

**ASSOCIATION OF
AUTHORISING
BODIES**



RULES & REGULATIONS

2019 EDITION

SALOONS

GENERAL



"The National Autograss Sport Association Ltd (NASA) reserve the right to alter/amend the Rule Book as required, and that NASA has the right to review and amend any Class or Construction Rules at the end of each racing year."

**VALID FROM JANUARY 2019
UNTIL FURTHER NOTICE**

ALL PREVIOUS EDITIONS ARE INVALID

IT IS THE RESPONSIBILITY OF THE DRIVER/CONSTRUCTOR TO ENSURE THAT ALL VEHICLES CONFORM FULLY TO THE REGULATIONS AND RULES CONTAINED WITHIN THIS RULEBOOK

IF THE REGULATIONS AND RULES DO NOT STATE THAT "YOU CAN DO IT" THEN IT MUST BE PRESUMED THAT IT CANNOT BE DONE.

SALOONS

GENERAL

GENERAL - BASIC CONSTRUCTION RULES**SALOONS**

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FOR INDIVIDUAL CLASS SPECIFIC CONSTRUCTION RULES
(i.e. Additional requirements specific to each class of vehicle).
SEE INDIVIDUAL CLASS SPECIFIC – REQUIREMENTS RULES.

CLASSES

- Class 1** Under 1000cc Front Wheel Drive Saloons of specified type and manufacturer.
Class 2 Up to 1300cc, limited modification vehicles
Class 3 Over 1421cc, front-engined rear wheel drive, modified saloons
Class 4 Up to 1130cc modified vehicles
Class 5 1131cc - 1420cc modified vehicles
Class 6 Front wheel drive modified vehicles – Restricted minimum capacity.
Class 7 Over 1421cc rear wheel drive, modified vehicles
Class 8 Up to 1420cc Specials
Class 9 1421cc - 2070cc Specials
Class 10 Over 2071cc Specials
Junior Specials Under 1200cc Vauxhall Corsa Engined Special - Restricted Drivers Only.

Ladies Classes.

Recommendations for Club/League Racing.

It is recommended that Ladies are given the same amount of racing as Men.

- Class 11.** Classes 1 & 2 will race together duly handicapped /Staggered.
Class 12. Classes 4, 5 & 6 will race together duly handicapped /Staggered.
Class 13. Classes 3 & 7 will race together duly handicapped/Staggered.
Class 14. Classes 8, 9 & 10 will race together duly handicapped/Staggered.

Class Races - Maximum amount of vehicles allowed on a single straight-line start is, (refer to Members Handbook Track Construction General, rule 2 regarding track width):

All Classes = 8 Vehicles.

NB. Where classes are mixed the maximum number of vehicles allowed on a straight-line start reduces to the lower number applicable to the classes above. E.g.: Specials & Saloons mixed 8 vehicles on a straight-line start.

LICENCE

1. All drivers must hold a NASA Licence obtained through an Affiliated Autograss Club, **before** they can race. (For a listing of affiliated Clubs see NASA Website and/or NASA Fixture List).
No one is allowed to race in a NASA Class until they have received their licence or a day licence has been issued.
The driver's NASA issued racing Club and League prefix and number identification shall be confirmed within the NASA Licence.
The NASA permitted number identification shall be a 3 figure numerical figure from 1 to 999.
For any number less than 1 or greater than 999 an application must be made to NASA for permission to be allocated the number before it can be used. It is not permitted to prefix any number identification by the figure zero (0) e.g. 0001, 001, 01... etc.
NOTE. Racing on pink application slips will not be allowed.
2. A person over 18 years of age may be issued with a NASA competition licence.
- 3*. A person under 18 years of age and over 16 years of age may be issued with a NASA Competition Licence provided that the official letter of consent to compete is received from his/her parent or legal guardian.
- 4*. A person under 16 years of age and over 12 years of age may be issued with a NASA Junior Competition Licence provided that the official letter of consent to compete is received from his/her parent or legal guardian.
5. A Junior Competition Licence holder whose 16th birthday is **on or before** 1st February **must** cease racing as a Junior before his/her birthday.
A Junior Competition Licence holder whose 16th birthday is **after** 1st February **may** continue racing as a Junior until the end of that season.
- 6*. All NASA Competition Licence holders under 18 years of age and over 12 years of age must produce their copy of the letter of consent signed by their parent or legal guardian to any official when required.
* **All application forms and letters of consent for under 18's are available from your Club Secretary.**
7. A Men's Licence entitles you to race in Men's Classes only, and Men's Championships.
8. A Ladies Licence entitles you to race in Ladies Classes only, and Ladies Championships. (A lady may apply for a Men's Licence, and then **MUST** race in Men's Classes only). **Note.** A Lady competitor will not be allowed to change her competition licence (i.e. Men's to Ladies or Ladies to Men's) during any one season.
9. **Junior Drivers** must use **either** a Class One vehicle and **or** a Junior Special vehicle **only**, in Junior races. They **must not** compete with Men or Ladies, or race any other Class of vehicle.
10. A competitor/driver must produce his/her licence to any official when required.
11. NASA reserves the right to refuse a licence to any driver who has been refused a current road licence for medical reasons.
12. NASA reserves the right to refuse or cancel any issued identification numbers and letters.
Frivolous or obscene number/letter combinations are prohibited.
13. NASA reserve the right to refuse or cancel a Junior Licence or refuse permission for a Junior driver to race a vehicle at any race meeting where the Junior driver's stature is a factor in that Junior driver's ability to control his/her race vehicle. For this reason **ALL** Junior drivers must accompany their race vehicle(s) at scrutineering, and must demonstrate their ability to control the vehicle(s) particularly in relation to the steering wheel, foot control pedals, brakes and forward vision through the vehicle windscreen.
14. All licences must have a current photograph of the Licence holder affixed to the Licence at all times.
15. If you lose your Licence, please contact your own Club Secretary for details of reapplication.

GENERAL INSTRUCTIONS FOR APPLYING FOR A NASA LICENCE

No person is allowed to race in a NASA Class until they have received their licence or a day licence has been issued.

1. You must obtain an Application Form for your Licence from your Club Secretary, giving to that Secretary your subscriptions for your Licence. The Club Secretary must sign and date the form and also stamp it with the Club Stamp, if the club has one.
2. You will also receive an envelope with the address of the person to whom you must send the Application Form.
3. The Form is in quadruplicate and when filled in you should hand the yellow copy back to your Club Secretary, keep the pink copy for yourself and send the two white forms to the Registration Secretary for your League together with a STAMPED SELF-ADDRESSED ENVELOPE. **FAILURE TO SEND A STAMPED SELF-ADDRESSED ENVELOPE WILL RESULT IN YOUR LICENCE NOT BEING ISSUED.**
4. When filling in the Application Form, please print all the details and mark the appropriate Licence that you are applying for. Obviously Full Men's is for a Man's Licence and likewise with the Full Ladies, although if a lady wishes to race with the men only and wishes to compete at the Men's Championships and not at the Ladies' Championships then she too must apply for a Full Men's Licence. A Mechanics Licence is for persons who wish to be mechanics and/or officials and a Membership card is for Officials. (If applying for a Junior Licence then the Application Form must be countersigned by a Parent or Guardian.) A copy of the NASA letter of consent for Juniors and drivers under 18 when they apply for a licence, must also be sent with the application form, otherwise the application will not be processed.

5. If you have any problems regarding the above, and with your Application then please contact the person to whom you will send or have sent your Licence application.

PLEASE NOTE FAILURE TO COMPLETE THE APPLICATION FORM CORRECTLY WILL RESULT IN IT BEING RETURNED TO YOU UNTIL IT HAS BEEN COMPLETED SATISFACTORILY.

DEFINITIONS

Active /Adaptive/ semi-Active Suspension

The vertical movement of a vehicle's wheels relative to the chassis or vehicle body is controlled by an automatic onboard system/device in conjunction with electrical/optical/hydraulic sensors and control unit/computer to detect/monitor body and or chassis movement in relation to the surface the vehicle is being driven upon.

Aerofoil/Spoiler - Any device or part of a vehicle, which affects airflow over a vehicle to create an aerodynamic advantage.

Air Cooling hole - A single hole or series of holes up to a maximum of 4 in number of 50mm (2") maximum diameter cut in the rear panel or rear half of the rear boot/rear luggage compartment lid or rear engine cover/rear bonnet of a vehicle to allow the passage of cooling air.

Authorised Personnel – Driver, Mechanic, Marshal, Scrutineer or Official who has signed on.

Ballast - Non-functional material added to increase weight.

Bulkhead A Bulkhead is a partition or panel separating any two vehicle compartments.

e.g. Engine compartment and driver's compartment.
Luggage compartment and driver's compartment.

Class - Vehicles grouped together governed by specified Rules.

Cross Over Rule - Vehicles must hold a straight line until the appropriate marker has been passed.

CWP/cwp - Crown Wheel Pinion.

Driver's Compartment – Saloons: The driver's compartment is deemed to finish/end/cease at an imaginary line, across the vehicle immediately behind the driver's seat. i.e. at the rear face of the driver's seat.

Enclosed Space - An area which is fully enclosed by material such to prevent access to any point within that area for fire extinguishant.

Engine - An internal combustion device for the production of motive power, consisting of one or more fuel combustion chambers with a common rotating internal output shaft, as produced by a NASA recognised manufacturer.

Engine Ancillaries – Carburettor/Throttle Bodies/Injection, inlet manifold, exhaust manifold, exhaust system.

Event – A continuing competition held over a period of one or more days.

False Start – Vehicles commencing a race before the start of race signal is given.

Fit for purpose - Whilst racing, vehicle components and or construction and or fixings may be subject to severe shock and stress loading. NASA reserves the right via an appointed Official and or Scrutineer to reject a component and or construction and or fixings, deemed as not fit for purpose and unsuitable the "Autograss racing environment"

Gauge - In all references to measurements, 'gauge' refers to British Standard Wire Gauge. (See Table for gauge details).

Local or Slight Modification - The absolute minimum modification or alteration to an original manufacturer's vehicle body panel.

NASA – all references to NASA refer to the National Autograss Sport Association Ltd.

Official Vehicle – Vehicles such as Tractors, Breakdown vehicles or other vehicles in the custody or control of the Club/League.

Oil tank – A container for the storing of oil including breather system catch tank, oil reservoir and or dry sump tank.

Padding/Cushion.

An enclosed non-metal item such as cloth bag filled with soft material stuffing to support or ease or "fill in" gap between driver body and seat.

Parent – in the context of these rules is the natural parent of any licence holder who is under 18yrs of age. It does not include a step parent, the "partner" of a natural parent or a guardian who has not been appointed as such by a court. It does include a "Legal Guardian" who will be a person who has been appointed by a court to act as such.

Passive suspension.

The vertical movement of a vehicle's wheels relative to the chassis or vehicle body is determined entirely by the surface the vehicle is being driven upon.

Private Vehicle – Vehicles that are not owned by the Club/League and not in the custody or control of the Club/League.

Proprietary / Proprietary Manufactured. – An item or component that is produced, manufactured and marketed by a NASA recognised manufacturer.

Pump Fuel - A type sold to the public in the United Kingdom at roadside Filling Stations. L.P.G. / Methanol are not allowed.

Restrictor - A device of metal used for controlling the passage of the air/fuel mixture between two points.

Re-Run - A repeat of the previous race minus exclusions and non-runners, if any, with original grid positions and any penalties imposed in the original race being maintained.

Rev Limiter – A device that controls and or restricts engine maximum RPM.

Silhouette - The silhouette is the shape of the vehicle when viewed from the front, back and side elevation, and when viewed from the top.

Skinning of Panel(s) - The removal of: Part of or completely of an interior panel without detriment to the structural strength of the vehicle bodyshell. Specifically excluding the following: Door pillars/posts, front bulkheads, metal dashboards, sills. Driver's compartment floorpan, and/or other panels as defined in the rules.

Track - The area within the confines of the spectator barrier.

Traction / Launch Control - An automatic and/or electrical and/or optical and/or mechanical and/or pneumatic and/or hydraulic method of controlling:

a. The vehicle driving wheel or wheels rotational speed in relation to the distance travelled by the vehicle.

b. The vehicle suspension system in relation to differing start-line settings and racing settings.

By means other than direct human driver action upon the accelerator and/or throttle and/or engine fuel delivery activator.

SAFETY ROLL CAGE

Roll cage specifications stipulated within this rule book are the minimum acceptable. Members should take account of the condition, physical strength and style of the vehicle and of any structural modifications to the body-shell that have been carried out and fit additional bars to the safety roll cage to satisfy themselves in respect of the overall safety of the vehicle. NASA is not responsible for the failings of any roll cage as a result of its lack of design strength or manufacturing integrity.

The basic purpose of a roll cage is to protect the driver if the car should overturn, or be involved in a serious accident. This purpose should always be borne in mind during Roll Cage selection. All Roll Cages must comply with the NASA Design and material thickness specification. The NASA design is a minimum requirement for Autograss Racing only. Extra bars to provide further protection – material steel only, may be fitted, design free. Roll Cages designed and / or manufactured for use in other forms of motor sport may not be suitable for Autograss Racing.

The roll cage design including additional and or extra bars fitted to the roll cage and or vehicle structure, and component mounting bars must not impede driver access to or egress from the vehicle or access for marshals/medical personnel/assistance in the event of a roll over or on-track incident.

Note.

- a). All Roll Cages must be constructed of steel with the individual component bars welded together (i.e. 'Weld In' roll cages).
- b). 'FIA Copy' or 'Other Motorsport Copy' type 'Weld in' Roll Cages are prohibited.
- c). The use of a Roll Cage with the individual component bars bolted together (i.e. a "Bolt Together" roll cage) is prohibited.
- d). All Door bars must be as NASA requirements. 'FIA' or 'FIA Copy' or 'Other Motor sport Copy' 'X (cross) type door' bars on their own are prohibited.
- e). All Roll Cages must be fitted with a "Material Compliance Tag" coloured Blue complete with an individual serial number marked upon it.
A vehicle is not permitted to take part in Autograss racing without a roll cage fitted "Material Compliant Tag".

1. The roll cage MUST be of steel, including all nuts/bolts etc. Whenever bolts and nuts are used, they must be of steel and a minimum of R or S quality. "Half nuts" and or Square headed bolts must not be used.

2. Welding.

All welding must be of the highest quality possible, with full penetration. All bars welded together must have the joint mating surfaces entirely welded. NASA via a designated scrutineer reserves the right to reject any welding that may be deemed insufficient and or incorrect.

3. The roll cage, including side bar and brace bar tubing, must not be used as a medium for the flow of liquids, oil, water, fuel or the internal passage of fluid piping and or electrical wiring.
4. All NASA permitted roll cages must comply with NASA design. The main roll cage structure will comprise:

A main roll cage "hoop" (See Fig. 1.).
Two (2) front leg uprights (One nearside, one offside). (See Fig. 1.).
Two (2) side roof bars. (One nearside, one offside). (See Fig. 1.).
Roof centre bar, and or roof cross bars (See Fig. 1 & rule 15).
Floor level front to rear bars (See Fig. 1 & rule 15).
Front and rear cross bars (See rule 16).
Bracing bars (See rule 17).
Door bars (See rule 18.).
Diagonal bars (see rule 19.).

