Anyone who sees driving as a predominantly passive activity, which only requires steering, throttle and braking, and all the rest of the traffic regulations, will be completely incomprehensible to the existence of the Porsche 911 S. He will be wondering what a car can drive at a speed of 225 km / h, which has five gears, of which the third is up to 140 km / h, and why Porsche is keen to increase the possible lateral acceleration so much You can drive 10 to 20 km / h faster through corners than with other cars. He will be of the opinion that such possibilities are not only senseless, but even dangerous, for normal road traffic. Munich's lawyer Professor Dr. Paul Bockelmann even described it as "criminal" to manufacture, sell and drive such cars.

Such arguments can not be dismissed as dumb and backward. High-density road traffic requires a traffic flow that is as even as possible, for which cars of low performance and poor driving characteristics are harmful, but cars of excessively high performance and above-average driving characteristics are also not useful. The average car driver can not require 200 km / h of free-running and no competitive cornering. Neither on the highway nor on the country road can one expect him to immediately turn into a corner when such a superior car emerges behind him. The driver of a fast car must respect the majority and the average he represents in terms of performance, driving characteristics and driving skills. He can not claim a special position. Under this condition, however, that special rights are not applicable to the driver of the car superior in performance and handling characteristics, it is not justifiable to designate such a vehicle as criminal. The fact that an attempt is made in automotive technology to reach an optimum is rather a necessity. This can be demonstrated by the example of the American car of the last ten years: in the USA the power of the engines was constantly increased, because the dense road traffic required a good speed of acceleration. However, little was done about driving characteristics and brakes, and the result was cars that could not be objectively identified as safe. It was only the realization that many accidents were due to the inadequate driving qualities of these cars that brought the American automotive industry on the road to improve the suspension and brakes. In Europe, on the other hand, the increase in performance was paralleled by improvements in the overall characteristics, so that a balance was maintained between performance and driving safety. This development would not have been possible without the example of the top-of-the-range products, which set standards for driving safety. And it must be clear that driving safety has priority over all other safety requirements. Today the problems of accident safety are rightly observed more than before, but they must not distract attention from the fact that the number and severity of the accidents is largely dependent on driving safety. If, under normal traffic conditions, low-cost daytime cars can be used to drive highway speeds by 130 km / h, this is a success of the automotive technology, which is striving for functional advances, whose pacemaker can hardly be dismissed as "criminals".

Ten years ago the Porsche cars had already the reputation of being exceptional. Today, Opel and Ford have become the norm: accelerations from 0 to 100 km / h by 15 seconds and top speeds of 150 to 170 km / h are not data for irresponsible frenzy less obsessed, but for the intercourse of common medium-class cars. And even the acceleration values of the 911 Super are improved by

Advantages
• High power reserve due to large engine speed range and five-speed gearbox
• Effortless speed regulation by precise working and powerful brakes
• Upper-level handiness and controllability through precise steering, well-arranged controls and good seats
• High ground retention in curves
• Good overall comfort

Disadvantage
• The oversteer tendency in the limit area and the wind sensitivity at high speed must be calculated by the driver
• Steering is sensitive to roadway influences
• Under-dimensioned rims

some American large-scale cars. According to their engine performance these cars could also run over 200 km / h - only their chassis, brakes and tires do not tolerate this. Should the Porsche be just more criminal than she is because he is safer?

We have begun the test report with these findings, because misunderstandings about the meaning of high-quality road vehicles always show up again and are obviously particularly common in Germany. On the international scale, the 911 S is not a failed car; There are many sports cars - now even American ones - which are comparable in performance and handling characteristics. Nor can we say that there are no roads for such cars. We drove the 911 S in August 1966, that is, at the time of the strongest holiday traffic and in addition with mostly unfavorable weather conditions. Although we often had to swim in more or less stagnant traffic streams, there were always free sections of the road where the car could be driven according to its possibilities, without anyone disturbing it. A number of federal roads and certain highways running parallel to the main arteries of traffic were even characterized by yawning emptiness. It was possible to achieve far shorter driving times without effort than would have been possible on the crowded main sections.

