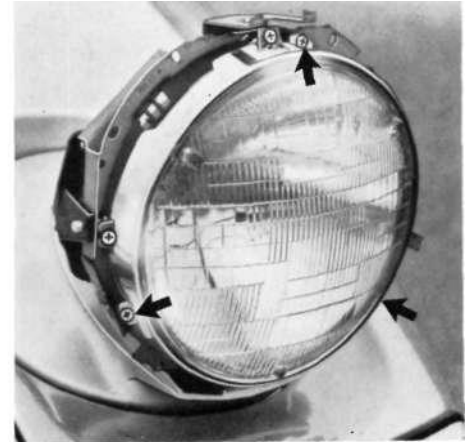
Keep your battery in the best possible condition at all times.

During the winter months, battery capacity tends to decrease as temperatures drop, and headlights, heater, rear window defogger, etc., are used more frequently. Curtail unnecessary power consumption, particularly in city traffic or when traveling short distances only.

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 the car is not driven for prolonged periods, the battery must be charged at least every 6 weeks. A discharged battery allows rapid formation of sulfates, leading to premature deterioration of the plates.

Replacing bulbs

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 for the plastic lenses. Plastic lenses should only be cleaned with water or a mild soap/water solution.

We recommend you keep an assortment of spare bulbs in the car.

When traveling abroad, remember that some countries require spare bulbs as part of the safety equipment.

Sealed Beam Headlights

Replacing light unit

- 1 - turn the ignition on
- 2 - turn light switch to position 2 to raise the headlights
- 3 - turn the ignition off
- 4 - unscrew the 3 Philips screws (arrows) and remove headlight cover and trim ring

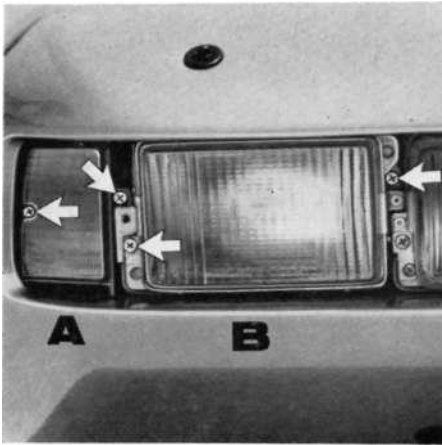
5 - unscrew the 3 small Philips screws from sealed beam securing ring and remove ring

6 - unplug wires, replace sealed beam unit and reconnect the wires

7 - reinstall sealed beam securing ring

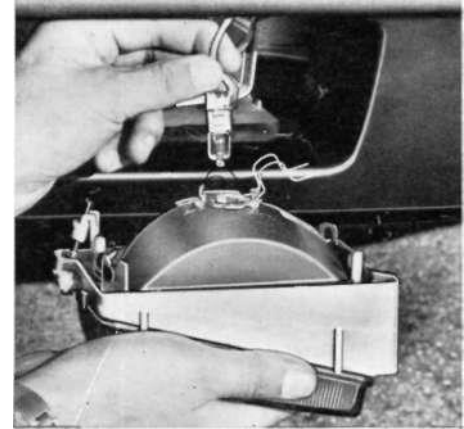
8 - check lights

9 - reinstall trim ring and headlight cover.



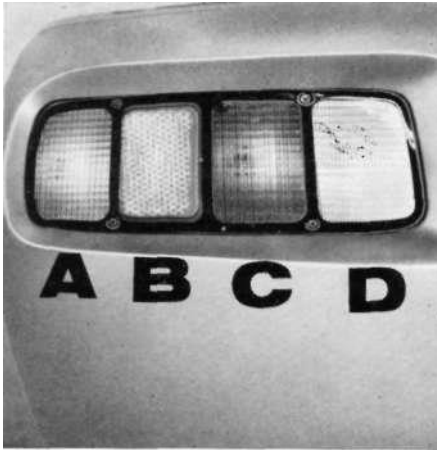
Front turn signal lights (A) Front parking lights (B)

- 1 - remove screws from plastic trim, take off trim.
- 2 - remove screws holding the lens, and remove lens.
- 3 - remove bulb from bulbholder, and fit new bulb.
- 4 - reinstall lens, tighten screws. Check functioning of light.
- 5 - install plastic trim and tighten retaining screws.



Fog lights

- 1 - remove screws from plastic trim, take off trim.
- 2 - remove Phillips screws. Take off lamp.
- 3 - disconnect wire. Push down holding clamp for bulb.
- 4 - remove defective bulb and replace. Be sure guide pins on bulb base fit into socket of reflector.
- 5-reinstall lamp, tighten screws. Check functioning and adjustment of light.
- 6-install plastic trim and tighten retaining screws.

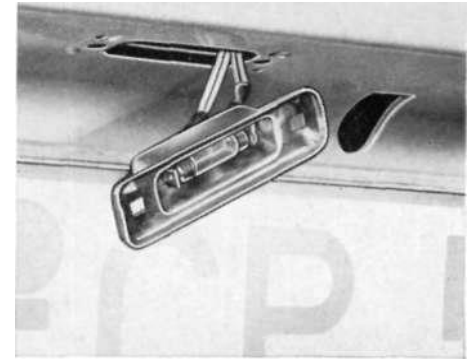


Tail lights

- A - turn signal light
- B-tail light
- C - stop light
- D - back-up light

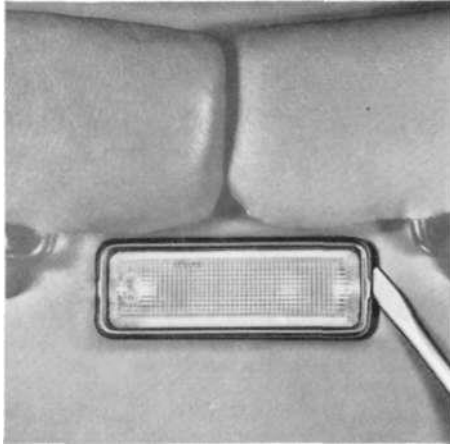
The tail lights are housed in one unit.

- 1 -Remove Philips screws and lamp lens.
- 2 - Replace bulb.
- 3 - Reinstall lamp lens and tighten Philips screws evenly, alternating from one to the other.
- 4-Check light.



License plate lights

- 1 - Unscrew both screws and lift out lamp housing.
- 2 - Replace bulb.
- 3 - Reinstall lamp housing and make sure it is firmly seated.
- 4-Check light.



