

TECHNICAL REGULATION RULES CLARIFICATION DOCUMENT

Recognition valid as from : March 2016



Vehicle as seen from ¾ front



Vehicle as seen from ¾ rear

1. General

Each automobile must remain as supplied by the original manufacturer with exception to the modifications outlined in this document and the CAMS General Requirements for Cars and Drivers.

101.	Manufacturer	Porsche
102.	Commercial names – Model & type	944 VIN prefix WPOZZZ94Z or WPOAAO94
103.	Engine capacity	2479 cm ³ (nominal) Corrected engine capacity ($\pi \times 50^3$) x 7.89 x 4
104.	Type of car construction	cm ³ monocoque mild steel body.
105.	Number of seats	Four
106.	Left or Right hand drive version is acceptable.	

2. Dimensions, Weight

201.	Minimum Weight	1100 kg (Including driver)
202.	Wheelbase	See Suspension – 709
203.	Maximum track	See Suspension - 709
204.	Body width	See Suspension - 709
205.	Castor	See Suspension - 709
206.	Fuel	As specified by the 944 Racing Association. JFP100 (Purchased at track) Just Fuel Petroleum Services 2 Western Ave, Sunshine 03 9312 4788

No additives to the fuel are permitted. Fuel to be in accordance with CAMS General Requirements GQ08 Schedule G.

207.	Air	Only air may be mixed with the fuel as an oxidant.
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3. Engine

- 301. Location and position of the engine
- 302. Number of mounts

Front mounted - Engine must remain in its standard position.
Two



Right hand view of dismounted engine



Left hand of dismounted engine

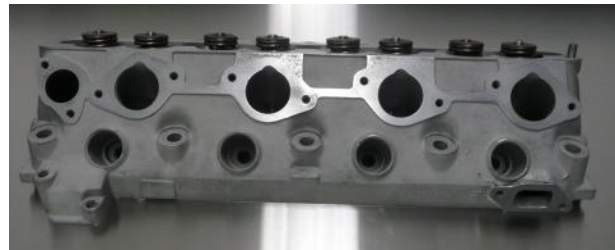


- 303. Super/Turbo charging Not permitted
- 304. Number and layout of cylinders Slanted in Line Four
- 305. Cylinder block material Aluminium Alloy
The cylinder block may have material removed from the cylinder head mounting face, and internally only as much material may be removed as to facilitate blue printing and the fitment of cylinder liners.
Material may be removed from the block pan rail and engine block cradle for the sole purpose of tunnel boring.
The block main tunnel must remain central to the cylinder bore.
- 306. Type of cooling Liquid (see 321)
- 307. Maximum compression ratio 11.5 : 1 (Static)
- 308. Sleeves a) Yes
b) Material: OEM sleeve or Cast Iron. (No non OEM coatings permitted)
- 309. Bore 100.50 mm +0
- 310. Stroke 78.9 mm +/- 0.1 mm

- 311. Piston** **Free design with the following restrictions.**
- a) Minimum weight 710 g. (Including rings, piston pin & clips)
 - b) Removal of piston material to increase valve clearance is permitted.
 - c) Non-OEM Coatings not permitted.
312. Piston Pin Diameter 24mm -0.004 mm
313. Connecting rod Minimum weight 820 g. (Including screws, cap & nuts)
- Part numbers 944 103 001 00
- 944 103 001 01
- 944 103 008 00
- 944 103 008 02
314. Crankshaft
- a) Porsche 944 102 015 13 or 944 102 210 02 Minimum weight 23.5 kg bare. (Material may only be removed from the crankshaft counter weights)
 - b) Cross-drilling is permitted only to aid lubrication.
 - c) Oil gallery plugs may be fitted.
315. Flywheel See 602. Clutch
316. Cylinder head Permitted heads
- 944 104 033 05
- 944 104 033 06
- 944 104 033 08
- a) Alteration of the valve seat geometry only is permitted.
 - b) The thickness of the cylinder head deck dimension is not restricted.