Material

The main roll cage structure must be constructed of either:

- (a). Steel circular section tube with a minimum diameter of 32mm (1¼") and with a minimum wall thickness of 2.5mm.
- Or
- (b). Steel box section tube with a minimum size of 30mm x 30mm and with a minimum wall thickness of 3.0mm

Note.

- i. Each of the roll cage individual component bars must be of a single continuous length of tube. i.e. one length bar per part.
The forming of a length of tube from two or more lengths by welding and concealing the welded joints by grinding/smoothing is prohibited. See Fig 5.
- ii. The use of "Galvanised" steel tube prohibited.

Wall thickness tolerances.

- i. Steel circular section tube: maximum tolerance = 0.2mm. I.e. the absolute minimum thickness at any point = 2.3mm.
- ii. Steel box section tube: maximum tolerance = 0.5mm. I.e. the absolute minimum thickness at any point = 2.5mm.

5. The main roll cage hoop shall be located as close as possible to the "B" Posts where the "B" posts join the body-shell roof panel.
The front leg uprights and cross bar shall be located close to the points where the "A" posts join the body-shell roof panel.
The linear distance of the bar joining the front leg uprights and rear hoop must be of a length as necessary to link to the rear hoop at the "B" posts. i.e. The points where the "A" and "B" posts join the body-shell roof panel.

6. The main roll cage hoop uprights must be straight and must be vertical +/- 50mm (2") measured at the top of the hoop when viewed from the side. (See Fig. 2.).
7. Location of Main Hoop Regarding Driver's Head.
 The main hoop must be located such that the seated driver is at all times within the boundaries of the whole roll cage structure including floor frame. See Rule 15.
 The underside of the top bars of the roll cage must be not less than 75mm (3") above the helmet of the seated driver.
 The main hoop shall not be located at any point that is greater than a distance of 254mm (10") to the rear of the driver's helmet, when the driver is seated.
 The main hoop and top bars of the roll cage must be placed as near as possible to the roof in order to limit crushing in the event of a somersault or roll-over.
8. Front leg uprights and main rear hoop must be connected by a minimum of:
 Three front to rear bars fitted as near as possible underside of the vehicle roof, one along each side of the roof, and one along the middle. (See Fig. 1.).
 The box shape and or frame formed by the roll cage roof bars must be such that the driver's body, including torso is within the box and or frame perimeter when seen in plan view from above (See Rule 13.).
 The fitting of an additional diagonal or two diagonal bars from either or both of the front leg upright top corners to either or both of the rear upright top corners is permitted.
Note. The Two diagonal bars (Cross bars) may be a substitute for the centre bar.
- At the base or bottom:
 Two front to rear bars, one along each side, of the specified sizes (by means of welding).
 Steel plates (minimum surface area 6 sq ins) (3871 sq mm) to be fixed to the frame at a maximum of 450mm (18") centre's and bolted (Min 2 No. 10mm Dia. per plate) through the floorpan to a steel plate of equal size.
 For vehicles fitted with separate front & rear "sub-frames" e.g. "Mini" - the front to rear bars must not be directly connected to the front & rear sub-frame. – See individual class specific rules.
 See also Chassis/Body-shell Rule 2.18.
9. Cross bars
 The front nearside upright and front offside upright of the hoop must be connected by one front cross bar, of the specified sizes (by means of welding), at either "dash panel" level or floor or low level. See Fig. 1.
Note.
 If a floor level cross bar of the specified size is fitted, then a steering column support cross bar of a minimum size of 25mm box or circular section may also be fitted at "dash panel" level.
- The rear nearside upright and rear offside upright of the hoop must be connected by one rear cross bar of the specified sizes (by means of welding), at either floor or low level. See Fig. 1.
- Cross Bar Floor Plates.
 Where the above bars are fitted at floor or low level then steel plates (minimum surface area 150mm x 150mm) to be fixed to the frame at a maximum of 450mm (18") centre's and bolted (Min 2 No. 10mm Dia. per plate) through the floorpan to a steel plate of equal size.
 The side to side floor bars must not be directly connected to the front & rear sub-frame unless permitted by the individual class specific rules. – See Specific Class Rules.
10. Bracing Bars.
 Two straight bracing bars must be fitted from the rear hoop, one (1) on each side, towards the rear of the vehicle, at an angle not exceeding 60 degrees with the horizontal. The bars MUST be fixed within 100mm (4") of the point of intersection of the rear upright and the top rear bar. (See Rule 11 & Fig. 1).
Note.
 It is not permitted to mount any rear bracing bars to the vehicle rear parcel shelf or rear seat bulkhead.
 Brace bars cannot pass through the vehicle floor pan or bulkhead except for the following. Where a roll cage has been specifically designed to incorporate fixing points, which involves brace bars passing through a specific section of a particular bulkhead, then it is permitted for such a brace bar to pass through the affected bulkhead.
11. Door / Side bars.
 Two side bars (Sb) each consisting of a single continuous length of tube must be fitted inside the driver's door and the passenger's door for the complete length of the doors, on the outside of the main roll bar uprights. They must be fitted as close as possible to the "A" and "B" posts. They cannot be fixed on the vehicle coachwork itself. They must be fitted such that the upright rather than any 'Weld' is subject to the stress loadings of any side impact.
 The angle of the side-bar with the horizontal must not exceed 5 degrees, and be mounted between 100mm (4") and 150mm (6") apart, for the protection of the lower half of the drivers body. (See Rule 11 & Fig. 3).
 It is recommended that 3 No. or more vertical upright bars joining the bottom side bar to the top side bar at regular intervals be fitted. The fitting of additional side cross bars made to the same specification as the roll cage requirements is permitted.
12. Diagonal Bar.
 There must be a minimum of one diagonal bar fitted from the point of intersection of the offside rear upright with the nearside to offside rear hoop top bar to the bottom of the nearside rear upright. Or vies-versa. (See Rule 11 & Fig.1). The fitting of two diagonal bars to form a cross is permitted and recommended.

13. Triangulation Bar.
There must be a minimum of one Triangulation bar (Tb) fitted on each side at high level to brace and or gusset the nearside top bar and the nearside rear upright and the offside top bar and offside rear upright - steel tube circular or box section 25mm minimum with specified wall thickness (by means of welding). The point of connection on each top bar and upright must be a minimum of 100mm (4") from the point of intersection of each top bar with each rear upright. See Fig. 1a, 1b, 1c, & 3.
14. Front Upright brace bar (Fb)
The fitting of an additional Front Upright brace bar (Fb) on each side at a near vertical angle from the vehicle floor/floor frame, to the top of the front roll cage upright steel tube 25mm (1") circular or box section 30mm minimum with specified wall thickness (by means of welding) is permitted and recommended. The point of connection on each top bar must be a minimum of 100mm (4") from the point of intersection of each top bar with each front upright. See Fig. 1a, 1b, 1c, & 3.
The front upright brace bar may be connected to and pass through the door bars to connect to the floor frame or be directly connected to the floor frame.
15. Floor Plates – Uprights, Brace Bars & Floor bars.
All roll bar uprights and bracing bars must have adequate steel plates welded to the bottom, with a contact area of at least 6 sq. ins (3871 sq mm), and have the same thickness as the tube.
The plates must be bolted through the floor to a steel plate of equal size. The plates shall be joined together by at least two bolts, minimum 10mm (3/8") diameter. "Half nuts" prohibited. "Nylock" nuts permitted.
Note.
When or where a roll bar rests on a box member, the latter must be locally reinforced by a structure of welded bolts or tube ends. (See Fig. 4).
16. Connections to & Mountings off the Roll Cage.
It is prohibited to directly connect or fix any mechanical component(s) to the roll cage.
It is prohibited to directly connect or fix any protection bar(s) to the roll cage.

1. GENERAL

1. STATEMENT of CONFORMITY.

Only methods of construction and modifications as listed are permitted. Any modifications, other than those permitted, and or listed within the Vehicle Construction Rules are specifically excluded. i.e. If the rules do not "say" that a modification is permitted then it is not allowed.
In the event of any doubt a NASA Scrutineer must be contacted for clarification.

Competitors **must** ensure that their racing vehicle conforms to NASA Rules and Regulations.
Where a competitor is less than 18 years of age the responsibility is shared with the parent/guardian.

2. All components used must be NASA Scrutineers Committee permitted "Standard production" or "Standard production replacement" items.
i.e. Unless the NASA Rules and Regulations permit or state that any part can be fitted or removed or that removal or modification, including a change of material from original, of any standard or standard production part is allowed, then the part cannot be fitted or removed, and the standard and or standard production part cannot be removed or modified or altered or changed or substituted in anyway whatsoever.
Intentional or deliberate (Including concealment) non-compliance with NASA vehicle construction rules will make the competitor and or member concerned subject to disciplinary action.
In the event of any doubt a NASA Scrutineer must be contacted for clarification.
3. Components fitted to or specifically manufactured for; including low volume/number, 'Rally', 'Rally Special', 'Motorsport', 'Competition' 'Homologation' and 'Limited Edition' models or variants of vehicle by the original vehicle manufacturer or manufacturer appointed organisation or company are prohibited unless specified within the individual class specific rules.

Due to the different vehicles used in the NASA Autograss classes of vehicle, do not assume that what is permitted for say a one class is permitted in another Or a one vehicle is permitted in another. There are specific construction rules for individual classes and the vehicles therein only.
In the event of any doubt a NASA Scrutineer must be contacted for clarification before fitting and or using the component concerned.
4. A vehicle must not be derived from a sports car, a "Special" or a vehicle constructed for contact motorsports.
Original manufacturer's convertible or cabriolet or soft top or sports car vehicles cannot be fitted with a metal roof or converted in any way for use as a Saloon or "Closed car".
5. A vehicle must not be capable of seating any person other than the driver.
6. All driver controls must be operated from, and remain within, the drivers compartment at all times.
7. Component Inspection.
NASA reserves the right via an appointed Official and or Scrutineer to request a competitor (Note. For under 18 years of age this includes the parent/guardian), to remove any component part of the vehicle for inspection and or measurement for compliance with the regulations. NASA reserves the right to designate the information reference source and the method of component checking.

The removal of the component shall be carried out by the competitor concerned and or competitor's mechanic under the supervision of the appointed Official and or Scrutineer.

Refusal to comply with such a request and or provide the item for inspection will immediately deem the vehicle as being in contravention of the NASA vehicle construction rules and make the competitor and or member concerned subject to disciplinary action.

8. Component Retention.
NASA reserves the right via an appointed Official and or Scrutineer to retain any component part of the vehicle for inspection and or measurement for compliance with the regulations.
Such components may be returned to the competitor concerned or confiscated at the discretion of the NASA Official Scrutineers.

9. Component Sealing.
NASA reserves the right via an appointed Official and or Scrutineer to seal any component part of the vehicle.
The purpose of sealing is to prevent the engine or key parts being substituted for another unit prior to the inspection of the unit by a designated official. Seals can be fitted to any component or part of a vehicle by a NASA designated official.

Refusal to comply with a request to fit a “seal” will immediately deem the vehicle as being in contravention of the NASA vehicle construction rules and make the competitor and or member concerned subject to disciplinary action.

Provisions for Sealing

The components may have, available at all times, provision for the fitting of at least one readily accessible scrutineer’s wire seal/tag, such that the fitting of the wire seal/tag prevents access to internal engine components.

- See individual class specific rules for details of mandatory provisions for component sealing.

10. Seal Removal.
Once a seal has been placed by the duly appointed official the competitor and or member concerned must seek permission to remove or “Break” such seals. A seal must not be removed without the express permission of the NASA designated official or NASA Chief Scrutineer.

The person that removes or “Breaks” a seal must be able to demonstrate to any official that permission has been granted for seal removal.

The unauthorised removal or “Break” of a seal will immediately deem the vehicle as being in contravention of the NASA vehicle construction rules and make the competitor and or member concerned subject to disciplinary action.

11. Vehicle Condition.
The vehicle must be maintained in good order. Vehicles in poor condition may not be permitted to race at the discretion of the scrutineer.

There must be no sharp or protruding surfaces that may be regarded as a hazard, either internally or externally.
The fitting of mascots, toys, banners, flags or ornamentation is prohibited.

Fixings.

All bolts, set screws and nuts used must be of steel and be of a minimum of R or S quality and be fit for purpose. Square headed bolts are prohibited. The use of “Half Nuts” is restricted.

Note.

NASA via a designated Scrutineer reserves the right to reject any fixing that may be deemed insufficient and or incorrect.

Welding.

All welding must be of the highest quality possible, with full penetration.

All bars welded together must have the joint mating surfaces entirely welded.

Note.

NASA via a designated Scrutineer reserves the right to reject any welding that may be deemed insufficient and or incorrect.

12. Vehicle drive capability.
The vehicle must be able to drive to scrutineering and to, around and within the pit area without any assistance.
If the vehicle suffers damage due to an on track incident then assistance as necessary to return it to the pit area for repairs and or to transporter for removal from meeting is permitted.

13. Driver size & Stature.
The vehicle must be constructed to suit the competitor driver size and stature in all respects.
If it is considered that a particular vehicle is unsuitable for a driver, given the person’s size or stature then the person concerned will not be permitted to race that vehicle.

Note.

The underside of the top bar of the roll cage must be not less than 75mm (3") above the helmet of the seated driver.

14. Driver Arm Restraints.
It is the responsibility of all competitors to ensure that their arms are restrained from extending outside of their vehicle in the event of an accident or roll. This must be done by the use of either a permitted arm restraint or window net or by their seating position within their car.

It is the driver’s responsibility to ensure that any adjustments are correct and that the necessary equipment is properly fitted. Drivers will be checked in their cars by scrutineers. Officials will monitor the use of this equipment as they do with other safety equipment.

Drivers who appear to be flagrantly ignoring the intended safety considerations of these rules will be penalised.

Note:

a). All restraint systems must not impede, entangle, unlock, unfasten, disengage nor prevent the correct reach and or access to and or operation of any safety harness or driver operated vehicle controls (e.g. Steering. Ignition switch. Cut off switch. Gear lever, etc.).

Arm restraints should be released by the single opening of the seatbelt fastening mechanism.

It is the competitor’s responsibility to ensure compliance when making the choice of restraint system.

The restraint System must be in the form of either ‘Arm Restraints’ or ‘Window Webbing’.

The both may be used separately or together.

Proprietary manufacture Arm Restraints for motorsport only permitted.

Simpson/Sparco/TRS Arm Restraints permitted.

For window webbing details see Windscreen/Glass - Rule 3.4.

- b). It is Competitors responsibility to contact a scrutineer and or designated official to confirm the particular restraint system form of construction is eligible. i.e. permitted by the NASA Scrutineers Committee **before** using it and or them.
 - c). When a restraint system and or construction is inspected and is not to the satisfaction of a scrutineer and or designated official then it is deemed as being in contravention of the NASA vehicle construction rules and will not be eligible for use. Therefore it must be removed immediately. The competitor is not permitted to race until a permitted 'Restraint System' is used.
 - d). The 'Restraint System' form of construction must be only as permitted by NASA. The types of construction will be subject to regular review by NASA to ensure suitability for Autograss racing.
NASA reserves the right to amend the permitted 'Restraint System' construction requirements at any time.
16. Traction / Launch Control (See definitions) systems prohibited.
17. Towing Eye.
The fitting of a "Towing Eye" at the front and rear of the vehicle is mandatory. Specified metal "Eye" diameter is 50mm. For other materials a minimum 50mm, maximum 100mm "Loop" is specified. The 'Towing Eye' must not protrude beyond the vehicle bodyline. "Towing Eyes" and "Towing Eye fixings" that are excessively sized or that can be regarded as 'ballast' or 'protection' are prohibited.
18. Vehicle rear wheel-standing (Aka "Wheelies").
The prevention of vehicle rear wheel-standing (Aka "Wheelies") at all times shall be the competitor's responsibility. Rear wheel standing is regarded as dangerous or extremely dangerous driving and is a Black Flag (Race Disqualification) offence.
19. The Scrutineer's decision, as to the eligibility of any component or part and or suitability of a vehicle for racing is final.