An important feature is the possibility of the effortless speed adjustment. It is an amateurish idea that the exploitation of a fast car is in constant driving at high speed. On the contrary, with the fast car, one can take care of critical points, such as overtaking, passing through streets, intersections and junctions, narrow and unclear roads, which would astonish many drivers who consider themselves cautious . It is never necessary to overtake or slow down at an intersection,

"because you are still so beautiful in swing", because both braking and high acceleration are effortless processes. Through clean right-handed driving and, if necessary, by slowing down the bend, we made the sins of many motorists who needed the left side of the road at the corner exit. In the discussion about fast sports cars, someone seldom talks about how often you can save other people from the consequences of their own driving errors with such an exactly steerable and well-running car. - Only those cases where light-hearted riders with a sports car do something, which they could just as well have done with an old Opel.

Acceleration

The speed adjustment is dependent on acceleration and braking - two points in which the 911 S has an optimum. The unusual acceleration capability was already influenced by the increase in power and torque by the fact that the maximum speed of the engine was raised from 6800 to 7200 rpm. While normal daytime engines are rarely fully turned out, the Porsche six-cylinder engine is no exception to speeding up to the maximum speed. It rotates very lightly up to 7200 rpm and increases evenly the performance. Such a rotational capacity is the sense of the overhead cam shaft; It reduces the oscillating masses of the valve train, which limits the rotability in the case of pushrod-type engine, and thus expands the normal operating speed range upwards. The individual components of the engine are adapted to the high speed. In the case of the Porsche six-cylinder, overreving is avoided by a locking device which does not allow further rotation beyond 7200 rpm. Since the range of the gears is indicative of the possibilities of the 911 S, it is indicated here, starting at the speed of 3000 rpm, where the acceleration capability is at full:

see pic

The engine runs so elastically that if acceleration is not important, it can go down to about 1000 rpm. It is therefore quite possible to use the V-gear in regular traffic, even in the city, which is thus available as a route over the wide range from approx. 50 to approx. 230 km / h. Typical for the 911 S is also the strong overlap of the gears which makes it unthinkable that you do not have the correct gear available for a certain pitch or overturning speed. There are always at least two gears available below 180 km / h, resulting in a performance reserve that allows high speeds and therefore favorable overall averages in fast highway sections and in motorway intersections, without causing any other road users to be excited. In order to reduce the speed, if a correspondingly soft driving mode is used, the throttle distance is often sufficient, or even only to be shifted into a higher gear, which corresponds to a reduction in the driving force. The 5th gear is noticeably "longer" in the 911 S than the 911, so the upper speed range is mainly used for even driving, while the 4th gear is used to accelerate. The leap from the IV to the V is larger than in the 911. This made the IV course an excellent highway ride, and on the highway it can offer an excellent acceleration in the upper range - more impressively than if you turned back to the 4th gear on a traffic-free section of the motorway at 150 km / h and then accelerated upwards

to over 180 km / h, without any vibration or steering disturbances disturbing this process from 150 to 180 km / H you need exactly 8.8 seconds and approx. 400 meters, to slow down again from 180 km / h to 150 km / h - also without vibrations or directional deviations - you need only about 4 m / s deceleration with gentle braking about 2 seconds and 90 meters. Even shorter are the times and distances necessary for the speed adjustment in the lower range - the decisive advantage is therefore not the high speed itself, but the possibility to adapt the speed effortlessly to the traffic conditions. Here are some acceleration intermediate values:

see pic

Brakes

By deliberate speed adjustment with short-term utilization of the full power, an interval-like driving mode results which places higher demands on the brakes than the regular driving in the lower and middle speed range. These claims not only concern the absolute performance of the brakes, but also their working habits. If scrubbing or even uneven pulling would occur in every braking operation, they would be useless for such a vehicle - here braking must be just as effortless and precise as acceleration. Porsche did not install a braking aid on the 911 as well as on the earlier types, but the brakes provided any conceivable constructive diligence. The system has four disc brakes, each with two brake cylinders and a fixed saddle, two separate brake drum brakes at the rear, and brake discs, which are internally ventilated on the 911 S only. The lack of an amplifier causes a relatively large foot force even with a slight braking, but the force expenditure remains in a frame, which is reasonable with such a sporty vehicle. For the full braking we needed 50 kg - this is no more than for slow middle class cars of the same weight. With a little more than 1000 kg empty weight, the Porsche offers relatively favorable conditions for the brakes; In a three-times-heavy sedan, the problems are greater. The internal ventilation dissipates the braking heat very quickly, thus permitting a high permanent load on the brakes. After three weeks of driving, including forced slopes in the mountains, we can give the brakes the very best testimony. The power reserves can be increased by means of tougher surfaces - which require a greater foot force - for pronounced racing purposes, but the now chosen compromise is undoubtedly correct for road traffic.

