



RULES AND REGULATIONS OF THE VINTAGE AUTOMOBILE RACING ASSOCIATION OF CANADA

As of 1 January 2010

Changes were made to the following:

Preamble

2. Addition of FIA and SVRA rules

3.3

5.4

4.6.5

10.2

18.5.2

21

Appendix A

Appendix B

Appendix C

VARAC is incorporated under Canadian Corporation Act Letters Patent dated June 25, 1981 as a not-for-profit organisation affiliated in Ontario with Canadian Automobile Sport Club Ontario Region and acknowledged in Quebec by Fédération de Sport Automobile du Québec.

These Rules and Regulations are designed to provide for the orderly conduct of racing events, and to establish minimum acceptable requirements for such events. These Rules and Regulations in conjunction with any supplementary regulations of the event, shall govern the conditions of all VARAC events. By participation in these events, all competitors have agreed to be bound by these rules and regulations.

No expressed or implied warranty of safety shall result from publication of, or compliance with, these Rules and Regulations. They are intended as a guide for the conduct of the sport of Vintage Racing and are in no way a guarantee against injury or death to participants, spectators or others.

These rules are translated into French. In case of dispute, the English text shall be referred to.

Board of Directors

Vintage Automobile Racing Association of
Canada

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INTRODUCTION

The sport of Vintage Racing, though similar in many respects to other forms of motorsport to the observer, is sufficiently different to require its own rules. This book is intended to give direction to the newcomer to racing, and guidance to those with previous experience in other classes of competitive motorsport.

Vintage Racing does provide great opportunities for those who love older cars and desire to maintain and race them **in as close to original condition as possible.**

Vintage Racing in Canada is competitive. We strive to exercise our cars under competitive conditions while we use common sense and good judgment.

To this end, the following rules have evolved in order to help people to understand the Spirit of Vintage Racing, and to prepare their cars and themselves for it.

As with many forms of competitive sports, there are people who will always try to read “in between” the rules. Vintage Racing is intended as a “gentleman’s” sport played by the rules; to this purpose, we have tried to keep the rules simple and to a minimum, **but the concept of originality cannot be stressed too highly. If a given rule does not mention a specific item, you should assume it is not advised or permissible.**

Good Luck and Good Vintage Racing!

1.0 REQUIREMENTS

All vehicles must comply with the following rules and regulations before competing in any VARAC racing event.

2.0 ELIGIBLE VEHICLES

2.1 Vintage Pre-War

Any vehicle manufactured on or before December 31, 1940, including approved replicas of the same.

2.1.1 Replicas of Pre-War Vintage race cars will be permitted as follows:

- a) Car must be a replica of a Pre-War sports car or race car, which actually did exist prior to 1940, and must be built from Pre-War components.
- b) The only deviations from Pre-War

components would be those allowed under the existing general rules for safety reasons.

c) It will be the responsibility of the owner to make a prior request for eligibility, documenting the actual vehicle which is being replicated and giving evidence that the replica car will be a true copy utilizing Pre-War components and technology. This documentation should include photographs or pictures of the car being replicated, as well as written specifications and a list of the actual Pre-War components to be used to build the vehicle.

d) After receiving approval in principle for a replica car, the actual car will be inspected for safety and appearance with strong emphasis on high quality workmanship and replication, prior to receiving final approval.

e) Any such car built to the above criteria will be designated as a “Replica”.

2.1.2 Pre-War “one-off” specials built to period specifications and having a documented racing history prior to December 31, 1940 will be allowed subject to the approval of the VARAC Eligibility Committee.

2.2 Vintage

Production, single seat open wheeled and sports racing cars built between January 1, 1941 and December 31, 1961.

2.2.1 Production Sports Cars including cars built after December 31, 1961 that retain identical visual appearance (bodywork and detail) and identical mechanical components to models of the same make built on or before December 31, 1961, subject to the approval of the VARAC Eligibility Committee.

2.2.2 Formula Junior cars built through 1963, conforming to FIA regulations of the time and to current Monoposto Racing Regulations.

2.2.3 Post-War “one-off” specials built to FIA, CASC, Canada Class or similar class specifications and having a documented racing history prior to December 31, 1961 will be allowed subject to the approval of the VARAC Eligibility Committee.

2.3 Historic

Production, single seat open wheeled and sports racing cars built between January 1, 1962 and December 31, 1972.

2.3.1 Production Sports Cars including cars built after December 31, 1972 that retain

identical visual appearance (bodywork and detail) and identical mechanical components to models of the same make built on or before December 31, 1972, subject to the approval of the VARAC Eligibility Committee.

2.3.2 Historic Formula Cars shall conform to the current Rules and Regulations of the Monoposto Register for classes recognized by the cut off dates noted above. Cars built and raced prior to December 31, 1972 but not in a class acknowledged by the current Monoposto Register may be allowed on a case-by-case basis.

2.3.3 Historic Sports Racing Cars must comply with the recognized class rules for the time period the car was designed. Upgrading or updating of cars to a later specification may be considered on a case-by-case basis by the Eligibility Committee only if the modifications have an historic significance and are correct for the period covered by the Historic Sports Racing class.

2.3.4 Classic Sedans: Vehicles built prior to December 31, 1972 to the following specification: Vehicles must have accommodation for four (4) adults and a fixed roof, falling into the FIA classification of Touring cars, but excluding Grand Touring cars. Vehicles are limited to a maximum engine capacity of five (5) litres. Vehicles built after December 31, 1972 that retain identical visual appearance (bodywork and detail) and identical mechanical components to models of the same make built on or before December 31, 1972, subject to the approval of the VARAC Eligibility Committee. "American Muscle Cars" are deemed Sedans, unless homologated by the manufacturer as GT cars.

2.3.5 Production Based vehicles having historically significant Canadian race history prior to Dec 31 1972, but having modifications beyond the general rules of Vintage, Historic or Sedan race regulations. Owners of said vehicles will have to be able to provide full documentation showing that their vehicle is, in fact, the original car and chassis. Owners must also provide full documentation showing that the vehicle is being presented as it was raced prior to Dec 31, 1972. Some modifications may not be allowed, even if it were raced that way prior to Dec 31 1972. Examples are; No slicks, and tires cannot have

an aspect ratio of less than 60. All body work must be presented in a clean and tidy manner.

2.4 Formula 70+ & Group 70+

Production sports, single seat open wheeled and sports racing cars built to historic rules from between January 1, 1973 and December 31, 1989.

2.4.1 G70+ Group 70+ is intended as a "point in time" class for production-based vehicles (GT and Sedan) whereby vehicles are prepared to a specific set of rules from 1973 or later (up to the last year of eligibility) as provided by the following organising bodies: CASC; FIA; IMSA; NASCAR SVRA or SCCA. Vehicles must be prepared to one and ONLY one set of regulations and must comply in all respects to the chosen regulations, save and except where VARAC preparation requirements take precedence.

Each vehicle entrant will be required to submit a car registration form to the Eligibility Committee prior to competing on a G70+ grid. The purpose of this registration form is to determine the suitability and originality of the entered vehicle for G70+ competition. It is the responsibility of each competitor to research and accurately document the proper period specification for his/her vehicle, and to present it as such. The Eligibility Committee reserves the right to refuse an entry based not only on its mechanical specification, but also on the perceived historic spirit of the car's presentation.

There are no predetermined lists of acceptable vehicles for Group 70+. Rather, each car will be reviewed and accepted or rejected for competition based on its acceptability to the Eligibility Committee.

2.4.2 F70+ is open but not limited to purpose built Racing Cars that conform to the following classifications:

2.4.2.1 Monoposto Racing Formula 70

Formula 70 Regulations see Monoposto Racing Rules & Regulations Formula 70.

2.4.2.2 Sports 2000 Groups B and C

SRCC Regulations, see Sports 2000 Racing Car Club Technical Specifications, Groups B and C.

Other purpose built racing cars may be permitted upon application. Their built date must fall within the G70+ period as specified below.

Note: Currently, up to and including 1989 model year cars are eligible. Starting in 2010, G70+ groups will proceed with a twenty-five year age difference from current date in one-year intervals [eg 1990 model year cars will become eligible in 2015].

In addition to the rules documented herein, VARAC will accept cars that are prepared to SVRA or FIA Historic standards, provided that such vehicles comply with the dates in the “Eligible Vehicles” Section hereof, contained above in Clauses 2.1 to 2.4 inclusive.

In order to record to which set of Eligibility Standards the car is prepared, each competitor must fill in a “Vehicle Registration Form” and submit it to the Eligibility Committee for review and approval before being allowed to race with VARAC. Note that “picking and mixing” of rule components between VARAC, SVRA or FIA is prohibited and we expect cars to be prepared only to one single standard, as defined on the Eligibility Form.

Note that, as VARAC will accept cars prepared to the SVRA or FIA standards, we reserve the right to cancel our acceptance of these standards at any time if we disagree with rules changes of these organisations. However, in those circumstances, existing cars that have been approved will be “grandfathered”.

3.0 ELIGIBILITY

It should be noted that the VARAC Eligibility Committee is not a rule making body. It is: a) A committee to provide direction on eligibility issues that cannot be resolved by the processes defined below. b) A vehicle for individual members to have input on rule making. Input should be made in writing and include a definite proposal...not generalized theory. An Eligibility Committee may meet as a body to co-ordinate rule change suggestions.

The Board of Directors is responsible for finalizing and publishing eligibility rules and regulations.

3.1 An Eligibility Committee Chairman shall be part of the Board of Directors to assist them in answering questions pertaining to eligibility submitted by the general membership and resolving matters that arise out of these eligibility issues.

3.1.1 The Eligibility Committee Chairman shall be responsible for scrutineering, and will appoint scrutineers, one of whom will be appointed Chief Scrutineer, from suitably qualified members.

3.1.2 The Eligibility Committee in conjunction with the Board of Directors will rule on any items not specifically covered in these Rules and Regulations.

3.2 Where a competitor wishes to request permission to deviate from these rules, such requests will be considered as follows:

3.2.1 The competitor shall direct their inquiry to the Eligibility Committee to assess viability of the specific request.

3.2.2 All requests must be submitted in writing to the Eligibility Committee. Requests should include details of the change, reasons for the change, and any technical information, which would assist in comparing the modification with the original specification.

3.2.3 Requests should not downgrade safety requirements.

3.2.4 Requests will generally only be considered in cases where original components are a) no longer available or b) can not be readily manufactured or obtained.

3.2.5 The Eligibility Committee will rule on the request and the competitor will be advised in writing of the decision. The decision will apply to that competitor’s vehicle only unless otherwise stated.