2 CHASSIS BODYSHELL – All Classes

- 2.1 All vehicles must be of metal and retain their original shape and silhouette (Including height, width and length) as per manufacturer's original specifications, including engine compartment bonnet or cover. De-Seaming prohibited.
The bodyshell must remain as its original type as produced by the original manufacturer. The conversion of a 2 or 3 door model to a 4 or 5 door model and vies-versa is prohibited. e.g. If a vehicle as originally manufactured is a 5 door hatchback it must remain as a 5 door hatchback the conversion to a 2 door saloon or a 3 door hatchback or non-original manufacturer's door configuration is prohibited.
- Vehicle Size & Dimensions – Restricted.
As manufacturers original standard productions specification.
- Estate Vehicles.
Estate vehicles may be permitted in certain classes. - See individual class specific rules for permitted vehicles.
- 2.2 The bodyshell must be complete including bodyshell, panels, roof, outer wings, bonnet/engine cover, luggage compartment lid (boot/tailgate), and doors.
No part of the body shell shall have any sharp projecting surfaces, which might cause a hazard, either internally or externally.
See individual class specific rules for permitted modifications.
- 2.3 The original chassis of the original standard production vehicle must be of integral construction with the original standard production bodyshell. Standard production vehicles that have a separate chassis or a chassis that is separate or able to be separated from the body-shell are prohibited.
It is a Competitor's responsibility to contact a scrutineer and or designated official to confirm that any choice of vehicle is eligible. i.e. permitted by the NASA Scrutineers Committee **before** using the vehicle.
- 2.4 Vehicle Condition.
The vehicle including bodyshell, panels, wings, front bulkhead and floorpan etc; must be kept in good repair at all times. Apertures formed as a result of the removal of interior "trim", "audio equipment/speakers" etc; and/or metal corrosion and/or accident damage must be made good by "filling in" with steel 20-gauge maximum.
NASA reserves the right to prohibit a vehicle from racing due to its poor condition at any time.
- 2.5 Replacement Panels.
All replacement panels must be as original vehicle manufacturer's design and/or approved by the NASA scrutineers committee.
Panels must not be reinforced. "Foam filling" of panels is prohibited.
Note.
The removal of any vehicle panel including engine cover/bonnet, luggage compartment lid/boot lid and replacement of the same with non-proprietary replacement prefabricated metal panels is prohibited.
- 2.6 The front bulkhead and floorpan, extending to the rear of the vehicle (Including boot floor/rear engine compartment bulkhead) must be as original manufacture and retained in their original positions.
Slight local modification of the engine compartment bulkhead is only permitted for the provision of apertures necessary for the passage of fuel, oil and water pipes.
For any further permitted modification - See individual Class specific rules.
- 2.7 Bonnet/engine covers & Luggage compartment lids.
The vehicle engine compartment bonnet or cover(s) and the vehicle luggage compartment lid or cover (Boot/tailgate/hatchback etc) must retain its original shape and silhouette and position as per the vehicle manufacturer's original specification and remain closed/shut at all times whilst racing.
All opening bonnet/engine covers/lids and luggage compartment/boot lids must have secondary fastenings to keep them securely closed during racing.

Note.

Failure to ensure that the bonnet and luggage compartment lid remain closed during racing is a Black Flag (Race Disqualification) offence.

The rear part of the engine compartment bonnet or cover must remain flush with the front windscreen scuttle at all times. Failure to comply with this is a Black Flag (Race Disqualification) offence.

The use of "bonnet" pins with aluminium posts/pins, elasticised luggage straps, string, rope, wire, padlocks as a secondary fastening or any fastening that requires the use of a tool to gain access is prohibited.

For front engined Estate vehicles only.

For front engined permitted estate vehicles the rear door(s)/tailgate may be removed. However 2 diagonal steel bracing bars must then be fitted in the remaining original bodyshell hatchback/tailgate aperture. The brace bars must be a minimum size of 20mm (3/4") box or 25mm (1") diameter circular tube of a minimum thickness of 16 gauge (1.62mm).

For rear engined Estate vehicles.

For rear engined permitted estate vehicles the metal "Estate/Hatchback" rear door(s) luggage compartment lids/tailgates must be retained.

2.8 "Skinning" restricted.

Skinning of doors and tailgate doors only may be permitted. Slight local part removal or modification of bodyshell driver and front/rear passenger compartment panels, but excluding floorpan, may be permitted for Roll Cage fitment clearance only.

For any further permitted modification - See individual Class specific rules.

2.9 Doors.

All doors must be retained and securely welded closed with each having a minimum of three 25mm (1") length visible welds on each upright with a minimum of one 25mm (1") length visible weld on the bottom. The welding must be carried out such that the welds are either on the outside or inside surface of the doors.

Note.

"2 Door" body shells must have a minimum of two 25mm (1") length visible weld on the bottom.

Door Hinges.

Door hinges may be Retained or removed.

Drivers Compartment Doors.

- i. The driver's compartment doors (nearside and offside) may be modified/"Skinned" to leave the outer door "skin" only.
- ii. The door skin may also be substituted by a replacement panel to the original vehicle manufacturer's design and/or as permitted by the NASA Scrutineers Committee.
- iii. The driver's door MUST be retained at the standard production manufactured height.
- iv. To facilitate entry and exit to the driver's compartment, the front nearside (passenger's) side door may be cut down no more than 1/4 (One quarter) the height of the original standard production manufactured height. I.e. a minimum height of ¾ (Three quarters) of the original door height must remain.
- v. The driver's compartment doors (Nearside and offside) door tops (window frames) may be retained or removed.
- vi. The driver's compartment doors (Nearside and offside) may have a metal door brace bar fitted at the top of the door (And also cut down nearside door), between the front and rear door pillars only. The brace bar to be steel tube box section maximum 25mm x 25mm (1") or 25mm (1") circular section.

Rear passenger Compartment Doors.All Vehicles

The rear passenger's compartment doors (Nearside and offside) and tailgate must remain as original. "skinning" prohibited. - See individual Class specific rules.

2.10 Bumpers.

These may be retained or removed. - See individual Class specific rules.

2.11 Synthetic Fibre parts.

See individual Class specific rules.

2.12 Exterior & Interior Trim/Lights.

All exterior and internal trim must be removed.

All light fittings/units must be removed.

Windscreen wiper assemblies must be removed. (See Rule 2.14. & 2.15.).

Lock and lock assemblies must be removed.

Window winder assemblies must be removed.

Instrument dash board including instruments and instrument cable drives may be retained or removed.

Removal of 'Seam sealer' and or under-seal material where fitted is permitted.

See individual Class specific rules.

2.13 Air Safety Bags.

The use of Safety Air Bag(s) is prohibited. Where they are fitted as a standard production item, they must be disconnected and removed. The disconnection & removal must be carried out in accordance with original vehicle manufacturer's guidelines and/or instructions & recommendations.

2.14 Apertures.

- i. Apertures remaining following the removal of standard production vehicle light fittings, light units, may be filled in by a metal covering of 20 gauge maximum thickness (See Rule 2.3).

- ii. Apertures remaining following the removal of standard production vehicle metal and/or plastic grilles, metal and/or polycarbonate or synthetic fibre bumpers or other components **must** be filled in by a metal covering of 20 gauge maximum thickness.
- Note.
a. Where rotating parts including pulleys, drive belts etc; are exposed by the removal of the above, then the aperture **must** be filled in by a metal covering of 20 gauge maximum thickness.
b. The use of any non-metal replacement substance including plastic, glass fibre, and GRP is prohibited.
- 2.15 Scuttle.
The vehicle engine compartment scuttle must retain its original shape and silhouette as per the original vehicle manufacturer's original specification.
All air vents/grilles or apertures remaining following removal of trim, wiper assemblies etc; that are located in the front windscreen scuttle panel, must be filled in with a suitable metal covering.
Note.
For vehicles fitted with automotive plastic scuttle the plastic scuttle may be retained or removed. If removed it must be replaced with plain metal of equivalent shape and size.
- 2.16 Protection
No protection may be fitted to vehicles other than that as specified under "PROECTION".
- 2.17 Aerofoils/Spoilers.
Aerofoils and spoilers are only allowed if fitted as standard production items. The use of aftermarket types are prohibited. The fitting and/or use of wings, splitters, and/or any device to enhance vehicle adhesion to the ground via the airflow over or under the vehicle or device are prohibited.
- 2.18 Side & Rear Windows.
The covering or infilling with metal or any material of side windows or rear window apertures is prohibited.
- 2.19 Sunroofs:
Where a bodysell has been fitted with a sunroof the following applies.
a). If the original integral sliding/tilting steel sunroof is retained, the steel sunroof panel must be securely welded closed by "Spot" or "Seam" welds around the edge of the panel.
b). If the sunroof is constructed of a non-steel panel e.g. glass, plastic, alloy etc; then the original sunroof must be removed and the remaining aperture must be filled in with a steel covering of 20 gauge maximum thickness welded in place as described in (a).
c). If a sunroof has been removed remaining aperture must be filled in with a steel covering of 20 gauge maximum thickness welded in place as described in (a).
- 2.20 Towing Eye.
The fitting of a 'Towing Eye' at the front and rear of the vehicle is mandatory. Specified metal 'Eye' diameter is 50mm. For other materials a minimum 50mm, maximum 100mm "Loop" is specified. The 'Towing Eye' must not protrude beyond the vehicle bodyline. 'Towing Eyes' and 'Towing Eye fixings' that are excessively sized or that can be regarded as 'ballast' or 'protection' are prohibited. The original standard production item may be retained or removed or bent downwards so as not to protrude beyond the bodyline.
- See individual Class specific rules.
- 2.21 Wheelbase.
The alteration of the wheelbase is permitted in certain modified classes only -- See individual Class specific rules.
- 2.22 Vehicle Track
The modification of vehicle track is permitted in certain modified classes only. - See individual Class specific rules.
- 2.23 Wheel Arches.
A wheel arch/spat must cover/shield the wheel and tyre assembly such that the wheel and tyre assembly does not protrude more than a 15mm or 20mm beyond the vehicle body line - See individual Class specific rules.
Material – Metal or Durable plastic - See individual Class specific rules.
Note.
The "Body line" includes wheel arches/spats.
The fitting of "air holes" in wheel arches/spats is prohibited.
For permitted alterations to facilitate wheel widening. - See individual Class specific rules.
- 2.24 Side Skirts.
The fitting of side skirts is permitted in certain modified classes only. - See individual Class specific rules.
- 2.25 Air Cooling Holes.
The forming of air cooling holes is permitted in certain modified classes only. - See individual Class specific rules.
- 2.26 Vehicle Weight
The total weight of the complete vehicle excluding driver at any time is free.
Note
NASA reserves the right to amend and or revise the minimum weight and or weight distribution percentages at any time.
- 3. WINDSCREEN / GLASS – All Vehicles**
- 3.1 All glass (Excluding gauges) must be removed.
a). The removal must be carried out in accordance with original vehicle manufacturer's guidelines and/or instructions & recommendations.
b). All instrumentation (Gauges and/or instruments) fitted with a glass fascia or lens must have the glass fascia or lens covered with adhesive tape or similar material such that the glass pieces are retained in the event of breakage.

- 3.2 A covering of steel weld mesh 25mm x 25mm (1" x 1") made up of a minimum 2.64mm (0.104") (12 gauge) diameter wire, must be fitted over the full windscreen aperture ONLY, and be securely fixed (nut & bolt/welded) to the vehicle.

Note.

There must be adequate clearance between the windscreen mesh and the steering wheel to prevent injury to the driver's hands.

- 3.3 Windscreen Perspex.

Perspex/Lexan/Clear Polycarbonate may be fitted to the outside of the mesh on the front windscreen, provided that there is a suitable aperture cut in front of the driver, in his/her line of vision. The aperture must be at least 100mm (4") high, 300mm (12") wide, or the equivalent area within an imaginary circle of 300mm (12") diameter.

Perspex/Lexan/Clear Polycarbonate is not permitted to be fitted anywhere else on the vehicle.

- 3.4 Window Webbing/Net/Mesh.

It is the responsibility of all competitors to ensure that their arms are restrained from extending outside of their vehicle in the event of an accident or roll. This must be done by the use of either a permitted restraint or window net or by their seating position within their vehicle.

If an arm restraint system is not used then a non-metal webbed/meshed net on the driver's door window aperture (Either wholly or partially), is mandatory and must be fitted. See Fig. 11.

If the driver's seating position within the vehicle is such that there is a risk of their arms extending out of either side of the vehicle then a window net must be fitted to both nearside and offside driver's compartment window apertures.

If an arm restraint system is used then the driver's compartment access window aperture may also have a non-metal webbed/meshed net covering (Either wholly or partially).

Webbing/Mesh Type.

The window aperture webbed/meshed net covering must be of a NASA permitted proprietary brand and or construction. It must be fixed by quick release clips as supplied by the window webbing/meshed net manufacturer or be retained/fixed by the use of "R" clips ('Bolted with hinge' types prohibited) or 'Heavy duty' Velcro.

The window webbing MUST be easily and completely removable from both inside and outside of the vehicle either by the driver or marshals and or medical personnel.

The net mesh construction shall be of a mesh size of a minimum of 50mm up to a maximum of 100mm.

The mounting or support bars may be of metal 6mm minimum and maximum 10mm circular section metal tubing. There shall be no sharp or pointed edges that may cause potential injury to driver or marshals in the event of deformation or breakage. See Fig. 11.

Note:

- a). When a 'Window net' construction is inspected and is not to the satisfaction of a scrutineer and or designated official then it is deemed as being in contravention of the NASA vehicle construction rules and will not be eligible for use. Therefore if it is fitted to a vehicle it must be removed immediately. The competitor is not permitted to race until a compliant 'Restraint System' is used.
- b). It is Competitors responsibility to contact a scrutineer and or designated official to confirm the particular 'Window net' form of construction is eligible. i.e. permitted by the NASA Scrutineers Committee **before** using it and or them.
- c). 'Window net' form of construction must be only as permitted by NASA. The types of construction will be subject to regular review by NASA to ensure suitability for Autograss racing.
NASA reserves the right to amend the permitted 'Window net' construction requirements at any time.
OMP & TRS & RJS Oblong and or Trapezoid (angular) full size window safety net permitted.
Full metal tube support bar/border and "gate opening" types prohibited.

- 3.5 Mirrors – Restricted.

Interior rear view mirror(s) allowed. It/they must not be of glass and must be securely fitted to the vehicle.

i.e. Rear view mirror(s) if fitted must be wholly placed within the boundary of the interior of the vehicle's driver's compartment.

There shall be no sharp or pointed edges that may cause potential injury to driver or marshals in the event of deformation or breakage.

Exterior rear view mirror(s) prohibited.

Note.

A mirror that protrudes say beyond/outside of, any of the driver's compartment window apertures will be deemed as an exterior mirror and prohibited.