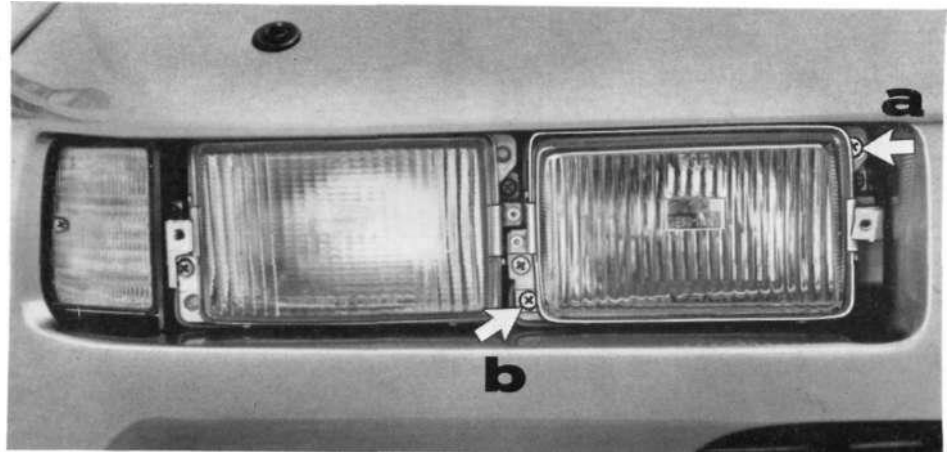
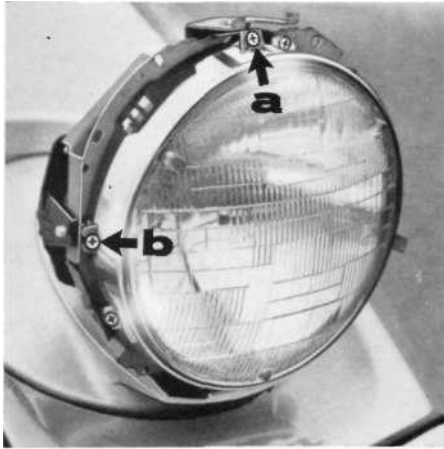
Interior lights

The following description applies to both interior lights:

- 1 - Insert screwdriver in cut-out on headliner and carefully pry out the lamp housing.
- 2 - Remove defective bulb between contact springs and insert new bulb.
- 3 - Insert one side of the lamp housing into cut-out and press firmly on the other side. Light unit will snap into place.

Ashtray lights

- 1 - Remove the two screws in ashtray housing and pull the ashtray housing upward and out.
- 2 - Slide bulb holder out of the housing and replace defective bulb with new bulb.
- 3 - Slide bulb holder back into housing and check light by turning on the ignition.
- 4 - Reinstall the ashtray housing.



Headlight adjustment

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 occupied by a person or a weight of approx. 155 lbs (70 kg).

Tire pressure must be correct.

Roll car forward a few feet so that the suspension seeks its normal position.

Adjustment screws

Each headlight and fog light has two adjusting screws, one for lateral setting, and one for vertical. By turning these screws left or right, the corresponding adjustment in beam position is effected.

Screw "a" (lateral adjustment)

right turn = beam moves right

left turn = beam moves left

Screw "b" (vertical adjustment)

right turn = beam moves up

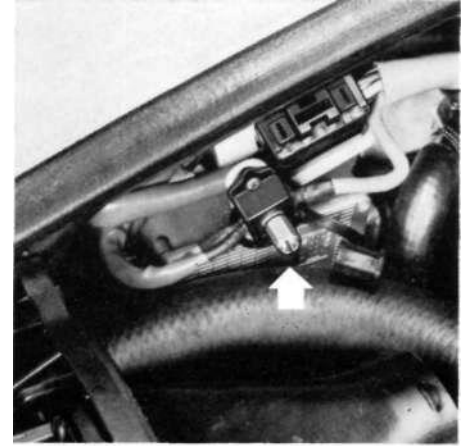
left turn = beam moves down



Manual Operation of Retractable Headlights

If the retractable headlights do not work automatically, they can be operated manually by turning the knob on the end of the motor drive shaft (arrow). The connecting rod assembly is designed in such a way that it need only be turned to the left to either raise or retract the headlights.

Warning: Do not turn the knob on the drive shaft as long as the automatic mechanism is operating. The motor may turn suddenly and cause injury. Before turning the knob, check whether the motor will work with the ignition in position 1 or 2 and the light switch in position 2.



Emergency start-assist

On right side of engine compartment you will see a positive (+) battery post (remote connection). Attach positive jumper cable to post (arrow) for emergency starting.

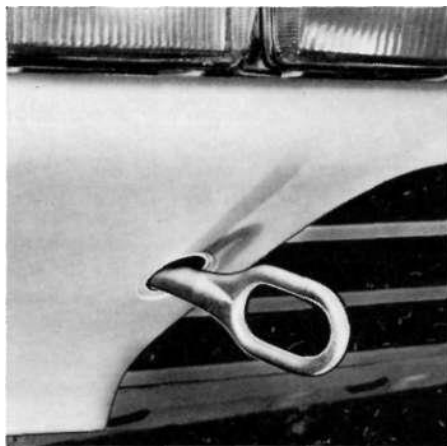


Emergency Towing with Tow Rope

Always observe local laws and municipal ordinances governing towing.

Note: If you are towing another car, it should not be heavier than your Porsche (approx. 3350 lbs. or 1520 kg).

The towing eye is in the tool kit located in the rear of the car. If you are towing a car, mount the towing eye at the rear of the car above the license plate (see illustration). If your car is being towed, remove the plastic body plug from the right front of the car before mounting the towing eye (see illustration). Always check to make sure the towing eye is securely screwed in.



Manual Transmission

- Place gearshift in Neutral.
- Release parking brake.
- Brake booster will not be operative when the engine is not running. More brake pedal pressure will be required to bring car to a stop.
- Turn ignition key to position 2 to unlock steering and to be able to operate turn signals, parking and stop lights.
- The driver of the towing car must be very careful when driving off and shifting to avoid sudden and abrupt jerks.
- The driver of the towed car must always keep the tow rope taut.

Automatic Transmission

When towing your car with automatic transmission, also observe the following in addition to the items listed under Manual Transmission.