3.2.6 The Eligibility Committee’s decision will be published in the next club bulletin.

3.3 Any deviations to existing rules or interpretations of those rules will be ratified by the Board of Directors before implementation. Any such changes or reinterpretations will be published in the next club bulletin. According to the club’s by-laws, such changes can be revoked by the membership at the Annual General Meeting.

3.4 The Board of Directors’ decision on questions of eligibility is final and binding.

4.0 AUTHENTICITY

4.1 Cars may be required to undergo an inspection to ensure the vehicle is within the class specifications. The inspection may include any items related to eligibility and authenticity.

4.2 Where the Eligibility Committee determines that any aspect of the competitor's vehicle does not meet the original specifications of the vehicle excepting those deviations and modifications allowed in these regulations, then the burden of proof will be on the competitor to show by documentation that the particular aspect of the vehicle does conform to the original manufacturer's specifications.

4.3 The factors to be considered in fixing the date of manufacture of any vehicle will include any technical documentation supplied by the manufacturer, registration number(s) and/or documents relative to the vehicle, information available concerning chassis and engine numbers, and such other information from reliable and/or authenticated sources as may be available.

4.4 The VARAC Eligibility Committee will be responsible for checking and adjudicating the date of the vehicle, but the responsibility for providing necessary information shall remain with the owner and/or entrant of the vehicle.

4.5 A vehicle shall be completely original except those specific deviations from originality approved by the Eligibility Committee as detailed in subsequent paragraphs.

4.6 Restoration

4.6.1 The restoration of a VARAC eligible tubular frame vehicle must, in the least, begin with the ownership of a complete example of the vehicle's original frame, suspension members and manufacturer's chassis plate or other recognized means of identification.

4.6.2 The restoration of a VARAC eligible unit body vehicle must, in the least, begin with the ownership of a complete example of the vehicle's original body shell, suspension members and manufacturer's chassis plate or other recognized means of identification.

4.6.3 If, due to deterioration or damage, such an original frame is found to be impractical to restore, an identical copy frame may be constructed, using the original as a pattern. Original frame identification, such as serial numbers, or a manufacturer's plate, must be transferred to the new frame.

The owner must retain the original unusable frame as proof of the existence and ownership of the original vehicle. Failure to provide proof of ownership of the original frame may class the

re-construction as a "REPLICA" and may invalidate the re-construction for eligibility in VARAC competition.

4.6.4 A documented history of the car is valuable. Those contemplating restoration of an incomplete car should apply to the VARAC Eligibility Committee before proceeding. It may be necessary to prove ownership or title to over 60% of the car so that only one car can replace the original.

4.6.5 G70+ embraces the race cars from the applicable period, but competitors may convert road cars or build cars to specifications conforming to our rules in the present. However, such a "newly built" race car must be to the same specifications of a race car as it was actually raced in the applicable period.

5.0 PREPARATION

5.1 All mechanical components, bodywork, paint and trim work shall be presented in a good and workmanlike manner.

5.2 No vehicles with rough, rippled, rusted or dented metal bodywork or equally rough glass fibre bodywork, sharp edges, primer paint, or any other fault considered below standard by the VARAC Eligibility Committee will be permitted to participate (see Vehicle Safety Requirements - section 18.0).

5.3 Sponsorship advertising of any commercial type is not allowed on vehicles except as fitted by the original manufacturer at the time of manufacture, e.g. name plates. Authenticated photographic evidence of any deviation from this regulation will be required before approval is granted. Commercial advertising on Historic and G70+ racing cars is permitted providing it is consistent with the advertising displayed on that car when it was initially raced. Exempt from this rule are sponsorship decals provided by the race organisers or sanctioning body.

5.4 In-Car video recording equipment is permitted provided the installation is recognised by the Event Chief Scrutineer and subject to the provision that the Stewards of the Event may impound any video recording made during a track session. *Drivers presenting video as evidence in a Stewards' hearing shall provide the Stewards with the equipment necessary to view the video.*

6.0 BODYWORK

6.1 Bodywork of any vehicle of any class may not vary in material, size, shape, contour or in any dimensions from the vehicle as originally manufactured.

6.2 Any and all reconstruction or reproduction of the body must conform with and be appropriate to that model of the vehicle and the time period of the vehicle. Any and all reconstruction or reproduction of the body must be made of the original material and have the original fender opening contour, shape and size.

Where operating doors existed, they must remain operational, with door posts and hinges present.

Engine access by "hoods" or "bonnets" shall remain as original, except where period modifications permit, such as forward hinging on Austin Healey Sprites, for example.

6.3 For Sports and Sports Racing vehicles, the body must have adequate accommodation for the driver and one passenger. Passenger seats may be removed during competition and passenger seating area may contain a roll bar or roll cage blocking normal passenger seating.

6.4 Sedan and Production Sports Car bodies chosen for racing purposes should be free of rust. However, as this is not always possible and recognizing that the majority of these cars are unit body construction, it is imperative that rust affected areas are repaired properly. Rust areas must be cut out and replaced with the same material type, and thickness, as the original. These areas and the remaining body should be reinforced to support such items as: roll cages, seats, seat belts, suspension pick-up points, etc. These areas will be inspected very closely during scrutineering. If you wish your car to be inspected during construction, or if you are unsure of how to effect repairs, contact a member of the Board of Directors or the Eligibility Committee.

6.5 For G70+ vehicles, the bodywork has to be in compliance with the chosen "point in time" regulations as provided by entrant.

6.6 All engine hoods or other opening covers shall be adequately fastened with safety catches and/or straps. Readily identified, externally operated hood releases must be fitted to all vehicles.

6.7 Additional scoops or air ducts are not permitted.

6.8 Wheel flares are not permitted unless used originally. If permitted, they may not be moulded into the body.

6.9 Rear engined Formula cars must compete with bodywork as required by their original regulations.

6.10 Fireproof bulkheads must be provided between cockpit, engine and fuel tank, except where original vehicle was designed otherwise, e.g. certain Formula Junior and other vehicles with pannier fuel tanks.

6.11 Mirrors are required on all vehicles (see Vehicle Safety Requirements -Section 18.2.1).

6.12 Numbers and Marking. Cars shall carry identification numbers. Any competitor whose car numbers are judged to be illegible by the Chief Timekeeper and the Clerk of the Course shall not be scored.

6.12.1 Closed Wheel Cars. Numbers shall be placed on the front and on both sides and shall be clearly visible to the timing tower of the circuit at which the Competition is taking place. Numbers shall be no less than 250mm (10 inches) high, with a 50mm (2 inch) stroke. The distance between the digits shall be no less than the stroke of the digits.

6.12.2 Formula and Sports Racing Cars. Numbers shall be placed on the front and on both sides. It is recommended that the side numbers be placed adjacent to the driver's shoulder, if practical.

Numbers shall be no less than 200mm (8 inches) high with a 38mm (1.5 inch) stroke. The distance between the digits shall be no less than the stroke of the digits.

6.12.3 It is highly recommended that competitors' numbers shall be black on a white background of adequate area to accommodate the numbers.

6.12.4 First year drivers shall display a triangle on the rear of their car for their first three events. Triangles shall be of the same colour and dimensions as specified above for numbers. VARAC may require other drivers to display a triangle for a designated number of events.

7.0 TRIM, TONNEAU COVERS AND TOPS

7.1 Grilles must be retained; however, bumpers may be removed.

7.2 Passenger tonneau cover must be flexible unless it is an original stress-bearing member. No metal tonneau covers are allowed unless originally fitted by the manufacturer.

7.3 The use of removable hard tops is permitted subject to technical inspection of fastenings.

7.4 Soft Tops are **NOT** permitted. Soft tops and supporting hardware (bows) shall be removed. Exceptions may be made for certain PRE-WAR vehicles, on a case-by-case basis by the Event Chief Scrutineer.

7.5 G70+ cars: as per chosen "point in time" regulations.

8.0 INTERIOR

8.1 Interiors where applicable should be presented in a neat and workmanlike condition.

8.2 Original seats may be replaced with a racing seat ("shell-type") provided it is securely mounted, has firmly attached upholstery and is in keeping with the original appearance of the vehicle.

8.3 Passenger seats may be removed during competition, but if retained, must be securely mounted so that cushions and back will remain firmly in place under all competitive conditions.

8.4 Wood-rim steering wheels are not permitted.

Pre-War cars for which no suitable alternative steering wheel is available should be brought to the attention of the Chief Scrutineer.

8.5 G70+ cars: as per chosen "point in time" regulations.

9.0 GLASS

9.1 All vehicles shall have some form of windscreen.

9.2 On all fixed roof vehicles windshields or windscreens must be of LAMINATED glass or of approved polycarbonate material, e.g. Lexan. Polycarbonate windshields shall be of 0.250 inch (6 mm) minimum thickness and shall be identical in size and curvature to the original. Polycarbonate windshields shall have three inner supports to prevent the windshield from collapsing inward.

These supports shall be 0.75 inches X 0.125 inches minimum straps of aluminium. Spacing between these supports shall be 8 inches minimum.

9.3 Side and rear windows may be replaced with suitable polycarbonate replacements provided the replacement maintains the shape and thickness of the original glass (see Vehicle Safety Requirements 18.6.1/18.6.2).

9.4 Aeroscreens or modified windscreens when allowed may be of shatter-proof transparent polycarbonate such as Lexan of 3mm (1/8") minimum thickness.

10.0 ENGINE

10.1 The date of manufacture of the engine applies; except that engines and / or parts of identical design may be substituted, providing that such substitution could have been made at the time covered by the vehicle's class.

10.2 No engine substitutions, unless of the same make and model as originally available on that vehicle, are permitted; this includes G70+. Existing registered G70+ cars with non-original engines will be "grandfathered".

10.3 Engine Specification

10.3.1 Crankcase, cylinder block and cylinder head must faithfully follow the original design dimensions and materials.

10.3.2 Within the limits of the crankcase, crankshafts, connecting rods and bearings may be enlarged and made from materials different to original components.

10.3.3 Stroke may not be altered from the maker's standard.

10.3.4 Bore may not be increased by more than .065" over the original bore of the vehicle.

10.3.5 The number of valve ports may not exceed the original specification unless evidence is available of a modified head or block having been made commercially available in the relevant time period.

10.3.6 Roller rockers are only allowed if commercially available for that engine at that time.

10.3.7 Where the engine is used in a vehicle conforming to a specific class, e.g. Formula Junior, Formula Ford, the engine specifications and capacity must conform to that class.