Head – Exhaust side



Head – Inlet side



Intake port – Typical diameter 40.8mm



Exhaust port – Typical diameter 38.2mm

317. Fuel feed by injector Part Number 944 606 110 01. May use Bosch 0280150201, 0280150158 (or equivalent specification)

- a) The fuel rail may be replaced by one of free design but must remain in its original position.
- b) The fuel injectors must remain in their original position.
- c) The mass air flow meter must be replaced with a 70mm outer diameter tube.
- d) The air temp sensor is to be mounted into the 70 mm diameter tube.
- e) Air intake must pass through the 70mm tube with all components downstream remaining standard, unused breather or vacuum inlets may be blocked off. Air intake design upstream from the tube is free.
- f) ECU - Wolf 3D 944 Challenge unit or MoTec M400 944 Challenge unit. Maximum RPM 6500.
- g) All sensors supplied with either ECU must be used in accordance with the manufacturer's instructions. (See MoTec Porsche 944 Challenge M400 Installation manual)



70mm diameter tube that replaces mass air flow meter

318. Camshaft

Supplier: Clive Cams
 Fact 4, 35-37 Clyde St
 Ferntree Gully 3156
 Ph. 03 9758 5977

- a) A standard Porsche 944 type 155.05 or 155.09 cam must be fitted.
- b) A type 155.05 cam may be ground to type 155.09 specifications or a new cam may be ground from a billet to 155.09 specifications by the approved supplier.
- c) Each re-ground camshaft must be stamped by the supplier with an identification number and grinders make.
- d) The camshaft timing sprocket may be replaced with an adjustable sprocket.
- e) The timing belt cover may be removed or replaced by a custom made part.
- f) The external surface of the cam box may be polished or painted solely for aesthetic purposes.

319. Intake

- a) Throttle body diameter. 56mm
- b) The throttle cam profile may be modified.
- c) Manifold 944 110 051 09 or 944 110 052 02- no modifications permitted to the internal surfaces.
- d) The external surface of the inlet manifold may be polished or painted solely for aesthetic purposes.
- e) One intake valve per cylinder.
- f) Inlet valve minimum weight 96 grams.
- g) The maximum throat diameter of the inlet valve seat insert shall be 39.80 mm.
- h) The minimum amount of bodywork may be removed to facilitate installation of the engine air intake filter assembly.



Inlet Manifold

320. Exhaust

a) Manifold – Permitted part numbers

Construction	Cylinders 1 & 4	Cylinders 2 & 3
Cast	944 111 127 05 (Casting No 944 111 131 2R)	944 111 129 04 (Casting No 944 111 133 2R)
Fabricated	951 111 127 07	951 111 129 05
Fabricated	951 111 131 06	951 111 133 04

- i. Exhaust manifolds may not be modified in any way including additional strengthening of flanges.
- ii. The exhaust manifolds may be heat wrapped.
- iii. Exhaust design is free after the outlet flange of the exhaust manifolds.

- b) Lambda sensor location is free.
- c) The exhaust must exit the vehicle behind the rear wheels.
- d) One exhaust valve per cylinder.
- e) Exhaust valve minimum weight 94 grams.
- f) The maximum throat diameter of the exhaust valve seat insert shall be 34.90 mm.



Porsche 944 Cast exhaust manifolds



Porsche 944 Fabricated exhaust manifolds

321. Ignition system

- a) MoTec M400 944 Challenge Control ECU or Wolf 3D 944 Challenge unit.
- b) Number of spark plugs per cylinder – one
- c) Number of distributors – one
- d) Number of coils – one

322. Cooling system

- a) Custom radiator may be used subject to the following restrictions.
 - a. Maximum width 600 mm
 - b. Maximum height 380 mm
 - c. Maximum core thickness 55 mm
 - d. The radiator must be mounted in its original position, mounting hardware is free.
- b) The header tank may be relocated and/or replaced with a non-standard tank but must remain under the bonnet. Additional hoses may be added between the header tank and the cylinder head.
- c) Radiator cowl/shroud: Custom ducting is permitted but must not protrude below the front bumper. No additional body openings are permitted for air flow except through driving light recesses. Ducting must not act as an aerodynamic aid.

323. Cooling fan

Engine cooling fans are free.

