

PORSCHE



# 911 Carrera Anniversary



## Inception. Design. Philosophy.

**The Carrera Anniversary** was conceived from one person's desire for a unique machine with exacting requirements for spirited driving and light touring. The brief was simple yet undeniably challenging - build a lightweight naturally-aspirated RWD car which

retained the lines of the factory Carrera coupe, while enhancing the performance and handling to beyond the limits set by the RS variant of the same machine, and affording the passengers the luxury of the 993 turbo. The package had to be optically

enhanced both externally and internally to a standard commensurate with the factory Exclusive Program while remaining tastefully executed and unique. Audibly, the car should have drama and appeal - its own unique signature.

The driving experience should be as organic as the car's sculptured lines - providing the driver and occupants with not only a pleasant environment for long distance travel, but also the thrill and exhilaration of a race car when presented with fast and

demanding back roads. Over 100 series and 400 individual component changes were required to achieve this with a number of bespoke fabricated items. The project was initiated on the 10th Anniversary of the client's ownership

of the vehicle and a team of more than 20 specialists were involved over a 2 year period to complete the task.



## Family cues.

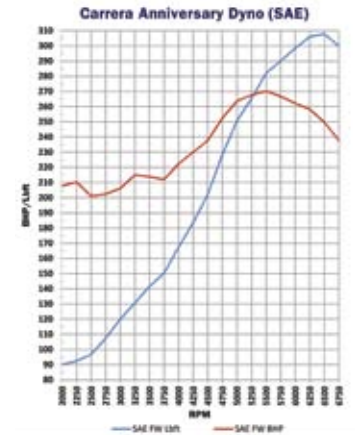
The 1993 Porsche Boxster Concept car was a large impetus behind the design philosophy for the Anniversary's exterior aesthetics. Grey colour-coded, three piece, Speedline-style wheels tie together elements of the same colour at both the front and rear of the car. A low and aggressive stance and the use of unique but discreet badging, was also key to the final look of the project. Subtle and tasteful with many small, hidden details - this became the mandate. Steel Grey metallic taken from the factory C2S Anniversary Edition colour palette was chosen to contrast against the factory Midnight Blue metallic paintwork and the natural elements of steel and rubber. Red splashes were used to simply make the car "pop" and add an interesting diversion to the monochrome base colours. The door mirrors were colour-coded Steel Grey to bring the design language up to date and the Classic Grey interior was treated to highlights of carbon fibre and aluminium. Finally a unique "anniversary" decal was applied to the vehicle.



## Engine & Drivetrain.

The Carrera Anniversary engine and drive train has been systematically improved to provide a rich, intoxicating driver experience. The stock 3.6l capacity remains, however sports camshafts with 1.8mm lift were installed with solid lifters and adjusters to support higher rev limits. Injectors have been upgraded to higher capacity Bosch multi-pintel units and the vehicle was fitted with a MAP sensor and dual cone air filter

on a custom intake pipe. The factory computer has been replaced with a LINK Extreme G4 ECU which controls all engine management functions allowing infinite tuning of engine characteristics via an intuitive PC interface. The engine is cradled in a reinforced carrier and power is transmitted by a 993RS lightweight flywheel and clutch to the rear wheels via a Porsche Motorsports 40/65 limited slip-differential.



Power is conserved by the use of an RS dual crank pulley and single belt alternator hub. The gear shift has been shortened and made more direct by the use of 993 RS Cup ball jointed shift componentry. Engine mounts are from the 993 RS while transmission mounts are from the 993RSR, thus ensuring that with the LWFC package the driver experience through the major controls is very vivid and involving.





