PORSCHE 928

The new, grand touring car from Porsche

Porsche presents its new, spacious sports car: the type 928. High-grade engineering, a know-how put to the test in racing and uncompromising quality mark this new model and serves to satisfy the most demanding driving requirements.

With the type 928, the Company of Porsche is strengthening its leading position on the world's sports car markets. Being an upward extension of the program, the 928 will be in a higher price bracket than the 911-models. Like any other Porsche, it meets all the demands of every-day driving as to functionality and value in use.

The 4.5 liter, 8-cylinder V-engine made of light metal puts out 240 bhp. It is mounted in front and connected with the rear mounted transmission-drive-unit by a transaxle tube. This system which is also applied to the Porsche 924, allows for an equal distribution of weight – 50 per cent in the front and in the rear – as well as great traction for the rear wheel drive. The quiet engine features a powerful torque, giving superior performance: it accelerates the 928 from 0 to 100 km/h (0–62,5 mph) in less than seven seconds and gives a top speed in excess of 230 km/h (143 mph).

The completely new chassis design offers a maximum degree of safety and ride comfort. The rear axle features an automatic toe-in control which ensures optimum stability when cornering. This design has been patented by Porsche and is known as the Weissach-Axle.
The 928 is fitted optionally either with a 5-speed gearbox or a fully automatic transmission. The light, precise steering is power-assisted but the degree of assistance is dependent on the cars speed.

The roomy 2+2-seater coupé was designed to offer maximum cruising and handling comfort. Functionality and safety determined the shape of the car. The standard equipment includes numerous novel details such as an automatic central warning system and a cleaning agent metering pump for the windscreen washer system. The individual adjustability of both controls and instrument panel allows for a "tailor-made driving position." Customer wishes as to additional features and appointments can be met to a large degree. The shock absorbing Polyurethane covering of the integral bumpers, as well as the extremely strong roof are the result of Porsche research work in the field of safety.

The robust, unitized body structure made of steel is wholly galvanized – and carries a 6-year Porsche warranty. Numerous aluminium components of body and chassis as well as the long-life engine ensures a high degree of value stability of the Porsche 928. Minimum service requirements and a world-wide service network – even considering the exclusiveness of the car – ensures trouble free and low running costs. In this respect, the 928 is in no way different from the 924 and the 911 range of models.

The sports car in the service of individual mobility

The functional alternative

Porsche's decision to build a new, big sports car was made during the energy crisis. Naturally, those responsible asked the question of the future of the sports car. They arrived at a positive conclusion.

If the sports car were only an object of luxury, dependant on a small, well-to-do group of buyers, the decision might have been different. However, Porsche has always been regarding the sports car as an automobile with above average characteristics that sets up standards not only in the area of performance, but also in that of safety, comfort and long-life economy.

Thus, the high quality sports car continues to be the natural alternative to the sedan. One of the qualities of the sedan is its comprehensive reserve of space. The sports car, on the other hand, offers functionality. It is tailored to the driver who is offered an optimum of direct association with the car, and an optimum of handling comfort.

A distinctly functional sports car is not an object of luxury, but an economical means of transport. Wherever work and business require mobility and wherever high demands are made of the vehicle, the sports car is the functional solution. Its use in business requires a maximum of reliability and, of the sports car producer, a similarly high standard of development, manufacturing and quality control, just as is the case with comparable, high quality sedans.

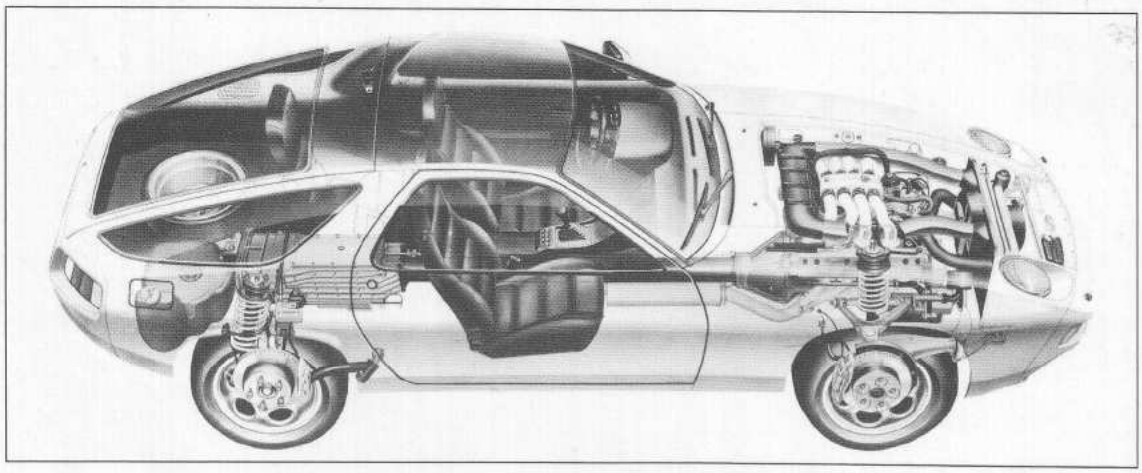
In this respect, Porsche makes the highest demands of itself. For Porsche the sports car is not a by-product, but constitutes the focal point of all deliberations. Every component of the 928 is specially tailored to the particular characteristics of a sports car. Also safety research and the time consuming and costly labor to observe international engineering regulations are, in the case of Porsche, concentrated on the construction of sports cars.

Such exclusiveness of engineering, combined with the acknowledged high standard and efficiency of the service organization gives the 928 an absolutely special position among the sports cars of the upper price bracket. It is the result of decades of development work through which Porsche emerged to become the world's leading producer of sports cars.

The concept of the 928

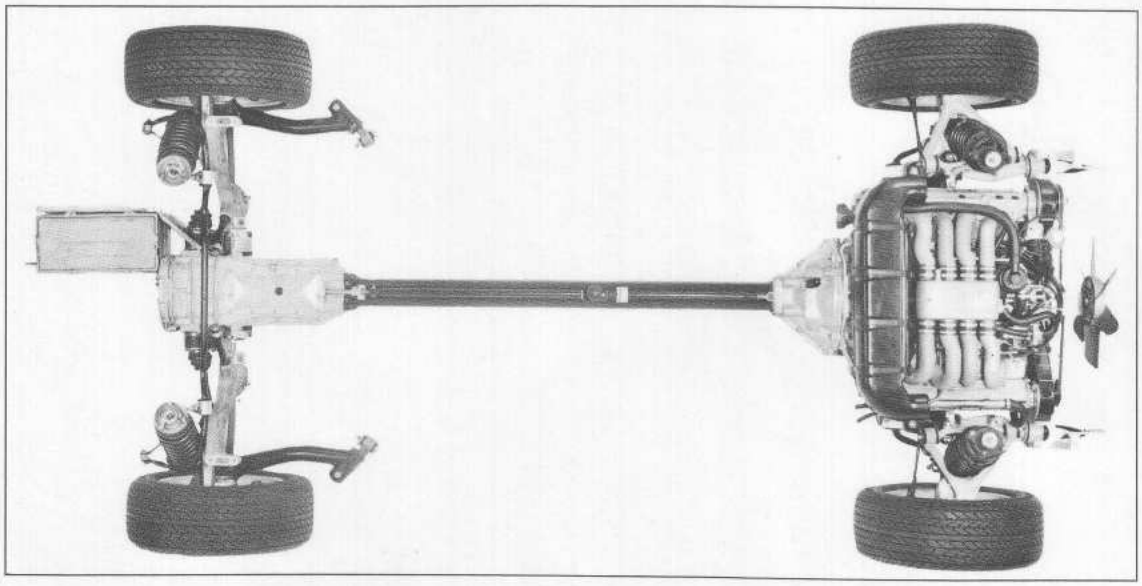
Challenge for the engineers

The task of building a big sports car for the 1980ies was a challenge for Porsche engineers. The sports car, more than any other vehicle, is in the focus of public attention and of expert interest. But it is also, like any other car, a factor of environment subject to changing social standards and regulations.



Such abundance of differing points of view required the courage to seek and find new solutions. So, it made no sense for this new car to feature a rear mounted engine, for most of the engineering regulations are oriented towards the conventional car and put the vehicle with rear mounted engine at disadvantage. On the other hand, it was out of the question to abandon certain advantages of the sporty car with rear or midship mounted engine – particularly the fine traction of the driven wheels.

The concept of the 928 is in line with the Porsche principle of not defending run-in dogma, but of achieving the best possible result from given conditions. The decision in favor of a transaxle system was made at an early stage after comparison tests had led to favorable results. The same system was adopted for the type 924 which, though marketed earlier than the 928, was developed only after the concept of the 928 was laid down.