Consumption

It is an old wisdom that driving with frequent speed change increases the consumption. However, in such a car, it would hardly be sensible to orient the driving mode to low fuel consumption, because its possibilities lie precisely in the fact that the speed can be freely determined. However, the increase in consumption, which is the result, is not particularly great, since it is largely dependent on the weight. It is one of the advantages of relatively small and light sports cars that they enable high driving performance with low consumption. Although frequent deceleration means a depreciation of the energy made by

accelerating, this effect is less noticeable the lighter the car is. We needed fast expresses between 11 and 17 liters / 100 km, on the highway between 13 and 19 liters / 100 km depending on the conditions and driving conditions. This can be attributed to a car with such unusual performance! In view of the high rotational speed low was also the oil consumption; We filled a liter every 800 to 1500 km. One advantage of the 911 and 911 S is that the oil level can always be read off the dashboard so that it is possible to start a petrol station with the correct oil type in time.

Steering

The fact that Porsche has chosen a rack-and-pinion steering system on the 911 benefits the accuracy of the steering, but requires the driver to examine the characteristics of this steering. There would hardly be another car, in which the effects of the car are so strongly felt in the steering. When maneuvering - especially backwards - you have to be very careful not to hit the steering wheel out of the hand by a ground or an edge stone. When driving on uneven roads, it is necessary to smoothly absorb and compensate for the effects of ground waves with the arms - all things which are hardly necessary in other steering gears. The sensitivity towards road drivers, however, corresponds to an exactness in the direction of driver road, which is just right for a sports car. The 911 requires more steering work than other cars, but can be more precise. Regular force expenditure is necessary only for the purpose of restraint in fast-moving narrow curves; moreover, it is more about balancing and conducting than by the application of muscle power. We could not ascertain, therefore, the above-average physical fatigue after several hours of mountainous travel; The good support and lateral support of the seat helps to keep the body relaxed despite the demanding steering. A good thing is the padded and leather-covered steering wheel, which - with and without gloves - pleasantly handles and allows a safe passage through and hold. It is relatively large, in fast driving one would wish it was smaller, but for narrow curves and city traffic, however, the large diameter is an advantage and improves as well as the small turning circle the handiness and maneuverability.

Driving characteristics

We discussed the driving characteristics of the 911 S on the occasion of the test drives in Hockenheim. On this racetrack, the understeering grounding tendency caused by the weight distribution was clearly expressed. As expected, she was less noticeable in the street; The impression of the high possible cornering speeds, which allowed a great safety distance between the actual speed and the possible speed. Drifting in road traffic is problematic, because the other road users feel threatened even if they are completely controlled drifting. However, the 911 S can also be very fast in the curve, without any lateral slippage occurring on the wheels, so it is not only theory, if Porsche points out that the possible transverse acceleration is approx. 10% higher than at Standard medium-sized cars. These 10 percent are an increase in driving safety, which definitely benefits the driver. They must not, however, obscure the fact that the car crosses over

from its slightly understeering behavior to oversteer, and then has to be controlled by means of counter-steering. One must be aware of this fact as the driver of this car; Always driving situations are conceivable in which such a counter-steering is necessary. Particularly on wet roads one must reckon with it, because the car goes loose on the rear on the wet more suddenly than on the dry road. Its controllability, as the Hockenheimer test drives showed, was improved by the additional installation of a rear transverse stabilizer; The necessary steering wheel deflections at the counter-steering are lower than in the normal 911. With a feeling you can always stay below the limit area on a wet road and has then a tracked vehicle, which is hardly to be released from the rest by accelerating and braking in the curve. As early as the 911 test, we pointed out that only a few powerful engines can force the power to the ground as well as the Porsche six-cylinder; It is hardly possible to spin through the wheels or tramples of the wheel suspension even when fully accelerated on breeches or ballast. The overall impression of the curve behavior on dry and wet roads - we drove a lot on wet roads - is that of an above-average safe ground adhesion.

Unfortunately, Porsche has not yet gone a step further: the widening of the rims and tires. The fact that the new light-alloy wheels of the 911 S have only the rim width of 41/2 inches is difficult to understand because of the fact that slower and cheaper cars are already driving on 5 and 6-inch wheels. 5 inch rims and tires of size 175-15 or 185-15 would be more appropriate to the 911S. The widening of the tires does not offer ad infinitum advantages, but the tire size 165 HR 15 on 41/2 inch rim is in no way an optimum for a vehicle of this cut. As far as the tire range is concerned, the 911 S is only equipped with Dunlop SP CB 57 selected quality, as these tires are the only one that meets the speed and load requirements. The sensitivity to the water pools that are abundant in August is likely to be due not only to the tire profile, but also to the relatively low front axle load of the 911 S. In any case, however, water on the road in fast cars always causes a special mistrust.