10.4 Appropriate "add-on" or "bolt-on" speed

equipment of the particular vehicle's time period is permitted, provided it was commercially available for that vehicle. Examples: Abarth, Alexander, Aquaplane, Cosworth, Derrington, Downton, Empi, Judson, Martin, Ram, Rudd, or Speedwell. Other examples may be acceptable, subject to approval by the VARAC Board of Directors.

10.5 Exhaust systems on all VARAC eligible vehicles must exit behind the driver and outside the bodywork.

10.6 Oil filters and coolers may be added to the engine oil system even if not originally fitted. (see Vehicle Safety Requirements - Fluids 18.4.1).

10.7 G70+ cars: as per chosen "point in time" regulations.

11.0 FUEL SYSTEM / FUEL

11.1 Each separate carburettor, or separately controlled throttle butterfly valve shall be equipped with a return spring. In addition, a spring for the throttle mechanism is required. In Pre-war vehicles, the fitting of a spring returned foot throttle in place of hand controlled is permitted.

11.2 Post-war designed carburettors may not be used on Pre-war vehicles.

11.3 All V8 engined Sedans are limited to one (1) four barrel carburettor.

11.4 Electric fuel pumps are permitted.

11.5 All gravity-feed fuel systems and all non-mechanical fuel systems shall be equipped with a readily accessible and clearly marked shut off valve.

11.6 All fuel lines passing through the cockpit, including fuel pressure gauge lines, must be protected by a supplemental cover of metallic material, or must be of braided metal material (e.g. Aeroquip).

11.7 G70+ cars: as per chosen "point in time" regulations, except 10.2.

11.8 Fuel

All Cars shall run on gasoline produced by a recognized commercial manufacturer unless otherwise specified by Class, Series or Supplementary Regulations.

The addition of compounds containing nitrogen and/or oxygen is prohibited.

11.9 Fuel Cells/Fuel Tanks

Fuel cells are mandatory on all VARAC eligible cars with the exception of Pre-War and some G70+ vehicles.

A Fuel Cell is defined as consisting of an inner bladder/tank, manufactured to FIA specifications, approved fuel cell foam and a metal container as specified herein.

A Fuel Tank is defined as consisting of a cross-linked polymer tank intended for use as a fuel tank in a race car, approved fuel cell foam and a metal container as specified herein.

G70+ cars built from a production road car, model year 1982 or later, may use a Fuel Cell/Tank as specified above, OR, if a minimum of 30 cm of the original structure surrounding the stock Fuel Tank is retained, and this structure is welded to the adjacent tubular steel replacement frame members, the stock tank may be used. Fuel cell foam may be added to the stock tank.

The dimensions and capacity of Fuel Cells are free unless otherwise specified by Class, Series or Supplementary Regulations.

The installation of more than one Fuel Cell is permitted.

11.10 Location

Formula and Sports Racing Cars: The location is free unless otherwise specified by Class, Series or Supplementary Regulations.

Closed Wheel Cars: Fuel Cells shall be installed as close as possible to the location of the standard tank(s), except when safety considerations, dimensional limitations, or other factors make this impractical, impossible or undesirable.

Fuel Cells shall not be located in the Driver/passenger compartment.

Fuel Cells shall be installed not less than 6 in from the ground unless enclosed within the body.

11.11 Design Details and Materials

Bladders: Bladders shall comply with ETA FT3 specifications. Foam internal baffling is required.

Containers: Bladders shall be installed in containers fully surrounding the bladder, constructed of 0.036—inch thick steel or .059in thick aluminium.

In Formula Cars and Sports Racing Cars, the containers may form part of the structure of the bodywork of the Car.

In Closed Wheel Cars, internal body panels may be modified to accommodate the installation of Fuel Cells provided such modifications serve no other purpose.

Fittings: All fittings shall be built into the bladder and bonded and cured as an integral part of the bladder.

BLADDER REPLACEMENT: Bladders have to be replaced within the time period recommended by the manufacturer.

11.12 Flip-top (Monza type) fuel filler caps are permitted provided they are wired closed.

11.13 Oxygen bearing additives (e.g. nitro methane) will not be allowed when used as a blend with gasoline. Conventional, commercially available "octane booster" is permitted.

12.0 GEAR BOX AND DIFFERENTIAL

12.1 Gear boxes must remain as originally fitted to the vehicle. Different ratios and/or number of forward speeds that were available for that model during the vehicle's time period may be fitted, providing no structural modifications are required to the vehicle (see Vehicle Safety Requirements - section 18.4.3).

12.2 Post-war designed gear boxes are not permitted in Pre-war vehicles.

12.3 Limited slip differentials are not permitted unless available as original or accessory equipment at the time the vehicle was built.

12.4 Alternative axle ratios are permitted providing the original casing is retained.

12.5 G70+ cars: as per chosen "point in time" regulations.

13.0 CHASSIS AND STEERING

13.1 Chassis frame must follow original design.

13.2 Local stiffening is permitted provided it is through use of a gusset brace not exceeding six (6) inches in length, including any additional frame tube, or boxing of frame sections.

13.3 Roll bars and/or cages may not be fabricated and installed in a manner that through use of cross-bracing and bridging will substantially stiffen a frame, floor pan or suspension pick-up point.

13.4 Steering gear arrangement and location shall remain as originally fitted by the

manufacturer. Where steering gear components of a different ratio were available for that model, and within that vehicle's time period, they may be fitted providing no structural modifications are required.

13.5 No part of the steering gear shall have excessive "play".

13.6 G70+ cars: as per chosen "point in time" regulations.

14.0 SUSPENSION

14.1 Original springing arrangements must not be altered. Telescopic dampers are not permitted except when fitted as original equipment.

14.2 Shock absorbers may be replaced with more recent units providing they are of the same type, quality and appearance and made from the same material.

14.3 Period suspension improvements such as anti-sway bars, Panhard rods and similar devices are permitted only if they are identical, through well-documented evidence, to those commercially available for that model, in that year.

14.4 It is specifically forbidden to modify suspension components by the use of threaded ball-joints ("Heim" or "Rose" type joints).

14.5 Replacement of suspension bushings by an alternative material is permitted. The appearance and configuration of the suspension joint must resemble the original.

14.6 No adjustment to any suspension component is allowed through use of cockpit controls or any mechanism while the vehicle is in motion.

14.7 Track width may not be increased by more than one (1) inch over the original specification.

14.8 Ground clearance must be no more than one (1) inch below the original ground clearance of the vehicle when manufactured.

14.9 Front and rear axles must be as originally fitted.

14.10 No part of the front or rear suspension system shall have excessive "play".

14.11 G70+ cars: as per chosen "point in time" regulations.

15.0 BRAKES

15.1 Brake lining materials of modern type are permitted.

15.2 Disc brakes are only permitted if they were originally available for that vehicle model in that vehicle year. The rotor may not be drilled or otherwise modified from original. The calliper must be of the same material as the original, and both the calliper and rotor must be of the type and model available for that vehicle in that model year.

15.3 Hydraulic conversions of mechanical brake systems and dual hydraulic conversions are permitted if carried out in a workmanlike manner.

15.4 Different drum and shoe systems may be used, providing the lining area is not increased over that originally available.

15.5 Adjustable brake bias is permitted provided it cannot be adjusted while the vehicle is in motion.

15.6 All braking systems must be in good working order.

15.7 G70+ cars: as per chosen "point in time" regulations.

16.0 ELECTRICAL

16.1 Electrical equipment such as spark plugs, light bulbs, ignition coils, ignition points and condenser, wiring and batteries (where incorporated as original equipment) may be of modern design.

16.2 Generators, Alternators and charging systems are at the competitor's discretion.

16.3 Transistor or electronic ignition systems are not permitted unless originally fitted by the manufacturer. Mechanical points may be replaced by Hall effect systems, eg Pertronix.

16.4 Vehicles must be fitted with batteries; however, battery type and location are free (see Vehicle Safety Requirements – section 18.5.2/18.5.3).

16.5 Headlamps may be removed for safety reasons provided they are replaced with a cover or simulated lamp in such a manner as to not change the overall appearance of the vehicle. (See Vehicle Safety Requirements-section 18.5.4).

16.6 All vehicles except Open Wheel single seaters must be equipped with 2 operating

brake lights. All vehicles shall be equipped with a rear mounted rain light minimum 15 watts (see Vehicle Safety Requirements - section 18.5.4).

16.7 Parts from acceptable approved vehicles of the same period and similar model may be used to replace original parts.

17.0 WHEELS AND TIRES

The VARAC tire rules are intended to assure that cars be presented for competition equipped with wheels and tires that in size, aspect ratio, and appearance resemble those, which were originally supplied by the manufacturer when the car was delivered. Toward that end, all wheels and tires intended for VARAC competition must be of appropriate size and vintage appearance. All tires must be approved for each application by the Eligibility Committee and Board of Directors. See list of current tire applications in Appendix 'B'. Any tire or wheel not listed may not be used until approved. Note that wheels and tires may be "delisted" without explanation at the time of publication of the current tire list. It is the responsibility of each VARAC member to ensure their car is equipped to the current specification required.

17.1 Tires

17.1.1 Tire tread width and aspect ratio must be similar to that originally fitted to the car by the manufacturer.

17.1.2 All tires must retain sufficient tread pattern for safe usage.

17.1.3 No tires without treads will be permitted. Racing cars where slicks were originally used, on that vehicle, may be used in G70+.

17.1.4 Vintage production cars, Historic cars including Classic Sedans must use tires with a minimum aspect ratio of 60. Tires must have a symmetrical tread pattern. Vintage Sports Racers and Vintage Single Seat Cars are required to use "L" section width or equal width if other make than Dunlop.

17.1.5 Wheels and tires should not extend beyond original bodywork or flares when permitted.

17.2 Tire List

17.2.1 Production Sports Cars & Sedans are permitted to use tires from a list attached as Appendix 'B'.

17.3 Wheels / Rims

17.3.1 The size of wheels may not differ from that originally fitted by more than 10% on nominal diameter.

17.3.2 The size of wheels may not differ from that originally fitted by more than one (1) inch (2.54 cm) on nominal width. Use of wider wheels shall not cause the vehicle to exceed its maximum allowable track width (see 14.7 track width).

17.3.3 Alteration in the type of rim (i.e. beaded edge to straight-sided or well-based) is permitted provided that the tire fitted conforms in diameter and width to the above regulations.

17.3.4 Wire wheels must be in good condition with even tension in all spokes.

17.3.5 G70+ cars: as per chosen "point in time" regulations.

18. 0 VEHICLE SAFETY REQUIREMENTS

18.1 Scrutineering/Inspection

Scrutineering/Inspection is of two distinctly different types.

