

RAC

BSCC

1982

Regulations

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## **14. TOURING CAR REGULATIONS**

### **14.1. Description**

**14.1.1.** Series Production Cars complying with FIA Appendix 'J' Group 1 1981 Regulations as defined in the Homologation Form and these regulations.

**14.1.2.** The only variations allowed are as detailed in the following regulations.

**14.1.3.** Modifications and variations other than those detailed in the following regulations are prohibited.

**14.1.4.** Modifications on items not detailed are prohibited.

**14.1.5.** Any item not covered in detail by FIA Appendix 'J' Group 1 Regulations and these regulations is prohibited.

**14.1.6.** New homologations, homologation options or extras will be permitted from the date of approval by the FIA, unless prohibited in the following regulations.

**14.1.7.** Cars will be run in four classes:

Class A exceeding 2500cc, not exceeding 3500cc

Class B exceeding 1600cc, not exceeding 2500cc

Class C exceeding 1300cc, not exceeding 1600cc

Class D not exceeding 1300cc

## **14.2. Safety**

See safety requirements nos. QM 1(a), 1(b), 1(c), 1(h)(i), 1(j), 2(b), 3(a)(iii), 3(b), 6, 8, 9, 10, 11, 13, 1(c) to drawing No. 1.

## **14.3. Body/Chassis**

**14.3.1.** Bodywork is considered to be the TOTAL bodywork and no concessions, variations or modifications are permitted above or below the horizontal line through the wheel centres unless specifically stated.

**14.3.2.** A securely mounted Racing Type bucket seat is mandatory and need not be of homologated weight. It must incorporate a head restraint.

**14.3.3.** In the habitacle floor carpets, under-felt, sound insulation, the rear seat and the front passenger seat must be removed. Removal of the head-lining is optional. No other part of the standard body interior fittings may be altered or removed unless specifically approved.

**14.3.4.** It is mandatory to remove all sound proofing, carpet material and under-felt from the luggage compartment and engine compartment.

**14.3.5.** The fitting of a sump or underbody protection is prohibited, unless homologated.

**14.3.6.** The removal of exterior decorative strips and bumper over-riders is permitted.

**14.3.7.** It is permitted to fit brake piping within the habitacle. Fuel lines may only be fitted in the habitacle if adequately protected and clipped, the minimum standard is considered to be a continuous length of Aeroquip braided hose or equivalent.

**14.3.8.** Reworking or modification to exterior bodywork is prohibited. Any part of the wheel arch/wing pressing folded into the wheel arch may be deformed, but not removed, to give clearance to the tyres.

**14.3.9.** Security welding and repair welding is free. Seam welding is permitted.

**14.3.10.** Safety roll-over bars may be attached to the bodywork for security purposes.

## **14.4. Engine**

**14.4.1.** Mechanical parts may be machined or hand finished to homologated tolerances. Tuft-riding and Shot peening are permitted.

**14.4.2.** Reboring to +0.6mm (0.024in) is permitted providing the engine capacity does not exceed the class capacity limit. In the case of cylinder blocks with parent metal bores it is not permitted to fit cylinder liner sleeves of any type, even for reclamation purposes.

**14.4.3.** Engine springs may be modified or replaced by others of the same type and number, providing they fit to the original locations. Valve spring seat washers to increase tension are permitted. Valve spring caps and cups are free, providing they are interchangeable with original parts.

**14.4.4.** Camshafts are free subject only to the dimensions on the homologation form (S + T and U) and FIA tolerances (art. 258n). The shape of the contact faces of the tappets and rocker arms is free. Valve lift must conform to the homologation details. In the case of Wankel rotary engines, induction timing is free and therefore the dimension of the induction port which controls its opening and closing point may be modified by removal and addition of material. In all other respects the port must remain as homologated.

**14.4.5.** Ignition is free, providing it is possible to re-install the Standard production ignition system without modification, and utilise the original drive system. Flywheel triggering devices are prohibited.

**14.4.6.** The exhaust manifold and exhaust pipes are free within the limits of Vehicle Regulation QA16.

**14.4.7.** Emission controls may be removed, providing they do not increase the quantity of air admitted to the engine by so doing.

## **14.4.8. Induction**

(a) Carburettors: Evolved or optional induction manifolds must be used with the carburettor(s) homologated with them.

or

The inlet manifold is free, carburettors are free within the limitation that the total number of chokes must not exceed the maximum number of chokes homologated for Appendix 'J' Group 1.