The towing speed should not exceed 30 mph/ 50 km/h, and the towing distance should not be longer than 30 miles/50 km. For greater distances, the vehicle must be transported on a trailer.

This is very important because the transmission will not be adequately lubricated due to the lack of oil pressure normally provided when the engine is running.

Caution! Do not start or tow the car without ATF in the transmission, as this will result in serious damage to transmission and torque converter.

Emergency push-starting

Your Porsche with automatic transmission cannot be started by pushing or towing. Should the engine fail to start, consult your nearest Porsche dealer.

Note: The central warning light and all individual warning lights will be on when your car is being towed. They can only be turned off when the engine is started.

An Important Word of Caution on the Emission Control System in Your Car

Your car is equipped with an Emission Control System. The major components of this system are catalytic converter, secondary air injection, and EGR (Exhaust Gas Recirculation).

These components are designed to burn carbon monoxide and hydrocarbons in the exhaust gas. Normal operating temperature of the exhaust system will not cause any heat related problems if you maintain and use your vehicle properly.

However, lack of proper maintenance, maladjustment of the fuel system or ignition timing, as well as improper use of the vehicle may cause the exhaust system to exceed its normal operating temperature.

Overheating may result in severe damage to the catalytic converter, and under certain conditions may also damage other components of your car.

Therefore:

- Have your car maintained properly in accordance with the service recommendations of the Warranty & Maintenance booklet.

- 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, valves, which are designed to protect your car and the environment against high exhaust system temperatures.
- Do not continue to operate your vehicle if you detect engine misfire or other unusual operating conditions.
- Do not park your car over combustible material, including grass or leaves, which may come into contact with the hot exhaust system.

Catalytic Converter

Immediate damage to the catalytic converter will result if you turn the ignition off while your car is moving, or if you try to push-start the car, because under these conditions unburned fuel can reach the catalytic converter.

Undercoating

If additional undercoating is used, it must not be applied in the areas of the exhaust manifold, exhaust pipes or heat shields. During driving the substance used for undercoating could overheat and cause a fire.

Emission Control System

In the interest of clean air

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

Porsche has long recognized its responsibilities not only toward its customers but also toward the public in general. We have developed an emission control system that controls or reduces those parts of the emission that can be harmful to our environment. Your Porsche is equipped with such a system. On the following pages we explain how the Porsche emission control system works, and what you can do to keep it in working order.

Your new car is warranted 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.

How Emission Control Works

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

In addition, carbon monoxide (CO) and oxides of nitrogen (NO_x) contribute to harmful engine emissions. They, too, are formed during the combustion and discharged into the exhaust system. To reduce these pollutants all Porsche vehicles are equipped with a special emission control system.

Your Porsche is equipped with the following major components:

Controlled Combustion System

The amount of pollutants emitted from an engine greatly depends on the combustion of the air/fuel mixture. Complete burning of the air/fuel mixture is therefore very important. An improved combustion process in your

Porsche makes it possible to keep harmful emissions from the engine at the required low level.

Your Porsche engine is equipped with a precisely calibrated fuel injection system that assures a finely balanced air/fuel mixture under all operating conditions. Depending on engine demand the ignition distributor is monitored via vacuum lines to assure ignition at exactly the right moment for complete combustion.

Secondary Air Pump

A special air pump delivers fresh air to the engine exhaust ports. The additional air is used to "afterburn" the harmful emissions as they leave the combustion chambers. Through this method cleaner exhaust reaches the outside air.

Exhaust Gas Recirculation (EGR)

Your Porsche is equipped with an exhaust gas recirculation system. Some of the exhaust gas is recirculated to the engine before it reaches the muffler. The exhaust gas recirculated into the combustion chamber of the engine helps lower the formation of oxides of nitrogen (NO_x) during the combustion process.

Catalytic Converter

The catalytic converter is an efficient "clean-up" device built into the exhaust system of the car to further help reduce engine pollutants.

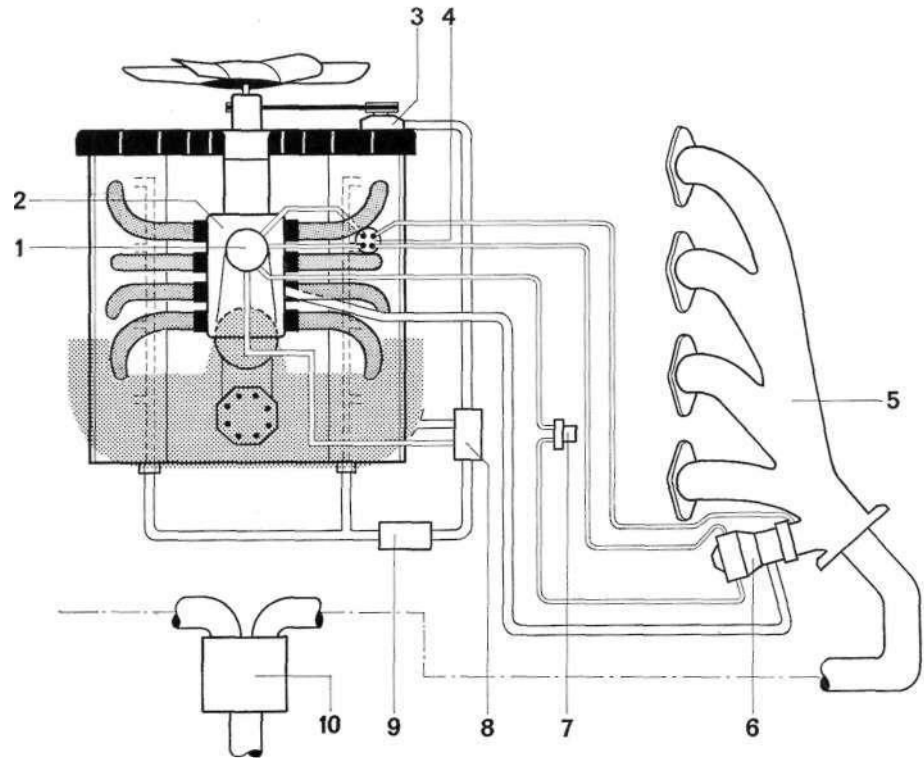
Harmful carbon monoxide and hydrocarbons in the exhaust gas are chemically changed into harmless carbon dioxide and water vapors before they pass to the outside through the muffler.

The use of **unleaded fuel**, however, is critically important to the life of the converter. Deposits from leaded gasolines will ruin the catalyst and make it ineffective as an emission clean-up device. Therefore, only unleaded gasoline should be used.