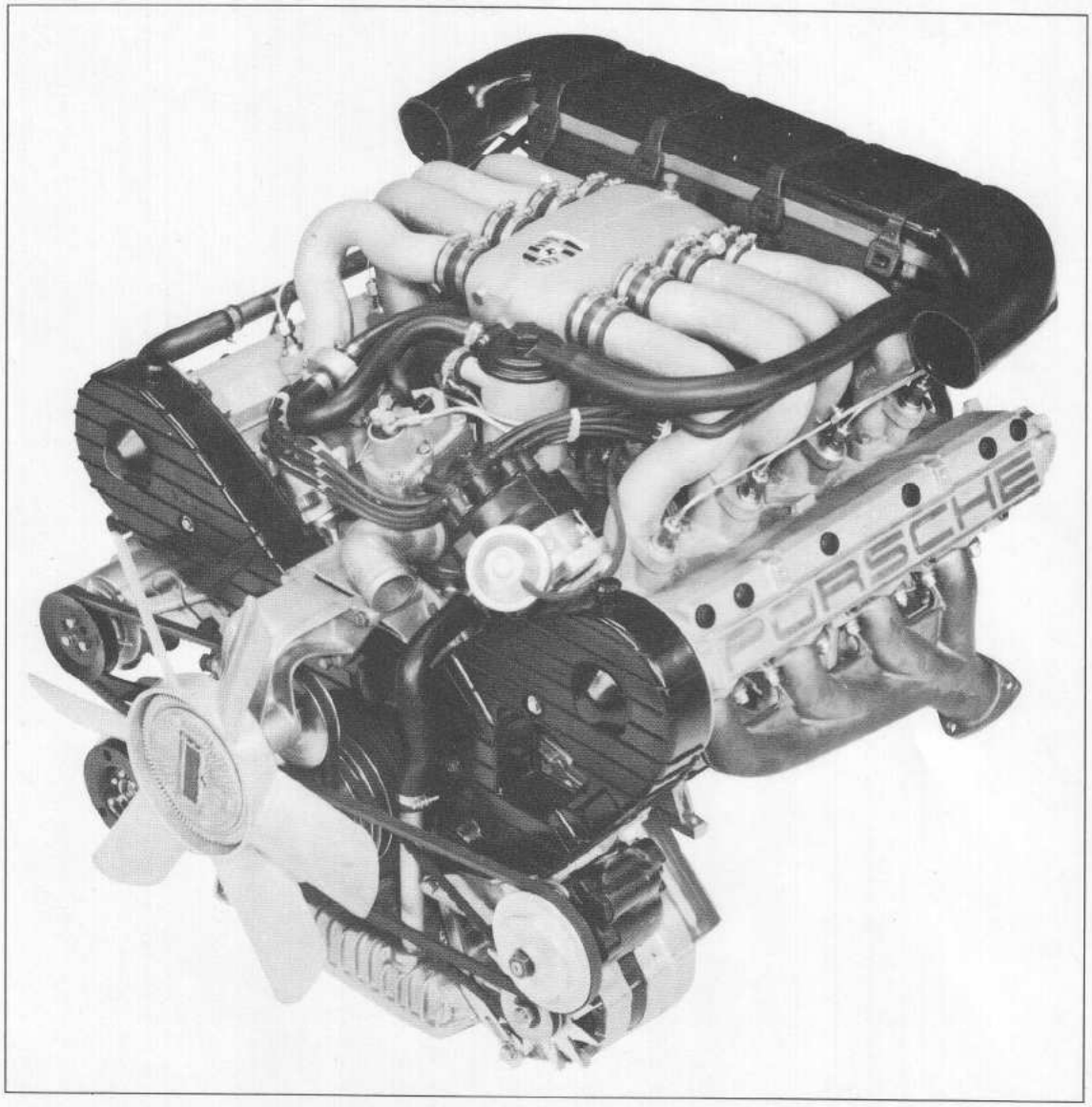
Next to a favorable distribution of weight and a low center of gravity, the transaxle system offers especially good prerequisites for a generous arrangement of the seats in the best sprung area between the axles and for a foot room which is not narrowed by the gearbox.

In spite of a deliberate limitation of the wheelbase and the overall length of the car, the 928 was designed so as to offer room for four passengers. The big, variable luggage compartment with rear hatch, too, emphasizes the versatility which is one of the characteristics of a practical modern sports car.

Engine and drivetrain of the 928

Motioning for an 8-cylinder engine

The driving comfort, an important component of the public roads sports car for Porsche since the type 356, is gaining significance. Therefore, the 928 could be fitted only with an engine which combines high performance with a noiseless and vibrationless operation as well as a great tractive power. These deliberations led to the choice of the 4.5 liter, 8-cylinder unit.



Eight-cylinder engines, already successfully employed in Porsche racing car construction, have the technical advantage of an almost perfect balancing of the masses. The distribution of the total displacement among eight cylinders makes sense in the case of engines with displacements of more than three liters so the individual cylinders do not grow too big. While, in the case of midship engine racing cars, the flat 180° building principle offers certain advantages, front mounting offers ideal conditions through the arrangement of two rows of cylinders at a V-angle of 90°: the engine has, virtually, the length and the height of a 4-cylinder unit and is broader only in the upper section.

The compact shape of the engine led to the application of liquid cooling which, in connection with the light metal construction, allows for extraordinarily favorable thermic conditions as well as for good noise absorption and heating.

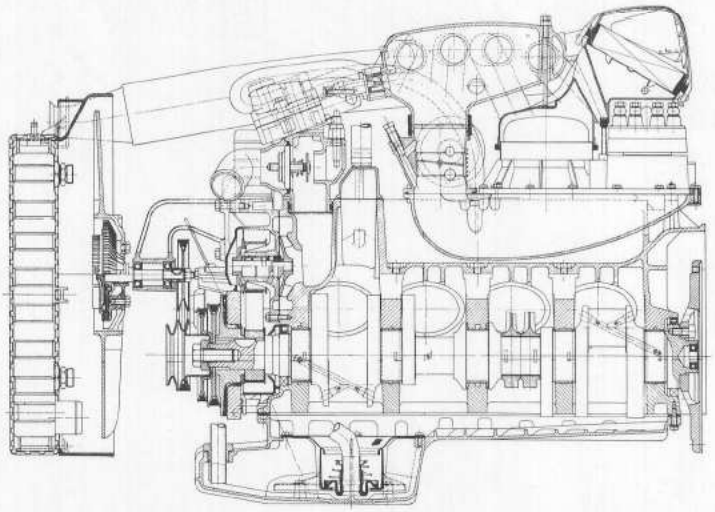
In designing racing cars, Porsche applies both liquid and air cooling and regards both systems as offering interesting possibilities of development.

In order to keep the weight low in spite of the big volume of displacement, Porsche decided to employ aluminum for both cylinder block and cylinder head. The cylinder linings, too, are made of aluminum, their surfaces having been subjected to a special treatment. That and the aluminum pistons the running surfaces of which are covered by a thin layer of steel, combine for a maximum resistance to wear and a minimum of friction.

Each cylinder head features an overhead, tooth-belt driven camshaft and hydraulically operated valve pushrods which facilitate a low mechanical noise level of the engine. A specially shaped oil pan and the easy-flow oil ducts cast in the cylinder block guarantee a rich oil supply also under unfavorable conditions, such as quickly maneuvered bends. The crankshaft is made of forged steel, the connecting rods are sintered.

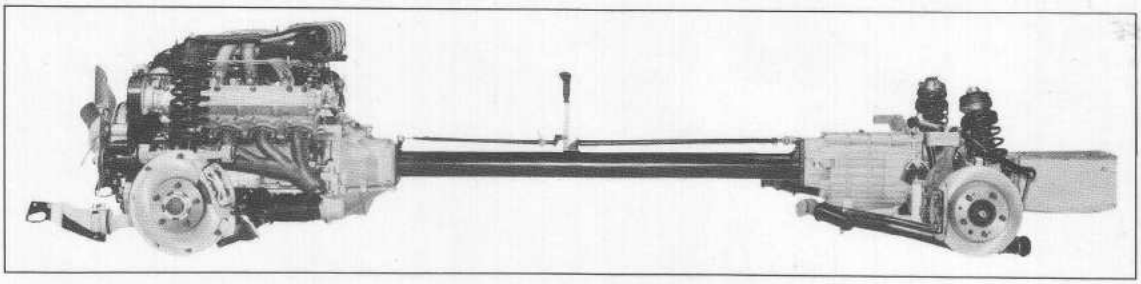
PORSCHE 928

Motor – Querschnitt
engine – cross section
moteur – coupe transversale
motore – sezione trasversale



The K-Jetronic fuel injection, introduced by Porsche several years ago and, in cooperation with Bosch, perfected to ensure safe functioning, takes care of an absolutely even fuel supply of the eight cylinders. With a compression ratio of 8.5 : 1 the engine does well enough with regular fuel. The no-contact ignition system, self-adjusting valve pushrods, the closed cooling circuit with viscose fan as well as oil change intervals of 20,000 kilometers are attributes to the low maintenance needs of this modern engine design with a safe future.

The engine has a two-discs clutch which was specifically developed for this car. Porsche intensively dealt with the problem of attaining a comfortable clutch operation when using a high torque engine and mechanical transmission and, at the same time, keep the shifting power to a minimum. The two-discs clutch, while highly resistant to wear, offers a comfortable clutch operation which is unexcelled in this class of performance cars.



Engine and gearbox are combined into one unit by the transaxle system. In addition to the favorable distribution of weights, this arrangement offers advantages in the area of vibration problems: the long distance between the two bearings each front and rear means a specially good protection from vibrations in the interior. The 5-speed gearbox mounted in front of the rear axle – it features Porsche synchromesh – was designed to be highly smooth and noiseless. It has a noiseless 5th speed which transmits the power directly to the driven wheels without using cog-wheels. The short, precisely operating shifting mechanism was fitted with a link which keeps gearbox vibrations from being relayed to the shift stick. Twin universal joint shafts with drive length compensation drive the rear wheels.

The optional automatic transmission meets the special requirements of sporty driving in the Porsche 928 and is marked by quick reaction, extensive possibilities of influencing it and, finally, by great efficiency.

The chassis of the 928

For optimal controllability

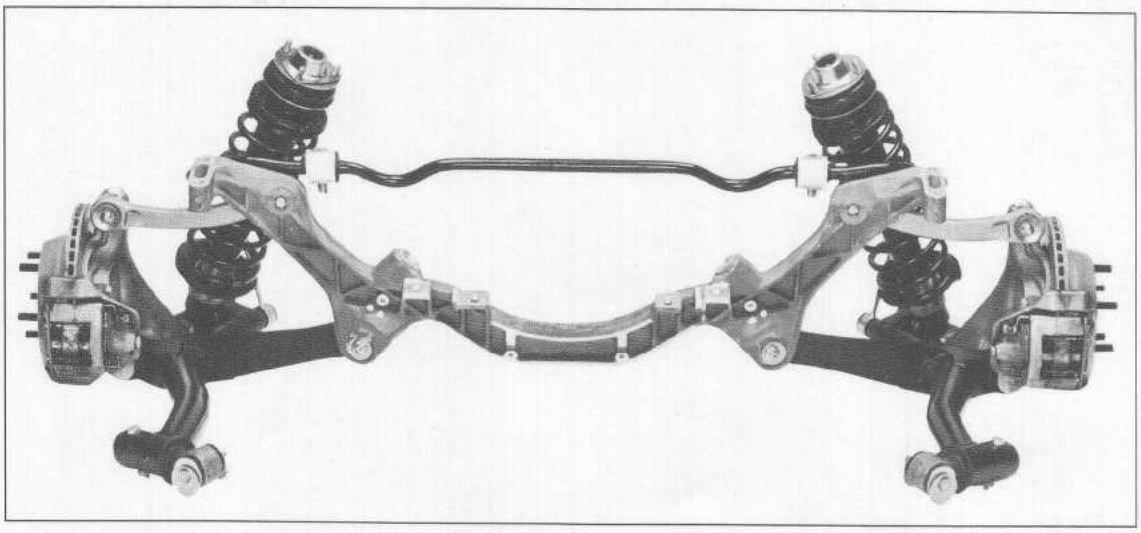
In the case of a sporty car with a high performance engine, it proved right not to restrict the power applied by the driver to the accelerator and the steering wheel to two wheels. The effects of propulsion and steering may be balanced against each other and an optimal controllability of the car will be the result.