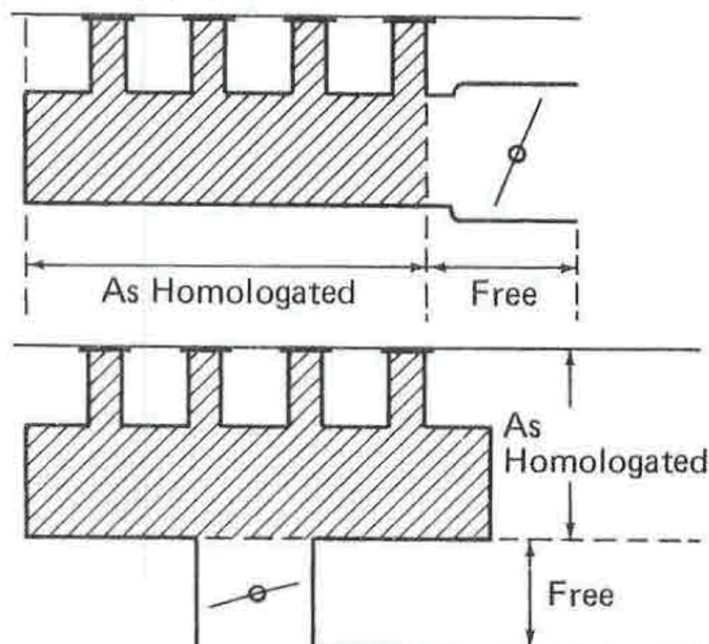
(b) Fuel Injection: The original Plenum Chamber must be retained intact but the entry duct and/or flange may be variously:

Enlarged in cross sectional area, associated throttle valve(s) being free except for the original number being maintained.

Extended upstream by the addition of metal and/or separate trunking not extending beyond the periphery of the bodywork.

Reduced in length by removal of metal upstream (not downstream) of the original entry to the main plenum chamber or entry to the first branch pipe, whichever is the further upstream.

Air filter and air filter box may be removed and air ducting/trunking is free providing it does not extend beyond the periphery of the vehicle bodywork. Anti-surge pipes are permitted as also are return pipes from the carburettor/injection system



**14.4.9.** Extra fuel lift pumps are permitted providing they are not mounted within the habitacle.

**14.4.10.** Fuel filters or pressure regulators etc. are unrestricted.

**14.4.11.** Gaskets are unrestricted but components must not be modified to accept them.

**14.4.12.** The elasticity of the flexible engine mountings is free, providing the original mounting points at both ends and the static engine position is maintained.

## 14.5. Suspension

**14.5.1.** Suspension springs, except for maintaining type and number are unrestricted as are spring caps. Unsprung abutments may be adjustable.

**14.5.2.** Anti-roll bar diameters and their mountings and shape and material are free, providing they are fitted directly to the original body/chassis mounting points and the mobile suspension units.

**14.5.3.** Shock absorbers are unrestricted, providing their number and operating principle remain as original (hydraulic, friction, telescopic or lever).

**14.5.4.** To permit suspension geometry tuning all suspension bushes are free, providing the original production bush can be replaced without modification to the bush housing, thus re-establishing the original production

geometry. It is permitted to machine circlip retaining grooves to locate suspension bushes.

**14.5.5.** The front and rear track are free providing the vehicle bodywork complies with items 14.3.8, 14.7.2 and homologated vehicle body width.

**14.5.6.** Leaf spring shackle plates of increased thickness or with reinforcing are permitted providing the hole centres of the shackle bolts remain at the original standard distance apart.

**14.5.7.** Spacers interposed and clamped between leaf springs and axles are considered to be spring abutments. They must not exceed 40mm (1.56in) in thickness.

**14.5.8.** Security welding of suspension components is permitted, providing the component so secured remains unmodified other than affected by the welding.

## 14.6. Brakes

Only brakes as homologated may be used subject to the following:

**14.6.1.** Brake lining materials and methods of attachment (rivetted or bonded) are unrestricted, providing there is no increase in swept area.

**14.6.2.** A brake servo is permitted only if homologated. It may be disconnected or removed.

**14.6.3.** A brake pedal box incorporating twin master cylinders to allow for brake balance front and rear is permitted providing it cannot be adjusted while the vehicle is in motion. Brake pressure limiters are unrestricted and may be removed.