324. Lubrication system

- a) Type – Wet sump.
- b) Number of oil pumps – one, Standard 944 oil pump.
- c) Oil cooler – The original engine oil cooler may be removed and/or an additional oil cooler of free design may be fitted. Air flow for oil cooling is to be through existing body openings only, including driving light recesses. Ducting for air must not act as an aerodynamic aid.
- d) No modification or addition to baffling in the sump is permitted.



Homologation No.

325. Permitted modifications

- a) Sump guards may be fitted but must not extend rearwards past the rear edge of the front suspension cross member. Sump guards must be attached to the cross member utilising the existing tapped holes.
- b) Blueprinting and balancing of components is permitted.
- c) Removal of balance shafts and associated drive components is permitted. Oil feed and return ports may be blocked off.

326. Non OEM Components

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

- i. Pistons and rings
- ii. Bearings
- iii. Valve springs
- iv. Piston pins & clips
- v. Bolts and fasteners
- vi. Gaskets
- vii. Valves
- viii. Spark plugs
- ix. Spark plug leads
- x. Ignition coil
- xi. Alternator
- xii. Electrical wiring
- xiii. Engine mounts
- xiv. Radiator hoses



4. FUEL CIRCUIT

401. Fuel tank
- a) Number – one primary fuel tank plus an optional second smaller fuel tank. (surge tank)
 - b) Location – all fuel tanks must be mounted in the same general location as the OEM tank and if possible utilise the original mounting points.
 - c) Total capacity – Maximum 80 litres. (Standard tank)
 - d) Fuel tank may be replaced by one of **free design**. FIA approved – Bladder tank is recommended. Fuel tanks must comply with CAMS General Requirements GQ15 Schedule N.
 - e) The original OEM tank filler hose may be used provided it complies with CAMS General Requirements GQ15 Schedule N.
 - f) The fuel tank and filler cap must be isolated from the passenger compartment. Where the fuel cap is accessed through the rear floor of the vehicle a secondary cover must be fitted over the fuel cap area separating the fuel cap from the passenger compartment. This secondary cover must be liquid tight and comply with CAMS General Requirements GQ03 Schedule B.
402. Fuel pumps
- a) Type – electric
 - b) Number – 2 maximum
 - c) **Make and type – free**
 - d) Location – free but not in cockpit.
403. Fuel pressure regulator
May be replaced by one of free design.
404. General
Fittings and filters are free. Fuel lines must be made from a material suitable for the purpose. Where the fuel lines pass through the cockpit, there must be no connections within the cockpit save at the front and rear bulkheads.



Homologation No.

5. ELECTRICAL EQUIPMENT

501. Alternator
- Number – one
 - Type – free
 - Drive system – belt
 - Control of alternator is free.
502. Lights
- Standard retractable headlights must be removed.
 - A minimum of one driving light must fitted in each of the two driving light recesses on the front bumper. Minimum output is 1000 lumen per driving light. (typically 55 watt incandescent or 8 watt LED)
 - An FIA approved rectangular LED rain light must be fitted to the rear of the vehicle centrally located above the number plate mount.
503. General
- The wiring and electrical connectors, switches, fuses and circuit breakers and starting systems are free.
 - Number plate lights and side indicator repeater lamps may be removed.
 - The starting, lighting and turn signalling apparatus must be in working order at the start of each competition.
 - All globes must at least meet the original equipment specification and may be incandescent or an LED equivalent.
 - The rear screen wiper may be removed.
 - Windscreen washers, bottles and pumps may be removed.
504. Battery
- The battery and its location are free but it must be safely and securely mounted.
 - The battery terminals must be adequately covered so as to prevent short circuits.
 - Where the battery is relocated, the original battery mount may be removed.
 - The battery must be adequately covered to prevent leakage in any position.
 - A battery isolator must be fitted in accordance with CAMS General Requirements GQ04 Schedule C.
 - A jump start socket may be fitted.

