



THE LAST PORSCHE to be tested by Road & Track (April 1959) was the Convertible D with a normal, mildly tuned 1600 engine. Since then, Germany has had its bi-annual Frankfurt Motor Show, which introduced such a variety of modifications to body styling, chassis and range of engines that we became interested in carrying out a repeat test. These alterations were summed up in the November 1959 issue, but we will comment briefly on the models now available.

For body building, the Porsche works receives finished bodies into which the front suspension assembly with steering, the rear axle assembly with engine and transmission, and a number of auxiliary items are installed. Originally, the nearby Reutter firm supplied all the bodies, but today this firm alone cannot cope with Porsche's daily output of 30 cars. The supply of roadster bodies (formerly called Convertible D) now comes from Drauz at Heilbronn, about 30 miles north of Stuttgart. Reutter continues to build bodies for the coupe, cabriolet and hardtop models.

For the newly introduced Super 90, most powerful of the pushrod engines, a single-leaf transverse spring has been introduced, which links both rear wheels and abuts against a center bracket underneath the gearbox. The purpose of this spring is the same as that of the central helical spring used by Mercedes (first on the 300-SL roadster and now on all 220 models). When both rear wheels rise simultaneously, as when striking a bump, the transverse spring stiffens the rear springing. In contrast, the transverse spring is not deflected at all by body roll in corners. The result is that for a given vertical spring stiffness, the stiffness in roll is lower than before, which reduces the previous oversteer tendency, leaving to the front wheels a larger share of the total roll resistance. Handling of the car is much improved; under comparative conditions, driving tests on the Nurburg Ring resulted in lap times roughly 20 sec (!) lower than without the transverse spring. At present, this feature is exclusive to the Super 90; however, a still further improved ring-type synchromesh was adopted for all models.

The well known flat-4 engine with pushrod actuated ohv is available today in three different versions, all having the same dimensions (3.25 × 2.91), giving 1.6-liter displacement (96.5 cu in.). They differ in compression ratio, valve size, lift and timing, as well as in carburetors and some minor details. The normal 1600 engine develops 60 net bhp (German DIN rating), the 1600 Super develops 75 bhp, and the Super 90 pushes out a very honest 90 bhp at 5500 rpm. This last engine was developed because Porsche wanted to be able to offer performance similar to that of the original Carrera, using the simpler, less expensive pushrod version, which is also less exacting in maintenance than the sophisticated 4 ohc engine.

Our test car was a white roadster with red interior and black folding top, the same style body as our April 1959 test car. The test was carried out over a total driving distance of about 1150 miles and embraced motor highways in Germany, ordinary main roads in Germany and Switzerland, and some mountain passes, as high up as the snow would allow. The car was fitted with Michelin X tires. These are fine, but for the highly maneuverable

ROAD TEST PORSCHE SUPER 90

*Improvements, both visible and hidden,
noted and commented upon
by Hansjoerg Bendel*

COLOR PHOTO BY DR. E. SEIFERT



The Porsche's large door opening facilitates entrance.

Porsche we would have preferred another type of tire which would have made controlled corner sliding, one of the most enchanting features of the Porsche, even easier.

Since the roadster is still very much the same model as it was in April 1959, we were particularly interested to see how the new engine and the improved rear suspension behaved. As the test figures show, both acceleration and top speed are of a very high order, and the Super 90 must be classed as a really fast car. On the road the performance is even more impressive, because the engine revs with surprising ease and remains smooth up to 6000 rpm, which is 500 rpm into the red range of the rev counter. Power in the lower ranges is astonishing.



The Super 90 is somewhat more handsome with its top up than preceding Speedsters.

In hairpin bends, where we expected to have to change down to first, we were often able to stay in 2nd and still throw the rear end around by a determined push on the throttle pedal. Below 3000 rpm with full throttle, not much happens, but at exactly this point one gets a kick in the back and then things really begin to move. Naturally, the magnificent gear change has a marked influence on overall road performance; it is impossible to move the lever too quickly—the gearbox will always be there first. In general, the level of performance offered is remarkably close to that of the Carrera, though it must be admitted that the acceleration times are not quite as good as those of the Super Speedster (R&T, April 1958). This is because the new body is heavier and because the 4th gear is now 3.78 instead of 3.91.