**14.6.4.** Brake back plates may be removed or modified to increase cooling.

**14.6.5.** Ducting of air to brakes is permitted. Flexible ducting is permitted providing its cross-sectional area does not exceed 78.5sq.cm per brake. Ducting must not extend beyond the plan periphery of the vehicle bodywork. Front brake intake horns are restricted to a maximum projected frontal area of 136sq.cm per brake, these must be displaced from the fore and aft centre line of the vehicle by a minimum of 10cm. Modification to the bodywork to accept ducting is prohibited.

**14.6.6.** On drum brakes, holes may be machined in the drums to achieve flow of air and removal of dust. The holes in total area must not exceed 10% of the swept friction area of each drum.

**14.6.7.** On disc brakes 'Glaze busting' grooves are permitted. A maximum of three grooves per side of each brake disc rubbing surface is permitted, maximum groove width must not exceed 2mm (0.08in).

## 14.7. Wheels and Tyres

**14.7.1. Wheels** – Wheels, wheel nuts and studs are unrestricted subject to the following conditions:

- (a) The diameter of the wheel must be homologated for the model.
- (b) The wheel must fit directly to the hub without any intermediary device.
- (c) Wheel studs/bolts must be of steel and one piece.
- (d) All four wheels must be of the same diameter.
- (e) the maximum 'J' section rim widths permitted are:

Class A	7.0in
Class B	6.5in
Class C	6.0in
Class D	5.5in

**14.7.2. Tyres** – Tyres are subject to the following dimensions:

- (a) Inflated tread width must not exceed wheel 'J' section plus 4cm (1.58in) and inflated overall tyre width must not exceed wheel 'J' section plus 8cm (3.15in).
- (b) Tyres must not under any circumstances protrude beyond the homologated width of the vehicle when the wheels point ahead.

**14.8. Lubrication**

- 14.8.1.** Dry sump systems are prohibited unless homologated in FIA Appendix 'J' Group 1.
- 14.8.2.** The oil sump is unrestricted.
- 14.8.3.** Modified and relocated oil pick-ups and baffles are permitted.
- 14.8.4.** The diameter of the oil pipe lines is unrestricted.
- 14.8.5.** The drilling of additional oilways and/or the enlarging of existing oilways is permitted providing:
  - (a) the drilling/machining is performed on otherwise 'Legal' components.
  - (b) it serves no other purpose than to improve the lubricant flow.

**14.9. Cooling**

- 14.9.1.** Providing the original location of the water radiator is maintained, the radiator and its capacity is unrestricted.
- 14.9.2.** Ducting to the radiator is unrestricted providing it does not alter the bodywork and is not visible from the outside of the vehicle. Ducting must serve no other function than to flow air through the radiator.
- 14.9.3.** Thermostats are unrestricted and may be removed.
- 14.9.4.** A radiator blind is permitted within the bodywork.
- 14.9.5.** Engine oil coolers/radiators are permitted, providing they are fitted within the bodywork without modification to the external bodywork.
- 14.9.6.** Ducting to coolers is unrestricted, providing it entails no modifications to bodywork and is not visible from outside. Ducting

must serve no other function than to flow air through the coolers/radiators.

**14.10. Electrical**

- 14.10.1.** The rated voltage of the system must not be changed.
- 14.10.2.** The make and capacity of the battery is unrestricted.
- 14.10.3.** The battery must be securely mounted in its original location and fully enclosed in a non-electrical conductive box.
- 14.10.4.** Generators and regulators are unrestricted, providing they can be fitted to original mountings.
- 14.10.5.** Pulleys and belts are unrestricted, providing the original type (Vee, toothed etc.) is maintained.

**14.11. Transmission**

- 14.11.1.** Only homologated gearboxes and homologated combinations of gear ratios are permitted.
- 14.11.2.** The material and methods of retention of the clutch linings are unrestricted. Pressure plate springs are unrestricted, providing the original type and number are retained.
- 14.11.3.** Overdrive, unless homologated for the model, is prohibited.
- 14.11.4.** Final drive ratios are free but must be fitted in the standard differential housing.
- 14.11.5.** Limited slip differentials are permitted in place of the original homologated differential.
- 14.11.6.** The gear lever must remain in the position as intended and homologated. Shape and length is unrestricted.
- 14.11.7.** The gearbox mountings are free, providing the original mounting points at both ends, and the static gearbox position, are maintained.
- 14.11.8.** Propshaft must remain standard, with the exception of the universal joints which may be uprated.

