

RALLY / ROAD

Group 3C – Production Rally Cars (PRC)

Production Rally Cars are eligible subject to the vehicle meeting the description below and the General Requirements for Rally Cars in Schedules A and R (see “General Requirements for Cars and Drivers” in the CAMS Manual of Motor Sport).

I. ELIGIBILITY

For a vehicle to be eligible as a PRC, it must be derived from any of the following:

- 1.1 Cars recognised by the FIA as being of Group A (from 1 January, 1982 ~~or Group R. Notwithstanding~~, World Rally Car Variants and/or components outlined under “WR” or Super 2000 Extensions of Group A homologations are not permitted in PRC.
- 1.2 Cars formerly recognised by FIA as being of Group 1 or Group 3 which are included on lists published prior to 31 December, 1981.
- 1.3 ~~A car~~ Cars of a model which is deemed to be a Touring Car in accordance with the measurements laid down by the FIA, or a car of a model which has a minimum seating capacity of ~~two~~ four persons, of which more than 500 have been produced in the same specification, and which are, or were, available to the general public in Australia from the manufacturer’s franchised dealer network.
- 1.4 Cars either manufactured or assembled in Australia or fully imported, and being of a model which CAMS in its sole discretion may recognise as a PRC irrespective of the number produced or of its origin, and subject to the model being deemed by CAMS to be within the spirit of the definition of a mass-produced vehicle.

Cars currently recognised are:

Toyota Corolla Levin (AE111)
Mitsubishi Mirage Cyborg RS
Mazda RX-7 SA22C (13B engine, US spec); FC “Series” (not including convertible version); FD1033
Mazda MX-5 (fitted with hardtop)
Toyota MR2 (pre-2000 naturally-aspirated models)
Toyota Corolla Seca RV, Corolla GT and FXGT; AE101; AE102 (all fitted with 4AGE 20 valve engine)
Utes derived from a model eligible under article 1.3. of which more than 500 have been produced (eg, Falcon Ute, Commodore Ute)
Ford Laser Sport (KC and KE)
Nissan Silvia S13
<u>Mitsubishi Lancer Asti RX and Asti RX (Version R)</u>
<u>Excel Rally Cars – Refer Appendix A</u>

2. WEIGHT

Cars must meet the following scale of minimum weights as determined by the capacity of the engine:

	2WD	4WD		2WD	4WD
up to 1000cc	700 kg	720 kg	2500cc, and up to 3000cc	1090 kg	1140 kg
1000cc, and up to 1150cc	760 kg	790 kg	3000cc, and up to 3500cc	1180 kg	1230 kg
1150cc, and up to 1400cc	790 kg	840 kg	3500cc, and up to 4000cc	1260 kg	1310 kg
1400cc, and up to 1800cc	880 kg	920 kg	4000cc, and up to 4500cc	1340 kg	1400 kg
1800cc, and up to 2000cc	960 kg	1000 kg	4500cc, and up to 5100cc	1430 kg	1500 kg
2000cc, and up to 2500cc	1030 kg	1080 kg	over 5100cc	1520 kg	1590 kg

These capacity ranges are set for the purpose of determining minimum weight only and are inclusive of the relevant rotary and supercharging corrective factors outlined in “Classification of Cars”, with the exception that the supercharging factor for rotary engines shall be 1.6. This is in addition to the 1.8 factor applied to rotary engines. The weight is the real weight of the car, without driver nor co-driver nor their equipment; this

includes the helmet, but the headphones external to the helmet may be left in the car.

At no time during the event may a car weigh less than the minimum weight stated in this article.

The use of ballast is permitted subject to CAMS requirements (see “Definitions” or Group N(P) Regulations).

Notwithstanding the minimum weight requirements, at no time shall a vehicle with the crew and their equipment weigh more than the manufacturer’s specified Gross Vehicle Mass (GVM). It is the responsibility of the Competitor to provide proof of the correct GVM via the official workshop manual or other definitive manufacturer’s documentation, otherwise the PRC minimum weight applies. In the event that the combined vehicle and crew weight exceeds the GVM, authorisation is granted to ballast the vehicle only up to the GVM.

Note: This regulation applies only to events where PRC are eligible. For events listed on the FIA International Sporting Calendar, FIA Group A cars must comply with the weight scale set out in Article 255 of Appendix J of the FIA Yearbook.