## Optiks.

The front bumper of the Anniversary is the same item fitted to the 993 Turbo/S models to provide superior component cooling and complement the aggressive and lowered stance of the car. Colour-keyed Techart brake ducts with integrated HID fog lights are fitted which, with the upgraded HID headlights, provide optimal illumination in all driving conditions. In order to improve CD and reduce wind noise at cruising speeds, RUF A arm pillar Aero Inserts have been installed. Wheel centres, door mirrors, rear spoiler grill and front brake cooling ducts have all been

coloured Steel-Grey metallic to create a distinct visual package. Custom designed decals were applied at the lower rear guards to denote the car's uniqueness. Clear indicator, side repeater and red rear indicators were fitted to further enhance the look. The Carrera emblem has been painted Steel Grey and the wheel centres feature coloured centre caps with custom hand-laid silver and red crests. The exterior aesthetics were completed by the installation of a custom silver bonnet crest and Porsche Motorsound exhaust tips.



## Interior.

One of the client's key requirements was for a bespoke interior which ensured the driver and passenger were comfortable while also complementing the enhanced exterior, stance and performance. The concept of a mechanical sports watch was used as the design theme - technical whilst giving the impression of quality



and durability. Carbon and aluminium were chosen as the key technical elements. Leather, alcantara and vinyl in Classic Grey ensure the cabin has a light, airy and cool feel. The instruments were customised by VDO in Classic Grey with the Anniversary



logo and wrapped in billet alloy. Custom carbon fibre seats were built for the car weighing only 12kg each and trimmed with deviated stitching. So comprehensive was the detail within the interior makeover that over 50 additional items have

been tailored or changed with over 100 man hours invested to get the interior perfect. For example, all interior lighting including gauges, controls and instruments have been changed to modern "warm white" LEDs specially selected to ensure improved illumination, durability and performance. A fire extinguisher was fitted on a quick-release alloy mount attached to a Bray Krause bar under the passenger seat. Factory air conditioning remains along with sunroof and rear seats for luggage and occasional small passengers. Final embellishments included factory red seatbelts which key into other elements of red present inside and outside the vehicle including the custom enamelled crest on the upgraded three spoke carbon and leather steering wheel. Drilled black anodised driving pedals complete the tastefully upgraded appointments.



## Handling & Performance.

To bring the Anniversary's handling in line with modern machinery, providing adjustability and flexibility of use on both highway and track, a comprehensive approach was taken.

The rear subframe bushes have been replaced by a solid billet alloy shim "tilt kit" which removes some of the ambiguity inherent in the factory configuration when cornering or under load at the limit. A-arms were re-bushed with urethane items and the front factory tie rods were dowl pinned to reduce flexing and provide endurance and improved



tracking. Suspension was further revised with Bilstein PSS10 adjustable coilovers allowing a variety of rebound settings to be easily set by the owner. Further tailoring of under-steer and over-steer can be accomplished via the factory 993RS adjustable front and rear sway bars – useful when setting up an LSD equipped 911. A carbon fibre strut-brace reduces chassis flex. Finally, the unsprung mass was reduced by custom lightweight 18" Kerscher RS three piece racing wheels shod with the latest Bridgestone ultra performance tyres and by removing brake backing plates.

## Soundtrack.

Acoustics are courtesy of a Dach catalyst-free X pipe into de-baffled FD Motorsport Stage II mufflers which have been ceramic coated for heat reduction. The sound has been enhanced further by larger oval factory exhaust tips. The components have been carefully selected to give the car an aggressive character at idle with an open throttle sound reminiscent of the 1970s race 911s but without cabin resonance.



## Braking.

The factory braking hardware was retained with brake callipers being repainted red. Stainless steel braided brake hoses were deployed and brake backing plates were

removed. The front brakes are provided additional ventilation via a front bumper installed TechArt brake cooling kit plumbed through the front fender liner with a deflector

for ideal cool air placement. This configuration, in conjunction with the car's reduced weight, proves more than adequate for fast fade-free road and track duties.

## Dynamics. Metrics.

The Carrera Anniversary makes 308 bhp SAE at 6400 rpm, 40 more than the factory engine and 300 rpm higher up the rev range. The engine is now limited to 6800 rpm (an increase of 100 rpm).

Peak torque of 270 lbft arrives at 5500 rpm (27 lbft more and 500 rpm higher than the factory specification). The car revs freely and makes excellent power (and sound)

above 4000 rpm and until redline. The LINK engine management system has been optimised for 98 RON pump gas and improved responsiveness over the standard Motronic unit.

