



Confederation of **Australian Motor Sport**

# 2006 MANUAL OF MOTOR SPORT

WITH 2006 NATIONAL COMPETITION RULES

7 above, the right of appeal shall be dependent on agreement between the parties to be bound by the Court's decision in such matter, and the consent of the Chairman to act in such matter, and the consent of CAMS that such matter may be submitted to the Court, whether or not CAMS is principally concerned in the matter at issue.

#### 9. TIME LIMITS FOR HEARINGS

All appeals shall be heard within 60 days of the expiration of the period during which such appeals could have been lodged under the provisions of Part XIII of the NCRs unless the Court extends this period.

#### 10. SUBMISSION OF APPEALS

Appeals must be submitted in accordance with the provisions of Part XIII of the NCRs. The written submission shall accord with the format of the form "Appeal" as per Appendix B (Forms) (Section 15), and shall be submitted in duplicate. The Secretary of the Court shall send the duplicate copy of all appeals to the Chief Executive Officer of CAMS within seven days of the receipt by him of such appeal.

The appellants must provide to other parties who participate in the proceedings the subject of the appeal notice that an appeal has been lodged.

When the appeal is one made under the provisions of Article 7 (iii), (iv) and (v), a copy of the appeal papers must be provided at the same time.

Where the appeal is one in which leave is required, then the appeal papers should be provided to the other parties only when leave to appeal is granted.

A list showing the names and addresses of those who have been so advised must be submitted to the Secretary of the Court at the time of lodging the application for leave to appeal, or the appeal, as the case may be.

#### 11. PROCEDURE AT HEARINGS

The order of business and mode of conduct of any hearing shall be as determined by the Court. The Court shall be addressed standing, unless the Chairman directs otherwise. Except in the examination of witnesses, the Court only shall be addressed.

#### 12. QUORUM

A quorum for the sittings of the Court shall comprise the Chairman and two other members. In any case where a quorum is not obtained within a reasonable time, having regard to the circumstances, the Chairman shall have the right to co-opt any person as a temporary member of the Court for such case only. In the unavoidable and indefinite absence of the Chairman, the Deputy Chairman shall act as Chairman.

#### 13. REPRESENTATION

CAMS shall have the right to be represented at the hearing of any matter before the Court either as advocate for CAMS, or in any case to which CAMS is not a party, to assist the Court, if requested.

All parties to any appeal before the Court shall have the right either to present their case in person or to representation by an advocate.

#### 14. POWERS OF THE COURT

The Court shall be empowered to:

- (i) Hold any hearing or part of a hearing in camera.
- (ii) Admit accredited representatives of the media at the Court's discretion.
- (iii) Clear the court room for purposes of deliberation.
- (iv) Order from the court room any person who is in the Court's opinion guilty of behaviour insulting to or contemptuous of the Court or any person present, or prejudicial to the proper hearing of any matter.
- (v) Summarily fine any person or party subject to CAMS (as defined in NCR 57) for non-compliance with any such order as is specified in paragraph (iv) above or for any such behaviour as is specified in the said paragraph. PROVIDED THAT no fine so imposed shall exceed \$200 in respect of any one offence by any one person or party. The provisions of NCR 189 shall apply to such fines if imposed, and no appeal shall lie in respect of such summary imposition.
- (vi) Remit all or part of any fine imposed in accordance with the provisions of paragraph (v) above upon such grounds as it may deem fit.
- (vii) Make such order as to appeal fees as seems fitting to the Court and in accordance with these rules, subject to NCR 232.
- (viii) Summon before the Court any person, or the representative of any party, subject to CAMS or any real or documentary evidence it may require.
- (ix) Award costs against an unsuccessful appellant, but only in its absolute discretion and upon the application for costs by CAMS, provided always no costs shall be awarded against CAMS unless CAMS itself is an unsuccessful appellant.
- (x) Direct that evidence taken before it be given upon oath or affirmation.
- (xi) Make such order as to amendment of the results of a competition as may seem to it, in the circumstances, desirable and fitting.

#### 15. RATIFICATION

Decisions made by the Court shall (except in the case of appeals to the FIA as provided in NCR 226) be final and not subject to ratification (see NCR 224). However, nothing shall diminish the right of CAMS to exercise clemency by way of reduction or remission of any penalty (see NCR 204).

## Section 6

### General Requirements for Cars and Drivers

(Formerly Appendix C to the National Competition Rules)

#### TABLE OF CONTENTS

Definitions – Technical	6 - 2
Classification of Cars	6 - 4
General Requirements of Automobiles	6 - 5
	6 - 6
	See Section 7
Apparel	6 - 7
Wheels and Tyres	6 - 12
Production Car Tyre List	6 - 13
Aerofoils and Coachwork	6 - 14
Fuel	6 - 14
Fire Extinguishers	6 - 17
Safety Harnesses / Window Nets	6 - 19
Roll Over Protection	6 - 22
Roll Over Protection – drawings	6 - 29
Markings on Automobiles	6 - 36
Vehicle Log Books	6 - 39
Scatter Shields	6 - 40
Fuel Tanks & Refuelling	6 - 41
	– Part 1: Fuel Tanks
	6 - 41
	– Part 2: Refuelling in Pit Lane
	6 - 43

See also "Definitions - General", Section 4, Part II

## BALLAST

It is permitted to complete the weight of the car by one or several ballasts on condition that they are strong and unitary blocks, fixed by means of tools with the possibility to fix seals, placed on the floor of the cockpit, visible and sealed by the scrutineers. Ballast shall be affixed to the body utilising class 8.8, bolts, each of 8mm diameter, utilising reinforcement plates of at least 75mm x 50mm x 3mm under each bolt. There shall be at least one bolt per 20kg or part thereof of ballast in each ballast block with a minimum of two bolts. On vehicles with composite coachwork, ballast shall be attached to the chassis of the vehicle forward of the midpoint of the wheelbase.

## BODY SHELL

The main coachwork structure of an automobile which, in the case of an automobile not having a separate chassis, constitutes the fundamental structure of the automobile. Components such as doors, bonnet, bootlid and mudguards which are readily demountable are not deemed to be part of the body shell.

## BODYWORK/COACHWORK

- externally: all the entirely suspended part of the car linked by the airstream;
- internally: cockpit and boot.

## CHASSIS

The structure of any automobile so constructed that the coachwork is a separate entity and not a primary load carrying element of the automobile. It foresees that the coachwork may contribute to the overall strength of the automobile, but the word "chassis" is applicable only to those automobiles in which removal of the coachwork does not affect the entity of the mechanical components of engine, transmission, suspension and unsprung part as an assembly.

## CYLINDER BLOCK

The crankcase and the cylinders.

## ELASTOMER

An elastic solid composed primarily of hydrocarbon material with widely-spaced cross-linking bonds. Such material shall have a maximum Shore (A) Hardness of 100, and a maximum tensile strength of 60MPa.

## ELASTOMERIC BUSHING

A flexible coupling between two rigid structures that provides limited radial and axial freedom of movement. Bushings with less than 4.0mm of elastomer between the rigid structures shall not be regarded as elastomeric.

## ENGINE CAPACITY

The effective capacity of the engine to be used in determination of vehicle capacity class. It is the product of the swept volume and any equivalence factors.

## EXHAUST MANIFOLD

Part collecting together the gases from the cylinder head and extending to the first gasket separating it from the rest of the exhaust system.

## FAMILY OF A VEHICLE

Different series models belonging to one and the same production series of the same manufacturer. At least the number of vehicles specified in the relevant Technical Regulations for the category of car with identical external general lines of the bodywork must have been produced in 12 consecutive months. The material of the bodywork and the wheelbase dimension must be identical.

All models must be available through the normal commercial channels of the manufacturer.

The general external lines of the bodywork may vary in the following details:

- shape and material of front and rear bumpers
- removable aerodynamic devices (spoilers, wings, sill mouldings)
- control and comfort equipment (sun roof, auxiliary lamps, door handles, exterior mirrors, etc)
- decorative strips and mouldings
- left and right hand drive versions
- two- and four- door versions, provided that these differ only with regard to the doors, door openings and B-pillar.

## FRICTION SURFACE OF THE BRAKES

Surface swept by the linings on the drum, or the pads on both sides of the disc, when the wheel achieves a complete revolution.

## FUEL TANK

Any container holding fuel likely to flow by any means whatsoever towards the main tank or the engine.

## HOT LIQUID

Any liquid being of a temperature likely to cause at least first degree burns on contact with the skin.

ID Inside diameter.

## IDENTICAL CARS

Cars belonging to the same production series and which have the same bodywork (outside and inside), same mechanical components and same chassis (even though this chassis may be an integral part of the bodywork in case of a monocoque construction).

## INTAKE MANIFOLD

- Carburettor System: part collecting the air-fuel mixture from the carburettor/s, and extending to the entrance ports of the cylinder head.
- Injection System: part collecting the air from the air intake control device and extending to the ports of the cylinder head.
- Diesel Engine: part collecting the air at the air filter and extending to entrance ports of the cylinder head.

## MAIN STRUCTURE

The fully sprung structure of the vehicle to which the suspension and/or spring loads are transmitted, extending longitudinally from the foremost front suspension on the chassis to the rearmost one at the rear and within the lateral protection structures.

## MANUFACTURING STANDARDS

It is not permitted to modify components, even though the end result may fall within a permitted range, unless specifically authorised in the relevant Technical Regulations for the Group or Category.

## MAXIMUM VALUE

Where a quantity is specified as having a maximum value, that value shall be absolute and no tolerance shall attach.

## MEASURING TOLERANCES

When measurements are taken by a scrutineer or technical commissioner, the following measuring tolerances apply:

- Bore and stroke  $\pm 0.1\text{mm}$
- All machining (except bore and stroke) including fan, crankshaft bearings, connecting rod bearings, valves, exit port or carburettor, venturi, exhaust and clutch:  $\pm 0.2\%$
- Distance from gudgeon pin centre line to highest point of piston crown:  $\pm 0.5\%$
- Unfinished castings:  $+4\% - 2\%$
- Cam lift:  $+1\%$
- Weight of flywheel, clutch, crankshaft, connecting rods, pistons:  $+7\% - 0.3\%$
- Width of car at front and rear axles:  $+1\% - 0.3\%$
- Wheelbase:  $\pm 1\%$
- Track:  $\pm 25\text{mm}$

If no tolerance is expressed in the recognition documents, the above-mentioned tolerances apply. If a tolerance or range is expressed, then these tolerances do not apply.

## MECHANICAL COMPONENTS

All those components necessary for the propulsion, suspension, steering and braking as well as all accessories whether moving or not which are necessary for their normal working.

## MECHANICALLY IDENTICAL

A component will be considered as being "mechanically identical" if it performs exclusively the original function/s in the same manner as foreseen by the manufacturer and it permits the attachment of any secondary components in the original manner and without modification of those components.

## MINIMUM VALUE

Where a quantity is specified as having a minimum value, that value shall be absolute and no tolerance shall attach.

## MINIMUM WEIGHT

The real minimum weight of the empty car (without persons or luggage aboard). All tanks containing liquids (lubrication, cooling, braking, and heating if necessary) must be filled to the level laid down by the manufacturer, with the exception of the windscreen washer container and that of the brake cooling system if the car is fitted with one; the exception is the fuel tank/s, which must be empty of fuel.

## MODEL OF CAR

All the identical cars belonging to a family (see Family of Car) and a production series distinguishable by an identical conception and identical external general lines of the coachwork, and

by an identical mechanical conception of the engine and the transmission to the wheels.

## MONOCOQUE

A form of motor vehicle body construction in which all or most of the stresses are carried by the skin.

OD Outside diameter.

## OPEN CAR

A vehicle which has no supporting structure between the tops of the windscreen pillars and those of the rear window (if fitted).

## PERIMETER OF THE CAR SEEN FROM ABOVE

A loci delineating the horizontal extremities of the car as presented on the starting grid for the event in question.

## PRODUCTION CARS

Cars of which the production of a certain number of identical (see definition of "identical cars") examples within a specified period of time has been verified at the request of the manufacturer, and which are destined for normal sale to the public.

## RACING WEIGHT

The weight of the car during any practice or race, including the driver wearing all normal racing apparel including helmet. No fuel may be added after the conclusion of any race or practice before the car is weighed. (See also "Ballast".)

## ROCKER PANELS

The external body panel extending horizontally from front to rear mudguard panels, and from sill to the lower extremity of the coachwork, when the automobile is viewed in side elevation.

## SEAT

The two surfaces making up the seat cushion and seatback or backrest.

- Seatback and Backrest: Surface measured upwards from the bottom of a normally seated person's spine.
- Seat Cushion: Surface measured from the bottom of the same person's spine towards the front.

## SKILLS

Those components of the body shell, generally in a horizontal plane, which constitute the lower extent of the door openings.

## SPACE FRAME CHASSIS

A vehicle chassis so constituted as to bear the loads imposed on the vehicle in use through reaction forces generated in the matrix of tubes used in its construction. This definition foresees that only non-load bearing bodywork will be added to the resulting structure.

## SPOILER

An attachment to one surface for the purpose of interrupting or "spoiling" the airflow across the surface and thus affecting the lift (or downforce) otherwise achieved.

## STRESSED SKIN SPACE FRAME CHASSIS

A vehicle chassis constructed as a framework of tubes to which stress bearing panels are attached.

## SWEEP VOLUME

- Reciprocating engines: the product of the area of the normal cross section of the largest cylinder, the

- stroke of the crankshaft and the number of cylinders.
- Rotary (Wankel Patent) engines. The difference between the maximum and minimum volumes of the combustion chambers.

#### TRACK

The distance between the centres of the two tyres on the same axle, measured vertically below the axle centreline.

To determine the track of any vehicle, the following procedure is to be followed:

- the vehicle should be in "ready to race" condition, but without the driver aboard;
- determine the centre of the tread of each tyre, at the same height above the road, and mark that place with a spot of paint;
- the centre should be determined using the full width of the tyre, ie, the extremities of the bag;
- the vehicle should be rolled forward so that it leaves two marks on the road;
- measure the distance between the centres of the marks to determine the track.

#### WHEEL ANGLES - LIVE REAR AXLES

Unless proved otherwise (by specific reference from the manufacturer concerned or within the relevant category regulations) all production-based vehicles utilising a live rear axle are considered to be configured with parallel wheel planes.

#### WHEELS

"Wheel" means flange and rim; "complete wheel" means flange, rim and tyre. Measuring wheel width: the complete wheel width is to be measured with the wheel mounted on the car on the ground, the vehicle in race condition, driver aboard, at any point along the circumference of the tyre, except in the area in contact with the ground.

#### WING

A wing/aerofoil functions on what is termed the "velocity effect" and essentially involves airflow over both upper and lower surfaces of the section. Essentially, the function of a wing/aerofoil is to produce lift (or downforce in the configurations used in motor sport applications).

Formula Ford	
Formula Vee	
Formula 3	
Formula Libre	
Up to 1300	1301-2000
2001-3000	3001-5000cc

(In other speed events) as for Record classes, or as for races.

#### 3.2 2nd Category:

(i) Sports Cars, open and closed, in the following capacity classes:

Up to 1300cc	1301-1600cc
1601-3000cc	3001-6000cc

(ii) Marque Sports Cars in the following capacity classes:

Up to 1300cc	1301-1600cc
1601-3000cc	3001-6000cc

#### 3.3 Sports Sedans, in the following capacity classes:

Up to 1600cc	1601-2000cc
2001-3000cc	3001-4000cc
4001-6000cc	

#### 3.4 3rd Category: Touring Cars

Up to 1300cc	1301-1600cc
1601-2000cc	2001-3000cc
Over 3000cc	

#### 3.5 Improved Production Cars

0-1600cc	1601-2000cc
2001-3000cc	3001-6000cc

#### 3.6 HQ Holdens: 3310cc only

#### 3.7 4th Category (Off Road Automobiles)

As may be specified in Regulations.

#### 3.8 5th Category: Historic Cars

As may be specified in Regulations.

#### 3.9 6th Category: Other Automobiles

As may be specified in Regulations.

#### 4. NOTES: Organisers are permitted to amalgamate any adjoining classes, but not to use any other class limits than those stated for the relevant category or group.

In all International and National Competitions events shall be conducted only in accordance with the above categories, unless specific written authority is granted by CAMS to classify otherwise.

## Classification of Cars

### 1. RECORDS

For the purpose of attempting speed and/or endurance records, vehicles will be classified according to their calculated effective engine capacity, using the relevant factors as noted below. Vehicles will then be placed in one of the following classes:

#### Vehicles with positive displacement reciprocating engines:

Below 250cc	FIA Class 1
251-350cc	FIA Class 2
351-500cc	FIA Class 3
501-750cc	FIA Class 4
751-1100cc	FIA Class 5
1101-1500cc	FIA Class 6
1501-2000cc	FIA Class 7
2001-3000cc	FIA Class 8
3001-5000cc	FIA Class 9
5001-8000cc	FIA Class 10
Over 8000cc	FIA Class 11

(See "Supercharging", below.)

### 2. GENERAL

(applies to all competition unless specifically noted otherwise)

#### 2.1 Vehicles with Rotary Combustion (Wankel-type) Engines:

The engine capacity will be calculated by the following formula: 1.5 times the volume determined by subtracting the minimum capacity of the working chamber/s from its/their maximum capacity gives the piston displacement equivalence (and hence the relevant class).

#### 2.2 Supercharging: If the engine of a car includes a separate device for supercharging it, the nominal cylinder capacity will be multiplied by a factor of 1.7, and the car will be classified in all

respects corresponding to the nominal volume thus obtained.

A supercharger is deemed to be:

- a device designed to produce and capable of producing positive (above atmospheric) pressure in the induction system of an engine throughout its operating range;
- any device which effects a measurable increase in the BMEP.

**NOTE:** a dynamic air inlet for ducting air from the atmosphere into the engine intake shall not be considered as a supercharging device.

#### 2.3 Vehicles with Electronic, Turbine, or Steam Engines: For the purposes of record attempts, such vehicles are allotted to classes on a basis of unladen weight:

Up to 500kg	Class 1
501-1000kg	Class 2
Over 1000kg	Class 3

Specific determination insofar as class allocation for racing purposes in concerned will be made on application to CAMS.

#### 2.4 Diesel Engines: Unless otherwise specified, the effective engine capacity of vehicle powered by a conventional diesel engine will be calculated as the product of the swept volume multiplied by a factor of 0.8. The effective engine capacity of a supercharged diesel engine will be calculated as the product of the swept volume multiplied by a factor of 1.36.

#### 3. In competitions other than attempts on records, automobiles shall be classified as follows:

##### 3.1 1st Category: Racing Cars

Australian Formula 2
Formula 4000

## General Requirements of Automobiles

### Schedule A

#### ALL AUTOMOBILES (EXCEPT SUPERKARTS) SHALL, OF NECESSITY, IN ALL COMPETITIONS:

- comply with the definition of an automobile;
- be fitted with some form of protection between engine and driver's compartment suitable and sufficient for preventing the passage of flame;
- be so constructed that the driver is protected from the entry of foreign matter into the driving compartment from the road or road wheels; and be equipped with a transmission system so arranged that: the propeller shaft and universal or Cardan joints, if passing through or beneath the passenger compartment, shall be under the floor, or fitted in tubes or casings. Such floor, tubes or casings shall not be of a temporary nature, but shall be joined together and firmly fixed to the coachwork or chassis. Any chains used in the transmission of power or driving any auxiliary component shall be effectively guarded;
- be arranged so that all fuel tanks are vented externally to the bodywork;
- if manufactured prior to 1 January 1978 (or otherwise does not comply with ADR25A) and not registered for use on public roads, have any steering column locking device removed or disabled;
- if required to be fitted with roll-over protection, be equipped with such protection only in accordance with the provisions of Schedule J or the relevant technical regulations for the type of competing vehicle;
- unless specifically approved otherwise, use only fuel as defined in Schedule G;
- where required, be fitted with windows (including windscreens) which, if of other than glass, are clear, transparent and free of colouring;
- be fitted with safety harness or seat belts as prescribed in Schedule I;
- be permitted to have factory fitted ABS (anti-lock brake) systems and SRS (supplementary restraint systems - airbags) disconnected or deactivated;
- be fitted with steering wheels which do not incorporate components made from wood, unless such a steering wheel is the retained original component or is fitted to a car of the 5th Category;
- where fitted with any storage vessel located within the cockpit containing more than 500ml of hot liquid, other than a series heater core, have such vessel enclosed in a fully sealed, externally vented compartment; and
- where fitted with rigid brake pipes have such rigid brake pipes made of steel ['Bundy' tubing or equivalent], unless they are automobiles of the 5th Category which were originally fitted with heavy-duty copper brake pipes and retain such as original components; in which case they must be installed in a manner which protects them against vibration and damage.

## Schedule B

### ALL AUTOMOBILES (EXCEPT SUPERKARTS) SHALL, OF NECESSITY, IN ALL SPEED EVENTS:

- be fitted with at least two independent fastening systems, of adequate strength and limited extensibility, which simultaneously hold the bonnets or panels closed.  
In other than races, registered production cars manufactured after 1 January, 1973, and other cars as explicitly approved by CAMS may utilise the original, unmodified manufacturer's components for securing the bonnet, without the use of a secondary restraint mechanism;
- (if fitted with crankcase breather/s discharging to atmosphere) have fitted to such breather/s an oil-trap container (which must be empty at the start of the competition) of at least two litres (for cars of under 2000cc) or three litres (for cars of over 2000cc) except in Autocross, Rallycross and other events on unsealed surfaces, save however, that Supplementary Regulations may require fitment for any particular event;
- be fitted with a roll bar or roll cage and safety harness complying with such specifications as are determined by CAMS from time to time (see Schedules J and L);
- be fitted with a fire extinguisher or fire extinguishing system in working order and of a type and capacity as specified in Schedule H as is appropriate;
- be so constructed that, in the event of any breakage, any longitudinal tailshaft, its components or mountings shall be effectively prevented from striking the ground;
- be fitted with wheels which meet the specifications determined by CAMS from time to time (see Schedule E);
- be so constructed that any aerodynamic device fitted is in accordance with specifications determined by CAMS from time to time (see Schedule F);
- comply with any Supplementary Regulations for a specific event which requires the fitment of locking or wiring devices adequate for the prevention of any loosening of any oil drain plug;
- be fitted with a scatter shield if required under the provisions of Schedule M;
- on each throttle, whether butterfly, slide or other type, be fitted with a return mechanism which in the event of the throttle linkage becoming detached will in all cases return each throttle to the closed position;
- with the exception of vehicles manufactured prior to 31 December, 1973, and fitted with the manufacturer's original specification braking

system, be fitted with a double circuit braking system so arranged that the pedal normally operates on the four road wheels and, in the event of leakage at any point in the braking system, the pedal shall still control two wheels on the same axle. Provided that in "straight-line" Sprint Events, and in events exclusively for historic or vintage cars, braking systems operating on two wheels of the same axle shall be acceptable;

- be fitted with an operable reverse gear; and
- (for other than 1st Category vehicles) be fitted with an exhaust system the outlet pipe/s of which shall be directed either rearwards or sideways. If rearwards, their orifices shall be between 100mm and 450mm above the ground and they shall not protrude by more than 150mm beyond the rearmost portion of the car. If they are directed sideways, their orifices must be located aft of a vertical plane passing through the midpoint of the wheelbase. They may neither project in any way beyond the maximum width of coachwork nor terminate at a point more than 50mm within the projected plan of the adjacent coachwork. Adequate protection shall be provided to prevent heated exhaust pipes from causing burns;
- have, on the external coachwork, a blue triangle of sides 150mm, which indicates the position of the battery;
- be fitted with a flame- or liquid-proof bulkhead, which may be of transparent material, which effectively separates the compartment occupied by the crew from any component of the fuel tank or re-fuelling system;
- for races and multi-start speed events, all external forward facing glass components, save for the windscreen shall be covered by a transparent adhesive film, which shall effectively inhibit broken glass from being spread on the track. In all cases, light emitted from the head lamps must not be red; and
- be configured so that, when measured in competition conditions at 30m from the track edge, the sound emission from the vehicle does not exceed 95dB(A) unless specifically approved otherwise.

Notwithstanding the above requirements automobiles registered for road use shall not, when competing in Single- and/or Multi-car speed events (not racing), be required to comply with the provisions of sub-sections 2, 3, 5, 8, 9 and 11 of this Schedule.

## Schedule D - Apparel

### 1. HEADGEAR

**NOTE:** Events which are entered on the FIA International Sporting Calendar have restricted standards for allowable helmets. Standards approved by the FIA for international competition are accepted by CAMS for domestic competition.

It is compulsory, in all races, speed events and in other events where helmets are required, that drivers wear helmets of a standard design, construction and fitting approved by CAMS.

Helmets not marked as complying with the approved standard may be approved by CAMS under certain conditions..

In kart races, it is compulsory for drivers to wear a full face helmet.

Helmets bearing any of the following marks are approved for use in racing, speed events, special stage rallies and other events where helmets are required and the event is not entered on the FIA International Sporting Calendar:

AS1698	Australian standard
Snell SA95, SA2000, SA2005	USA standard
SFI Spec 31.1, 31.2, 31.1A, 31.2A	USA standard
SFI Spec 24.1 - see Note (i)(d)	USA standard
E22 (with 03, 04 or 05 amendments)	European standard
BS 6658-95 Type A and A/FR (incl. amendments)	British standard
8860-2004	FIA standard

### NOTES:

- Helmets permitted for events entered on the FIA international sporting calendar, or events organised under the authority of an ASN other than CAMS, will be restricted to those specified in FIA Technical List 25 (see [www.fia.com](http://www.fia.com)).
- No helmet may be modified from its specification as manufactured except in compliance with instructions approved by the manufacturer and one of the standards organisations listed above, which certified the model concerned. Any other modification will render the helmet unacceptable for the requirements of this regulation.
- The fitment of tether posts for a HANS® device must only be done in accordance with the helmet manufacturer's guidelines, and only on helmets approved for the purpose. See FIA Technical List 29.  
All helmets fitted with HANS® tethers must also bear a HANS® Approval label, issued either by the FIA or CAMS.  
® HANS is a registered trademark of Hubbard Downing Inc.
- SFI 24.1 helmets may be used only by Junior Licence holders as defined under the General Regulations, Section 2 of this Manual.
- The FIA has advised that communication systems in helmets must have been tested with that model of helmet for standard assessment. Any subsequent additions or modifications to facilitate communication or breathing devices may invalidate helmet certification.

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\* As of 1/10/05

Standard Requirements

## Schedule C

Schedule C is published in Section 7.

# WE STAND FOR SAFETY AND QUALITY....

## YOU SHOULD ACCEPT NOTHING LESS

From helmets to Hans® and suits to boots, experience the Stand 21 difference for yourself.

# stand 21®

Racerwear

302 New Street Brighton VIC Australia 3186  
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s t a n d 2 1 . c o m . a u

- (iii) Decoration of helmets is potentially dangerous, and members are warned of the hazard of using paint on approved helmets. Paint, stickers and transfers, or surface treatments can react with helmet shell material and affect its protective capacity, therefore, where a manufacturer provides guidelines or restrictions on the painting or decoration of helmets, these must be followed, using only paint or surface treatment specified by them (eg, air drying acrylic, polyurethane enamel or others) and preferably a painter having their approval. This is particularly important for injection-moulded shells which are not usually suitable for painting.

The shell being painted should be efficiently masked as paint penetrating the interior can affect the performance of the helmet liner.

Paints requiring heat curing should not be used and any process should not exceed the maximum temperature of conditioning of the helmet in the standard to which it is approved.

The manufacturer's instructions should also be consulted for any considerations on the use of stickers and transfers.

- (iv) Drivers are cautioned against using helmets which have been damaged or involved in accidents.

### 2. GOGGLES

Goggles or visors must be worn by drivers of open cars. Those with glass lenses of any kind are not acceptable. Lenses shall be of a plastic material, with high-impact resistance, satisfactory optical qualities and complying with

Australian Standard Specification AS 1609-1981, BS4110Z or equivalent international standard.

**NOTE:** Goggles must be configured so as to minimise the entry of dust into the eye from any angle, and be positively retained by an elastic strap behind the head or helmet. Conventional style glasses are not acceptable.

### 3. CLOTHING

- (i) **Races:** In all circuit races and practice therefore, all drivers shall be required to wear overalls homologated to the FIA 1986 standard, or FIA 8856-2000 standard, as well as socks, shoes and gloves which respect the design parameters set out in those standards. Copies of these standards are available at CAMS State offices.

**NOTE:** The wearing of apparel, including underwear and balaclavas complying with the 8856-2000 Standard is mandatory in any event entered onto the International Calendar and is strongly recommended for all other events.

- (ii) **Superkart Races and Practice:** In all Superkart races and practice, drivers must wear:
- a one- or two-piece abrasive-resistant race suit which is securely fastened at the wrists and ankles, and at the waist on two-piece suits. In the 250cc classes, the suit must be of leather. For all other classes, the material may be leather, cordura, or cordulon;
  - footwear, securely fastened which covers and protects the ankles;
  - abrasive-resistant gloves that cover and protect the hands and wrists (including the fingers).

**NOTE:** Superkart drivers may wear appropriate wet weather clothing in addition to that specified. It is recommended that acoustic ear plugs be worn.

- (iii) **Pit Crew:** All persons working on cars must wear shoes and socks, neck to ankle covering, and at least a short sleeved shirt. On race day, pit crew must be neatly attired. Promoters are authorised to refuse entry to the pit area of people unsuitably dressed.

In races where refuelling operations are permitted, any persons involved in such operations or who are working within one metre of the refuelling or venting points must be attired in the following:

- One-piece overalls of flame-resistant materials extending from neck to wrists to ankles. Where such overalls consist of a single layer of material, separate flame-resistant underwear extending from neck to wrists to ankles must also be worn.
- A flame-resistant balaclava which covers the entire head and neck save for one or two eye openings, unless a helmet providing a similar level of protection is worn.
- Goggles which cover all exposed areas of skin not covered by the balaclava, or a full face helmet and visor.
- Shoes of leather or other flame-resistant materials which completely cover the feet and which fit closely around the ankle to minimise the ingress of spilt fuel. The soles must be

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resistant to fuel.

- Those directly handling fuel shall require socks and gloves which comply with the requirements of the FIA 1986 or 8856-2000 standard.
- (iv) **Speed Events:** In speed events, clothing for drivers and crew members must be from ankles to neck to wrists. Clothing and footwear of flammable synthetic material, such as nylon, is not acceptable.
- (v) **Rallies:**

(a) **International Events:** Apparel conforming to the FIA prescriptions shall be worn by crew members in all international events, save where CAMS requirements are in excess of such prescriptions, in which case the CAMS requirements will take precedence. NOTE: In international championship events (eg. Rally of Canberra and Rally Australia), the use of FIA 8856-2000 standard apparel is compulsory. Refer FIA Appendix L, Chapter III, Drivers' Equipment for further information.

(b) **Australian Rally Championship & Tarmac Rally Events:** During all special stages, crew members are required to wear a helmet which complies with the provisions of Schedule D. In addition, flame retardant driving suits, a separate balaclava, T-shirt and underwear of cotton, wool or a material complying with ISO 6940 or ISO 15025:2000, and

flame-retardant boots and socks, worn as their manufacturer intended during all competitive stages, are the minimum apparel requirements for both crew members.

The use of flame-retardant apparel which has been homologated by the FIA in compliance with FIA 1986 or FIA 8856-2000 standard is strongly recommended.

- (c) **Australian Rally Championship Piggyback Competitions:** Where a CAMS-recognised series and/or Classic special stage piggyback competition is run in conjunction with an Australian Rally Championship round, all competitors in such competitions shall be required to wear apparel complying with (b) (above).
- (d) **Other Road Events incorporating Special Stages:** During all special stages, crew members are required to wear a helmet which complies with the provisions of Schedule D. All crew members must wear clothing from ankles to neck to wrists during all special stages. Clothing of flammable synthetic material, such as nylon, is not acceptable. The use of apparel complying with (b) (above) and/or a suit of flame retardant material, which has been homologated by the FIA, is strongly recommended.
- (e) **Non-Special Stage Rallies:** During all competitive sections, crew members are required to wear a helmet which complies with the provisions of Schedule D. All crew members must wear clothing from ankles to neck to wrists during all competitive sections. Clothing of flammable synthetic material, such as nylon, is not acceptable. The use of apparel complying with (b) (above) and/or a suit of flame retardant material, which has been homologated by the FIA, is strongly recommended.
- (f) **Touring Road Events:** For Touring Road Events, crews will comply with the provisions of the relevant sub-event requirements; of the equivalent status (refer NCR 15, Schedule D and the Touring Road Event Standing Regulations).
- (g) **Other Road Events:** For Touring Assemblies and the like which do not involve performance driving, clothing appropriate for the conditions likely to be experienced, which is in line with community standards, shall be worn.
- (h) **General (applicable to all rally events):** All apparel must be worn as the manufacturer intended. No driver shall participate in any competition unless wearing suitable and appropriate footwear. Prohibited are, for example, thongs, Roman sandals and high-heeled shoes.

- (vi) **All Events:** No driver shall participate in any competition unless wearing suitable and appropriate footwear. Prohibited are, for example, thongs, Roman sandals and high-heeled shoes.

Drivers shall continue to comply with the requirement of NCR 141 until such time as they leave their automobiles.

- (vii) **Badges and embroidery:** The attachment of badges and use of embroidery on competitors overalls can have a detrimental effect on the protection afforded by the garment.

(a) **Badges:** For apparel complying to the FIA 8856-2000 Standard, it is mandatory that all badges attached to the garment have a flame-resistant backing, and be attached only with flame-resistant thread to the outer layer of the garment only. For all garments the number and size of badges should be kept to the minimum required to meet commercial and regulatory obligations.

(b) **Embroidery:** For apparel complying to the FIA 8856-2000 Standard, it is mandatory that all embroidery be done using flame-resistant thread. Embroidery is only permitted to the outer layer of the garment. This is strongly recommended for all apparel.

**Note:** All members are advised that the use of apparel to the FIA 8856-2000 standard may be introduced progressively at some future time. Members are advised to take this into consideration when making purchases of apparel.



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Standard Requirements

## Schedule E – Wheels and Tyres

The following requirements and parameters apply to all competitions.

### 1. RIM WIDTH

**1st Category: Racing Cars**  
**2nd Category: Sports Cars (Group 2A) and cars complying with Group 2C Formula.**

Where a steel centre is employed, the width of any rim attached thereto shall not exceed the following:

- cars up to 2000cc capacity and Supersports: 8.5"
- cars over 2000cc capacity: 10"
- if a steel centre is not utilised, the width is unrestricted.

**2nd Category: Other Cars**  
**3rd Category: Touring Cars**

- (i) where a steel wheel centre supplied by a vehicle manufacturer as original vehicle equipment is employed, any rim attached to such centre shall not be more than 2" wider than the rim originally fitted to such centre.
- (ii) wheels and steel centres other than those supplied by a vehicle manufacturer as original vehicle equipment may not be widened.

### 2. TYRES

- 2.1 Tyres fitted to all rims shall be in accordance with the Tyre and Rim Association recommendations.
- 2.2 Tyres not listed in the Tyre and Rim Association Manual are to be subject to certification by the manufacturer as being suitable for the rim width concerned.

- 2.3 The tread wear indicators as provided by the relevant tyre manufacturer will be the definitive method of determining minimum tread depth. At no time prior to any official practice or racing may the tread wear indicators be exposed or, in those cases where the tread wear indicator is a dimple in the tyre, worn below such indicator. This does not apply to the shoulder of the tyre where excessive wear may occur due to steering and cornering.

Tyres may be checked by an official in the marshalling area prior to the start of any practice session or race. Any vehicles found not to comply with these regulations may not be permitted on to the circuit.

### 3. WET WEATHER TYRES

- 3.1 Clerks of Course may, after consultation with the stewards and at an appropriate time, announce that "untreaded tyres are not to be used until further notice".
- 3.2 Championship and long distance races will be subject to special decisions. If a specific order is to be made, it will be that the race will commence on treaded tyres. Competitors would thereafter be free to change. This order will be made in respect of those races if:
  - (i) it is raining at the start, and the track is wet, or
  - (ii) it is not raining at the start but the track is "running" with water over the greater part of its length.

