

PORSCHE 911
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More radical technical changes were made to the 911-series. The most important are the new engines! The displacement has been increased to 2.4 ltr with a raise in HP. The 911 T now develops 130 Din HP, the 911 E 165 Din HP, and the 911 S 190 Din HP. While there are no actual changes to the previous top speed, the larger displacement definitely improve the torque. More torque means better acceleration, better pick-up, even more flexibility and less gear shifting.

The higher power was not achieved by means of higher compression ratio or more revs; - on the contrary! The compression ratio has been generally lowered, i.e. on the 911 T to 7.5:1, the 911 E to 8:1, and the 911 S to 8.5:1. This means that Porsche-drivers are the only sports car drivers who can use lead-free regular gasoline 91 ROZ - even for the 911 S! Another advantage for Porsche customers is that, in the future they may visit countries where high octane fuels are not available. Surely not an uninteresting aspect.

To match the increased power, a new, stronger gear box has been developed by the designers. Due to the greater flexibility of the engines and the associated wider power range, the standard unit could be reduced from 5 to 4 gears due to the better torque. For all those who do not want to forgo the 5th gear, a likewise newly designed 5-speed-gear-box is available as optional equipment. With this new design the former way of shift pattern is changed so, that - in addition to the ordinary 4-speed H-shift pattern - the 5th gear is placed above and to the right. The reasons are the following: When the Porsche 911 appeared for the first time 7 years ago, the car was equipped with a 2,0 ltr engine. At that time the engine power was relatively low in comparison with nowadays and thus required frequent gear shifting, particularly from 5th to 4th gear; therefore it was decided to put these two gears in line and the 1st gear (being the starting gear) to the bottom left. It was also practical because bumper-to bumper driving in those days was still a fairly rare experience. In the meantime however, traffic conditions have changed quite drastically and, when driving in the rush-hour or bumper-to bumper traffic, constant stopping and starting is commonplace. And with this in mind the first gear was put in the most convenient and direct position, as it also is in most 4-speed gear boxes. On account of the greater flexibility of the engines less frequent shifting from 4th to 5th gear and vice versa is necessary, so really this newly designed gear box is the perfect answer to todays traffic conditions. It is therefore obvious that, particularly under this consideration, the famous sportomatic transmission which combines the fun of quick shifting and of an automatic is now available for all models; i.e. because of its growing popularity even for the 911 S.

The chassis of the 911 series remains practically unchanged. Just for the purpose of model standardization shock absorber struts have been installed instead of the previous hydropneumatic suspension struts. For customers who prefer a softer ride, hydropneumatic struts are still available as an extra equipment. Additionally the rear axle shock absorber mountings have been changed in all models. The top and bottom mounting points have been renewed. This gives greater shock absorber travel. The damping is more accurate, the road contact and shock absorption is improved.

The body of the Porsche 911 remains unchanged, Thus hitherto high resale value is achieved for owners of older models even for the future. However, the 911 S is now equipped at its nose below the bumper with a newly shaped apron acting as a spoiler and increasing the down force on the front wheels up to 50%. Furthermore this spoiler does not only improve the directional stability of the vehicle but also the roadability in fast driven curves. This body innovation - also available as an option for the 911 T and 911 E, - has been adopted from racing.

A small external change is also noticed in the flap on the right rear fender which covers the oil filler. By moving the oil tank forward, it is now accessible from the outside so that it is possible to check or add oil without opening the engine compartment or using a funnel. A release operated from the inside of the car prevents this flap from unauthorized opening just like the gas filler.

For people who wish to drive particularly long distances without having to refuel, a special 85 ltr tank can now be installed. In order not to lose luggage space because of this - for its class unique tank size - a technical novelty, a collapsible spare tire, which can be inflated as prescribed with the accompanying compressed air bottle, is available against surcharge. The special collapsible tire has proved itself successfully over years in Porsche racing cars.

With the preceding description of the Porsche and VW-Porsche 1972 models we are not presenting any sensational new vehicles. We believe however, with the described changes, not only has the active safety been increased, but also we are now equipped to deal with questions aimed at us from the increasingly important area of environmental protection as one can expect from vehicles that carry the name of Porsche. The cars have become more refined.

THE SPECIFICATIONS

911 T

911 E

911 S

Engine	911 T	911 E	911 S
Number of cylinders	6	6	6
Bore mm (in.)	84 (3.31)	84 (3.31)	84 (3.31)
Stroke mm (in.)	70.4 (2.77)	70.4 (2.77)	70.4 (2.77)
Displacement cc (cu.in.) - fiscal	2311 (141)	2311 (141)	2311 (141)
Displacement cc (cu.in.) - effective	2341 (142.8)	2341 (142.8)	2341 (142.8)
Compression ratio	7.5:1	8.0:1	8.5:1
Engine output HP (DIN/SAE)	130/147	165/185	190/210
at engine speed RPM	5600	6200	6500
Max. torque mkg (lb/ft)-DIN	20 (166)	21 (174)	22 (181)
at engine speed RPM	4000	4500	5200
Output per litre HP-DIN/SAE	55 - 63	70 - 79	81 - 90
Fuel octane requirement(RM)	91 225/14/3	91 265/14/3	91 275/14/3
Fuel consumption litres per 100 km	9.2	9.5	10.2
<u>Engine design features</u>			
Layout	Air cooled four stroke horizontally opposed	Air cooled four stroke horizontally opposed	Air cooled four stroke horizontally opposed
Crankcase	Light alloy	Light alloy	Light alloy
Cylinder barrels (individual)	Cast iron	Cast iron with light alloy cooling fins	Cast iron with light alloy cooling fins
Valve position in cylinder head	1 inlet, 1 exhaust; inverted V layout	1 inlet, 1 exhaust; inverted V layout	1 inlet, 1 exhaust; inverted V layout

911 T

911 E

911 S

Valve operation

Single overhead camshaft for each cylinder bank

Camshaft drive

Chain

Chain

Crankshaft

Forged, 8 main bearings

Forged, 8 main bearings

Lubrication

Dry sump with separate oil tank, thermostatically controlled oil cooling, full flow oil filter

Fuel supply

Electric pump

Electric pump

Mixture preparation

2 Zenith triple choke carburettors

Bosch manifold fuel injection

Electrical system

Battery voltage V

12

12

Battery rating (Amp/hr)

2x36

2x36

Ignition

HT battery/capacitor

HT battery/capacitor

HT battery/capacitor

Spark plugs (Electrode gap mm/in.)