6. POWER TRAIN

601. Driven wheels

- a) Front – No
- b) Rear – Yes

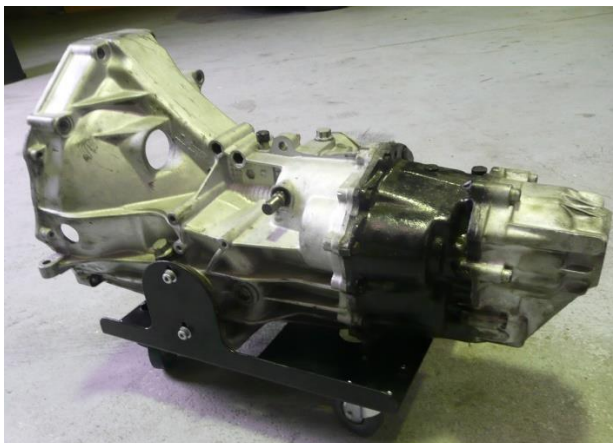
602. Clutch

- a) Type – Free
- b) Control system – Hydraulic
- c) The OEM master cylinder must be retained in its original position.
- d) Clutch hydraulic lines are free.
- e) The transmission bell housing may be altered when fitting a release bearing.
- f) The minimum weight of the clutch assembly is 10.2 kg which includes
 - a. Flywheel
 - b. Flywheel bolts
 - c. Drive plates
 - d. Driven plates
 - e. Pressure plate
 - f. Clutch cover
 - g. Clutch cover bolts
 - h. Diaphragm spring
 - i. Ring gear
 - j. Clutch thrust bearing (on original Porsche style clutch)

603. Gearbox

- a) Location – Transaxle
- b) Make – Porsche
- c) Type – 016J or 016K (Identification code 5Y, 5S or ASG only)
- d) Ratios

Gear	Number of teeth	Ratio
1	10:36	3.6000:1
2	16:34	2.1250:1
3	24:35	1.4583:1
4	28:30	1.0714:1
5	35:29 or 32:37	0.8286:1 or 0.7297:1
R	12:42	3.5000:1



Transmission – Left view



Transmission – Right view

- e) Type of lubrication – Splash.
- f) Gear linkages may be replaced but the original gear lever selector pivot point must be retained.
- g) Bearings, gaskets and seals may be replaced by non-genuine components provided that they are mechanically and functionally identical substitutes.
- h) Over select stops may be added to the internals of the gearbox.



Homologation No.

604. Final drive
- a) Limited slip or locked diff – Not permitted.
 - b) Ratio – 3.8889:1 Teeth - 9:35
 - c) Oil cooler – No
605. Shafts
- a) Type of longitudinal shaft – Standard Porsche 944, Diameter 25 mm.
 - b) Material of longitudinal shaft – Solid steel.
 - c) Type of transfer half shafts – Solid steel, 2 constant velocity joints per shaft. Diameter 28 mm.
 - d) Shafts may be replaced with substitutes that are mechanically the same, including shaft diameter and weight.

7. SUSPENSION

701. General

- a) Type of suspension

Front – McPherson Strut
Rear – Trailing arm
- b) Ride height: All fully sprung parts of the car must clear the ground when both tyres on the same side of the vehicle are deflated.
- c) **Front control arms are free**, the pivot position on the cross member may be raised by a maximum of 20 mm.
- d) Front 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.
- e) Macpherson strut top mounts must remain standard.
- f) Rear 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. Any unused brackets may be removed.
- g) The adjustment holes in the spring plate may be elongated.
- h) Rear 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. The centre of the pivot point must remain as standard.



Typical front strut mount



Front control arm pivot raised 20mm

702. Torsion bars.

- a) The rear torsion bar suspension may be replaced with coil over shock absorbers.
- b) The rear torsion bar upper mounting arms may be removed.

703. Stabiliser.

- a) **Anti-sway bars are free.**
- b) Anti-sway bars may not be adjustable from the driver's position during qualifying or racing.
- c) Anti-sway bars that are adjustable from the driver's position must be locked off in such a way that it is not possible for the driver to remove and refit the lock during competition.
E.G. Cable ties or padlocks are not acceptable. A bolt with nyloc nut would be acceptable.

704. Suspension Dampers

- a) Number per wheel - one
- b) Adjustable dampers are permitted – maximum two-way adjustable, non-external canister.
- c) The original pivot points must be retained.

705. Dimensions

- a) Maximum Track Front 1500mm
- b) Maximum Track Rear 1480mm
- c) Maximum Wheelbase 2400 mm +/- 1%
- d) Maximum Caster 3 ° +0

Track is measured to the centre of the tyre contact patches as per CAMS General Requirements GQ01 Definitions.