Crankcase Ventilation

Through Crankcase Ventilation harmful 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.

Emission Control System



- 1 Throttle valve
- 2 Intake manifold
- 3 Secondary air pump
- 4 EGR-amplifier
- 5 Exhaust manifold
- 6 EGR-valve
- 7 Temperature valve
- 8 Air diverter valve
- 9 Check valve
- 10 Catalytic converter

Activated Charcoal Filter

Vapors from the fuel tank are trapped in a container filled with activated charcoal. The filter is connected to the fuel tank vent system. This is how it works:

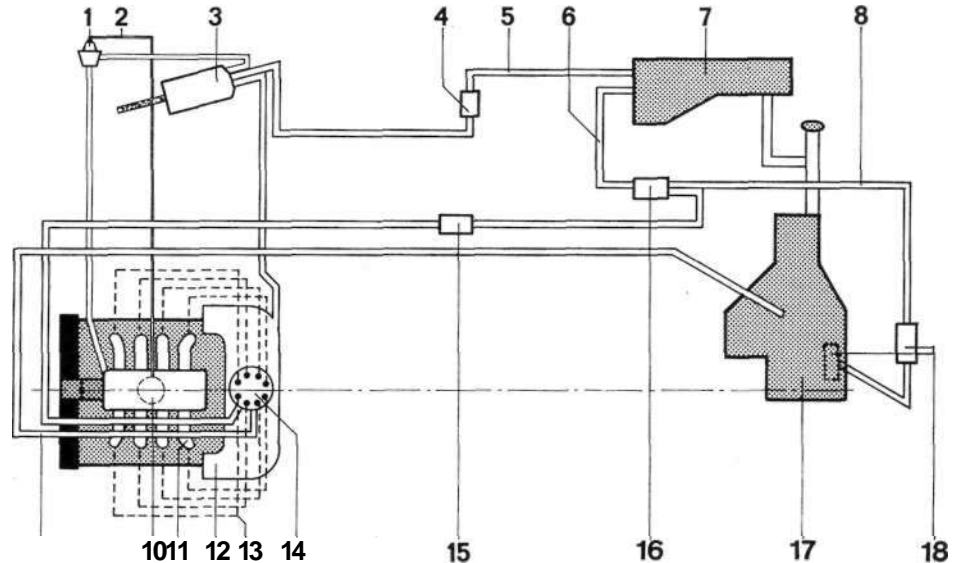
Fuel vapors pass through the filter and deposit hydrocarbons on the surface of the

charcoal filter element. When the engine is running, fresh air is drawn in through the charcoal filter. This fresh air regenerates the filter and routes the hydrocarbons through the air cleaner back to the engine, where they are burned during normal combustion.

Fuel Tank Venting

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

- 1 Control valve
- 2 Vacuum control line
- 3 Charcoal filter
- 4 Vent valve
- 5 Vent line
- 6 Leakage pipe
- 7 Expansion chamber
- 8 Fuel line
- 9 Fuel return line
- 10 Throttle plate
- 11 Intake manifold
- 12 Air cleaner
- 13 Fuel injection lines
- 14 Fuel distributor
- 15 Fuel filter
- 16 Accumulator
- 17 Fuel tank
- 18 Fuel pumps



Technical Data

Engine

Number of cylinders	8
Bore Stroke	3.74 in/95.0 mm
Displacement	3.11 in ³ /78.9 mm ³
Compression ratio	272.97 cu.in/4474 cm ³
SAE net-horsepower SAE J 245	8.5: 1
SAE net-torque SAE J 245	219hp/164 kW at 5250 rpm
Fuel octane rating	245 ft.lb/333 Nm at 3600 rpm
Max. permissible	Unleaded fuel only 91 RON (87 CLC rating on fuel pumps in U.S.A.)
Spark plugs	6300 rpm
Spark plug gap.	Bosch W 8 D (W 145 T 30); Beru 14-8 D (145/14/3 A)
Battery capacity	0.028-0.032 in/0.7 + 0,1 mm
Alternator output	12 Volts, 66 Ah
Firing order	1260 W/90 A AC
Ignition timing	1 - 3 - 7 - 2 - 6 - 5 - 4 - 8
Ignition	31 ° before TDC at 3000 rpm with distributor vacuum disconnected
Fan belts	Transistorized ignition system with breakerless distributor
Valve clearance	Alternator 9.5X875 LA; cooling fan and air pump 12.5X1050 LA-FD toothed belt; Air conditioning pump 12.5X 1075 LA. Servo pump 12.5X975 LA Self-adjusting hydraulically operated

Engine Design Specifications

Design	8 cylinders in V configuration
Operating cycle	4 stroke
Cooling	water cooled
Lubrication	pressure-fed from sump
Cylinder block and head	light metal alloy
Valve operation	1 overhead camshaft per cylinder bank
Camshaft drive	toothed V-belt
Crankshaft	forged
Fuel supply	2 electric pumps
Fuel injection	CIS (Continuous Injection System, also known as K-Jetronic)

Power Train

	Manual transmission			Automatic transmission
	Number of teeth	Gear ratio	Total ratio	Gear ratio
Gear ratio 1st gear	$\frac{32 \cdot 44}{23 \cdot 17}$	$\cong 3.6010 : 1$	9.9028 : 1	2.306 : 1
2nd gear	$\frac{32 \cdot 39}{23 \cdot 22}$	$\cong 2.4664 : 1$	6.7826 : 1	1.460 : 1
3rd gear	$\frac{32 \cdot 34}{23 \cdot 26}$	$\cong 1.8194 : 1$	5.0034 : 1	1 : 1
4th gear	$\frac{32 \cdot 28}{23 \cdot 29}$	$\cong 1.3433 : 1$	3.6941 : 1	
5th gear	$\frac{1}{1}$	$\cong 1 : 1$	2.7500 : 1	
Reverse	$\frac{32 \cdot 50}{23 \cdot 22}$	$\cong 3.1621 : 1$	8.6958 : 1	1.836 : 1
Rear axle ratio	$\frac{33}{12}$		2.7500 : 1	2.750 : 1
Clutch	Double plate dry disc			
Power transmission	Double constant velocity joints and drive shafts			

Rims, Tires, Wheel Alignment

Summer tires

7 J X 16 H 2 with tires 225/50 VR 16

Winter tires

7 J X 15 H 2 with tires 215/60 VR 15 on cars with automatic transmission

Collapsible spare tire

185/70 SR 15 M+S on 7 J X 15 H 2 rims or 205/55 R 16 on 7 J X 16 H 2 rims

Tire pressure, front and rear

165-15 SST on 5 JX15 H 2 rim

with cold tires

36 psi or 2.5 bar for summer and winter tires; 32 psi or 2.2 bar for collapsible spare tire

Wheel camber*

Front -3.0' ± 10'. Rear -4.0' ± 10'. Maximum difference left to right 10'.