Beru 225/14/3

Beru 265/14/3

Beru 265/14/3

Bosch W 230 T 30 (0.6/o.024)

Bosch W 265 P 21 (0.6/o.024)

Bosch W 265 P 21 (0.6/o.024)

Transmission

Clutch

Single dry plate

Single dry plate

Single dry plate

Manual gearbox

Porsche synchronesh

Porsche synchronesh

Porsche synchronesh

Number of speeds

4 forward, 1 reverse

4 forward, 1 reverse

4 forward, 1 reverse

Final drive

Spiral bevel, differential

Spiral bevel, differential

Spiral bevel, differential

Rear axle halfshafts

Double universal joint

Double universal joint

Double universal joint

	<u>911 T</u>	<u>911 E</u>	<u>911 S</u>
<u>Optional equipment</u>			
(with manual gearbox)	ZF limited-slip differential	ZF limited-slip differential	ZF limited-slip differential
Special equipment	5-speed gearbox	5-speed gearbox	5-speed gearbox
Special equipment	4-speed Sportomatic	4-speed Sportomatic	4-speed Sportomatic
<u>Sportomatic transmission</u>			
Clutch	Hydraulic torque converter and vacuum operated MZ 180 K single dry plate clutch		
Number of speeds	4 forward, 1 reverse and parking lock	4 forward, 1 reverse and parking lock	4 forward, 1 reverse and parking lock
Gear lever position	On central tunnel next to driver's seat		
Final drive ratio (No. of teeth)	4.429:1 (7/31)	4.429:1 (7/31)	4.429:1 (7/31)
<u>Chassis, suspension</u>			
Load-bearing bodyshell			
Independent front suspension with lower wishbones and			
Front springs	shock absorber struts	shock absorber struts	shock absorber struts
Rear suspension	Torsion bars	Torsion bars	Torsion bars
Rear springs	Independent, semi-trailing arms	Independent, semi-trailing arms	Independent, semi-trailing arms
	1 transverse torsion bar per wheel	1 transverse torsion bar per wheel	1 transverse torsion bar per wheel

911 T

911 E

911 S

Shock absorbers

Front and rear hydraulic double-acting

Anti-roll bar front/rear no

yes

Anti-roll bar (optional extra) Front and rear

Foot brake

Hydraulic dual circuit, with ventilated discs at all 4 wheels

Wheels 5 1/2 x 15 steel

6 x 15 light alloy

Tyres 165 HR 15

185/70 VR 15

Steering Rack and pinion

Rack and pinion

Filling capacities

Engine

Approx. 9 litres (15.8 Imp.pints) branded HD oil. APJ classification SD; summer SAE 30, winter SAE 20

Approx. 9 litres (15.8 Imp. pints) branded HD oil, APJ classification MS; summer SAE 30, winter SAE 20

With oil cooler approx. 10 litres (17.6 Imp. pints); summer SAE 30, winter SAE 20

Sportomatic

Approx. 12,5 litres

Gearbox and final drive

Approx. 3 litres (5,4 Imp. pints) SAE 90 hypoid

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Fuel tank

62 litres (13.6 Imp. gal.) including 6 litres (1.3 Imp. gal.) reserve

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911 T

Screenwasher reservoir

Approx. 2 litres
(3.5 Imp. pints)

Dimensions

Wheelbase 2271 mm (89,4 in.)
 Track, front 1362 mm (53,6 in.)
 Track, rear 1343 mm (52,9 in.)
 Length 4163 mm (163,9 in.)
 Width 1610 mm (63,4 in.)
 Height (unladen) 1320 mm (52 in.)
 Ground clearance (laden) 150 mm (5,9 in.)
 Turing circle approx. 10.7 m (35 ft. 2 in.)

Weights:

Unladen weight (DIN standard) 1050 kg (2314.1 lbs)
 Permitted gross weight 1400 kg (3086 lbs)

Performance

manual gearbox, standard equipment
 Maximum speed kph (mph) 205 (128)
 Acceleration 0-100 kph (0-62 mph)
 (at DIN unladen weight + half payload) 9.5 sec.

911 E

Approx. 2 litres
(3.5 Imp. pints)

2271 mm (89,4 in.)
 1372 mm (59,1 in.)
 1354 mm (53,3 in.)
 4163 mm (163,9 in.)
 1610 mm (63,4 in.)
 1320 mm (52 in.)
 150 mm (5,9 in.)
 10.7 m (35 ft. 2 in.)

1050 kg (2314,1 lbs)
 1400 kg (3086 lbs)

220 (137)

7.9 sec.

911 S

Approx. 2 litres
(3.5 Imp. pints)

2271 mm (89,4 in.)
 1372 mm (59,1 in.)
 1354 mm (53,3 in.)
 4163 mm (163,9 in.)
 1610 mm (63,4 in.)
 1320 mm (52 in.)
 150 mm (5,9 in.)
 10.7 m (35 ft. 2 in.)

1050 kg (2314,1 lbs)
 1400 kg (3086 lbs)

230 (143)

7.0 sec.