3. MODIFICATIONS ALLOWED

3.1 Only the following modifications are allowed in PRC:

3.2 (i) **General conditions:** The original mechanical parts necessary for the propulsion and suspension, as well as all accessories necessary for their normal functioning (except any steering or braking parts), having undergone all normal machining operations laid down by the manufacturer for Series Production, they may be subject to all tuning operations through finishing and scraping but not replacement. Provided that the origin of the Series Production part may always be established its shape may be ground balanced, adjusted, reduced or modified through machining.

The modifications defined by the fore-going are permitted only on condition that the weights and dimensions specified in the Recognition Form are respected. Only chemical and heat treatment/s are allowed, in addition to the above.

(ii) **Addition of material:** Any addition or attaching of material or parts is forbidden unless it is specifically allowed by an Article in these Regulations. Any material removed is not to be reused. Restoration of body shape and chassis geometry following accidental damage is permissible by the addition of the materials necessary to effect the repairs (body filler, weld metal etc); other parts which are worn or damaged are not to be repaired by the addition or attaching of material unless an Article in these Regulations allows appropriate freedom.

(iii) **Fasteners:** Throughout the car, any nut, bolt, or screw may be replaced by another nut or bolt or screw and may have any kind of locking device.

3.3 Engine:

(i) **Cylinder block:** It is permitted to increase the bore of the block by re-boring or re-sleeving (the material of the sleeve is free) subject to the following criteria:

- **All cars:** by up to 0.6mm provided that the original engine capacity of the class limit is not exceeded.
- **Cars of a model manufactured more than 10 years prior to 1 January of the year of the competition being conducted – by up to 1.5mm. The car shall be classified by its resultant capacity.**
- **Pre-1986 cars – refer Article 3.3(xxix).**

~~The re-sleeving of the engine is allowed in the same conditions as for re-boring and the material of the sleeves may be changed.~~

(ii) **Classes are:**

Class P1	PRC	up to 1400cc	Class P6	PRC	four wheel drive, models first manufactured prior to 1 January, 1991, and the following list of 4WD cars, regardless of the date of manufacture:
Class P2	PRC	over 1400cc, up to and including 1600cc			
Class P3	PRC	over 1600cc, up to and including 2000cc			
Class P4	PRC	2WD over 2000cc			
Class P5	PRC	four wheel drive, over 2000cc (not meeting the requirements of Class P6)			
<p>Audi 80 quattro; Mitsubishi Galant VR4; Ford Laser TX3; Mitsubishi Pajero; Ford Sierra (including Nissan Patrol (all models); Cosworth RS); Nissan Pulsar GTi-R; Holden Jackaroo – late Nissan Skyline (all models); model; Opel/Holden Calibra; Holden Rodeo; Porsche (all models); Jeep (all models and Range Rover; derivatives); Subaru Leone RX Turbo; Lada Niva; Subaru Liberty/Legacy; Lancia HF Delta Integrale 8 Toyota 4 Runner; valve; Land Rover; Toyota Celica ST165, ST185; Land Rover Discovery; Toyota Land Cruiser (all Mazda 323 (all models); models and derivatives) Mitsubishi 3000 GT;</p> <p><i>CAMS in its sole discretion reserves the right to add to this list during the year. Any changes will be advised via Bulletin.</i></p>					

In case of supercharging, the nominal cylinder capacity will be multiplied by 1.7 and the car will pass into the class corresponding to the equivalent volume thus obtained. In case of rotary engines, the nominal engine capacity will be multiplied by 1.8 and the car will pass into the class corresponding to the equivalent volume thus obtained. The car will be treated in all respects as if its cylinder capacity thus increased were its real capacity class.