Therefore, Porsche, right from the start, had no doubts about retaining the rear wheel drive. With the aid of the transaxle system, an optimal distribution of weight of about 50 : 50 could be accomplished, a ratio which changes only unessentially when the car is fully loaded. The greatest concentrations of weight – the engine in front, gearbox and drive, battery and fuel tank in the rear – are located at both ends of the car which aids the directional stability desired for a car to run on public roads (high moment of inertia around the vertical axis). The engine was moved up to the front only as far as required by the layout of the interior. In spite of short overhangs, both the front and the rear sections feature sufficient energy absorbing space in the interest of passive safety.

Already before World War II, Porsche was one of the pioneers of the independent wheel suspension for road and racing cars. The low center of gravity of the 928 allowed for the adoption of extensive knowledge gained from racing car engineering for the benefit of roadability and riding comfort.

The front wheel suspension by trailing arms featuring a negative scrub geometry makes the steering insensitive to adverse influences of the road surface as they may occur when braking on a slippery surface or in case of tire defects. With a view to the high sensitivity when maneuvering bends, the elasticity of the steering system is metered most exactly. Special attention was paid to a smooth keeping of a straight course as well as a proper reaction to a quick succession of opposite movements of the steering wheel (change of

lanes). The servo effect is reduced as the speed increases, effortless maneuvering combines with reliable roadholding at high speeds. Extremely rigid twin-trailing arms, made of cast aluminum, guarantee an absolutely correct control of the wheels and smooth reaction to rough surfaces.



The rear axle of the 928 (Weissach-axle), with lower diagonal and upper transverse trailing arms, compared with conventional types of individual wheel suspension offers a marked gain in riding safety as, in exactly calculated fashion, it compensates for the changes of toe-in occurring with and without forward propulsion. Particularly when decelerating in curves may changes of the toe-in have disadvantageous effects as the car tends to turn itself into the curve. Analyses of accidents have shown that the majority of mishaps in curves end at the inner side of same. This leads to the conclusion that the curve stability of the car was overstrained rather than the lateral support forces.

The toe-in control of the new Porsche rear axle is accomplished by a "steering"-element mounted in the lower diagonal trailing arms. Referred to as a controlling swing, its movements are exactly defined and limited. The undesired lessening of toe-in caused by deceleration and as a result of the inevitable elasticity of the suspension is compensated by this element. Ultimately, the rear wheels would not show a steering effect, but will practically stay in position, with and without forward propulsion.

This effect is supplemented by certain anti-squat measures (in case of acceleration) and anti-dive measures (in case of deceration). Driving thus becomes not only safer but also easier on the driver's nerves as there are no disturbing factors he would have to correct.

The braking system of the 928 consists of four hydraulic, servo-assisted disc brakes with a diagonal dual-circuit system and a mechanical emergency brake (drums) acting on the rear wheels. The disc brakes are fitted with "floating-frame" braking pads. One important advantage: The maximum temperature of the brake fluid is 90° centigrade which is far below the boiling point. Thus, there will be no brake fading because of steam bubbles developing. Material and assembly of the brake system piping are designed for long life and offer maximum protection against failure.

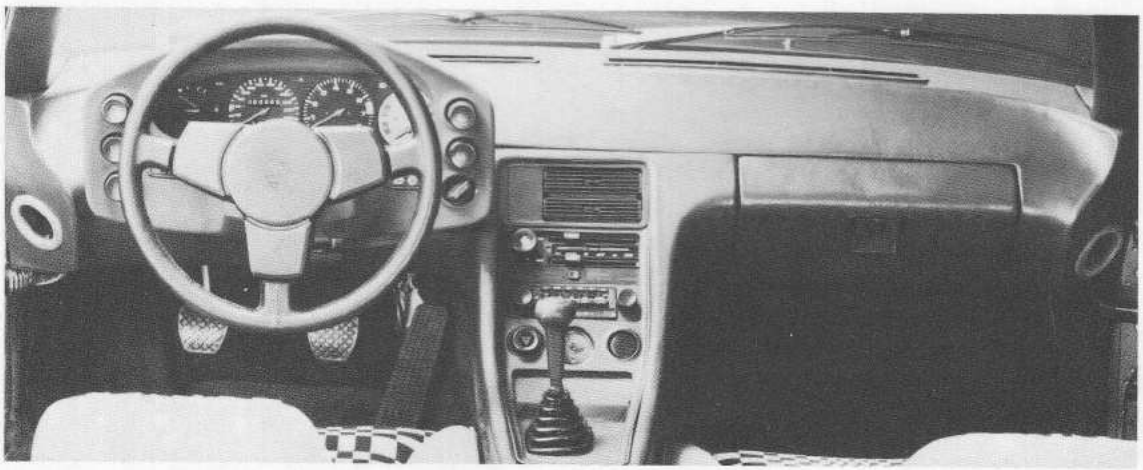
The body of the 928

A design of stable value

To Porsche, the shape of the body is a functional element of the automobile. None of the previous Porsche models showed any dependance on fashion trends. Any deliberations of that kind did not play a role in the case of the 928 either.

The more care was applied instead to finding an equally optimal solution for the shape and function, for the entire car as well as for each detail. A car like the Porsche 928 is to remain a common sight on the roads for many years and, as a commodity, it is to be of stable value for its owner – both as far as the design and all the other qualities are concerned.

Extreme and "exciting" elements of styling will, therefore, be absent from the 928. Smooth and slightly concave planes with rounded off edges dominate the outer skin of the car. Designing the details was not only influenced by aerodynamics but also by considerations of safety. The interior, in the sight of the driver, features subdued, non-reflective surfaces to avoid any optical distraction. The rest of the interior is marked by a friendly, comfortable atmosphere. There is a great choice of trim and cloth for the customer to meet his personal ideas.



Porsche has always been leading in a functional arrangement of the cockpit and the instruments. The dials, switches and levers of the 928 are arranged so that all functions which are important during ride may be executed with rational, brief movements. Individual levers and switches were not endowed with too many functions.

The possibilities of individual adaptation of the car to the driver go, in the case of the 928, far beyond the usual: next to the seats which feature longitudinal and backrest adjustability (option: electrical operation plus additional adjustability of height), the steering wheel may be easily adjusted in height by loosening a lever. The instrument carrier is adjusted simultaneously so that the good readability of the dials is maintained in any position the steering wheel may have been put. For reasons of safety, no provision was made for an axial adjustability of the steering wheel. However, pedals and foot-rest may, just like the stick shift, be adjusted to suit the driver's measurements. The door-armrests may be tilted to allow for a comfortable position when cruising. In short, the 928 literally offers a tailor-made sitting position.

To further improve the riding safety, numerous provisions were made for the 928, some of them being absolute first-timers. For instance, the windscreen washing system was fitted with an additional metering pump with timing-relay, jetting a special cleaning agent onto the windscreen so that visibility obstruction by silicone or oil may be removed during ride. The cleaning agent reservoir, about 0.6 liter, lasts a long time, and, similarly, the container for the windscreen and headlamp washing fluid, having a capacity of 8 liter, is amply dimensioned.

The two stage rear window heater is supplemented by a large wiper with parallel operation. The wiper motor is mounted to the body rather than to the rear hatch and operates the wiper via clutch which, when opening or closing the rear hatch, automatically turns the operation off or on. A vacuum locking system automatically locks and unlocks the door on the passenger side as the driver-side door is locked or unlocked. First aid kit, a warning sign (triangle), tools and foldable spare-wheel (plus electric pump) are incorporated into the car so they save space and are easily accessible.

A newly developed central warning system informs the driver automatically about possible disturbances. In the event of such, a warning lamp mounted to the instrument carrier lights up and cannot be ignored. The scale of the warning system located at the center console indicates the source of the disturbance. The controlling functions are divided into two main groups: in the case of vital disturbances (e.g. loss of engine oil or braking fluid) the warning lamp blinks and cannot be shut off. When the lamp stays lit this is an indication of refilling or replacing needs which need not be attended to immediately (e.g. washing fluid, brake linings). In that case, the lamp may be shut off by pressing a button. It will automatically turn on again when the ignition is shut off and then turned on again.

The recessed headlamps, electrically moved into position, may be adjusted from the driver's seat for correct lighting distance which may vary in accordance with different loading conditions. When the lamps are recessed, their glasses are still free to be washed. Two additional headlamps (high beam, flasher for daylight driving) and two fog lamps front as well as two fog lamps in the rear are incorporated into the bumpers. The center of the electrical system is easily accessible and mounted under the foot-room of the passenger. The standard equipment includes sun-visors for the rear seat passengers. An electrically operated slide roof has two functions: it may be slid open or tilted up.

Especially developed for the 928, but also available for other Porsche models, is the Porsche-cassette-radio which combines excellent reception characteristics with a clear and comfortable operation. The automatic station tracer has two sensitivity stages. Four loudspeakers guarantee a quality of sound which meets highest expectations. Other standard equipment of the 928 includes: speed control by Tempostat.

The heating system employs a hot and cold air mixture and thus reacts quickly and exactly to lever adjustments. Its effectiveness remains largely independent from the car's speed. Of the five blower stages, the first is in permanent operation. The flap system is vacuum controlled and allows for a great variety of adjustments of the temperature and the warm and fresh air distribution. A highly efficient air condition unit is available for the 928 as an option, the system including cooling of the glove box. The unit may also be built in later.