### 4. CONTROL TYRES

Where specific tyres, otherwise known as control tyres, form part of a formula, those tyres are as much a part of the formula as is everything else which describes the car.

Specified control tyres may not be modified, other than by reduction of tread depth.

In all competitions in which the car is entered under a specific formula, those control tyres must be used.

If the car is not competing in a particular formula, but only as a "racing car", then the competition must be assumed to be for cars of Formula Libre, and control tyres are then not required.

The provisions of this Article, whilst specifically referring to control tyres, which are traditionally one make/model of tyre used in a given application for a number of cars in a single class, also extend to those classes and categories where a limitation is placed on the types or make/ models of tyres which are permitted to be used. Examples given are: Group 3E Production Cars, Historic Group N cars.

It is reiterated that in these classes, the permitted range of tyres to be used by a competitor form as much a part of the Technical Regulations as do the actual regulations themselves and any restrictions to modifications of tyres stated or implied in Article 4 of Schedule E also apply to those classes.

### 5. TYRE PRESSURE CONTROL VALVES

Tyre pressure control valves on the wheels are forbidden.

### 6. WHEEL SPACERS

Any spacer/track extender fitted between a wheel and its corresponding hub must be either affixed to the wheel or hub, or otherwise located to prevent its movement relative to the hub or wheel.

### 7. NON-SAFETY RIMS

Tyres fitted to rims which do not have safety beads must be fitted with separate inner tubes.

## Production Car Tyre List

Manufacturer	Tyre	Manufacturer	Tyre	Manufacturer	Tyre
Bridgestone	RE 540S, RE55	Hoosier	Street TD	Silverstone	FTZ Sport Type RR
Continental	Conti Competition C1	Kumho	Ecsta V700	Toyo	Proxes RA-1, Proxes R888
Dunlop	Formula R (D83J,D84J, D93J, D01J, DZ02G), Formula 901, Formula W10, SP Super Sport Race	Ohtsu	Falken Azenis, Azenis RT215	Yokohama	A021R, A032R, A038R, A039R, A048R
		Pirelli	P Zero C, P Zero Corsa		

New tyres to be added to this list shall be generally and commercially available from stocks normally kept within Australia. CAMS reserves the right to remove tyres from this list at any time.



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## Schedule F – Aerofoils and Coachwork

The following are the CAMS (and FIA) parameters regarding the fitting of aerofoils and other aerodynamic devices to cars.

- For all vehicles (1st, 2nd, 3rd, 4th and 5th Categories) coachwork shall be deemed to include all external parts of the car which extend above the highest point of either the front or rear complete wheels (with tyres) with the exception of units definitely associated with the functioning of the engine or transmission and the roll bar.

Any specific part of the car which has an aerodynamic influence on the stability of the vehicle must be mounted on the entirely sprung part of the car and shall be firmly fixed whilst the car is in motion.

Neither the roll bar nor any of the units associated with the functioning of the engine or transmission shall have an aerodynamic effect by creating vertical thrust.

All external projections swinging in a horizontal plane shall have a minimum radius of 15mm. The leading edge of any aerofoil fixed to the front of the car shall not be sharp.

Switches for battery isolation and fire fighting equipment may project beyond the coachwork without infringing regulations.

### 2. 2ND CATEGORY

Vehicles shall comply with the following requirements (except for cars which comply with Group 2C Regulations):

The highest point of any forward facing gap in the coachwork shall not be situated above a horizontal plane 800mm above the lowest point of the entirely sprung structure of the car. The maximum width of coachwork shall not exceed by more than 200mm the maximum width between the two vertical planes tangent to the outer faces of the front/rear wheels.

### 3. 1ST CATEGORY

Vehicles shall comply with the following requirements:

- No element of coachwork may exceed in height a horizontal plane situated at 900mm above the ground. Neither the roll bar nor any of the units associated with the functioning of the engine shall be included. Measurements are to be taken with the driver on board.
- Cars of a type registered at 1 January, 1975, but constructed after 1 July, 1975; and cars of a type not registered at 1 January, 1975, but constructed after 1 January, 1976; and cars registered at 1 January, 1975, but which have subsequently been substantially varied; must all comply with the following requirements:

Table for Art. 3.2

	F4000	F2	F/FORD
• Maximum width ahead of front wheels	1,500mm	1,500mm	950mm
• Maximum width ahead of front wheels, above height of wheel rims	1,100mm	1,100mm	950mm
• Maximum width between front and rear wheels + deformable	1,300mm	1,100mm +200mm	1,300mm
• Maximum width behind rear wheels	1,100mm	1,100mm	1,100mm
• Maximum front overhang		1,000mm	
• Maximum rear overhang (from centre of wheel/axle)	800mm	1,000mm	

- Wheels shall be external to the coachwork.
- Unless otherwise specified in technical regulations the coachwork opening giving access to the cockpit must be at least 600mm long; and 450mm wide, maintained over 300mm from the rearward point of the seat backrest towards the front. It must be able to be entered or left

without it being necessary to open a door or remove a panel. Sitting at his steering wheel the driver must be facing forwards. Moreover, the cockpit must be so conceived that the maximum time necessary for the driver to get out does not exceed five seconds.

## Schedule G – Fuel

### 1. GENERAL

Unless expressly permitted otherwise by the Board of CAMS, all fuel used in any competition must comply with the prescriptions shown in the present Schedule. It must be

used without any additives other than those permitted in Article 7. The mixing of fuels from different oil companies, or of different grades and/or types of fuel from the same oil company is expressly forbidden, other than for Pump Fuel

as specified in Article 3.

Unless expressly recommended by the Fuels Regulation Committee (see Article 8) and approved by the Board of CAMS, no restriction to fuel shall be authorised beyond the requirement:

“Fuel must be in compliance with the prescriptions of Schedule G”.

### 2. COMMERCIAL FUEL

“Commercial Fuel” is defined by CAMS as being either petrol, automotive diesel or liquefied petroleum gas (LPG) produced by an oil company and available for unrestricted commercial sale in all States and mainland territories of Australia. Such fuel shall be in compliance with the relevant Fuel Standards Determinations made under Section 21 of the Fuel Quality Standards Act (2000).

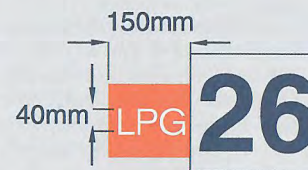
Fuel the subject of Approvals made under Section 13 of the Fuel Quality Standards Act (2000) shall not be regarded as Commercial Fuel for the purposes of the present Article.

- Pump Fuel:** A commercial petrol as defined in Article 2 and available for sale on demand from a service station pump at each of at least five separate service stations in each of at least three Australian States. Mixtures of Pump Fuels are permitted.

### 3. ALTERNATIVE FUELS

- Liquefied Petroleum Gas:** A commercial LPG being either butane, propane or a mixture of both, and of a type which is dispensed from a service station pump. Where a vehicle utilises LPG, a sign in the form of the white letters LPG on a red reflective background, as per drawing G-1, must be placed immediately to the left and centralised vertically to all competition numbers.

Unless specifically approved otherwise by CAMS, LPG must not be used in circuit races involving re-fuelling.

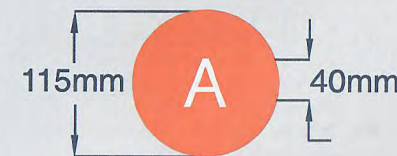


Drawing G-1

- Diesel:** Diesel fuel must be gas oil corresponding to the following specifications:
  - hydrocarbon level, 99.0 % by weight minimum
  - specific gravity, 860 kg/m<sup>3</sup> maximum
  - cetane number 55 maximum (ASTM D 613)
  - calculated cetane number 55 maximum (ASTM D 976-80).
- RACING FUEL**
- Leaded Racing Fuel:** Leaded racing fuel is defined

as a leaded petrol which is supplied by an oil company and having a composition the same as that supplied for piston engine general aviation use, ie, Avgas 100/130 or Avgas 100LL only.

- Unleaded Racing Fuel:** Unleaded racing fuel is defined as an unleaded petrol in compliance with FIA Article 252.9.1 of Appendix J to the current FIA Year Book.
- ALCOHOL**
- Alcohol fuels may only be used where specific regulations permit.
- For vehicles other than 5th Category, such fuels must contain a minimum 95% V/V of methanol and/or ethanol and a maximum 5% ketone content. Nitromethane is expressly prohibited.
- For individual vehicles of the 5th Category, specific alcohol based fuels with a constitution other than as described in 5.1 above may be approved; the constitution of such fuels shall be listed on the Certificate of Description of the particular vehicle in question and must be used unadulterated in that vehicle.
- In all these cases, it is mandatory that cars using alcohol fuels carry a symbol in the form of the letter “A” in white on a red circle of approximately 115mm diameter as shown in drawing G-2 below. This symbol should be placed adjacent to the competition number on each side of the car, and the filling cap of the fuel tank.



Drawing G-2

### 6. OXIDANTS

Only air may be mixed with the fuel as an oxidant. The use of Nitrous Oxide is strictly prohibited.

### 7. ADDITIVES

An additive is considered to be any substance, other than air, added to the fuel subsequent to its purchase from the producing oil company or recognised distributor. Nothing in the foregoing shall be deemed to prohibit the addition of water, an approved lead replacement additive\* or a lubricant provided that such additive does not increase the octane rating, oxygen content or specific heat content of the fuel.

**List of Approved Lead Replacement Additives:**  
Valvemaster®, Redline Lead Substitute®, Penrite Valve Shield®, PM 800 Fuel System Conditioner®, Elf Millesim®.

## 8. FUELS REGULATION COMMITTEE

- 8.1 Appointment:** The Fuels Regulation Committee has been established by the Board of CAMS for the purpose of considering the application of restrictions to fuel usage. The Chairman and Committee members shall be appointed annually by the Board. Recommendations from the Committee shall be passed to the Board for consideration.
- 8.2 Application for Restrictions:** Requests for restrictions to fuel usage may only be addressed to the Committee by:
- 8.2.1** Sporting Commissions of CAMS;
  - 8.2.2** The holders of valid Activity, Series or Championship Management contracts;
  - 8.2.3** Persons or organisations recognised by CAMS as representing particular Groups of vehicles;
  - 8.2.4** Event organisers.
- 8.3 Criteria for consideration of Restrictions to Fuel:** The Committee will consider the following criteria in making their recommendation:
- 8.3.1 The nature and level of the competition:** Is the competition at amateur or professional level, and will the type of fuel play a major role in the outcome of the competition?
  - 8.3.2 Applicability of Government regulations:** Are there statutory restrictions that would affect the fuel used in competition?
  - 8.3.3 Availability of fuel:** Is there a particular supply issue affecting the competition?
  - 8.3.4 Technical appropriateness of fuel:** Does the nature of the fuel restriction sought match the technical specifications of the cars?
  - 8.3.5 Cost containment:** Is the request for a restriction for fuel, based on cost containment, consistent with other cost containment philosophies of the competition?
  - 8.3.6 Health and safety:** What effect will any restriction have on OH & S issues?
  - 8.3.7 Performance criteria:** What effect will a restriction have on performance relativities within the competition?
  - 8.3.8 Commercial considerations:** What commercial arrangements may form part of any restriction to fuel (eg, sponsorship, rebates, promotion etc)?
- Further information on these criteria is available from the Executive Officer, Fuels Regulation Committee, at the CAMS National Office.
- 8.4 Restrictions:** The Committee will consider requests for restrictions to:
- 8.4.1 Nominated Suppliers:** In general, a "Control Fuel", being a restriction to a particular brand and/or type of fuel, will not be authorised (see NCR 68). Notwithstanding the above, a contract between the competition organisers and a particular fuel supplier may be recognised provided that such a contract is the outcome of an open tender process. Where such a fuel is supplied to the competitors it is prohibited

to alter the composition of the fuel in any manner, including by the use of additives otherwise permitted under Article 7.

- 8.4.2 Fuel supplied by the Organisers:** A restriction may be sought to limit fuel used by all competing vehicles at an event to "Fuel supplied by the Event Organisers". Such a restriction will not be granted unless the organisers can demonstrate that they have taken reasonable steps to ensure that appropriate grades of fuel are available to suit all competing groups of vehicles.
- 8.4.3 Commercial Fuel:** As defined above.
- 8.4.4 Pump Fuel:** Restrictions to pump fuel will be obtainable to a limited number of competitions that can strictly satisfy all the criteria of article 8.3 above. A restriction to pump fuel will not be authorised in conjunction with any other type of fuel (eg, a restriction to pump fuel and leaded racing fuel).
- 8.4.5 Racing Fuel:** Where a restriction to racing fuel is sought, an additional restriction to unleaded racing fuel may also be approved. In general, restrictions to leaded racing fuel only will not be authorised for other than competition solely for 5th Category vehicles.

## 9. FUEL TESTING

Fuel samples may be drawn for testing from a competing vehicle at any time during the period of time from the commencement of the event until the vehicle is released from parc fermé at the conclusion of the event, should one be organised.

*It is the competitor's responsibility to provide the means by which fuel samples may be taken from the vehicle; the method being subject to the approval of the Chief Scrutineer. Sampling requiring the disconnection of hoses containing fuel under pressure is not acceptable under any circumstances.*

Whilst the fuel samples for testing are being taken, the competitor, or his/her nominated representative must be in immediate attendance to observe the process. Where the competitor or his/her nominated representative cannot be present within a reasonable time, the Chief Scrutineer must notify the Stewards of the Meeting, who shall appoint a proxy observer, being an official of the meeting, who shall act as the nominated representative of the competitor.

Samples shall be tested according to procedures A or B below.

**Test Procedure A: Testing at the Event**

The Chief Scrutineer may choose to test fuel samples at the event. To this effect, one sample of fuel may be taken for testing under the conditions outlined above from each or any competing vehicle. The competitor may, at his/her discretion, request a second sample be drawn at the same time. After being duly

identified and sealed, this second sample may be retained by the competitor\*\*.

Testing at the event shall be limited to:

- physical observation of the sample (colour, smell, opacity)
- testing using whatever specialist equipment is available at the event (eg, electrical conductivity, density, gas chromatography etc)

Where a charge is raised as a result of such testing, the Chief Scrutineer or his representative shall give evidence at the subsequent Stewards Hearing or Inquiry, although they shall not be accorded the status of "Judge of Fact". Notwithstanding this, the Stewards shall be obliged to take into consideration any evidence thus presented.

\*\* The competitor may use the retained sample in his/her defence provided that the seal of the sample retained by the competitor is broken in the presence of the Stewards of the Meeting. Where the scrutineers deem that no action is necessary, the container holding the competitors sample shall be returned by the competitor to the scrutineers upon request.

### Test Procedure B: Testing by a CAMS-approved Laboratory

Each year, CAMS shall, by means of a Bulletin, publish a list of approved laboratories for the testing of fuel.

For tests by an approved laboratory, two fuel samples shall be drawn and sealed into identified containers. The seal on each container shall be affixed in such a way as to ensure the rupture of the seal upon the opening of the container. Each seal shall bear identification of the event, the name and signature of the scrutineer taking the sample and the name and signature of the competitor. The samples (Samples A and B) shall then be sent to CAMS, which shall send Sample A to a CAMS-

approved laboratory. The determination of fuel type and composition shall be by comparison against a reference library of results for known fuel types determined by the method ASTM D-3710-95 (or equivalent).

Where the approved laboratory notifies CAMS that sample A has been found to be not in conformity with the prescriptions contained herein, CAMS shall lodge sealed fuel sample B with the same approved laboratory. Where the results of the second test sample B corroborate the initial determination of Sample A, the fuel shall be deemed to be not in conformity with the prescriptions of the present Schedule. This finding shall be binding on any Stewards Hearing, Appeal Tribunal or any subsequent AMSAC Hearing. Where a discrepancy exists between the results of samples A and B, no action shall be taken against the competitor. **Note:** There are special conditions associated with the transport and handling of flammable liquids. Contact CAMS to ascertain an appropriate method of transporting the fuel.

## 10. HEALTH WARNING

All participants in motor sport are reminded that fuels, oils, lubricants and coolants are highly specialised substances. Apart from the ever-present risk of fire, participants must be aware that these agents may contain substances that are extremely dangerous to one's health if misused, inhaled or allowed into contact with human skin. Some of the components of these fuels, oils and lubricants are suspected of having the potential to cause cancer in rare instances. The use of petrol as a general cleaning and washing agent is a common misuse of a potentially dangerous substance..

## Schedule H - Fire Extinguishers (not applicable to Karts)

1. All racing cars of Formula 4000 and Formula 2 (when competing in circuit races only) shall be required to be fitted with a fire-extinguishing system of at least 5kg extinguishant capacity, at least half of which must be placed forward of

the engine, but to the rear of the foremost pick-up points of the front suspension.

The system must include a manual triggering device, operable by the driver on board or by a helper outside the vehicle, the location of which

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must be indicated by a letter "E" in a red circle. The direction of the outlet/s of the extinguishant is free.

The operating system must be designed so that even if the battery of the car is inoperative, the extinguisher will still function.

2. In other than circuit races, all cars mentioned in 1 (above), and in all competitions, all other 1st Category vehicles must be equipped with at least a fire extinguisher as required in 3 (below).

### 3. SPEED EVENTS, RACES AND DRIFTING

All vehicles of the 2nd, 3rd, 4th, 5th and 6th Categories in all speed events including races must be equipped with a fire extinguisher which complies with the following conditions and is properly fitted at a suitable location:

- (i) it must comply with Australian Standard 1841 (save that extinguishers which meet AS1841.2 are not permitted). **Note** that Halon extinguishers (1201 or 1311, including BCF) are not permitted under civil legislation;
- (ii) it must be of at least 900g capacity;
- (iii) it must remain restrained under an acceleration of 25G;
- (iv) it must be capable of removal by the driver without the aid of tools.

The fitment of an "on-board" extinguishing system homologated by the FIA shall be acceptable as an alternative to the fitment of a separate extinguisher.

### 4. ROAD EVENTS

- (i) **Hand-held extinguishers:** All cars must be fitted with one or two fire extinguishers, which must meet the following criteria:
  - The extinguishant must be: AFFF, Dry Powder or other extinguishant permitted by the FIA.
  - The minimum capacity of the total of the two extinguishers must not be less than:
 

AFFF	2.4 litres	
	pressure	12.0 bar
		(or as otherwise determined by the FIA)
Dry Powder	2.0kg	AS1841.5
  - Each AFFF extinguisher must be equipped with a means of checking the pressure of its contents.
  - The following information must be visible on each extinguisher:
    - capacity
    - type of extinguishant
    - weight or volume of the extinguishant
    - date on which the extinguishant must next be checked, which must be no more than two years after the date of the last filling or the date of the last check
- (ii) **Plumbed-in extinguisher systems:** In addition to the above extinguishers, PRC Rally Cars and Groups A and N Rally Cars are to be equipped with a plumbed-in fire extinguisher system, homologated by the FIA, in accordance with the following:

#### (a) for ARC events:

All vehicles, regardless of date of manufacture, except as provided for in this sub-regulation.

Drivers competing in their home State\*, in vehicles manufactured prior to 1 January 2000, shall be exempt from this requirement.

The extinguisher system must comply with the specifications either in force at 1 January 2001 or in force on the date of issue of the vehicle log book, whichever is the later.

#### (b) State Championship events or other major rallies, other than ARC:

All vehicles whose original date of manufacture is post-1 January 2000\*\*.

- (iii) **International events:** All cars being used in International events must comply with the FIA requirements for fire extinguishers.

\* **Note:** Where, in a particular year, there is no round of the ARC in a driver's home State, a driver may nominate an adjoining State to be his home State.

\*\* **Note:** This date refers to the original date of manufacture of the vehicle, and not the date on which it was built as a rally car.

5. Fire extinguishers as per 3(i) and 4(i) above must be maintained according to the following prescriptions:
  - an inspection, to be carried out by scrutineers at least once every six months, or otherwise prior to competition. This involves visually checking the unit and its mountings for damage, checking the pressure of the contents, and shaking the container to check for settling of the extinguishant. Where practical the extinguisher should be weighed
  - a three-yearly service, which involves recharging the extinguisher (Notes 1 & 2 below)
  - a six-yearly hydrostatic test of the pressure vessel (Note 2 below)

**Note 1:** Unless otherwise specified, road registered cars competing in Club or Multi Club level speed events are exempt from this requirement.

**Note 2:** It is the competitor's responsibility to provide evidence that the required three- and six-yearly services have been undertaken.)
6. Fire extinguishers homologated by the FIA (plumbed-in type) should be serviced every two years, either by the manufacturer or their agent as follows:
  - Bottles should be examined for signs of corrosion, abrasion and paint finish. Should the service engineer decide that the bottle has been subject to corrosion or exhibits abrasions that may affect performance, the bottle should be discarded.
  - The bottle should be pressure tested to at least one and a half times its working pressure. Extinguishers with poor paint finish should be

refurbished. The interior of the bottle must also be inspected for signs of damage or corrosion.

- All seals should be replaced.
- The operating head should be cleaned and tested. If found to be faulty it should be either repaired or replaced.
- Nozzles should be checked for damage/possible

blockage. They should be tested to ensure that they are in good working order.

- Extinguisher contents should be replaced.
- Service records including the bottle label should be updated, indicating the date on which the service was undertaken, the work carried out and the date on which the next service is due.

## Schedule I - Safety Harnesses / Window Nets (not applicable to Karts)

### 1. GENERAL REQUIREMENTS

Safety harnesses or seat belts must be complete units sourced from a recognised manufacturer. It is not permitted to mix parts of seat belts/harnesses of different types or manufacturers. Safety harnesses or seat belts must be fitted and worn in accordance with any manufacturer's instructions or limitations, the requirements of the present Schedule and any such additional requirements as may be imposed by specific category, group and/or event supplementary regulations.

Each harness or belt must comply at least with one of the acceptable Standards as specified in Table 1 below.

### 2. APPLICATION

Safety harnesses and/or seat belts are required to be worn in all competition, save where otherwise specified for vehicles of the 5th Category. Safety Harnesses and/or seat belts must be fitted as specified in Table 2 below. Harnesses of a higher level than specified are permitted and encouraged.

**Important note:** Some safety harnesses and seat belts specified by CAMS may not comply with civil registration requirements. Where the vehicle is to be driven on open public roads, it is the competitor's responsibility to ensure that the vehicle complies with all relevant State and Territory legislation.

### 3. MOUNTINGS

The safety harness or seat belt must be securely mounted on at least two points (Type D), three

points (Types B and C) or 4 points (Type A). On cars derived from series production vehicles such mountings shall be positioned to provide compliance with the prescriptions shown in Drawings I-1 and I-2. If the two shoulder straps join prior to a common mounting point then that junction shall be at least 150mm behind the wearer's neck. In all cases of mounting the following must be observed:

- (a) On series production cars, some or all of the original seat belt mounting points may be satisfactory. Where the original seat belts are affixed to the seat, such mounting points may be used only:
  - (i) where the original unmodified mounting points on the seat are retained; and
  - (ii) the vehicle is being used for non-FIA International events.

Where the original mounting points are not used, additional floor mounting points must be reinforced with a 3mm steel plate of at least 75mm x 50mm on the underside of the body.
- (b) Full harness (Type A and B) rear mounting points must be to a substantial part of the vehicle's structure, reinforced as for floor mounts above, or to the roll cage.
- (c) Under no circumstances may a safety harness mounting bolt be used to affix a roll cage to the bodyshell.
4. In races and speed events all cars of 1st Category and Sports Racing Cars (Group 2A and 2C) must be fitted with a five- or six-strap harness (Type



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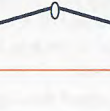
- Carbon Fibre buckle weighs 30% less than other buckles
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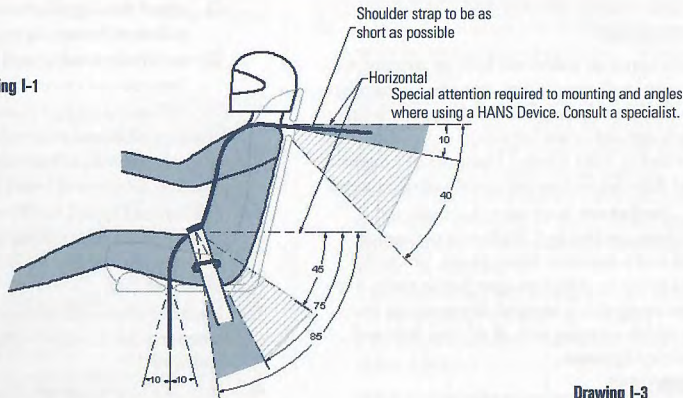
• NSW GMP Stockist: 02 9820 4255 • WA GMP Stockist: 08 9358 0050





TABLE 1

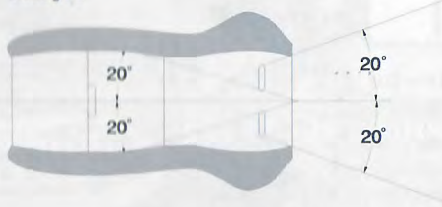
Type	Configuration	Acceptable Standards	Notes
A	6-Strap Harness 	FIA 8853/98 <sup>Note 1</sup> FIA 8853 - 1985 SFI 16.1 <sup>Note 2</sup>	<sup>1</sup> "Not valid after XXXX" shown on each strap. Harness not to be used after 31 December of the year stated (XXXX). This five-year life is imposed by the FIA.  <sup>2</sup> Harness to be returned to original manufacturer for re-webbing within two years of the date of manufacture shown on SFI label. This requirement imposed by SFI Foundation (inc).
	5-Strap Harness 		
B	4-Strap Harness 	FIA 8854/98 <sup>Note 1</sup> FIA 8854 - 1991 SFI 16.1 <sup>Note 2</sup> AS 2596 ECE R16	
C	Lap Sash Belt 	AS 2596 ECE R16 AS E35	Seat belts as fitted to production cars as standard equipment and marked as complying with ADR 4/00 or 4/01 shall be deemed as complying with AS2596
D	Lap Belt 	AS 2596 ECE R16 AS E35	

Drawing I-1



 Recommended range of angles for Safety Harness Belts  
 Acceptable range of angles for Safety Harness Belts. Note that the angles are taken from the driver's body, not the slots in the seats.

Drawing I-2



Shoulder harnesses on certain 1st and 5th Category vehicles may be best set perpendicular to the upper spine.

Drawing I-3

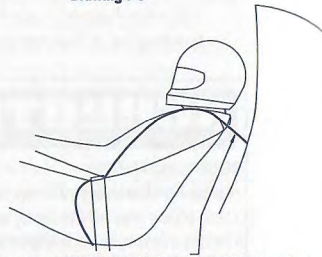


TABLE 2

Event Type	Event Permit Level	Type	Notes
Observed Section Trial or Motorkhana	All	D	
Khanacross	All	C	"Specials" only: Type B minimum
Speed Events* Drifting Events	Club, Multi-Club	C	
	State and Above	C	Registered closed cars
Races* - 1st Category - Group 2A/2C	All non International	A	Recommended for all vehicles with reclined driving position.
	International events	A	FIA 8853/98 only
Races* - Other vehicles	Club, Multi-Club	C	
	State	B	
	National	B	
Rallies	International	B	FIA 8853/98 and 8854/98 only
	Introductory	C	Where ROPS not Required.
	Other Non-National	B	Club, Multi Club, State
	National	B	
Other Road Events	International	B	FIA 8853/98 and 8854/98 only
	Touring Assemblies	C, D	Must comply with civil regulations
Off Road	Touring Road Events	C, D	Where ROPS not required
		B	During activities requiring ROPS
Off Road	All non International	A	
	International	A	FIA 8853/98 and 8854/98 only

\* Except 5th Category. For vehicles of the 5th Category whilst competing in events exclusively for the 5th Category, safety harnesses shall be of a type and configuration as specified in the specific group technical regulations.

A). In such vehicles the shoulder straps shall be mounted in compliance with Drawing I-3. It is recommended that all cars with a reclined driving position be fitted with such harness.

- Safety harnesses or seat belts of cars involved in any accident must be inspected by a scrutineer at the relevant meeting. If appropriate, the vehicle log book shall be endorsed with a requirement that the belts be replaced. The scrutineer at the car's next meeting must satisfy himself that the replacement has been made.

#### 6. WINDOW NETS

In races, closed vehicles which are required to have a roll over protection structure fitted will be required to have a safety window net fitted in the driver's door window opening. The window net must cover the opening forward to the centre of the steering wheel and be able to withstand a load of 500N applied at any point. The net may be locally modified to preserve the driver's view of the external mirror. It must be affixed by means of a rapid release system so that, even with

the vehicle inverted it must be possible to detach the mechanism with one hand. To this end, the handle or lever must have coloured markings. A push button release system is authorised provided that it respects the prescriptions of this article. The push button must be visible from the outside, be of a contrasting colour and be marked "press".

Cars fitted with a permanently closed shatterproof window on the driver's door that complies with strength requirements imposed above will be deemed to comply with the requirement for a window net.

**NOTE:** 5th Category vehicles, when competing in events exclusively for such cars are exempt from the requirement from Window Nets.

**ROLL OVER STRUCTURES**

**1. APPLICATION**

Roll over protection is required as follows.

- 1.1 **Races** all cars except:
  - (i) Road Registered, Closed Cars in Club or Multi-Club Level races; and
  - (ii) those in competition exclusively for the 5th Category unless otherwise specified in the relevant Historic Technical Regulations.
  - (iii) Notwithstanding Article 8 of these present regulations, a ROPS to at least Type 3 Full Roll Cage specification is required to be fitted to all closed vehicles in all National level races, save for the exemption in (ii) above.
- 1.2 **Truck Races:** as specified in Appendix A to the truck formula.
- 1.3 **State Level and above Speed Events:** all cars except cars of the 5th Category (unless otherwise specified in the relevant Historic Technical Regulations), closed cars which are road registered, or open cars that are road registered and incorporate some form of original equipment roll over protection.
- 1.4 **Off Road Events:** all Class 4, 5, 7 and 8 vehicles.  
NOTE: Classes 1, 2, 3, 6 and 9 must comply with the prescriptions of GR9, including the diagram "Regulated Tubes for all Buggies" on page 12-16.
- 1.5 **Rallies:** all cars in timed rallies/trials, other than Introductory events. Notwithstanding article 8 of these present regulations, a ROPS to at least

Type 3 Full Roll Cage specification is required to be fitted to all closed vehicles in all National level rallies and all tarmac rallies. An exemption to these requirements is provided for vehicles subject of a CAMS 5th Category (Historic) documentation (eg, CoD/ Temporary Permit to Compete), other than those issued with log books for Group C, Group N Historic Touring Cars and Group S. However, Historic vehicles must be fitted with ROPS in rallies if such would be required for the particular vehicle should it be entered in Historic-only circuit races, and ROPS shall be to at least the same specification as required in such a race.

- 1.6 **Other events:** as specified in the event Supplementary Regulations.
- 1.7 **Motorbathana:** As specified in Section 13, Group 4H.
- 1.8 **Entrants in events listed on the FIA International calendar** should make themselves familiar with any additional requirements for safety cages over and above the following that may be required for such competitions.
- 1.9 **Drifting:** Safety cages are mandatory for open cars and strongly recommended for closed cars.

**2. DEFINITIONS**

- 2.1 **Safety cage:** A structural framework designed to prevent serious bodyshell deformation in the case of a collision or of a car turning over.
- 2.2 **Roll bar:** Structural frame or hoop and mounting points.

- 2.3 **Roll cage:** Structural framework made up of a main roll bar and a front roll bar (or of two lateral roll bars), their connecting members, one diagonal member, backstays and mounting points. (For example, see drawings 253-3, 253-4 and 259-1.)
- 2.4 **Main roll bar:** Structure consisting of a near-vertical frame or hoop located across the vehicle just behind the front seats.
- 2.5 **Front roll bar:** Similar to main roll bar but its shape follows the windscreen pillars and top screen edge.
- 2.6 **Lateral roll bar:** Structure consisting of a near-vertical frame or hoop located along the right or left side of the vehicle. The rear legs of a lateral roll bar must be just behind the front seats. The front leg must be against the screen pillar and the door pillar such that it does not unduly impede the entry or exit of driver and co-driver.
- 2.7 **Longitudinal member:** Longitudinal tube which is not a part of the main, front or lateral roll bar and linking them, together with the backstays.
- 2.8 **Diagonal member:** Transverse tube between a top corner of the main roll bar or upper end of a backstay and a lower mounting point on the other side of the roll bar of backstay.
- 2.9 **Framework reinforcement:** Reinforcing member fixed to the roll cage to improve its structural efficiency.
- 2.10 **Reinforcement plate:** Metal plate fixed to the bodyshell or chassis structure under a roll bar mounting foot to spread load into the structure.
- 2.11 **Mounting foot:** Plate welded to a roll bar tube to permit its bolting or welding to the bodyshell or chassis structure, usually onto a reinforcement plate.
- 2.12 **Removable members:** Structural members of a safety cage which must be able to be removed.

**3. SPECIFICATIONS**

**3.1 General comments**

- 3.1.1 Safety cages must be designed and made so that, when correctly installed, they substantially reduce bodyshell deformation and so reduce the risk of injury to occupants.  
The essential features of safety cages are sound construction, designed to suit the particular vehicle, adequate mountings and a close fit to the bodyshell.  
Tubes must not carry fluids. The safety cage must not unduly impede the entry or exit of the driver and co-driver.  
Members may intrude into the occupant's space in passing through the dashboard and front side-trim, as well as through the rear side-trim and rear seats. The rear seat may be folded down.  
Longitudinally, the safety cage must be entirely contained between the top mounting points of the front and rear suspension that carry a vertical load (springs and suspension dampers).
- 3.1.2 **Basic safety cage:** Only roll cages must be used.
- 3.1.3 **Compulsory diagonal member:** Different ways of fitting the compulsory diagonal member: see drawings 253-3 to 253-5.  
The combination of several members is permitted.

- 3.1.4 **Optional reinforcing members:** Each type of reinforcement (drawings 253-6 to 253-17, 253-17A and 253-17C) may be used separately or combined with others. A forward brace as per drawing 6-5 may be used in open cars where there is only one occupant.  
Note: This means that roll cages may only be constructed in accordance with the drawings shown in this schedule. The use of reinforcements other than those shown will require the specific approval of CAMS through the CAMS Roll Cage Homologation process.

**3.2 Technical specifications**

- 3.2.1 **Main, front and lateral roll bars:** These frames or hoops must be made in one piece without joints. Their construction must be smooth and even, without ripples or cracks. The vertical part of the main roll bar must be as straight as possible and as close as possible to the interior contour of the bodyshell.

The front leg of a front roll bar or of a lateral roll bar must be straight, or if it is not possible, must follow the windscreen pillars and have only one bend with its lower vertical part. Where a main roll bar forms the rear legs of a lateral roll bar (drawing 253-4), the connection to the lateral roll bar must be at roof level.

To achieve an efficient mounting to the bodyshell, the original interior trim may be modified around the safety cages and their mountings by cutting it away or by distorting it. However, this modification does not permit the removal of complete parts of upholstery or trim. Where necessary, the fuse box and ECU may be moved to enable a roll cage to be fitted.

In open cars the roll bar must be a minimum of 50mm above the drivers head. In conjunction with the vehicles structure the roll cage should not leave unprotected any part of the drivers shoulders when viewed from front or rear.

The main roll bar must not overhang but must be within 150mm of the driver's head. In 1st Category be constructed so that the driver helmet is prevented from passing between the bars to the extent that the helmet is visible at the rear of the hoop when viewed from the side.

Holes drilled in the main roll bar and braces shall be fitted with a bush, the wall thickness of which is the same as the drilled tube.