Toe-in*

Front 0° ± 5' under 33 lb or 15 kg pressure. Rear + 10' ± 5'.

Toe angle difference*

At 20° lock to left and right - 1° ± 20'

Caster*

3° 30' ± 30' difference left to right maximum 20'

* At curb weight

Weights

Curb weight¹⁾

3351 lbs/1520 kg

Maximum load capacity

683 lbs/ 310 kg

Maximum permissible weight

4123 lbs/1870 kg

Maximum axle load, front*

1985 lbs/ 900 kg

Maximum axle load, rear*

2205 lbs/1000 kg

Permissible rack load*

77 lbs/ 35 kg

* Do not exceed maximum permissible weight

i) Automatic 3439 lbs/1560 kg

Performance

Maximum speed
Acceleration 0-62 mph (0-100 km/h)
Time for 'A mile
Time for 1 km

* At curb weight and half-load capacity

Manual transmission

143 mph (230 km/h)
7.5 seconds
15.5 seconds
28 seconds

Automatic transmission

140 mph (225 km/h)
8.5 seconds
16 Seconds
29 Seconds

Climbing Performance

Approximate values at
curb weight and half-load
capacity

Manual transmission

1st gear approx. 71 %
2nd gear approx. 41 %
3rd gear approx. 28 %
4th gear approx. 18 %
5th gear approx. 11 %

Automatic transmission

1st gear approx. **38 %** **56%**
2nd gear approx. **21 %** **33%**
3rd gear approx. **11 %** **22%**

* shortly climbing performance

Brake System

Hydraulic dual circuit brake system with diagonal brake circuits
Front and rear: Disc brakes
Brake power assist
Parking brake acting on rear wheels

Chassis, Suspension

Unitized construction
Suspension

Shock absorbers
Stabilizers

Independent suspension with double control arms, coil spring and shock absorber assembly
for each wheel, front and rear
Double acting hydraulic shock absorbers, front and rear
Diameter 26 mm, front - 21 mm, rear

Filling Capacities

Engine oil quantity*	<p>Without filter change approx. 7.93 U.S. qts. or 7.5 liters; with filter change approx. 8.45 U.S. qts. or 8 liters. Use brand HD oils for gasoline engines, according to API classification SE.</p> <p>For all year round filling (oil change intervals 15.000 miles/24.000 km) use multi-grade oils SAE 10 W-40, SAE 15 W-50 or 20 W-50. The 20 W-50 oil should not be used at constant temperatures below + 5° F/- 15° C.</p> <p>Porsche recommends the use of single-grade oils only if multi-grade oils are not readily available. Oil changes must then be performed according to season to guard against engine damage. The following viscosity can be used: in summer SAE 30, in winter SAE 20 W (only at constant temperatures below + 41 ° F/+ 5° C).</p> <p>Porsche does not recommend the use of oil additives.</p>
Cooling system with heating	Approx. 4.23 U.S. gals, or 16 liters. Factory filled to - 22° F (- 30° C) for U.S.A. and - 40° F (— 40° C) for Canada. Only use anti-freeze recommended for aluminium engines and radiators.
Manual transmission (also for limited slip differential)	Approx. 4 U.S. qts. or 3.8 liters. Use hypoid oil SAE 75W-90 labeled "For Service API/GL5 or Mil-L 2105B". If multi-grade hypoid oil is not readily available, use ATF Dexron®.
Automatic transmission with torque converter	Approx. 1.59 U.S. gal. or 6 liters ATF Dexron®. At oil changes 1.45 U.S. gal. or 5.5 liters are required.
Differential of automatic transmission	Approx. 2.11 U.S. qts. or 2 liters hypoid oil SAE 90 according to API classification GL5 or Mil-L 2105 B.
Fuel tank	Approx. 23 U.S. gals, or 86 liters including a reserve of 2.9 U.S. gals, or 11 liters. Unleaded fuel only! Minimum octane rating 91 RON (87 CLC rating on fuel pumps in U.S.A.).
Brake fluid	Approx. 0.42 U.S. pint or 0.2 liters. Only use brake fluid conforming to specifications SAE J 1703 or DOT 3.
Windshield/headlight washer system	Approx. 8.5 U.S. qts. or 8 liters.

* Measuring with oil dipstick

Cooling system mixing chart

(Approximate values)

	Temperature down to	Anti-freeze	Water	Anti-freeze	Water
Anti-freeze/water	-22 ° F or -30 ° C	45 %	55 %	7.6 U.S. qts. or 7.2 liters	9.3 U.S. ats. or 8.8 liters
	-31 ° F or -35 ° C	50 %	50 %	8.4 U.S. qts. or 8.0 liters	8.4 U.S. qts. or 8.0 liters
	- 40 ° F or -40 ° C	55 %	45 %	9.3 U.S. qts. or 8.8 liters	7.6 U.S. qts. or 7.2 liters

Dimensions

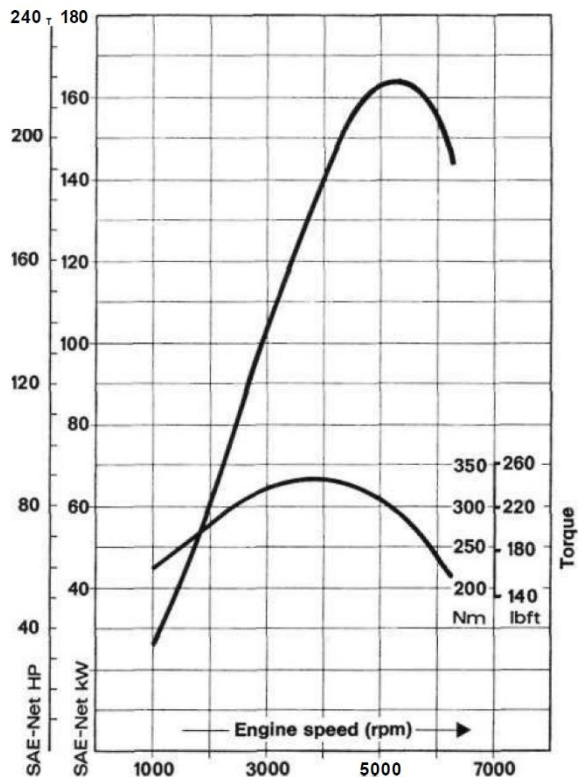
(at permissible max. load)