## Weight Optimisation.

A large contributor to the performance index of any vehicle is weight. Power alone forms just part of the equation. The Anniversary has had 90kg removed in order to improve handling, braking and acceleration. The factory Carrera weighed 1370kg without options. The Anniversary was loaded with 40kg of additional options

before weight optimisation took place, bringing the current car's weight to 1320 kg. Key areas of weight reduction have included carbon fibre race bucket seats, carbon transmission and fuel pump covers, removal of engine heater blower unit and replacement with carbon bypass pipe, exhaust weight reductions

and a variety of tinware, brake backing plate deletes to further remove weight, particularly from the rear of the car. The Anniversary is fitted with a lightweight AGM type battery enclosed in a Rennline billet alloy frame with a race style power cut-off switch. This alone was a significant weight saving and combined with small detail changes such as lightweight race wheels, and selected use of materials such as alloy and carbon fibre, a significant weight reduction has taken place while still retaining all comfort features.



## Convenience.

Not only style and comfort have been considered in the interior but also convenience. The driver's window is now "auto lift", a useful feature omitted by the factory. Another feature is a billet alloy cup holder. A Porsche OEM auto dimming rear vision mirror has been fitted along with automatic rain sensor wipers. Side mirror and rear window heating elements remain in place for practical cold morning starts, as does the rear wiper which provides a useful function during inclement conditions. The stereo head unit has been upgraded to a limited series audiophile unit by Kenwood and drives upgraded Boston Acoustic speakers and crossovers which are housed in factory apertures. Cabin illumination has been improved by the use of modern LED components and night vision with the inclusion of HID headlights. Plush factory overmats complete the picture.

## A 911 for every occasion.

Whilst riding at factory 993RS height on 18" low profile tyres, the handling is very controlled with rebound adjustable coilovers and adjustable front and rear 993RS sway bars.

Configured for fast roads, the Anniversary provides an exhilarating drive - direct, well composed, agile and very responsive to throttle inputs - all whilst emitting

a glorious guttural sound. When pressed into touring service, small adjustments to easily accessed dials on the shocks allow for a more compliant ride. Cruising speeds are comparatively quiet benefiting from reduced wind noise due to the aero improvements and there is no trace of exhaust resonance at any speed. The vehicle remains incredibly

composed in both wet and dry conditions, the semi DOT rated tyres keeping traction while the 40/65 split LSD keeps the vehicle tracking straight and true braking into a corner or accelerating out of one. For track work the vehicle can be adjusted via shocks and sway-bars for fast, smooth surfaces. The billet rear mount tilt kit comes into its own here in



making handling on the edge of adhesion predictable. The improved front geometry is critical to scalpel sharp steering inputs. The brakes will stand up to abuse without fade largely due to much improved ventilation and of course lower vehicle weight. The car is very adjustable on the throttle. It thrives on revs providing

a source of security and enjoyment in fast track or road environments. The LSD further completes the picture as a track environment is the perfect place to get the full benefits of this enhancement. **The Carrera Anniversary - an individual's interpretation of the perfect 911. Evocative. Exhilarating. Exquisite.**





## Technical Specifications.

### 1994 Porsche 911 Carrera Anniversary Coupe

**Unladen Weight DIN:** 1320 kg

**Displacement:** 3600 cm<sup>3</sup>

**No. of cylinders:** 6

**Drivetrain:** Rear wheel

**Gearbox:** 6 speed

**Power:** 308 bhp SAE @ 6400 rpm

**Max. Torque:** 270 lbft SAE @ 5500 rpm

**Acceleration 0-100 km/h:** 5.0 seconds (est.)

**VMax:** 280 km/h (est.)

**Chassis:** Bilstien PSS10 coilovers

**Coefficient of Drag:** 0.325 (est.)

**Wheels:** 18" Kerscher RS 3 piece,  
front: 8J x ET48, rear 10.5J x ET57

**Tyres:** Bridgestone RE11,

Front - 225/40/18,

Rear - 265/35/18



*Carrera anniversary*

01/2012