4 STEERING – All Vehicles

- 4.1 It is a requirement that all vehicles are able to steer at all times.

NASA reserves the right via an appointed Official and or Scrutineer to request that a competitor's vehicle undergoes a steering capability test.

Note.

Refusal to comply with a request to take part in a steering capability test will immediately deem the vehicle as being in contravention of the NASA vehicle construction rules and make the competitor concerned subject to disciplinary action.

- 4.2 Steering System.

There must be a steering system from the steering wheel to the front wheels only.

The standard production steering system from the steering wheel to the front wheels may be retained or modified or removed. - See individual Class specific rules.

The Original manufacturer's steering wheel locking devices must be removed.

Steering Column – Restricted.

Steering column mounted power steering units must be fitted with padding for protection of driver legs. For other requirements see individual Class specific rules.

Note.

The steering wheel height/angle adjustment bracket/lever must be securely fixed in its chosen height/angle location by welding or secondary fastening.

4.3 Steering Wheel Air Bags.

The use of Steering wheel mounted Safety Air Bag(s) is prohibited. Where they are fitted as a standard production item, they must be disconnected and removed. The disconnection & removal must be carried out in accordance with original vehicle manufacturer's guidelines and/or instructions & recommendations.

4.4 Steering Wheel.

The original standard production steering wheel may be retained or removed. If removed a full circumference steering wheel must be used – diameter free.

The steering wheel used must be fitted correctly. The fitting of a "reversed" or "upside down" (Steering wheel rotated 180 degrees front to back) steering wheel is prohibited.

Note.

It is the driver's responsibility to ensure that the steering wheel is secure at all times. Steering wheels may be subject to random spot checks of steering wheel fitment and or fixings whilst on the starting line.

4.5 The original standard production steering wheel boss may be retained or removed.

A "Quick Release" steering wheel boss of proprietary manufacture only is permitted, provided the boss locates onto the steering column without affecting the original manufacturer's steering wheel location. The boss must be fitted below the steering wheel. It is recommended that a "Quick release" steering wheel hub of proprietary manufacture be used.

5 SAFETY HARNESS – All Vehicles

5.1 All vehicles must be fitted with a proprietary manufactured full harness seat belt to BSI standards and be adjustable so as to securely fit the driver, with one quick release buckle and a crutch strap and a minimum of 5 point fixing. The use of a 6-point fixing harness is recommended.

The whole harness seat belt must be supplied by the manufacturer of that harness seat belt and be fitted in accordance with the manufacturer's installation recommendations.

N.B. Inertia type harness seat belt prohibited.

Note.

The driver's seat must have the correct "seat harness holes", adjustable as necessary to enable the choice of harness to suit the stature of the driver to be correctly fitted.

Whilst racing, the safety harness may be subject to severe shock and stress loading. The type, size and construction and fixings must be suitable and fit for purpose for the shock and stress loadings of the "Autograss racing environment". This must be borne in mind during safety harness choices.

NASA reserves the right via an appointed Official and or Scrutineer to reject a safety harness and fixings, deemed as not fit for purpose and unsuitable for the shock and stress loadings of the "Autograss racing environment"

5.2 Shoulder Straps.

The shoulder straps of the harness seat belt should ideally pull back at an angle of between 45 degrees and straight back and be fixed to the vehicle safety roll cage and or floor frame and or a safety harness fixing bar located either between the two roll cage uprights or brace bars or across the inside between each side of the bodyshell.

The safety harness shoulder straps must not be supported by the driver's seat associated shoulder/neck holes only.

The safety harness shoulder straps when the rear angle is less than or more than 45 degrees to the horizontal must have a shoulder strap guide/supporting/fixing bar that must be fitted either between the two roll cage uprights or brace bars or across the inside between each side of the bodyshell provided Rule 5.4 ii is not contravened. (See Figs. 6. 7a. & 7b.).

It is recommended that a harness "Strap guide" be fitted to ensure that the harness remains in position in the event of a roll over.

Note:

The harness shoulder straps must be a tight and correct fit on top of and over the driver's shoulders and elsewhere on the driver's body. This is a requirement to securely contain the driver within the seat in the event of a roll over. Therefore the stature of the driver and or drivers for shared vehicles must be considered during harness and or mounting point choices.

NASA reserves the right via an appointed Official and or Scrutineer to reject a safety harness and its fixings, and or require adjustments to be made particularly if the harness straps remain a "loose" fit when tightened.

5.3 Harness "Extension"

Proprietary manufactured Safety Harness "extension pieces" only are permitted. "Homemade" extensions, rope, wire, tie straps, chains etc. prohibited.

5.4 Harness Fixing & Mounting Points.

The original vehicle manufacturer's seat belt fixing points or mountings, with the exception of the shoulder straps, may be used as safety harness fixing points or mountings provided they are in good condition and are suitable and or appropriate for the harness fixings.

Where the original seat belts fixing points or mountings are not used, safety harness fixing bolts or fixing rings/eyes must be adequately plated.

Note.

- i. Whilst racing or in the event of an accident the safety harness fixing points or mountings may be subject to severe stress/shock loading. This must be borne in mind during safety harness fixing point and mounting location choices. All safety harness fixing and mounting points must be sound and secure.

- ii. Attachment bolts for seat belts/safety harness must be minimum 10mm ($\frac{3}{8}$ ") high tensile steel.
 - iii. Safety harness fixing & mounting points, due to the potential fire risk must not be within the vehicle engine compartment. No part of the harness shall be adjacent to or pass alongside or above the engine or carburettors/fuel injection system or exhaust system.
 - iv. The lap belt should be fixed such that the side straps ideally "pull down" at an angle of 45 degrees
 - v. The crutch strap must be fixed to a seat mounting bar/cradle and or floor frame and be fixed such that the seat does not become subject to a stress/force load.
- 5.5 The safety harness fixing points may be mounted and fitted to either the floor frame and or a safety harness fixing bar located either between the two roll cage uprights or brace bars or across the inside between each side of the bodyshell. See Rule 5.2. (See Fig. 7b.).

6 SEAT – All Vehicles

6.1 Seat - Restricted

A proprietary manufactured "Car Racing" or "Competition" or "Motor sport" car seat only must be used. Whilst racing or in the event of an accident or roll over the seat may be subjected to severe shock and stress loading. This must be borne in mind during seat choices.

Note.

The seat must have the correct "Seat harness holes", adjustable as necessary to enable the choice of harness to suit the stature of the driver to be correctly fitted.

The seat head restraint/headrest must be an integral part of the driver's seat construction and be such that it provides a support for the driver's head, regardless of the stature of any driver and will prevent the driver's head from being violently jerked backwards during an impact thus reducing the risk of neck injuries.

Seat Fit.

The seat must be adjustable for driver stature fit, seat location and harness location to securely hold the driver in place and to ensure correct control of the vehicle regardless of the stature of any driver. The means of adjustment shall be by positive fixings.

Any cushion (see definitions) used must be securely fixed.

6.2 Seat location – Restricted.

The location of the vehicles driver's car seat is free, but it must remain within the bounds of the original vehicle manufacturers designated "Driver and front passenger's seat" area i.e. It may not be located in any originally designated "Rear passenger seat" areas.

6.3 Seat Installation.

The seat must be installed in accordance with the particular manufacturer's recommendations and instructions and be in good order and or condition and be free of damage.

Seat Mounting / Fixing.

The mounting or fixing of a seat directly to sheet metal and or the vehicle floor only is prohibited.

The driver's seat or seat frame must be securely fixed (Bolted/welded) to the mounting bars/cradle and vehicle back and front (See Figs. 6 & 7). and must be fitted in accordance with the manufacturer's recommendations and instructions.

The seat, seat to seat frame or seat frame to vehicle support brackets must be located such that they cannot puncture or pass through the seat in the event of any impact. Non-proprietary and or "Home made non-steel types prohibited.

Seat fixing bolt size 8mm HT or greater.

Note.

Where a seat manufacturer recommends that base fixing only is required then additional fixings to the seat support bar are not required. (For such seats documentary evidence shall be provided by the competitor to the designated official upon request). However the support bar must be fitted.

Where a seat manufacturer's "mounting instructions" (e.g. Kirkey) does not recommend the use of "sliding seat fixings" and or "sliders" and or "seat adjustment" mechanism(s) then they are prohibited.

Whilst racing or in the event of an accident or roll over, the seat, seat frame, seat mounting brackets and fixings may be subject to severe shock and stress loading. This must be borne in mind during seat and/or seat frame and mounting bracket choices.

Seat Support Bars & Cradle.

A steel seat support bar must be fitted, minimum size 25mm circular or box section, with minimum wall thickness 2.5mm directly to the rear of the seat backrest. The back of the seat must be fixed (Bolted/welded) to the seat support bar in two (2) places by means of appropriate support bar brackets adjacent to the safety harness apertures. The drilling/cutting through of the support bar is prohibited.

The base of the seat must be fixed (Nut & Bolted/welded) to the mounting bars/cradle/ and vehicle by means of a minimum of 4 fixings.

Fixings onto Seat.

The direct fixing of any non-cushion item including instruments, driver controls, battery, fuel tank and their associated support brackets/bars to a driver's seat are prohibited.

- 6.4 NASA reserves the right via an appointed Official and or Scrutineer to reject a seat (including mounting support frame/brackets), particularly "Thin", "Lightweight" or "Ultralight" types that are marketed as a "Race seat" but deemed as not fit for purpose and unsuitable for the shock and stress loadings of the 'Autograss racing environment.

7 FIRE EXTINGUISHER – All Vehicles

- 7.1 It is recommended that all competitors be in possession of a fire extinguisher which is in good working order. All competitors must have easy access to a fire extinguisher which is in good working order at all times, especially when refuelling.
A fire extinguisher may be carried in the vehicle during racing. If the extinguisher is fitted in the racing vehicle then it must be securely fixed and be within easy reach of the driver.
- 7.2 Extinguishers must be minimum 1 kg (2.2 lbs) dry powder or 0.9 litre foam spray AFFF or Zero 2000. The “use by” date must be current and the “stored pressure” indicator must be within the manufacturer’s recommended limits. For extinguishers subject to regular inspection and service, a current record of inspection/test must be shown. All inspection and servicing must be carried out by a “competent person” in accordance with BS 5306 (current edition).

8 IDENTIFICATION – All Vehicles

- 8.1 All vehicles must have the competitor’s NASA registered/recognised Club letters and racing numbers, displayed (See Rule 8.5) on each side of the vehicle and on each side of a specified roof structure, at a point forward of the rear roll cage upright, to a minimum size of 230mm (9”) in height, with a minimum 25mm (1”) width. The Identification (Club letters & Racing number) must match that stated in the competitor’s NASA Licence. i.e. if AA123 in Licence then it is AA123 Not 123AA or A123A on vehicle. (See Fig. 8).
Note.
i. The purpose of the vehicle identification requirement is to ensure that race lap scorers and officials can easily and correctly view and identify each vehicle from their race observation locations during any race. This must be borne in mind during identification font sizing and layout choices.
ii. The Lap Scorers and or appointed Officials wish to correctly identify each vehicle that is racing and or on track and also record the race results. It must be borne in mind during identification choices that NASA shall not be held responsible for the erroneous recording and or omission of any vehicle, regarding race results due to indistinct, dirty and or illegible identification.
- 8.2 All NASA registered/recognised racing numbers, club letters and class numbers must be painted/printed/displayed the colour black on a white panel background. i.e. a background that is displayed so as to be the colour white. Iridescent or chameleon effect (Colour Change) Letters or Numbers or panels prohibited.
- 8.3 All NASA registered/recognised racing numbers, club letters and class number font is free however they must be sized so as to be proportioned such that they are clear and legible, and upright.
i. There must be a minimum of 50mm – Side Identification, 5mm – Roof Identification, clearance between the outside border and/or edge of the letter and/or number characters, regardless of font, and the outside border and/or edge of the white panel background.
ii. There must be a minimum of 25mm between the club identification letters and race number grouping of characters. E.g. for AAC 123 there must be a minimum of 25mm between the character “C” and “1”.
iii. The shading, blocking, outlining, overlapping, use of disproportionate sizing and/or leaning at an angle other than vertical of the letters and numbers is prohibited. (See Fig. 8).

Identification SizesVehicle Side.

A minimum size of 230mm (9”) in height, with a minimum 25mm (1”) width. (See Fig. 8).

Vehicle Roof.

A minimum size of 150mm (6”) in height, with a minimum 12mm (1/2”) width. (See Fig. 9).

Roof Display Structure – Restricted.

The stand up structure MUST be made of 0.71mm (0.028”) (22 gauge) aluminium, to the dimensions shown on Fig. 9. The length being discretionary within the vehicle roof area.

Note.

The roof display structure size must be appropriate for the size and type of font used.

NASA reserves the right via an appointed Official and or Scrutineer to reject identification deemed as not fit for purpose and unsuitable for official purposes.

- 8.4 Class Identification.
The vehicle must have the NASA registered/recognised racing class identification number painted/printed/displayed upon the vehicle roof over both the nearside and offside driver’s compartment access aperture to a maximum height of 50mm (2”), minimum 25mm (1”).
- 8.5 Vehicle Paint & Decoration.
Vehicle paint and decoration is free, however stickers, logos, decals, drawings, phrases etc., which may be considered, obscene, offensive, derogatory or intimidating are prohibited.

9 ELECTRICAL / INSTRUMENTS – All Vehicles

- 9.1 Wiring Harness & Charging system.
The standard production general wiring harness may be retained or modified or partially or wholly removed and replaced provided the requirements of Rule 1.8. and the individual vehicle class requirements are complied with.
See individual class specific rules.
- 9.2 Ignition Switch.
A single ignition switch of proprietary manufacture must be fitted to control the electrical and ignition system to the engine. The ignition switch must be within reach of the vehicle driver when the driver is seated in the vehicle and is in his/her normal driving position, with his/her safety harness fastened.

Note.

When an electrical fuel delivery pump is fitted, then the fuel pump must be wired through the ignition switch such that when ignition switch is turned off the pump must stop.

- 9.3 Engine Starting system – Restricted.
All vehicles must be fitted with a engine self starting system capable of starting the engine when operated.
The standard production engine self-starting system may be retained, modified or replaced – See individual Class specific rules.
- 9.4 Instrumentation and Gauges
Standard production instrumentation and gauges may be retained or removed. If retained they must be firmly secured to the vehicle. Non-standard production oil/water/tachometer/rev counter gauges of proprietary manufacture only may be used.
See individual class specific rules.
- 9.5 Isolator Switch.
A single electrical system & battery isolator switch of proprietary manufacture must be fitted in either the Positive (+) or Negative (-) electrical “Live” or “Earth) circuit.
On operation of the battery isolator switch, the electrical system and engine must stop.
- 9.6 Battery Isolator Location – Restricted.
The battery isolator switch must be fitted on the offside of the vehicle, at the base of the front offside windscreen pillar, adjacent to the point where it meets the scuttle panel. (See Fig. 10).
The switch “On/Off” positions must be clearly identified & displayed/painted a minimum size of 25mm (1”) in height.
- 9.7 Battery type – Restricted.
“Large car”, “SUV” 4 x 4, commercial vehicle, agricultural and or leisure vehicle battery prohibited.
The use of a “large” dimension size battery may be deemed as ballast and prohibited.
The suitability of the type of battery for use with or without a charging system and its ability to hold a sufficient electrical charge for the duration of a race and any required race re-runs must be borne in mind during battery type choices. See Rule 9.3.
See individual class specific rules.
- 9.8 Battery Enclosure & location – Restricted.
A battery must be secured within a metal enclosure box/container of sufficient strength not to burst open upon any impact and that is made as leak-proof as possible. Maximum wall thickness = 3mm.
The enclosure box/container must be located within the bounds of the vehicle bodysell.
The enclosure box/container must be firmly secured to the vehicle.