Wheelbase	98.42 in/2500 mm
Wheel track, front	61.06 in/1551 mm
Wheel track, rear	60.23 in/1530 mm
Turning circle (curb to curb).	31 ft 6 in/9.6 m
Turning circle (wall to wall).	37 ft 8 in/11.5 m

Length	175.67 in/4462 mm
Width	72.28 in/1836 mm
Height (at curb weight)	51.61 in/1311 mm
Ground clearance	4.69 in/119 mm

Full-power Curve

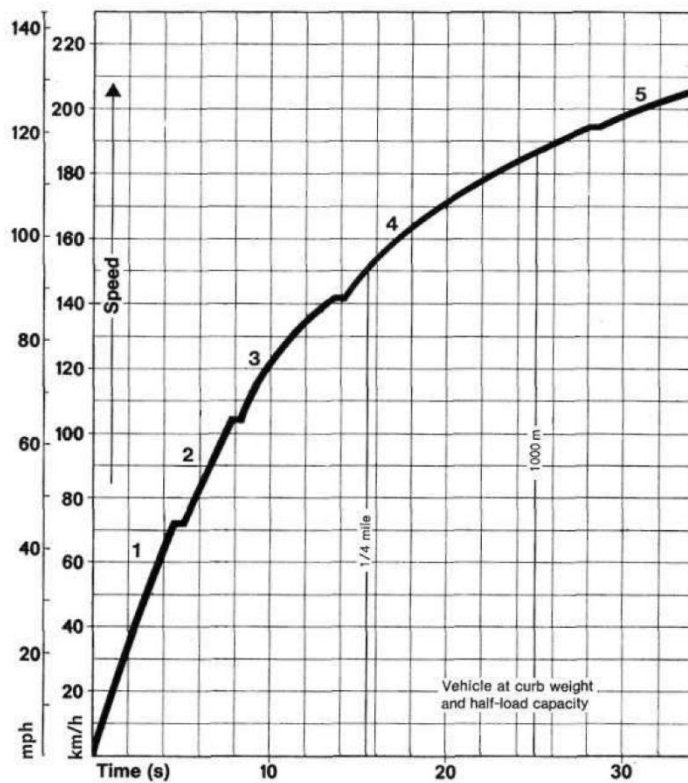
928



Acceleration Curve

928

5-speed-transmission



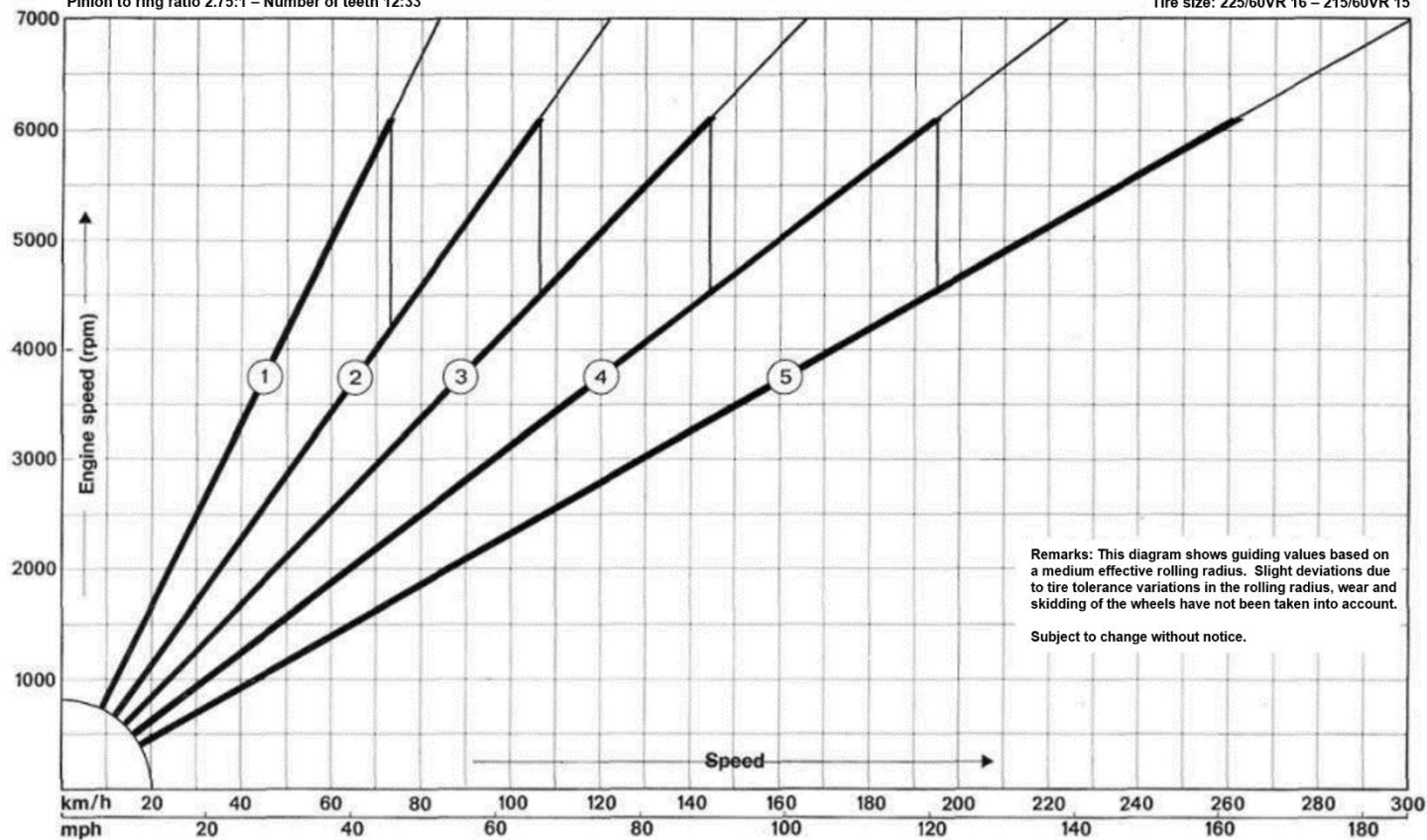
Transmission Diagram