- (iii) Planing of the cylinder block is allowed.
- (iv) Planing of the cylinder head is allowed.
- (v) The compression ratio is free.
- (vi) The **cylinder head gasket**, including the number thereof, is free. A “decompression plate” made of metal may be fitted for the sole purpose of reducing the compression ratio of the engine.
- (vii) **Pistons** piston rings, gudgeon pins and their securing mechanism are free. Connecting rods are free, except that original connecting rods may only be replaced by connecting rods manufactured of ferrous material.
- (viii) The original **crankshaft** may receive chemical or heat treatment different to that laid down for the Series Production parts.
- (ix) The make and material of **engine bearings** are free, however, they must be of the original type and dimensions.
- (x) The **flywheel** may be modified **or replaced** in accordance with the general conditions specified above; ~~provided that the original flywheel may still be identified.~~ The **original/homologated weight and diameter** must be respected.
- (xi) The **air filtering** arrangement is free upstream of the butterfly/s; the accelerator linkages are free.
- (xii) **Fuel pump/s** are free, but may not be fitted in the cockpit. Should this be an original fitting, the pump/s may remain in place but must be well protected.
A petrol filter with a maximum capacity of 0.5 litres may be added to the fuel inlet pipe.
- (xiii) The original **heat exchangers** and/or inter-coolers, or any other device fulfilling the same function must be retained and in their original location and position. The provisions of Article 3.2(i) do not apply to intercoolers. The pipes between the supercharging device and the intercooler and the manifold are free, but their only function must be to channel air.
In the case of air-water intercoolers, the pipes connecting the intercooler and its radiator are free, but their only function must be to channel the coolant.
Any water injection fitted must be homologated and must not be modified.
The fitment of any other substance or device to reduce the temperature of the charge is forbidden.
Anti-pollution devices may be removed provided this does not lead to an increase in the quantity of air admitted.
The cylinder head port sizes and tolerances, as noted on the homologation form must be respected except for 2WD cars, where freedom is provided to modify the cylinder head port sizes by the removal of metal only.
The inner port dimensions of rotary or two stroke engines are free.

- (xiv)
 1. If the recognised vehicle is equipped with **fuel injection**, whether mechanical or electronic or a combination of both, the following modifications are allowed:
 - (a) **4WD Supercharged**
 - ~~The freedom of~~ air inlet system extending to the upstream face of the butterfly, or to the turbo charger impeller should this be upstream of the butterfly, **is free.**
 - ~~freedom of~~ **The** engine management system **is free**, subject to the following:
 - injection systems may be modified freely or replaced, on the condition that the principle of the system remains. For instance, K Jetronic type systems may not be replaced by L Jetronic type systems.
 - freedom of injectors, but not the number, position or assembly angle in the manifold.
 - (b) **4WD Naturally-aspirated**
The fuel injection system, including the inlet manifold, is free.
 - (c) **2WD**
 - The fuel injection system, including the inlet manifold, is free.
(Note: the foregoing modifications may render the car unregistrable in some States.)
 2. Should the recognised car be equipped with carburettor/s, those components are free, subject to the following:
 - (a) **4WD Supercharged**
The original number of carburettors and their working principle must be retained and they must remain in the original location.
The diameter and number of the butterflies as stated on the homologation form, or if there is no homologation form for that car, in the relevant workshop manual, must be respected.
The diameter of the venturi (choke) may not be modified, nor may the diameter of the opening of the carburettor at the face it connects to the inlet manifold.
 - (b) **4WD Naturally-aspirated**
The carburettor system, including the inlet manifold, is free.
 - (c) **2WD**
The carburettor system, including the inlet manifold, is free.

(Note: the foregoing modifications may render the car unregistrable in some States.)



3. The fitment of a restrictor for turbocharged cars, in accordance with FIA Group A Regulation 5.1.8.3 is compulsory for all four-wheel drive cars and is optional for two-wheel drive cars. It is in all cases permitted only on cars on which the standard turbocharger inlet dimension exceeds the dimension of the restrictor.

For cars issued with **log books** prior to 1 August, 1998, and being used in other than International events the requirement for the restrictor plate, at its narrowest point, to be less than 40mm in external diameter, as specified by FIA Group A Regulation 5.1.8.3, is waived. For international events, all cars, regardless of date of log book issue, will be required to comply in full with Regulation 5.1.8.3.

- (xv) Except for the number of camshafts and the number of bearings, the **camshaft** is free. The valve timing and lift are free. Camshaft pulleys and belts and timing chains and their sprockets are free, save that they must retain their original drive system.

The guides and tensioners associated with these chains and/or belts are free, as are the protective covers.

The material of the gears and sprockets associated with the camshaft is free, as is the number of belts/chains.

In the case of rotary engines, on condition that the original dimensions of the intake of the inlet ports and the exit of the exhaust ports are respected, the dimensions of the inlet and exhaust ducts into the rotor housing are free.

- (xvii) The material and the shape of the **engine valves** are free, but the characteristic dimensions specified on the recognition document must be retained, including the respective angles of the valves' axes.

The valve spring retainers, cotters and guides, even if not included as original equipment are not subject to any restriction. Shims may be added under the springs.