Although the engine breathes through two twin-choke carburetors of the same type and size as those used on the Carrera (Solex 40 P-II-4) slow-speed performance and flexibility are perfect. In top gear on the level, 1500 rpm can be held and the car even accelerates—slowly—from this speed when a little bit of caution is exercised. Although there is no choke or other aid to starting, a few strokes with the throttle always brought the engine to life at the first try. Engine performance in cold weather is aided by two jets of warm air blown at the carburetors to counteract carburetor icing. Unfortunately, the occu-

pants are not equally well served and the windshield defroster gets a very inadequate supply of warm air. Furthermore, Porsche ought to do something to allow defrosting with the engine turned off—even a roadster can come upon cold, damp weather (see page 34)!

A few years ago, Porsche and oversteer were almost synonymous. This was changed with the introduction of the new chassis late in 1956, and the present chassis remains practically neutral up to very high cornering speeds. This means the driver is in control of a most responsive car, which goes around corners with deceptive ease and stays on its course even when the road surface is decidedly bumpy and/or cambered. The springing is a good compromise between firmness and comfort, damping is good and if a particularly nasty level crossing comes up—these have still not totally disappeared in the southern regions of Europe—the suspension always has something up its sleeve and never bottoms. As far as we are concerned, the standard chassis without the transverse spring is already very good. Our test car appeared particularly surefooted and could not be caught on the wrong foot even in very quickly succeeding bends. The steering is wonderful, highly accurate and yet light, directness just right, and it gives superb contact with the road without undesirable feedback of bumps.

Gas mileage varied between 18 and 28 mpg; the lower

Icing on the cake; the soft, contoured, reclining seats.



The double-throat Solex carburetors add the "super."





The new bumper position gives better traffic protection.

figure represents the result of very hard driving and performance measuring and is unlikely to show up under average use.

Brakes on the test car, which had the latest aluminum drums with 72 radial cooling fins, were powerful and free from fade. There was, however, a certain vibration, possibly partly due to tire characteristics, and the brakes do not fully equal the dead-certain stability offered, for example, by the brakes on the latest Alfa Giulietta models.

A discussion of the seats brings us to a point which has something to do with both comfort and road holding. When we took the test car from Huschke von Hanstein, Porsche's racing manager, we were first invited to try a 75-bhp hardtop. After dropping into the seat of the Porsche we immediately had an unmistakable feeling of complete unity with the car and we immensely enjoyed throwing it around some tight corners. Changing to the roadster, we noticed that the seat, although the same type, was notably harder, and that the lateral support was decidedly less than on the hardtop. When going fast through corners, we found it necessary to hold on to the steering wheel, which of course even conveys the impression of inferior road holding. Mind you, Porsche seats have always been among the best made anywhere, but we all know that a slight differ-

A pox on front license-plates, no matter whose.



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PORSCHE SUPER 90

SPECIFICATIONS

List price.....	\$4195
Curb weight.....	1935
Test weight.....	2250
distribution, %.....	44.5/55.5
Dimensions, length.....	158
width.....	65.5
height.....	51.5
Wheelbase.....	82.7
Tread, f and r.....	51.4/50.1
Tire size.....	5.90-15
Brake lining area.....	121
Steering, turns.....	2.5
turning circle, ft.....	36
Engine type.....	flat 4, ohv
Bore & stroke.....	3.25 x 2.91
Displacement, cu in.....	96.5
cc.....	1582
Compression ratio.....	9.00
Bhp @ rpm.....	102 @ 5500
equivalent mph.....	109
Torque, lb-ft.....	.89 @ 4300
equivalent mph.....	85.4

PERFORMANCE

Top speed (4th), mph.....	117.0
best timed run.....	118.5
3rd (5700).....	85
2nd (5750).....	55
1st (5700).....	31

FUEL CONSUMPTION

Normal range, mpg.....	18/28
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ACCELERATION

0-30 mph, sec.....	4.5
0-40 mph.....	6.5
0-50 mph.....	9.0
0-60 mph.....	12.5
0-70 mph.....	16.2
0-80 mph.....	21.1
0-90 mph.....	25.5
0-100 mph.....	35.0
Standing 1/4 mile.....	17.7
speed at end, mph.....	74

GEAR RATIOS

O/d (n.a.), overall.....	
4th (0.85).....	3.78
3rd (1.13).....	5.02
2nd (1.76).....	7.83
1st (3.09).....	13.7

