



PORSCHE

Press Release

October 15, 2015

No. 106/15

Porsche Tequipment offers basis for extensive customisations

Rejuvenation treatment for used 911

Stuttgart. At this year's 20th anniversary of Porsche Tequipment, the retrofitting professionals are demonstrating the range of their expertise on a special project for a used 911 Carrera S Coupé, model year 2011. The vehicle, initially equipped with not much more than the standard features, is upgraded with numerous options in the form of Tequipment retrofit components that transform it into an impressive top sports car – both visually and technically.

After being retrofitted with the Aerokit Cup, the exterior of the 911 Carrera S has an altered front end with modified spoiler lip and a fixed rear spoiler with an additional wing profile. The car's new look is completed by such features as black bi-xenon headlights and tail lights in a clear-glass look. The dual tailpipes made from polished stainless steel offer a hint at something that cannot be seen at first glance, but is certainly audible and palpable – the boost in engine power from 400 hp (294 kW) to 430 hp (316 kW).

The vehicle's interior is also upgraded as part of the retrofit. The standard seats, for instance, are replaced by sport bucket seats with carbon shells. Also designed in carbon are the decorative trim strips of the dash panel and centre console. The motorsport ambience is complemented by Alcantara elements such as the Sport Design steering wheel and the PDK gear selector lever.

All it takes is a quick glance at the equipment list of the 'new' used Carrera S to see that the features just mentioned hardly exhaust the potential of the Tequipment product range.

Porsche Tequipment offers a varied assortment of accessories for aftermarket customisation of the various Porsche models. On the one hand, these accessories can improve product utility, as is the case with the model-specific cargo systems and child seats. On the other hand, equipment like sport exhaust systems, visual customisation options or complete wheel sets in independent designs can lift the emotions and driving pleasure. You can access information on Porsche Tequipment products with the online “Tequipment accessory finder” at www.porsche.com/tequipment. The search function of the online portal offers a quick and easy overview of the Porsche accessories programme in categories such as Exterior, Performance, Transport and protection, Wheels and wheel accessories – all made to fit the specific vehicle model.

The following pages will give you a comprehensive look at the retrofitting of the vehicle and background information on Tequipment options.

A new sporty outfit for every young Porsche

Porsche Tequipment is the name of the business area of the Porsche company that offers high-quality technical accessories for all Porsche model series. This customisation and accessories programme is celebrating its 20th anniversary this year. The most important contribution to the festivities is rolling on four wheels – it is an attractive used Carrera that is used as a presentation vehicle by Porsche Tequipment. The retrofitted 911 Carrera S from the year 2011 impressively showcases the bandwidth of the accessories programme.

The core message is this: At Porsche, customisation is not just something that can be savoured with the purchase of a new car. Strictly speaking, any Porsche centre can handle this task, of which there are currently 86 in Germany and 811 worldwide. Any of them can offer the retrofit options for enhanced driving pleasure for which Porsche Tequipment is known.

Each of these Porsche centres can fabricate a vehicle that is similar to the one created for the 20th anniversary of the Tequipment brand in Zuffenhausen. Four years ago, the Carrera S came off the assembly line at the production halls of Porsche in a rather basic configuration as one of the first dapper 911 Carrera (type 991) sport cars. Now it returned to the central shop to be customised and upgraded with state-of-the-art Tequipment accessories.

The list of customisation and upgrade accessories installed in the used Carrera spans several pages. They include some items that could even astonish an informed Porsche aficionado. Tequipment adds 30 more hp to the standard production 400-hp 3.8-litre flat engine. This power boost was on the work list for the anniversary Carrera as were sport seats that are over twelve kilograms lighter, a set of new 20-inch wheels, the Sport Design package, sport pedals and an Alcantara sport steering wheel – and that was far from all (For complete table of retrofit actions, see page 9).

In particular, the engine power boost has enjoyed a long tradition at Porsche, like so much else. “Factory Power Enhancement” was invented in the early 1950s, including, for the first time, a “sharp camshaft” that was introduced at the request of numerous sports car drivers. At that time, the boost in power was 15 hp, which was very much appreciated by the group of Porsche devotees who liked to race on weekends on local circuit tracks with hand-painted start numbers on their cars.

Customers' appetites had certainly been whetted. An official motorsport parts programme was already introduced in 1967, including a catalogue for vehicles from the factory. Various power enhancements were available primarily for customer racing cars. In 1981, a 210-hp kit was offered for the “normal” 911 SC for the first time, which increased engine displacement to 3.1 litres. In 1982, this was followed by a sport kit with 330 hp for the Turbo 3.3, which was listed as a “Factory Power Enhancement” in the catalogue. Starting in 1995, many Porsche drivers were thrilled to see that the X51 code no longer just appeared in just the customisation catalogue for factory-installed items. In the same year, the Tequipment programme for the first time offered the power enhancement in models that had already been delivered some time ago, but were still quite fresh – and that essentially applied to all of the company's models.