**14.12. Fuel System**

- 14.12.1.** It is recommended that standard fuel tanks be replaced by tanks to FIA FT3 specification.
- 14.12.2.** Where the standard tank is retained it must be covered externally with a coating of GRP of 2mm (0.08in) minimum thickness.
- 14.12.3.** If it is required to fit a fuel tank of capacity which is larger than the original tank installed, the installation and location should be approved by the MSA Technical Commission.
- 14.12.4.** The fuel filler must be integral with the fuel tank. It may be inside the boot if suitably isolated from the habitacle.
- 14.12.5.** All fuel tank breathers must incorporate a non-return valve to prevent spillage.

**14.12.6.** Maximum permitted fuel tank capacity:

Class A	120lit (26.4gal)
Class B	110lit (24.2gal)
Class C	90lit (19.8gal)
Class D	80lit (17.6gal)

**14.13. Weights****14.13.1.** Weights by capacities:

These are true minimum weights with no tolerance:

Capacity not exceeding:

3500cc	1130kg	2200cc	908kg
3400cc	1114kg	2100cc	889kg
3300cc	1098kg	2000cc	870kg
3200cc	1082kg	1900cc	850kg
3100cc	1066kg	1800cc	830kg
3000cc	1050kg	1700cc	810kg
2900cc	1033kg	1600cc	790kg
2800cc	1016kg	1500cc	770kg
2700cc	999kg	1400cc	750kg
2600cc	982kg	1300cc	730kg
2500cc	965kg	1200cc	710kg
2400cc	946kg	1100cc	690kg
2300cc	927kg	1000cc	670kg

**14.13.2.** Ballast is permitted to achieve the necessary minimum weight, but weight may only be removed within the limits of the modifications detailed in these regulations and all weight reduction measures must be stated in the Entrants Eligibility Declaration.

**14.13.3.** Any ballast carried must be firmly secured and:

(a) if under 60kg must not be in more than three pieces.

(b) if more than 60kg the ballast may be divided into more than three pieces in increments of up to 20kg, e.g. Total ballast 75kg – maximum of pieces 4. Total ballast 110kg – maximum of pieces 6.

Provision must be made in the fixing of ballast for sealing with scrutineer's wire and seals (1/16in holes pre-drilled in bolts, studs, fasteners, etc.).

**14.13.4.** The option to adjust weights annually will be retained by the MSA (in conjunction with manufacturers and consultants). This is a notification of possible intent, within the stability regulations.

**14.14. Miscellaneous**

**14.14.1.** Bolts and nuts may be replaced freely and may comprise any locking device for safety purposes. Safety locking devices are unrestricted.

**14.14.2.** Where ducting is permitted for brakes, coolers, radiators, etc., it is only acceptable if it serves no other purpose than to cool, does not extend beyond the periphery of the vehicle bodywork and is not visible from outside, except

through grilles or original body apertures and undersurface.

**14.14.3.** Methods of reclaiming of parts not listed in maintenance manuals or manufacturer's workshop manuals, but recognised by the vehicle manufacturers, may be approved following written application by those manufacturers.

**14.14.4.** Any disputes regarding details of homologated components will be checked against current maintenance manuals, spare parts lists, manufacturer's drawings or similar parts obtained from normal retail outlets appertaining to that specific model.

**14.14.5.** Anyone requiring clarification or definitions concerning the technical content of these regulations should apply in writing to The RAC Motor Sports Association Ltd Technical Representative.

**14.14.6.** Under items 14.14.3, 4, or 5, should requests for approval or clarification be required, details of rulings will be circulated to all registered entrants and manufacturers.

**14.14.7.** When any reference is made to any publication such as the FIA Yearbook, Homologation form etc., the ENGLISH version will be taken as authentic and final.

**14.14.8.** All vehicles entered must have Homologation Papers ready for production at Scrutineering. Each Entrant must complete and lodge with the MSA an ENTRANT'S ELIGIBILITY DECLARATION. (Forms available from the MSA.)

**14.14.9.** From 1st January 1983 these regulations will be superceded by FIA Appendix 'J' 1982 Group 'A' Regulations.

**14.14.10.** New vehicles homologated in 1982 to FIA Appendix 'J' Group 'A' will be permitted to run only if they comply with the Touring Car Regulations as written and defined under FIA Appendix 'J' Group 1 1981 and these regulations.