

## **944 CHALLENGE TECHNICAL SPECIFICATIONS**

### **REFERENCE:**

*CAMS Online Manual of Motorsport, Section 7, Group 2B Marque Sports*

### **AUTHORITY:**

*This document was approved by the 944 Racing Association Committee by circulation vote on 11Jan 2009.*

### **ACTION:**

*This document is the definitive Specification Document for cars competing in the aPorschaPart 944 Challenge.*

## **Porsche 944 2.5L SOHC**

To be read in conjunction with the CAMS Manual of Motor Sport and the Group 2B Technical Regulations for Marque Sports Cars

Porsche 944 Challenge vehicles (as per "Porsche 944 Models Dimensions and tolerances" WKD 423 320) are subject to all the restrictions and freedoms contained within the Group 2B, Marque Sports Technical Regulations, save where additional restrictions are imposed by the present specifications. Where any discrepancy exists between any restriction, dimension or component specified in the present document and the Group 2B Technical Regulations, that specified in the present document shall take priority. Unless specifically permitted, no modifications are allowed to the standard vehicle.

For convenience, the general section numbering in the present document is intended to follow that of the Group 2B Technical regulations.

## 1 Definition

- 1.1 The VIN prefix used by the manufacturer for identification of eligible vehicles is:-  
Porsche 944, VIN prefix WPOZZZ94Z or WPOAAO94
- 1.2 Cars with identification plates with other than the above codes are not necessarily prohibited from use, provided that the specifications of the car are in compliance with those of the cars identified in 1.1.
- 1.3 Where a Maximum or minimum value is specified in this document, that value shall be absolute, and no tolerance shall attach.

## 2 Regulations

No Additional restrictions.

## 3 Bodywork and Dimensions

- 3.1 Seam welding of the body shell is not permitted.
- 3.2 Rear bumper bar or a fibreglass replica must be retained.
- 3.3 Front bumper/fascia must be either standard, or a fibreglass replica of that fitted to the 944 turbo model. Front air dams may not be added.
- 3.4 The rear spoiler must be either standard, or a fibreglass replica thereof. Additional rear spoilers / wings must not be added.
- 3.5 The rear hatch must be the retained standard glass component. Additionally, rear hatch restraints must be fitted to each side of the hatch, either in addition to, or replacing, the standard latch mechanism to prevent the hatch opening more than 250mm.
- 3.6 Body Width  
The body width is to be a maximum of 1740 mm, as measured above the centre line of the front and rear axles. Wheel arches may not be flared.
- 3.7 Minimum Racing Weight 1100 kg
- 3.8 Front Lights If the standard pop-up headlights are removed, they must be replaced by either 2 or 4 rectangular lights mounted in the driving light recesses of the front bumper.  
Dimensions of the lights Minimum width 125mm  
Minimum height 55mm  
Minimum power 55W
- 3.9 Rain Lights: A 20W globe must be fitted into both of the rear combination lamps in the position normally used for fog lamps. The extra globes must illuminate in conjunction with the parking lights

## 4 Engine

The complete engine assembly must remain standard and unmodified, save as specified in 4.1 to 4.14 below. The cylinder block must bear one of the following casting designations:

M44.01 to M44.10, M44.40, M44.50 to M44.52

- 4.1 Blueprinting and balancing of components is permitted.
- 4.2 Removal of unused ancillary components mounted on the engine is permitted.
- 4.3 The fuel rail may be replaced by one of free design.
- 4.4 Alteration of valve seat geometry is permitted.  
Removal of piston material to increase valve clearance is permitted.

The maximum throat diameter of the inlet valve seat insert shall be 39.80mm.

The maximum throat diameter of the exhaust valve seat insert shall be 34.90mm.

The thickness of the cylinder head ("A" dimension) is not restricted.

4.5 Crankshaft: Cross-drilling permitted only to aid lubrication.

4.6 Camshaft The camshaft may be either type 155.05 or 155.09.

A type 155.05 cam may be modified to type 155.09 specifications or a new billet ground to type 155.09 specifications by the approved supplier.

The approved supplier is: Clive Cams

Factory 4, 35-37 Clyde St

Ferntree Gully 3156

Ph. 03 9758 5977.

Each re-ground camshaft shall be stamped by the supplier with an identification number and grinders make.

The keys and keyways of the standard camshaft timing sprocket may be modified provided camshaft timing remains standard. The timing belt cover may be removed or replaced by a custom made part.

4.7 Exhaust pipe: The exhaust is free from the first flange joint.

4.8 The following items may be replaced by mechanically and functionally identical substitute components.

Pistons and rings

Bearings

Valve springs

Piston pins

Bolts and fasteners

Gaskets

Valves

Spark plug leads

Ignition Coil

Alternator

Electrical Wiring

4.9 The following specifications shall apply to engines.

Bore 100.50 mm Maximum

Stroke 78.9 mm  $\pm$  0.1

Compression Ratio 11.5:1 Maximum

4.10 Throttle body: The throttle cam profile may be modified.

4.11 Engine Control Unit (ECU). The controlled ECU is the Wolf 3D 944 Challenge unit, available from Advanced Engine Management Systems. The ECU and sensors supplied with the Wolf engine management system must be used. The maximum allowable engine RPM is 6500. It is the entrant's responsibility to demonstrate compliance with the RPM limit as requested.