The example of the Agate Grey 2011 Carrera S shows how various installed features add up to the power kit that characterises the Carrera GTS models from the factory. On the intake side, the engine gets new cam profiles that provide for 0.7 mm more valve lift and the cylinder head channels were enlarged by milling and then polished¹⁾. Other features include an intake manifold with 6 plus 1 individual flaps for resonance switching (standard in the Porsche 911 Carrera S: one flap), and the dual-pipe sport exhaust system with its elaborately constructed exhaust manifold. In this system, there is even a crosswise connection between the pipes of the two cylinder rows. It enables a particularly refined tuning of the oscillations in the sport exhaust system. The various 911 GTS models make use of exactly the same type of power enhancement modifications.

The reward for this engine fine-tuning – which includes the kit for a third radiator at the front of the vehicle with thermostat and fan as well as modifications to the computer data for ignition and fuel injection – is 430 hp (316 kW) at 7500 rpm. This means that the 3.8-litre engine of the previous Carrera S (production specification: 400 hp / 296 kW) exhibits exactly the same level as the factory-installed engine of a new Carrera GTS. It also has the same maximum torque of 440 Nm at 5750 rpm. In a direct comparison to the Carrera S, which itself is a very potent sports car, it gives an even more lively and fiery impression in terms of its power development in the upper rev range.

Only very few details of such a power-boosting modification are visible on the exterior. In the Tequipment retrofitted Carrera, the respective components are distributed across the entire vehicle that was previously a standard production 911 Carrera S model (type 991). The third radiator is located in front behind the licence plate, and the new engine cover is located at the far rear under the prominent rear wing. In between, there is space for a few refinements which in sum make the sports car even more beautiful and powerful, but no heavier. The sport seats alone eliminate 12.6 kilograms of weight, which more than compensates for the 3.6 additional kilograms of the newly added middle radiator.

The lightweight bucket seats encourage a composed seat position behind the grippy Alcantara steering wheel – a position that is always recommended as the first item to consider in Porsche driver training. The interior carbon package is reminiscent of the brand's successful racing cars. The Alcantara trim of the gear knob gives the PDK gear shift lever a sporty feel. A real highlight here is the housing for the ignition key whose sides were refitted with sides painted in the Agate Grey Metallic body colour (colour code M7S). Porsche connoisseurs know this: it is also possible to choose a contrasting colour – such as Racing Yellow – to accentuate it even more.

The entire unit is logically combined with a key case, either leather or Alcantara, so that the well-painted small part gets as few scratches as the original. This love of details can be taken even further. Even the most delicate details add sophistication to

the Porsche, such as valve caps with the Porsche badge embossed on them in silver, four pieces per set, which are available for vehicles with or without a tyre pressure monitoring system.

20-inch wheels in 911 Turbo design (dimensions: 8.5 J x 20 ET 51 with 245/35 ZR 20 (91Y) in front / 11 J x 20 ET 70 with 295/30 ZR 20 (101Y) XL rear) have an enormous appearance and provide tyre grip that is nearly as immense as in the Porsche Cup cars, where comparable wheel dimensions help to precisely sound out the considerably higher performance limits with competition tyres. In assembly at the Porsche centre, the new wheels are immediately linked to the tyre pressure monitoring system via a 433-megahertz radio system, to ensure ideal conditions for transmitting the tyre pressure data with each turn of the wheel.

The xenon lights of the Porsche brand are configured to provide some of the best performance in illuminating the area in front of the vehicle and avoiding glare to on-coming traffic. In the retrofit kit from Tequipment, black tinted replacement headlights are used, adding a dark look to the sleek Porsche by means of slightly smoked lenses, without reducing luminance or light yield. Complementing them is a set of clear-glass LED tail lights that gives the lighting components a white-transparent look.

The door mirrors in Porsche GT design with a split mirror foot that not only offer a graceful appearance. Here, the experts at the wind tunnel in Weissach also introduced an improvement over the standard version that expresses itself in reduced wind noise at high speed. Appropriately, the sturdy pedal set of the performance collection with three anodised aluminium foot plates that are sandblasted and nano-coated is a direct reference to motorsport.

Both exterior package variants are right at home in the motorsport genre, since the lower rear spoiler for extension stage 1 in the Sport Design package was influenced strongly by an original car in Carrera history. The original spoiler shape was initially developed in the wind tunnel in 1972 when the first Carrera 2.7 RS model series introduced aerodynamics into contemporary automotive engineering by conceivably

utilising airflow forces. Exactly as back then, the modified Carrera in Sport Design trim now extends a rear wing into the airflow, whose technology is complemented by an aerodynamic component at the front end of the vehicle.

As was the case with the prototype of all spoilers from 1972, the two units – front and rear – may only be installed as a pair, so that the aerodynamic effects on the front and rear axles remain in balance. And today both are offered in a sharper version known as the Aerokit Cup, which provides the rolling Porsche with every last quantum of aerodynamic force via a dual airflow on the lower front spoiler lip and its raised rear wing that is mounted above the rear spoiler that hints at the classic look of the RS “ducktail”.