The first is for Eligibility/Authenticity. Your car should conform to all of the regulations covered throughout this book in regard to the class, year or any other details that assure the correct presentation of your vehicle.

The other form of inspection is to ensure that all required equipment such as seat belts, roll bars, fuel cells, and other protection related equipment are present and appear in good order.

18.1.1 The owner/entrant/driver must prepare the vehicle properly for competition. A VARAC scrutineer or the Eligibility Committee Representative can be consulted for advice and rulings, but the onus is on the competitor to ensure that the vehicle is in fit and proper condition.

Notwithstanding approval by VARAC appointed scrutineers or Clerks of the Course, the responsibility for the mechanical safety of the vehicle rests solely with the driver.

18.1.2 All cars will be scrutineered and must comply with these vehicle requirements and with the supplementary rules and regulations of the Event.

18.1.3 Cars which have not received an Annual Technical Inspection must be scrutineered

before each Event.

18.1.4 The car must be presented in the race configuration of the applicable period when the car was built, unless specifically permitted on a case-by-case basis by the Eligibility Committee. Vehicles may not be upgraded to specifications of later models of the same car, even when both fall within the class period; i.e. a 1959 car may not be upgraded to 1961 specifications. No "Improved Production" type modifications as defined by CASC during the late '50's and early '60's will be permitted. Entrants should be prepared to document the configuration if required.

18.1.5 Log books must be maintained for all cars and presented at scrutineering at all events.

18.1.6 All mechanical components must be presented in good, clean order and shall be original as fitted by the manufacturer except as noted elsewhere in these regulations.

18.2 Vehicle Requirements

For a vehicle to compete in a VARAC competition event, these shall be considered minimum preparation standards

18.2.1 A rear view mirror of at least 50 sq. cm (7.75 sq. in.) is considered the minimum allowable standard. Rear view mirrors shall be securely mounted in locations that provide unobstructed view to BOTH sides of the rear of the vehicle.

18.2.2 All Drivers shall utilize either a five or six point restraint harness meeting current FIA or SFI standards. Restraint harness installations are subject to the approval of the Chief Scrutineer at each Event. All lap and shoulder belts shall be of 76mm (3 in.) minimum width. In addition to the standards outlined herein, any FIA or SFI approved seat belt may be used (eg systems specially designed for HANS devices).

A five point system is required for use in cars where the driver is seated in an upright position, consisting of a lap belt, two shoulder straps and an anti submarine strap, with load spreading padding at pressure points. The lap belt and shoulder straps shall be of 76mm minimum width and the anti-submarine strap of 44mm minimum width.

A six point system is required for use in cars where the driver is seated in a semi-reclining position, consisting of a lap belt, two shoulder

straps and two anti submarine straps with load spreading padding at pressure points. The lap belt and shoulder straps shall be of 76mm minimum width and the anti submarine strap of 44 mm minimum width.

The material of all straps shall be Nylon or Dacron polyester and in new or perfect condition. The buckles shall be of metal-to-metal quick release type except in the case of leg straps of the six point system where they attach to the seat belt or shoulder harness straps.

The shoulder harness shall be a two strap over the shoulder type. There shall be a single release common to the seat belt and shoulder harness. Only separate shoulder straps are permitted. "Y" type shoulder straps are not allowed. "H" type configuration is allowed. The shoulder harness shall be mounted behind the Driver and above a line drawn downward from the shoulder point at an angle of 40 degrees with the horizontal.

In cases where the Driver is in a semi-reclining position, the shoulder harness shall be attached so that the angle between a line drawn through the Driver's spine and the shoulder harness is 45 degree or greater. In Cars utilizing production type seats, the mounting point shall be a least 18 in behind the front of the seat back.

Details of installation shall be according to the system manufacturer's instructions.

The single anti submarine strap of the five point system shall be attached to the floor structure similar to the shoulder harness mounting and have a metal-to-metal connection, with a single release common to the belt and shoulder harness.

The double leg straps of the six strap system may be attached to the floor of the Car as above for the five strap system, or be attached to the seat belt so that the Driver sits on them, passing them up between the legs, and attaching either to the single release common to the belt and shoulder harness or to the shoulder harness straps.

It is also permissible for the leg straps to be secured at a point common to the seat belt attachment to the structure, passing under the Driver and up between the legs to the seat belt release or shoulder harness straps. All straps

shall be free to run through intermediate loops or clamps/buckles.

The minimum acceptable bolts used in the mounting of all belts and harness are 3/8 in diameter SAE Grade 5 or 5/16" grade 8 or metric equivalents or as recommended by the manufacturer. Where possible, seat belts, shoulder harness, and anti-submarine strap(s) should be mounted to the roll structure or frame of the Car. Where this is not possible, large diameter mounting washers or equivalent reinforcing shall be used to spread the load.

Bolting directly to floor panels etc., without adequate reinforcement, is not acceptable. Driver restraint systems shall be replaced every five (5) years from the date of manufacture OR on the expiry date as indicated by the manufacturer's label. (See Appendix A, Diagram 5).

18.2.3 Pre-War vehicles require a minimum three (3) inch lap belt.

18.3 Roll Bars/Cages

18.3.1 Roll bars/cages are mandatory on all Post-War vehicles and must be constructed in a manner to adequately protect the driver in a roll-over. Structural strength should be in accordance with the weight of the vehicle and must meet Appendix 'A' Roll Bars/Cages and allow two (2) inches of clearance above the driver's helmet when seated and belted-in.

18.3.3 Roll bars/cages on Production Sports cars and Classic Sedans must be contained within the driver/passenger compartment.

18.3.4 Head restraint pads must meet Appendix 'A' Roll Bars/Cages.

18.3.5 Roll bars or cages may be constructed in such a manner that passenger seats are no longer readily usable.

18.4 Fluids

18.4.1 Catch tanks of a minimum of one litre capacity will be fitted to cars up to 1 litre displacement; two litre minimum capacity for engines from 1-2 litres displacement, and three litre capacity for engines over 2 litres displacement. Catch tanks must be fitted for both oil and coolant overflow.

EVERY EFFORT MUST BE MADE TO CONTAIN OR AVOID OIL OR COOLING FLUID LEAKS OR SPILLS.

18.4.2 Anti-freeze (ethylene glycol) ***IS NOT***

PERMITTED.

18.4.3 All engine oil plugs and transmission drain plugs must be safety wired.

18.4.4 Accusumps

Accumulators (e.g. Accusumps) may be installed. Location is free. They shall be securely mounted within the bodywork. Drysump oiling systems are not allowed on Vintage Production Sports Cars and Classic Sedans built before 01/01/1966. They are allowed for all G70+ cars.

18.5 Electrical

18.5.1 All VARAC eligible vehicles must be equipped with a general circuit breaker easily accessible from outside the car and to the driver without releasing his safety harness. These circuit breaker(s) will cut all electrical circuits (ignition, fuel pump, lights, generator, etc.) but shall not affect the operation of an onboard fire system if fitted. The location of the circuit breaker switch(s) shall be clearly marked by the official international (FIA) markings of a red spark on a white-edged blue triangle with a minimum base length of 12 cm.

18.5.2 Batteries shall be securely mounted directly to the chassis or body, preferably in the original location or in a compartment away from the driver. If it is installed in the driver's compartment, it has to be enclosed in a marine case and both case and battery have to be mounted to the chassis or body. Dry Batteries do not require a marine case.

18.5.3 Battery, solenoid, and other "hot" terminals shall be covered by rubber boots or covered by silicone or other non-conductive material wrap.

18.5.4 All lighting glass, front and rear, shall be securely taped to the satisfaction of the scrutineers. Taping of rear lights must not obscure brake or rain light function.

18.6 Miscellaneous

18.6.1 Roll-up or sliding windows, if installed, must be operational. In competition, windows may be open or closed.

18.6.2 Window nets are mandatory for all G70+ vehicles and optional for others. String type must bear SFI Spec. 27.1 label. (See Appendix A, Diagram 6). See Supplementary Regulations, Appendix C.

18.6.3 All engine hoods or other opening covers

shall be adequately fastened with safety catches and/or straps.

18.6.4 Readily identified, externally operated hood releases must be fitted to all vehicles

18.6.5 Explosion proof bellhousings or explosion proof blankets are mandatory on all V8 engined cars.

18.6.6 All front engined, rear drive cars shall have a minimum of one 360 degree steel hoop to contain the drive shaft, if the shaft is not contained within the cars structure, as in certain sports racers.

18.6.7 It is required that all cars without an exposed roll bar shall have a towing eye or strap front and rear that do not dangerously protrude from the bodywork when the car is racing. These towing eyes or straps shall be easily accessible without removal or manipulation of bodywork or other panels. Towing eye minimum ID shall be 2 inches.

19.0 DRIVER CREDENTIALS

19.1 In order to participate in VARAC racing events, Canadian residents must be members of VARAC or an ASN affiliated racing club, and must hold a valid ASN Competition License, such as CASC, FSAQ etc.

19.2 Non-residents must hold a valid Competition License, equivalent to the foregoing regulation, issued either by the ASN of their country of residence, or another VARAC recognized body, or provide written documented evidence of their experience in wheel-to-wheel racing and approval of their Club's Driver Qualification Committee. Non-residents are advised to contact a member of the VARAC Board of Directors to verify their qualifications for competition.

19.3 Competition Driving Licenses will be issued to drivers completing an approved school for racing drivers. Licenses will be issued by the ASN affiliate such as CASC, FSAQ etc upon receipt of proof of membership in an affiliated club, the required license fee, waiver and a completed acceptable medical form.

Those wishing to apply for a Competition License should contact their Regional ASN affiliate office for current details and Racing School locations and dates.

A driver who has held a competition license in the past is encouraged to contact the VARAC Race Director to have an "observation" facilitated. Under "observation", the licensing body may issue a provisional license to a competitor and waive the racing school requirement.

19.4 Driver Eligibility

VARAC reserves the right to refuse (or, if applicable, recommend the organising club refuse) the entry or appearance on a VARAC grid of a competitor who, in the opinion of the Race Director or Designate, is planning on competing in a vehicle that may be beyond the recognized level of experience of that competitor. At any time, it is the responsibility of any and all VARAC competitors to amply demonstrate a level of competitive experience appropriate to the vehicle they are driving. This demonstration may consist of a "résumé" of driving experience that clearly shows the competitor's capability to "step up" to the class of car they are entering; an agreed upon term of "observation" by a qualified group of VARAC members of the competitors' driving and on track behaviour; any combination of these, at the sole discretion of the VARAC Race Director.