Drivers Compartment.

The fitting of an electrical battery enclosure/box/container within the driver’s compartment is permitted. However the battery enclosure/box/container must not be fitted beneath the driver’s seat.

Vehicle Wings.

The enclosure box/container must not be fitted under the vehicle wings. i.e. No part of the enclosure shall be within and or beneath any part of any of the vehicle wings. Deformation of inner wings prohibited.

Limit of location – Vehicle Front.

The enclosure box/container must not be fitted anywhere on the vehicle at a point that is forward of an imaginary line, across the vehicle from the most forward part of the engine block and or gearbox and clutch housing casing.
See individual class specific rules.

- 9.9 Ignition Leads & Spark Plugs.
Ignition leads and spark plugs type is free.
- 9.10 Brake Light.
A minimum of One (1) number Brake light, of 21 watts output and lens size 70mm x 70mm must be fitted to all vehicles.
The mandatory brake light to be mounted facing rearwards (towards an imaginary marshal standing at the vehicle rear) at a point as near to the rear most point of the vehicle as practicable. It is permitted to fit a secondary brake light, mounted onto the offside roll cage upright facing outwards (towards an imaginary marshal standing at the vehicle side).
All brake lights must be covered with a red plastic lens and be clearly visible when in operation. “LED” lamps that emit a light that is the colour red of a minimum size 50mm x 50mm and that is clearly visible when in operation are permitted.

10 FUEL – All Vehicles

- 10.1 Pump fuel only to be used.
Proprietary manufactured petrol Lead & Octane Replacement and Anti-Wear Additives may be used.
Note.
Fuel Additives are permitted. However their use must be in compliance with the particular manufacturer’s recommendations and instructions.
NASA reserves the right via an appointed Official and or Scrutineer to reject and or prohibit a fuel additive type at any time.
- 10.2 Nitrous Oxide (N₂O).
The use of Nitrous Oxide (N₂O) and its injection is prohibited.

- 10.3 Fuel Pump – Restricted.
The original manufacturer's fuel pump may be retained, modified or removed and replaced.
- See individual class specific rules.
- Fuel Regulator.
Type and capacity of fuel regulator up to the carburettor and or Fuel Injection Unit restricted.
- See individual class specific rules.
- 10.4 Fuel Tank Type – Restricted.
The original vehicle manufacturers fitted fuel tank must be removed.
A single non-spill proprietary metal fuel tank or NASA permitted proprietary "Fuel cell", with a maximum capacity of two (2) gallons (10 litres) and which is fitted with a secure filler cap including gasket or 'O' ring seal must be fitted.
Fixings:
For a metal fuel tank the fixings must be such that the tank and fill pipe & cap are secure. The use of non-metal fixing straps, wire, etc; is prohibited.
For a "Fuel cell" the original fuel cell manufacturers "Fixing kit" only must be used and the "Fuel cell" must be secure.
- 10.5 Fuel tank Venting.
The fuel tank filler pipe (And if fitted, the fuel delivery "Fuel shut – off" tap) must be fitted so as to be an integral part of the fuel tank or "Fuel cell".
- 10.6 Fuel Tank Location – Restricted.
- The fuel tank or "Fuel cell" and or fuel filler pipe and or filler cap, must not be fitted in the driver's compartment and or under the vehicle wings and or anywhere on the vehicle at a point that is forward of an imaginary line, across the vehicle from the most forward part of the engine block and or gearbox and clutch housing casing.
 - Where a fuel filler pipe and or filler cap is located beneath or under a vehicle panel or bonnet or luggage compartment lid there must be clearance above the pipe and or cap to allow for panel etc; deformation in the event of a roll over.
 - If the fuel tank or "Fuel cell" including filler cap is fitted within a totally enclosed space, then a 50mm diameter hole **MUST** be provided as near to the tank as possible in one accessible face of the enclosure, for accessibility of a fire extinguishant in the event of a fire.
- 10.7 Fuel Tank Fill pipe.
The fuel tank fill pipe must be fitted so as to be an integral part of the fuel tank or "Fuel cell".
Where a fuel filler pipe and or filler cap is located beneath or under a vehicle panel there must be clearance above the filler pipe and or cap to allow for deformation in the event of a roll over.
There must be a metal fire shield between the driver and all fuel related components, including the fuel tank and or "Fuel cell" and filler cap.
- 10.8 The fuel tank or "Fuel cell" must have an external vent pipe fastened in a downward position, to a point below the floor of the vehicle. This vent pipe must not protrude into the fuel tank or "Fuel cell" more than 6mm (1/4"). It is recommended that a one way (non return) valve be fitted in the vent pipe.
Note:
Where a "Fuel cell" is used the vent pipe must be connected to the fuel cell by proprietary fittings and in a manner approved by the fuel cell manufacturer.
- 10.9 Fuel Pipe
Standard production fuel delivery pipes may be retained or removed and replaced.
If retained and or removed and replaced, their location is restricted. - See individual class specific rules.
Fuel delivery pipes must be of metal or proprietary fuel flexible hose and be securely fixed.
Note:
Where a "Fuel cell" is used the fuel delivery pipes must be connected to the fuel cell by proprietary fittings and in a manner approved by the fuel cell manufacturer.
- 11 COOLING SYSTEMS – All Vehicles**
- 11.1 Cooling System.
See individual class specific rules.
- 11.2 Water Pressure Cap.
Water radiators or expansion tanks must be fitted with a pressure cap and overflow pipe fastened in a downward position to a point below the floor of the vehicle.
- 11.3 Water & Coolant Pipes.
Water and coolant pipes/hoses must be of metal or proprietary flexible hose. Type free. However hoses must have the same connections as standard production. Connection points must not be blanked off or re-routed.
Silicone hoses permitted. See individual class specific rules.
- 11.4 Water Radiator/Cooler location.
All radiators, expansion tanks and coolers or any other cooling system must be fitted within the vehicle silhouette. All must be completely shielded from the driver. See individual class specific rules.
- 11.5 Heater/ventilation & Air Conditioning (a/c) systems.
Heater/ventilation system
The original manufacturer's heater/ventilation system must be removed. The method of hose connection blanking off and or looping must be leak proof.

Air conditioning system.

Where an air conditioning system is fitted as a standard production item, it must be disconnected and removed. The disconnection & removal must be carried out in accordance with original vehicle manufacturer's guidelines and/or instructions & recommendations.

- 11.6 Oil Cooler/radiator type – Restricted.
See individual class specific rules.

Oil Cooler Location – Restricted.

All oil coolers/oil radiators must be fitted within the vehicle silhouette and must be completely shielded from the driver's compartment. The shield must be as leak proof as possible in case of spillage in an incident.

- 11.7 Oil Hoses & Pipes - Restricted.
Standard production oil hoses and pipes may be retained or removed and replaced.
If retained and or removed and replaced, their location is restricted. See individual class specific rules.
Oil hoses and pipes must be of the correct oil resistant type with suitable high-pressure oil connections/fittings.

- 11.8 Oil Tanks.
Standard production oil tanks including catch tanks may be retained or removed and replaced.
- See individual class specific rules.

Oil Tank location - Restricted.

Oil tanks including catch tanks must be fitted within the vehicle silhouette.

Oil tanks including catch tanks must not be fitted under the vehicle wings; and or anywhere on the vehicle at a point that is forward of an imaginary line, across the vehicle from the most forward part of the engine block and or gearbox and clutch housing casing.

Oil Tank Shield.

Oil tanks (Including catch tank) must be completely shielded from the driver in case of spillage in an accident.

- 11.9 Water Pump.
See individual class specific rules.

12 BRAKES – All Vehicles

- 12.1 A braking system must be fitted, be correctly installed/fitted and be in good working order.
All wheels must "Lock" on grass on application of the foot brake pedal only at all times.
Brakes may be subject to random spot checks of foot pedal operation whilst on the starting line.
Note.
i. The original standard production brake fluid pipes and hoses may be replaced with aftermarket brake fluid pipes and hoses of proprietary manufacture only. "Braided" brake hoses permitted.
ii. The practice of adjustment of drum brakes shoes to an absolute minimum setting, regardless of shoe thickness, to reduce friction is prohibited.
Brake shoes must be fitted and adjusted such that they operate correctly upon the brake drum on the initial depression of the foot brake pedal at all times.

- 12.2 Braking system type and components -Restricted.
See individual class specific rules.

- 12.3 Handbrake. - See individual class specific rules.

- 12.4 Brake proportioning - Restricted.
The fitting of brake fluid shut off taps to completely isolate any part of the braking system is prohibited.
See individual class specific rules.

- 12.5 Braking System Usage.
All drivers must have the capability to operate the braking system correctly.

NASA reserves the right via an appointed Official and or Scrutineer to prevent a vehicle from racing due to the observed failure of a competitor to operate the vehicle braking system satisfactorily.

- 12.6 Brake Warning Light.
A Brake Warning Light must be fitted, and work correctly and be activated by the depression of the foot brake pedal only – See Rule 9.10.

13 WHEELS – All Vehicles

- 13.1 Wheels – Restricted.
A vehicle must have 4 wheels only.
All wheels must be in good order and or condition and be free of damage. Steel or alloy wheels are permitted.
i. Modification of a proprietary manufactured wheel by "Thinning" and or "Diameter reduction" and or "Grooving", "Slotting" or "Drilling" and or other machining is prohibited.
ii. The wheels must be standard production or NASA permitted proprietary replacement wheel.
iii. Offset/Inset is restricted. – See individual class specific rules.
iv. The wheel Pitch Circle Diameter (PCD) is restricted – See individual class specific rules.
v. The use of wheel adaptors to fit wheels of a different PCD may be permitted – See individual class specific rules.
vi. The use of different wheel diameter sizes on the offside and nearside of the vehicle is prohibited.
vii. "Beadlock" and/or Beadlock type wheels may be permitted – See individual class specific rules.
viii. The use of hub caps and or dust/mud shield and any attachments prohibited.

- ix. Wheels must have a single tyre inflation valve orifice in its standard production location.
- x. Wire wheels and/or "Twin wheels" are prohibited.
- xi. The wheels must be suitable for the tyres used.

Wheel Fitment – Types.

It is permitted to mix types (Steel/Alloy) of wheels on a vehicle. See individual class specific rules.

13.2 Wheel Spacers – Restricted. – See individual class specific rules.

13.3 Wheel fixings – Type Restricted.

- i. Wheel centres must only be fitted to hubs the correct way.
- ii. Wheel stud, wheel bolt and wheel nut fixings only permitted.
- iii. The wheel nut must be completely penetrated and threaded by the wheel stud.
- iv. The correct number and size of studs and nuts must be fitted for all the wheels used.
Wheel nuts must be used to match the nut taper and stud bore and depth of the particular wheel (including spacer if used) concerned.
- v. Locking wheel nuts/bolts prohibited.
- vi. All wheel studs must be of a one-piece type.
- vii. Single nut and/or stud and/or centre lock wheel fixings prohibited.
- viii. "Half nuts" and/or non-steel nuts prohibited.
- ix. "Plated" wheel studs prohibited.

14 TYRES – All Vehicles

14.1 Tyres are restricted.

For "drive axles" and/or "drive wheels" Control Tyres will apply.
The application of Control Tyres will remain effective until 31 December 2021.
NASA reserves the right to modify these regulations without notice at any time.

All tyres used on drive wheels after July 1st 2019 will have to be tested and agreed by NASA prior to use, permitted tyres will be listed under option A or option B on the NASA permitted tyre list.
Prior to July 1st 2019 competitors may use any existing stock of tyres as long as they meet the 2018 tyre regulations.

There are 3 options. "A" and "B" and "Wet Weather".

A competitor may use tyres on that comply with either option on a "Drive axle". Mixing & matching of Option "A" and Option "B" and or "Wet Weather" tyres on the same axle is permitted.

- i. All tyre identification markings must be present and visible on each of the tyre sidewalls.
Removal of identification markings is not permitted.
- ii. The shore hardness value must be marked upon all Option "A" tyres.
This marking is to be clearly visible, non removable and applied during the tyre manufacturing process.
(“Sticky labels” applied by the retailer or “Branding iron” markings are not permitted).
Tyres that are not marked with shore hardness value during manufacturing will be deemed as Option "B" Tyres and then must comply with Option "B" regulations.
- iii. The tread block/pattern/profile must be pre-formed and made during the original manufacturing process.

Note.

- iv. All tyres whether Control Tyres or other, must have a speed rating of a minimum of 75 mph ("L" speed symbol).
"M & S" (Mud & Snow) tyres are permitted subject to drive & non drive axles and Control Tyre restrictions. Motorcycle tyres prohibited.

v. Tyre Hardness - Restricted.

Tyre hardness must comply with the following. Random checks of hardness will be carried out by means of a Durometer. The checks will be carried out by authorised NASA officials. Tyres may be checked at any time.
Tyre manufacturers may incorporate a test block into the tyre tread pattern during the manufacturing process; otherwise readings will be taken from the most suitable tread block available.
For non control tyres (non drive wheels) the shore hardness is free.

Note.

- i. Control Tyres Option "A" and Option "B" must have absolute minimum shore hardness of 60 when the tyre is "new" or in "new condition".
- ii. When tyres are tested/checked in any other circumstances the minimum shore hardness is 55, this to allow for tyre condition and or temperature. No tyre should ever measure less than 55 shore hardness.
- iii. If an Option "A" and or Option "B" tyre is measured/tested/checked and found to be below the stated minimum limit, the driver of the vehicle concerned will be subject to disciplinary action.

vi. Tyre Fitment.

All tyres must be fitted to the wheel correctly and be in good condition. i.e. Be within wheel rim and or be free of damage to main tread pattern and sidewalls, including cuts, bulges, tears, rips, loose and or separated tread.

14.2 Tyre Option Description.

It is the responsibility of the competitor to ensure his/her Option "A" and Option "B" tyres comply with the NASA minimum shore hardness requirements.

Option "A" Tyres

Tyres must be of a type supplied by a manufacturer/supplier as shown on the NASA permitted list of suppliers only. (The NASA supplier list is currently being updated).

Note. The tyre tread pattern and shore hardness must be of a type as permitted by NASA and subject to random testing as described in rule 14.1.

Option “B” Tyres.

Tyres must be an “E” marked Car road going “New” or “Remould” tyres that are permitted in law for road use only. The tyres must be available from any regular UK tyre distributor. The tyres must have a shore hardness rating of a minimum of 60 shore.

The cost of the tyre must be such that it has, or has had an initial sales value inclusive of VAT of less than £50.

NASA will maintain a register of approved Option B tyre makes/patterns. Tyres not on the NASA register are prohibited.

Wet Weather Tyres - Restricted.

Wet Weather tyres will be listed separately by NASA and are exempt from shore hardness controls.

Wet weather tyres must be as listed by NASA for wet weather use only.

Wet Weather tyres may be fitted to any axle/wheel.

Wet Weather tyres must also comply with NASA eligibility requirements – See rule 14.3.