TAPLEY DATA

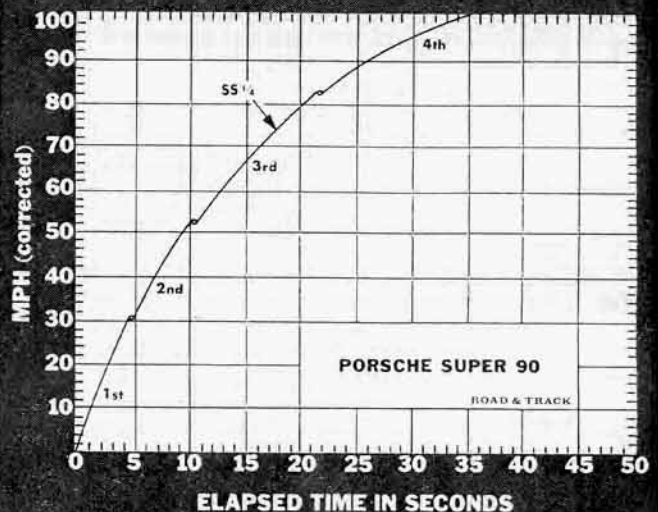
4th, lb/ton @ mph.....	190 @ 72
3rd.....	300 @ 64
2nd.....	450 @ 43
1st.....	570 @ 25
Total drag at 60 mph, lb.....	103

CALCULATED DATA

Lb/hp (test wt).....	22.1
Cu ft/ton mile.....	74.8
Mph/1000 rpm (4th).....	19.9
Engine revs/mile.....	3020
Piston travel, ft/mile.....	1465
Rpm @ 2500 ft/min.....	5150
equivalent mph.....	102
R&T wear index.....	44.3

SPEEDOMETER ERROR

30 mph.....	actual 28.2
40 mph.....	37.7
50 mph.....	46.9
60 mph.....	56.4
70 mph.....	66.0
80 mph.....	75.0
90 mph.....	84.2
100 mph.....	94.4



PORSCHE ROAD TEST

ence in manufacture may result in quite a different product, and may even lead to an incorrect judgment as to the car's road holding ability.

In several other respects, we found the quality of body finish a bit below the standard we have come to expect from Reutter-built bodies. The folding top itself was waterproof, but there were several leaks elsewhere, and along the rear edge of the right-hand window, water aplenty was sucked into the car, apparently by an area of low inside pressure. The windshield wipers are not yet good enough (they are not good on many cars—here is a field for badly needed improvement!). The rear mirror was large, but it vibrated; there was no interior illumination at all, not even a map reading lamp (of which even the old TC had a pair). As on many other cars, the side windows cannot be opened in rain, because water drips into the car in unpleasant quantities; the foot-operated pump for the windshield washer was too high up to be easily reached; and there were several minor flaws in the finish.

As described in our April test, the roadster body has many charms which endear it to the amateur driver of fast, superbly controllable cars. Naturally, it is at its best when open with the side windows lowered—in this condition, driving is sheer joy. But even with the top up, headroom and visibility are very good, the window corner posts being quite thin and the plastic rear window very large. Behind the seats, there is adequate space for luggage, or small children may be carried in acceptable comfort—there are no proper rear seats as in the closed models. Visibility to the side is immeasurably superior to that of the old Speedster. Both doors and even the pull-up release of the front lid can be locked with a key.

The control arrangements have been altered slightly. The steering wheel (black, to prevent reflection) is now dished, and behind it is a short lever which controls daytime headlamp flashing and dipping at night, as well as the direction indicators. The horn button is in the center of the steering wheel and cannot be pushed without taking one hand from the wheel. The gear lever has been shortened, is pleasantly stiff and is bent backwards to within easy reach of the driver's right hand. Its movements are very short and accurate. Instruments comprise an oil thermometer, a gas tank gauge, a speedometer with trip-distance recorder, a tachometer, and the usual series of warning lamps. The handbrake is very effective, but the release leaves a bit to be desired in finesse.

To sum up our opinions, for fast motoring and long distance touring with a minimum of fatigue and a maximum of pleasure, the Porsche Super 90 roadster is very hard to equal. It provides just that kind of motoring which most sports car lovers like best and probably does it with very moderate demands on maintenance and tuning. We parted from our test car with regret. 