20.0 DRIVER SAFETY REQUIREMENTS

The use of the following Driver safety equipment is mandatory during all Competition. Drivers and passengers in Racing Driver Schools shall wear helmets as specified herein.

20.1 Equipment

Driver Suits and Underwear

One-piece driver suits that effectively cover the body from the neck to the wrists and ankles, manufactured of material approved herein, shall be worn.

Underwear manufactured of material approved herein shall be worn where specified herein.

Driver suits and underwear shall be clean and in good condition with no excessive oil stains, holes or frayed edges.

Gloves

Gloves made of material approved herein shall be worn.

This material shall be worn next to the skin.

Gloves shall have no holes or perforations.

Gloves shall be fitted at the wrist, and shall

cover the cuff of the driver suit.

Any other material, e.g. leather, may be applied to the exterior only.

Socks

Socks made of material approved herein shall be worn.

Shoes

Shoes made of material approved herein and/or of leather shall be worn.

Balaclavas

Balaclavas or helmet skirts of material approved herein shall be worn. Hair protruding from beneath helmets shall be completely covered.

Helmets

Helmets as specified herein shall be worn.

20.2 Approved Materials

All fire resistant material approved by ASN Canada, FIA, SCCA and SF1 is acceptable.

Driver Suits/Underwear

The following Driver suit/underwear systems are approved:

A. Suits of two layers of approved material worn with approved underwear.

B. Suits of three layers of approved material.

C. Suits carrying an SFI3-2A/3 rating worn with approved underwear.

D. Suits carrying an SFI3-2A/5 or higher rating.

E. Multilayer suits carrying an FIA Homologation.

F. Suits, which the manufacturer states in writing meet or exceed the standards stated herein, may be substituted for that standard.

While competing, Drivers should not wear any clothing composed in whole or in part of Nylon.

In the case of doubt concerning the composition of a suit/underwear system, the Driver shall be able to present adequate evidence that it conforms to one of the above standards.

20.3 Helmets

Only Snell Foundation (USA) 2000SA or 2005SA helmets are approved.

Helmets shall be in good condition; a repaired helmet may be approved provided that written proof of a satisfactory repair by the helmet manufacturer is presented.

Full-face helmets and shields shall be worn by Drivers of open cars.

21. DRIVER CONDUCT

The on-track Driver Conduct Committee is comprised of a Chairman and all present members of the Board of Directors or designates.

If we are to uphold the VARAC Mission Statement: "restoring and racing Vintage automobiles in as near original condition as possible" we must protect the cars from damage.

The only valid reason we can have to participate in Vintage racing is to have fun. There are no huge purses, no valuable prizes. What we should all share is a proper "Vintage Racing" attitude.

All forms of motorsport are dangerous.

The speeds, the conditions at the race tracks, the competence and attitudes of each competitor; all contribute to the relative safety and the risks inherent in the activity.

VARAC is a founding member of the Vintage Motorsports Council. We support its aims and will use its communications system to advise other organizing clubs of incidents, accidents and driver behaviour.

Failure to adhere to "The Vintage Spirit" in the opinion of the Race Director or Designate may result in action being taken on behalf of VARAC to curtail behaviour deemed inappropriate.

VARAC reserves the right at its discretion to follow all procedures instituted by the VMC including but not limited to the application of the "13/13" rule. The "13/13" Rule states: "If you are found to be at fault in an incident which results in damage to your car or any other car, you will be excluded from this event, the next VMC event, and be on probation for 13 months.

Any further incidents during the probationary period may result in a one year suspension of your driving privileges (in VMC events). Such disciplinary action will be reported to the Vintage Motorsports Council.

Guidelines

We live in a litigious society, so no warranties or guarantees are expressed or implied as to the effectiveness of the advice herein.

Car owners and drivers are responsible for the safe preparation and operation of their cars at all times.

1. Vintage Racing Attitude

Vintage Racing is fun. Drive and compete with the proper attitude. The other people on the track are likely to be your friends. Treat them with respect, and they will likely respond in a like manner. It is better to not try to pass an unprepared or inattentive driver, and have a friendly word with them about on-track behaviour after the session.

2. Touching is a no-no

There is no excuse for touching another competitor's car. Compare it to road driving. There is virtually no excuse for driving into the back of another motorist on the road (e.g. If it was slippery you should have left room. If the other person stopped suddenly, you should have been prepared, etc).

3. Leaving the course

If you go off-course, remind yourself that you are responsible. You missed your braking point. Your brakes decided not to work. You missed your turn-in point. The onus is on you to gather up the situation and regain control without endangering other people. If you put two wheels off, gently steer back onto the racing surface. In most cases, you should not brake and should not accelerate. Just smoothly steer the car along the verge and ease it back onto the pavement. You will probably lose a place or two. So be it. Do not pull back on the track in an unsafe manner to try to save your position. If you do, you will be blackflagged and lose your track time. If you put four wheels off you must come to a complete stop.

Obey the course marshal's instructions. If no marshals are present, do not rejoin until there is a clear interval in the on-coming field of cars such that if you should stall, they can avoid you. Accelerate carefully - too often drivers have spun again, and caused a serious accident.

When in doubt, **WAIT**.

The only possible exception to the above could be a "4 wheels off" situation on a corner where visibility is good and the driver has run off parallel to the track. It may be safer to proceed slowly away rather than come to a complete stop in an unsafe area. This must be done with careful regard for other competitors. Do not try to save positions by re-entering quickly. Once again, you made the mistake. Take your time, do not jeopardize others.

4. Spinning

If you lose control of your car, the best solution is to gather up the incident with a minimum of damage to yourself, other drivers and the cars involved.

You don't have a lot of time to think about it, so most professional driving schools teach four-wheel lockup. Instantaneous locking of all four wheels will stop the car as quickly as is possible, with no abrupt or unpredictable changes in direction. The car may rotate on its axis, but it will do so in a straight line. Be fair to the people around you. If you get in trouble, lock-up all four wheels and do not take your foot off the brake until the car stops.

In many cases, drivers believe they have saved the spin and release the brake pedal too early. The front wheels start to rotate which means they begin to steer. This can fire the car in a new (often unpredictable) direction. If you keep it locked up the people following at least have a chance of getting by you without contact.

5. Passing

In a passing situation, the leading car (A) always has the right of way until the overtaking car (B) is at least alongside car A. Alongside means the driver has to be exactly opposite the other driver, perpendicular to the direction the cars are moving. Only when driver B is at least eyeball to eyeball to driver A does he have the right of way into the corner. Notwithstanding this, the car being passed (A) is still travelling at racing speed and must be allowed track space to safely negotiate the corner.

The passer (B) will usually attempt an "inside pass" - taking the inside line into the corner. (That is the right side on a right hand turn - the left side entering a lefthander.)

It is not good enough to have just the nose of car B alongside the rear wheel of car A. Regardless of how erratic or how strange a line the A car might take; it is still the responsibility of the overtaking car to make a safe pass. "Outside passes" are more difficult, and should not be attempted unless the driver has considerable experience, a much faster car, and has complete confidence in the other driver to do the right thing.

There have been good examples of the "right thing": VARAC drivers have driven complete laps of circuits like Mosport and MtTremblant

side-by-side. They were racing hard - but they were also considerate of the other driver's track space.

However, given the "Vintage Attitude" mentioned above, it will be assumed that car A will not "block" car B. If the cars and drivers are absolutely equal, then it is a race. Car A should drive the "normal line." It is the responsibility of car B to get by. Changing line suddenly (jinxing) to block a pass is not considered sportsmanlike. If a car remains on your tail lap after lap - why not let it by, and see if you can stay with it? This is particularly sensible conduct during practice and qualifying sessions.

6. Penalties

The corner workers are in phone/radio contact with Race Control. The appointed representative of the VARAC Drivers' Conduct Committee will be available to consult with the Clerk of the Course. If in their opinion, a driver is not following these guidelines, or is driving in an unsafe manner, he/she may be blackflagged. The driver may or may not be allowed back out to finish the event. The final decision on driver conduct rests with the Stewards of the Event.

We reserve the right to report accidents and inappropriate driver behaviour to the Vintage Motorsport Council.

7. Acknowledgment

Every entrant and driver acknowledges that they have read all of the GCRs, other pertinent rulebooks and the supplementary rules of the event, when they sign their entry form and their waiver.

8. The Committee

Drivers are encouraged to bring any situation for discussion to the VARAC Drivers' Conduct Committee. The Committee will discuss situations with all the drivers involved.

APPENDIX 'A'

Roll Bars and Cages

1.0 Vintage and Historic (roll bars)

1.1 Roll bars are mandatory on all Vintage and Historic vehicles. Roll cages are optional.

1.2 Specific roll bar installations are subject to the approval of the chief scrutineer at each event.

2.0 Basic design considerations for all roll bars.

(See DIAGRAM #1)

2.1 The basic purpose of the roll bar is to protect the driver if the car rolls over or is involved in a serious accident.

2.2 The top of the roll bar shall be a minimum of two inches above the top of the driver's helmet when the driver is sitting in the normal driving position, or shall be located as close to the roof as possible in closed cars. The top of the roll bar shall be no more than ten inches from the back of the driver's helmet when the driver is sitting in the normal driving position.

2.3 The roll bar must be designed to withstand compression forces resulting from the car coming down on the roll structure and to take fore and aft loads resulting from the car skidding along the ground on the roll structure.

2.4 The two vertical members forming the sides of the main hoop on formula cars must not be less than 15 inches apart, inside dimensions, at their attachment points to the uppermost chassis member.

2.5 The two vertical members forming the sides of the main hoop on all other cars shall not be less than 15 inches apart, inside dimension.

2.6 A system of head restraint to prevent whiplash and to prevent the driver's head from hitting the underside of the roll bar hoop must be provided. The head restraint should be capable of withstanding a force of 200 pounds in an aft direction. It is recommended that a headrest with resilient padding be used.

2.7 Any portion of the roll bar or bracing that might be contacted by the driver's helmet has to be covered with energy-absorbing high-density material to a minimum thickness of one inch.

2.8 No portion of the roll bar/cage shall have an

aerodynamic effect by creating a vertical thrust.

3.0 Materials

3.1 The roll bar hoop and all braces must be of seamless or ERW or DOM mild steel tubing or chrome molybdenum alloy steel such as SAE 4125 or SAE 4130. Proof of the use of alloy steel will be the responsibility of the entrant.