14.3 Eligibility

- a). When a tyre is inspected and is not to the satisfaction of the authorised NASA official then it is deemed as being in contravention of the NASA vehicle construction rules and will not be eligible for use.
- b). It is Competitors responsibility to contact a scrutineer and or authorised NASA official to confirm that tyres chosen are eligible. **before** use.
- c). Tyres tread patterns must be only as permitted by NASA. Tyre tread patterns will be subject to regular review by NASA to ensure suitability for Autograss racing. NASA reserves the right to amend the permitted tyre tread pattern requirements at any time.
- d). NASA will invite tyre suppliers to a tyre meeting during each racing season to discuss the next year tyre requirements and or any concerns.

14.4 Tyre Width – Restricted.

The maximum permitted tyre width is 225.

See individual class specific rules for particular class tyre width and size restrictions.

14.5 Tyre Inner Tubes.

Tyres may be fitted with inner tubes. The placing of liquid into or within a tyre or inner tube is prohibited.

14.6 Tyre Performance Enhancement.

The use of any substance to change, enhance or improve the adhesion and/or softness & hardness properties of tyres is prohibited.

15 EXHAUSTS – All Vehicles.

15.1 All vehicles must be fitted with an efficient silencer capable of reducing the noise level to within the NASA specified noise limit 102 Db (A). For method of noise level measurement see SILENCING.

- a). It is the competitor’s responsibility to:
 - i). Ensure that his/her vehicle complies with sound testing regulations and it is recommended that competitors make themselves aware of any additional regulations imposed by clubs which they may visit before attending.
 - ii). Ensure that his/her vehicle is constructed such that noise testing may be readily and easily carried out.
 - iii). Familiarise themselves with the NASA Noise Test Chart showing the different engine r.p.m. test levels for different types of engines.
- b). Test Engine RPM
The noise test engine r.p.m. shall be notified by NASA to each affiliated club’s Chief Scrutineer by means of a list showing the different levels for different types of engines cc. NASA reserves the right to amend and or revise the engine test r.p.m. at any time.

Note.

- i. A vehicle considered noisy by any official during racing may be disqualified notwithstanding that they may have passed the initial static test.
- ii Where a silencer’s performance is found to be insufficient to comply with the above, the use of any temporary modifications, including inserting drink’s cans, extra wire wool etc., into the silencer outlet pipe etc; is prohibited.
- iii. For further detailed information see also Members Handbook – SECTION – SILENCING.

15.2 Exhaust System – Restricted.

The standard production original exhaust manifold and system may be retained or removed. – See individual class specific rules.

Any device(s) that acts as a valve and or regulator, whether adjustable or not, upon the exhaust gas flow within the exhaust system is/are prohibited.

15.3 Fuel Injection – Lambda Sensor.

For vehicles fitted with Fuel Injection as a standard production item the Exhaust Lambda (Oxygen) Sensors may be retained or removed. – See individual class specific rules.

15.4 Catalytic Converters

Catalytic Converters may be retained or removed. – See individual class specific rules.

15.5 Exhaust Systems – Route.

The exhaust system must be within the vehicle silhouette and not protrude beyond the vehicle bodyline.

16 SAFETY SHIELDS – All Vehicles

16.1 All vehicles must be fitted with a metal fire shield (Bulkhead) that completely separates and protects the driver from the engine/transmission unit, including engine ancillaries and radiator(s). It must completely shield the driver to prevent the

progress of fire or fluids (Oil, petrol, water, coolant) from the engine compartment area or component onto the driver. i.e. Any direct line from any such item to any part of the driver must be interrupted by the fire shield.

16.2 Sump Guard – Restricted.

A Sump guard is permitted. Material of guard must be metal.
Sump guard thickness maximum: Steel = 3mm. Alloy = 5mm.

Guard Shape/Dimensions - Restricted.

Plan area: Absolute minimum necessary to protect the engine/gearbox oil sump pan only.

There shall be no vertical surface extending above the base of the vehicle chassis.

The sump guard area shall not be extended to incorporate suspension system and/or suspension component protection and or mounting.

16.3 Fluid Pipes.

Oil, water and fuel pipes, when fitted inside the driver's compartment, must be secure, completely encased in a suitable material and of continuous length, from the point it enters to the point it leaves the driver's compartment. The material must be of sufficient strength to act as a mechanical protection.

16.4 Fuel Systems.

There must be a metal fire shield between the driver and all fuel related components, including the fuel tank and or "Fuel cell" and filler cap.

16.5 Oil Tanks.

All oil tanks must be shielded from the driver in case of spillage in an accident.

16.6 Exhaust systems & pipework.

Where fitted inside the driver's compartment, the exhaust pipe(s) must be covered with material sufficient to act as a safety shield.

17 SUSPENSION – All Vehicles.

17.1 Suspension Type and Modification.

All vehicles must have a suspension system. Suspension type is restricted.

Active /Adaptive/ semi-Active Suspension prohibited.

It is not permitted to modify any suspension component unless the alteration of the component concerned is specified within the individual class rules. - See individual class specific rules.

17.2 Dust/dirt covers.

Shock absorber springs or coil/shock absorber assembly dust/dirt covers of proprietary manufacture only permitted.

18 PROTECTION – All Vehicles.

18.1 Front Protection / Reinforcement.

No internal or external protection or reinforcement is permitted on the front of vehicles, other than DISTRIBUTOR protection for certain specified vehicles.
– See individual class specific rules.

18.2 Side Protection / Reinforcement.

No internal or external protection or reinforcement is permitted on the side of vehicles.

18.3 Rear Protection – Restricted to specified vehicles.

Size and material shall be one 25mm x 25mm (1" x 1") steel tube box section bar fitted either inside of the rear panel, or bolted flush to the outside of the panel. The width to be not more than to the centre line of the each of the offside and nearside rear wheels. It is not permitted to connect the protection bar to the roll cage or brace bars. See Rule 18.4.
– See individual class specific rules.

18.4 Rear Protection Support Bars – Restricted to specified vehicles.

There shall be no more than two (2) brace bars 25mm x 25mm (1" x 1") maximum steel tube box section that may be used to support the protection bar. – See individual class specific rules.

Note.

Where the protection bar is fixed flush to the outside of the rear panel, the support bars may pass through the rear panel. The support bars must be connected to the rear boot/luggage compartment floor only. It is not permitted to connect the support bars to the roll cage or brace bars or main chassis rails.

18.5 Distributor Protection – Restricted to specified vehicles.

Restricted to one 25mm x 25mm (1" x 1") maximum steel tube box section bar fitted in the local distributor area. The top of the bar to be bolted to the engine, the bottom to be sub-frame or lower chassis. – See individual class specific rules.

Note.

The use of non steel bar material, or other forms of construction prohibited.

19 BALLAST

19.1 All Vehicles.

The fitting of and/or use of ballast is permitted in certain modified classes only - See individual class specific rules.

The use of certain commercial vehicle and or agricultural vehicle and/or over large and or high wall thickness metal components may be construed as not permitted ballast and thus prohibited. Their use is not recommended.

20 ENGINE AND TRANSMISSION.

20.1 All Vehicles.
See individual class specific rules.

21 CHECK SHEETS.

21.1 All Vehicles.
See individual class specific rules.

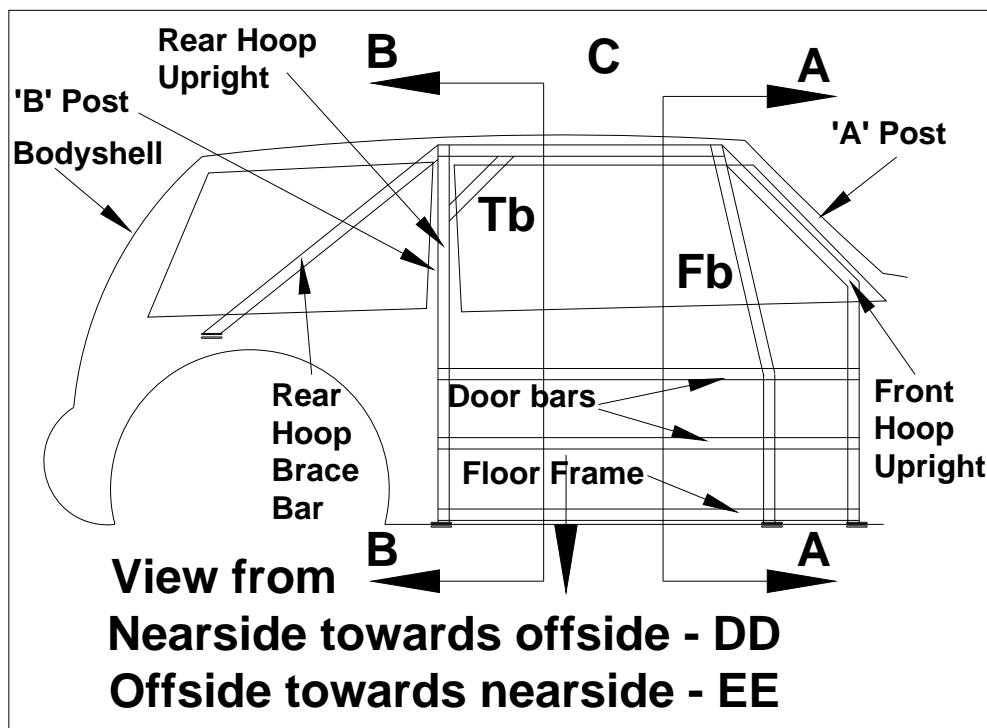
FIGURES.

FIGURE 1.

Figure 1a Roll Cage – Side Elevation.

All Bars - Minimum sizes and specified wall thickness as Rule 4.

Bar Tb is mandatory. Bar Fb is optional.

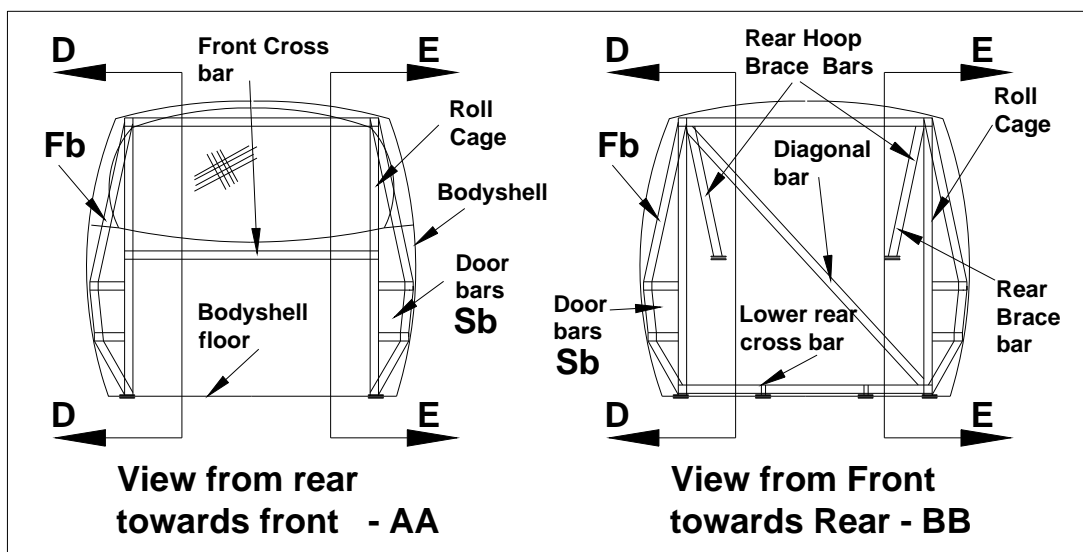


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Figure 1b Roll Cage - Front & Rear view.

All Bars - Minimum sizes and specified wall thickness as Rule 4.

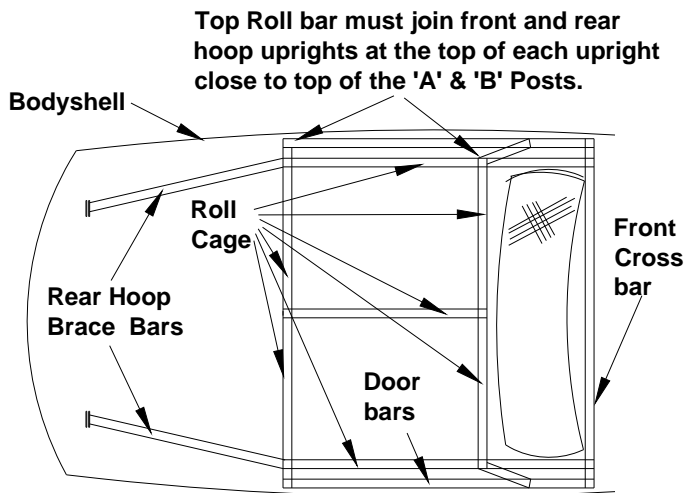
Bar Fb is optional.



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Figure 1c Roll Cage - Plan View – Centre Bar.

All Bars - Minimum sizes and specified wall thickness as Rule 4.

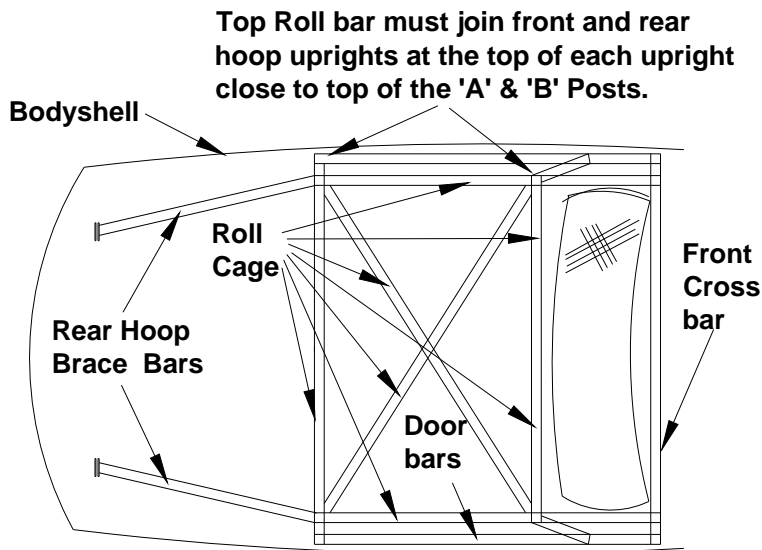


View from above - C

99

Figure 1d Roll Cage - Plan View – Cross bars.

All Bars - Minimum sizes and specified wall thickness as Rule 4.

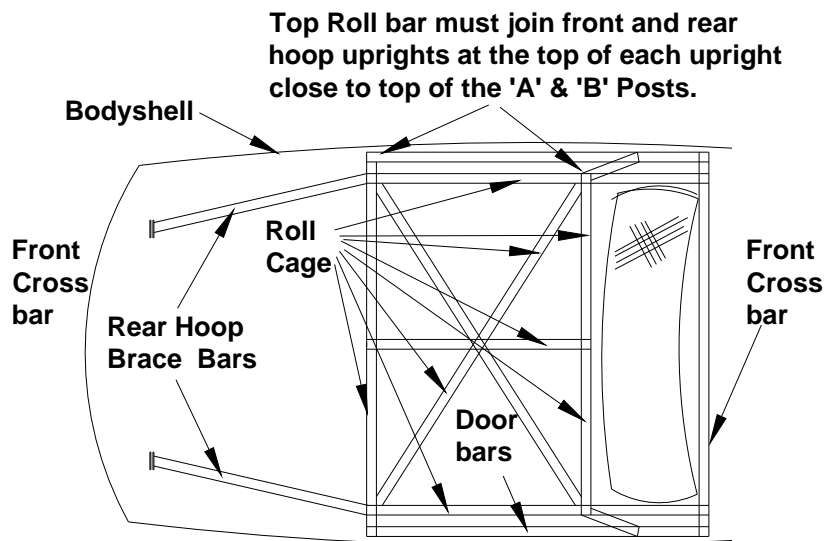


View from above - C

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Figure 1e Roll Cage - Plan View Centre & Cross Bars Combined.