5-speed-transmission type G 28.03

928

Pinion to ring ratio 2.75:1 – Number of teeth 12:33

Tire size: 225/60VR 16 – 215/60VR 15



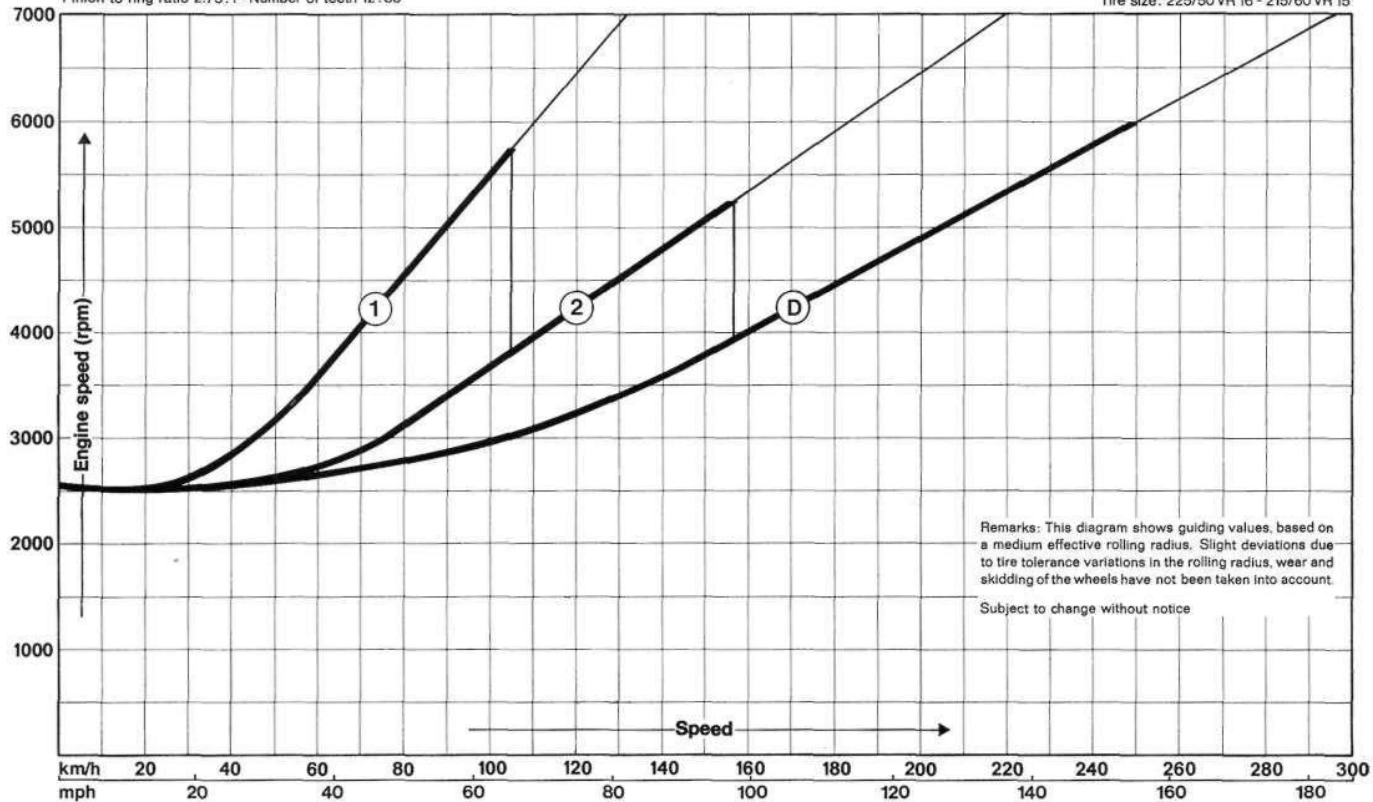
Transmission Diagram

928

Automatic

Pinion to ring ratio 2.75:1 - Number of teeth 12:33

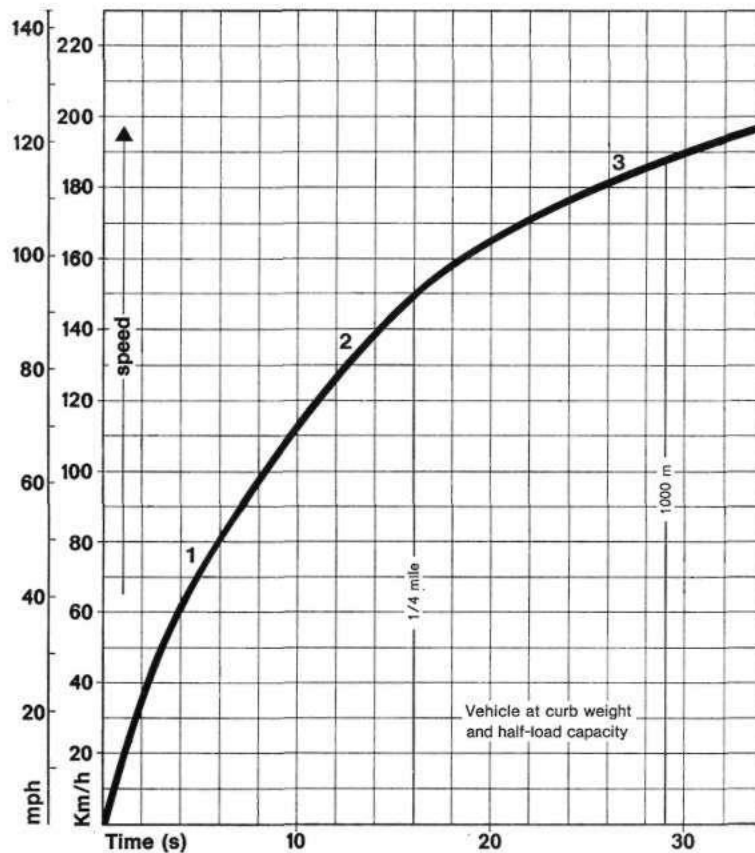
Tire size: 225/50 VR 16 - 215/60 VR 15



Acceleration Curve

Automatic-transmission

928



Gas Station Information

Starting

Manual transmission: Only start in Neutral.