- 3.2.2 **Mounting of roll cages to the bodyshell:**
  - Option 1  
Minimum mountings are:
    - 1 for each leg of the main or lateral roll bar;
    - 1 for each of the front roll bar;
    - 1 for each backstay (see 3.2.3).
 Each mounting foot of the front, main and lateral roll bars must include a reinforcement plate, of a thickness of at least 3mm which must not be less than that of the tube onto which it is welded.

Each mounting foot must be attached by at least three bolts on a steel reinforcement plate at least 3mm thick and of at least 12,000mm<sup>2</sup> area which is welded to the bodyshell. Examples are shown in drawings 253-18 to 253-24. (For drawings 253-18 and 253-20, the reinforcement

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plate does not necessarily have to be welded to the bodyshell.) This does not necessarily apply to backstays (see below).

Bolts must be either M8 size to ISO standard 8.8, hexagon head high tensile fasteners to AS2465 or cap screws to AS1420 with nuts to AS1112 or better. Pins for removable connections (see drawing 253-30) shall the same strength specification as the bolts.

Fasteners must be self-locking or fitted with lock washers.

These are minimum requirements. In addition to these requirements, more fasteners may be used, the roll bar legs may be welded to reinforcement plates, the roll cage may be welded to the bodyshell. Roll bar mounting feet must not be welded directly to the bodyshell without a reinforcement plate.

#### Option 2

**Non-international use only:** As an alternative to welding reinforcement plates to the chassis of the vehicle, all the attachment points of the roll cage may be fitted with a base foot and lower plate complying with the table below. The base foot, complying with the area requirements shown below may be welded to the bodyshell, in which case the use of bolts and the lower plate is not required (see drawing 6-4).

#### Option 3

Where group regulations permit, the roll over protection may be an integral part of a space frame tubular chassis. The roll cage shall comply with these regulations from a point above where the predominantly vertical portion of the roll cage meets a predominantly horizontal portion of the chassis. Parts of the roll cage may extend below this horizontal plane and become integral with the chassis.

Application	Minimum Area	Minimum single dimension
<i>Upper plate</i>		
Cars under 700kg	6,500mm <sup>2</sup>	55mm
701kg to 1150kg	7,500mm <sup>2</sup>	65mm
Over 1151kg	10,000mm <sup>2</sup>	75mm
<i>Lower plate</i>	4,500mm <sup>2</sup>	Proportional to upper plate

**3.2.3 Backstays:** These are compulsory and must be attached near the roof line and near the top outer bends of the main roll bar on both sides of the car. They must make an angle of at least 30° with the vertical, must run rearwards and be straight and as close as possible to the interior side panels of the bodyshell.

Their materials specification, diameter and thickness must be as defined in Article 4.

Their mountings must be reinforced by plates. Each backstay should be secured by bolts having a cumulative section area at least two thirds of that recommended for each roll bar leg mounting in 3.2.2 above, and with identical reinforcement plates of at least 6000mm<sup>2</sup> area (see drawing 253-25).

A single bolt in double shear is permitted, provided it is of adequate section and strength (see drawing 253-26) and provided that a bush is welded into the backstay.

For 1st Category cars and Sports cars it may be more appropriate for the longitudinal braces to be forward of the main roll bar rather than rearward. Such configurations may be considered by CAMS upon the application for a specific Roll Over Protection Certificate.

**3.2.4 Diagonal members:** At least one diagonal member must be fitted. Its location must be in accordance with drawings 253-3 to 253-5 and it must be straight.

The attachment points of the diagonal members must be so located that they cannot cause injuries. They may be made removable but must be in place during events. The lower end of the diagonal must join the main roll bar of backstay not further than 100mm from the mounting foot. The upper end must join the main roll bar not further than 100mm from the junction of the backstay joint, or the backstay not more than 100mm from its junction with the main roll bar.

They must comply with the minimum specification set out in Article 4. Diagonal members fixed to the bodyshell must have reinforcement plates as defined in 3.2.3 above.

For FIA International events for Group N and A vehicles, any vehicle of a type homologated after 1 January 2002 the fitting of a second diagonal in the main hoop as per drawing 253-4 is mandatory. The junction of these two members must be reinforced by a pair of opposing gussets. Details are available from CAMS, or the FIA web site, [www.fia.com](http://www.fia.com)

**3.2.5 Optional reinforcement of the roll cage:** The diameter, thickness and material of reinforcements must be as defined in Article 4. They shall be either welded in position or installed by means of demountable joints.

**3.2.5.1 Transverse reinforcing members:** The fitting of two transverse members as shown in drawing 253-7 is permitted. The transverse member fixed to the front roll bar must not encroach upon the space reserved for the occupants. It must be placed as high as possible but its lower edge must not be higher than the top of the dashboard.

**3.2.5.2 Doorbars (for side protection):** One or more longitudinal members may be fitted at each side of the vehicle (see drawings 253-7, 253-8, 253-12, and 253-17). They may be removable. The side protection must be as high as possible, but its upper attachment points must not be higher than half the total height of the door measured from its base. If these upper attachment points are located in front of or behind the door opening, this height limitation is also valid for the corresponding intersection of the strut and the door opening. In the case of doorbars in the form of an "X" (cross-struts), it is recommended that the lower attachment

points of the cross-struts be fixed directly on to the longitudinal member.

**3.2.5.3 Roof reinforcement:** Reinforcing the upper part of the roll cage by adding members as shown in drawings 253-9A to 253-9D is permitted.

**3.2.5.4 Reinforcement of bends and junctions:** It is permitted to reinforce the junction of the main roll bar or the front roll bar with the longitudinal struts (drawings 253-10 and 253-16), as well as the top rear bends of the lateral roll bars and the junction between the main roll bar and the backstays.

The ends of these reinforcing tubes must not be more than half way down or along the members to which they are attached, except for those of the junction of the front roll bar, which may join the junction of the door strut/front roll bar.

A reinforcement as in drawing 253-17B may be added on each side of the front roll bar between the upper corner of the windscreen and the base of this roll bar.

For all vehicles first issued with a log book after 1 January 2002, roll cage members for both Certified and Basic cages shall comply with the following:

- In the front door aperture (drawing 253-17D)
- Dimension A must be a minimum of 300mm
- Dimension B must be a maximum of 250mm
- Dimension C must be a maximum of 300mm.
- In front projection, reinforcements of bends and junctions of the upper corners of the front roll cage must only be visible through the area of the windscreen described in drawing 253-17E.

**3.2.6 Protective padding:** Where the occupants' bodies or their crash helmets could come into contact with the safety cage, non-flammable padding must be provided for protection.

For all Group N and A cars competing in FIA International events, the following applies.

Where the occupants' crash helmets could come into contact with the safety cage, the padding must comply with FIA standard 8857-2001, type A (strongly recommended), or with FIA standard 8857-2001 type B or SFI specification 45.1 (minima) (see technical list no. 23 "Roll Cage Padding Homologated by the FIA").

**Application:** For all Group N and A cars competing in FIA International events.

**3.2.7 Removable members:** Should removable members

be used in the construction of a roll cage, the demountable joints used must comply with a type approved by the FIA/CAMS (see drawings 253-27 to 253-37). They must not be welded.

The screws and bolts must be of at least ISO standard 8.8.

It should be noted that demountable joints must not be used as part of a main, front or lateral roll bar because they act as hinges in the principal structure and allow deformation. Their use is solely for attaching members to the roll bars and for attaching a lateral roll bar to a main roll bar (drawing 253-4). In this last case, hinged joints illustrated in drawings 253-30, 253-33 and 253-37 must not be used.

**3.2.8 Guidance on welding:** All welding must be of the highest possible quality with full penetration and preferably using a gas shielded arc. Welds must be along the whole diameter of the tube.

Although good external appearance of a weld does not necessarily guarantee its quality, poor looking welds are never a sign of good workmanship.

When using head-treated steel the special instructions of the manufacturers must be followed (special electrodes, gas protected welding).

It must be emphasised that the use of heat-treated or high carbon steels may cause problems and that bad fabrication may result in a decrease in strength (caused by brittle heat-affected zones) or inadequate ductility.

#### 4. MATERIAL SPECIFICATIONS

Specifications of the tubes used:

All tubing used in roll over protection structures shall be circular section cold drawn steel tube (CDS, CDW or CEW) with properties as shown in the following table.

**Note:** The use of drawn welded tubing (CDW or CEW) is authorised for international events provided the ROPS is homologated by CAMS.

Property	Specification
Carbon content	0.3% max.
Manganese content	1.0% max.
Other alloy content	0.5% for any element max.
Tensile Strength	350 MPa min.

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Component	Outside Diameter	Wall Thickness
Main hoop	44.45 mm	2.5 mm
	or 50 mm	2.0 mm
All other components	38 mm	2.5 mm
	or 40 mm	2.0 mm
Roll bar and braces for 1st Category vehicles under 700kg	38 mm	2.5 mm
	40 mm	2.0 mm

CAMS may consider other steels and sizes not in compliance with the above through the process of roll over protection certification.

**Note** that these figures represent the minimum strengths and dimensions permitted. In selecting the steel, attention must be paid to obtaining good elongation properties and adequate weld ability.

The tubing must be bent by a cold working process and the centreline bend radius must be at least three times the tube diameter. Where the tubing is distorted during bending, the ratio of minor to major diameter must be 0.9 or greater.

## 5. CERTIFICATION BY CAMS

**5.1 General:** Safety cage manufacturers may submit a safety cage of their own design to CAMS for approval as regards the quality of steel used, the dimensions of the tubes, the optional reinforcing members and the mounting to the vehicle.

CAMS reserves the right to accept or refuse the certification of a roll cage, in accordance with the design prescriptions established by CAMS and by the FIA.

Manufacturers are advised to seek approval in principle for their designs prior to the commencement of construction. Longitudinal roll cage extensions are allowed up to the level of the original suspension mounting points on the shell. There must not be direct connection between the top extension and the bottom extension.

A Roll Over Protection Certificate, approved by CAMS and signed by qualified technicians representing the manufacturer, must be presented to the event's scrutineers. It

must contain drawings or photos of the safety cage in question including its fixation and particularities, and must declare that the roll cage can resist the forces specified above.

Any new cage which is certified by CAMS must be identified by means of an individual identification plate affixed to it by the manufacturer; this number must be neither copied nor moved (engraved, embedded or self-destroying sticker). The identification plate must bear the name of the manufacturer, the CAMS certificate number and the individual series number of the manufacturer. A certificate bearing the same number will be attached to each of the cages by the manufacturer.

These safety cages must not be modified in any way.

**5.2 Design prescriptions:** The basic construction of any roll cage submitted to CAMS for certification must comply with the requirements of drawing 253-4 and the following additional minimum design requirements:

The fitting of two diagonal members on the main roll bar is mandatory (see drawing 253-4).

The connection between the two members must be reinforced by a pair of opposing gussets. Other forms of bracing the hoop may be considered on application to CAMS.

The upper part of the roll cage must be fitted with members according to one of the drawings 253-9A, 253-9B or 253-9C.

For competitions without co-drivers, only one diagonal member may be fitted but its front connection must be on the driver's side.

- One or more longitudinal members must be fitted at each side of the vehicle (see drawings 253-7, 253-8, 253-12, 253-17).
  - If dimension "A" (see drawing 253-4) is greater than 200 mm, a reinforcement member according to drawing 253-17B must be added on each side of the front roll bar between the upper corner of the windscreen and the base of this roll bar.
  - Angle "α" (see drawing 253-4) is 90°.
- 5.3 Structures using basic materials:** Where the basic safety cage as shown in drawing 253-4 is manufactured from materials in compliance with the requirements of article 4, CAMS may certify the structure directly without requiring

any testing of the structure.

**5.4 Load tests:** Safety cages not complying with all the dimension prescriptions of article 5.3 must be subjected to the static load tests described in articles 5.4.1 and either 5.4.2, or 5.4.3.

The tests must be carried out by a company approved by the FIA.

- Roll cage to be considered:** As the total function of a roll cage must be considered only in its entirety, the test must be carried out on the complete roll cage.
- Testing device:** This must be constructed in such a way that none of the loads has any influence on its structure.
- Mountings:** The roll cage must be fitted directly or by means of an additional frame to the testing device by its original main mountings (see drawing 253-4) and on a maximum of six points.

**5.4.1 Test on the main roll bar (see drawing 253-38) - Closed Cars:**

The complete roll cage must withstand a vertical load of 7.5w daN (w being the weight of the car +150 kg) applied on the top of the main roll bar through a rigid stamp.

The stamp must be made of steel, have a radius of 20mm +/-5 mm at the edges directed towards the roll cage and have the following dimensions:

- Length = main roll bar width + min 100mm
- Width = 250mm +/- 50mm
- Thickness = min 40mm.

The stamp may follow the transversal profile of the main roll bar.

The load must be applied in less than 15 sec.

In the total safety structure, this test must not produce any breakage or any plastic distortion of more than 50mm measured along the axis of load application.

**5.4.2 Test on the front roll bar (see drawing 253-38B) - Closed Cars:**

The complete roll cage must withstand a load of 3.5w daN (w being the weight of the car +150kg) applied on the top of the front roll bar through a rigid stamp, on the driver's side and at the intersection with the front transverse member.

The stamp must be made of steel, have a radius of 20mm +/- 5mm at the edges directed towards the roll cage and have the following dimensions:

- Length = 450mm +/- 50mm
- Width = 250mm +/- 50mm
- Thickness = min 40mm.

It must be designed so that it remains in the area of the intersection with the front transverse member when the load is applied.

The longitudinal axis of the stamp must be directed to the front and downwards with an angle of 5° +/-1° relative to the horizontal, and its transversal axis must be directed to the exterior and downwards with an angle of 25° +/- 1° relative to the horizontal.

The load must be applied in less than 15 sec.

In the total safety structure, this test must not produce any breakage or any total distortion of more than 100mm measured along the axis of load application.

**5.4.3 Additional test on main roll bar - Open Cars:** The main hoop must withstand a horizontal load toward the rear of the car of 5.5w daN imposed using the same stamp as per 5.4.1 across the upper portion of the main hoop (see drawing 253-38C).

The main hoop must withstand a load as per 5.4.2 above, applied to the top of the main hoop behind the driver's head, but with the longitudinal axis horizontal.

**5.4.4 Arithmetical proof:** As an alternative to the static load tests described in article 5.4.1 and either 5.4.2 or 5.4.3, the manufacturer may submit to CAMS a complete calculation report carried out by an institute approved by CAMS and the FIA. (See FIA Technical List 35.)

This report must clearly demonstrate that the roll cage withstands the static loads specified in articles 5.4.1 and either 5.4.2 or 5.4.3, that the plastic deformation remains within the limits prescribed and that there is no breakage.

## 6. FIA HOMOLOGATION

FIA suggests that each car manufacturer should recommend a type of safety cage complying with FIA standards, as defined in Article 5 above. This safety cage must be described on a homologation extension form presented to FIA for approval and the safety cage must not be modified (see 3.1.1) in any way.



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## 7. FORMS OF ACCEPTABLE ROLL OVER PROTECTION

Type	Description	Vehicle application	Remarks
1	Solo Roll Bar	1st Category Race Cars	Vehicles up to 700 kg
		Open Sports Cars	For other than Races and Speed Events, no passengers permitted
2	Half Roll Cage	Open Sports Cars	Minimum acceptable in Speed Events, Races, Special Stage and International rallies and Off Road
3	Full Roll Cage (see Diagrams 253-3 to 253-7)	Closed Cars	Minimum acceptable in Speed Events, Races, Special Stage and International rallies and Off Road

## 8. IMPLEMENTATION

Where safety cages have been fitted to cars and where such cars have been issued with a CAMS log book, or where safety cages have been certified, such cages may continue to be used in competition provided they remain in conformity with the regulations that were in force at the date of issue of either initial log book for the car, or the certification document.

Competitors are advised that Supplementary Regulations may require more stringent requirements than those identified in articles 1 and 8 of this Schedule. Such requirements shall take precedence over articles 1 and 8 herein.

## 9. NON-COMPLYING ROLL OVER PROTECTION

Roll over protection structures which do not comply with these regulations or are not otherwise specifically approved by CAMS or the FIA are prohibited in all levels of competition. However, in cases where the type and/or status of the event does not require a vehicle to be fitted with any form of roll over protection,

approval of structures which do not comply with these regulations may be granted for the event by the Stewards of the Meeting.

## 10. REGISTRATION

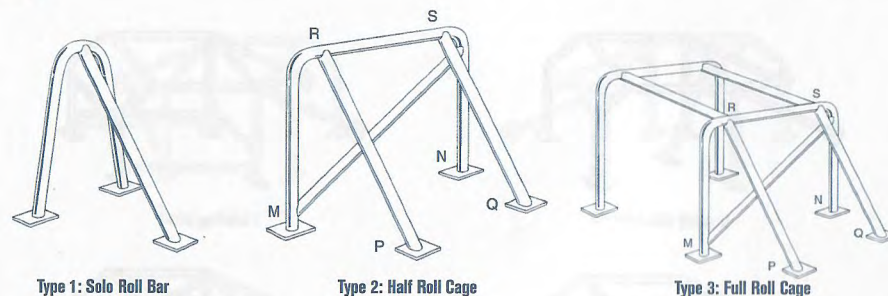
All roll over protection structures fitted to vehicles for which a CAMS log book is issued after 1 January, 2001 must be either registered with CAMS and carry a valid ROPS registration label, or be the subject of a CAMS ROPS certificate. This requirement shall not apply when the type and/or status of an event do not require the use of a ROPS.

## 11. REPAIRS

All repairs to ROPS must be done in such a manner to ensure the structure conforms with the requirements for new structures as were in place at the time of original manufacture.

## Roll Over Protection

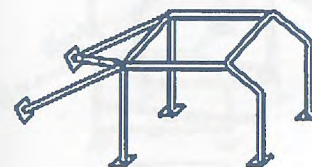
Drawings



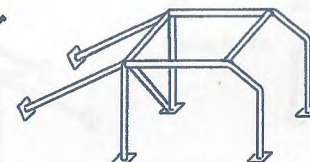
Type 1: Solo Roll Bar

Type 2: Half Roll Cage

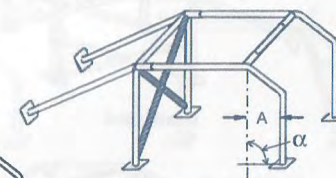
Type 3: Full Roll Cage



Drawing 253-3



Drawing 253-5



Drawing 253-4

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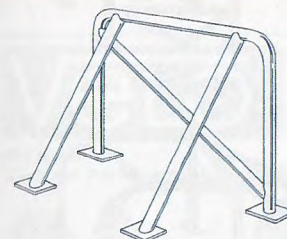
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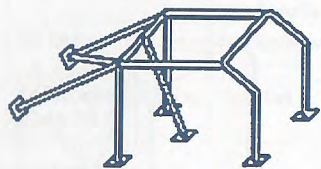
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Standard Requirements

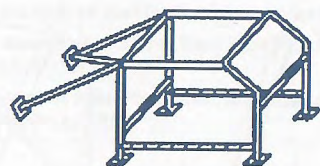


# Roll Over Protection

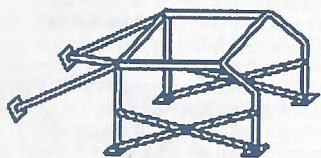
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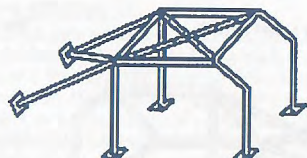
Drawing 253-6



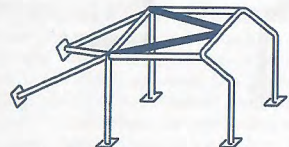
Drawing 253-7



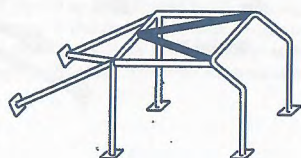
Drawing 253-8



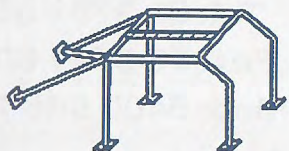
Drawing 253-9A



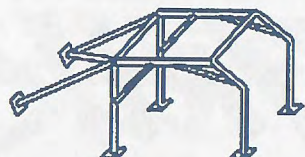
Drawing 253-9B



Drawing 253-9C



Drawing 253-9D

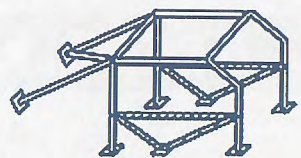


Drawing 253-10



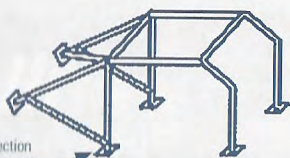
suspension anchorage points

Drawing 253-11

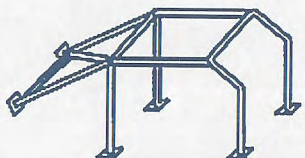


Drawing 253-12

This connection may be situated at the level of the doorbar



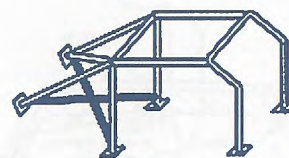
Drawing 253-13



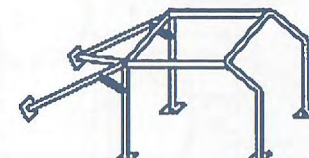
Drawing 253-14

# Roll Over Protection

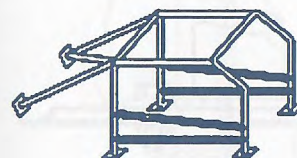
Drawings (continued)



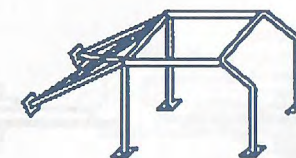
Drawing 253-15



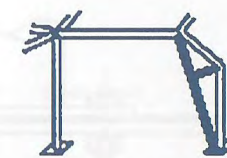
Drawing 253-16



Drawing 253-17

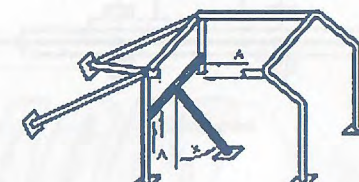
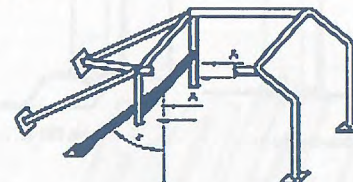


Drawing 253-17A



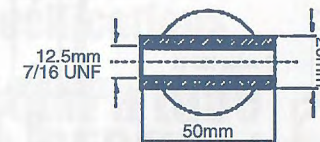
Drawing 253-17B

Drawing 253-17C



(A) mounting hole for harnesses

(X) minimum angles 30°





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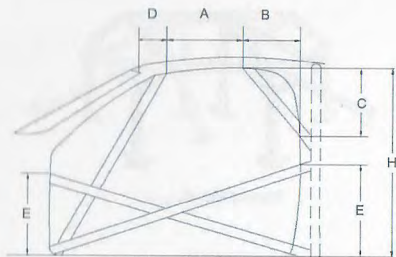




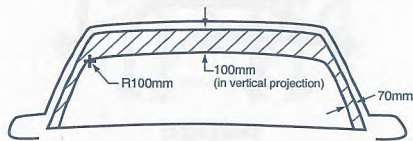

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## Roll Over Protection

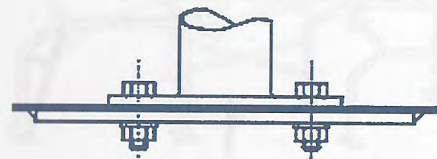
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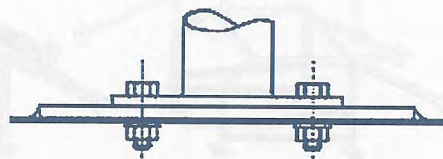
Drawing 253-17D



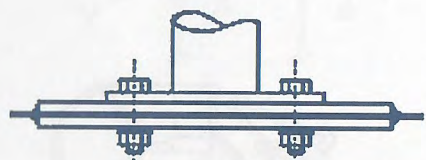
Drawing 253-17E



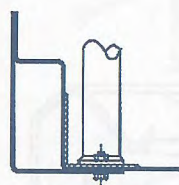
Drawing 253-18



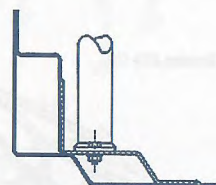
Drawing 253-19



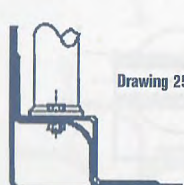
Drawing 253-20



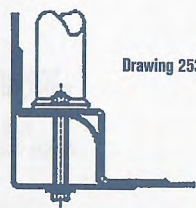
Drawing 253-21



Drawing 253-22



Drawing 253-23



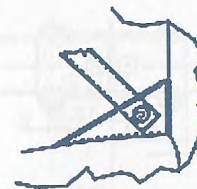
Drawing 253-24



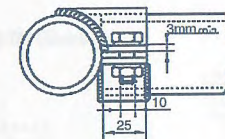
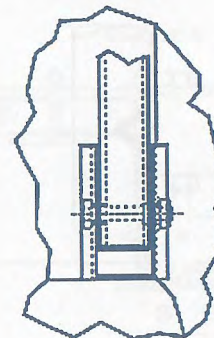
Drawing 253-25

## Roll Over Protection

Drawings (continued)



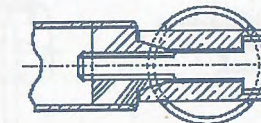
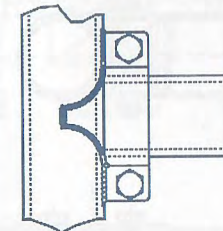
Drawing 253-26



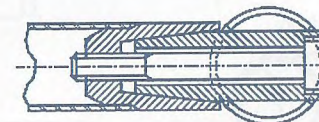
Drawing 253-27



direction of applied load



Drawing 253-28



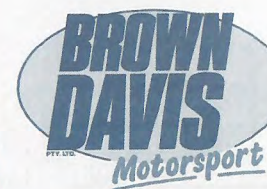
Drawing 253-29

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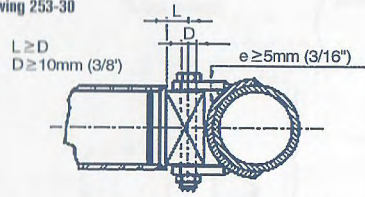
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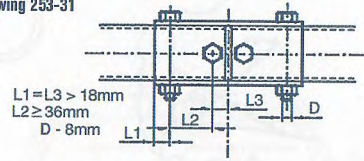
# Roll Over Protection

Drawings (continued)

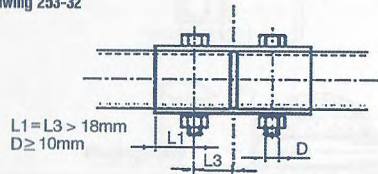
Drawing 253-30



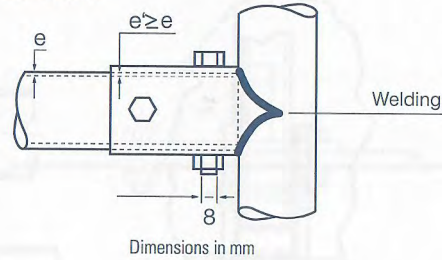
Drawing 253-31



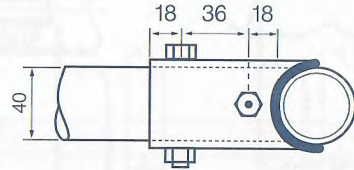
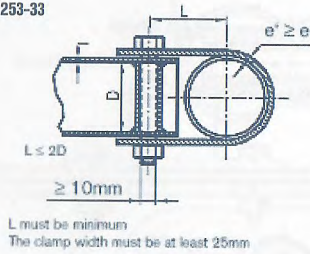
Drawing 253-32



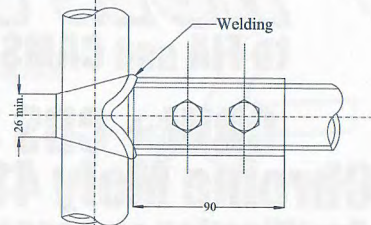
Drawing 253-34



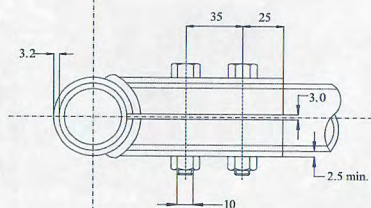
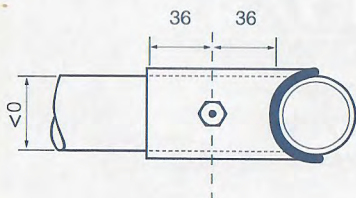
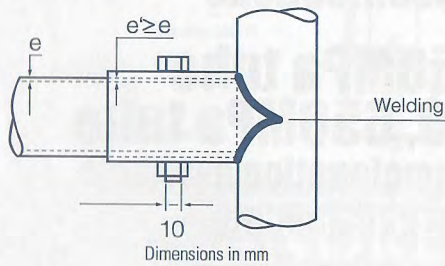
Drawing 253-33



Drawing 253-36

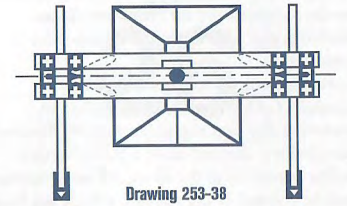
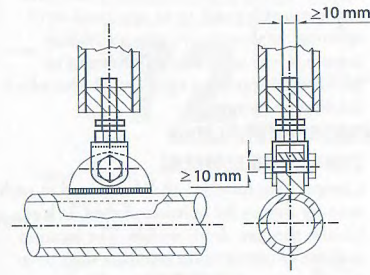


Drawing 253-35

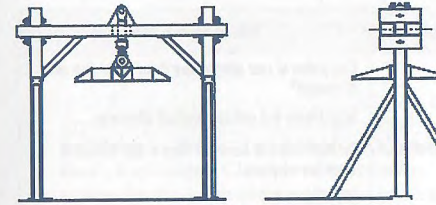


# Roll Over Protection

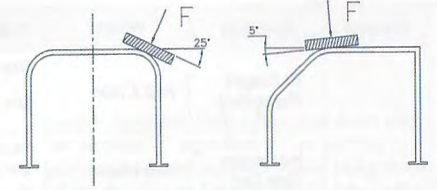
Drawings (continued)



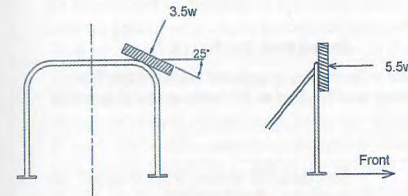
Drawing 253-37



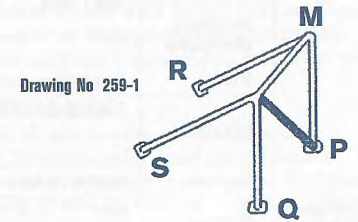
Drawing 253-38A



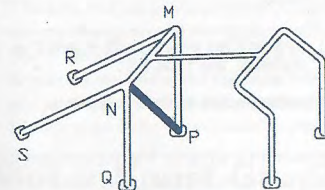
Drawing 253-38B



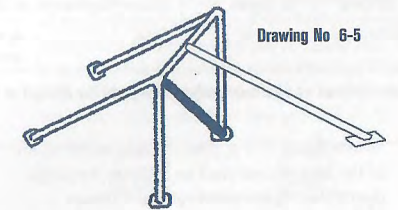
Drawing 253-38C



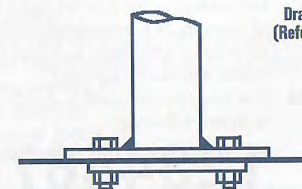
Drawing No 259-1



Drawing No 259-3

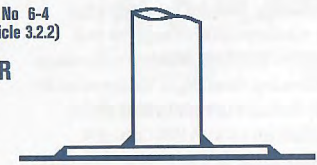


Drawing No 6-5



Drawing No 6-4 (Refer Article 3.2.2)

OR



## Schedule K - Markings on Automobiles

### 1. INTRODUCTION

- 11 As required by NCR 147 and 155 the following are the requirements for Numbers, Signs, Markings and advertising on automobiles in competition.
- 12 Notwithstanding the requirements of this schedule, CAMS shall have discretion in approving any sign not in conformity therewith, provided it is deemed to be a public service and/or beneficial to the sport. All such variations shall be entered in the relevant vehicle log book.
- 13 The sporting regulations for a CAMS-approved championship, series, challenge etc, may make other requirements that vary, in whole or in part, the provisions of this schedule.

- 14 In the absence of the written approval of CAMS, and with the exception where such requirement is made in an approved set of sporting regulations, no sponsor and/or organiser may make any requirement or prohibition regarding signs on vehicles which is binding on entrants.

### MANDATORY IDENTIFICATION

#### 2. COMPETITION NUMBERS

- 2.1 Competition numbers shall be carried in such manner that in the opinion of the Clerk of Course they are clearly visible. The location and size of competition numbers shall be in accordance with the following table:

Discipline	Application	Visibility	Front location & Size	Side location & Size
Racing	1st Category (Racing Cars)	Front & Sides	Nose of car Size: Figure K-1	End plates of rear wing where fitted otherwise side of cockpit* Size: Figure K-1 unless specified otherwise
	2nd Category (Open Cars)	Front & Sides	Forward of centreline of front wheels. Size: Figure K-1	On front doors or between front & rear wheels if there are no doors Size: Figure K-1
	2nd Category (Closed Cars)	Front & Sides	Windscreen for all closed vehicles on the opposite side to the driver	Between the 'B' pillar and the trailing edge of the front wheelarch Size: Figure K-1
	3rd Category (Touring Cars)		Size: Figure K-3	
	Trucks	Front & Sides		On front doors. Size: Figure K-2
	5th Category	Front & Sides	As per Racing, Sports or Touring Cars as applicable to each Historic Group, save that front numbers must be placed on the bonnet or nose of the vehicle as applicable	
Superkarts	Superkart Technical Regulations			
Other Speed Events	All vehicles	Sides	As required by organisers	Front doors, rear windows or side of cockpit* as appropriate. Size: Figure K-2
Road	ARC	Australian Rally Championship Regulations		
	Other Events	Schedule R. Size: Figure K-2		
Off Road	All classes	General Requirements for Off Road Vehicles		
Motorkhana	Group 4H	Sides	As required by organisers	Front doors, rear windows or side of cockpit* as appropriate. Size: Figure K-2

\* Note: Defined as a vertical surface alongside the cockpit or the most prominent position possible on the side of the car.

- 2.2 Where figure K-1 applies the minimum width of the background shall be 245mm for single digit competition numbers and 450mm for two digit competition numbers. Where figure K-2 applies the minimum width of the background shall be 320mm for single digit competition numbers and 500mm for two digit competition numbers. Where competition numbers containing three digits are permissible (see Article 2.9) the minimum width of the background shall increase to 780mm.
- 2.3 Competition numbers in accordance with figure K-1 and figure K-2 shall be black on a white

background for all races. The background for the number must be either a disc or rectangle. Where the background colour does not contrast with the colour of the coachwork the perimeter of the background shall be defined by a line the same colour as the number and a minimum of 5mm thick. Competition numbers in accordance with figure K-3 shall be "Dayglo" yellow with no background.

- 2.4 The competition number shall be of a typestyle as shown following:

1234567890

Figure K-1

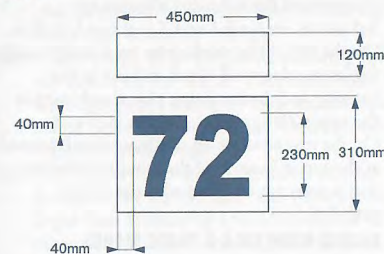


Figure K-3



Figure K-2

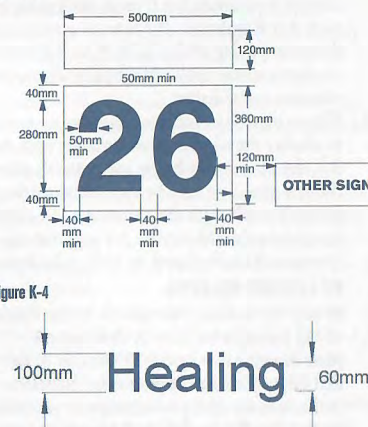


Figure K-4



Typestyles that comply with the above sample are "Helvetica Bold", "Zurich Bold" and "Arial Bold". For National Championships, or other approved series, an alternative typestyle may be specified in the Sporting Regulations whereupon such style shall be mandatory for all vehicles.