Before aerodynamic components like the ones in the spoiler packages find their way into the accessories range, they are subjected to an extensive testing programme at the development centre in Weissach. In the wind tunnel and on the test track, they must prove that they not only have a sporty look, but that they actually increase driving stability. Test certificates are available for both variants of the spoiler package making these modifications perfectly street-legal so that the vehicle registration can be amended accordingly. Such smooth processes are typical for Porsche Tequipment.

Karl-Heinz Volz, head of the department “Customer Centre Customisation”, explains: “After all, the Tequipment line was developed and tested to the same standards as was the entire vehicle range. A Tequipment Porsche is a genuine Porsche – from the grooves of its tyre treads to its roof antenna. Customers can count on this fully.”

Addendum to page 4, item (1):**Cylinder head tuning based on example of Porsche 911 Carrera S (type 991) / GLS:**

Attempts to improve engine air induction by specific work on the intake ports are as old as the four-cycle engine itself. However, in finishing work on the GTS kit for the Carrera 991, Porsche uses highly advanced production technology that has already proven itself with excellent results in complex polishing processes on the interior surfaces of fuel injection and hydraulic systems. First, the intake ports of the cylinder heads are milled to a wider port shape in a CNC milling operation. Then, residual machining marks and surface grooves are smoothed by abrasive flow machining. Manual work with a classic polishing head would be extremely complicated here and would result in different tolerances for individual ports.

The abrasive flow machining process involves placing the cylinder head, without valves, on a type of flow bench, which rinses the open port with a paste-like polishing liquid under high pressure. The polishing substance – which behaves like plasticine with embedded ceramic grinding particles – is able to deburr the ports with the grinding compound, rounding it out and polishing it. The same technology has already proven itself in various Porsche racing engines. For the first time, it is now being used in large-scale engine production to rework the standard cylinder heads of the Carrera S to the production standard of the GTS models.

All retrofit measures applied to the 20th anniversary Tequipment Carrera with order numbers and prices (in Germany)						
Category	Part no.	Description	Price excl. VAT	Price incl. VAT	Price incl. install./ ass'y & painting (excl. VAT)	Price incl. Install./ ass'y & painting (incl. VAT)
Exterior	991 044 800 85	Sport Design package	3,195.00	3,802.05	4,633.20	5,513.51
	991 044 800 93	Extension, Aerokit Cup	1,985.00	2,362.15	2,180.00	2,594.20
	991 044 900 40	Bi-xenon headlights, black	2,125.00	2,528.75	2,509.00	2,985.71
	991 044 900 15	Tail lights, clear glass look	445.00	529.55	493.00	586.67
	991 044 801 45	Sport Design rear-view mirror	490.00	583.10	1,067.80	1,270.68
	000 044 001 91	Fuel door, aluminium look	110.00	130.90	110.00	130.90
	991 044 801 100 41	Model name on doors	95.00	113.05	191.00	227.29
Perfor- mance	991 044 100 02	Power enhancement including sport exhaust system	8,820.00	10,495.80	12,996.00	15,465.24
Wheels	991 044 602 64	20-inch Turbo with TPM	6,050.00	7,199.50	6,050.00	7,199.50
	991 044 500 00	Spacer discs, 5 mm	270.00	321.30	270.00	321.30
	991 044 600 23	Wheel hub covers	140.00	166.60	140.00	166.60
Interior	991 044 801 25/26 GDC	Sport bucket seats	3,290.00	3,915.10	3,544.40	4,217.84
	991 044 800 49 8YR	Interior carbon package	1,210.00	1,439.90	1,261.20	1,500.83
	991 553 981 02 BX3	Panel, centre console, carbon	445.00	529.55	485.00	577.15
	991 044 802 21	Door sill guard, carbon	420.00	499.80	503.20	598.81
	991 044 400 10	Steering wheel, Alcantara	790.00	940.10	982.00	1,168.58
	970 426 990 01	Gear shift lever, Alcantara	440.00	523.60	470.40	559.78
	991 553 982 37 2W0	Cover for storage compartment, Alcantara with Porsche badge	180.00	214.20	180.00	214.20
	991 551 613 02 A75	Floor mats, Nubuck	150.00	178.50	150.00	178.50
	991 044 700 00	Pedals, aluminium	420.00	499.80	487.20	579.77
	991 044 801 20 M7S	Ignition key, painted	95.00	113.05	95.00	113.05
	000 044 001 10 7T2	Key case, Alcantara	110.00	130.90	110.00	130.90

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Please note: Image materials on the various Porsche models are available to accredited journalists in the Porsche press database at <https://presse.porsche.de>.

911 Carrera (type 991): Fuel consumption: urban 13.1–11.3 l/100 km; extra-urban 7.5–6.6 l/100 km; combined 9.5–8.2 l/100 km; CO₂ emissions 223–191 g/km; efficiency class (Germany): G–F