The material of the valve seats is free.

***Note: For 2WD cars, inlet and exhaust valve sizes and valve seats are free. The minimum modifications required to fit these items are permitted. In addition, valve guides may be replaced by others of alternate materials.**

- (xvii) **Rocker arms and tappets** may be modified accordance with the General Conditions (3.2(i)).

Hydraulic tappets are free, save that the replacement units must be interchangeable with the original ones.

- (xviii) **Ignition coil/s**, condensers, distributor, interrupter (ie, points), and spark plugs are free subject to the concept of the system remaining the same as provided by the manufacturer of the model concerned, ie, battery/coil or magneto.

The fitting of an electronic ignition system, even without a mechanical interrupter, is permitted provided no mechanical part other than those mentioned in these Regulations is modified or replaced, save that the crankshaft, and/or flywheel and/or crankshaft pulley may be locally modified to facilitate a change of ignition.

Under the same conditions, it shall be permissible to change an electronic ignition for a mechanical ignition.

The number of spark plugs may not be modified. The number of coils is free.

- (xix) The **radiator** and its method of fixing is free provided the original fittings on the car are utilised. Radiator hoses are free. A radiator screen may be fitted.

The existing fan may be removed or it may be disconnected. Additional fans may be added, for which the method of drive is free.

The thermostat is free.

The dimensions and material of the fan are free as are the number of fans.

The fitting of a water catch tank is allowed.

The radiator cap may be locked.

None of these freedoms (in 3.3(xix)) applies to intercoolers (heat exchangers) which are considered to form part of the induction system of the engine.

- (xx) **Lubrication radiator, oil/water exchanger, lines, sump, and filter** are free.

The fitting of an oil radiator outside the coachwork is allowed only below the horizontal plane passing through the wheel hubs, in such a way that it does not protrude beyond the general perimeter of the car when seen from above as it stands on the starting line. Fitting an oil radiator in this manner does not permit the addition of an enveloping aero-dynamic structure, or any modification to bodywork.

All air vents must have the sole effect of inducing the necessary air for the cooling of the radiator, and must not have any aerodynamic effect.

Oil pressure may be increased by changing the discharge (relief) valve spring.

If the lubrication system includes an open type sump breather it must be equipped in such a way that the oil flows into a catch tank. This must have a capacity of two litres for cars with a cubic capacity equal to or below 2000cc and three litres for cars with a cubic capacity of over 2000cc.

An air/oil separator (maximum capacity of one litre) may be added, external to the engine and within the engine compartment and any oil return to the engine must be effected by gravity alone. It is permitted to fit an oil thermostat. One fan per oil radiator is permitted, but it must have no aerodynamic effect.

- (xxi) **Engine supports** are free but not their number, provided that the angle and position of the engine within its compartment is not changed, and that Article 3.5(i) and General Conditions are respected. The supports may

be welded to the engine and the bodywork, and their position is free.

- (xxii) The **exhaust** is free after the exit from the exhaust manifold, subject to specific local requirements. It may not project in any way beyond the coachwork (in plan). The exhaust system must not be provisional. Exhaust gases may only exit from the end of the system which must be within 10cm of the perimeter of the car and aft of a vertical plane passing through the centre of the wheelbase. Parts of the chassis must not be used to evacuate exhaust gases. Adequate protection shall be provided to prevent heated exhaust pipes from causing burns.

On cars fitted with turbo charged engines, the exhaust system is free only after the turbo charger wastegate unit. Heat shields may be fitted to the exhaust manifold and/or the turbocharger for the sole function of heat protection.

On cars fitted with naturally-aspirated engines, the exhaust manifold is free.

On 2WD cars fitted with a supercharged engine of a model manufactured more than 10 years prior to 1 January of the year of the competition being conducted, the exhaust manifold is free.

The car must at all times comply with CAMS' requirements as to noise level.

- (xxiii) Driving pulleys, belts and chains for ancillaries situated outside the engine are free, including number, type and dimensions. The route and number of belts etc. are free. The drive pulley of a "G" compressor is free.
- (xxiv) All **gaskets** in the engine are free.
- (xxv) **Springs** in the engine are not subject to any restrictions, but must retain their original functioning principle.
- (xxvi) The make and type of **self starter** is free.
- (xxvii) **Supercharging/turbocharger** pressure may be modified in accordance with Article 3.3(xxv) and Article 3.2(i) (General Conditions). It is also permitted to make the connection between the actuating diaphragm and the wastegate adjustable, even if it is not originally so.