No part of any numeral shall be closer than 40mm to any part of the adjoining numeral and no part of the edge of the background and no part of other signs permitted hereunder shall be closer than 120mm to any part of the competition number.

- 2.5 Competition number "1" is reserved to recognise current Australian Champion drivers in each applicable category or discipline. Where a champion driver elects not to use number "1" it shall be withheld from use for the appropriate period. State Councils may allocate number "1" for use by State Champions where such use does not conflict with a National Championship. The exclusive use of the number "1" by the current champion will not apply to rallies.
- 2.6 Use of number "1" other than that specified in Article 2.5 shall be at the organiser's discretion and applicable to individual events only.
- 2.7 In Australian Rally Championship events, the

current Australian Rally Champion driver may use number "1" regardless of their starting position, and may also use a yellow background where the relevant Regulations stipulate a white background.

- 2.8 Any number commencing with "0" is not permitted to be used as a competition number.
- 2.9 For all vehicles of the 1st and 2nd Categories and for all National championships or series, the competition number shall not contain more than two digits.
3. DRIVER NAME
- 3.1 In all races forming part of an Australian Championship for closed cars the surname of each driver must be displayed on the lower edge of each rear-most side window or, if this is not possible, in a suitable location as approved by the Chief Scrutineer. The letters shall be of uniform style, 100mm and 60mm, white in colour and without background, using a capital for the first letter of the name, and lower case for all other letters (see figure K-4). For grammatical correctness other letters of the surname may use a capital letter (eg, MacDonald, Holmes-Walker, O'Riordan). The typestyle shall be as required for competition numbers (see article 2.4). In

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all other competitions for closed cars, such display is optional, but if used, shall comply with this Regulation. For international events the national flag of the ASN of each driver and co-driver where applicable shall be displayed adjacent to the name.

- 3.2 Where there is insufficient space or no window to display the name/s in accordance with Article 3.1, the turret/door frame immediately above the side glass line may be used for the driver's name. In such cases the names shall be displayed in accordance with Article 3.1 save that the letters shall be displayed on a black background.

#### 4. PC LICENCE HOLDERS

- 4.1 In any race automobiles driven by the holders of PC Licences for Drivers shall carry a plate carrying the capital "P" similar in size and design to those approved by Australian authorities for civil probationary or provisional drivers. In all cases this shall be red on a white background or white on a red background, mounted so that it is clearly visible from the rear of the automobile at a distance of 100m in daylight.

#### 5. CAMS LOGO

- 5.1 In all competitions of State Championship and above, with the exception of those for 5th Category vehicles, the CAMS logo shall be carried on the car. For cars other than the 1st Category the logo shall be positioned adjacent to, and in a plane in line with the top of the competition number. (Note: self-adhesive CAMS logos are available from State offices.) Sporting regulations may specify an alternate location which shall be considered on application to CAMS.

#### 6. MANDATORY ADVERTISING SPACE

- 6.1 Above or below the background of the side numbers, a surface having the same width as the background (in any case at least 450mm wide on 1st Category and Sports Cars and 500mm on other cars), and of a height of at least 120mm, shall be left free of advertising. This space shall be used at the discretion of CAMS, which may use it for advertising purposes, or which may delegate to the organisers authority to use that space. On cars on which such area is not available due to coachwork limitations the competitors shall keep free of any advertising an equivalent surface in the immediate vicinity of the background (see figure K-1 & figure K-2).

#### OTHER SIGNAGE

##### 7. USE OF WINDSCREEN & WINDOWS

- 7.1 It is permissible to use the opaque area around the perimeter of a windscreen or window for signage purposes when such area of windscreen or window is bonded to the coachwork. The permissible area must be as defined by the manufacturer on the surface of the windscreen or window. Such a border may not be varied from that provided by the manufacturer.

- 7.2 Signs or advertisements may not be placed on

any windscreen, side or rear window with the exception of the following allowances:

- 7.2.1 Subject to articles 3.1 and 7.1 of this Schedule.  
7.2.2 On the top of the windscreen on a background free as to colour and depth, subject to the lettering and devices being placed only within the upper 200mm of the windscreen surface.  
7.2.3 On the rear window up to 85mm depth located at the top or bottom of the window provided that it does not interfere with the driver's visibility.

##### 8. ARABIC NUMERALS & TRADE MARKS

- 8.1 Arabic numerals used as part of any sign must not, in the opinion of the Clerk of Course, be deemed to cause any confusion with the vehicle's competition number. The Clerk of Course at his sole discretion, may require that any signage deemed to cause such confusion be removed.  
8.2 Arabic numerals may be used subject to the forgoing and the following additional requirements:  
8.2.1 On the sides of the car no part of the numeral shall come within 120mm of a competition number and shall be of a colour contrasting with the competition number.  
8.2.2 In all instances such numerals shall be of a colour contrasting with the competition number.

##### 9. OTHER REGULATIONS

- 9.1 No sign or advertisement shall be permitted to be indecent or in breach of good taste. The Clerk of Course at any meeting shall be authorised to refer to the Stewards of the Meeting any sign which he deems to be contrary to the requirements of this paragraph and the stewards' decision thereon shall be final in respect of that meeting. See NCR 169(xi).  
9.2 The lettering of all numerals and letters in all signs referred to in this Schedule and these Rules shall be carried out in a neat, regular and professional manner. The Clerk of Course, on the advice of the Scrutineers, may recommend to the Stewards of the Meeting the re-lettering of any sign or part of a sign etc, which in their opinion fails to comply with the requirements of this paragraph. The stewards' decision thereon shall be final in respect to that meeting.  
9.3 Registration labels, club badges (for CAMS-affiliated clubs) and official number plates shall not be deemed to be advertising with regard to this Schedule.  
9.4 Signage retained to the vehicle structure solely by magnetic means is not permitted.  
9.5 Where required, markings in accordance with Schedules A, B & C must be provided.
- ##### 10. HISTORIC CARS
- 10.1 In the case of Historic Cars competing under the 5th Category Regulations the following provisions shall apply:  
10.1.1 The original style of paintwork and livery is encouraged  
10.1.2 The name of the driver may be shown on the

vehicle, appearing once on either side in a position below the window line, in a size not larger than 40mm by 300mm.

- 10.1.3 A club badge, of an acceptable motoring club, can appear on the vehicle. Each badge must be not larger than 150mm by 100mm and must be placed below the window line. Only two such badges are permitted.  
10.1.4 The territory of origin of the driver may be shown on the vehicle. Each sign must be not larger than 100mm by 150mm and must be placed below the window line. Only two such signs are permitted, one on each side of the vehicle.  
10.1.5 No other advertising material or sign is permitted unless evident in the applicable group period (see relevant Group regulations in 5th Category) or, upon application by a promoter, specific approval is granted by the Historic Commission to allow the display of event sponsor signage. Applications should be submitted at least three months prior to the event in question. If approved, the positioning of such signage on the various Groups of historic vehicles shall be determined by the Commission, having regard to vehicle type and historic precedent. Dimensions of any such signage must be in accordance with the

restrictions set out in FIA Appendix K.

- 10.1.6 **Competition Numbers:** Competition numbers carried by 5th Category vehicles must comply with the requirements of Schedule K, article 2 Competition Numbers, except as follows:
- Groups J, K, L, Sa and Na are exempted from the requirements as to background specified in Article 2.3.
  - Notwithstanding the prescriptions of article 2.3, all 5th Category vehicles which have a disc or rectangular background to the competition number may carry either black numbers on a white background or white numbers on a black background.
  - Applications for exemption from the requirements as to background specified in article 2.3 and/or for the carriage of numbers differing in typestyle, size, colour or placement to the normal requirements may be made in individual cases where the specified vehicle competed in such a visual form during the relevant group period. Approvals to such applications will be evidenced by inclusion in the Certificate of Description of photographs showing the approved style of competition number on the car.

### Schedule L - Vehicle Log Books

1. The production of a properly entered vehicle log book and, for 5th Category vehicles, the relevant Certificate of Description (CoD) issued by CAMS is required by Rule 150. Failure to present such vehicle log book and/or CoD when the relevant vehicle is presented for scrutineering may involve exclusion of the vehicle concerned from the relevant competition, unless the vehicle is of the 5th Category and subject of a Temporary Permit to Compete. The Chief Steward may, however, permit the vehicle to practice upon payment of a fine (see Appendix R) and completion of a Statutory Declaration that the vehicle is subject to a current and valid log book. Should the relevant log book not be produced prior to the competition, the vehicle will not be permitted to compete save upon the explicit authority of the stewards, subject to whatever conditions they may impose. Failure to produce the log book may result in the competitor/s being charged with an offence against the NCR, including NCR 183 (ii), (iii) and (xii).  
It shall be required that if a vehicle competes at a meeting in respect of which the possession of a log book is not required, and such vehicle nevertheless is the subject of a log book, then the log book shall be presented at such a meeting.
2. The vehicle log book shall contain a description and specification of the automobile to which it refers, together with such other information as

may be from time to time required by CAMS. Only one log book shall be issued for each vehicle (other than by way of extension or replacement), and the possession of two log books for any vehicle at one time shall be deemed an offence against these Rules.

3. CAMS will issue a vehicle log book only upon written application signed by the bona fide owner of the relevant automobile, and upon payment by such owner of a fee as stated in Appendix R to these Rules. The Log Book remains the property of CAMS, and must be returned to CAMS on request.
4. Notwithstanding the issue by CAMS of such vehicle log book the said log book shall be deemed invalid if:
- (i) the specification therein, or any of them, are found upon examination by a scrutineer to differ from the specifications laid down in the relevant vehicle's homologation or Recognition Certificate, or (in the event that such certificate is not available for whatever reason) from the specifications laid down for the make and model concerned by the relevant manufacturer (3rd Category vehicles only); or
  - (ii) the automobile is found, upon examination by a scrutineer, to differ from the specifications stated in the vehicle log book and/or CoD; and the presentation of the automobile for scrutineering under either of the contingencies foreseen in subparagraphs (i) or (ii) of this paragraph shall be

deemed a prima facie breach of these Rules, and punishable accordingly.

5. Amendments to the vehicle log book shall be made only by CAMS and upon the completion of a written application by the bona fide legal owner of the automobile concerned.
6. Any alteration to the specifications of an automobile, or any change in its bona fide legal ownership, shall necessarily involve the return of the relevant vehicle log book to CAMS for the recording of each alteration or change.
7. Entries in log books may be made only by the Chief Scrutineer or his deputy, a steward of the meeting, a CAMS Technical Commissioner, or a permanent employee of CAMS. Such endorsements may be cancelled or noted as having been complied with, only by any of the above persons.
8. Any person or body competing, or offering or attempting to compete, in any competition for which a valid vehicle log book is required while not in possession of a relevant and valid vehicle log book shall be liable to penalties under these Rules; or having so competed shall be excluded from the results of such competition without prejudice to the infliction upon him of further penalties under these Rules.
9. Any official of a meeting who, under any pre-text, permits the competition of any automobile known by him to be ineligible, or reported to

him by the relevant officials as being ineligible, shall be liable to serious penalties under these Rules, without prejudice to the infliction of further penalties upon the entrant and/or driver of such automobiles (see Rules 169 (x), 172 (iv), 177, 183 (ii), 183 (iv)).

10. Measurements taken by scrutineers approved by CAMS shall be deemed to be accurate, and no protest shall lie in respect of the methods employed by such scrutineers in taking such measurements, scrutineers being Judges of Fact in this context (see Rule 181 (i) (c)).
11. No vehicle for which a log book has been issued may compete in, or practice for, any event until it has been subjected to a pre-event inspection by an authorised scrutineer and subsequently approved.

#### EXPLANATORY NOTE:

Save for vehicles of the 5th Category, the log book serves as an identification for the car, and a means of communication from one competition to the next. It also records the vehicle's ownership. The log book is not prima facie evidence of the car's eligibility for a particular category or group, nor is it a certificate of compliance. Any vehicle may compete in any category or group for which it is eligible, and is thus determined at the time of scrutiny of the vehicle.

When an automobile is entered in a competition for a class or category other than that noted in the log book it shall comply with the conditions for that class or category.

## Schedule M – Scatter Shields

### 1. APPLICATION

A scatter shield complying with the specification below must be fitted to:

- (i) Front-engined Sports Sedans or Improved Production vehicles which have undergone an engine change, or which are fitted with a transverse engine transmission assembly.
- (ii) Front-engined Sports Cars and front-engined Category 1 cars, in which a derangement of the clutch-flywheel assembly could pose a hazard to the driver.

Excepted from the above requirements (i) and (ii) are those cars upon which the entire clutch-flywheel housing is, in plan view, forward of all parts of the driver's body when he is seated normally in the car.

- (iii) Any rear- or mid-engined Category 1 or 2 car:
  - in which derangement of the clutch-flywheel assembly could present a hazard to the driver; or
  - which is fitted with a transverse engine transmission assembly; or
  - on which the clutch-flywheel assembly extends to within 250mm of the rear of the driver's seat, when such seat is at the rearmost extremity of adjustment.

**NOTE:** Historic cars when competing in events exclusively for such cars are exempted from this requirement.

### 2. SPECIFICATION

- 2.1 The shield must be so fitted as to minimise the risk of injury in case of flywheel and/or clutch failure. It must be of safe construction.
- 2.2 The shield must be fitted under the floor or, in appropriate cases, in the engine compartment. It must not rely on floor or toeboard for strength and it must be securely mounted.
- 2.3 The shield must be of sufficient width and length to protect the occupant of the driver's seat and should encompass at least 140° above the horizontal.
- 2.4 The shield must be of a thickness of:
  - 6mm if mild steel plate;
  - 3mm if tungsten impregnated alloy steel plate;
  - 6mm if Alcoa aluminium alloy A5083H321.Specifications of alternative materials may be submitted to CAMS for evaluation before installation or manufacture.

### 3. ALTERNATIVES

A scatter shield may be dispensed with on vehicles where the construction of the flywheel/clutch housing is such that it meets or exceeds the requirements herein, eg, a housing fabricated from mild steel plate of 6mm thickness.

## Schedule N – Fuel Tanks and Refuelling

### Part 1 – Fuel Tanks

(State Level and Above Race Meetings Only)

#### 1. 1ST CATEGORY CARS

- 1.1 It is compulsory for all cars of Formula Holden, in championship races all cars of Formula 2, and all cars with a fuel capacity in excess of 50 litres, to be equipped with fuel tanks either fitted with a CAMS-approved foam, or fitted with a safety-type fuel tank as approved by the FIA.
- 1.2 Tank fillers and caps must not protrude beyond the coachwork. The caps must be designed in such a way as to ensure an efficient locking action which reduces the risk of an external opening following a crash impact or incomplete locking after refuelling. Fillers must be placed away from points which are vulnerable in case of a crash. The air vents must be located at least 250mm to the rear of the cockpit.
- 1.3 From a date to be advised, it will be compulsory for all cars of Formula 2 and all cars with a fuel capacity in excess of 50 litres to be fitted with a safety-type fuel tank, of a type as will be specified by FIA.
- 1.4 From a date to be advised, it will be required that that part of the structure surrounding the fuel tank which is in direct contact with the air stream must include an aluminium sheet of a to-be-determined thickness, tensile strength and elongation.
- 1.5 All Formula 2 cars first registered with CAMS after 1 January, 1977, and all those in which the fuel tank is within 100mm of the outside surface of the car, shall be fitted with a crushable structure.
- 1.6 It is recommended that car owners adopt as a guide the following specifications for the fuel tank surround, and incorporate this in their cars:

Thickness	1.5mm
Material	Aluminium
Tensile strength	215 MPa
Minimum elongation	5%

#### 2. CARS OF THE 2ND, 3RD AND 4TH CATEGORIES

- 2.1 Cars of the 2nd Category must be fitted with fuel tanks of capacity no greater than specified in 2.7 below. The fuel tanks must be fitted with anti-spray foam in conformity with CAMS Standard or the tanks must be of a safety type approved by the FIA. In races of less than 30 minutes' duration, road-registered cars need not comply with this requirement.
- 2.2 From 1 January, 1974, all vehicles not previously registered with CAMS or of a model for which a log book has not previously been issued, must be fitted with fuel tanks of capacity no greater than specified in 2.7 below.
- 2.3 In 3rd Category vehicles, unless otherwise specified in the Group Regulations, it is permitted to replace original fuel tanks with FIA bladder tanks provided the fuel capacity does not exceed that specified in 2.7 below.
- 2.4 Should "dry-break" fuel couplings be fitted then a FIA-approved tank is required (see 2.5 below for exception). The fuel filling port must then be relocated and in such relocation:
  - (i) the original fuel port/s shall be rendered inoperative;
  - (ii) the valve receiver mounting must be installed in the appropriate external panel in such a way as to prevent entry of fuel into the boot compartment in the event of spillage;
  - (iii) a flexible connection between the valve receiver mounting and the top of the fuel tank is permitted.

See Part 2 for further information regarding refuelling with dry-break couplings.

- 2.5 If dry-break fuel couplings are fitted to Series Production Cars equipped with standard fuel tanks as supplied by the manufacturer and the tank remains unmodified in all other



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- respects (including baffling, foam filling and modifications to the filler neck or venting stem), any consequential increase in fuel capacity will be acceptable. However, the fitment of the refuelling and vent bottle orifices must be as close as practical to the fuel tank; the size of the refuelling pipe from the rear of the dry-break coupling to the original filler neck of the fuel tank must be no greater than that of the OD of the exit of the dry-break bulb; and the route of the filler and vent pipes from the dry-break bulbs to the fuel tank must be as short as practical.
- 2.6 Any installation of LP Gas to vehicles must be in accordance with the requirements of AS 1425 (1989). Fuel tanks may be made demountable utilising appropriate self-sealing connections on fuel hoses.
- 2.7 The maximum capacity of fuel tanks fitted to cars of the 2nd, 3rd and 4th Categories, except as provided above, shall be:
- |             |            |
|-------------|------------|
| Up to 700cc | 60 litres  |
| 701-1000cc  | 70 litres  |
| 1001-1400cc | 80 litres  |
| 1401-1600cc | 90 litres  |
| 1601-2000cc | 100 litres |
| 2001-2500cc | 110 litres |
| Over 2500cc | 120 litres |

- 2.8 (i) Cars of the 3rd and 4th Categories competing in races scheduled to extend more than 30 minutes and not fitted with a "safety tank" must have fitted to their fuel tank such anti-spray foam as specified by CAMS.
- (ii) Car owners are reminded that, at some future date, such foam may be required in all cars.
- (iii) The foam to be used is that produced for this purpose and marketed as Meracel ME 015 to ME 030.
- 3. GENERAL**
- 3.1 The requirements of this Schedule N do not apply to Club or Multi-club Level race meetings, nor to cars participating in races exclusively for Production Cars.
- 3.2 Cars first registered with CAMS after 1 January, 1977, are not permitted to have fuel tanks forming part of the stressed structure of the car.
- 3.3 In all races, refuelling in pit lane may be undertaken only under the conditions prescribed in Part 2 hereof.
- 3.4 **NOTE:** Refer also to relevant technical regulations for the category/class.

## Schedule N – Fuel Tanks and Refuelling

### Part 2 – Refuelling in Pit Lane

#### 1. GENERAL

- 1.1 For any refuelling undertaken in pit lane, during any testing, practice, qualifying or race, the following procedures must be adopted, unless Supplementary Regulations provide otherwise.
- 1.2 Any refuelling in a pit or paddock area not utilising these procedures must be undertaken either with a vehicle totally within a pit garage or in the area of the paddock specifically designated for the purpose of refuelling; and must be completed with the engine turned off.
- 1.3 Under no circumstances will refuelling be permitted on the circuit.
- 1.4 When event regulations allow the use of any alternative refuelling equipment, those regulations shall prescribe all relevant conditions, including capacity of permitted refuelling containers and the requirements for delivery hose/s.
- 1.5 The regulations regarding the use of overhead rigs are compatible with FIA requirements and are thus acceptable for international events. The use of churns in International events must be authorised in the event Supplementary Regulations.

#### 2. SAFETY

- 2.1 **Area:** The area of the pit garage in which the fuel reservoirs are situated must be adequately ventilated and have unimpeded access from front and rear of the pit garage. A minimum quantity of extinguishment (9kg if dry powder type), which must be in either one or two extinguishers must be available for use in each pit. The area must be clean and free of potentially flammable materials eg, paper, rags, oily fabrics etc.
- 2.2 **Pit Crew:** As prescribed in Race Meeting Standing Regulations, the maximum number of attendants handling refuelling related procedures will be four, their designated tasks will be as follows:
- Fire attendant;  
Vent bottle attendant;  
Two churn attendants;
- or
- Fire attendant;  
Vent bottle attendant;  
One hose attendant;  
One rig cut off valve attendant.
- All attendants will be required to be attired as per Schedule D, art. 3(iii). Balaclavas must be worn and any resultant exposed areas (eg, eyes) must be covered to minimise risk of injury from flash fire burns (eg, by goggles). The wearing of a full face helmet is recommended in addition to the above.
- Any wheel attendants whose tasks place them within 1 metre of a fuel or vent valve on a

vehicle will be required to wear clothing as listed in above for fuel attendants.

- For the entire time of a pit stop during which any refuelling operation is undertaken, it will be compulsory for the fire attendant to be ready to attend to any fire which may occur. The fire attendant must stand near the car and the overhead rig, poised with the extinguisher ready to operate.
- 2.3 **Emergency Cut-Off Valve:** It will be compulsory for any refuelling operation which incorporates an overhead rig that the rig be equipped with a ball-cock or similar fast action valve which must work on the "dead man" principle. This valve must be attached directly to the fuel reservoir. See diagram 3. The emergency cut-off valve attendant may hold the valve open only during the refuelling operations. When pressure on the handle of the cut-off valve is released, the valve must immediately close, stopping the flow of fuel from the reservoir. The closing principal must not rely on the action of gravity alone.
- 2.4 **Approval of Installations and Equipment:** All installations and equipment must be specifically approved by the Chief Scrutineer of the Meeting or his nominee prior to any competition during which refuelling is permitted in pit lane. Event supplementary regulations will provide further details of times etc. for the inspection.
- 2.5 **Earthing:** During any refuelling operation, it is strongly recommended that vehicles to be electrically connected to earth, viz:
- (i) Each pit is equipped with two aircraft type grounding connections. Vehicles must be equipped with a suitable terminal to which one of these connections may be attached.
- (ii) The refuelling system (including tower, tank, hose, nozzle, valves and vent bottle) be connected to one of the above grounding connections for the entire duration of the race.
- (iii) The car is connected, at least momentarily, to the other grounding connection as soon as it stops in the pit.
- (iv) No fuel hose connection (either the fill or vent bottle) be made unless conditions (ii) and (iii) have been fulfilled.
- 2.6 **Vehicle movement:** The vehicle must be stationary at all times during refuelling.
3. **FUEL TANKS (VEHICLES)**  
Refer to Schedule N (Part 1) and the relevant Technical Regulations for requirements of fuel tanks.
4. **STANDARD COUPLING**  
All refuelling operations must be carried out utilising a dry-break system. A dry-break system is deemed to consist of two separate units, the

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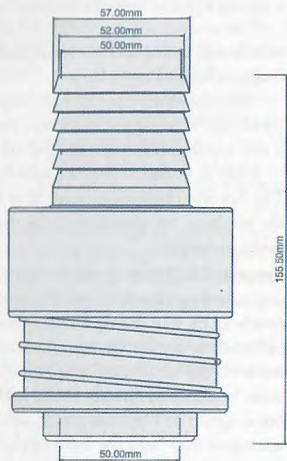
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**Diagram 1: General Design of Dry Break Coupling**  
Standard coupling (probe and receiver unit)



receiving unit and the probe unit together with the associated hoses, valves etc. The general design of the receiving unit and probe unit is included at diagram 1.

A male probe unit shall be fitted to each churn or to the refuelling hose (if using a refuelling rig).

The receiving units shall be fitted to the vehicle, under the conditions listed in the technical regulations for the relevant category.

It is permitted to only use one receiving valve to permit the entry of fuel into the tank, and one receiving valve for connection to the vent bottle/return vent.

Any other design of dry break coupling, which operates on an alternative principle to that of diagram 1, must be specifically approved by CAMS and the subsequent permission, if granted, will be noted in the log book of the subject vehicle.

**Maintenance:** Competitors are advised it is extremely important to maintain all refuelling equipment in good working order. O-rings must be regularly inspected and replaced if there are any signs of expansion or damage. Springs and tracks must also be regularly inspected and kept lubricated during those times the refuelling valves are not in operation.

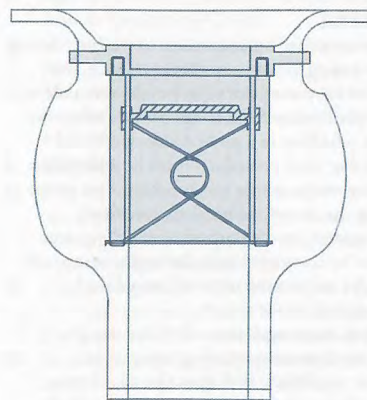
## 5. REFUELLING

Refuelling may be undertaken by one of two methods viz churns or an overhead rig.

### 5.1 Refuelling by Churns

- (i) **General:** This procedure covers the refuelling of a car using churns.
- (ii) **Design Requirements:** The maximum capacity of each churn is 40 litres.

Each churn must be designed to prevent fuel spillage regardless of the angle at which the



churn is oriented.

Each churn must be fitted with a male probe of the specified design (see article 4).

The angle of the axis of the probe head in relation to the longitudinal centre line of the churn is free, however it may not be mechanically variable during refuelling operations.

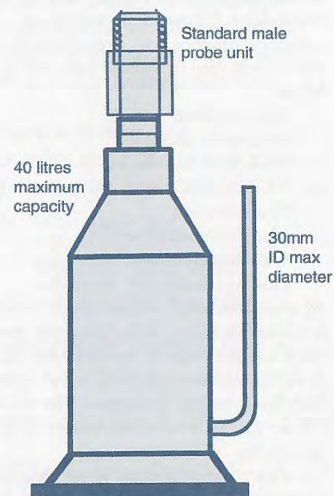
There must be minimum flexibility between the probe and the churn.

See diagram 2 for a general design of churns.

- (iii) **Use:** Only one churn at a time may be used to refuel a car.

Each churn must be totally removed from

**Diagram 2: General Design of Churn**  
Typical refuelling churn



the receiving unit prior to the next churn being inserted into the receiving unit.

All churns and associated equipment must either remain behind the pit wall or be contained entirely within the pit garage. Churns may be moved into pit lane from the pit garage a maximum of three minutes prior to any pit stop.

### 5.2 Refuelling by Overhead Rig

- (i) **General:** This system envisages fuel being stored in a single rigid tank of fixed capacity (see Note), at a specific maximum height above the pit lane. Vehicles will be refuelled via a single flexible hose which in turn is fitted with a male probe unit of standard design (see article 4).
- (ii) **Design Requirements:** The maximum height of any part of the rig which contains fuel is two metres above the pit lane. Only non-fuel holding connections and vents are permitted above two metres.

The maximum capacity of the reservoir including the delivery hose is 220 litres which must in all circumstances allow 10% ullage (air space). See Note.

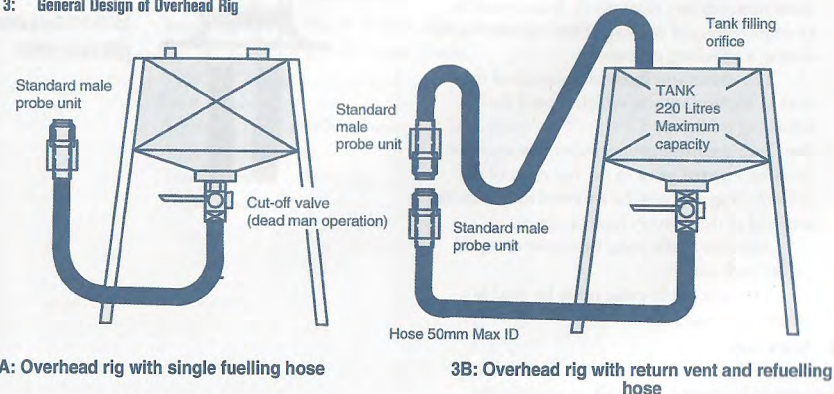
A single delivery hose, which must be of a flexible rubber or a fuel resistant reinforced plastic material must be connected to the "dead man" valve.

The flexible part of the hose must be at least 2.5m in length and of an ID no greater than 50mm.

The flexible hose must be connected to the male probe. A solid connecting sleeve (maximum length 300mm) is permitted between the hose and the probe, to assist with ease of handling.

The head of the male probe and all other metal parts of the system must be electrically connected to ground via a lead clipped to the delivery hose.

**Diagram 3: General Design of Overhead Rig**



**3A: Overhead rig with single fuelling hose**

**3B: Overhead rig with return vent and refuelling hose**

All parts of the refuelling system, including the male probe, the flexible hose, any connection sleeve, the cut-off valve and the reservoir must be electrically continuous and efficiently grounded.

The reservoir must be vented via an explosion safe shielded vent.

A filling orifice (maximum dimension 50mm) may be fitted to the main reservoir. Any refilling operations to the main reservoir must be carried out bearing in mind civil Occupational Health and Safety regulations.

No artificial pressurisation of the reservoir is permitted.

The vent must be open to the atmosphere and only atmospheric pressure may be exerted on the fuel in the main reservoir.

Any device which changes the ambient temperature of the fuel is prohibited.

The rig shall not be moved once filled and must be completely drained before moving.

The fire attendant must be "ready for action" during any refilling operations.

- (ii) **Use:** The rig, including the reservoir and delivery hose, must either remain behind the pit wall or be contained entirely within the pit garage. The delivery hose may only be moved into pit lane from the pit garage a maximum of three minutes prior to any pit stop. While in pit lane, the delivery hose must at all times be held by the relevant attendant.

**Note:** Overhead rigs identified as being in use prior to 1 January, 2001, shall remain acceptable until further advised.

## 6. VENTING DURING REFUELLING OPERATIONS

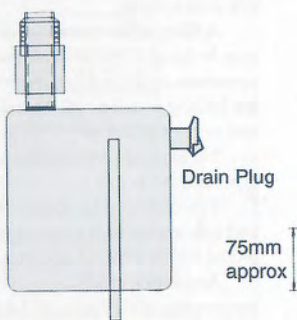
In all refuelling operations, the fuel tank/s of the vehicle must be vented through a standard coupling (see article 4), by one of two methods:

- a vent bottle; or
- a return vent.

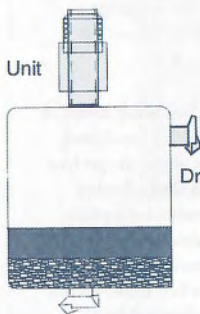
The return vent method is permitted only when using an overhead rig.



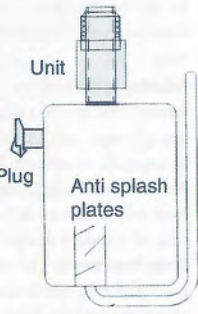
4A: Vent bottle with 30mm vent tube



4B: Vent bottle with anti-splash foam and vent cap



4C: Vent bottle with anti-splash baffles and vent tube



20 Litre maximum capacity

Vent tube max 30mm ID

### 6.1 Vent Bottles

- (i) **General:** The vent bottle system allows the fuel tank to be vented to the atmosphere via a standard coupling of identical size to that of the fuel receiving unit and a transparent or translucent container. This allows the re-fuelling attendant to visually determine when the tank is full and is designed to vent displaced air from the tank.
- (ii) **Design Requirements:** The maximum capacity of the vent bottle is 20 litres.

It must be constructed of an unbreakable, fuel resistant material, to a design that allows the contents of the bottle to be clearly seen.

The vent bottle must be fitted with a male probe standard coupling (see article 4).

The vent bottle must be fitted with a device which allows any contents in the bottle to be drained. This device must be closed during refuelling.

The bottle may be vented by one of three methods (see diagram 4). It must not be possible for liquid to escape from the vent bottle during a refuelling operation.

The maximum internal diameter of the vent to the atmosphere which is used during refuelling is 30mm.

- (iii) **Use:** During refuelling operations, the vent bottle must be inserted prior to the insertion of the delivery hose and may be removed only after the removal of the delivery hose or churn.

The vent bottle must be empty of liquid before each use.

The vent bottle must never be used as a refuelling container.

### 6.2 Return Vents

- (i) **General:** The return vent allows a fuel tank of a car to be vented to the ullage space in the

reservoir of the overhead refuelling rig (see diagram 3b). Care should be exercised due to the additional piping required when using this method of venting.

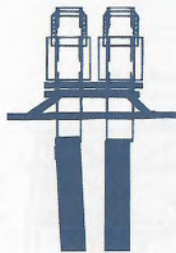
- (ii) **Design Requirements:** Maximum internal diameter at vent hose is 50mm.

The vent hose must only return to the reservoir tank.

If this system is used, the reservoir of the main tank must be vented externally to any pit garage.

- (iii) **Use:** If using "siamese" couplings, the equipment must be manufactured in a manner which allows the vent coupling to engage prior to the refuelling coupling and likewise the vent coupling must disengage after the refuelling coupling.

### Siamese Coupling



Standard male probe unit

# Section 8

## 5th Category – Historic Cars

### TABLE OF CONTENTS

<b>General Regulations</b>		<b>8 - 2</b>
<b>Events</b>		
- Circuit Races		<b>8 - 3</b>
- Speed Events		<b>8 - 3</b>
- Regularity Trials		<b>8 - 4</b>
- Historic Demonstrations		<b>8 - 4</b>
<b>Vehicle Eligibility</b>		
- General Requirements (all Groups)		<b>8 - 6</b>
- Historic Sports & Racing Cars	Groups Ja, Ka, Lb, M, O, P, Q, R	<b>8 - 8</b>
- Group V		<b>8 - 15</b>
- Historic Specials	Groups Jb, Kb, Lc	<b>8 - 16</b>
- Historic Touring Cars	Groups Na, Nb, Nc, C, A	<b>8 - 19</b>
- Historic Production Sports Cars	Groups Sa, Sb, Sc	<b>8 - 31</b>
- Equipment Standards & Guidelines		<b>8 - 36</b>
- Group N & Group S Seats		<b>8 - 36</b>
- Permitted Motorcycle Tyre List	Groups J, K, L	<b>8 - 37</b>
- Approved Tyre List	Groups N, S	<b>8 - 38</b>
- Component Substitution Criteria		<b>8 - 39</b>
- Roll Bar Guidelines		<b>8 - 39</b>
- Firewalls, Scattershields & Chainguards		<b>8 - 40</b>
- 5th Category Equipment Chart		<b>8 - 41</b>
- Group Jb and Kb Specials Guidelines		<b>8 - 45</b>

## 1. General Regulations

- 1.1 The following definitions and general requirements governing Historic Cars have been adopted to facilitate the organisation of competitions and meetings in which such vehicles are involved.
- 1.2 CAMS in its absolute discretion reserves the right to accept or reject any vehicle for Historic classification or to classify, withdraw classification, or re-classify a vehicle to a group which in its absolute discretion CAMS believes it conceptually belongs. The issue of all historic log books and Certificates of Description must be firstly authorised by the Historic Eligibility Committee and then issued through the CAMS National Office. A central register of Historic vehicles in all 5th Category groups is maintained by CAMS National Office. A determination by the Historic Eligibility Committee with regard to the historic classification of any vehicle will be unconditionally binding on any AMSAC, Tribunal or Steward's hearing or in any proceeding involving that determination. In the event of a dispute concerning a decision of the Historic Eligibility Committee aggrieved competitors may lodge an appeal in writing to the Historic Commission setting out the areas of dispute and providing any appropriate evidence which may be required in support of their claim.
- 1.3 Before commencing construction or modification of a special or the acquisition and/or restoration of a vehicle, it is most advisable that CAMS National Office or the State Historic Eligibility Officer be contacted regarding eligibility of the said vehicle.
- 1.4 Three-wheeled vehicles participating in events exclusively for Historic vehicles are exempted from NCR 12.
- 1.5 **Historic Certificate of Description:** All new Historic Vehicle Log Books being issued (with the exception of Groups N and S) are accompanied by a Historic Certificate of Description. This Certificate of Description is a recognition document identifying the specification in which the vehicle described has been approved by CAMS as eligible to compete in events for 5th Category Historic Cars. The vehicle must comply with the approved specification in all respects whenever it competes in such events. The Certificate provides no warranty of the authenticity of the vehicle or the originality of the approved specification and has been produced by CAMS based on the information available to it at the time of preparation. No responsibility can be taken by CAMS, its officers or staff for the accuracy of the data therein.