3.2 The size of tubing to be used shall be determined from the following table (all dimensions are in inches).

Vehicle weight no driver	Under 1500 lb	1500-2000 lb	Over 2000 lb
ROLL BAR MILD STEEL	1.50 x .120	1.75 x .120	2.00 x .120
ROLL BAR ALLOY STEEL	1.375 x .090	1.625 x .095	2.00 x .095
ROLL CAGE MILD STEEL	1.375 x .095	1.50 x .095	1.50 x .120 1.75 x .095
ROLL CAGE ALLOY STEEL	1.375 x .080	1.375 x .095	1.50 x .095

3.3 An inspection hole of at least 3/16 inch diameter must be drilled in a non-critical area of the roll bar hoop to facilitate verification of wall thickness.

3.4 Where bolts and nuts are used, the bolts shall be 3/8 inch diameter SAE Grade 5.

4.0 Fabrication

4.1 One continuous length of tubing must be used for the main hoop member with smooth continuous bends and no evidence of crimping or wall failure.

4.2 Whenever possible, the roll bar hoop should start from the floor of the car and in the case of tube frame construction, be attached to the chassis tubes by means of gussets or sheet metal webs in order to distribute the loads.

4.3 All welding must be of the highest possible quality with full penetration. Arc welding, particularly heliarc, should be used wherever possible. The welds should be inspected by Magnaflux or dye penetrated after fabrication. Alloy steels must be normalized after welding.

5.0 Bracing

5.1 Full cockpit width (two seats) roll bar hoops.

5.1.1 Fore/aft braces with the minimum dimension of at least that required for the main hoop itself must be installed. If bracing to the rear as shown in Diagram #1 is not possible due to the car's design, appropriate front

bracing is acceptable for such vehicle types. Front bracing with one tube into the passenger footwell is an approved design if this is the only possible design solution.

5.1.2 Diagonal lateral bracing of equal dimensioned tubing must be installed to prevent lateral distortion of the hoop. In most cases a lateral brace from the bottom corner of the hoop on one side to the top corner of the hoop on the opposite side is sufficient.

5.2 Partial cockpit width (single seat) roll bar hoops must have either one fore/aft brace with a minimum dimension equal to the tubing required for the main hoop or two fore/aft braces with minimum dimensions of 1.000 inch diameter x 0.090 inch wall thickness.

5.3 The fore/aft bracing must be attached as near as practical to the top of the hoop, and at an angle of at least 30 degrees from vertical. If a single brace is used, it must be attached at the top of the hoop.

5.4 If the fore/aft brace must be removable, the connection between the roll bar hoop and the brace rod must be of a double lug type fabricated from material at least 3/16 inch thickness and welded through a doubler or gusset arrangement to avoid distortion or excessive strains caused by welding. Details of the attachment of removable braces is shown at the end of the Appendix. (See DIAGRAM #2).

5.5 It is recommended that the fore/aft brace, if removable, be attached to a rear chassis member through a double lug connection as described above. If attached to the engine, it must mount to a major component such as a head stud or a combination of head studs.

6.0 Mounting Plates

6.1 In cars with frame type construction, the roll bar and braces must be attached to the frame of the car wherever possible. Mounting plates attached to the frame, regardless of whether welded or bolted, must be at least 3/16 inches thick.

6.2 In the case of cars with unitized or frameless construction, or cars with frames where frame mounting of the roll bar and braces is impractical, mounting plates must be used to secure the roll bar structure to the floor of the car. The minimum mounting plate area shall be 20 square inches. The important consideration is that the loads be distributed

over the largest area as possible.

6.3 Mounting plates bolted to the structure shall not be less than 3/16 inches thick with a backup plate of equal size and thickness on the opposite side of the panel with the plates through bolted together.

6.4 Mounting plates welded to the structure shall not be less than 0.080 inches in thickness. Wherever possible, the mounting plate should extend onto a vertical section of the structure such as a door pillar.

7.0 Removable Roll Bars

Removable roll bars and braces must be very carefully designed and constructed to be at least as strong as a permanent installation. If one tube fits inside another tube to facilitate removal, the removable portion must fit tightly and bottom on the permanent mounting and at least two bolts must be used to secure such a joint. The telescope section must be at least eight inches in length. (See DIAGRAM #2).

8.0 Installation in cars of space frame and frameless construction

8.1 It is important that roll bar structures be attached to cars in such a way as to spread loads over a wide area. On cars of space frame construction it is not sufficient to simply attach the roll bar to a single tube or junction of tubes. The roll bar must be designed in such a way as to be an extension of the frame itself, not simply an attachment to the frame. Considerable care must be taken to add as necessary to the frame itself in such a way as to properly distribute the loads. It is not true that a roll bar can only be as strong as any single tube in the frame.

8.2 On cars of frameless construction, consideration should be given to using a vertical roll bar hoop 360 degrees completely around the inside of the car and attached with suitable mounting plates. This type of roll bar then becomes suitable for the frame.

9.0 Roll cages

(See DIAGRAM #3)

Roll cages are mandatory on all G70+ cars and optional for Vintage or Historic cars (see 1.0).

Roll cages shall have a maximum of six mounting points to the chassis.

9.1 Design Considerations

9.1.1 The main roll bar hoop must extend the

full width of the driver/passenger compartment and must be a minimum of two inches above the driver's helmet with the driver sitting in the normal driving position, or as near to the roof as possible in closed cars, and shall not be more than ten inches behind the back of the driver's helmet. The roll cage must comply with the applicable sections of Section 2 of this Appendix.

9.1.2 A similar hoop must be in the front, supporting the front pillars, with horizontal bars connecting the front hoop to the main hoop at each side of the top.

9.1.3 Two horizontal tubes, or one horizontal tube and one angled tube, or a fully gusseted "X" brace, connecting the front and main hoops across the **driver's door** are mandatory for G70+ cars and optional for Historic cars. Vertical tubes in this structure may be used as further reinforcement. Gussets shall be a minimum of 2 inches on the shortest side and made of plate steel twice the thickness of the tube wall, or formed from tubing of the same thickness and diameter as the cage, split and formed into gussets, or formed to a shape similar to the split tube from sheet steel the same thickness as the roll cage tubing. All gussets shall be fully welded all around.

One or more horizontal tubes or one diagonal tube connecting the front and main hoops across the **passenger door** are mandatory for G70+ cars.

Interior door panels may be altered, replaced or removed to allow for installation of side protection tubes. Where door panels are removed, all sharp edges or projections shall be protected.

9.1.4 Material specifications for mounting plates, gussets, hoops, and bolts and nuts shall be as specified under Section 3 of this Appendix.

9.1.5 Open Cars without full windshields may have a low front hoop.

11.0 F70+ Low front hoop design

11.1 General

11.1.1 Two-seat Sports Racing Cars shall have full cockpit width roll cage.

11.1.2 On Cars of full Monocoque construction, a fabricated front hoop may be recognized by VARAC upon specific application.

11.2 Main and front hoops

11.2.1 On Formula Cars and single seat Sports Racing Cars the two vertical members forming the sides of the main hoop shall not be less than 15in apart, inside dimension, at their attachment points to the chassis. If the hoop does not go to the belly pan, it shall be attached to the chassis with proper gussets and tube triangulation to spread the loads. On Monocoque chassis the main hoop shall be welded to mounting plates not less than .080in thick. These plates shall be attached to the chassis in a manner, which distributes the loads over a wide area. There shall be a plate of equal thickness on the inside of the Monocoque with bolts of 5/16in minimum diameter through the non-ferrous material.

11.2.2 Low front hoops shall be no lower than the top of the steering wheel. If the hoop does not go to the belly pan, it shall be attached to the chassis with proper gussets and tube triangulation to spread the loads. NOTE: Some earlier cars do not conform to this rule. These Cars may be recognized by VARAC on an individual exception basis only.

11.2.3 High front hoops shall be similar in shape to the rear hoop and have two horizontal tubes connecting the top of the front hoop to the top of the main hoop. In Cars with full height Monocoque or composite construction (to top of steering wheel), a steel cap plate, not less than .080in thick shall be attached as a rubbing block.

11.3 Bracing

11.3.1 The main hoop shall have two fore/aft braces of tubing equal in dimensions and wall thickness to the tubing of the main hoop. This bracing shall be attached as near as practical to the top of the main hoop, no more than 6in below the top, and at an included angle of at least 30 degrees.

If these braces do not extend to the front hoop, an additional brace or gusset shall be installed at the point of attachment to the main rear roll hoop or lower frame rail, or other frame member, in such a manner as to reinforce the attachment point to help prevent collapse of the frame rail at the point of attachment. These tubes shall be 1.00in x 0.080in minimum and gussets shall be 3/16 in minimum.

11.3.2 Two seat Sports Racing Cars shall have a diagonal lateral brace of tubing equal in dimensions and wall thickness to the tubing of

the main hoop to prevent lateral distortion of the main hoop.

11.3.3 Formula and single seat Sports Racing Cars under 1500lbs. may use bracing of tubing with a minimum dimension of 1.00in diameter and .080in wall thickness. When Monocoque construction is used as bracing for a front hoop it shall be approved by VARAC on an individual basis.

11.3.4 If the fore/aft bracing is removable, the connection between the main hoop and the brace shall be of the double lug type fabricated from material at least 3/16in thickness and welded through a doubler or gusset arrangement to avoid distortion or excessive strains caused by welding. Details of the attachment of removable braces are shown in the diagrams herein.

11.3.5 It is recommended that the fore/aft brace, if removable, be attached to a rear chassis member through a double lug connection as described above. If attached to the engine, it shall mount to a major component such as a head stud or a combination of head studs.

12.0 Other roll bar designs

12.1 Roll bars and cages of alternate material or design may be acceptable to the Scrutineer provided that the entrant can produce a certificate complying with the following requirements.

12.1.1 The certificate must specify that the construction is capable of withstanding three SIMULTANEOUSLY applied loads: **1.5g lateral - 5.5g fore/aft - 7.5g vertical**; the induced loads being carried over into the primary structure. (Note: The mass of the car to be used in these calculations is its mass in starting order with the driver on board and full fuel tanks.).

12.1.2 The certificate shall be accompanied by a drawing or photograph of the roll cage and shall be signed by a Professional Engineer or other qualified technical person approved by VARAC.

12.2 Roll bar or roll cage certifications are

subject to the acceptance of the Scrutineer at each event.

12.3 The following procedure is approved for increasing the height of existing roll bars and cages that do not meet the two-inch minimum height requirement. (See DIAGRAM #4).

12.4 The old hoop may be cut off near the chassis mounting and a NEW MAIN HOOP of equal tube size or a section of equal sized tubing may be added. An inner tube(s) must be used to mate all sections together. All braces must be a minimum of 6 inches from the top of the hoop. The inner tube(s) must be rosette welded at three points near the top and three points near the bottom. Refer to the diagrams for further details.