All Bars - Minimum sizes and specified wall thickness as Rule 4.



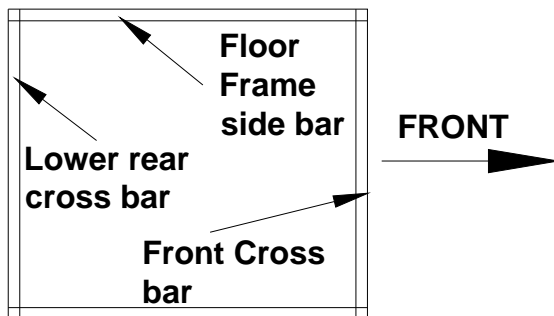
View from above - C

Fig.

Figure 1f Floor Frame.

All Bars - Minimum sizes and specified wall thickness as Rule 4 & 8.

Floor Frame



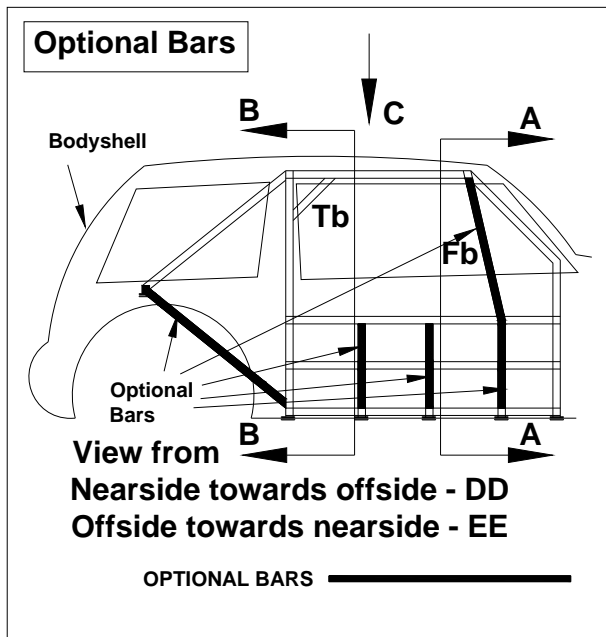
**Plan View of
Floor Frame
From above - C**

Fig.

Figure 1g Optional Bars.

All Bars Minimum sizes and specified Wall Thickness & as Rule 4.

Bar Tb is mandatory.

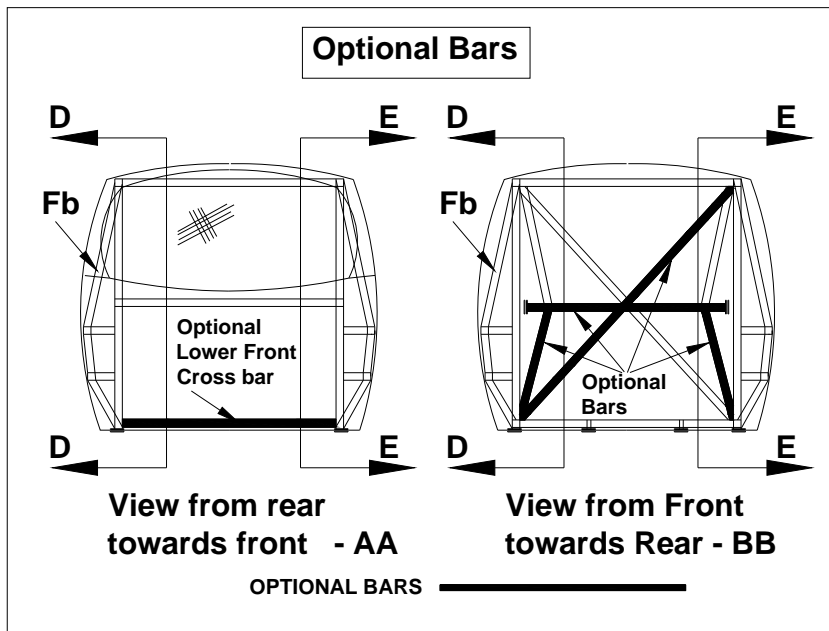


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Figure 1h Optional Bars.

All Bars Minimum sizes and specified Wall Thickness & as Rule 4.

Bar Tb is mandatory.

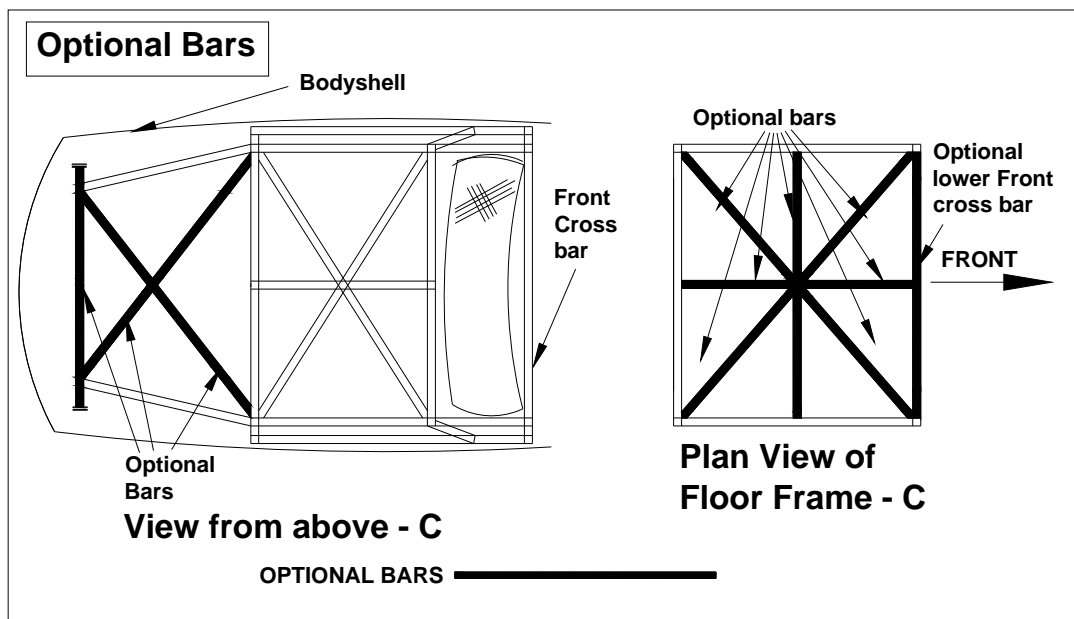


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Figure 1i Optional Bars.

All Bars Minimum sizes and specified Wall Thickness & as Rule 4.

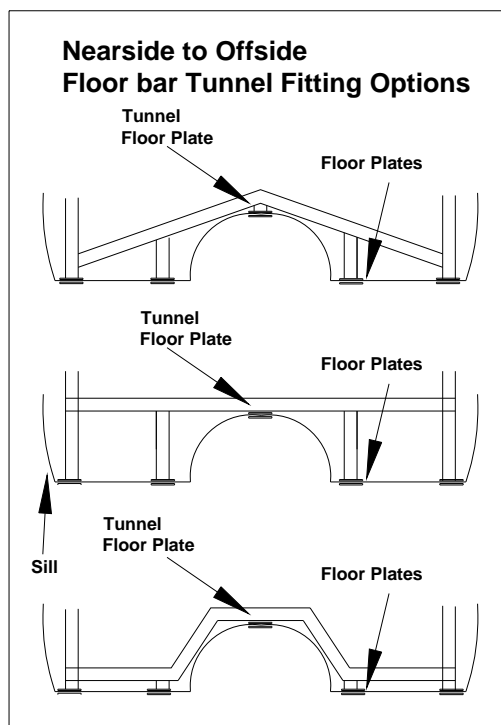
Bar Tb is mandatory.



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Figure 1j

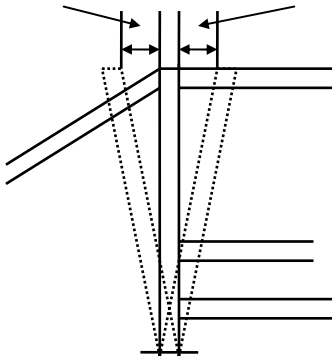
All Bars Minimum sizes and specified Wall Thickness & as Rule 4, 8 & 15.



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FIGURE 2. ROLL CAGE REAR UPRIGHT VERTICAL LOCATION.

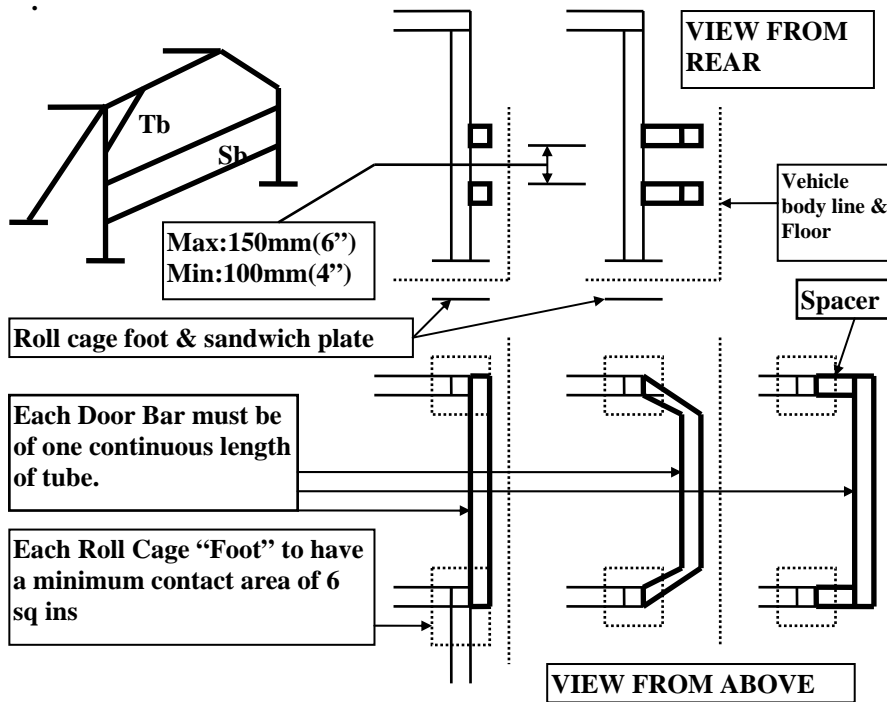
**ROLL CAGE REAR UPRIGHT:
MAXIMUM PERMITTED
DEVIATION FROM VERTICAL.
- 50mm(2") + 50mm(2")**



**UPRIGHT BAR MUST BE STRAIGHT
WHEN VIEWED FROM THE SIDE**

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FIGURE 3. SIDE BAR & TRIANGULATION BAR POSITIONS ON SALOONS.



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FIGURE 4a. ROLL BAR FOOT.

MINIMUM OF 2 BOLTS -- M10 (3/8")

N.B. "Full" Nuts only. "Half Nuts" prohibited. "Nylock nuts" permitted.

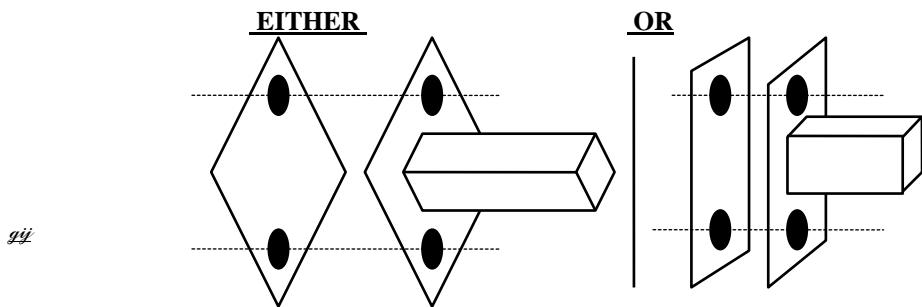


FIGURE 4b. HOLLOW CHASSIS ATTACHMENTS.

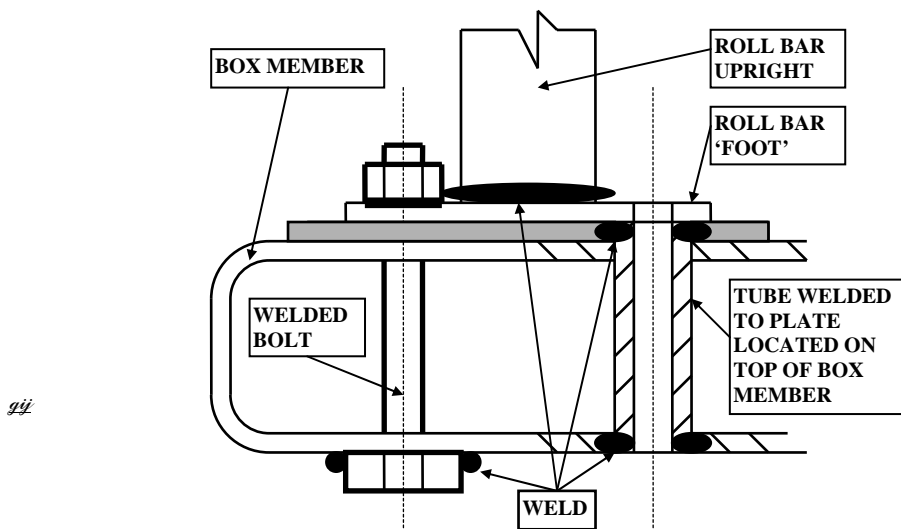


FIGURE 4c. INNER CILL FIXING.