Entry forms for all 5th Category events

should include provision for the competitor to confirm that a Historic Certificate of Description has been issued by nominating the number of that document.

- 1.6 **Log Books:** The production of a properly entered Historic vehicle log book issued by CAMS is required by NCR 150. Vehicles in all Historic groups are to comply with the requirement of Schedule L – Vehicle Log Books. In addition:
- Vehicle Log Books must be endorsed for the 5th Category and/or titled "Historic Vehicle Log Book", and
  - Vehicles must comply with their Certificate of Description (where such a document is required), or specification sheet. Such Certificate of Description or specification sheet being a Recognition Certificate as referred to in Schedule L.

When log books are requested to be presented, a Certificate of Description (where required) must also be presented.

Entry forms for all 5th Category events should include provision for the competitor to confirm that a Historic vehicle log book has been issued by nominating the number of that document.

- 1.7 **Temporary Permit to Compete:** A temporary permit to compete, specific to the 5th Category – historic cars, is acceptable as an alternative to the possession of a Historic Certificate of Description (refer section 1.5) or a Historic Vehicle Log Book (refer section 1.6). Such permits may be issued at the sole discretion of CAMS in the following circumstances:
- where a vehicle is visiting temporarily from outside Australia (refer section 1.8) or;
  - where an application for a Historic Certificate of Description and/or a Historic Vehicle Log Book has been submitted and is in course of process at the time an event entry is submitted.
- 1.8 **Visiting Vehicles:** The CAMS policy for 'overseas' competitor vehicle eligibility documentation is as follows:
- It is necessary for paperwork evidencing the eligibility of the vehicle in its country of origin to be presented to CAMS (eg, FIA HVIF).
  - In order to be used in competition, such vehicles are required to be subject of a Temporary Permit to Compete issued by CAMS for each event in which it is entered.
  - Overseas vehicles may be permitted to compete for up to 12 months from the date of issue of the first Temporary Permit to Compete, at the discretion of CAMS, without being required to hold a Certificate of Description. Thereafter the vehicle will require a CAMS Certificate of Description.
  - If it becomes apparent that there is an eligibility

problem with the vehicle, CAMS reserves the right to not issue a Temporary Permit to Compete for the vehicle. (Competitors should be aware of the requirements of Schedule L – Vehicle Log Books.)

- 1.9 **Eligibility Maintenance:** As indicated in para. 1.5, all 5th Category vehicles must comply with their approved specification as detailed on their Certificate of Description or Specification Sheets in all respects whenever they compete

## 2. Events

### 2.1 CIRCUIT RACES

2.1.1 **General conduct of events:** Circuit racing events for vehicles within the 5th Category may be programmed to cater for:

- Group Racing:** specific individual groups within the category; or
- Combined Group Racing:** a combination of several specific individual groups; or
- Divisional Racing:** a combination of vehicles from any of the individual groups with eligible vehicles selected on the basis of their perceived compatibility in performance potential. Any number of events of this type may be programmed at any one meeting to divide the overall entry into compatible performance divisions.

Engine capacity classes may be incorporated in any of these types of events or an overall engine capacity limitation placed on any event. It would generally be preferred that any engine capacity limitations selected be consistent with those commonly in use during the relevant period.

No specific limitations are imposed on vehicle combinations which will be permitted in combined group or divisional events but fields should consist of vehicles which are generally compatible in performance potential.

CAMS will hold the absolute discretion to disallow any proposed vehicle combinations which it considers might create safety hazards arising from speed differentials or visibility problems.

It would not generally be appropriate to combine events for Groups P, Q and R with those for earlier vehicles or to combine events for Historic Touring Cars with other groups because of visibility and performance characteristics. Further, because the technology and performance characteristics of historic Formula Ford are different from other cars in groups Q and R, it is generally desirable to group Formula Ford vehicles in separate fields whenever possible.

It would not generally be appropriate to combine events for Sports and GT cars and open wheel racing cars (Groups M, O, Q and R). Where there is sound reason to combine

in 5th Category events. Historic Technical Commissioners and Eligibility Officers are responsible for checking the compliance of vehicles with their approved specifications (ref. NCR 177 and 178).

- 1.10 **Awards:** The award of prizes of a monetary nature for competition in any 5th Category event is not permitted without the prior approval of the Historic Commission.

these cars, a risk analysis should be undertaken by the event organiser.

Within any group or combined group event, it will be permissible to include by invitation individual vehicles from other groups where such action is considered desirable to achieve the most performance-compatible field. Where such action is taken notation should be made in the program to record the subject vehicles' correct group classification and the event should be described in the program as including vehicles from other groups by invitation.

When programming combined group or divisional racing events, consultation with the state member of the Historic Commission or Historic Eligibility Committee is encouraged to assist determination of the most compatible mix of vehicles.

- 2.1.2 **Qualifying:** In any race exclusively for historic vehicles, all starters should have qualified within a maximum lap time variation of 130%. This limitation may be varied in that starters not meeting the limitation may be permitted to run on the recommendation of the Clerk of Course, subject to the individual approval of the Stewards of the Meeting. Regrouping of vehicles in other events should be considered as a means of achieving compliance with the 130% requirement.

- 2.1.3 **Driver Behaviour:** Compared with contemporary racing, historic racing enjoys several exemptions from vehicle safety standards as apply to modern cars. These exemptions could result in a lower level of driver protection and thus the code of conduct in historic racing must recognise this situation. Drivers of faster cars are expected to abide by a code of conduct whereby they do not seek to improve their position in the race during the lapping of slower cars. Similarly, drivers of cars being lapped must not seek to improve their position in the race when being lapped.

### 2.2 SPEED EVENTS

- 2.2.1 **Preamble:** Classes exclusive to the 5th Category or any group or groups within the 5th Category may be included in any speed events conducted

in accordance with the requirements set out in Section 10 of the CAMS Manual.

### 2.3 REGULARITY TRIALS

**2.3.1 Preamble:** Regularity Trials are a variation of the rules for Historic competition to allow those, who are unwilling to race, to run their cars for their own enjoyment and that of the spectators. It is a competition in the form of a trial of regularity; it is not a speed event. As such, it is exempted from some of the requirements of race competition.

The continuing existence of regularity trials relies upon the exercise of common sense and, more particularly, good judgement on the part of the organisers in accepting or rejecting entries for specific events. Gross variations in potential speed (from car to car) are not condoned, and lap times close to racing lap times for specific vehicles are also unacceptable.

**2.3.2 Lap times:** At a time set by the organisers, prior to the event, each competitor will nominate a lap time for the event. Organisers have the right to refuse to accept a nominated time, if it is deemed to be unreasonable. In such cases, the competitor will be required to nominate another lap time, which is acceptable to the organisers.

For each lap on which the competitor records a lap time less than his nominated time, a penalty of two points per second shall apply. For each lap greater than his nominated lap time, a penalty of one point per second shall apply. The winner is the competitor who has completed the required number of laps and has accrued the least penalty points.

**2.3.3 Special Conditions:** Organisers may assemble fields based on lap times, car type or category.

It is forbidden to mix Touring Cars with any other Category unless approved by the CAMS State Manager and the local Historic Commissioner or Historic Eligibility Officer.

No passengers may be carried while competing.

**2.3.4 Eligible Cars:** At the discretion of the Event Organisers historic regularity events may include any vehicle of a type suitable for inclusion in Groups J, K, L, M Sports, S, Na, Nb plus other pre-1970 sports and GT cars that fall outside these guidelines.

Cars must be presented substantially in period specification. Acceptance of a vehicle for an event is not a guarantee of acceptance at other events.

Additionally, the inclusion of other cars is permitted, subject to the Event Organiser having reached agreement with the CAMS State Manager and the local Historic Commissioner or Historic Eligibility Officer.

**2.3.5 Event Starting:** Competitors will be marshalled in the pit lane or marshalling area (as appropriate to the circuit layout) in order of nominated lap times, with the fastest cars to the front. On

being directed, the cars will enter the circuit for a warm-up lap during which, overtaking is prohibited. Timing will commence for each car as it crosses the start/finish line at the beginning of the trial period and will continue until the prescribed number of laps are completed. Competitors shall continue until the end of the event is declared by the showing of the chequered flag.

**2.3.6 Competitor Requirements:** Competitors will be required to produce a current CAMS Level 2S or 2SJ Licence as a minimum, together with proof of current membership of a CAMS affiliated car club. Competitors must also provide evidence of:

- Previous experience in Regularity events or,
- Attendance at a CAMS Circuit Licence lecture or
- Successful completion of an advanced driving course, which has a high motor sport content.

**2.3.7 Safety Equipment:** Drivers must wear helmets and, in open vehicles, goggles/visors complying with Schedule D. CAMS recommends that competitors wear an approved full-face helmet when driving in open vehicles (refer Schedule D).

Fire resistant clothing as detailed in Schedule D – Apparel, is recommended but drivers must wear a minimum of a cotton “boiler suit/coveralls”, covering the body from ankles to wrists and neck, plus suitable and appropriate footwear, which does not have synthetic materials in the upper part. If drivers have racing overalls they are encouraged to wear them.

**2.3.8 General:** Cars competing in Regularity Trials must comply with the general requirements of Schedule A and paragraph 1.3 of 5th Category Historic Car Regulations. A fire extinguisher complying with Article 3 of Schedule H is required. Vehicle log books are not mandatory but if a log book has been issued, it must be presented at scrutineering.

### 2.4 HISTORIC DEMONSTRATIONS

**2.4.1 Preamble:** The intention of these events is to demonstrate the characteristics of historic vehicles and promote historic motor sport. They are also intended to encourage the display of historic vehicles that otherwise would not be seen in public.

They are not speed events and as such, are exempted from some of the requirements of race competition.

The ongoing existence of historic demonstrations relies upon the exercise of common sense and good judgement on the part of the organisers in accepting or rejecting entries for these events. Gross variations in potential speed (from car to car) are not condoned, and appropriate driver behaviour is a critical factor in the continuance of this part of historic motor sport.

The events to be held under these regulations are of a strictly non-competitive nature. Awards are only to be presented for reasons that are not related to vehicle performance.

**2.4.2 Special Conditions:** This Code and Regulations apply to the holding of non-competitive demonstration events for historic vehicles on closed public and private roads. For all events, organisers shall provide Supplementary Regulations as required by NCR 64.

Vehicles may carry a passenger, but only where the speeds are limited to a maximum of 125% of the normal road speed regulations and the event vehicles are preceded by a pace control car.

**2.4.3 Eligible Cars:** The vehicles that participate in these events are those that generally comply with vehicles from the periods described in the CAMS manual for 5th Category historic racing prior to 1 January 1970. Additionally, the inclusion of other cars is permitted, subject to the Event Organiser having reached agreement with the CAMS State Manager and the local Historic Commissioner or Historic Eligibility Officer.

A high standard of period presentation is a requirement and vehicles that are not presented in that fashion may be excluded from the event. The original style of paintwork and livery is encouraged. No advertising material or sign is permitted unless it was used on the subject vehicle in the period the vehicle is representing, or unless approved by the Historic Commission in accordance with Article 1.8 of the 5th Category – Historic Cars General Regulations. Vehicles may display numbers to aid their recognition by spectators. Such numbers must be removed or covered if the vehicle is driven on public roads other than at the event.

All vehicles will be required to have at least one of the following form of current registration:

- (a) Road registered
- (b) Club registration
- (c) Permit to operate an unregistered vehicle

Participating vehicles may be required to be subject to an exhaust noise emission test prior to starting in an event or at any time during the event. The maximum noise emission permitted (unless a specific exemption is obtained) is 95dB(A) measured at 30m distance whilst the vehicle is being driven under full acceleration.

**2.4.4 Driver Requirements:** The requirements for drivers in these events are not as stringent as for competitions such as speed events or regularity trials. However, as demonstrations may be conducted at speeds in excess of normal road speeds, unless restricted otherwise, these events shall be open to drivers who will be required to produce a current CAMS Level 2S or 2SJ

Licence as a minimum, together with proof of current membership of a CAMS affiliated car club.

**2.4.5 Safety equipment:** Drivers must wear helmets and, in open vehicles, goggles/visors complying with Schedule D. CAMS recommends that competitors wear an approved full-face helmet when driving in open vehicles (refer Schedule D).

Fire resistant clothing as detailed in Schedule D – Apparel, is recommended but drivers must wear a minimum of a cotton “boiler suit/coveralls”, covering the body from ankles to wrists and neck, plus suitable and appropriate footwear, which does not have synthetic materials in the upper part. If drivers have racing overalls they are encouraged to wear them.

Vehicles will be required to undergo safety scrutineering prior to the demonstration event. This will comprise a check of the suitability of the vehicle to be driven in excess of normally regulated road speed levels. Any vehicle shall be excluded from the event by the scrutineers if they ascertain it cannot be made comply with a suitable level of safety.

All vehicles must be equipped with a fire extinguisher that complies with Australian Standard 1841, 1846 or 1848 and must be of at least 900g capacity.

Seat belt, roll bars and other safety equipment are not a formal requirement of this type of events, but are highly recommended.

**2.4.6 Event approvals:** The organising body must be a CAMS-affiliated club, or a body working in conjunction with a CAMS-affiliated club.

These rules cover demonstration events run on closed public or private roads. Events run at other venues such as race circuits are covered in Section 7 of the CAMS Manual.

An application for a permit to hold a demonstration event must be submitted to CAMS State office eight weeks prior to the event, complete with copies of the supplementary regulations, the entry form and a plan of the event layout.

CAMS and police requirements regarding spectator safety and control must be observed.

It is mandatory that the roads involved in these events are positively closed to all except demonstration, safety and supervision vehicles. Any vehicular access to the course must be closed by a locked gate or equivalent or be supervised by road closure individuals.

Approval to close the roads involved in the event must be obtained from the local municipal authorities and police and all relevant authorities must be informed of the type of activity that is to be conducted on the road for which the approval is being sought.

**2.4.7 Running of the Event:** Participants and cars are to be arranged in groups of like performance.

The Organiser of the event is required to provide adequate competent staff to provide spectator control, course marshals, first aid facilities and scrutineering to ensure the event can be run in a safe and controlled manner.

The event is to be controlled by a Clerk of the Course who is responsible for the conduct and safety of the event. The Clerk of the Course has the authority to prohibit further participation of any driver who in his opinion is not participating in the spirit of the event. He can also stop individuals or the whole field if he feels driver or spectator safety is being jeopardised.

The length of the roads used shall be broken up into appropriate size sections that can be controlled by Course Marshals who are then responsible to the Clerk of the Course for the conduct of the event in the area they supervise.

Flag signals shall be employed for warnings and control in accordance with article 3.1 of Appendix H of the NCRs, except that when a blue flag is waved at a driver, the driver will promptly give adequate space and right of way

to the overtaking vehicle/s.

Each run during the event will be started with the Australian national flag and stopped with a chequered flag. Cars will be started either singly or in pairs at a minimum of two second intervals.

The Organiser will set minimum lap times for the course and the Clerk of the Course has the authority to remove from the event any driver who laps faster than the minimum time.

Prior to the event the Clerk of the Course will hold a compulsory drivers' briefing to review the conditions under which the event is being run, the use of flag signals and answer any questions from participants.

Entrants are recommended to check that their car and life insurance policies provide adequate cover while engaged in these events.

The CAMS organising permit fee payable for these demonstration events shall be that stated for Road Events Non-Special Stage per entrant, with a deposit based on 10 entries to be paid prior to the event, and any remainder to be paid within 14 days after the event.

over time, all of the vehicle's component parts. Component parts which have been discarded or set aside, including a replaced chassis frame or body unit will not retain any intrinsic element of the "line of history" of the subject vehicle. Where a chassis or body unit has been replaced this will normally be noted in the Certificate of Description.

In selecting appropriate overseas vehicles to race for a limited period in Australian 5th Category events, in terms of article 1.8, both genuine historic cars with a competition history and reconstructions of significantly important historic vehicles that are known to have been lost or destroyed and were approved as "authorised replicas" in the terms of the FIA Appendix K rules, are acceptable.

**3.13 Paintwork and signage:** The original style of paintwork and livery is encouraged. Tobacco advertising signage in accord with that carried during the historic group period will, however, be acceptable only on privately owned vehicles where the owner certifies that no direct or indirect benefit is received from any party in consideration for the carriage of such signage. This certification must be provided prior to the issue of any Certificate of Description evidencing the display of such signage.

The name of the driver may be shown on the vehicle, appearing once on either side in a position below the window line, in a size not larger than 40mm by 300mm.

A club badge, of an acceptable motoring

club, can appear on the vehicle. Each badge must be not larger than 150mm by 100mm and must be placed below the window line. Only two such badges are permitted, one on each side of the vehicle.

The territory of origin of the driver may be shown on the vehicle. Each sign must be not larger than 100mm by 150mm and must be placed below the window line. Only two such signs are permitted, one on each side of the vehicle.

No other advertising material or sign is permitted unless evident in the applicable group period (see relevant Group Articles) or, upon application by a promoter, specific approval is granted by the Historic Commission to allow the display of event sponsor signage. Applications should be submitted at least three months prior to the event in question. If approved, the positioning of such signage on the various Groups of historic vehicles will be determined by the Commission, having regard to vehicle type and historic precedent. Dimensions of any such signage must be in accordance with the restrictions set out in FIA Appendix K.

- 3.14 Safety:** Vehicles in all historic groups, while competing in events specifically limited to such vehicles and mixed category single car speed events, are exempted from normal CAMS requirements in respect of:
- fire extinguishing systems (but not fire extinguishers - refer Schedule H);
  - scatter shields (fitment of such is, however, recommended in vehicles where the plane of the flywheel or clutch crosses any part of the driver in the driving position - refer article 3.6.6);
  - roll bars (subject to the limitations of article 3.1.5);
  - safety-harness (subject to the requirements of article 3.1.6);
  - minimum bodywork;
  - towing eyes;
  - firewalls (although the fitment of these devices is in some cases desirable) - refer article 3.6.6.
  - starter motors;
  - reverse gears;
  - window nets; and
  - safety fuel tanks
  - fuel cut-off switches
  - rain lights.

These exemptions will not be applicable to any vehicle which was originally equipped with any of the above mentioned equipment or design features, or where the relevant 5th Category group regulations require their fitment.

All vehicles shall be equipped with a battery isolation (master) switch which effectively isolates all electrical circuits from the battery and stops the engine. It must be capable of being operated by the seated driver.

Vehicles using alcohol fuels must carry a fire extinguisher complying with Schedule H, applicable for use on an alcohol fire.

All tanks equipped with a quick-release filler cap shall have a secondary locking device or be wired shut.

**Helmets:** CAMS recommends that competitors wear an approved full-face helmet when competing in an open vehicle (refer Schedule D).

- 3.15 Roll bars:** It is strongly recommended that effective roll bars be fitted to all competing vehicles but, in Groups Ja, Ka and Lb, those which cannot be so equipped without serious adverse impacts on standards of authenticity and originality may be exempted from the requirement. Owners and drivers will be required to attest in writing their understanding of the additional risk of death or injury arising from their use of the car without roll over protection equipment.

Historic vehicles (except Groups Na, Nb, Nc, C, Sa, Sb and Sc - refer individual group regulations) are subject to the following possibilities:

- (a) no roll bar unless the vehicle was originally equipped with one (Groups Ja, Ka and Lb only); or
- (b) a roll bar based on CAMS 1973 requirements (see below).
- (c) a roll bar complying with Schedule J; or
- (d) a roll bar specifically approved by CAMS and conforming to the guidelines detailed in Standards 3.6.5.

Specifications for a roll bar assembly for possibility (b) above based on CAMS 1973 requirements are as follows:

**General configuration:** With the driver in the normal seated position, the roll bar shall:

- (i) be of height at least level with the top of the driver's helmet;
- (ii) not overhang the driver's helmet, but be within six inches (150mm) of the driver's helmet;
- (iii) in combination with the vehicle structure shall not leave unprotected any part of the driver's shoulder profile (when viewed from front or rear);
- (iv) be adequately braced longitudinally.

**Material:** Seamless or drawn welded steel tubing, either square or round in section, of minimum sectional dimensions as follows:

- Overall dimensions of main hoop members less than 600 mm by 600 mm: 1¼ inch (or metric equivalent) by 16 gauge.
- Overall dimensions of main hoop members more than 600 mm by 600 mm (eg, full-width roll bars on two-seat vehicles): 1¾ inch (or metric equivalent) by 12 gauge.
- Mounting plates, when used shall be of a minimum thickness of one-eighth inch (3mm)

## 3. Vehicle Eligibility

### 3.1 GENERAL REQUIREMENTS

**3.1.1 General:** Except where specifically identified these general requirements are applicable to all 5th category vehicles. Further detail requirements for individual groups are listed separately in articles 3.2 to 3.5.

**3.1.2 Philosophy:** The express purpose of these regulations is to ensure that vehicles in the various groups compete in a condition, mechanically and visually, compatible with the period of racing being portrayed. "Updating" in whatever form is not permitted. CAMS reserves the right to reject any vehicle which it considers not within the spirit of these regulations. Vehicles must conform with the appropriate group date specification in concept and in detail and which must represent one point in time in the vehicle's history. Where any doubt exists between Historic regulations and the original period specification, the latter will take precedence.

For Historic Groups other than Jb, Kb, Lc, S and N, a full history of the ownership and competition record of each vehicle should be provided to support any request for historic classification. This "line of history" should identify a continual chain of ownership and competition history dating from the manufacture of the vehicle until the present time. The "line of history" confirming the vehicle's provenance must follow the progressive history of the vehicle as an identifiable entity regardless of the possible replacement of any or

and shall adequately distribute stresses into the main structure of vehicle.

**Fabrication:** Where tube bending is employed all bends shall be of smooth form without crinkling or significant section weakening.

**Mounting:** All points of mounting of the roll bar structure shall be to substantial structural components of the automobile.

**3.1.6 Safety Harnesses:** Safety harnesses in compliance with Schedule I (type A or B) are compulsory for all groups other than those vehicles exempted from the fitment of roll bars in Groups Ja, Ka and Lb. In cars where belts are not compulsory, competitors are free to use a belt of their choice, but it is strongly recommended that belt types as described in Schedule I are used.

**3.1.7 Fuel:** Fuel as defined by CAMS must be used (refer Schedule G). The use of fuel other than commercial fuel or leaded racing fuel is permitted only if it can be demonstrated that the subject vehicle used other types of fuel during the group period. Prior approval of the Historic Eligibility Committee will be required for the use of such alternative fuels and will be noted in the subject vehicle logbook. It is mandatory that vehicles using alcohol fuels (where permitted) also carry a symbol in the form of the letter "A" in white on a red circle of approximately 115mm diameter with a white border. This symbol must be placed adjacent to the racing number on each side of the vehicle, and at the fuel filler cap.

5th Category vehicles may be subject to fuel testing as outlined in Schedule G but need not be equipped with specific systems to enable the drawing of fuel samples. Any sampling shall be undertaken with due regard to safety.

**3.1.8 Terminology:** The term "style", where used in relation to wheels, refers to Sankey, wire, cast steel centre etc.

By "original" is meant a component, which is in all respects identically similar to that originally fitted, as produced by the manufacturer who produced the original component/s, and is indistinguishable from it in all respects.

By "period" is meant the applicable group period of the vehicle in question.

**3.1.9 Forced Induction:** Vehicles in this category fitted with superchargers or turbochargers are not subject to a correcting factor as to displacement, unless applicable to the relevant group period.

**3.1.10 Competition Numbers:** Competition numbers carried by 5th Category vehicles must comply with the requirements of Schedule K, article 2 except as follows:

- Groups J, K, L, Sa and Na are exempted from the requirements as to background specified in Schedule K, article 2.3.
- All 5th Category vehicles which have a disc or rectangular background to the competition number may carry either black numbers on a white background or white numbers on a black background.
- Applications for exemption from the requirements as to background specified in Schedule K and/or for the carriage of numbers differing in typestyle, size, colour or placement to the normal requirements may be made in individual cases where the specified vehicle competed in such a visual form during the relevant group period. Approvals to such applications will be evidenced by inclusion in the logbook and Certificate of Description of photographs showing the approved style of competition number on the car.

**3.1.11 Engine Revolution Speed Limiters:** Electronic engine RPM limiters are permitted in all groups, but only limiters that are separate from and not part of a tachometer and that perform no other function.

**3.1.12 Acceptable Components:** The 5th Category Equipment Charts, Article 3.6.7, list the components, SU carburettors and electronic equipment that are acceptable for vehicles in each historic group. Where a specific period specification varies from the listed component, then that vehicle's period specification will prevail.

**3.1.13 Fuel Pump Cutoff Switches:** All vehicles fitted with electronic fuel injection systems must include an automatic cutoff that switches off power to the fuel pump after a maximum of six seconds' absence of crankshaft revolution.

**3.1.14 Electric Fans:** Electric fans may be added, provided that no part of the fan assembly is visible from the outside of the vehicle.

(a) **Chassis:** The chassis must be original and unmodified from period specification other than the addition of material to limited areas of the structure to provide local stiffening. Such modifications must not add new stressed members to the chassis and must not be designed to have an interacting effect which could be considered to provide a general

stiffening of the structure. Suspension pick-up points may not be moved.

(b) **Bodywork:** Must be original and unmodified from period specification, or replaced with a new body manufactured to the original design from materials and utilising construction methods evident in the period.

Vehicles are to run with all bodywork intact unless it was customary for the particular vehicle to do otherwise within the group period (eg, some mid-engine vehicles customarily ran without an engine cover).

(c) **Cockpit:** The cockpit configuration, particularly seat/s, steering wheel and instruments must be as fitted to the particular vehicle within the group period.

(d) **Engine:** Cylinder block, crankcase and cylinder head/s must be original.

Internal components of the engine are free,

Crankshaft stroke must remain unaltered from the period specification on the subject vehicle. The bore may be increased to a maximum of 1.5mm beyond the dimension evident on the subject vehicle within the group period.

Toothed belt drives and dry sump lubrication systems may be used only if fitted to the subject vehicle within the group period.

(e) **Exhaust System:** The exhaust system is free, but must be of a style evident in the group period. Any vehicle which was fitted with a distinctive or characteristic exhaust system in the group period is encouraged to retain it.

(f) **Induction System:** With the exception of Formula Ford Vehicles, manifolds are free, but carburettors must be of the period make, type and number fitted to the vehicle. The size may be altered. Superchargers, fuel injection and turbochargers are permitted only if fitted to the subject vehicle within the group period and must be original and unmodified.

(g) **Transmission:** Transmission: Gearbox casings must be original and contain the original number of forward ratios. Internal components are otherwise free.

(h) **Final Drive:** All external components of the final drive assembly must be original, with the exception of the "nose piece" which is free. All internal components are free.

(i) **Suspension:** The suspension must be unaltered from the period specifications on the subject vehicle.

Spring rates, ride height and damper settings are free. Fore and aft axle location on beam axle vehicles may be varied. Transverse location may not be altered from group period specification.

Externally adjustable shock absorbers and "Rose" type joints are permitted only if fitted to the subject vehicle in the group period.

(j) **Wheels and Tyres:** Wheels must be unaltered from period specification of the subject vehicle in diameter, width and style. Cast alloy wheels may be replaced with wheels cast in a different material, provided that the replacement remains identical in dimensions and appearance.

On individual application, cast alloy wheels may be replaced with a composite version, using the same style as the original wheels. Applications must be based on the substitution criteria to justify the replacement (refer art. 3.6.4 – Component Substitution Criteria.)

**Tyres:** Subject to individual group specific requirements and within the limitations of availability and practicality, tyres must be consistent in general appearance and tread pattern with those fitted to the vehicle or similar vehicles during the group period.

(k) **Brakes:** The braking system must be of the same type fitted to the vehicle within the group period. Drum brake systems may not be replaced by disc brake systems.

Brake discs and calipers must be of the make, style and size fitted within the group period.

Drum brakes may be replaced by others of period type. Cooling fins, scoops and ventilating holes may be added. Dual/tandem master cylinders may be fitted. Mechanical actuation may be converted to hydraulic operation.

(l) **Electrical Equipment:** Electrical equipment must be unaltered from period specifications and be fully operable.

Electronic ignition devices are permitted if used on the vehicle in the group period but must be to historic specifications.

An electric starter motor may be fitted.

Sports cars must be fitted with operable lighting and generating equipment compatible with the period.

**Electrical Equipment:** Engine management systems are not permitted unless originally fitted to the vehicle during the group period.

(m) **Aerodynamic Aids:** Aerodynamic aids in the form of "flaps", "tabs" or "spoilers" integral with the vehicle bodywork are permitted provided they are identical to those fitted to the vehicle during the group period. Such devices must be unaltered from period specifications in design, materials and mountings. Modern wing sections and aerodynamic technology inconsistent with the relevant period are not permitted.

## 3.2 Historic Sports and Racing Cars

### 3.2.1 GENERAL REQUIREMENTS

This section details the requirements common to all historic sports and racing cars with a competition history. The 'General Requirements' set out in article 3.1 also apply, together with additional specific requirements for individual groups detailed in the individual group sections.

(a) **Chassis:** The chassis must be original and unmodified from period specification other than the addition of material to limited areas of the structure to provide local stiffening. Such modifications must not add new stressed members to the chassis and must not be designed to have an interacting effect which could be considered to provide a general

## Group Ja

### Vintage Cars (Pre-1931)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

This group is intended to represent the early racing and sports car development period of significant excellence in design and workmanship known as the "vintage" period.

Vehicles eligible for this group will be racing and sports cars with a competition history established prior to 31 December, 1930. Consideration will also be given to individual sports cars that do not have an established competition history but are of a type that appeared in competition prior to the end of 1930.

#### Specific requirements additional to the General Requirements:

- (a) **Cockpit:** The use of electronic instruments is not permitted.
- (b) **Engine:** Any increase in the bore diameter shall be in keeping with the practice of the period on that particular type of vehicle and engine.
- (c) **Induction System:** Must be of a type compatible with the group period. Post-1930 carburettors are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are acceptable.
- (d) **Transmission:** Austin 7s may use a "Works Type" four-speed conversion within a Group J period three-speed case.
- (e) **Tyres** must have a minimum aspect ratio of 70% as determined by the Tyre and Rim association.

In addition, the use of motorcycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating. The permitted list of motorcycle tyres appears in Standards 3.6.2.

## Group Ka

### Post-Vintage Thoroughbred Cars (1931-1940)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

This group is intended to represent the pre-World War II and early post-World War II periods, which includes the classically engineered factory racing and sports cars, local specials constructed on a "one-off" basis, using production car components from the pre-war period and factory constructed vehicles that were modified with production car engines from pre-war period.

Vehicles eligible for this group will be racing and sports cars with a competition history established between 1 January, 1931 and 31 December, 1949, but constructed from major components manufactured prior to the end of 1940. Consideration will also be given to individual sports cars that do not have an established competition history but are of a type that appeared in competition prior to the end of 1940.

#### Specific requirements additional to the General Requirements:

- (a) **Cockpit:** The use of electronic instruments is not permitted.
- (b) **Engine:** Any increase in the bore diameter shall be in keeping with the practice of the period on that particular type of vehicle and engine.
- (c) **Induction System:** Must be of a type compatible with the group period. Post-1940 carburettors are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are acceptable.
- (d) **Tyres** must have a minimum aspect ratio of 70% as determined by the Tyre and Rim association.

The use of motorcycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating. The permitted list of motorcycle tyres appears in Standards 3.6.2.

## Group Lb

### Historic Racing & Sports Cars (1941-1960)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

Vehicles classified in this group will reflect the post-World War II period of technology changes extending from the first of the post-war designs through an evolution culminating with the first of the mid-engined vehicles of the late 1950s.

Eligibility will be open to racing and sports cars with a competition history established in the period between 1 January, 1941 and 31 December, 1960, but excluding vehicles constructed from pre-1940 components which are eligible for classification in Group K. The group will include all vehicles constructed specifically to the post-war 500cc Formula 3 even if such vehicles are constructed from pre-1946 components.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January, 1941 and 31 December, 1960 but with a competition history established subsequent to 31 December, 1960 or, in some circumstances, without a racing history provided the specification of the vehicle is consistent with the general standard of technology evident in vehicles raced during the group period and the vehicle is compatible in appearance with such vehicles.

#### Specific requirements additional to the General Requirements:

- (a) **Induction System:** Motor cycle-engined vehicles originally fitted with Amal carburettors may use Amal Concentric Mk 1 carburettors.
- (b) **Tyres** must have a minimum aspect ratio of 70% as determined by the Tyre and Rim Association.

A selected list of motor cycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating. The permitted list of motorcycle tyres appears in Standards 3.6.2.

## Group M

### Historic Racing & Sports Racing Cars (1961-1965)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

The group is intended to cater for racing, sports racing and sports cars with a competition history established in the period between 1 January, 1961 and 31 December, 1965. Such vehicles will reflect the development of more advanced design features such as complex space frame and monocoque structures, sophisticated adjustable suspension systems and the commencement of wide racing tyre development.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January, 1961 and 31 December, 1965 but with a competition history established subsequent to 31 December, 1965 or, in some circumstances, without a racing history, provided the specification of the vehicle is consistent with the general standard of technology evident in vehicles raced during the group period, and the vehicle is compatible in appearance with such vehicles.

Formula Vee vehicles are specifically excluded from this Group.

#### Specific requirements additional to the General Requirements:

- (a) **Transmission:** Vehicles which were fitted with VW based transmissions in the group period may not use Holinger or Hewland gear change mechanism or external features unless so equipped originally.
- (b) **Wheels and Tyres:** Tyres must generally have a minimum aspect ratio of 60% as determined by the Tyre and Rim Association. The use of motorcycle tyres or slick treaded tyres is prohibited.

Tyres permitted in this group must be selected from the following approved list.

#### Group M approved tyre list:

Dunlop	R5, R6 (CR48 L section), R7 (CR65 M section), R7 (CR65 L section)
Goodyear	Blue streak sports car specials G-12, G-12A (K)
Avon	ACB9
Hoosier	Vintage TD

The addition of other types of tyre to the lists will be considered on application.

Additional grooving is permitted to the existing range of tyres on the approved tyre list.

## Group O

Historic Racing & Sports Racing Cars (1966-1969)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

This group is intended to cater for racing, sports racing and sports cars with a competition history established in the period between 1 January, 1966 and 31 December, 1969, excluding vehicles fitted with aerodynamic devices as defined under "specific requirements" below. Formula Vee, Formula Ford and Formula 5000 cars are also specifically excluded from this group which is intended to reflect the development of wide treaded tyre technology and its effect on suspension and chassis design but stopping short of the period when external aerodynamic devices became a major design feature with a significant impact on cornering performance.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January, 1966 and 31 December, 1969 but with a competition history established subsequent to 31 December, 1969, or in some cases without a competition history, provided that the specification of the vehicle is consistent with the general standard of technology evident in vehicles raced during the group period and the vehicle is compatible in appearance with such vehicles.

### Specific requirements additional to the General Requirements:

- (a) **Wheels and Tyres:** Tyres must generally have a minimum aspect ratio of 60% as determined by the Tyre and Rim Association, unless it can be demonstrated that the vehicle was fitted with tyres of less than 60% aspect ratio in the group period.