The intercooler pipes are free, whilst they are not part of the actual intercooler.

(It is not permitted to fit any pressure adjusting device outside the engine compartment, unless it is homologated.)

For the P6 class, and 2WD cars manufactured more than 10 years prior to 1 January of the year of the competition being conducted, the following additional provisions apply:

- **A substitute supercharger/turbocharger unit may be approved by the Australian Rally Commission upon application. To enable fitment to the exhaust manifold, an adaptor or modification of the mounting flange may be permitted.**

The substitute supercharger/turbocharger unit shall comply with one of the following options:

Option 1:

The air inlet orifice and the compressor and turbine wheels shall be within 10% of the dimensions of the original supercharger/turbocharger unit.

OR

Option 2:

The replacement turbo/supercharger unit shall be fitted with an air inlet restrictor of the same dimension as the original supercharger air inlet orifice which complies with Supercharger Sealing Requirements Article 1 and Drawing 254-4.

To be eligible for use the substitute component, and where applicable its restrictor size, shall be approved by ARCom and shall be published in the PRC regulations.

Approved substitutions will take effect from 1 January of the following year.

- **The original intercooler may be replaced provided the replacement intercooler retains the same surface area dimensions as the original and is fitted in the same location.**

- (xxviii) The fitment of an external **oil pressure regulator** is allowed.

- (xxix) For normally aspirated two-wheel drive vehicles, the model of which was manufactured prior to 1 January, 1986, freedom will be granted in relation to:

- Carburettors and injection systems (however the addition of forced induction is not permitted).
- Inlet manifold/s.
- Exhaust manifold/s.
- Engine capacity, within the limits of the homologated or recognised engine block.
- Modification of the original cylinder head save that the original number of valves and camshaft(s) be preserved.
- The ports of rotary engines, provided that this does not result in: (a) peripheral ports, and/or (b) the port does not extend past the original water jacket and seals.
- The end and centre housings of rotary engines, provided that they are supplied by the manufacturer of the vehicle.

Notes:

- Re. Item (d) Engine Capacity: vehicles which suffer a capacity alteration with these modifications must compete in the capacity class pertaining to their new capacity.
- Re Item (d), for all engines, the crankshaft, fly wheel and connecting rods are free (including weight thereof).
- Items (d) and (e) will not apply to rotary-engined cars; these vehicles must use rotor housings of the original homologated or recognised width.

(h) Substitute engines may be permitted subject to application to **and approval by** ARCom.

The guidelines for replacement engines, approval of which is at the sole discretion of ARCom, are that the engine shall:

- be produced prior to 1986 **unless otherwise specifically approved by ARCom**
- be produced by the same manufacturer as the original
- have the same number of camshafts in the same location as the original
- have the same number of cylinders and general configuration
- be made of the same material as the original
- be able to be fitted in the same general location as the original. No body modification is permitted to allow the fitment of the replacement cylinder block.

In exceptional circumstances and at its absolute discretion ARCom may approve a substitute engine produced in 1986 or later. An applicant must demonstrate that a substitute engine would provide a cheaper and more durable option, without a significant performance increase, when compared to the original engine. Additional limitations may be placed on such substitute engines.

All substitutions are to be approved by ARCom and published in the PRC regulations (or via bulletin) prior to use in competition.

Cars with substitute engines are not permitted the full range of modifications otherwise acceptable under Article 3.3(xxix) of these regulations. The following modification limitations apply:

- **Capacity:** A maximum of a 17% increase in capacity over the original/recognised engine is permitted, or alternatively, a substitute engine which keeps the car in the same PRC capacity class as it would be with the standard specification original/recognised engine may be permitted. The standard stroke must be retained.
- **Cylinder Head:** Modifications may be made to the cylinder head and related components only in the following areas:
 - inlet and exhaust ports may be modified by the removal of metal only
 - inlet and exhaust valve sizes and valve seats are free. The minimum modifications required to fit these items are permitted
 - valve guides may be replaced by others of alternate materials.

Cars which suffer a capacity alteration with a substitute engine and permitted modifications must compete in the capacity class pertaining to their new capacity.