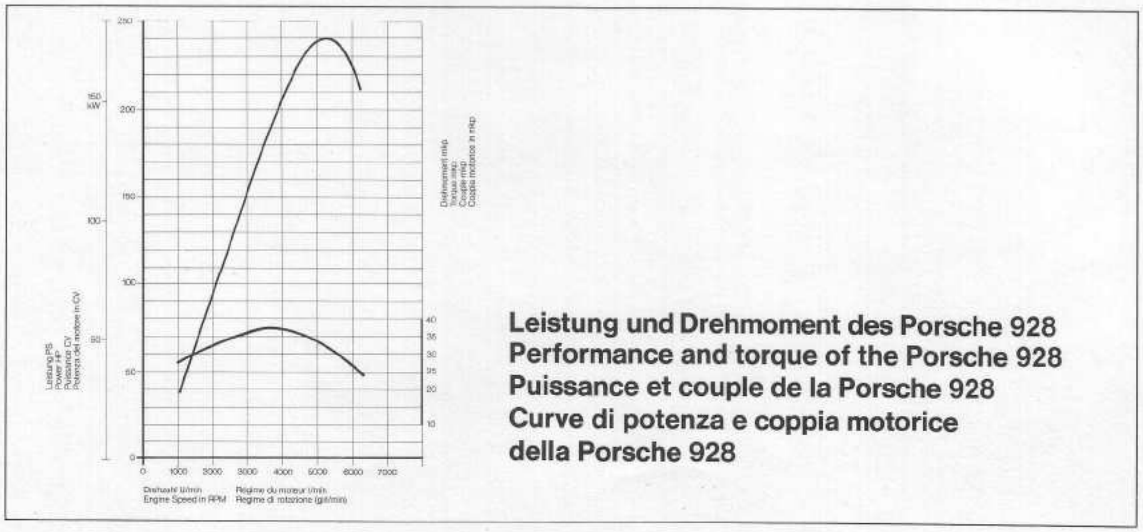
The screwed-on front wings, the hood and the doors are made of aluminum. Extremely solid roof bars and an integrated roll-over bar guarantee maximum stiffness and resistance of the passenger compartment. The angled steering column is crash-proof and the steering wheel features an additional element of deformation. The deformable bumpers made of polyurethane retain their shape in case of minor impacts and have a layer of special, elastic paint. The unitized body consists of galvanized steel – which, like those of all other models, is endowed with a 6-years Porsche warranty.

Driving the 928

Performance as safety factor

The sports car will always remain the most perfect form of individual transportation. This fact is emphasized by the growing popularity of sports cars in the United States of America, a country with a multitude of varying speed limits. It would be misunderstanding the sports car to say that the only essential characteristics of such a car are performance and speed. They are found with other cars, too, and it is only the combination of high performance and optimal controllability that shows the true nature of the sports car. It is only there where there is justification of the prestige with which the sports car is generally credited.

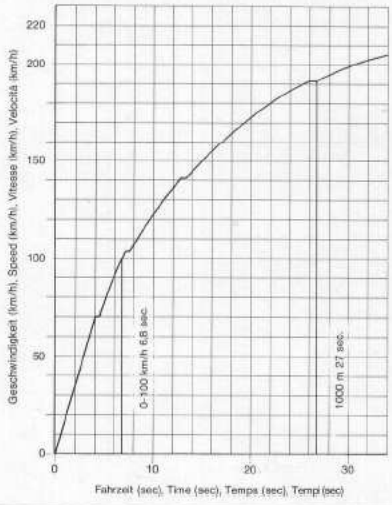
For a sports car with such high standards as featured by the 928 it is natural to produce top performance data. But this always has to be seen in connection with the performance, as an essential factor of safe driving, being adaptable to the driving conditions.



Leistung und Drehmoment des Porsche 928
Performance and torque of the Porsche 928
Puissance et couple de la Porsche 928
Curve di potenza e coppia motorice della Porsche 928

The 240 hp (177 kW) of the 4.5 liter V-8-cylinder engine are put out at 5,250 rpm – a relatively low figure, meaning a low noise level both in- and outside. The electrically controlled maximum revolutions are 6,300 per minute. The maximum torque of 37 mkp (365 Nm) is achieved at 3,600 rpm which demonstrates that the engine of the 928 develops full power already at medium revolutions.

Owing to the favorable distribution of weights, this power is easily and smoothly transferred to the road so the 928 may develop its top performance without effort and with little noise only. It accelerates from 0 to 100 km/h in 6.8 seconds. It takes 27 seconds for one kilometer from standing start. The top speed is above 230 km/h.



Porsche 928
Beschleunigungsdiagramm
Acceleration Curve
Courbes d'accélération
Diagramma di accelerazione

The significance of these optimal data for everyday driving is to be found in the easiness with which the specific, sensible driving performance may be realized in ordinary traffic. The acceleration data demonstrate the available power reserves for brief passing maneuvers without risk as well as the superior climbing abilities of the vehicle; the top speed which, of course, is beyond normal speeds in regular traffic, shows that, depending on varying traffic conditions, any speed may be realized at any time. The choice is the responsibility of the driver – which is a matter of course and which is true for any car.

The technical layout of the vehicle enables the driver to dispose of speed and power reserves safely and free from fatigue: both clutch and manual transmission and automatic transmission allow for an effortless selection of speeds, the positions of the selector are clearly defined. The steering needs no familiarization and relays a distinct "feeling of the road" to the driver, the brakes combine reliable no-fading deceleration from high speeds with easy metering in tight traffic.

The sophisticated chassis, too, is in the service of riding safety reserves – at high cruising speeds as well as in maneuvering curves on both tractive or slippery roads.
Clearly signalized roadability and good-natured attitude in extreme roadholding situations give the driver distinct information about avoiding risks. This was also taken into account in the choice of tires: the standard tires 225/50 VR 16 combine a safe high-speed ability with easy cornering characteristics and good drainage of water. For winter conditions, Porsche recommends narrow tires of the type 185/70 SR 15 M+S.

When designing the 928, Porsche was not only keen on developing a top class sports car. A great number of technical features of this car demonstrate that genuine progress in automotive engineering continues to be possible and necessary. They emphasize that only an advanced development in all areas of automotive engineering, in the fields of active and passive safety, just as much as in those of riding and handling comfort, can do justice to the importance of the automobile as a means transport and communication.

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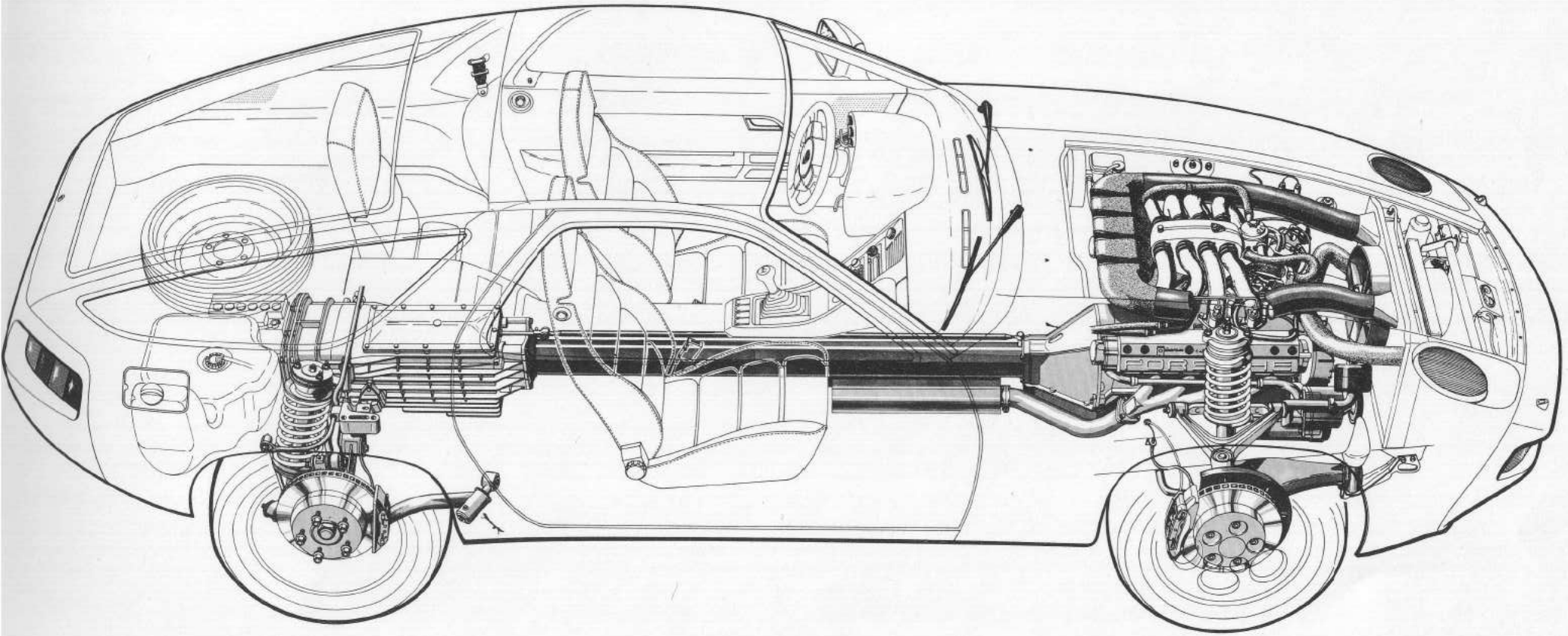
PORSCHE 928