8. WHEELS, BRAKES and STEERING

801. Wheels

- a) Rim size front and Rear 15" x 8"
- b) **Manufacturer - free**
- c) Magnesium wheels are not permitted.
- d) Wheels must comply with CAMS General Requirements GQ06 Schedule E.

802. Tyres

As specified by the 944 Racing Association.

Yokohama

Tyre type: AO50 medium compound

Tyre size: 225/50R15

Removal of tread by buffing and/or grooving is not permitted.

Tyre must be used as supplied, no treatments permitted.

803. Brakes

The entire braking system must be retained in unmodified form except as allowed in this section.

- a) Standard Porsche 944 Front and rear sliding pin single piston.
- b) Number of master cylinders One
- c) Servo brakes Yes
- d) A proportioning valve may be fitted to the rear brake line and can be adjustable from the driving position.

e) Disc brakes		Front	Rear
i.	Number of pads per wheel	2	2
ii.	Number of callipers per wheel	1	1
iii.	Calliper material	Steel	Steel
iv.	Thickness of new disc	20.5	20
v.	External diameter of the disc	282.5	289
vi.	External diameter of pads rubbing surface	280	289
vii.	Internal diameter of pads rubbing surface	177	200
viii.	Overall length of the pads	87.5	72.7
ix.	Piston Diameter	54	36
x.	Ventilated discs	Yes	Yes
xi.	Ducted cooling	Yes	Yes
xii.	Cross drilling and/or slotting	Yes	Yes

f) **Parking brake: Free**

- g) Porsche 944 master cylinder and booster must be retained in unmodified form.
- h) Brake callipers: Freedom is granted in relation to calliper seals, springs and retaining clips only.
- i) Brake pads. As specified by the 944 Racing Association.

Supplied by 944 Association.

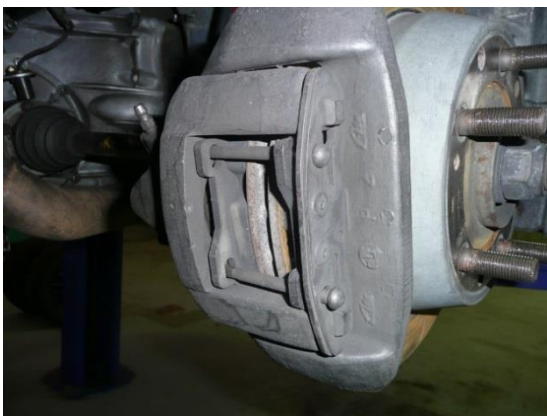
Brake pad manufacturer: Race Brakes.

Brake pad compounds: Front 09, Rear 03

- j) A brace may be fitted between the brake master cylinder and the body for the sole purpose of preventing movement of the master cylinder when the brake is applied.

k) **Brake lines are free.**

l) **Brake fluid is free.**



Rear Brake Calliper



Front Brake Calliper



Example of brake master cylinder brace

804. Steering

- a) Type Rack & pinion (either manual or power racks are permitted)
- b) Servo-assistance The power steering pump and associated components must be removed.
- c) The steering rod ends may be replaced freely.
- d) The wheel alignment settings are free. (except caster, see suspension)

805. Stub axles

- a) Hubs must remain standard.
- b) Standard Porsche stub axles must be used. The stub axles may be modified to strengthen the mounting of the lower control arm pin by drilling/tapping/welding to attach pin and by adding a small gusset to the pin clamping point.
- c) The stub axle to lower control arm pin/spacer and stub axle to steering rod end pin/spacer are free. A brace may be fitted between the lower control arm spacer and the steering rod end spacer.



Typical strengthening gusset welded to stub axle.



Typical Lower control arm/steering rod arm pins including brace between pins.