Approved PRC Substitute Engines					
Make	Model	Year	Current Engine	Substitute Engine	Date Added
Chrysler/ Mitsubishi	Galant / Lancer		4G32	4G62	01/10/2007
Mazda	RX2	1970- 1978	12A	13B Naturally-aspirated (of a type available pre-1986)	01/10/2008
	RX3	1971- 1978	12A	13B Naturally-aspirated (of a type available pre-1986)	01/10/2008
	R100	1968- 1973	10A	12A Naturally-aspirated (of a type available pre-1986)	01/10/2008
Nissan/ Datsun	B110 (1200)		A12	A14	01/04/2008
	B210 (120Y)		A12	A14	01/04/2008
	510 (1600)		L 18	L 20	08/03/2007
	510 (1600)		L 18	Z 20 Naturally-aspirated	08/03/2007
	610 (180B)		L 18	L 20	08/03/2007
	610 (180B)		L 18	Z 20 Naturally-aspirated	08/03/2007
Toyota	Corolla KE 70		4K-C / 4A-C	AE 86 4A-C 8-valve (pre-1986)	08/03/2007

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Rejected PRC Substitute Engines				
Make	Model	Year	Substitute engine requested	Reason for rejection
BMW	325 e / 323 i		325 i engine	Engine manufactured after 1986
Ford	Escort Mk II		F2 2.2l	Engine manufactured after 1986
Honda	Civic (Series 1)	1976	EW 2	Engine size exceeds allowed capacity increase of 17%
Toyota	Corolla KE 70		4AGE 16-valve	Engine does not have same number of valves

(xxx) For normally aspirated two-wheel drive vehicles, of less than 1600cc, the model of which was manufactured after 1 January 1986, freedoms will be granted in relation to:

- (a) Carburettors and injection systems. A maximum of four throttle apertures are permitted, each of up to 45mm internal diameter as measured at the throttle plate. If less than four throttle apertures are utilised, up to an equivalent throttle area is permitted.
- (b) Inlet manifold
- (c) Exhaust manifold

3.4 Transmission:

- (i) Clutch: The clutch assembly is free ~~provided that the original type of operation is retained.~~ **The type of operation of the clutch is free (eg, hydraulic or cable), provided that the driver actuates it in the same manner as the original (eg, foot pedal).**
- (ii) Gearbox: The gearbox (and the number of ratios) is free, save for the following:
 - no modifications may be made to any bodywork to accommodate a gearbox, save for the drilling of holes to support components, or to facilitate the fitting of the gear change mechanism;
 - in the case of an automatic gearbox, the flywheel is free;
 - the number of driven road wheels may not be changed;
 - an additional lubrication cooling device including one fan is permitted (the circulation pump, radiator and air intake may be situated under the car) in the same conditions as Article 3.3(xx).
 Propeller shafts, half shafts and universal joints are free.
- (iii) Final drive and differential: Final drive ratio is free, as is the differential action. The casing of the differential may be changed in vehicles where the differential is fixed to the body/ chassis unit, but only if such a replacement unit can be fitted without any alterations to the body/chassis unit. For vehicles with a live rear axle, see also Article 3.5(iii).
The differential supports are free where they do not form part of the chassis.
An additional lubrication cooling device is permitted under the same conditions as for 3.4(ii).

3.5 Suspension:

- (i) The position of the rotational axis of the mounting points of the suspension to the wheel uprights, and to the shell or chassis, must remain unchanged.
- (ii) Reinforcement bars may be fitted between the suspension mounting points on the bodyshell and must be located within 100mm of the original suspension mounting point (150mm for MacPherson strut systems). Apart from these two points, this bar must not be mounted on the bodyshell or the mechanical parts.
- (iii) Suspension components and axles are free provided they are entirely interchangeable with the original units. For vehicles with a live rear axle, the entire rear axle tube and differential housing assembly is considered to be suspension and is therefore free. The suspension mounting points on the body/chassis must be retained and used exclusively and unmodified and to the exclusion of all others, save that strengthening is permitted in accordance with Article 3.9(i).
- (iv) Anti sway bars are free, as are their anchorage points. These points may be used for the mounting of reinforcement bars.
- (v) The top shock absorber mounting plates of MacPherson struts are free save that the mounting points on the actual bodywork must remain unchanged.
- (vi) The material and dimensions of the springs are free, but not the type. The spring seats may be made adjustable, even if this includes the addition of material. A coil spring may be replaced by two or more springs of the same type, concentric or in series provided that they are fully interchangeable with the original and can be fitted without any modification other than those specified in this Article.
- (vii) The make of shock absorbers is free, but not the number, the type (telescopic, lever etc), the system of operation (hydraulic, friction, mixed) nor the supports. Gas-filled shock absorbers are considered as hydraulic. MacPherson struts attached by eccentric bolts will be accepted, but the original trim must be preserved.
- (viii) A central wheel bolting system may be employed.