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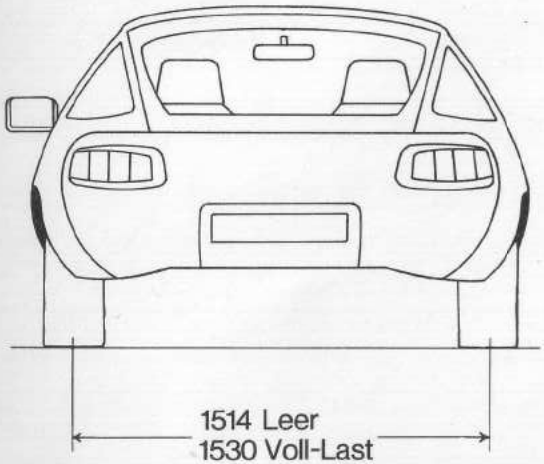
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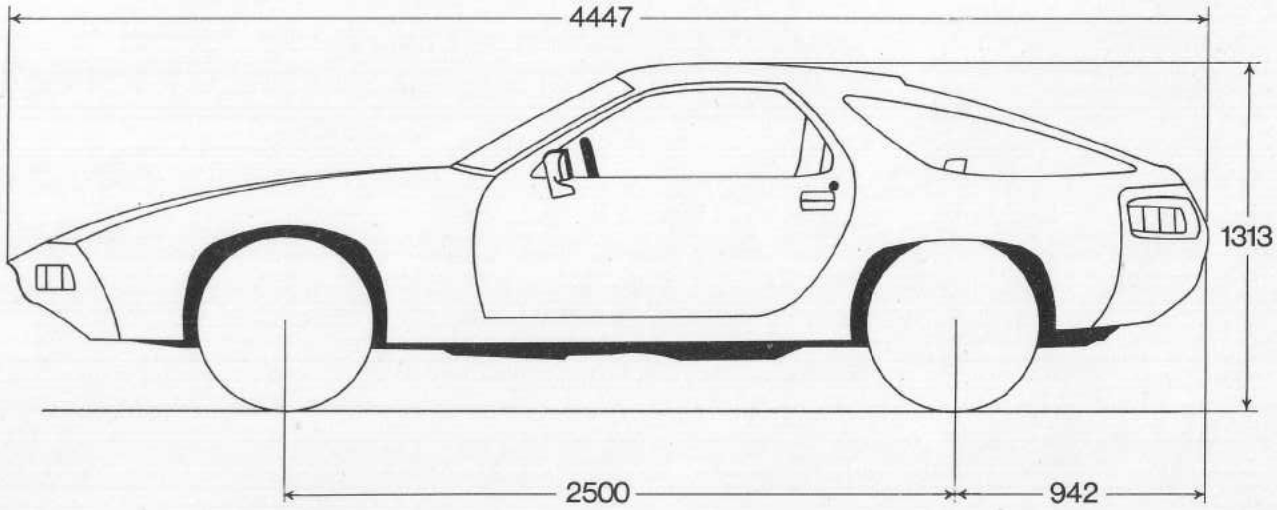
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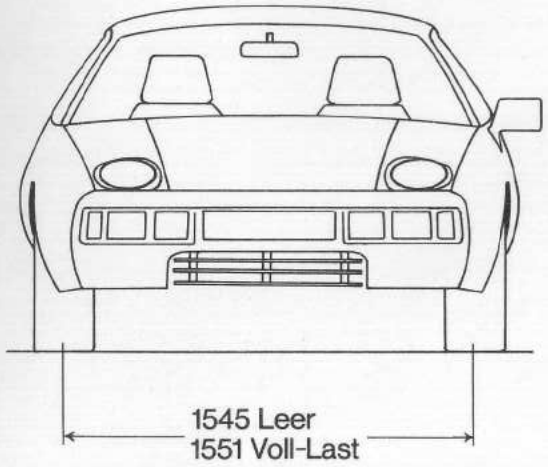
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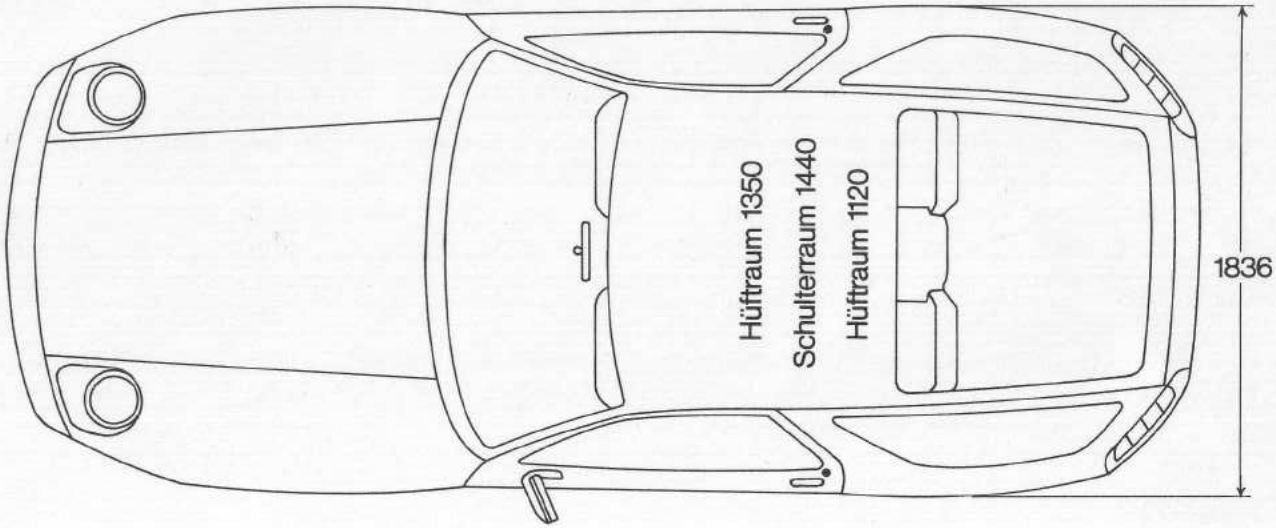

Hüftraum 1350
Schulterraum 1440
Hüftraum 1120
1836

PORSCHE 928

Specifications

Engine	8-cylinder, 4 stroke 90° V-engine, water cooled
Bore	95.0 mm
Stroke	78.9 mm
Displacement	4474 ccm
Compression ratio	8.5 : 1
Performance	240 bhp (DIN) at 5250 rpm (177 Kw)
Maximum torque	37 mkp at 3600 rpm (365 Nm)
Crankshaft	forged steel, 5 steel main bearings
Valve gear	overhead, in line
Valve operation	via overhead camshaft and hydraulic rocker arms
Camshaft drive	via toothed belt and tensioning shaft
Lubrication	pressure feed lubrication with crescent pump
Oil filter	full flow type
Fuel injection	Bosch K-Jetronic
Fuel supply	2 electric pumps
Octane rating	91 ROZ
Electrical system	battery: 12 V 66 Ah, alternator: 1260 W, 90 A, no-contact ignition
Transmission	transaxle system, front mounted engine, rear mounted gearbox, both units rigidly connected by a tube
	elastic-rotation driveshafts in two bearings (25 mm ø), forming one unit with gearbox and final drive
	twin universal jointed driveshafts with drive length compensation
Clutch	2 dry plates on engine side
Gearbox	fully synchronized gearbox mounted in front of rear axle, with differential in same unit
	double rod manual shifting (Option: automatic transmission)
	ratios:

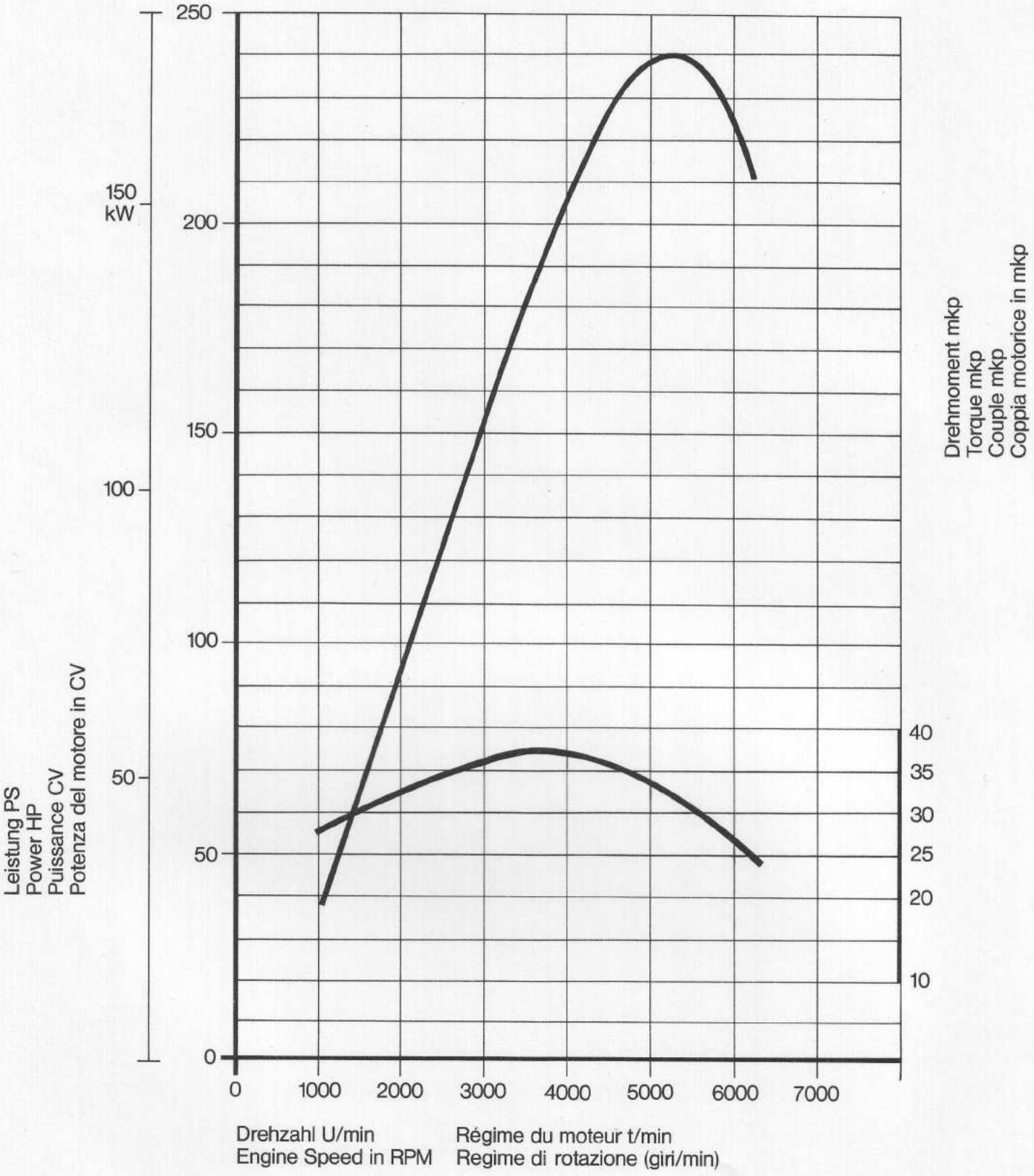
5-speed

1st	gear/i = 3.6010
2nd	gear/i = 2.4664
3rd	gear/i = 1.8194
4th	gear/i = 1.3433
5th	gear/i = 1.0000
rev.	/i = 3.1621
Axle ratio:	i = 2.7500