From 01/01/08, the ECU is unlocked, and the crank angle may be detected in any position using sensors supplied.

4.12 The following minimum weights shall apply:

Crankshaft (bare) 23.5 kg

Connecting rod/screws/cap/nuts	820 g
Inlet valve	96 g
Exhaust valve	94 g
Clutch assembly including fasteners	10.2 kg
Piston/rings/piston pin/clips	710 g

- 4.13 The  $\varnothing$ 70mm tube with air temp sensor (supplied with the Wolf ECU) must replace the air flow meter and be installed in the same position. The Engine Air Intake is free upstream of  $\varnothing$ 70mm tube.
- 4.14 The fuel pressure regulator(s) may be replaced by one of free design

## 5 Piping and Fuel Tanks

No additional restrictions

## 6 Cooling System

- 6.1 Radiator: Custom radiators may be used subject to the following restrictions:  
 The width and height must be no greater than the standard radiator  
 The thickness of the core shall be no greater than 55mm
- 6.2 Ducting: Must not protrude below the front bumper and must be through existing body openings only, which includes driving light recesses.
- 6.3 The cooling system header tank may be relocated and/or replaced with a non-standard tank of similar capacity. An additional hose may be added between the header tank and the cylinder head.

## 7. Transmission to the Wheels

- 7.1 Gearbox and Final Drive: The gearbox/final drive assembly shall be Porsche 944 Type 016J or 016K (Identification Code 5Y or 5S or ASG only), in unmodified form. Only the following ratios are permitted.

1st	3.6000:1
2nd	2.1250:1
3rd	1.4583:1
4th	1.0714:1
5th*	0.8286:1 (016J) or 0.7297:1 (016K)
Rev	3.5000:1

\*Either 5th gear ratio may be installed.

- 7.2 Differential: Limited slip or locked differentials are not permitted.
- 7.3 Final Drive Ratio: The only permitted ratio is 3.8890:1
- 7.4 Gear linkages: The original gear selector lever and its pivot point must be retained.
- 7.5 Cooling of lubricants: No additional cooling of gearbox/final drive/differential lubricant is permitted.
- 7.6 Tailshaft and Driveshafts: These must be standard components.
- 7.7 Bearings, gaskets and seals may be replaced by non genuine components provided that they must be mechanically and functionally identical substitutes.

## 8 Suspension and Steering

- 8.1 Front Suspension: The control arm inner pivot/mounting position may not be relocated. Stub axles and hubs must remain standard.
- 8.2 Rear Suspension: Control arms must be standard, but may be of either factory alloy

or steel variants. The damper mounting point and spring seat on the steel arms may be modified to match those of the alloy arm. The control arm and spring plate pivot/mounting points must remain as standard. The spring plate must remain standard.

- 8.3 Suspension Dampers: Canister adjustable shock absorbers are not permitted.
- 8.4 Suspension Bushes: Elastomeric suspension bushes may be replaced with mechanically identical elastomeric bushes. The functional volume of the elastomer component must be at least 90% of the equivalent volume of the original bushing.
- 8.5 MacPherson strut top mounts: Must be as standard.
- 8.6 Suspension brace: No additional suspension brace between the suspension top mounts is allowed.
- 8.7 Anti-sway bars: The anti-sway bars may not be adjustable by the driver seated in the normal driving position.
- 8.8 Wheel Alignment: The maximum permitted front wheel castor angle is 3°.
- 8.9 Wheel track: Maximum Front 1500mm  
Maximum Rear 1480mm  
(See CAMS Manual for measurement method)
- Wheelbase: Maximum 2400 mm

## 9.0 Brakes

- 9.1 The entire braking system must be retained in unmodified form, except as specified in 9.2 to 9.4 below
- 9.2 Freedom is granted in relation to brake lines caliper seals, hoses and fluid. A brake proportioning valve, which must not be adjustable from the normal driving position, may be fitted into the rear brake line.
- 9.3 Brake pads: Only Specified brake pads may be used both front and rear. These must be supplied by "aPorschaPart", Race Brake Compound No 6.
- 9.4 Brake disks: Brake Disks may be subjected to slotting and/or cross drilling.

## 10. Wheels and Tyres

- 10.1 Wheel size: The maximum rim size is 15" x 8" (front and rear).
- 10.2 Tyres: Yokohama A048R 225/50R15 tyres must be used.  
Removal of tread material by Buffing and/or Grooving is not permitted

## 11. Cockpit and Driver's Compartment

- 11.1 Pedals: The pedal box, and the position of the pivot points in the pedal box must remain as standard.
- 11.2 Console: Either the standard console over the transmission tunnel, or a fibreglass replica thereof must be retained.

## 12. Safety Structures

- 12.1 The Safety Cage must not extend outside the cockpit.

## 13. Fuel

- 13.1 The fuel to be used in competition is JFP102 Racing Unleaded purchased at the event. No additives of any kind are permitted.
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