Automatic transmission: Start in Neutral or Park.

Starting engine

Just turn ignition key. Do not depress accelerator pedal when starting. This applies to warm or cold engine.

Emergency start-assist

On right side of engine compartment you will see a positive (+) battery post (remote connection). Attach positive jumper cable to post for emergency starting.

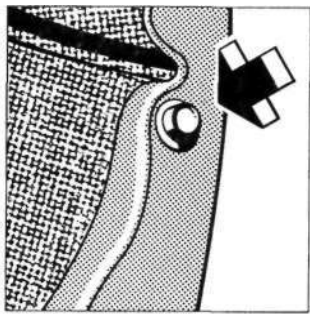
Emergency starting

Car with automatic transmission cannot be started by pushing or towing.



Seat adjustment

Pull lever in front of seat.



Backrest

Press button on side of seat-back.

Fuses and relays

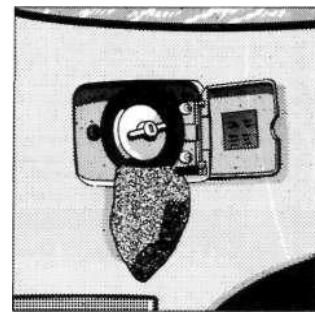
On right in footwell.

Fuel recommendation

91 RON (87 CLC on U.S. fuel pumps) minimum.

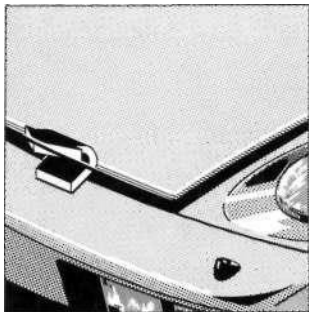
UNLEADED FUEL ONLY.

Fuel tank capacity: 23 U.S. gals or 86 liters.



Fuel cap

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



Engine hood release

Pull lever on left underneath dashboard. Pull safety hook under hood. Lift engine hood.



Brake fluid reservoir

Level should be between MIN and MAX marks.

Only use new, unused brake fluid according to SAE recommendation J 1703 or DOT 3 and conforming to Motor Vehicle Safety Standard 116.



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. 1.1 U.S. qt. or 1 liter.

Engine oil

Use only quality HD oils "For Service API/SE". Details under "Filling Capacities". Without filter change 6.87 U.S. qts. (5.72 Imp. qts./6.5 liters); with filter change 7.93 U.S. qts. or 7.5 liters; with filter change 8.45 U.S. qts. or 8 liters. Check oil level as prescribed.

Manual transmission

For manual transmission (also for limited slip differential) use hypoid oil SAE75W-90 labeled "For service API/GL5 or Mil-L 2105 B". If multi-grade hypoid is not readily available, use ATF Dexron®. Total quantity approx. 4 U.S. qts. or 3.8 liters.

Automatic transmission

ATF lubricates torque converter and transmission. Check ATF level visually through transparent reservoir at rear end of transmission housing when ATF is warm, with engine idling, selector lever in Neutral and car on level ground.

Should level be below MIN or above MAX mark, do not just add or drain ATF. Have an authorized dealer correct the cause promptly.

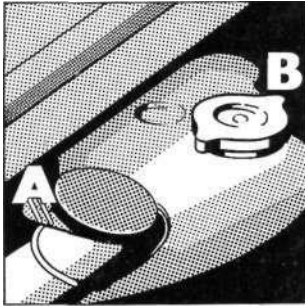
For differential use oils API/GL 5 (or Mil-L 2105 B), viscosity SAE 90.

Battery

Underneath spare tire in luggage compartment. Check each cell. Top up with distilled water. Never disconnect battery while engine is running: this will destroy the alternator.

Before connecting quick-charger, battery must be disconnected.

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



Windshield and headlight washer reservoir (A)

8.5 U.S. qts. or 8 liters.

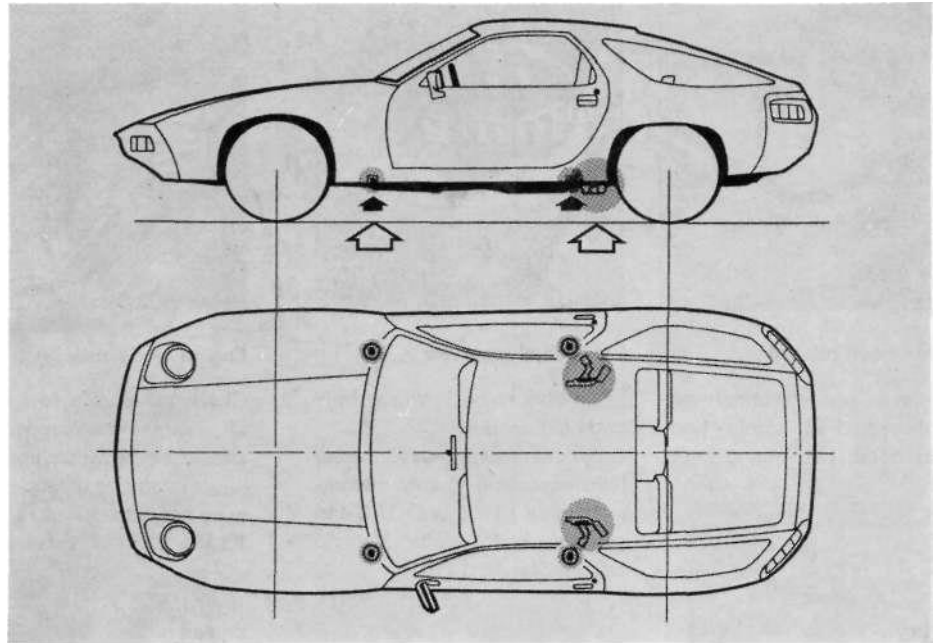
Coolant reservoir (B)

Antifreeze must remain in cooling system all year round.

Coolant level should be up to filling mark when engine is cold.

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

Use additives recommended for aluminum engines and radiators.



Jack support

Black arrows: Jackports for car jack

White arrows: Lifting points for workshop hoist or floor jack.

Tire pressure, front and rear

36 psi or 2.5 bar for summer and winter tires.

32 psi or 2.2 bar for collapsible spare tire.

Spare tire, jack

Underneath luggage compartment.

Tool kit

Fitted into rear cross wall.

Never lift car by bumpers.



PORSCHE