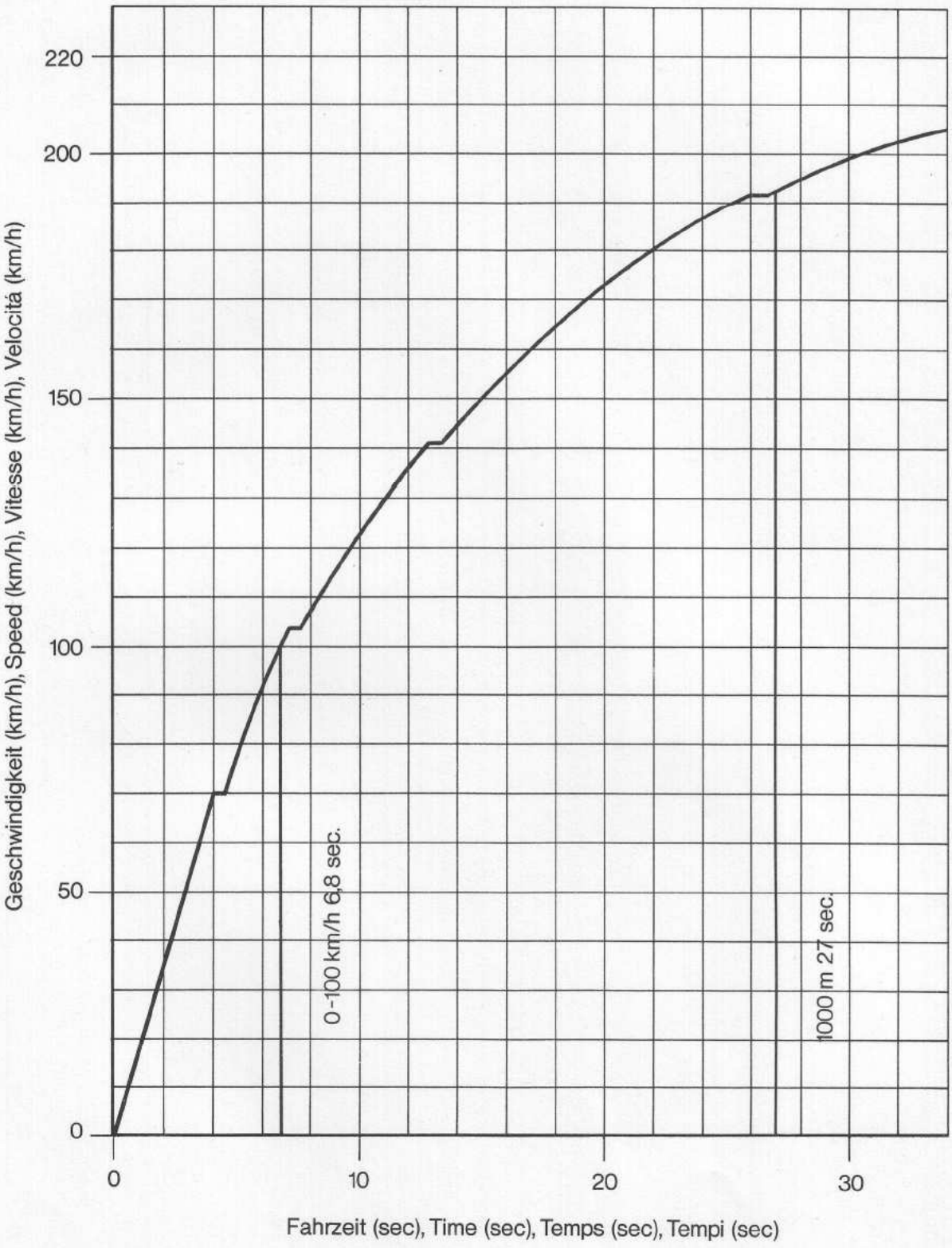
Chassis	2-door Coupé
Body	2 + 2 seater rear hatch hood, doors and wings are made of aluminium
Frame	unitized steel detachable front wings
Front suspension	independent, double trailing arms
Rear suspension	independent, diagonal trailing arms and upper transverse trailing arms (Weissach-Axle)
Springing and damping	coil springs and inward double acting hydraulic shock absorbers front and rear
Anti-roll bars	front: 26 mm; rear 21 mm
Steering	rack and pinion power steering ratio: 17.75 : 1
Brakes	hydraulic, twin circuit with diagonal operation servo-assisted floating-frame disc brakes, front and rear, interior ventilation
Wheels	cast alloy, 7 J x 16
Tires	front and rear 225/50 VR 16

Dimensions	wheelbase	2500 mm
	track, front	1545 mm
	track, rear	1514 mm
	length	4447 mm
	width	1836 mm
	height	1313 mm
Capacities	fuel tank	86 l, of which 8 l rese
	engine oil	6.5 l
	engine coolant	approx. 16 l
	gearbox oil	approx. 3.8 l
	brake fluid	approx. 0.2 l
	windscreen and headlamp washer, windscreen cleaning agent,	approx. 8 l
		approx. 0.6 l
Weights	DIN kerbweight	1450 kg
	permissible total	1870 kg
Performance	acceleration from 0-100 km/h:	6.8 seconds
	standing start, 1 kilometer:	27 seconds
Top speed	more than	230 km/h
Fuel consumption	(DIN) 13,0 l/100 km	

Leistung und Drehmoment des Porsche 928
Performance and torque of the Porsche 928
Puissance et couple de la Porsche 928
Curve di potenza e coppia motorice della Porsche 928

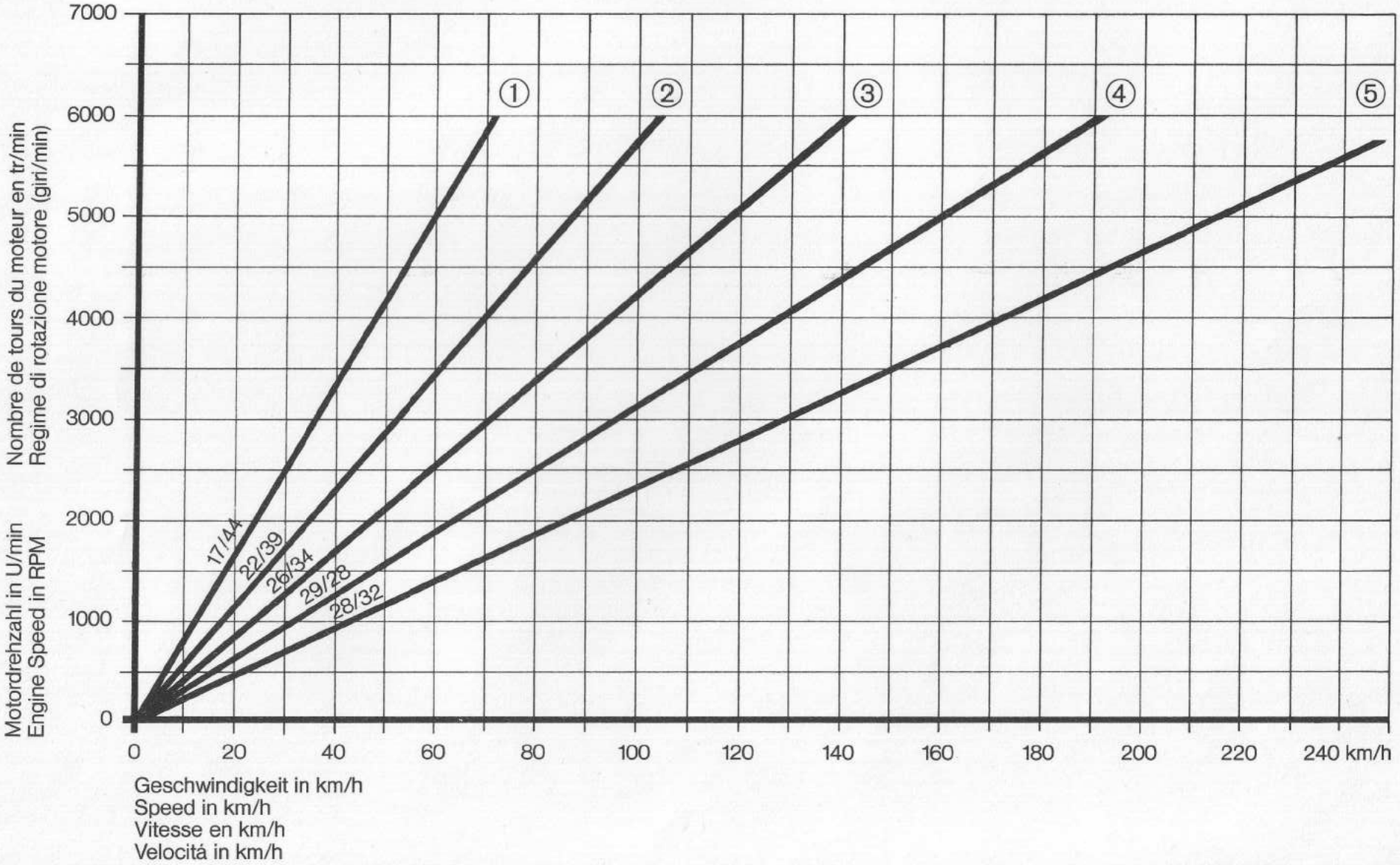


Porsche 928
Beschleunigungsdiagramm
Acceleration Curve
Courbes d'accélération
Diagramma di accelerazione