See chart of tubing diameters, 3.2.

Diagram #1

BASIC ROLL BAR CONFIGURATION

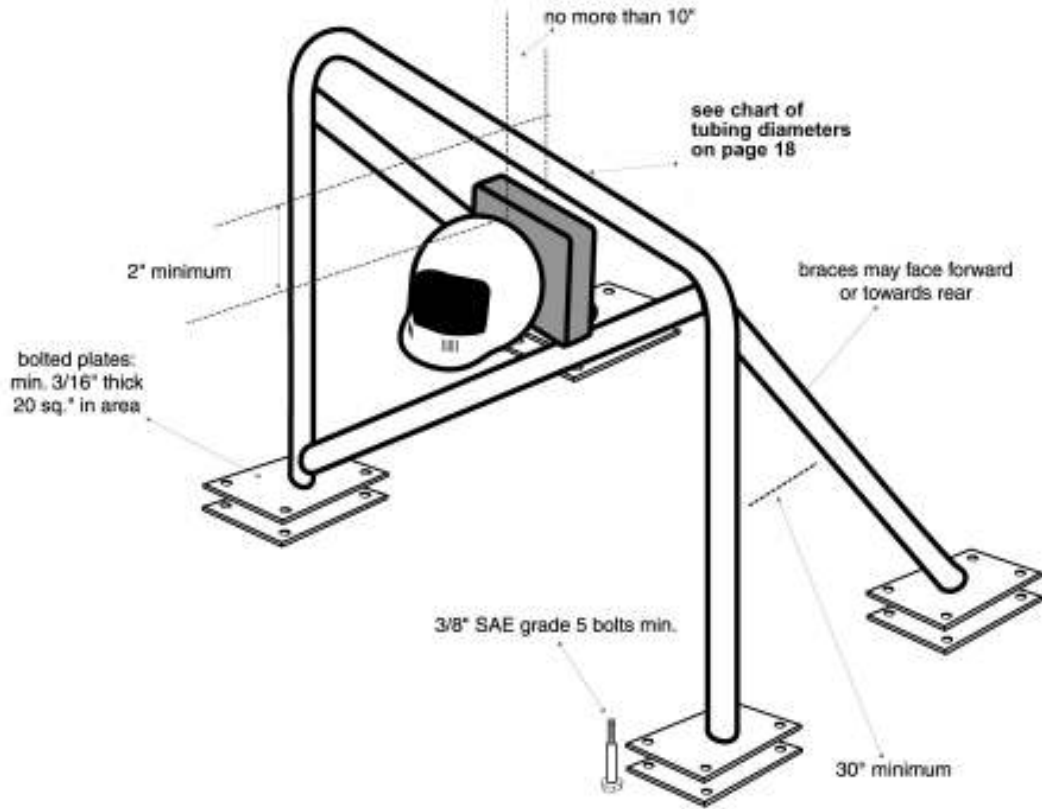


Diagram #2

Removable Roll Bar Braces Attachment Details

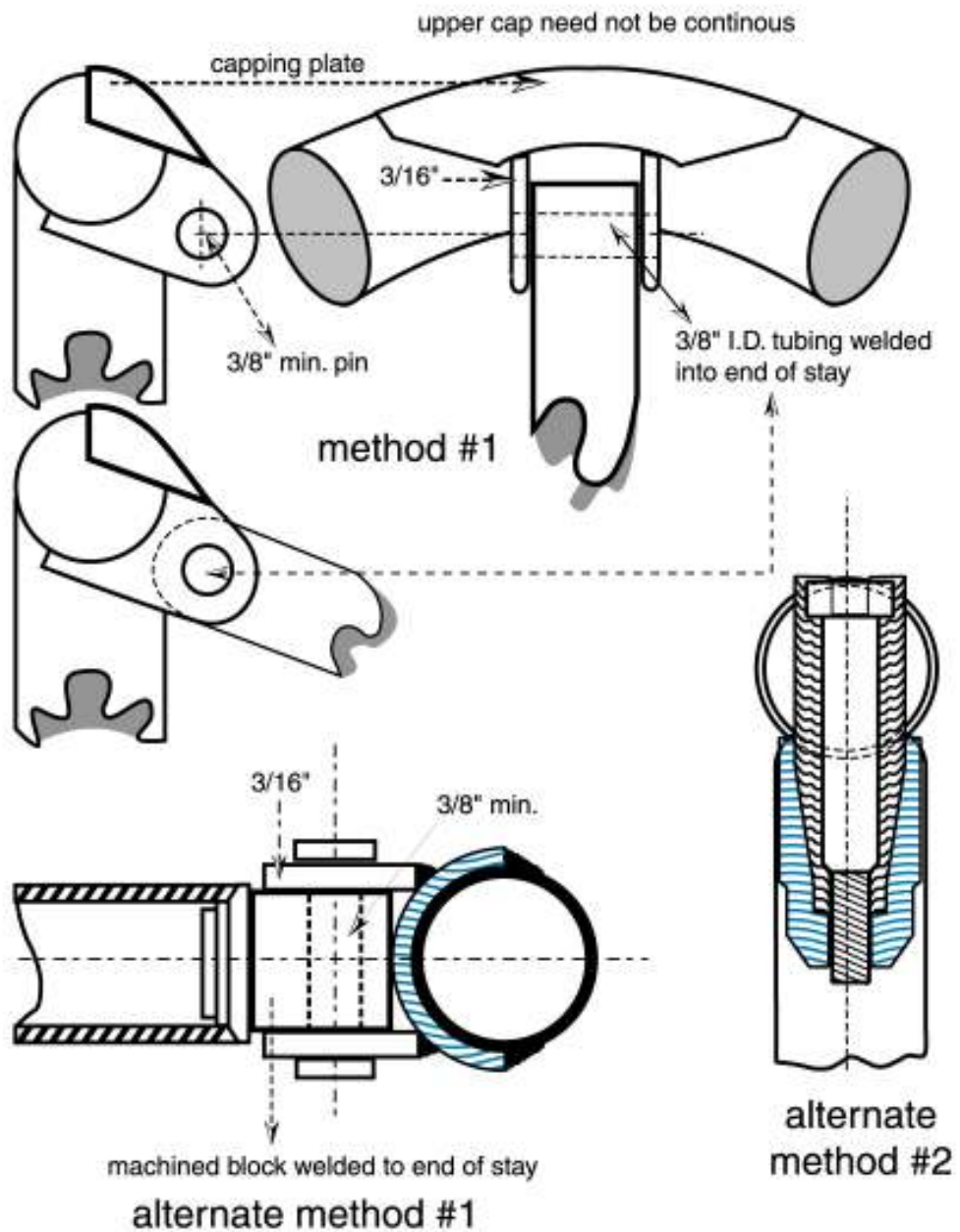


Diagram #3

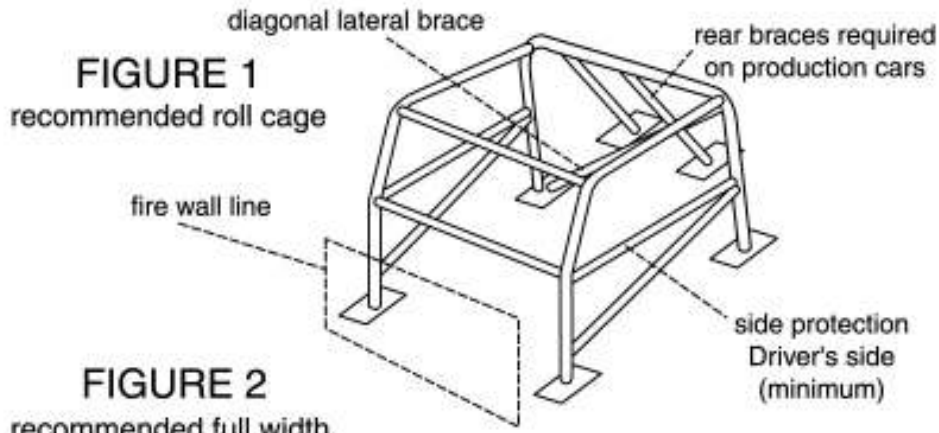


FIGURE 2
recommended full width, low front hoop for two seat sports racer

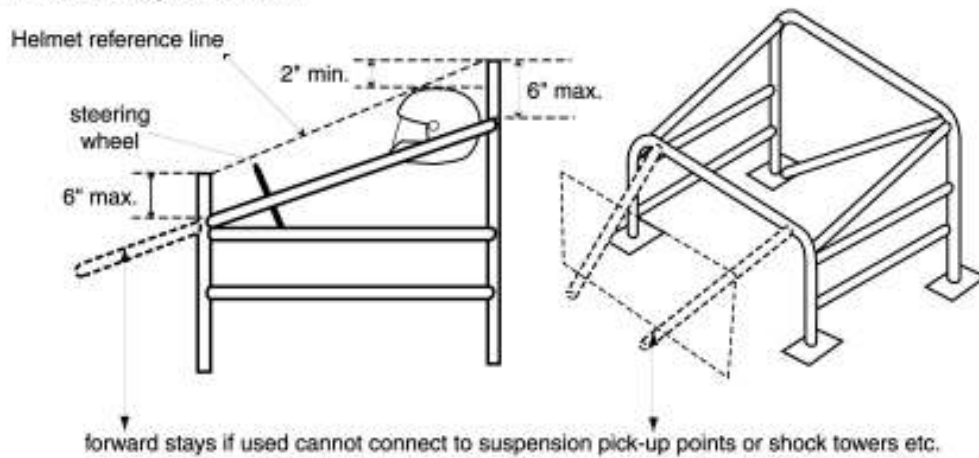


FIGURE 3
formula cars

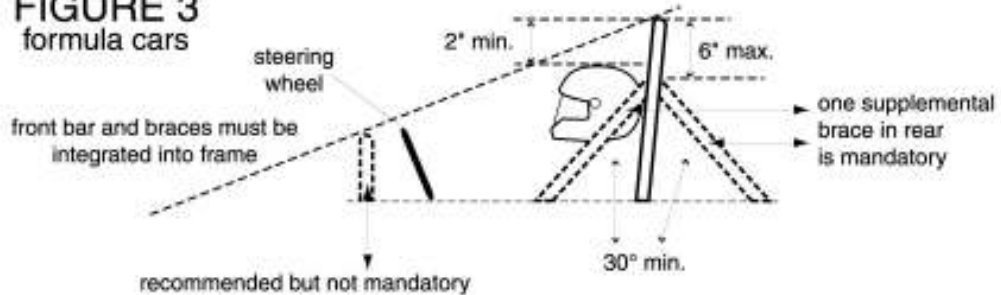


Diagram #4

APPROVED METHODS FOR ADDING HEIGHT TO EXISTING ROLL BARS

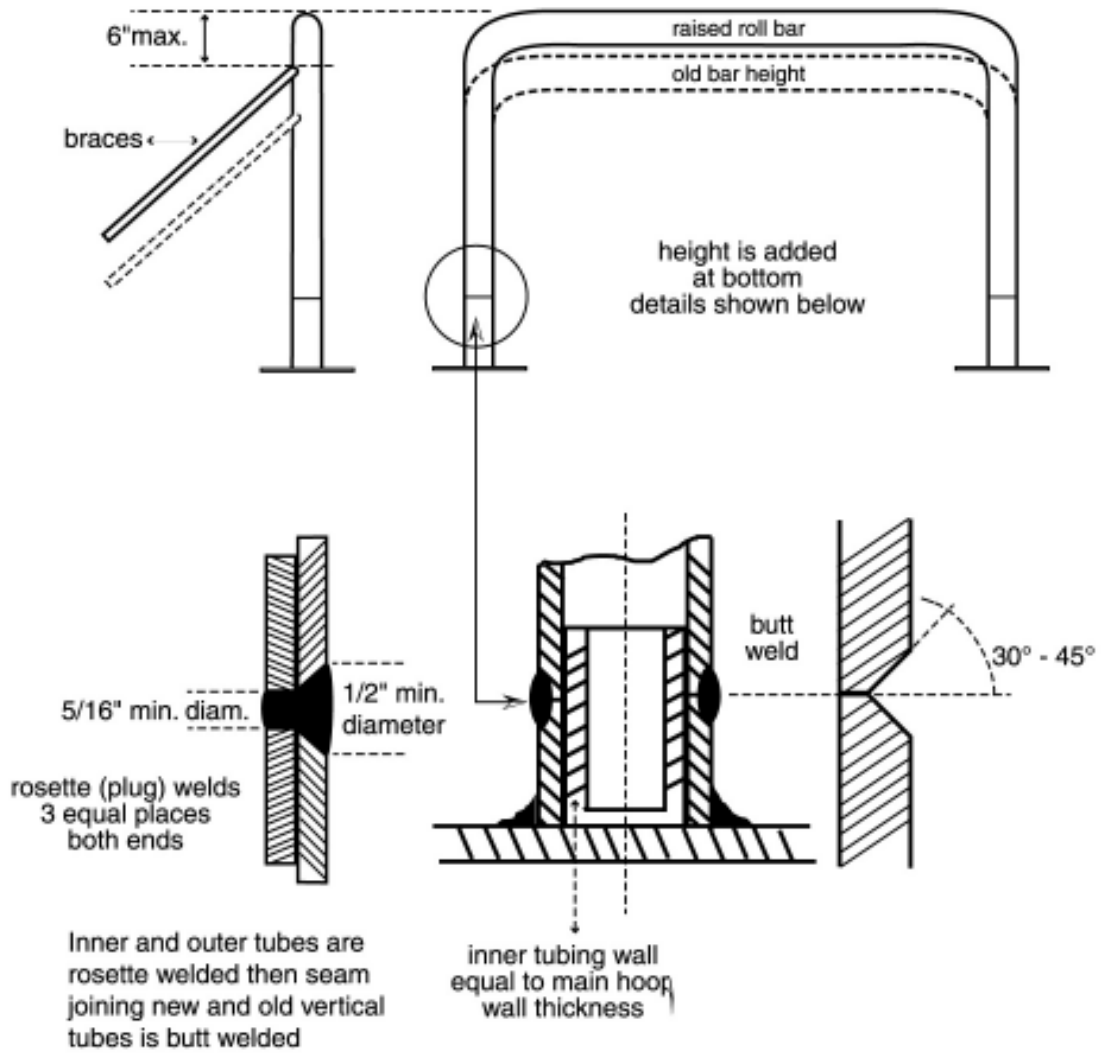


Diagram #5

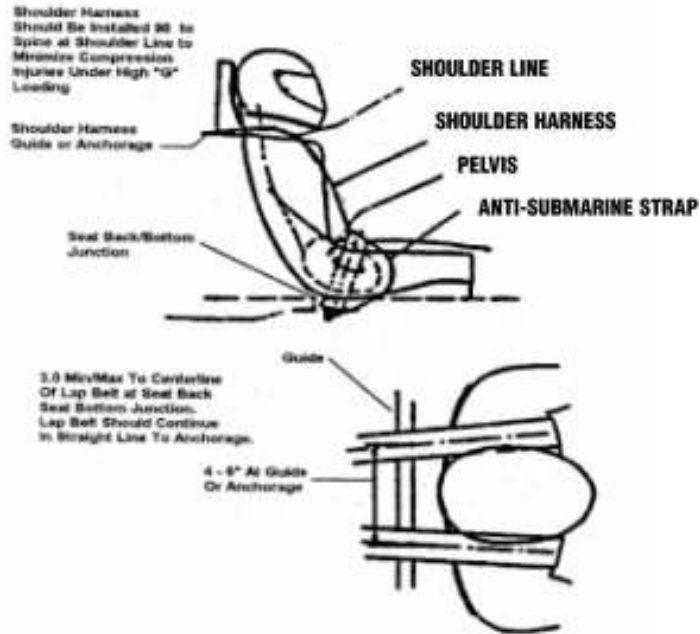
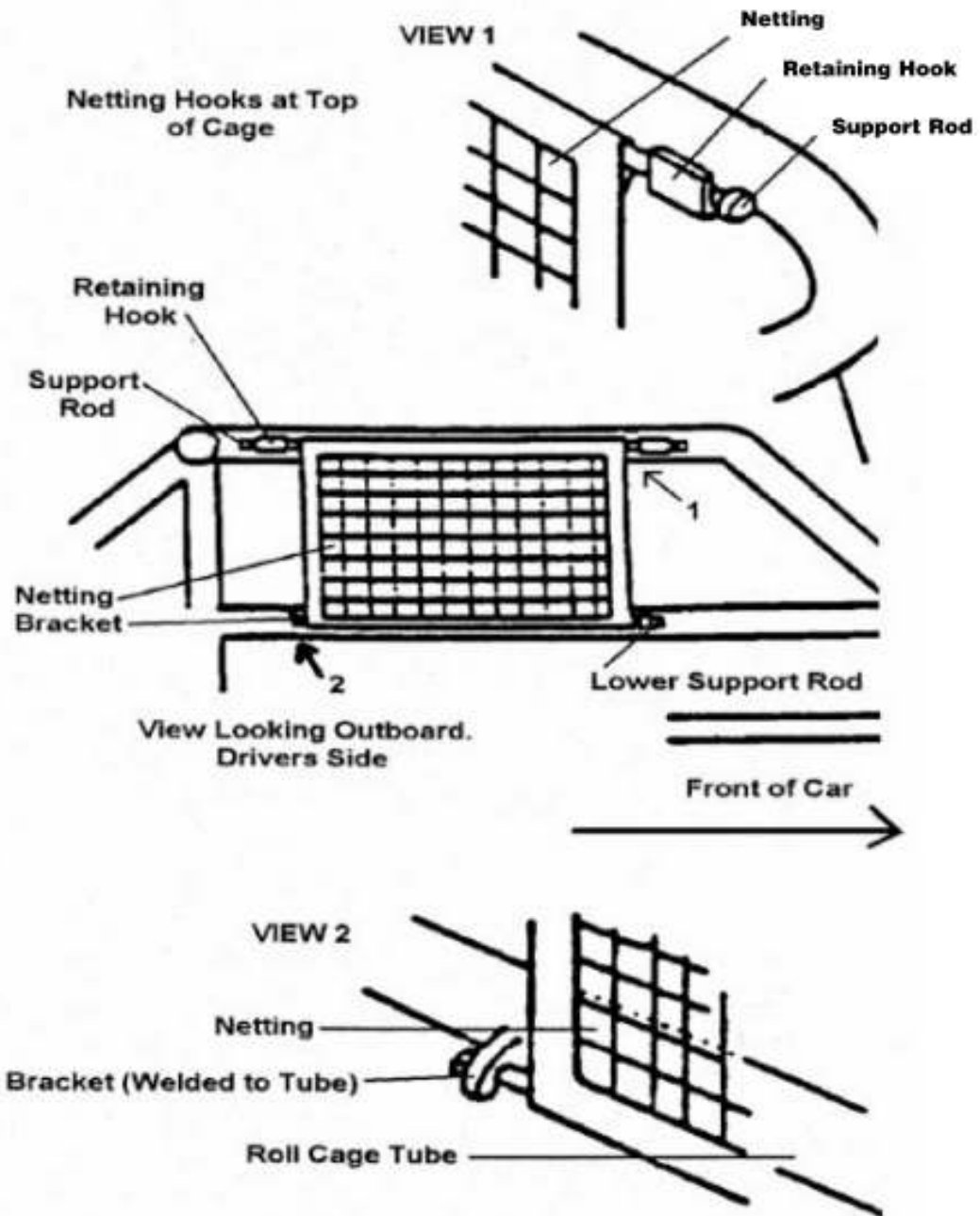


Diagram #6



APPENDIX B

List of approved tires for Vintage and Historic production sports cars and sedans

Memo:

Wheels may be maximum 1" wider than originally fitted. Fenders must not be flared or suspension to be modified to accommodate a wide tire.

No lower profile than 60-series is allowed.

The following tires are approved:

- Dunlop Racing L and M
- Historic Formula Ford front tyre Dunlop 135/545-13 CR82
- Dunlop SP Sport D84J
- Avon 5.0/22.0-13 ACB9
- Avon CR6ZZ
- Goodyear Blue Streak
- Hoosier Vintage TD
- Hoosier TD
- Hoosier Street TD
- Hoosier Speedster (60 aspect ratio)
- Yokohama ES 100
- Yokohama Advan A048 and A032R
- Kumho Ecsta V70A
- Any other tire with symmetrical tread pattern and min 60% aspect ratio subject to approval

NOT ALLOWED:

- Hand cutting additional tread pattern
- Hoosier DOT radial tires
- Avon ACB10

APPENDIX C

Supplementary Regulations

1. Window Nets

Window nets are mandatory for all closed Vintage and Historic cars participating in CASC-sanctioned events in the 2010 race season.

2. Bracket Racing

In-car timing devices are prohibited.