The use of motorcycle type tyres or "slick" treaded tyres will normally be prohibited but the use of grooved slicks may be permitted on individual vehicles. The tread pattern of each grooved slick must be to period specifications and approval for the use of such tyres must be verified by appropriate endorsement in the vehicle log book.

Prior approval for the use of grooved slicks must be obtained from the Historic Eligibility Committee.

Applications for approval must be submitted to the CAMS Historic Department at least 21 days prior to the first expected use

of the tyres. It will be expected that the original diameter relationship between front and rear tyres be maintained and that variations from the original diameter and tread width would not normally exceed 5% and 10% respectively. Tyres permitted in this group must be selected from either the following approved list or the approved list for Group M.

### Group O approved tyre list:

Dunlop	R7 (CR65 Mk 3), CR 82, CR 84, R7 (CR65 L section).
Goodyear	Eagle G-7, G-15, G15-A.
Avon	ACB 9, Avon grooved slick (A11 compound) on individual application.

The addition of other types of tyre to the lists will be considered on application.

Additional grooving is permitted to the existing range of tyres on the approved tyre list.

- (b) **Aerodynamic Aids:** The use of aerodynamic aids in the form of "wings" not comprising an integrated component of the bodywork is not permitted even if such devices were fixed to the vehicle during the group period. Such cars will be classified in Group Q. However, cars originally fitted with aerodynamic "wings" in the Group O period may remove them to be classified in Group O.

## Group P

Formula 5000 Racing Cars (Pre-1978)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

Factory-built Formula 5000 racing cars specifically designed to F5000 regulations and constructed before 31 December, 1977; or Australian built specials, constructed specifically for F5000 and raced in F5000 events before 31 December, 1977. A clear line of history is required for any subject vehicle. Vehicles may not be constructed from spares or damaged/cast-off components (a tub or chassis does not necessarily constitute a vehicle). Owners must present vehicles in their "most significant" historical format. Only modifications compatible with the group period and to that particular vehicle will be accepted. Vehicles in this group only shall be eligible for any prize or trophy awarded for a F5000 car.

### Specific requirements additional to the General Requirements:

- (a) **Engine:** Cylinder blocks and heads must be of pre-1978 manufacture (CAMS may consider a model run-on in certain circumstances). The bore and stroke must be as used on the subject vehicle in the group period. Other limitations on engine components in force for F5000 at 31 December, 1977 apply. Otherwise internal engine components are free.  
**1977 F5000 engine regulations are reproduced hereunder:**  
Unsupercharged engines of V8 overhead valve pushrod configuration, the cylinder block of which derives from a CAMS-recognised touring vehicle, of up to 5000cc capacity. The following restrictions apply:
- displacement may be obtained by alteration of the bore and/or stroke;
  - the location and/or number of camshafts may not be changed and
  - the number of main bearings may not be changed.
- (b) **Aerodynamic Aids:** Aerodynamic aids are permitted only if fitted to the particular vehicle within the group period. Such devices must be unaltered from period specifications in design, materials and mountings. Modern wing sections and aerodynamic technology are not permitted.
- (c) **Safety Equipment:** Roll over protection and harness must be at least to the specifications evident at the close of the group period. "On board" fire extinguisher and life support systems are recommended. A tail lamp as required in the group period must be operative.
- (d) **Weight:** The minimum weight of the vehicle including coolant and lubricants, but not including fuel and driver, shall be 1350lb (613kg).

## Group Q

Historic Racing & Sports Racing Cars (1970-1977)



The classification of vehicles within this group will be at the absolute discretion of CAMS.

The group is intended to cater for racing, sports racing and sports cars with a competition history established in the period between 1 January, 1970 and 31 December, 1977, and for vehicles excluded from classification within other groups of the 5th Category because of the nature of aerodynamic devices with which they are fitted. Formula Vee and Formula 5000 cars are specifically excluded from this group

which is intended to reflect the development of aerodynamic technology as an aid to cornering performance but without extending to the period when such technology extended to the use of the vehicle underbody as an aerodynamic aid, ie, the wing car era.

Formula Ford vehicles classified in this group will generally be restricted to those equipped with "outboard" rather than "inboard" mounted springs and shock absorbers. Consideration will, however be given to classification of Formula Ford vehicles equipped with "inboard" mounted springs and shock absorbers where the general design standard of the vehicle is consistent with Group Q period.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January, 1970 and 31 December, 1977, but with a competition history established subsequent to 31 December, 1977 or in some cases without a competition history, provided the specification of the vehicle is consistent with the general standard of technology evident in vehicles racing during the group period and the vehicle is compatible in appearance with such vehicles.

Vehicles which competed prior to the end of 1972 and which are fitted with aerodynamic aids in the form of wings and treaded tyres in accord with the Group O approved tyre list may be classified Qa.

### Specific requirements additional to the General Requirements:

- (a) **Engine:** Formula Ford vehicles must use either the Ford Cortina 1600GT crossflow engine (original engine) or the Ford Capri XL 1600 crossflow engine (updated engine). Vehicles equipped only with the updated engine during the group period may not use the original engine. Original engines must comply in full detail with the specifications set out for such engines in the 1970/71 CAMS Manual; updated engines must comply in full detail with current Formula Ford engine regulations save that the water pump must be mechanically driven and in the original location.
- (b) **Final Drive:** Torque biasing, limited slip and locked differentials are not permitted in Formula Ford cars.
- (c) **Tyres:** With the exception of Formula Ford Cars, the use of slick tyres will be permitted on vehicles that originally used such tyres during the group period.  
The make, type, specification and dimensions of tyres for use on historic Formula Ford vehicles are those tyres approved by the Historic Commission, viz: Dunlop CR82 9092. Where treaded tyres are used the tread pattern is free.
- (d) **Safety Equipment:** Roll over protection and harness



must be at least to the specifications evident during the group period.

## Group R

### Historic Racing & Sports Racing Cars (post-1977)



The classification of vehicles within this group will be at the sole discretion of CAMS.

This group is intended to cater for racing, sports racing and clubman sports cars with a competition history established in the period between 1 January, 1978, and the various end dates shown under 1.1 Eligible Vehicles shown below.

Formula Vee cars are specifically excluded from classification within this group. Vehicles of other types not specifically included may be considered but, to be considered, they must have a competition history and be constructed to a design specification consistent with the period the group is intended to portray. Vehicles of a design and type specification consistent with those appearing in contemporary categories will not be eligible.

Consideration may also be given to classification within this group of vehicles with a competition history established subsequent to the dates defining the group period, or in some cases without a competition history provided that:

- the detailed specification of the vehicle is substantially identical to others of that make constructed within the group period; or
- construction commenced during the group period and the vehicle is compatible in appearance and its specification is consistent with the general standard of technology evident in vehicles of that type racing in the group period.

The group is intended to cater for vehicles employing more sophisticated chassis, suspensions and aerodynamic technology but specifically excluding vehicle types seen in contemporary categories.

**Eligible Vehicles:** Eligible vehicle types and the period end dates are as follows:

- FIA Formula 1, with a competition history prior to 31 December, 1985.
- FIA Formula 2 with a competition history prior to 31 December, 1986.
- FIA Formula 3 with a competition history prior to 31 December, 1984.

- Formula B (SCCA), Atlantic, Pacific and Mondiale cars with a competition history established in Australia, New Zealand, Asia, the UK or North America prior to 31 December, 1986.
- Formula Ford with a competition history prior to 31 December, 1983, but excluding the Swift DB1.
- Sports racing cars (ie, two-seater, road-equipped vehicles of specialist design intended specifically for motor racing use) with a competition history in Australia prior to 31 December, 1987. Sports racing or sports prototype cars with a competition history outside of Australia will be considered individually within the terms of item 1 - Eligibility, above.
- Clubman sports cars with a competition history in Australia prior to 31 December, 1981.
- Australian Formula 2 cars with a competition history prior to 31 December, 1985.
- Sports 2000 cars, with a competition history prior to 31 December, 1984. Cars classified in this group must conform to the Sports 2000 rules in the country where the car competed.

#### Specific requirements additional to the General Requirements:

- (a) **Engine:** Formula Ford vehicles must use either the Ford Cortina 1600GT crossflow engine (original engine) or the Ford Capri XL 1600 crossflow engine (updated engine). Vehicles equipped only with the updated engine during the group period may not use the original engine. Original engines must comply in full detail with the specifications set out for such engines in the 1970/71 CAMS Manual; updated engines must comply in full detail with current Formula Ford engine regulations save that the water pump must be mechanically driven and in the original location.
- (b) **Final Drive:** Torque biasing, limited slip and locked differentials are not permitted in Formula Ford cars or on other vehicle types which were not permitted to use such equipment in the period.
- (c) **Wheels and Tyres:** The make, type, specification and dimensions of tyres for use on Historic Formula Ford vehicles are those tyres approved by the Historic Commission, viz. the Dunlop CR82 9092 tyre.
- (d) **Aerodynamic Aids:** Any part having an aerodynamic influence and/or any part of the coachwork must be rigidly secured to the entirely sprung part of the chassis/monocoque structure of the car. Cars built using ground effects principles must have any sliding skirts removed, or immobilised at a height of not less than 40mm above the surface of the ground. Cars with fixed side skirts may retain them, but no part of the skirt may be lower than 40mm above the surface of the ground, measured whilst the car is stationary on a flat horizontal surface with the driver on board.

The intention of these requirements is to control ground effects by prohibiting the sealing of the gap between the coachwork and the road surface and to do so in a uniform and consistent manner. Any means adopted to circumvent this intention shall automatically be regarded as a breach of these requirements.

- (e) **Vehicle Identification:** In addition to vehicles in this class complying with Schedule K of this Manual all vehicles must display an upper case "R" being black in colour, 100mm in height in typeset Helvetica Bold Condensed immediately following the vehicle's racing number at the bottom right hand corner and within the number panel.
- (f) **Safety Equipment:** Roll over protection and harness must be at least to the specifications evident during the period.

## Group V

### Formula Vee racing cars pre-1975.



The classification of vehicles within this group will be at the absolute discretion of CAMS.

The group is intended to cater for Formula Vee racing cars with a competition history established in the period between 1 January 1965 and 31 December 1974.

Consideration may also be given to the classification within this group of vehicles constructed between 1 January 1965 and 31 December 1974 but with a competition history established subsequent to 31 December 1974, or in some cases without a competition history, provided that:

- The specification of the vehicle is consistent with the Formula Vee rules and general standard of technology in vehicles raced during the group period and;
- The vehicle is compatible in appearance with such vehicles.

#### Specific requirements additional to the General Requirements:

The general requirements set out in sections 3.1 and 3.2.1 of the 5th Category regulations are applicable to all historic Formula Vee vehicles except where these provisions are in conflict with period Formula Vee regulations.

#### Period Rule Compliance:

While maintaining the original specification as required in section 3.2.1, historic Formula Vee vehicles must comply with all details of the Formula Vee regulations published in the 1974

If a fire extinguishing system was fitted in the period, then that fire extinguishing system as used in the period is the minimum requirement. Vehicles must also comply with the requirements of Schedule H as to the extinguishing medium.

- (g) **Tyres:** With the exception of Formula Ford Cars, the use of slick tyres will be permitted on vehicles that originally used such tyres during the group period.

The make, type, specification and dimensions of tyres for use on historic Formula Ford vehicles are those tyres approved by the Historic Commission, viz. Dunlop CR82 9092.

Where treaded tyres are used the tread pattern is free.

CAMS Manual, except in respect to the specific variations permitted below. Copies of the 1974 period regulations are available on request from the CAMS National Office.

#### Variations permitted from Original Period Specification:

- (a) **Wheels and Tyres:** The make, type, specification and dimension of tyres used on Historic Formula Vee vehicles are those tyres approved by the Historic Commission, viz. the Dunlop CR82 (434) or the Bridgestone RA 500 (K6, K9 and K2) until 31 December 2006. Rim widths up to 4.5 inches are allowed.
- (b) **12 Volt Battery:** The use of a compact 12 volt battery is allowed.
- (c) **Lubrication System:** An external oil filter and sump extensions up to a maximum extra capacity of 500cc are allowed.
- (d) **Engine:** The use of an FVAA camshaft is allowed. When using an FVAA camshaft an offset keyway to maintain standard timing specifications is allowed.

Bosch 009 ignition distributor is allowed.

- (e) **Mandatory Safety Requirements:** In addition to the safety equipment requirements set out in section 3.1, all Historic Formula Vee vehicles must have the following safety modifications:
  1. To reinforce the hollow LH front stub axle against breakage, the axle is to be fitted with an 8mm high tensile bolt or pin (grade 8.8 min.) Such pin or bolt shall be a minimum of 75mm in length, be inserted into the hole originally provided for the fitment of the speedometer cable and is to be held in place by resin.
  2. To prevent loss of a rear wheel due to cracking of a rear brake drum, a steel diaphragm must be fitted between the rear wheel and the brake drum.
- (e) **External oil coolers** are permitted to be fitted to Group V vehicles.

## 3.3 Historic Specials

### 3.3.1 GENERAL REQUIREMENTS

Subject to the general requirements set out in article 3.1 this section sets out the basic principles for the construction of 'historic specials', that is Group Jb, Kb or Lc period cars constructed at any time using major components manufactured in the relevant periods. Such vehicles must be similar in detail specification and appearance to vehicles that actually appeared in competition, in the period time. Guidelines for the design and construction

of a Jb or Kb special are included in Standards 3.6.8.

Before commencing construction of a special it is most advisable that CAMS National Office or the State Historic Eligibility Officer be contacted regarding the eligibility of the said vehicle and a submission for Approval in Principle be made.

The classification of vehicles within these groups will be at the absolute discretion of CAMS.

### General requirements for Group Jb and Kb Specials:

- (a) **Chassis:** Must be sourced from a period vehicle, but may be modified in a way that was typical of the period.
- (b) **Bodywork:** Must be manufactured from materials and utilise construction methods evident in the period. Glass fibre and other similar materials are not permitted.
- (c) **The cockpit configuration** and materials must be compatible with the group period, particularly instruments, steering wheel and seats. The use of electronic instruments is not permitted.
- (d) **Engine:** Internal components of the engine are free, but cylinder block, crankcase and cylinder head/s must be from the period.

Cylinder head/s, crankcase and cylinder block must be as used together in the period. Interchange between makes or models is not permitted unless it can be demonstrated as common practice within the group period.

Dry sump lubrication is not permitted unless fitted as original equipment by the manufacturer.

Toothed belt drives are not permitted.

Any increase in swept volume shall be in keeping with the practice of the period on that particular type of vehicle and engine, save that the crankshaft stroke must be to the original specifications.

- (e) **Exhaust system:** is free, but must be of a style evident in the group period.
- (f) **The induction system** must be of a type compatible with the vehicle within the group period. Multi-choke carburettors and/or superchargers are not permitted unless they were used on that type of engine in the period, and they are of a period type. Fuel injection and/or turbocharging is not permitted.
- (g) **Transmission:** Gearbox casings must be original and contain the original number of forward ratios. Internal components are otherwise free. Austin 7 Specials may use a "Works Type" four-speed conversion within a Group J period three-speed case.

- (h) **Final Drive:** All external components of the final drive assembly must be of the period, with the exception of the "nose piece" which is free. All internal components are free.
- (i) **Brakes:** The braking system must be of a type fitted to vehicles of the type depicted within the period save that:
  - mechanical actuation may be converted to hydraulic operation; and
  - dual/tandem master cylinders may be fitted. Disc brakes and/or non-period brake boosters are not permitted.
- (j) **Suspension:** The suspension system must remain unchanged from a specification evident during the group period on the type of vehicle depicted.

Hydraulic shock absorbers are not permitted unless fitted as original equipment or used on the type of vehicle depicted.

Spherical or "Rose" type joints are not permitted.

- (k) **Wheels and Tyres:** Wheels must be period specifications in diameter, width and style.

Tyres must have a minimum aspect ratio of 70% as determined by the Tyre and Rim Association and, within the limitations of availability and practicality, must be consistent in general appearance and tread pattern with those fitted to the vehicle or similar vehicles during the group period.

In addition, the use of motorcycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating. The permitted list of motorcycle tyres appears in article 3.6.2.

- (l) **Electrical Equipment:** Alternators, electric fans, and any form of electronic ignition devices are not permitted. Electric starter motors may be fitted. Sports cars must be fitted with operable lighting and generating equipment compatible with the period.

### 3.3.2 Specific Requirements

#### Group Jb Specials

Vintage Period (Pre-1931)



One-off "special" type vehicles constructed at any time using major components (ie, using engine, chassis, transmission, axles and suspension) manufactured prior to the end of 1930. Such vehicles must be similar in detailed specification and appearance and designed to depict vehicles that actually appeared in competition prior to the end of 1930.

#### Specific requirements additional to the General Requirements:

- (a) **Post-1930 carburettors** are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are accepted.
- (b) **Wheels:** Minimum rim diameter is 18" and the maximum rim width is 3 1/2".

#### Group Lc Specials

Historic Production Sports Cars (1941-1960) Squareriggers



Production sports cars recognised by CAMS manufactured after 1 January 1941, but prior to 31 December 1960.

Vehicles which are of such construction as to readily permit the removal of mudguards and windscreen – where these do not form an integral part of the body – may qualify for Group Lc. Where it can be demonstrated that a vehicle of the subject type competed in this form in the group period, these vehicles may compete in stripped form as racing cars or, with said equipment fitted, they may also compete as sports cars.

Vehicles may vary from original specifications only in a manner which is consistent with retaining the nature of a road registered and road used vehicle. In particular,

#### Group Kb

Post-Vintage Period (1931-1940)



One-off "special" type vehicles constructed at any time using major components (ie, using engine, chassis, transmission, axles and suspension) manufactured prior to the end of 1945. Such vehicles must be similar in detailed specification and appearance and designed to depict vehicles that actually appeared in competition prior to the end of 1940.

#### Specific requirements additional to the General Requirements:

- (a) **Post-1940 carburettors** are not permitted except in the case of SU instruments, in which case later units up to and including "H" type are accepted.
- (b) **Wheels and Tyres:** Minimum rim diameter is 16" and the maximum rim width is 4".

no change to track, wheelbase, engine position or suspension medium may be made.

Engine and transmission must be of the type normally fitted to the model in question. Vehicles in this group are not required to have a racing history.

Before commencing construction of a special it is most advisable that CAMS National Office or the State Historic Eligibility Officer be contacted regarding the eligibility of the said vehicle and a submission for Approval in Principle be made.

- (a) **Bodywork:** All elements of the bodywork – including external fuel tank if original equipment on the subject vehicle – must be original, save that cycle type mudguards may be used.

Cycle-type mudguards, if fitted, must provide coverage of at least one third of the circumference of the tyres, over at least the full width of the wheel and tyre, as it is viewed both vertically and horizontally. A steel bonnet may be replaced by a bonnet of alloy construction. Louvres may be added to or omitted from the

bonnet. In the case of vehicles with multiple piece folding bonnets, the sides may be removed. Original body bulkheads and fire walls must be intact and all doors must be operable.

When competing as a racing car the removal of mudguards, lamps, spare wheel, running boards and mounting brackets is permitted.

- (b) **Cockpit:** The configuration and materials of the cockpit, in particular the steering wheel, instruments and seats, must be compatible with the group period. Electronic instruments are not permitted.

The cockpit must be of a stripped rather than a specially-constructed nature. The passenger seat may be removed when the vehicle is competing as a racing car.

- (c) **Engine:** The internal components of the engine are free save that the original cylinder block and cylinder head/s must be used.

The cylinder head/s may be modified provided such modification is effected only by the removal of metal.

Any increase in swept volume shall be in keeping with the practice of the period on that particular type of vehicle and engine, save that the crankshaft stroke must be to the original specifications.

Toothed belt drives are not permitted.

Dry sump lubrication system is not permitted unless original equipment.

- (d) **Exhaust Systems:** The exhaust system is free but should be of a type compatible with the period.
- (e) **Induction Systems:** Inlet manifolds are free but carburettors must be of the original make, model and number on the vehicle. The choke size is free. Superchargers, multi-choke carburettors or fuel injection are permitted only if part of the original specification for that make and model, and must remain unchanged from that original specification.
- (f) **Transmission:** Gearbox casings, gear selection mechanisms and the number of forward ratios must be to the original manufacturer's design specifications. Internal components are otherwise free.
- (g) **Final Drive:** The external components of the final drive assembly must be unaltered from period specifications. Internal components are free.
- (h) **Brakes:** In the case of disc brake systems, the brake disc and calipers must be original. Drum brakes may be modified or replaced with others of a period type. Drums and/or backing plates may be ventilated and/or fitted with cooling fins.

Dual/tandem master cylinders may be fitted.

Mechanical actuation may be converted to hydraulic operation.

Drum brakes may not be replaced by disc brakes.

- (i) **Suspension:** The suspension must be unaltered from the original specifications save that spring rates, ride height and damper settings may be altered.

Adjustable shock absorbers are not permitted.

Fore and aft axle location may be varied but transverse location may not be altered.

Spherical or "Rose" type joints are not permitted.

- (j) **Wheels and Tyres:** Must be unaltered from period specification on the subject vehicle in diameter and style.

Wheel sizes are to be as commonly used on vehicles of this type in the period, eg, MG TC: 16" diameter by 4" rim width.

In no circumstances may wheel diameter be less than 15" nor rim width greater than 5".

Tyres must have a minimum aspect ratio of 70% as determined by the Tyre and Rim Association and within the limitations of availability and practicality must be consistent in general appearance and tread pattern with those fitted to the vehicle or similar vehicles during the group period.

In addition, a selected list of motor cycle tyres is permitted for use in this group, provided they are fitted on the correct width rims and are operated within their specified load rating.

Short life and low profile tyres will not be permitted. Historic period design tyres made with modern "sticky" compounds are not acceptable. Tread patterns must be of period style.

The permitted list of motorcycle tyres appears in article 3.6.2.

- (k) **Electrical Equipment:** All electrical equipment must be unaltered from the original specifications and be fully operative.

Dynamo/generator may not be replaced by an alternator.

Electric fans and any form of electronic ignition devices are not permitted.

The generator and/or lighting equipment may be removed whilst vehicles are participating as racing cars.

- (l) **Optional Equipment:** Optional equipment is permitted in this group only if detailed in either:

- an original manufacturer's workshop manual; or
- a spare parts catalogue; and
- is specifically accepted by CAMS.

## 3.4 Historic Touring Cars

### 3.4.1 GENERAL REQUIREMENTS

Groups A and C cover cars which have a documented competition history in their given periods and reference should be made to their specific regulations further on in this section for more details.

Group N is designed to provide a forum for competitors to race production touring cars which do not necessarily have a racing history, but are presented in a form similar to racing of the period.

Limited modifications may be made. These should be of a period nature and not out of character with the vehicle or group period.

This section details the requirements common to all the Group N historic production touring cars that do not have a competition history. Additional specific requirements for individual groups are detailed in the individual group sections and all groups are also subject to the 5th Category general requirements set out in article 3.1.

Vehicles shall comply with all relevant requirements of Schedules A, B and C, where not in conflict with the Group N regulations.

A high standard of presentation will be insisted upon at all times. Any vehicle considered to be of an inappropriate standard will be rejected. Vehicles decorated in a manner not consistent with the period (such as 'modern' graphics) may be considered to be of an inappropriate standard.

Modifications may be made in accordance with the freedoms outlined in these and the Group specific regulations. Where the regulations are silent on an issue, it shall be deemed that no modification from the standard specification is permitted, except where the specific modification is defined on the approved specification sheet.

All vehicles must continue to comply with the specification sheet for the model in question. CAMS reserves the right to alter specification sheets at any time, if new or different information becomes available.

The onus of proof of eligibility of the vehicle and/or major components, whether options or not, will be the responsibility of the owner, by way of homologation papers, parts manuals, workshop manuals etc.

**Original vehicles:** Vehicles with a racing history may be presented in the most predominant eligible form in which they were raced in the period, including the original sponsor signage, even though this specification may not fully conform to these rules.

Owners of vehicles with a competition history are required to obtain a Certificate

of Description for the vehicle, which reflects the period specification of the car. Owners of such vehicles are encouraged to present their vehicles in this specification. Alternatively, the vehicle may be presented in conformance with the Group N regulations, in which case the divergence from the original specification will be noted on the Certificate of Description.

- (a) **Technical definitions**

**Elastomeric suspension bushings:** Elastomeric suspension bushings are suspension components utilising an elastomer (eg, rubber, urethane) to permit freedom of movement in three axes at suspension pivot points. Where the bush incorporates an outer metal shell and/or central crush tube, these parts shall be regarded as part of the bushing. Where the bushing is integral with the arm or other secondary component, only the elastomer material shall be regarded as the bushing for replacement purposes.

**Electronic ignition:** An ignition system relying on electronic triggering of the spark timing, which does not use mechanical contact points as the spark trigger.

**Transistorised ignition:** An ignition system using conventional contact breaker points but which has a transistorised spark discharge enhancement, eg, capacitor discharge ignition.

**Free:** A component, deemed to be free under these regulations may, where fitted to the vehicle as standard, be removed or replaced. Where the removed component is replaced, the replacement is not restricted in design or material (unless otherwise specified) providing it performs only the same function. No modification may be made to surrounding components or bodywork to which the replacement is fitted, unless otherwise permitted.

Where freedom is granted for the fitment of any component, such freedom is restricted to that component and such modifications to enable fitment of it, but is limited to the following: holes may be drilled for fasteners, eg, bolts, screws, rivets etc. Holes of the minimum dimensions necessary for the passage of wiring and fuel, brake, and oil lines/hoses are permitted.

For the purpose of this article, a component shall be deemed to include all other components with which it is integral, or to which it is attached by means the manufacturer intended to be permanent. Where a system is deemed as free, all components solely associated with that system are regarded as free, as per above.

- (b) **Safety requirements**

**Important note:** Group N is sometimes combined in races with non-historic categories, and in such

cases, the dispensations granted in relation to safety for historic racing no longer apply. Cars must be fitted with the safety items applying to the relevant category and level of the event. Potentially this could include, but is not necessarily limited to, items such as "full" roll cages and window nets.

**Windscreen:** A laminated windscreen is required in races and in multiple car speed events. However, in the event that a laminated screen is unavailable, approval may be given on individual application to CAMS for the fitment of a Lexan or Perspex windscreen.

**Rollover protection:** The fitment of roll over protection and safety harnesses (refer Schedule I) is compulsory. Roll over protection shall be either Type 2 (half cage) or Type 3 (full cage) as detailed in Schedule J.

Except for the lower mounting plates, the rollover protection must be contained entirely within the cockpit (ie, the structural inner volume which accommodates the driver and the passengers) and no component may pass through any part of the body work nor be installed in any other compartment of the vehicle. No associated components contributing to the strength of the roll cage may be situated outside the cockpit, save for the lower mounting plates. Braces such as those illustrated in Schedule J Drawing 253-11 are specifically not permitted. In the case of a "hatchback" type of body no component of a roll over protection may be located rearward of the upper pick-up point of the rear shock absorbers.

In addition to the mounting points depicted in the Type 2 and Type 3 illustrations in Schedule J, it is permitted to attach the roll over protection to other points of the body subject to those additional attachment points being to either the front hoop or the main hoop of the roll over protection. Such additional attachments may be by bolting or welding.

Side anti-intrusion bars or other additional braces outlined in Schedule J may be fitted to the roll over protection provided that none of these additional components passes through the bodywork.

Rear seats may be locally modified to permit the fitment of rollover protection.

**Fuel tanks:** The fitment of a foam-filled fuel tank, or a fuel tank of a safety type approved by the FIA to FT3 specifications, is highly recommended (refer Schedule N). Where such a fuel tank is fitted, it should be installed either:

- in the same location as the original fuel tank, whereupon the original tank may be removed; or
- as near as practicable to the retained original fuel tank. In this instance the original fuel tank must be fully drained of any liquid, cleaned and rendered totally fuel vapour free, any drain

plug must be removed, and the tank must be adequately vented. The filler neck must be isolated to prevent accidental re-filling.

**Isolation switches:** All vehicles must be equipped with a Battery Isolation (Master) Switch which effectively isolates all electrical circuits from the battery and stops the engine. It should be capable of being operated by the seated driver.

It is recommended that there be a second switch, or a remote means of operating the main switch, which can be operated from outside the vehicle. This should be positioned in the vicinity of the base of the A pillar on the drivers side. This external switch or remote activation must be clearly marked by a symbol showing a red spark in a white edged blue triangle.

- (c) **Chassis/Bodywork:** The bodywork and body fittings must be as supplied by the manufacturer. Chassis or chassis-body unit, including the floorpan, must be original and unmodified, save for the strengthening techniques provided for under the Group N general regulations.

Original vehicles with a competition history for which a Certificate of Description has been issued must retain period appearance of all components.

The original wheelbase dimensions must be retained.

The track dimension for all Groups are free save that the upper part of the tyre, down to the flange over the wheel hub centre must be within the perimeter of the vehicle when viewed vertically from above (see diagram 1).

Bumper bars must be retained.

**Strengthening:**

**Seam welding:** It is permitted to seam weld the body. Save for underneath the vehicle, seam welding must not be visible externally on the exterior of the vehicle.

**Strut braces:**

- Strut braces between the front strut/shock absorber towers are permitted,
- The fitment of strut braces should ideally be by the manufacturer's original fixtures, however, the welding or bolting of additional lugs to the body (eg, inner guard or strut tower) for the purpose of mounting the strut brace is permissible,
- The strut brace itself must be attached by bolts, and must be removable.

Minor strengthening by the addition of sheetmetal is permitted, subject to the sheetmetal being added being of the same gauge/thickness as of the parent material.

**Note:** Car builders should consult with the local Eligibility Officer as to whether a proposed method of strengthening will be acceptable prior to the installation of such strengthening.

**Timing device:** 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.

**Sound deadener:** Sound deadener (bitumen and fabric types) may be removed from the body shell and hung components.

Nuts and bolts may be locked; nuts, bolts, screws, washers, clips and gaskets may be replaced with non original items, provided always that they may be fitted without modification to any other components.

**Undertrays/fairings:** The use of undertrays, fairings etc, designed to improve the aerodynamic form of the automobile shall not be permissible unless supplied as standard equipment.

**Mudguard flares/extensions:** Flares and/or extensions to the guards are not permitted unless originally fitted by the manufacturer.

- (d) **Interior:** Unless otherwise specified, all original interior trim and fittings as supplied by the manufacturer for the model in question must be in place.

Floor coverings may be removed. Insulating materials may be added.

Where the original trim has deteriorated, restoration is permitted and encouraged, but should be as near as practicable to original specifications.

The steering wheel may be replaced, provided that the replacement wheel is not less than 320mm diameter, unless the original wheel was of a lesser diameter, in which case a replacement of at least equal diameter to the original is acceptable.

Original instruments and switches may be replaced, provided that they are replaced by items compatible in face, style and size with the other instruments.

Additional instruments/equipment of compatible style may be fitted into a separate panel.

Heaters must remain in place unless the particular model of the vehicle in question was available from the manufacturer without a heater fitted. Heater cores may be removed. Heater hoses are optional.

The original driver's seat may be replaced by a seat meeting the requirements of Schedule C and the seat style illustrations set out in "Seats for Groups Na, Nb, Nc, Sa, Sb and Sc List" (article 3.6.1), provided it is the product of a commercially recognised aftermarket seat manufacturer.

In the case of events listed on the FIA International calendar, the replacement seat must also carry FIA approval.

It is permissible also to replace the passenger seat with a seat of identical specification and appearance to the replacement driver's seat as defined above.

On vehicles originally fitted with a bench seat, the fitting of an approved driver's seat as detailed above is permissible, but shall be complemented by:

- the fitting of an individual passenger seat derived from a comparable car model produced by the same automobile manufacturer, or;
- the fitting of a passenger's seat of identical specification to the driver's seat.

If the original equipment bench seat is retained, modification of the driver's portion of that seat is free, subject to the origin of the seat remaining identifiable as the original bench seat.

The original rear seats must be retained in all respects, including location, save where varied by article 3.2.

- (e) **Engine:** the original type and design of the cylinder block as originally used in the make, model and year of the vehicle in question or a CAMS-approved alternative (which will be outlined in the vehicle specification sheet) must be employed.

Internal engine components (eg, pistons, piston rings, connecting rods, crankshaft, bearings and gaskets) are free, subject to relevant bore and stroke restrictions for the Group in question (see Group-specific regulations). Main bearing cap supports or girdles may be used. The engine block may be "sleeved" to achieve the correct bore dimensions.

Save that the original number and location must be retained, camshafts are free.

The original type and design of cylinder head casting as originally used in the make, model and year of the vehicle in question, or a CAMS-approved alternative (which will be outlined in the vehicle specification sheet) must be employed.

Cylinder head/s may be modified provided such modification is effected only by the removal of metal. Variation in combustion chamber or port design by the addition of material attached by welding, bonding or mechanical fastening systems is not allowed. Welding as required to reclaim damaged cylinder heads is permitted. The insertion or replacement of valve seat inserts is permitted. Cylinder head components not forming part of the cylinder head casting are free.

**Note:** Save that the original type of drive belt must be retained, engine pulleys are free.

- (f) **Cooling:** The radiator may be replaced but must retain its original location, form and function. The support panel opening may not be modified. The material from which the radiator may be manufactured is free.

- (g) **Lubrication system:** The original lubrication system supplied by the manufacturer must be employed, save that oil pumps may be replaced or modified to enable higher pressure and/or volume, and additional external oil lines to original or approved components may also be employed. Any replacement oil pump must work on the manufacturer's original principle. Sumps as supplied as original equipment for

the model in question may be modified to incorporate baffles and/or increased capacity.

Oil coolers and remote oil filters are permitted, but the bodywork must not be altered for the purpose of fitment, nor may they be fitted outside the confines of the standard bodywork.

Dry sump lubrication systems are not permitted, unless originally fitted. Remote pressurised oil accumulators are permitted, conditional on them being used in conjunction with a normal wet-sump oil system, and serving no other purpose. The capacity of the accumulator must not exceed three litres.

- (h) **Ignition:** Ignition must be of the same type, but not necessarily brand, as supplied by the manufacturer. Breaker type distributors must remain so configured, but may otherwise be modified. See Group-specific regulations for details.
- (i) **Induction:** Carburettors available during the period and later models of carburettors which were available in the period are acceptable, provided that the outward appearance is the same. Multiple carburettors may be fitted in the ratio of not more than one choke per two cylinders (Group Na) and one choke per cylinder (Groups Nb and Nc). Throttle bore sizes are free. Internal modifications of carburettors are permitted. Carburettors of a make, model and/or appearance not available in the period are not permitted.

Forced induction is not permitted, unless such induction method was employed as standard on the make and model of vehicle by the manufacturer concerned.

Fuel injection is not permitted, unless fitted as original equipment to the make, model and year concerned. In such circumstances only the type, make and model of fuel injection equipment as originally fitted may be used.

Inlet manifolds are free except that they must be of a type compatible with the period. Mechanical fuel pumps may be replaced by electric fuel pumps.

- (j) **Exhaust:** the exhaust system should be of a type compatible with the period, and must comply with the requirements of schedule B, but is otherwise free.
- (k) **Transmission:** The flywheel must be of the original diameter, as determined by the ring gear, but is otherwise free.

The clutch is free.

The original type of gearbox as supplied by the manufacturer for the make and model concerned, assembled and operating as originally supplied by the manufacturer, shall be retained. The number of forward and reverse gear ratios may not be changed, however the use of alternate gear ratios is permitted. The gear lever may be modified but the original shift

pattern must be retained.

- (l) **Final drive:** The original type of final drive assembly, including the housing supplied by the manufacturer for the make, model and year concerned shall be employed. The final drive assembly may be subject to machining operations provided always that its origin is able to be established. The overall width of the differential assembly may not be altered from the original specification. The use of alternate ratios is permitted.
- (m) **Suspension, shock absorbers/springs and sway bars:** See Group-specific regulations.  
**Steering:** the steering system employed for the model in question, by the original manufacturer, must be utilised.