The stability of the Porsche 911 of the first series was still unsatisfactory; It was then improved by various measures. Some of the cars driven at Hockenheim showed a lateral swimming at speeds of more than 180 km / h, which was attributed by the Porsche chassis specialists to shock absorbers and rubber parts not yet entered. There were no such phenomena in our test car; she ran perfectly straight on and was also on clean road in the direction of driving to keep. An exception was high-speed driving in the side wind: over 180 km / h lateral gusts are clearly felt, and from a certain wind force it is advisable to stay below this speed. As in the case of cornering, the fundamentally unchanging effects of the center of gravity behind the center of the vehicle are shown here. At low and medium speeds, however, one can not speak of an above-average wind sensitivity, especially since the steering permits an exact compensation of the lateral winds.

Comfort

The Porsche cars were once famous for combining high driving performance with a comfort unusual for sports cars. The 911 S meets this call: despite the air cooling, the engine noise is so well damped that one can still talk at high speed and - if necessary - even listen to the radio. The wind noise, which was quite strong at the first 911, was reduced by more accurate car body processing. The seats are not only excellent in shaping, but also leave nothing to be desired in the slip-proof, ventilation and comfort of the upholstery. They are available in leather on request; But we would prefer the plastic-material combination. They support the car suspension without causing an annoying wip or rocking. The suspension itself is also to be described as comfortable with this most sporty Porsche standard. It speaks at low speed to ground unevenness of every strength, and can, as long as the short wheelbase permits, also swallow long ground waves well. In fast driving she works better than some sedan suspension; Especially with highway crossings it is quite well finished. The lateral inclination of the 911 S is still slightly lower as compared to the 911 due to the second transverse stabilizer, so rapid cornering is not a physical or mental torture for the passenger. This is not an unimportant point of view for sports cars.

The arrangement of the control elements is very excellent. The windshield wiper deserves special praise, which can be activated at any time with a finger movement from the steering wheel. Its three speed stages are not a luxury, because they allow the speed of the vehicle to be adjusted to the speed of the vehicle. We have often made use of this, especially on the highway, where the intensity of the rain does not change several times within a few minutes, and preceding vehicles occasionally require a short-term increase in the speed of wiping. The wipers remained effective even during fast driving. An important addition is the powerful electric windscreen washer operated by tightening the lever. Since the turn signal and the dipped beam are just as good, it is only necessary to take a hand from the steering wheel. The circuit itself has to be included in the praise: one has to switch a lot, but one always likes it, because the soft and fast working synchronization, the good guidance of the gear lever and its favorable position never make switching problems arise.

Some initial car body deficiencies of the 911, such as the deficient door locks and the sluggishness of the opening windows and hoods, have now been repaired. The new ignition lock reminds a little of grandfather's safe - you need some exercise to get the key right into the slot right away. An electrical remote control would be desirable for the rear windows; They are needed for ventilation because they cause less noise than the front ones. The direct ventilation, which is operated by a rotary lever, proved to be insufficient in hot weather; Additional window opening and thus additional noise were unavoidable. In the case of rain, one has to accept the fact that a great deal of water comes into the oblique windows. Like the 911, the 911 S has two heaters: the normal engine heater and a petrol-electric heater, which is a valuable addition in cold weather. It can be set to automatic regulation by thermostat and to continuous operation and provides

odorless warm air shortly after switching on. At very low winter temperatures and high speed, the heating effect can be increased by switching both heaters on at the same time.

The prize of almost 25,000 marks marks the Porsche 911 S among the special class cars, which are produced only in small numbers. However, it is anything but a luxury automobile; Whoever buys her only on account of his external impression and the high price without bringing the corresponding driving conditions and interests with him will hardly be happy with it. A more civilized version would be conceivable if Porsche decided to install servo steering, brake booster and automatic transmission. This would reduce the operating requirements, but at the expense of the uncompromising functionality, which actually makes the appeal of this car. Porsche has perfected the basic concept of the rear-engine sports car with all its constructional means, proving that it is not necessarily the fate of automotive technology to serve the construction of cheap and constructively imperfect mass products. Such a car sets benchmarks not by the production number, but by the sum of its outstanding qualities.

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