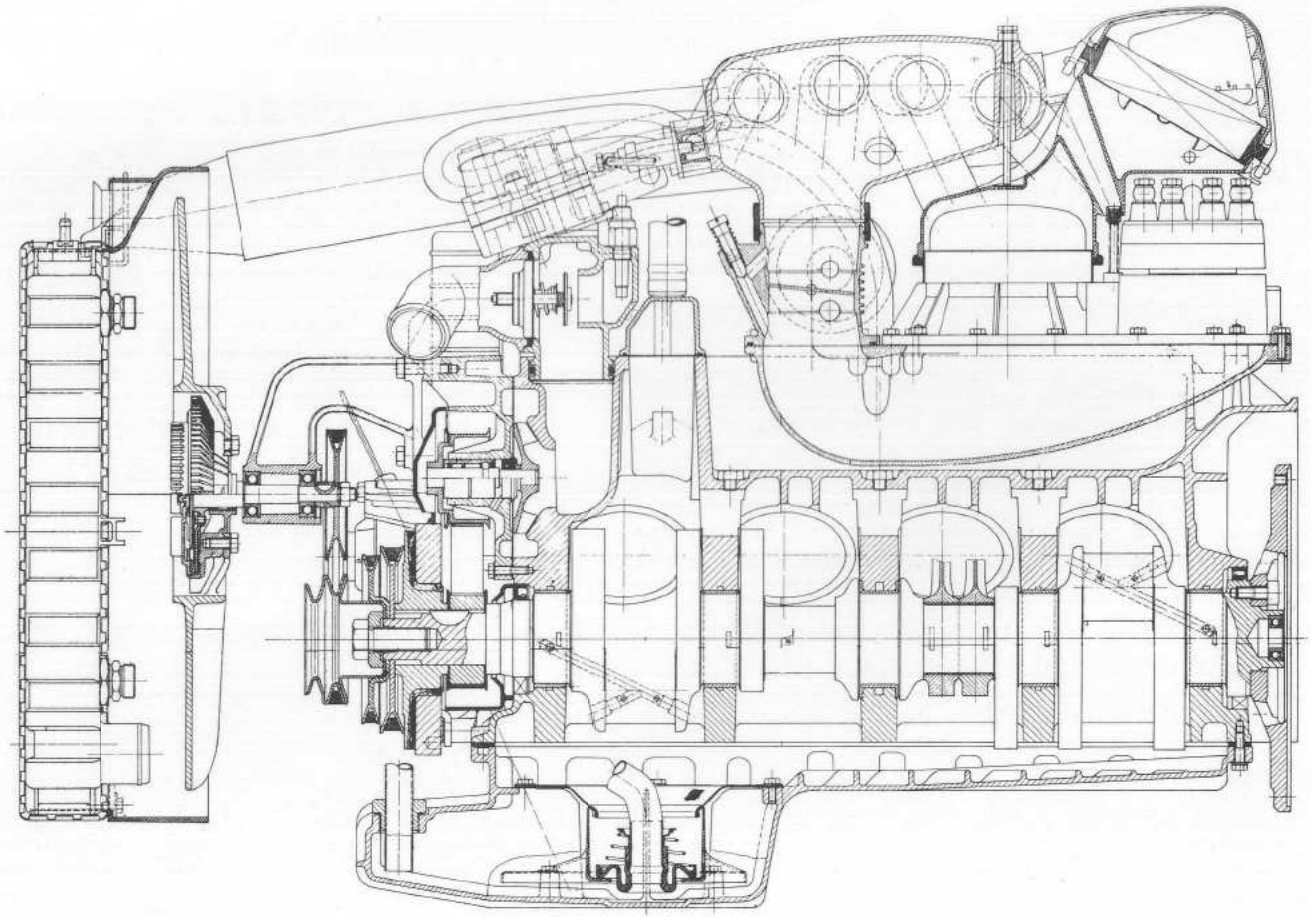
Porsche 928
Getriebeschaubild
Diagram of Gear Ratios
Schéma de la transmission
Diagramma del cambio

Geschwindigkeit und Drehzahl in den einzelnen Gängen
Speed and RPM rating in the individual gears
Vitesse et nombre de tours des différents vitesses
Velocitá e numero dei giri per le singole marce



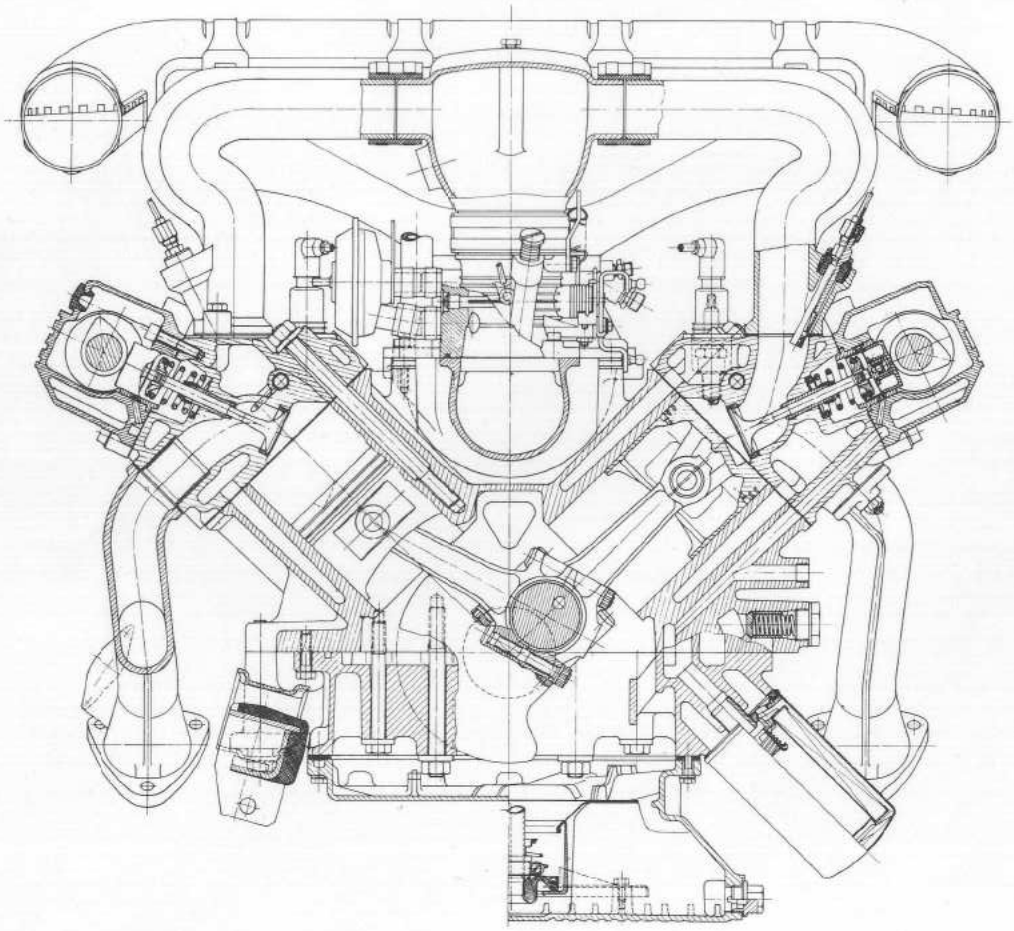
PORSCHE 928

Motor – Längsschnitt
engine – longitudinal section
moteur – coupe longitudinale
motore – sezione longitudinale

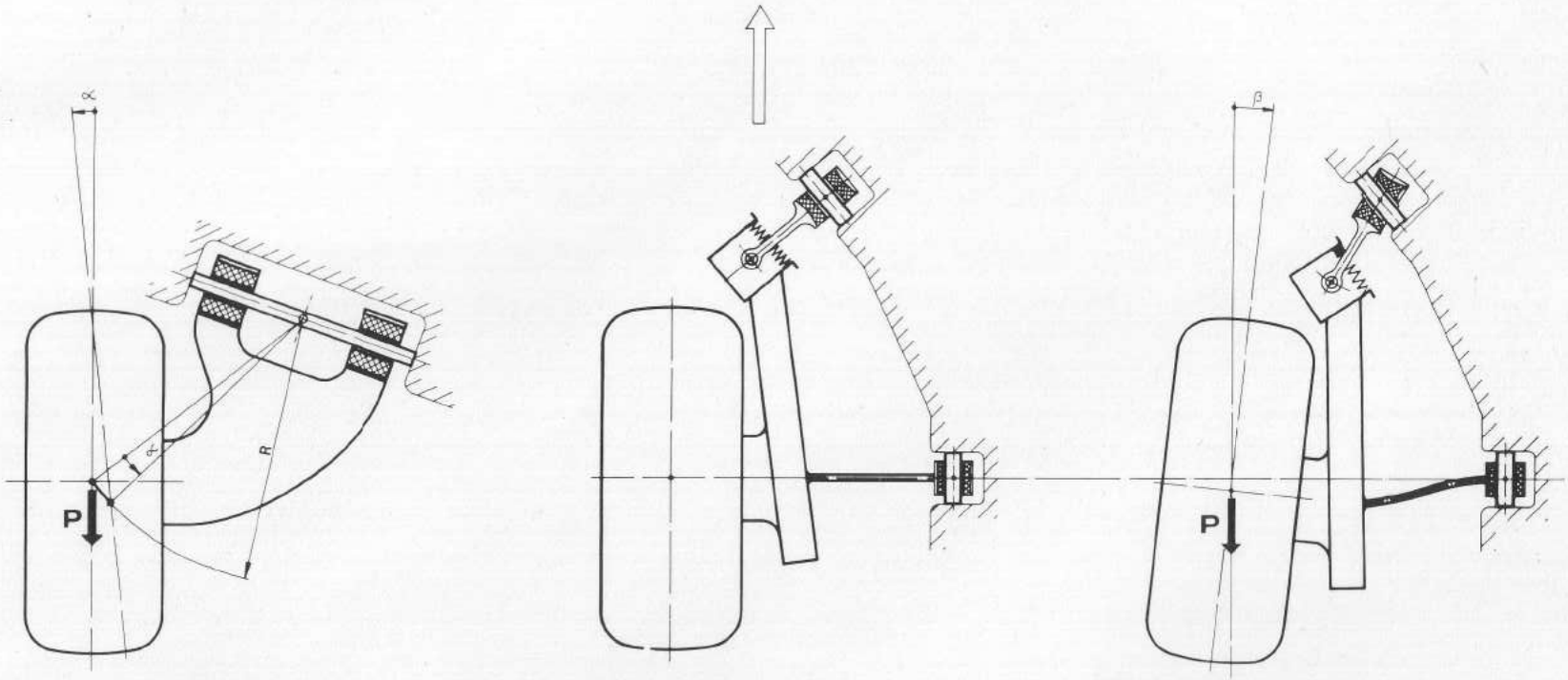


PORSCHE 928

Motor – Querschnitt
engine – cross section
moteur – coupe transversale
motore – sezione trasversale



PORSCHE 928



decelerating **free roll** **decelerating**

Conventional Suspension

toe out due to elasticity.