Elastomeric bushings may be replaced by another, as defined by article 3.4.1(a) of the general Group N regulations. Elastomeric bushings may not be replaced by spherical or "Rose" type joints.

(n) **Brakes:** The original form and type of braking system shall be employed.

The major brake dimensions of drum brakes (ie, internal drum diameter and width) shall be as supplied as original equipment with a tolerance of 3mm permitted on drum diameter. In the case of disc brake systems, see Group-specific regulations for details.

Disc pad and drum brake lining materials are free.

Backing plates may be ventilated and/ or fitted with cooling ducts.

Mechanical operation may be converted to hydraulic operation.

Dual or tandem master cylinders may be fitted.

The installation of power brake assistance is permitted.

Drum brakes may not be replaced by disc brakes.

Disc brakes may not be grooved or drilled.

Disk brake dust/stone shields may be removed.

- (o) **Wheels:** Wheels are required to be original in diameter and style – See Group specific regulations for details.
- (p) **Electrical:** All electrical equipment must be of period style and specification, save that a dynamo/generator may be replaced by an alternator in Groups Nb and Nc.

The component parts of a complete electric system, including generator, accumulator, warning apparatus and lamps, are compulsory. None may be of a temporary kind or addition.

The electrical system, including lighting and warning apparatus, must be in working order at the start of the competition.

A self-starter in proper working order fitted to the vehicle is obligatory, and none of its parts may be removed during the event.

The battery may be relocated. If the battery is relocated, the battery must be either of dry cell construction or be fitted within a suitable container which will prevent spillage of battery acid outside the container. In all cases the battery must be securely attached to the vehicle and the terminals covered to prevent short circuits.

- (q) **Advertising/signage:** No advertising material or sign will be distributed from or carried on any vehicle in this category provided that this rule shall not apply to the manufacturer's usual nameplate. CAMS reserves the right to permit also the display – in neat, unobtrusive lettering – of the name of the entrant and/or the driver and/or the State of his residence on the scuttle or the side of the vehicle. The total area of all such signs shall not exceed 75mm in height and 600mm in length on each side of the vehicle.
- Club badges of an acceptable motoring club may appear on the vehicle. Each badge must be not larger than 150mm by 100mm and must be placed below the window line. Only two such badges are permitted, one on each side.

## 3.4.2 Specific Requirements

### Group Na

Touring Cars (pre-1958)



Group Na is designed to provide a forum for competitors to race both pre-war production touring cars and early post-war production touring cars in a form similar to racing of the period. To this extent, the modifications permitted are those that are not intended to radically alter the individual vehicle's character or appearance and will be of an improved performance road car nature, as opposed to making the vehicle totally dedicated to outright competition; the concept being that the vehicles could be driven comfortably to and from the race meeting.

Limited modifications may be made. These should be of a period nature and not out of character with the vehicle or group period.

People wishing to race vehicles of a more highly modified nature should look to other categories, such as Group Nb or an appropriate contemporary class.

The territory of origin of the driver may be shown on the vehicle. Each sign must be not larger than 100mm by 150mm and must be placed below the window line. Only two such signs are permitted.

In addition to vehicles in this class complying with Schedule K of this Manual all vehicles must display an upper case "N" directly followed by a lower case "a", "b" or "c" (as appropriate) being black or white contrasting in colour to that of the bodywork, 100mm and 80mm in height respectively in typeset Helvetica Bold Condensed immediately following the vehicle's racing number at the bottom right hand corner, no further than 100mm from the border of the background.

The location of the battery must be indicated by a blue triangle (with sides of 150mm) on the coachwork.

No other signs may be displayed, unless specific approval has been granted by the Historic Commission for event signage in terms of article 3.1.3. If approved, a windscreen strip of 140mm x 1000mm is an acceptable alternative to the provisions for signage as outlined in FIA Appendix K.

It is envisaged that most vehicles in this class will not have a racing history and these are acceptable provided they conform to the Group Na Specific Regulations and the relevant CAMS Specification Sheet.

#### Specific requirements additional to the General Requirements:

- (a) **Classes:**  
Vehicles shall compete in the following capacity classes:

Class A:	3001cc and over
Class B:	1501 - 3000cc
Class C:	1101 - 1500cc
Class D:	Up to 1100cc

**Engine configuration:** the bore may be increased by a maximum of 1.5mm, and the stroke must remain standard as specified for the make and model.

- (b) **Ignition:** Electronic or transistorised systems are not permitted.
- (c) **Final Drive:** Limited slip or locked differentials are not permitted unless part of the original specification.
- (d) **Suspension:** The method of suspension originally employed by the manufacturer must be retained. Each front suspension pickup point may be moved laterally by up to 10mm provided that a maximum of two degrees negative camber is not exceeded.

Eccentric or modified suspension

components that alter the dimensions or geometry from original specifications, other than as provided for in this regulation are not permitted.

**Shock Absorbers/Springs:** Spring rates and height (and therefore the ride height) may be altered. Damper settings may also be altered, however, externally adjustable shock absorbers are not permitted.

**Sway Bars:** Fitment of period-type anti-sway bar to the front suspension is permitted. Rear sway bars are not permitted unless originally fitted.

Originally fitted sway bars may be replaced by another of alternate dimensions, but must remain mounted by the original method. Bushing materials are free.

Fore and aft axle location may be altered, and locating devices to achieve this may be installed. Transverse axle location devices may not be fitted.

The steering system employed for the model in question by the original manufacturer must be utilised. At all times, the original form of steering and suspension joints must be employed.

Elastomeric bushings may be replaced by another, as defined by article 3.4.1(a) of the general Group N regulations. Elastomeric bushings may not be replaced by spherical or "Rose" type joints.

Externally adjustable shock absorbers are not permitted.

(e) **Clutch:** original method of operation must be utilised, eg, cable or hydraulic.

(f) **Wheels:** Wheels are required to be original in diameter and style (ie, steel wheels may not be replaced by alloy wheels). Save that all cars

originally fitted with 14" diameter wheels may use replacement 15" diameter wheels. Rim width may not exceed 5" unless originally specified by the manufacturer; in which case the rim width must be as originally supplied.

4" Pitch Circle Diameter (PCD) hubs may be modified or replaced for the purpose of accepting 100mm PCD wheels. Any replacement hubs must be of ferrous material. Vehicles fitted with hubs which have a PCD other than 4" will be considered upon application. Wheel studs are free.

Wheel nave plates or covers must be removed.

(g) **Tyres:** Tyres must have an aspect ratio of at least 65% as determined by the Tyre and Rim Association manual. (Refer Na, Nb, Nc, Sa, Sb and Sc Tyre List – article 3.6.3.)

The upper part of the tyre, down to the wheel rim flange over the wheel hub centre must be within the perimeter of the vehicle when viewed vertically from above (refer diagram 1).

Top of tyre down to flange to be within perimeter of vehicle



Diagram 1

or components homologated for competition by the manufacturer, however at least 100 identical examples of a particular model must have been produced for the vehicle to be eligible.

It is envisaged that most vehicles in this class will not have a racing history and these are acceptable provided they conform to the Group Nb Specific Regulations and the relevant CAMS Specification Sheet.

**Spirit of regulations:** It is emphasised that the purpose of this category of racing is to emulate, as far as is practicable, racing of touring cars under Appendix J regulations which were current until 31 December, 1964. Under the spirit of these regulations, and with the obvious exception of current safety requirements which were not mandatory in the period, over-restoration of vehicles, including the

use of technology, parts or equipment not available within the period in question, are not acceptable and will render the vehicle ineligible.

### Specific requirements additional to the General Requirements:

(a) **Classes:** Vehicles shall compete in the following engine capacity classes:

Class A1	Over 4500cc
Class A2	3001 to 4500cc
Class B	2601 to 3000cc
Class C	2001 to 2600cc
Class D	1601 to 2000cc
Class E	1301 to 1600cc
Class F	1001 to 1300cc
Class G	Up to 1000cc

(Classes may be amalgamated.)

Vehicles in the above-mentioned Classes A, B, C, D, and E must have four doors unless they have been homologated by the FIA, or are otherwise specifically approved by CAMS, in a two-door version. Vehicles in Classes F and G must have at least two doors.

(b) **Engine:** The bore may be varied and/or the stroke reduced provided that the swept volume of the engine remains within the same cubic capacity class as that within which the engine came as supplied by the manufacturer. In some cases (eg, EH Holden, Triumph 2000, Volvo 122S), where the standard engine configuration produces an engine capacity right on the class limit, cylinder bores may be increased by up to 1.5mm beyond the original dimension, and for competition purposes the vehicle will still remain within its original capacity class, save that the stroke must also remain standard.

(c) **Ignition:** ignition must be of the same type, but not necessarily brand, as originally supplied by the manufacturer for the make and model concerned. Breaker type distributors must be so configured, but may otherwise be modified. Electronic systems are not permitted unless fitted as original equipment on the make and model concerned.

(d) **Transmission:** The clutch and its method of actuation are free; save that concentric throwout bearings are not permitted.

(e) **Final Drive:** Differentials may be modified internally to incorporate slip limiting or locking devices. Modifications to incorporate floating hubs are permitted.

(f) **Suspension:** The original form and type of suspension only shall be employed (eg, a semi-elliptic leaf spring suspended live rear axle may not be replaced by a coil spring suspended De Dion type, and so on).

Springs are free provided that the type and location are unchanged. Adjustable ride height is permitted, save that the body may not be altered to incorporate any system facilitating the adjustment of the ride height. MacPherson struts may be modified to incorporate

adjustable spring seats/platforms.

Shock absorbers are free, save that they may not utilise external gas/fluid reservoirs and/or canisters.

**Sway bars:** Sway bars may be fitted to the front or rear of vehicles which did or did not have sway bars originally fitted. Such sway bars must be of a conventional type, ie, made of a solid steel bar bent to shape. The diameter of the sway bar is free. Hollow sway bars are not permitted. The method of mounting is free. The end links on bars may incorporate the use of spherical or rose type joints except where there is a conflict with the following paragraph.

**Locating devices/attachment:** Suspension pickup points may be moved by up to 30mm.

Additional control arms may be fitted front and rear but in doing so, the original components must remain functional. The method of mounting is free, including the use of spherical or rose-type joints, providing all such control arms remain outside the original bodywork.

(g) **Brakes:** It is permitted to fit alternative callipers of a type available pre-1965. Brake bias adjustment systems including non-standard pedal boxes are permitted, however, the body may not be modified to fit such a system. It is not permitted for brake bias to be adjustable by the driver when in the normal driving position. Brake hoses are free. Drum brakes may be drilled for the purpose of cooling, but such holes may not be drilled in the swept braking surface of the drum.

(h) **Wheels and Tyres:** The wheels shall be either as supplied by the manufacturer or of a type approved by CAMS and which is in harmony with wheels used prior to 31 December, 1964. At all times the original wheel diameter shall be maintained, save that all cars originally fitted with 14" diameter wheels may use replacement 15" diameter wheels. The width of the rim may be increased by not more than 1" over that originally fitted to the particular make and model, subject to an absolute maximum width of 6". Aluminium alloy type wheels may be fitted, but only of a design and style available prior to 31 December, 1964. Wheel nave plates or covers must be removed.

**Tyres:** Tyres must be of an approved type of radial or cross-ply construction with a minimum aspect ratio of 60% as determined by the Tyre and Rim Association. (Refer Na, Nb, Nc, Sa, Sb and Sc Tyre List, article 3.6.3.)

Re-grooving of tyres is not permitted.

The upper part of the tyre, down to the wheel rim flange over the wheel hub centre must be within the perimeter of the vehicle when viewed vertically from above. (Refer diagram 1 - Group Na.)

## Group Nb

Production Touring Cars (pre-1965)



Group Nb is intended to be representative of the prescriptions of the former Appendix J which was current until 31 December, 1964. Before the introduction of the current sub-groups, this category was known as "Group N".

This is a group for series production type touring cars, manufactured prior to 31 December, 1964. The group recognises models



Group Nc is an historic group introduced on 1 January, 1995, to cater primarily for vehicles of a year, make and model which competed in Australia between 1 January, 1965, and 31 December, 1972 in either the Australian Touring Car Championship or races specifically for 3rd Category Group C Improved Production Touring Cars and Series Production Touring Cars.

The Group Nc rules have been established to enable competition under a common set of rules which reflect the nature of touring car racing in the period.

The Historic Touring Car Eligibility Committee, HTCEC, at its sole discretion, shall determine the contents of the vehicle specification sheets, which will be based on data sourced from:

- the relevant FIA homologation and CAMS vehicle recognition documents (for over 3 litre cars, up to page 12), factory (not dealer) fitted parts lists and factory workshop and parts manuals.

All vehicles must continue to comply with the specification sheet for the model in question. CAMS reserves the right to alter different sheets at any time, if new or different information becomes available.

It is envisaged that most vehicles in this class will not have a racing history and these are acceptable provided they conform to the Group Nc Specific Regulations and the relevant CAMS Specification Sheet.

**Spirit of Regulations:** It is emphasised that the purpose of this category is to emulate, as far as practicable, the racing of touring cars (as described in the preamble) in the period from 1 January, 1965 to 31 December, 1972. Under the spirit of the regulations, and with the obvious exception of current safety requirements which were not mandatory in the period, over restoration of vehicles, including the use of technology, parts or equipment other than consumable items, not available within the period in question, are not acceptable.

## Specific requirements additional to the General Requirements:

(a) **Classes:** Vehicles shall compete in the following capacity classes:

Class A	Over 5100cc
Class B	3501cc - 5100cc
Class C	3001cc - 3500cc
Class D	2001cc - 3000cc
Class E	1501cc - 2000cc
Class F	1101cc - 1500cc
Class G	Up to 1100cc

(b) **Bodywork:** Mudguard Flares/Extensions – flares and/or extensions to the guards are not permitted unless originally fitted to the make and model in question by the manufacturer. The inner lip of the wheel opening may be folded back for tyre clearance.

(c) **Engine:**

(i) **Reciprocating Engines:** The bore may be increased by a maximum of 1.5mm, and the stroke must remain standard as specified for the make and model.

Toothed belts driving engine ancillaries are permitted. Engine pulleys are free.

(ii) **Rotary Engines:** Rotary engines shall be deemed to be engines with rotary (rather than reciprocating) motion of the compressing medium (Wankel type). A rotary engine shall be defined as the rotor housings, intermediate and end plates.

**Modifications:** The rotors, apex seals and crankshaft are free.

Modifications to rotary engines rotors, housings and end plates may be effected only by the removal of metal. Rotary engines may be modified by the utilisation of the porting technique/s known as “Extend”, “Mild” or “Bridge” porting.

Mild/extend porting shall be defined as a single induction port per end/intermediate plate, per rotor, extended beyond the original induction port size and shape. Save that it may not extend beyond the region traversed by the original rotor seal, the size and shape of such a port is free.

“Bridge” porting is permitted with the restriction that the original O-ring seals must remain unmodified and in their original location.

Bridge porting shall be defined as where the induction is accomplished utilising two separate induction ports per end/intermediate plate, per rotor, but not extending beyond the original outer edge of the inner water seal.

Peripheral porting is specifically not

permitted.

Peripheral porting is defined as a port on a rotary engine allowing the passage of gasses through the periphery of the rotor housing. Any bridged induction port that is extended radially beyond the original outer edge of the inner water seal is, for the purposes of these regulations, considered to be a peripheral port.

Engines must be sealed, including the inlet manifold and rotor housing.

Toothed belts driving engine ancillaries are permitted. Engine pulleys are free.

(d) **Ignition:** Ignition must be of the same type, but not necessarily brand, as originally supplied by the manufacturer for the make and model concerned. Breaker type distributors must be so configured, but may otherwise be modified. Electronic systems are not permitted unless fitted as original equipment on the make and model concerned.

(e) **Transmission:** The clutch and its method of actuation are free.

(f) **Final Drive:** Differentials may be modified internally to incorporate slip limiting or locking devices. Modifications to incorporate floating hubs are permitted.

(g) **Suspension:** The original form and type of suspension only shall be employed (eg, a semi-elliptic leaf spring suspended live rear axle may not be replaced by a coil spring suspended De Dion type, and so on).

Springs are free provided that the type and location are unchanged. Adjustable ride height is permitted, save that the body may not be altered to incorporate any system facilitating the adjustment of the ride height. MacPherson struts may be modified to incorporate adjustable spring seats/platforms.

Shock absorbers are free, save that they may not utilise external gas/fluid reservoirs and/or canisters.

**Sway bars:** Sway bars may be fitted to the front or rear of vehicles which did or did not have sway bars originally fitted. Such sway bars must be of a conventional type, made of a solid steel bar bent to shape. The diameter of the sway bar is free. Hollow sway bars are not permitted. The method of mounting is free. The end links on bars may incorporate the use of spherical or rose type joints except where there is a conflict with the following paragraph.

**Locating devices/attachment:** Suspension pickup points may be moved by up to 30mm.

Additional control arms may be fitted front and rear but in doing so, the original components must remain functional. The method of mounting is free, including the use of spherical or rose-type joints, providing all such control arms remain outside the original bodywork.

(h) **Brakes:** Components may be replaced with those from another make and model of production touring car that was produced before 31 December 1972, provided there is no increase in the swept area or diameter of the disc or drum.

Brake bias adjustment systems including pedal boxes are permitted, however, the body may not be modified to fit such a system. It is not permitted for brake bias to be adjustable by the driver when in the normal driving position.

Brake hoses are free.

It is permissible to replace brake discs with items that are wider than the original component. Discs replaced under this provision may incorporate ventilation between the braking surfaces.

Brake discs may not be grooved or drilled.

Drum brakes may be drilled for the purpose of cooling, but such holes may not be drilled in the swept braking surface of the drum.

Brake cooling ducts may be fitted. If brake cooling ducts or scoops are fitted, they must be separated by a minimum of 300mm, so as not to form an aerodynamic aid and their sole function shall be to assist in the supply of air to the brakes.

(i) **Wheels:** Wheel diameter must be as originally supplied by the manufacturer or that which was deemed by CAMS to have been commonly used on the model in competition during the period as outlined in the vehicle's specification sheet save that all cars originally fitted with 14" diameter wheels may use replacement 15" diameter wheels.

Wheels may be replaced by period style alloy wheels.

Maximum rim width permitted is:

Class A and B	maximum 8 inches
Class C, D and E	maximum 7 inches
Class F and G	maximum 6 inches

Wheel nave plates or covers must be removed.

(j) **Tyres:** Tyres must be of approved type radial or cross-ply construction with a minimum aspect ratio of 60% as determined by the Tyre and Rim Association. (Refer Na, Nb, Nc, Sa, Sb and Sc tyre list – article 3.6.3.)

Re-grooving of tyres is not permitted.

The upper part of the tyre, down to the wheel rim flange over the wheel hub centre must be within the perimeter of the vehicle when viewed vertically from above. (Refer diagram 1 – Group Na.)



The group will cater for vehicles with a competition history established in the period between 1 January 1973 and 31 December 1984 in events run to regulations promulgated by CAMS for Group C Touring Cars.

In the period, Group C (Production Touring) cars were intended to be representative of mass-produced motor vehicles, made more suitable for competition by a number of modifications expressly permitted in the regulations of the period.

**Eligible vehicles:**

- (a) Only the actual vehicles, for which a Group C log book was issued by CAMS, will be recognised.
- (b) A clear line of history is required for each eligible vehicle. The applicant for a Certificate of Description and log book must, with the application, provide all evidence reasonably necessary to establish a clear line of history for the vehicle.
- (c) Other than in respect of variations permitted in terms of these regulations, each vehicle must be presented in the same specification as it was presented for competition at an event (the "Specified Competition Event") during a year in which the vehicle competed as a Group C Touring Car in the Group C period (the "Specification Year"). However a vehicle may be upgraded (wholly or partly) to the later specification for that vehicle as at 31 December in the Specification Year even though the vehicle may not have competed in that year in that later specification.

The specification published in the CAMS manual as at 1 January in the year immediately following the Specification Year will be prima facie evidence of the specification as at 31 December in the Specification Year except for the 1984 Specification Year which was the last year of official competition for the Group C Touring Car category.

No new vehicles may be constructed.

Vehicles reconstructed using only spares or damaged and cast-off components are not eligible for this group. A chassis/body may, but does not necessarily, constitute an eligible vehicle.

**General requirements:** The general requirements as set out in the period specifications for the

vehicle as at 31 December in the Specification Year, will apply.

Suspension, brakes, wheels, steering, coachwork, interior, electrical systems, fuel systems and all other aspects of the vehicle's specification other than the items mentioned under Specific Requirements must not be modified except for modifications allowed by the period specifications for the vehicle as at 31 December in the Specification Year.

- (a) Except for consumable items, a vehicle is not to be restored or repaired using technologies or components that were not available in the Specification Year.
- (b) For the purpose of the preceding sub-paragraph (a), "consumable items" means and includes gaskets, fan and drive belts, spark plugs, brake pads, lubricants, bushes and such other items of a consumable nature as are determined by the Eligibility Committee of the Historic Commission to be consumable items for the purpose of these regulations. Where a component is no longer available, a substitute component can only be used if an application has been made to the Historic Commission for use of the substitute component and the Historic Commission (or its Eligibility Committee) has given approval for use of the substituted component.

**Engine:**

- (a) The engine, including intake and exhaust systems must not be modified except for modifications allowed by the period specifications as at 31 December 1984 (as evidenced in the 1984 CAMS Manual of Motor Sport and any subsequent CAMS Bulletins updating or amending those specifications during 1984). However, a "dry sump" lubrication system cannot be used unless allowed by the period specifications for the vehicle as at 31 December in the Specification Year of that vehicle.
- (b) The bore may be increased to a maximum of 1.5mm beyond the dimensions evident in the specifications for the subject vehicle within the group period. Vehicles will be classed according to their period capacity specification, regardless of whether the engine has been the subject of the permitted increase in bore dimensions.
- (c) The following capacity classes will apply:
 

Class	Capacity
Class A	0 to 1300cc
Class B	1301 to 1600cc
Class C	1601 to 2000cc
Class D	2001 to 3000cc
Class E	3001 to 6000cc
- (d) In the case of turbo charged engines the nominal cylinder capacity will be multiplied by a factor of 1.4 and the vehicle will pass into

the class corresponding to the nominal capacity thus attained.

- (e) In the case of rotary engines the nominal cylinder capacity will first be determined by subtracting the minimum capacity of the working chambers from their maximum capacity. The capacity thus attained will then be multiplied by a factor of 2.0 and the vehicle will pass into the class corresponding to the nominal capacity thus attained.

**Transmission:** Gearbox ratios are free, but not the number of gears. The final drive ratio is free. Otherwise the transmission must not be modified except for modifications allowed by the period specifications for the vehicle as at 31 December in the Specification Year.

**Tyres:** Within the limits of availability, the tyres fitted must be of the same tread width and diameter as those fitted in the group period.

**Vehicle signage:**

- (a) If a vehicle is to display signage it must be the signage which actually appeared on the vehicle at the Specified Competition Event in the Specification Year and in the same configuration and colour scheme (the "Original Signage").
- (b) When a vehicle is presented for historic recognition as a Group C Touring Car the application for a Certificate of Description must be accompanied by appropriate evidence of the vehicle's Original Signage.
- (c) A vehicle may be presented in its Original Signage or with omissions from (but not additions to) that signage or with no signage at all. Owners are encouraged to present their vehicles in Original Signage.
- (d) Notwithstanding subparagraph (a) above:
  - (i) The name of the driver/s or the original driver/s may be displayed on the vehicle across the top of the vehicle's windscreen, as was allowed in the Group C period.

- (ii) The name of the entrant and/or the driver and/or his State of residence may also be displayed in neat, unobtrusive lettering on the scuttle or the side of the vehicle. The total area of all such signs is not to exceed 40mm in height and 300mm in length on each side of the vehicle.
- (iii) Two club badges of an acceptable motoring club may also be displayed on the vehicle, one on each side. Each badge must be no larger than 150mm by 100mm and must be placed below the window line.

**Safety equipment:**

- (a) **Roll over protection:** The fitment of roll over protection is compulsory. Roll over protection shall be either as used by the subject vehicle in the period or a roll bar structure complying with schedule J.
- (b) **Fire extinguishers:** A fire extinguisher must be fitted to the vehicle in accordance with Schedule H.
- (c) **Safety harnesses:** A safety harness must be fitted to the vehicle in accordance with Schedule I.
- (d) **Driver's seat:** A new driver's seat which replaces either the original standard driver's seat or a period replacement seat must meet the requirements of Schedule C. However such new seat must replicate the appearance and style of driver's seats fitted to category vehicles during the Group C period.
- (e) **Other safety requirements:** Otherwise the safety requirements must be in accordance with the period specifications for the vehicle as at 31 December in the Specification Year unless a different requirement is specified in the 5th Category General Regulations.



## 3.4.7 Group A Touring Cars (1984-1992)

### Category Regulations for Group A Touring Cars

The classification of vehicles within this group will be at the sole discretion of CAMS.



The group will cater for vehicles with a competition history established in Australia and elsewhere in the period between 1 January 1984 and 31 December 1992 in events run to regulations promulgated by FISA and or as adopted by CAMS for Group A touring cars.

In the period, Group A (Production Touring) cars were intended to be representative of mass-produced motor vehicles, made more suitable for competition by a number of modifications expressly permitted in the regulations of the period.

#### Eligible vehicles:

- (a) Only the actual vehicles for which a Group A log book was issued by CAMS, FISA or other national sporting authorities (ASN) will be recognised.
- (b) A clear line of history is required for each eligible vehicle. The applicant for a Certificate of Description and log book must, with the application, provide all evidence reasonably necessary to establish a clear line of history for the vehicle.
- (c) Other than in respect of variations permitted in terms of these regulations, each vehicle must be presented in the same specification as it was presented for competition at an event (the "Specified Competition Event") during a year in which the vehicle competed as a Group A Touring Car in the Group A period (the "Specification Year"). However a vehicle may be upgraded (wholly or partly) to the later specification for that vehicle as at 31 December in the Specification Year even though the vehicle may not have competed in that year in that later specification.

The specification published in the CAMS manual as at 1 January in the year immediately following the Specification Year will be prima facie evidence of the specification as at 31 December in the Specification Year except for the 1992 Specification year which was the last year of official competition for the Group A Touring Car category. Specific vehicle details will be as per the homologation papers and any amendments as at the 31 December for the Specification year of the vehicle.

No new vehicles may be constructed.

Vehicles reconstructed using only spare or damaged and cast-off components are not eligible for this group. A chassis/body may, but does not necessarily, constitute an eligible vehicle.

**General Requirements:** The general requirements as set out in the period specification and the applicable homologation papers for the vehicle as at 31 December in the Specification Year, will apply. Suspension, brakes, wheels, steering, coachwork, interior, electrical systems, fuel systems, and all other aspects of the vehicle's specification other than the items mentioned specific ally below must not be modified except for modifications allowed by the period specification for the vehicle as at 31 December in the Specification Year.

A vehicle must also meet the weight requirements set out in the period specifications for the vehicle at the specified competition event, which requirements will be specified in the Certificate of Description.

- (a) Except for consumable items a vehicle is not to be restored using technologies that were not available in the Specification Year.
- (b) For the purposes of the preceding subparagraph (a) "consumable items" means and includes gaskets, fan and drive belts, spark plugs, brake pads, lubricants bushes and other such items of a consumable nature as are determined by the Eligibility Committee of the Historic Commission to be consumable items for the purpose of these regulations.

Where a component is no longer available a substitute component can only be used if an application has been made to the Historic Commission for the use of the substitute component and the Historic Commission (or its Eligibility Committee) has given approval for the use of the substitute component.

#### Engine:

- (a) The engine including intake and exhaust systems must not be modified except for modifications allowed by the period specifications and or the homologation papers for the vehicle as at 31 December in the Specification Year as evidenced by the CAMS manual.
- (b) The bore may be increased to a maximum of 1.5mm beyond the dimensions evident in the specifications for the subject vehicle within the group period

Vehicles will be classed according to their period capacity specification, regardless of whether the engine has been the subject of the permitted increase in bore dimensions.

- (c) The capacity classes to apply to this category, will be those as specified below.

Class	Capacity
Class A	0 to 2000cc
Class B	2001 to 3000cc
Class C	3001 to 6000cc

- (d) In the case of turbo charged engines the actual cylinder capacity will be multiplied by a factor of 1.7 and the vehicle will pass into the class corresponding to the nominal capacity thus attained.

**Transmission:** Gearbox ratios are free, but not the number of gears. The final drive ratio is free.

Otherwise the transmission will be unmodified except for modifications allowed by the period specifications and or the homologation papers for the nominated vehicle as at 31 December in the Specification Year.

**Tyres:** Within the limits of availability, the tyres fitted must be of the same tread width and diameter as those fitted in the group period

#### Vehicle signage:

- (a) If a vehicle is to display signage it must be the signage which actually appeared on the vehicle at the Specified Competition Event in the Specification Year and in the same configuration and colour scheme (the "Original Signage").
- (b) When a vehicle is presented for historic recognition as a Group A Touring Car the application for a Certificate of Description must be accompanied by appropriate evidence of the vehicle's Original Signage.
- (c) A vehicle may be presented in its Original Signage or with omissions from (but not additions to) that signage or with no signage at all. Owners are encouraged to present their vehicles in Original Signage.
- (d) Notwithstanding subparagraph (a) above:
  - (i) The name of the original driver/s or the make of vehicle may be displayed on the vehicle across the top of the vehicle's windscreen, as was allowed in the Group A period.
  - (ii) The name of the entrant and/or the driver and/or his State of residence may be displayed in neat, unobtrusive lettering on the scuttle or the side of the vehicle. The total area of all such signs

is not to exceed 40mm in height and 300mm in length on each side of the vehicle.

- (iii) The name of the original driver (s) is to be displayed on the rear quarter window as was allowed in the Group A period.
- (iv) Two club badges of an acceptable motoring club may also be displayed on the vehicle. Each badge must be no larger than 150mm by 110mm and must be placed below the window line.
- (v) The competitor is required to display the letter "A" signifying the group of the vehicle adjacent to the number on both sides of the vehicle. The letter is to be 100mm high and of a contrasting colour to the car.

#### Safety equipment:

- (a) **Roll over protection:** The fitment of roll over protection is compulsory. Roll over protection shall be either as used by the subject vehicle in the period in accordance with the period specification and or homologation papers for the vehicle as at 31 December in the Specification Year, or a roll bar structure complying with Schedule J.
- (b) **Fire extinguishers:** A fire extinguisher and or a fire extinguishing system must be fitted to the subject vehicle in accordance with the period specification and or the homologation papers but, must be also dully compliant with Schedule H.
- (c) **Safety harnesses:** A safety harness must be fitted to the vehicle in accordance with Schedule I.
- (d) **Driver's seat:** A new driver's seat which replaces either the original standard driver's seat or a period replacement seat must meet the requirements of Schedule C. However such new seat must replicate the appearance and style of driver's seats fitted to category vehicles during the Group A period.
- (e) **Other safety requirements:** Otherwise the safety requirements must be in accordance with the period specifications for the vehicle as at 31 December in the Specification Year unless a different requirement is specified in the 5th Category General Regulations.

## 3.5 Historic Production Sports Cars

### 3.5.1 GENERAL REQUIREMENTS

Groups Sa, Sb and Sc are designed to provide a forum for competitors to race production sports cars from the '50s and '60s (sometimes known as "Classic Sports Cars"), in a form similar to period club racing.

Limited modifications as detailed in

the following regulations and defined in the specification sheet are allowed to these vehicles. Where performance-improving modifications are made, these should be of a period nature and not out of character with the vehicle or group period. To this extent, the modifications permitted are not intended to radically alter the

individual vehicle's character or appearance and will be of an improved performance road car nature, as opposed to making the vehicle totally dedicated to outright competition.

An important consideration in forming these Regulations was the need to provide eligibility rules which will require the minimum of administration, particularly at race meetings.

People wishing to race vehicles of a more highly modified nature should consider competing in the Marque Sports Car category (Group 2B).

This section details the requirements common to all historic production sports cars that do not have a competition history. Additional specific requirements for individual groups are detailed in the individual group sections and the general requirements of article 3.1.

Modifications may be made in accordance with the freedoms outlined in these and the group specific regulations. Where the regulations are silent on an issue, it shall be deemed that no modification from the standard specification is permitted, except where the specific modification is defined on the approved specification sheet.

All vehicles must comply with the CAMS specification sheet for the model in question. CAMS reserve the right to alter specification sheets at any time, if new or different information becomes available.

- (a) **Chassis:** Chassis or chassis-body unit must be original and unmodified.
- (b) **Bodywork:** Bodywork must be original save that bumper bars and/or windcreens may be removed. Single seater type and/or wrap-around windcreens are not permitted, but other replacement screens are. Side and rear windows in coupe vehicles may be replaced by polycarbonate (eg, Lexan) material of the same thickness as the original glass. Acrylic material is not permitted.
- (c) **Cockpit:** The cockpit must be original save that floor and transmission tunnel coverings may be removed. The steering wheel may be replaced by another of period style. The original driver's seat and/or passenger seat may be replaced by a seat/s meeting the requirements of Schedule C and the seat style illustrations set out in "Seats for Groups Na, Nb, Nc, Sa, Sb, Sc List" (refer article 3.6.1), provided it is the product of a commercially-recognised aftermarket seat manufacturer. Original instruments must be intact. Additional instruments of a period type may be fitted. Electronic tachometers may be substituted for mechanically driven units, provided they are compatible in face, style and size with the other instruments.
- (d) **Engine:** Cylinder block and head must be original, or a CAMS-approved alternative.

Internal components of the engine are free save that the crankshaft stroke must be original. The cylinder bore may be increased by a maximum of 1.5mm beyond original dimensions. Cylinder head/s may be modified provided such modification is effected only by the removal of metal.

Toothed belt drives are not permitted.

Dry sump lubrication is not permitted unless included in the original vehicle specification.

The cooling system must remain as standard, save that the radiator core is free as to length, height and core thickness, subject to it fitting into the original space without modification of the surrounding bodywork and/or radiator support panel (save for bolt holes for the purpose of mounting). The radiator cooling fan may be removed.

- (e) **Exhaust:** The exhaust system is free but should be of a type compatible with the period.
- (f) **Induction:** Carburettors or fuel injection systems must be of the same make, type and number originally fitted to the vehicle. Carburettor bore size is free. Carburettor inlet manifolds are free except that they must be of a type compatible with the period.

Fuel injection systems must only use the intake manifold and throttle body as fitted to that model by the manufacturer. The bore size of the injection manifold may only be modified by removal of metal. Pollution control devices can be removed and extraneous holes for pollution devices can be plugged.

Superchargers or turbochargers are not permitted unless part of the original specification.

- (g) **Gearbox:** Gearbox casing, gear selector mechanism and the number of forward ratios must be original. Internal components are free.
- (h) **Final drive:** External components of the final drive assembly must be unmodified from the original specification. Internal components are free.
- (i) **Brakes:** Disc or drum brake systems must be of the make, model, size and type as originally fitted to the vehicle.

Drums and/or backing plates may be ventilated and/or fitted with cooling fins. Modification or removal of dust shields on disc brake systems is permitted.

Dual or tandem master cylinders may be fitted.

- (j) **Suspension:** The suspension must be unmodified from original specification, save that spring rates, ride height and damper settings may be altered. Suspension pickup points may not be modified. Externally adjustable shock absorbers are not permitted. Fore and aft axle location may be improved but transverse location may not be altered. Spherical or "Rose" type joints are not permitted.

A maximum of 2° static negative camber

is permitted for wheels on the front axle. In the case of live rear axles, the provisions of "Wheel Angles – Live Rear Axles" as outlined in Definitions Technical, p 6-3 of the CAMS Manual, apply. There is no restriction in relation to camber for independent rear suspension systems.

- (k) **Wheels and tyres:** Wheels are required to be original in diameter and style.

Tyres must have an aspect ratio of at least 60% as determined by the Tyre and Rim Association.