9. BODYWORK

901. Interior

- a) Ventilation Yes
- b) Dashboard Original or fibreglass replica must be fitted.
- c) Centre console Original or fibreglass replica must be fitted.
- d) The pedal box and the pivot points in the pedal box must be used and remain in their original position.
- e) The safety cage must not extend outside the cockpit.
- f) It is permitted to remove the minimum amount of metal necessary to facilitate fitment of a timing transponder to the upper surface of the cockpit floor.
- g) The steering wheel may be replaced by one of at least 300mm diameter. It is permitted to fit a quick release mechanism.
- h) **Instruments are free.** Any holes in the dash resulting from the removal of instruments must be neatly closed by the addition of a closing panel.
- i) The roof lining, kick/wall panels, parcel shelf, floor carpet and associated underfelt may be removed.
- j) Standard door trims may be removed but must be replaced by a single, solid panel. (EG aluminium, plastic or fibreglass) Material may be removed from the inner door to reduce weight including the side intrusion bar.
- k) Passenger seats must be removed.
- l) The spare tyre well may be removed and replaced with a metal cover.
- m) The driver's seat must be replaced with another seat in compliance with CAMS General Requirements GQ04 Schedule C. Original seat mounting brackets may be removed or replaced and/or other mountings added provided that they extend no further than 50mm from the plan view of the original seat.
- n) Unused accessories including heater, heater hoses, air conditioner, stereo, speakers, interior lights, central locking, alarm/immobiliser may be removed.
- o) A safety cage must be fitted and comply with CAMS General Requirements GQ11 Schedule J. Save that vehicles with a log book prior to January 1st 2012 must comply with the prescriptions of Article 13.3 of Schedule J.
- p) A driver's side window net must be fitted and comply with CAMS General Requirements GQ10 Schedule I.
- q) An approved seat belt must be fitted and comply with CAMS General Requirements GQ10 Schedule I.
- r) The dash and console may be modified for the mounting of switches and auxiliary devices.
- s) Unused holes in the firewall must be blanked off.
- t) A demisting heater element may be fitted to the internal surface of the windscreen.
- u) A fire extinguisher is recommended but not mandatory. If fitted it must comply with CAMS General Requirements GQ09 Schedule H.

902. Exterior

- a) Number of doors 2
- b) Door material Steel. Fibreglass skin permitted. Where the door skins are replaced with fibreglass, at least one anti-intrusion door bar must be fitted on the driver's side as part of the safety cage structure.
- c) Front bonnet Original steel or fibreglass replica.
- d) Front infill Original steel or fibreglass replica.
- e) Front bumper Original or fibreglass replica of 944 turbo bumper.
- f) Front guards Original steel or fibreglass replica. Flaring not permitted.
- g) Rear quarter panel Original steel. Flaring not permitted.
- h) Rear bumper Original or fibreglass replica.
- i) Front Window Original Glass.
- j) Rear Window Original Glass – Rear hatch restraints must be fitted during race to restrict hatch opening to 250mm.
- k) Side Windows Both door and quarter side windows may be replaced with fixed plastic windows.
- l) Seam welding or additional spot welding of the body is not permitted.
- m) Reinforcement of fully sprung components of the body shell/chassis is not permitted.
- n) Front air dams or any aerodynamic devices may not be added.
- o) The rear spoiler must be either standard or a fibreglass replica. No additional aerodynamic devices are permitted.
- p) Sound deadening material may be removed.
- q) Towing points must be made of a non-rigid material. e.g. Webbing
- r) An under tray may be fitted at the front of the vehicle. Any part of the under tray or its mounts that extends rearward of the leading edge of the front tyre must be perforated with minimum 50mm diameter holes no more than 150mm apart. The under tray must be flat and offer no aerodynamic benefit. An under tray may not be fitted to the rear of the vehicle.
- s) Body markings and signage must be in accordance with 944 Challenge competition rules and CAMS General Requirements GQ12 Schedule K.



Homologation No.

903. General

- a) Holes may be drilled for fasteners e.g. bolts, screws, rivets etc., It is permitted to cut holes of the minimum necessary dimension for the passage of wiring and fuel, brake and oil lines/hoses.
- b) Any unused brackets and mounting studs may be removed.
- c) Air Jacks may be fitted. The front guards may be modified to allow protrusion of the air jacks.
- d) A data logging device/dash may be fitted.
- e) A radio may be fitted for the sole purpose of vehicle to pit communications.
- f) Data telemetry is not permitted.