3.6 Wheels and tyres:

- (i) Complete wheels (flange + rim + tyre) are free provided they can be housed within the original bodywork. This means the upper part of the wheel (rim flange and tyre flank), viewed vertically over the wheel hub centre, must be covered by the bodywork when measured vertically. The use of tyres intended for motorcycles is

forbidden.

- (ii) In no case may the width of the rim/tyre assembly, in relation to the swept volume of the engine, exceed the following:

Up to 1000cc	6.5"	2000cc	8.5"
1400cc	7.0"	5000cc	9.0"
1600cc	7.5"	over 5000 cc	10.0"

- (iii) ~~15-inch diameter wheels may be utilised on any car, or alternatively the wheel rim diameter may be increased or reduced by up to two inches in relation to the original dimensions, as specified in the homologation documents where applicable. The wheels do not necessarily have to be of the same diameter. The maximum diameter of the complete wheel and tyre assembly is 650mm.~~

3.7 Braking system: The complete braking system is free, subject to any replacement components complying with the relevant registration requirements and any modifications to bodywork being restricted to the drilling of holes for the fitting and/or operation of components.

A circular flexible pipe to channel air to each brake assembly is permitted, but its interior diameter must not exceed 10cm. These air cooling pipes must not protrude beyond the front of the car, as seen from above.

3.8 Steering: Freedom exists for the following items:

- power steering (addition or deletion)
- steering ratios, which must be commercially available
- steering arms, dampers, columns and racks.

3.9 Bodywork and chassis:

- (i) Strengthening of suspended parts is permitted provided that the material used follows the original shape and is in contact with it. Reinforcements from composite materials are allowed, irrespective of their thickness, provided they are in accordance with this paragraph.

Unused supports situated on the chassis/ bodywork may be removed, unless these supports are for mechanical components which are not free.

The original holes in the bodywork may be closed by self adhesive tape, unless otherwise permitted within these Regulations.

It is permitted to cut out part of the bulkhead situated in the engine compartment for the fitting of one or more air filters or for the intake of air, but such modifications must be strictly limited to those parts necessary for this installation.

- (ii) Insulating material may be removed from under the floor, from the engine compartment, the luggage boot and the wheel arches. Carpet and insulating material may be removed from the passenger compartment; additional insulating material may be fitted.
- (iii) Bumper bar overriders and wheel embellishers must be removed; hub caps may be removed.
- (iv) The motor position, the blades and the operating mechanism of windscreen wipers are free. There must be at least one windscreen wiper provided for the windscreen, in the driver's direct line of vision. The windscreen washer device may be disconnected but not removed. The capacity of the washer tank may be increased and its location may be moved to inside the cockpit.
- (v) External decorative strips which follow the external contours of the bodywork and are less than 25mm wide may be removed.

Jacking points may be strengthened, moved and increased in number.

Headlamp covers, if fitted so as to protect the headlamp glass, must have no effect on the car's aerodynamics.

The location of the number plate is free, but the lighting system must remain.

~~Additional fittings of~~ **The fitment of additional** underbody protection is allowed.

Additional safety fastenings for the windscreen and the side windows may be fitted provided that they do not improve the aerodynamic qualities of the car.

Skirts are forbidden. All non-homologated devices or constructions designed to fully or partially fill the space between the sprung part of the car and the ground is forbidden in all circumstances. No protection authorised in Regulation 3.9(v) may influence the aero-dynamics of the car.

Cars must be so constructed that with the driver normally seated, when all tyres on the same side are deflated, no part of the car shall touch the ground.

~~The edges of the wing panels may be folded back if they protrude inside the wheel housing. (Panels must not be reformed, nor may any changes of shape result). If wing panels are made of plastic, protrusions must be removed.~~

The plastic sound-proofing components from the underside of the wheel arches may be removed.

It is permitted to remove or replace the supports between the bodywork and the chassis save that the original location must be respected.

The original boot and bonnet fasteners may be replaced. If so, this must be by at least two additional fasteners in each case.

External rear-view mirrors are free whilst they perform only the function of a rear-view mirror.