When decelerating or braking, the wheels in a conventional suspension toe out at α angle owing to force P. The reason are the rubber bearings in the suspension required for noise absorbation.

Weissach-Axle

toe in due to Kinematics.

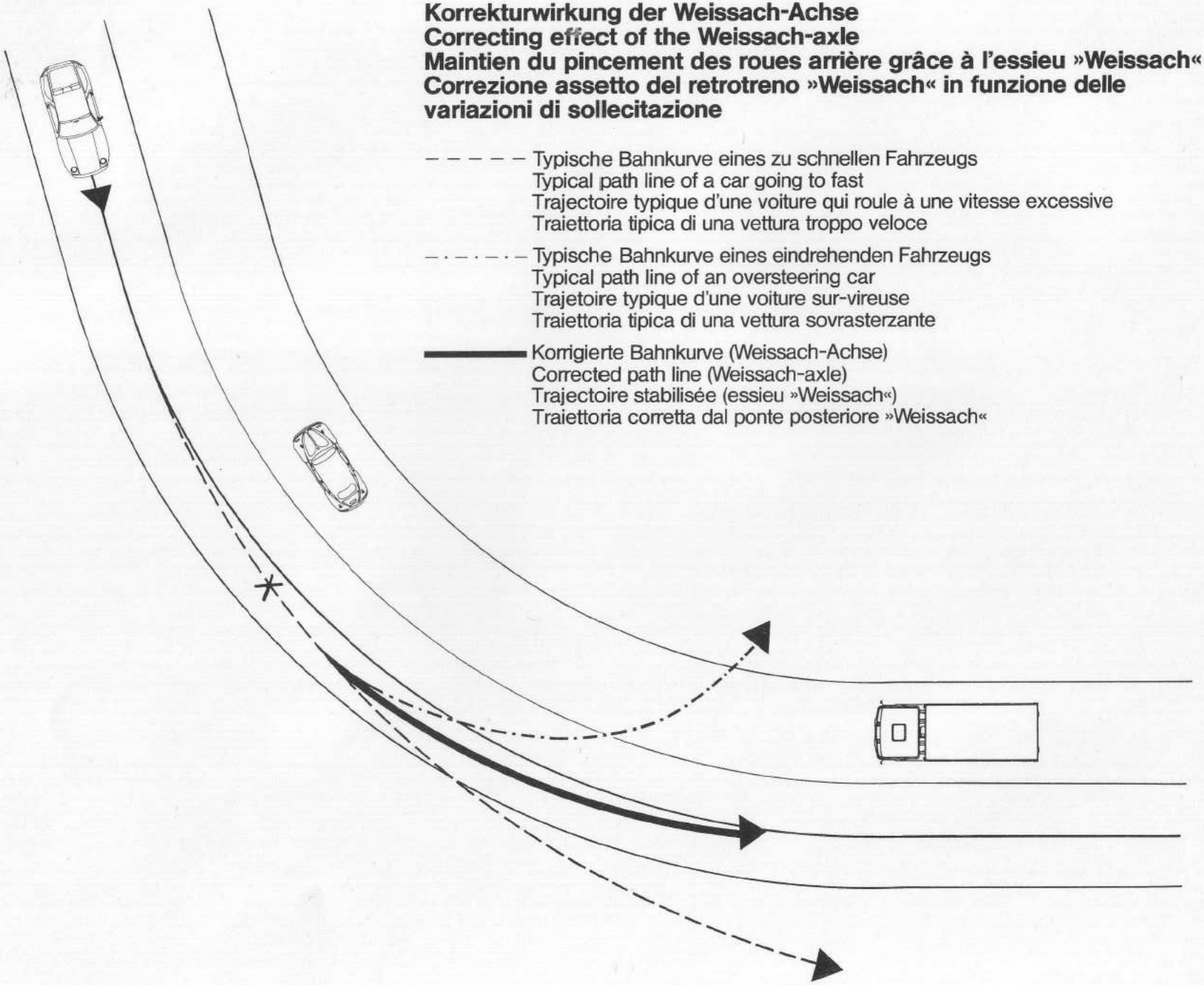
In the case of the Weissach-Axle, a kinematic effect changes the angle towards toe in when decelerating or braking. For reasons of noise absorbation, the Weissach-Axle, too, features rubber bearings, but toe out is immediately balanced by the kinematic effect $\alpha = \beta$. Thus, the Weissach-Axle prevents dangerous side movements of the car in curves. This is one of the important characteristics of the new axle.

Korrekturwirkung der Weissach-Achse
Correcting effect of the Weissach-axle
Maintien du pincement des roues arrière grâce à l'essieu »Weissach«
Correzione assetto del retrotreno »Weissach« in funzione delle variazioni di sollecitazione

– – – – – Typische Bahnkurve eines zu schnellen Fahrzeugs
Typical path line of a car going to fast
Trajectoire typique d'une voiture qui roule à une vitesse excessive
Traiettoria tipica di una vettura troppo veloce

– · – · – · – Typische Bahnkurve eines eindrehenden Fahrzeugs
Typical path line of an oversteering car
Trajetoire typique d'une voiture sur-vireuse
Traiettoria tipica di una vettura sovrasterzante

——— Korrigierte Bahnkurve (Weissach-Achse)
Corrected path line (Weissach-axle)
Trajectoire stabilisée (essieu »Weissach«)
Traiettoria corretta dal ponte posteriore »Weissach«

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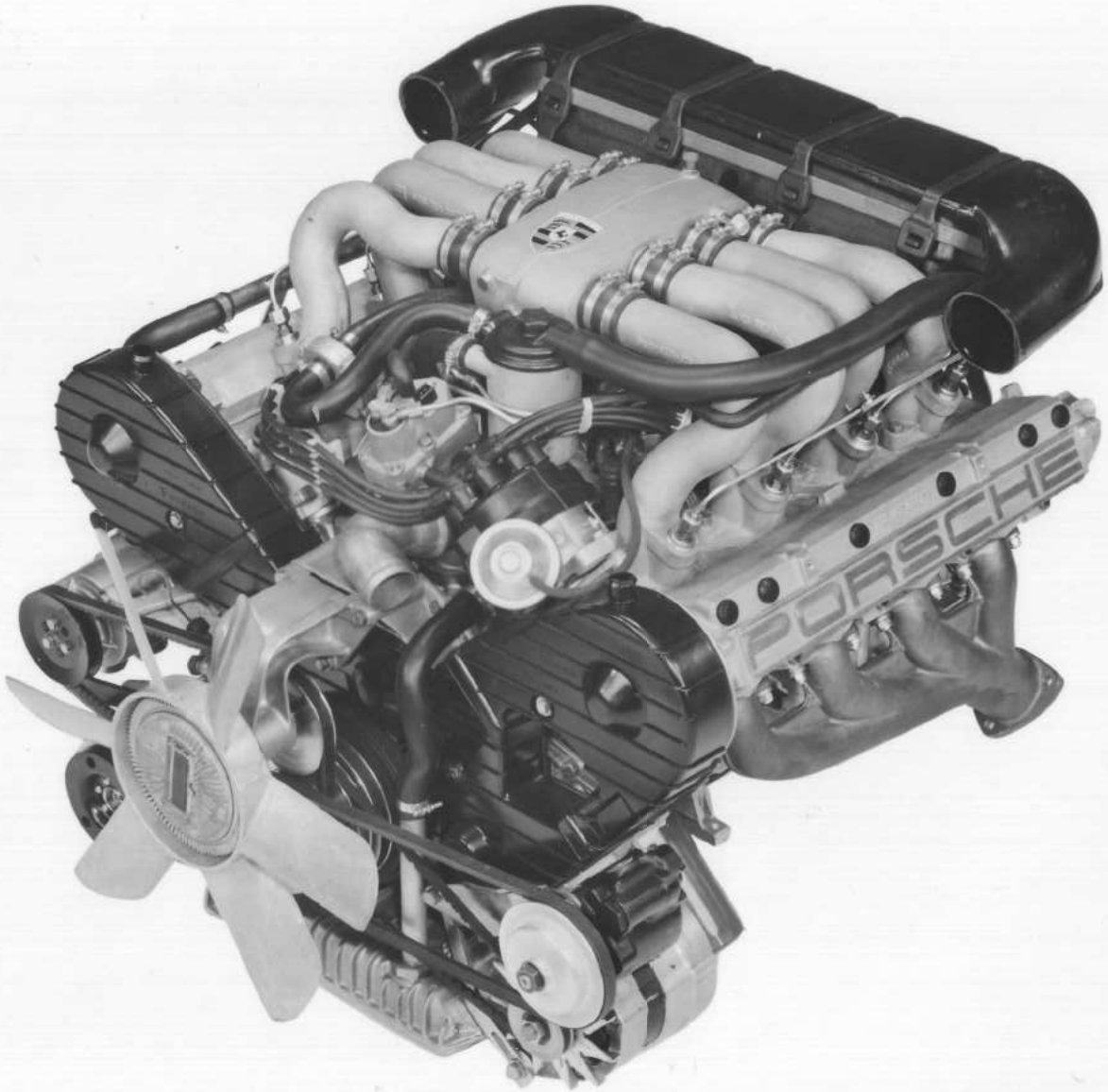
PORSCHE