The maximum tyre section permitted on each eligible model will be determined and will be noted in the relevant Vehicle Specification Sheets.

Tyres permitted for this group shall be subject to approval by CAMS which will maintain and publish an approved tyre list (refer N and S Tyre List – article 3.6.3).

- (l) **Electrical equipment:** All electrical equipment must be unmodified from the original specifications, and fully operative.

The dynamo/generator may not be replaced by an alternator.

Electronic ignition devices are not permitted, unless included in the original specification.

Electronic revolution limiters are permitted.

- (m) **Optional equipment:** Optional equipment is permitted in this group only if it is detailed in the relevant Vehicle Specification Sheet.

- (n) **Safety equipment:** Safety harnesses in compliance with Schedule I are compulsory.

The fitment of a foam filled fuel tank, or a fuel tank of a safety type approved by the FIA to FT3 specifications, is highly recommended (refer Schedule N). Where such a fuel tank is fitted, it should be installed either:

- in the same location as the original fuel tank, whereupon the original tank may be removed; or
  - as near as practicable to the retained original fuel tank. In this instance the original fuel tank must be fully drained of any liquid, cleaned and rendered totally fuel vapour free, any drain plug must be removed, and the tank must be adequately vented. The filler neck must be isolated to prevent accidental re-filling.
- (o) **Rollover protection:** The fitment of roll over protection is compulsory.

Roll over protection shall be either Type 2 (half cage) or Type 3 (full cage) as detailed in Schedule J or a roll bar specifically approved by CAMS and conforming to the guidelines detailed in article 3.1.5(d) - Roll bars, save that vehicles issued with a CAMS log book prior to 1/1/2002 may continue to comply with the CAMS roll over protection regulations in force at (or after) the time at which the vehicle was first issued with the log book.

Except for the lower mounting plates and rear braces on open cars, the roll over protection must be contained entirely within the cockpit (ie, the structural inner volume which accommodates the driver and the passengers) and no component may pass through any part of the body work nor be installed in any other compartment of the vehicle. Upon application, rear braces on open cars may pass through rear bodywork, but only so far to the rear as to comply with the 30° requirement. No associated components contributing to the strength of the roll cage may be situated outside the cockpit, save for the lower mounting plates. Braces such as those illustrated in Schedule J Drawing 253-11 are specifically not permitted. In the case of a "hatchback" type of body no component of a roll over protection may be located rearward of the upper pick-up point of the rear shock absorbers.

In addition to the mounting points depicted in the Type 2 and Type 3 illustrations in Schedule J, it is permitted to attach the roll over protection to other points of the body subject to those additional attachment points being to either the front hoop or the main hoop of the roll over protection. Such additional attachments may be by bolting or welding.

Side anti-intrusion bars or other additional braces outlined in Schedule J may be fitted to the roll over protection provided that none of these additional components passes through the bodywork nor may they be used as additional points of attachment of the roll over protection to the body.

Where applicable, seats may be locally modified to permit the fitment of rollover protection.

- (p) **Safety requirements**

**Important Note:** Group S is sometimes combined in races with non-historic categories, and in such cases, the dispensations granted in relation to safety for historic racing no longer apply. Cars must be fitted with the safety items applying to the relevant category and level of the event.

## 3.5.2 Specific Requirements

### Group Sa

Production Sports Cars (1941-1960)



Production Sports Cars, as recognised by CAMS, manufactured after 1 January, 1941 but prior to 31 December, 1960 with the inclusion of certain model run-ons (eg, Mk 1 Austin Healey Sprite). Cars classified in this group will not necessarily have a racing history. Factory built, competition variants of standard production vehicles are not eligible for this group, but could be eligible for Group Lb subject to specific application.

#### Specific requirements additional to the General Requirements:

##### (a) Eligible Vehicles:

AC Ace	
AC Ace	Bristol
Alfa Giulietta	Spider/Sprint
Alvis	TD21
Aston Martin	DB2, DB2/4, DB4, DB4GT
Austin	A40 Sports
Austin Healey	100/4, 100/6, 3000 Mk 1, Sprite Mk 1
Berkeley	2 & 3 cyl models
Buchanan	Cobra
Chevrolet	Corvette
Daimler	SP250
Elva	Courier Mk1/2
Ferrari	250 (Other Ferrari models on application)
Fiat	1100/1200 Spyder
Jaguar	XK120 roadster, XK140, XK150
Jensen	CV8
Lancia	Aurelia
Lotus	Elite Stage 1 & 2
Mercedes-Benz	190SL, 300SL roadster, 300SL coupe
MG	TA, TC, TD, TF
MGA	1500 roadster & coupe, 1600 roadster & coupe, 1600 deluxe, 1600 twin cam
Morgan	Plus/4, 4/4
Porsche	356A
Singer	Roadster - 9 & 1500
Sunbeam	Alpine Series I, II & III
Triumph	TR2, TR3 & TR3A
Turner	BMC, 997 Ford, Climax

The above is not a wholly exhaustive list. Other makes/models may be considered for

inclusion upon application to CAMS.

- (b) **Bodywork:** Rigid removable tonneau covers are permitted.
- (c) **Brakes:** Drum brakes may be modified or replaced with others of period type.
- (d) **Wheels and Tyres:** Wheels are required to be original in diameter and style (ie, steel wheels may not be replaced by alloy wheels). Rim width may not exceed 5" unless originally specified by the manufacturer, in which case the original width must be retained.

### Group Sb

Production Sports Cars (1961-1969)



A specific group of Production Sports Cars generally manufactured between 1 January, 1961 and 31 December, 1969, with the inclusion of model run-ons (eg, Triumph Spitfire Mk3), as detailed in the following list. Vehicles classified in this group will not necessarily have a racing history. Factory built, competition variants of standard production vehicles are not eligible for this group, but could be eligible for Groups M or O, subject to specific application.

#### Specific requirements additional to the General Requirements:

##### (a) Eligible Vehicles:

AC	Cobra 289, Cobra 427, 2.6
Abarth	1000 OTR Coupe
Alfa Romeo	Giulietta Spider, Giulietta, Spider, Veloce, GTV 105 (1600 & 1750)
American Motors	AMX
Aston Martin	DB5, DB6, DBS (not DBS V8)
Austin Healey	3000 Mk II, Mk III, Sprite, Mk II, III, IV
Bolwell	Mk 7
Chevrolet Corvette	All models to end 1969
Datsun	Fairlady 1500
Datsun Sports	1600, 2000
Elva Courier	Mk 3, Mk 4
Ferrari	250 GT, 275 GTB, 275 GTS, 330, 320 GTS, 365 GTB/4, 206, Dino, 246 Dino
Fiat	124AC, 124 Spyder (AS), 124 Spyder, Dino Spyder

Ginetta	G4 (Mk 3 only)
Honda	S600, S800
ISO Grifo	
ISO Rivolta	IRS 300, IRS 340
Jaguar	E type Series One, 11/2, Two, 3.8, 4.2
Lancia	Flavia and Fulvia coupes
Lenham	Le Mans GT
Lotus	Elan S1, S2, S3, S4, Plus 2, Europa (Renault engine)
Marcos	All models to end 1969
Maserati	3500 GT, Sebring, Mistral, 5000 GT, Mexico, Ghibli
Mercedes-Benz	230 SL, 250 SL, 280 SL
MGA	1600 Mk 2, MGB 1800 and MGB GT 1800, Mk 1 and Mk 2, MGC, Midget 948, 1098, 1275cc
Morgan	4/4 Series III, IV, V, 1600, Plus 4, Plus 4 S/Sports, Plus 8
Porsche	356B/C, 911 E [T and S (1991cc)], 912, 914, 914/6
Shelby American	GT350
Sunbeam	Alpine Series 4 and 5, Tiger
Triumph	TR4, TR4A, TR5, TR6, Spitfire, Mk 1, 2, 3, GT6 Mk 1, 2, 3
Turner	1500
TVR	All models to end 1969
Volvo	P1800, P1800S, P1800E

The above is not a wholly exhaustive list. Other makes/models may be considered for inclusion upon application to CAMS.

- (b) **Wheels and Tyres:** Wheels are required to be original in diameter. Replacement of standard style wheels by period style alloy wheels will be considered upon individual application. Rim width may not exceed 5" for vehicles of up to 1300cc swept volume and 6" for vehicles over 1300cc, unless otherwise equipped as standard, in which case the original width must be retained.

### Group Sc

Production Sports Cars (1970-1977)



A specific group of non-turbo charged production sports cars generally manufactured between 1 January, 1970, and 31 December, 1977, with the inclusion of model run-ons (eg, Datsun 260Z) as detailed in the following list. Vehicles classified in this group will not

necessarily have a racing history. Factory-built, competitive variants of standard production vehicles are not eligible for this group, but could be eligible for Historic Group Q, subject to specific application.

#### Specific requirements additional to the General Requirements:

##### (a) Eligible Vehicles:

Alfa Romeo	Spider 2000, GTV, Alfetta GTV 105 (2000), Alfetta 2.0 GTV, Montreal
Aston Martin	DB, DBS V8
Bolwell	Nagari
Chevrolet	Corvette
Datsun	240Z, 260Z, 260Z 2+2, 280Z
Detomaso	Pantera
Ferrari	308GT4, 365GTC, 365GTC/4, 308GTB, 365GTB B/B
Fiat	X1/9 (1300/1500), 124 BC, 124CC, 124 Spyder 1.8, 2.0, B/S, M/SL, C/S, C/S Abarth, Dino 2400
Jaguar	"E" Type V12
Jensen	Healey
Jensen	Interceptor
Lamborghini	Urraco, Espada
Lancia	Beta coupe, Spider, Monte Carlo, Coupe 2000, 2000HF
Lotus	Elite S1, Eclat S1, Europa T/C, 7 Series 4
Marcos	2 Litre, 2.5 Litre, 3 Litre
Maserati	Bora, Merak, Khamsin
Mercedes-Benz	350/450SL, SLC Coupe
MG BGT	V8
Nota	Fang SL, TS
Porsche	911 up to 3.0 litre, 914, 916, 924, 928
Triumph	Spitfire IV and 1500, TR7 Coupe, Stag
TVR	1300, 1600M, 2500, 3000M, 5000M, Taimar

The above is not a wholly exhaustive list. Other makes/models may be considered for inclusion upon application to CAMS.

- (b) **Wheels and Tyres:** Wheels are required to be original in diameter. Replacement of standard style wheels by period style alloy wheels will be considered upon individual application. Rim width may not exceed 5" for vehicles of up to 1300cc swept volume and 6" for vehicles of over 1300cc, unless otherwise equipped as standard.

## 3.6 Equipment Standards and Guidelines

### 3.6.1 Seats for Groups Na, Nb, Nc, Sa, Sb and Sc

CAMS does not maintain lists of specifically-approved seats for these groups. The following are guidelines only, and should be read in conjunction with Section 7, Schedule C, Article 9, and the general regulations for Groups N & S as may be applicable. It should be noted that, at all times, seats should be, both in style, trim and colour, such as to reflect the period of racing being portrayed by the relative group.

It is recommended that seats with integral headrests should have seat belt slots to ensure proper location of the shoulder and lap straps.

A separate headrest may be used with standard seats, provided that the headrest is supported on the same structure as the seat and cannot be moved independently.

Seats with extended "wings" are not considered appropriate in these cars, which are representing earlier eras of racing. If in any doubt as to the suitability of a particular seat, this may be discussed

with the local Eligibility Officer, or with the Historic Department at CAMS' National Office.

Application for the inclusion of additional tyres to the list may be made at any time.

In the submission of candidate tyres, the following criteria should be borne in mind:

- the tread pattern should be distinctive and preferably of a contemporary style;
- grooved slicks are not acceptable;
- tread patterns consisting substantially of very fine and shallow sipes, which quickly disappear in use, are not acceptable, and
- asymmetric patterns are acceptable subject to conformity with the above criteria.

Where the testing and evaluation of potential new tyres for the Approved Tyre List is being carried out at a competition event, the competitor involved will not be eligible to receive any awards.

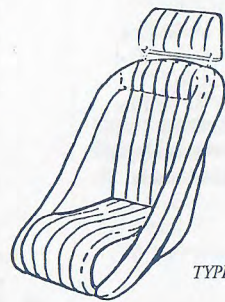
#### Approved seats

Cobra Vintage (with headrest)  
Velo Spider Retro (with headrest)

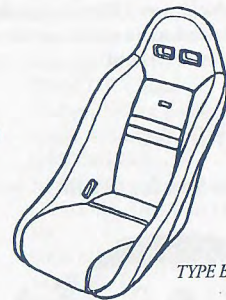
Clubman  
Cobra Carrera "Classic"  
Corbeau Clubman  
New Cobra Sprint  
RPM Competition "Classic"

#### Type

A  
A  
B  
B  
B  
B



TYPE A



TYPE B

**Seat mounting:** Seat mountings must be arranged to be able to handle both normal and accident loads, usually be direct mounting to the chassis or rear bulkhead structure.

### 3.6.2 List of Permitted Motorcycle Tyres – Groups J, K and L

A selected list of motorcycle tyres is permitted for use on Groups J, K and L cars provided they are fitted to the correct width and profile rims, and are operated within their specified Speed and Load Index ratings.

The tyre section profile shall be as per configuration (a) of the Tyre and Rim Association of Australia manual. Aspect ratios shall comply with individual group requirements.

Tyre hardness shall generally not be lower than

68 Durometer cold (measured prior to use) and not lower than 15° (ambient).

Short life or low profile tyres will not be acceptable.

Historic period design tyres made with modern "sticky" compounds are unacceptable. Tread patterns shall be of a period historic style.

Additional tyres to those shown in the approved tyre list will be considered on application if they meet the above criteria.

Make	Model	Size	Speed Rating (mph)	Load Limit (lb)	Rim Width
<b>15"</b>					
DUNLOP	Qualifier K827	140/90-15	H 130	740	MT 2.7 - 3.5
<b>16"</b>					
AVON	SM MKII	5.00 S16	S 113	716	MT 3.0 - 3.5
	Roadrunner R2	130/90 H16	H 130	760	MT 2.5 - 3.5
CHEN SHIN	C199	510 H16	H 130	720	MT 3.0 - 3.5
METZLER	Block K	325-16	H 130	425	MT 1.85- MT 2.5
<b>17"</b>					
AVON	Roadrunner Universal	130 190 H17	H 130	695	MT 2.5 - 3.5
BRIDGESTONE	RS-10	250-17	S 113	290	1.35-1.6, WM1
	RS-10	325-17	S 113	440	MT 1.85 - 2.5
CHEN SHIN	C119	4.50/85-H17	H 130	645	2.5 - 3.00
	C180	300-17	S 113	385	1.6 - 2.15
	C180	325-17	S 113	440	MT 1.85 - 2.5
	C180	350-17	S 113	493	1.85 - 2.50
<b>18"</b>					
AVON	SM MKII	4.00 S18	S 113	617	2.15 - MT 3.00
BRIDGESTONE	RS10	250-18	S 113	250	1.35 - 1.6
	RS10	325-18	S 113	440	MT1.85 - MT2.5
CHEN SHIN	C199	3.50/3.75 H18	H 130	493	1.85 - 2.50
	C199	4.10/4.25 H18	H 130	551	2.15 - 3.00
	C199	4.25/4.60 H18	H 130	617	2.50 - 3.00
	C199	4.50/4.85 H18	H 130	645	2.50 - 3.00
	C180	300-18	S 113	385	1.60 - 2.15
	C180	350-18	S 113	493	1.85 - 2.50
	C180	400-18	S 113	617	2.15 - MT3.00
	C180	450-18	S 113	661	2.50 - 3.00
DUNLOP	K70	300-18	S 113	360	1.60 - 2.15
	K70	350-18	S 113	450	1.85 - 2.50
	K70	400-18	S 113	570	2.15 - MT3.00
	K81 TT100	360-18	H 130	460	1.60 - 2.50
	K81 TT100	410-18	H 130	575	2.15 - 3.00
	K81 TT100	425-18	H 130	595	2.50 - 3.00
	K181	100-900 V18	V 130+	493	2.15 - 2.75
	K700	150/70 VR18			
METZLER	Block K	400-18	P 33	620	2.15 - MT3.00
MICHELIN	M38	300-18	S 113	360	1.60 - 2.15
	M38	350-18	S 113	490	1.85 - 2.50
	M38	400-18	S 113	623	2.15 - MT3.00
YOKOHAMA	12200	140/70 VR18			

### 3.6.3 Approved Tyre List – Groups Na, Nb, Nc, Sa, Sb and Sc

This approved tyre list relates to tyre characteristics applying at the date of publication. In the event of a tyre manufacturer effecting reformulation of an approved tyre (particularly in respect of tread pattern or stickiness of compound) such reformulation normally will result in the approved status of the tyre lapsing.

For Na, the minimum aspect ratio permitted is 65%. For Nb, Nc, Sa, Sb and Sc the minimum aspect ratio permitted is 60%. For Sc, the minimum aspect

ratio permitted is 60% unless the vehicle in question was originally fitted with tyres with a lower aspect ratio by the manufacturer, in which case this shall be the minimum permitted aspect ratio.

CAMS will maintain a list of the specific tyres approved for these groups. Approved tyres for these groups may be updated by CAMS Historic Commission at any time. Consult the CAMS National Office or your state Historic Eligibility Officer to obtain the up-to-date list.

Make	Model			
<b>AVON</b>	Turbosteel ACB9	Turbosport	Turbospeed	CR6ZZ
<b>BRIDGESTONE</b>	319V D339 S340 RE711	RD229V RE88 S370	RD339V S310 (10" only) S372	RD229 S330 Supercat
<b>CONTINENTAL</b>	CV51	CZ91		
<b>DUNLOP</b>	SP Sports D40 Grand Sport G5 Formula R D93J	Monza D8 Formula W-1 D83J	Daytona CR 48 (R6)	Le Mans A4 CR 65 (R7)
<b>FALKEN</b>	FK06	GRB	RS410	RS410S
<b>FIRESTONE</b>	Eurosteel S211 F630	S330 Firehawk	H330 Cavallino Sport 200	F560
<b>GOODRICH</b>	Comp T/A			
<b>GOODYEAR</b>	Eagle NCT Ducaro GTR	Grand Rally S Eagle NCT-2 GT Sport 70	Vector Eagle VR Bluestreak Sportscar Special	Eagle CA
<b>HANKOOK</b>	Optimo Plus 827	838		
<b>HOOSIER</b>	Street TD	Vintage TD	Hoosier TD 10"	
<b>KLEBER</b>	GTS C20H	T1 C50H	C2 C40H	C2T
<b>KUMHO</b>	737, 755, 756, 766, 768, 771, 772, 777A, 782, 788, 790			
<b>MICHELIN</b>	XVS MX XWX MXT	MXV XDX MXV2 MXF	MXL XAS MXV3 XM+S244	TDX-V XZX MXV3A
<b>OHTSU</b>	Falken FK06	GRB	RS410	RS410S
<b>PIRELLI</b>	CN36 P700 P44 Stelvio P4000E	P6 P5 P600 CH36	P7 P8 P700Z CH67	P77 P4 P500 P2000
<b>RACE TIRES AMERICA</b>	DOT Street Tires, BB, DD or EE tread pattern, 704 compound			
<b>RIKEN</b>	G4-06	GR-14	GR-16	GR-301
<b>SUMITOMO</b>	HTR60H	HTR60V		
<b>TOYO</b>	600 600F4 600F8 Triumph FMQR	600CI 600F7 800 Plus	6004D 600F3 Proxes RA-1	600FI 600F5 08R
<b>UNIROYAL</b>	Rallye 340/65			
<b>YOKOHAMA</b>	AVS161 GX501 (10" only) A008RS	AX321 A008 A032R (S Compound only)	S707 A509 A539	Y352 AVS

### 3.6.4 Component Substitution Criteria

The following tests will be applied by the Historic Eligibility Committee to requests for usage of components in substitution for the original or genuine replacement original components.

1. **Is the original component no longer available or available only at an exorbitant cost, due to very limited availability?**  
If it is available, then the application will be rejected, because originality is the prime historic criteria.  
If it is not practically available then:
2. **Will the substitute component give a demonstrable performance gain?**  
Inevitably, any more modern substitute component for a competition car will have taken advantage of the gains in technology since the original component was manufactured, so some gain is axiomatic and may be acceptable,

3. **Is the substitute component similar in appearance and design to the original?**  
Some minor variations would be acceptable (eg, casting numbers).
4. **Is the substitute component manufactured from similar materials to the original component?**  
An alloy head replacing a cast iron head would not be acceptable.

### 3.6.5 Roll Bar Guidelines

Guidelines for roll bar assembly rule 3.1.5 possibility (d):

**General configuration:** Whilst there is no prescribed maximum height limit on these roll bar structures, excessive height is to be avoided as such can reduce both strength and the effectiveness of the structure. The top of the roll bar should be at least level with the top of the driver's helmet when seated in the normal position, but a height 50mm above that is considered ideal.

Where possible, bar forms should follow the styles shown in Schedule J, type 1, 2 or 3.

Bracing can be forward or backward, but must leave adequate room for the driver to operate the car properly and exit rapidly in an emergency. The angle of the brace or braces to the main hoop must be such that it provides adequate strength in a fore and aft direction. Generally speaking, the greater the angle between the hoop and the brace, the greater the strength of the structure.

Braces should pick up the main hoop as near the top as possible to minimise the unbraced length. Wherever possible, all the components of the ROPS should use straight lengths of tube, with the obvious exception of the top of the hoop. In particular, fore and aft braces should be straight runs.

**Material:** Ideally the material specifications detailed in paragraph 2.4.2. Materials should be used, but alternatives will be considered where these can be shown to be impractical. Alloy bars are not allowed.

**Mounting:** Adequately strong mounting is sometimes difficult to achieve with some early cars and careful design is needed particularly in cars with narrow or backbone chassis. Fibreglass and monocoque vehicles will need the bars to be

mounted to suspension points, gearbox mountings or similar strong points. Load spreading by plates may be required. Bars may be fixed or removable.

In the case of fibreglass bodied cars, where braces and hoop mountings need to pass through the bodywork, these should use sandwich plates between the mounting and the chassis attachment points.

Where improved side intrusion protection is desired, it will also require careful thinking and may be provided by internally reinforcing the door and catch mounting areas and internally reinforcing the doors themselves.

Where possible roll bar design should incorporate provision for safety harness mountings, or be designed in a way to facilitate harness mountings of adequate strength. Harness attachments should be designed to provide the harness angles shown in Schedule J, Drawing I-1.

Ideally roll bars should incorporate a head restraint and/or shock-absorbing pad to minimise rearward movement of the driver's head in an accident.

If an entrant feels that he cannot implement a ROPS to his satisfaction but which also meets the CAMS rules and guidelines, perhaps the entrant should reconsider their choice of car or category.

### 3.6.6 Firewalls, Scattershields and Chainguards

**Firewalls and Scattershields:** Although there may be some difficulty in fitting effective firewalls in some of the front engined J, K, L and M cars, wherever possible some partition between the driver and the engine compartment should be installed. This can be fixed or removable as required for maintenance. Scattershields are usually less of a problem to fit and can be fitted externally or internally to the clutch housing. Where they are fitted internally, some external evidence of their fitment (bolts or an inspection hole) should be incorporated to assist scrutineers in establishing their presence.

**Chain guards:** Chain guards are only required where a broken chain would cause harm to the driver. Final drive chains in rear-engined cars using motorcycle engine and gearbox assemblies do not require chain guards.

### 3.6.7 5th Category Equipment Chart

Group	J	K	L	M	O	P	Q	R	Sa	Sb	Sc
Date	0-1930	1931-40	1946-60	1961-65	1966-69	Pre-1978	1970-77	Post-1978	1941-60	1961-69	1970-77
<b>Equipment</b>											
<b>A: The following components are acceptable on all vehicles within the various groups listed regardless of the original equipment fitted to individual vehicles.</b>											
Braided brake lines	Yes* **	Yes* **	Yes* **	Yes* **	Yes* **	Yes	Yes	Yes	Yes	Yes	Yes
Braided clutch lines	Yes* **	Yes* **	Yes* **	Yes* **	Yes* **	Yes	Yes	Yes	Yes	Yes	Yes
Braided oil lines	Yes*	Yes*	Yes*	Yes*	Yes*	Yes	Yes	Yes	No	No	No
Braided fuel lines	Yes*	Yes*	Yes*	Yes*	Yes*	Yes	Yes	Yes	No	No	No
Braided water lines	No	No	No	No	No	No	No	No	No	No	No
Geared starters	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nyloc nuts	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pop rivets	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dzus fasteners	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap screws	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electrical spade terminals	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electric fuel pumps	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ignition coils (square)	No	No	No	No	No	No	No	No	No	No	No
Ford oil filters (plate type)	No	No	No	No	No	No	No	No	No	No	No
Accusump oil systems	No	No	No	No	No	No	No	No	No	No	No
<b>* Anodised colours not allowed ** braided lines to be covered with black shrink wrap</b>											
<b>B: This guide indicates the typical components that should be used on vehicles in each group period. However where a particular vehicle's period specification varies from the list, then that vehicle's period specification will prevail.</b>											
Fibreglass bodywork	No	No	OIP	Yes	Yes	Yes	Yes	Yes	OIP	OIP	OIP
Twin leading shoe brakes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alternators	No	No	No	No	Yes	Yes	Yes	Yes	No	OIP	Yes
Tubular s/absorbers	No	OIP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hyd. s/absorbers	No	OIP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Externally adj. hyd. tubular shocks	No	No	OIP	Yes	Yes	Yes	Yes	Yes	No	No	No
Lightweight alloy shock absorbers	No	No	No	No	No	OIP	OIP	OIP	No	No	No
Twelve point nuts	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Phillips head screws	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Rod end bearings (uniballs)	No	No	OIP	Yes	Yes	Yes	Yes	Yes	No	No	No
Chrome plating	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gold dichromate plating	No	No	No	No	No	Yes	Yes	Yes	No	No	Yes
Coloured anodising (components)	No	No	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
For SU carburettors; see separate chart      OIP: Only where used on the particular vehicle in the period.											

5th Category Equipment Chart - SU Carburetors

Model no.	Carby type	Throat size	Year introduced	Used on	J 0-1930	K 1931-40	L 1940-60	M 1961-65	O 1966-69	P Pre-1978	Q 1970-77	R Post-1978	Sa 1941-60	Sb 1961-69	Sc 1970-77
D2	Downdraught	1.125"	1932	Crossley	No	Yes	Yes	No	No	No	No	No	No	No	No
D3	Downdraught	1.25"	1937	Wolsley	No	Yes	Yes	No	No	No	No	No	No	No	No
D4	Downdraught	1.375"	1937	Wolsley	No	Yes	Yes	No	No	No	No	No	No	No	No
D4L	Downdraught	1.5"	1937	Wolsley	No	Yes	Yes	No	No	No	No	No	No	No	No
D5	Downdraught	1.625"	1937	Riley	No	Yes	Yes	No	No	No	No	No	No	No	No
D06	dual throat	2x1.75"	1955	Climax 1.5lt FPF only	No	No	Yes	No	No	No	No	No	No	No	No
G5	"Sloper"		1923	Bentley 3lt	Yes	Yes	No	No	No	No	No	No	No	No	No
H1	single bolt float mount	1.125"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H2	single bolt float mount	1.25"	1937	Wolsley	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H3	single bolt float mount	1.375"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H4	single bolt float mount	1.5"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H5	single bolt float mount	1.625"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H6	single bolt float mount	1.75"	1937	SS Jaguar	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H8	single bolt float mount	2"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H10	single bolt float mount	2.1875"	1937		Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
H12	single bolt float mount	2.5"	1937	ERA	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
HD4	multi bolt float mount	1.5"	1961	MG Magnet Mk4	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
HD6	multi bolt float mount	1.75"	1959	Daimler SP250	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
HD8	multi bolt float mount	2.0"	1959	Rover 3lt	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
HIF4	emission control	1.5"			No	No	No	No	No	No	No	No	No	No	No
HIF38	emission control	38mm			No	No	No	No	No	No	No	No	No	No	No
HIF44	emission control	44mm			No	No	No	No	No	No	No	No	No	No	No
HIF6	emission control	1.75"	1980	Jaguar XJ6	No	No	No	No	No	No	No	No	No	No	No
HIF7	emission control	1.875"			No	No	No	No	No	No	No	No	No	No	No

HSZ	Carby type	Throat size	Year introduced	Used on	J 0-1930	K 1931-40	L 1940-60	M 1961-65	O 1966-69	P Pre-1978	Q 1970-77	R Post-1978	Sa 1941-60	Sb 1961-69	Sc 1970-77
HS2	Flex feed to jet	1.25"	1957	AH Sprite	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
HS4	Flex feed to jet	1.5"	1961	MG	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
HS6	Flex feed to jet	1.75"	1965	Austin 1800	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
HS8	Flex feed to jet	2.0"	1967	Rover 2000 TC	No	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
HV1	No inlet flange, 2 screw top	1"	1929		Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV2	No inlet flange, 2 screw top	1.125"	1929	AC	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV3	No inlet flange, 2 screw top	1.25"	1929	Daimler 15hp	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV4	No inlet flange, 2 screw top	1.375"	1929		Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV5	No inlet flange, 2 screw top	1.625"	1929	Bentley 4.5 lt s/c	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV6	No inlet flange, 2 screw top	1.875"	1934	MG K3	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
HV0		0.875"													
HVG5			1930	Bentley 4.5lt	Yes	Yes	No	No	No	No	No	No	No	No	No
KIF38		38mm													
KIF44		44mm													
MC2		1.25"	1963	Triumph T third	No	No	M/cycle engines only	No	No	No	No	No	No	No	No
OM	No inlet flange, 2 screw top	1"	1930	Riley 12hp	Yes	Yes	Yes	No	No	No	No	No	Yes	No	No
U5		1.625"													
UB		1"													
UBA			1950	Ford Prefect	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Ruffley															
H10	H10 replica	2.25"			Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
H12	H12 replica	2.5"			Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
Midal															
HV	HV replicas (bronze)	up to 1.625"			Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
HV8	HV replica	1.875"			Yes	Yes	Yes	No	No	No	No	No	Yes	No	No

Note: Where any difference exists between this chart and the proven period specification of a vehicle and the type of SU it used, the latter will take precedence.

This chart lists the components that will be acceptable on all vehicles within the various groups listed regardless of the original equipment fitted to individual vehicles. Components noted as not acceptable may only where it can be established that the particular vehicle was so equipped in the relevant period. These exceptions may only be used by application and specific approval of the Eligibility Committee.

Equipment	Group	J 0-1930	K 1931-40	L 1946-60	M 1961-65	O 1966-69	P Pre-1978	Q 1970-77	R Post-1978	Sa 1941-60	Sb 1961-69	Sc 1970-77
Transistorised ignition		No	No	No	No	Some	Yes	Yes	Yes	No	No	Some
Electronic ignition (breakerless)		No	No	No	No	No	No	Yes	Yes	No	No	No
Electronic fuel injection		No	No	No	No	No	No	No	No	No	No	No
Solid state fuel pumps		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electronic tachometer (period appearance)		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Electronic rev limiter (in tachometer)		No	No	No	No	No	No	No	No	No	No	No
Electronic rev limiter (separate)		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gearchange light		No	No	No	No	No	No	No	No	No	No	No
On board lap timer		No	No	No	No	No	No	No	No	No	No	No
VDO mini computer (av. speed, etc.)		No	No	No	No	No	No	No	No	No	No	No
Car-to-pit radio		No	No	No	No	No	No	No	No	No	No	No

### 3.6.8 Group Jb and Kb Specials Guidelines

The Jb & Kb specials rules concept is intended to provide historic pre-war race grids with cars of appropriate pre-war style, as opposed to simply providing a place for a car built up from a convenient collection of parts or a super special that is designed to maximise every aspect of the rules to produce a winner.

Appropriate specials will be those that are designed and constructed in a way that fits a period and place of road racing up to the end of 1940. The car's specification and appearance should not be out of place if it was to appear on the grid of a road race in the time and place chosen.

Replicas are not permitted.

Applicants must indicate the place and period of racing they want their special to conform to, and include examples of the racing and cars from the period. The vehicle's specification must be designed in such a way as to be compatible with the vehicles that raced at that place and time.

This means there are two basic types:

1. A special built using all the components from one vehicle (eg, a Ford V8 racing car built from a Ford V8 sedan), or,
2. A special built from a collection of components from different makes (eg, an MG special using an MG chassis and Hudson engine).

A special built completely from the components of one pre-war vehicle was a common form of special building in both the J and K periods. Lots of these types of specials were raced at Brooklands and in Australian pre-war events. However, there were some makes that were not conducive to this sort of 'simplify and add lightness' approach and it remains for the applicant to show that a car of that particular make or type was modified and used in competition in the period.

Specials built from a collection of major components require more careful selection. It is not necessary that the combination is exactly the same as one raced in the period, but must reflect the common practice at that time and place. A typical example could be: the original period car had semi-elliptic springs all round and a channel section frame and the proposed special chassis has the same specification. The proposed special chassis should look similar and not have obvious technical or visual differences from the ones used in the period. The same principle applies to avoiding inappropriate combinations of engines and major drive line components, such as US and English mixes (eg, Ford V8 engines and Riley gearboxes, or US engines and English carburettors) that were not used in the period.

Bodywork and the overall appearance must

be a style of the period and one that would have been used on the chosen type of vehicle. Dimensions such as height, width and ground clearance are important to retain the correct period appearance. Avoid the very simple generic straight bonnet/slab back body styles. Most cars of the pre-war period had something distinctive about their bodywork, even if it was ugly or minimal.

#### Other Components:

**Engines:** Engine modifications must be compatible with period practice.

**Induction:** Carburettor/s must be of a make, type and number typically used on that type of engine in competition in the period.

For example, the use of SUs on an American-engined car would generally be seen to be inappropriate, as would Carter carburettors on an English-engined car.

Superchargers would only be permitted on those engines that were typically so equipped in competition in the period.

**Transmission:** Gearboxes must be of a type typically used in the period in cars of the type under consideration.

For example, English four-speed gearboxes fitted to American-engined cars are not generally seen to be an appropriate combination, although there are some exceptions.

**Suspension:** Suspension must be compatible with the period /racing arena being portrayed by the subject car. In particular, shock absorbers must be of a compatible type. Telescopic shock absorbers will not be acceptable on a car of a type that would have typically used lever or friction shock absorbers in the period. Axle location shall at all times again be compatible with the period/arena being portrayed by the car.

**Wheels:** Original wheel type, style and diameters as used on the period cars must be used. Steel disc, bolt on or centre lock wire wheels are acceptable. Maximum rim widths for Group Jb cars are 3.5" and for Kb cars 4.0".

**Radiators:** Period shape but can use modern finned core.

**Instruments:** Period style and appearance, but not the VDO imitation 'Classic' type or similar.

**Magnetos:** Can be replaced by a period distributor and cylindrical coil.

**Windscreens:** Aeroscreen or period type.

**Rear vision mirrors:** period type.

**Seats:** Period bench or bucket type. No modern 'butterfly, winged' type.

**Mufflers:** No 'hot dogs'.

**Paint and plating no metallics:** limited chrome (except on US cars).

**Fuel pumps:** Electric can replace mechanical, or vacuum, but must be concealed.



**Fuel tanks:** Modern safety tanks allowed, but must be concealed or incorporated in period tank.

**Brakes:** Single leading shoe operation is required in Group Jb and mechanical operation is encouraged where it was used in the group period.

**Exhaust systems:** Very visible and an important part of period appearance. Period style (bunch of bananas or progressive tapered). No modern tuned lengths etc.

**Chassis:** An original period chassis must be the basis of the special but may be shortened.

Other alterations may be permitted but must be of period practice. No cruciform bracing on Group Jb cars or chassis not originally so fitted.

1920s and '30s US sprint car-style cars which typically had only rear wheel brakes, two-speed gearboxes and dog clutches may be modified with four-wheel brakes, period three-speed gearboxes and road type clutches.

For further detail on minor components refer to the 5th Category equipment charts.