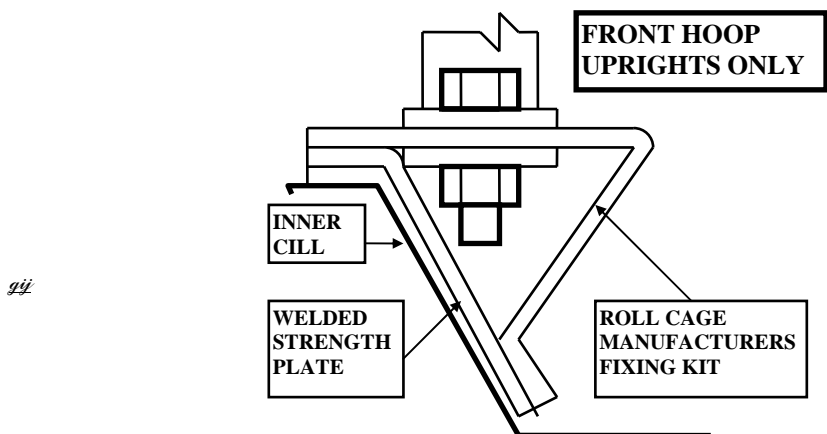
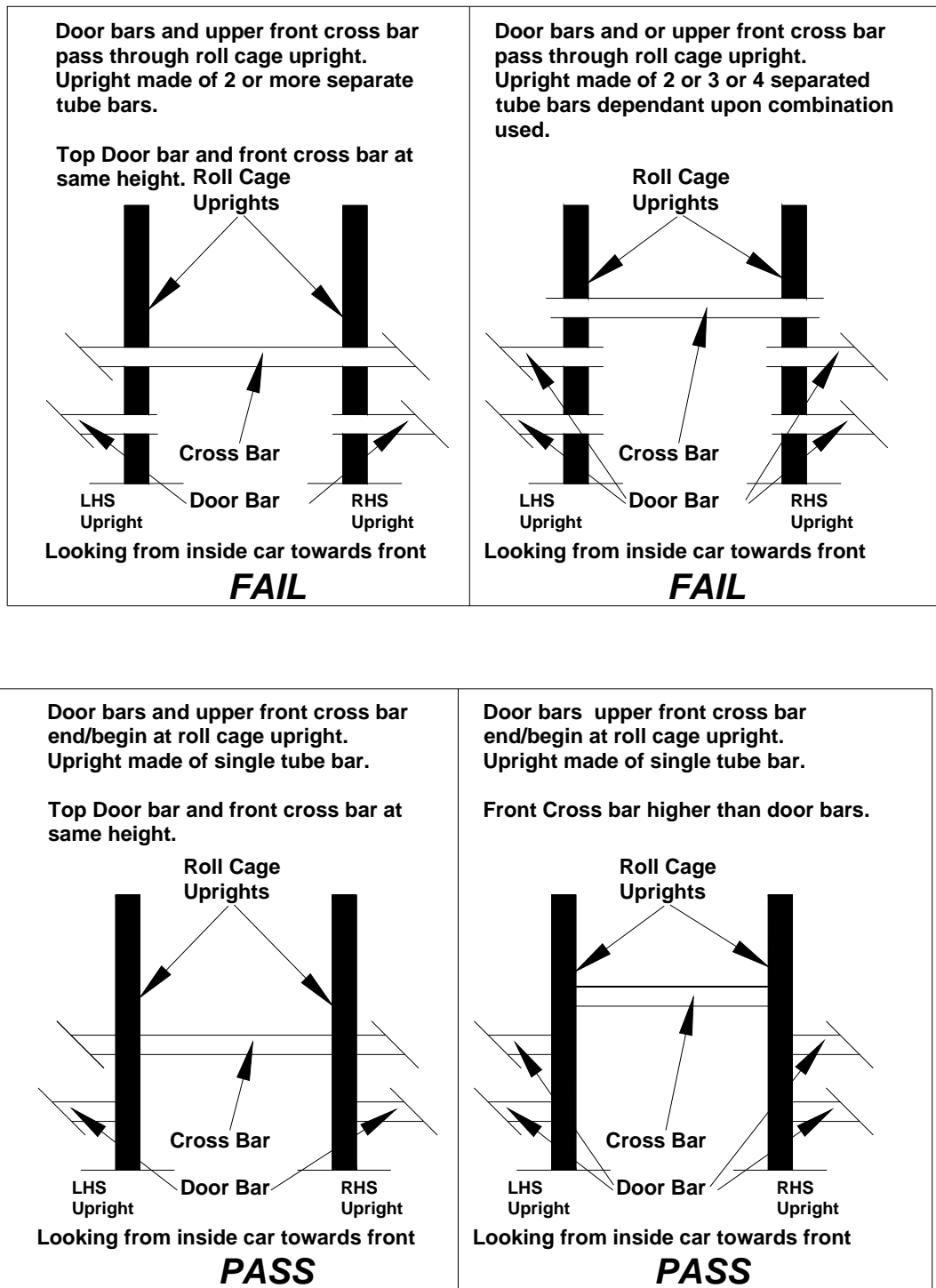


FIGURE 5. DOOR BAR & CROSS BAR / UPRIGHT RELATIONSHIP.



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FIGURE 6. SEAT BELT HARNESS TOP STRAP.

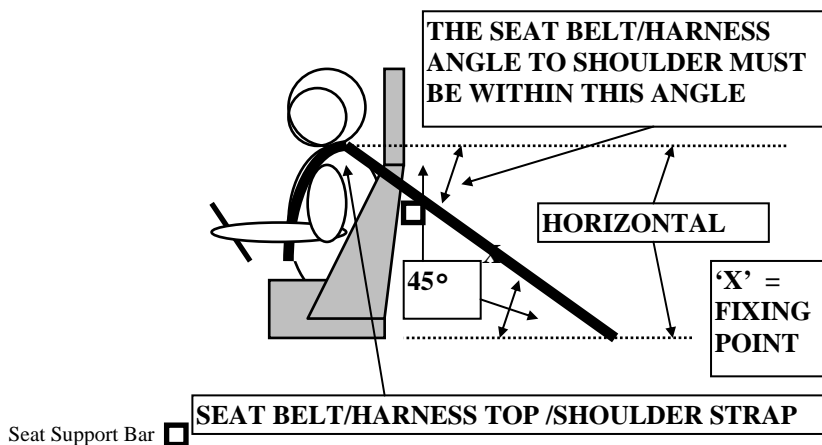
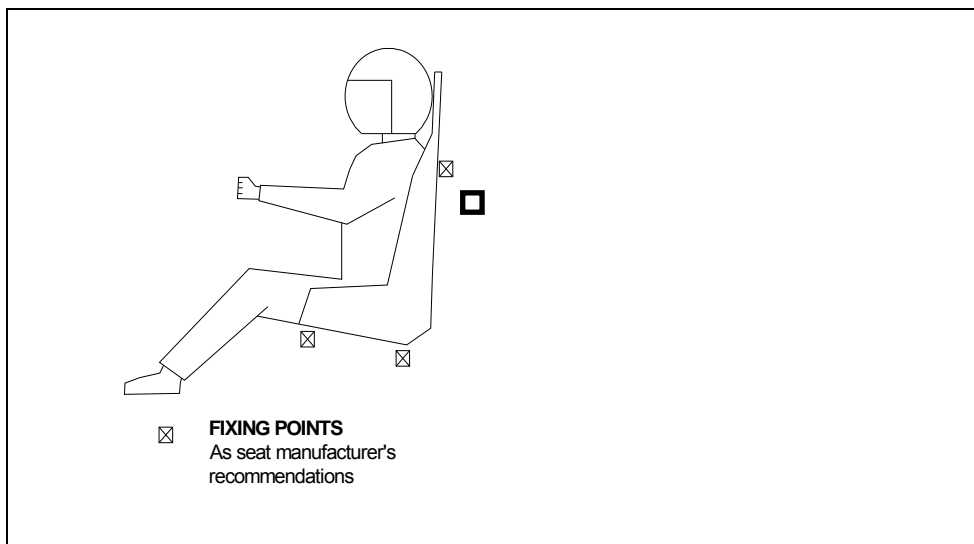
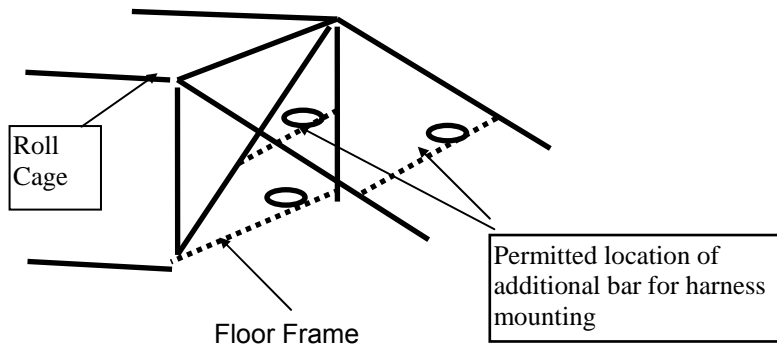


FIGURE 7a. DRIVER'S SEAT FIXING POINTS.



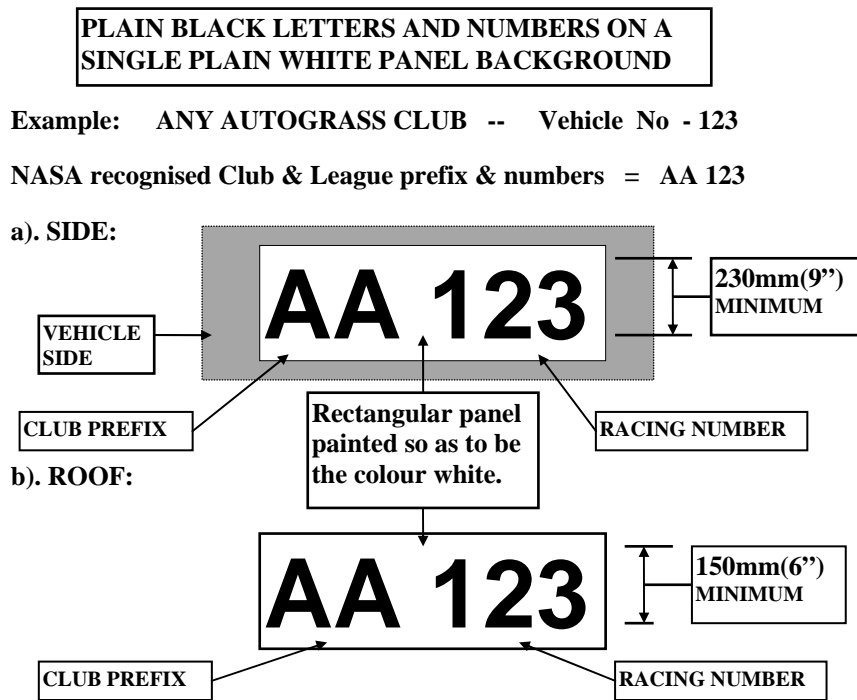
Seat & Harness Support Bar.
 Connected direct to rear roll cage upright.
 Minimum Box Section = 30 mm x 30 mm x 2.5mm Wall Thickness
 Minimum Circular Section = 25mm x 2.5mm Wall Thickness
 Seat Fixing Bolts = 8mm HT or greater.

FIGURE 7b. HARNESS STEEL EYE BOLT MOUNTING PLATE.
ROLL BAR FIXINGS



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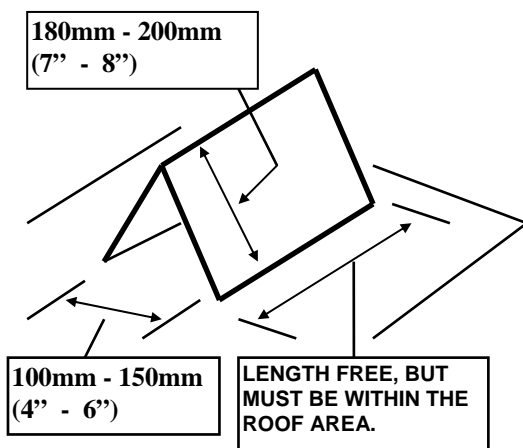
FIGURE 8. VEHICLE IDENTIFICATION.



The Identification (Club letters & Racing number) must match that stated in the competitor's NASA Licence. i.e. if AA123 = AA123 Not 123AA or A123A.
 Identification must be located forward of Rear Roll Cage upright.
 All letters & Numbers must be clear, legible and upright.
 Clearance between outside edge of letter and or number to outside edge of white panel:
 Side: = 50mm. Roof: = 5mm

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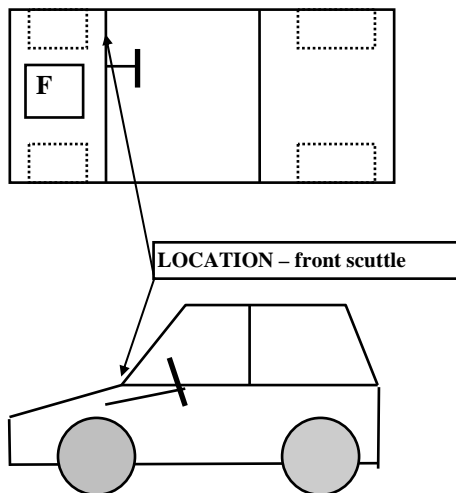
FIGURE 9. METAL ROOF NUMBER PANEL.



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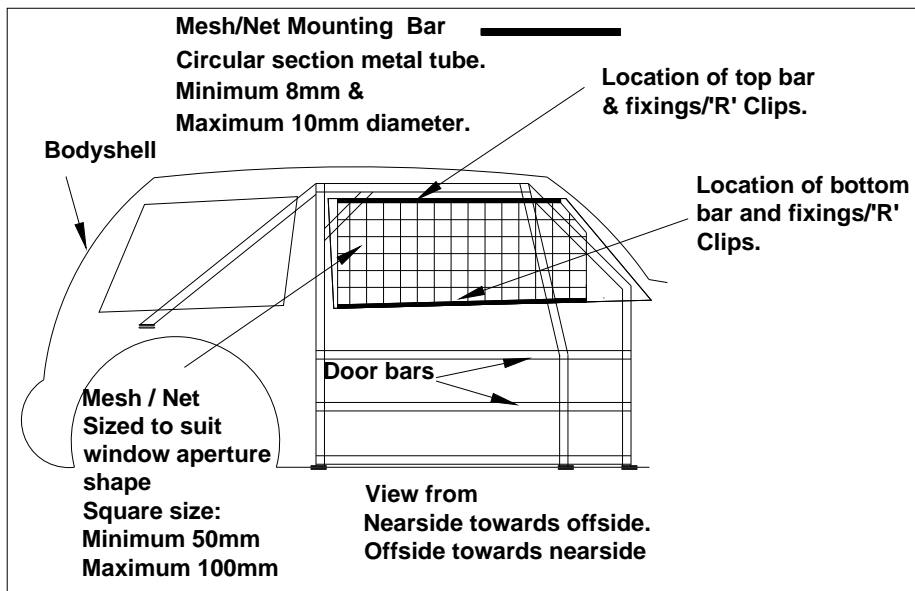
FIGURE 10. POSITION / LOCATION OF BATTERY CUT OFF SWITCH.

POSITION OF BATTERY CUT OFF SWITCH



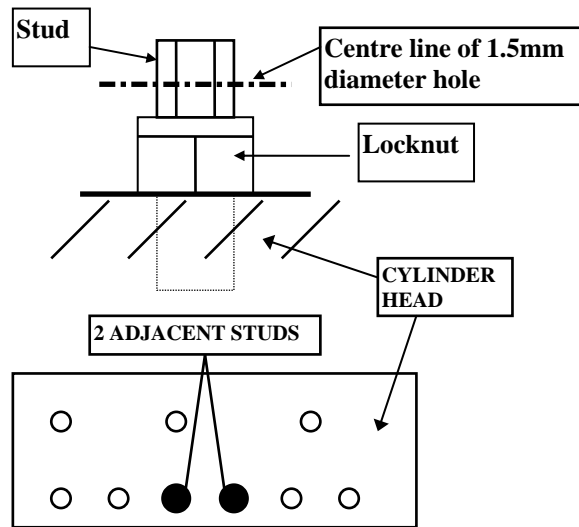
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FIGURE 11. SIDE WINDOW WEBBING/MESHED NET REQUIREMENTS.



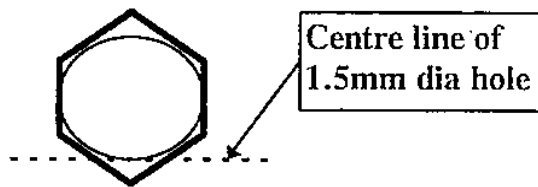
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FIGURE 12a. – ENGINE SEALING.



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FIGURE 12b. – ENGINE SEALING.



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SILENCING.

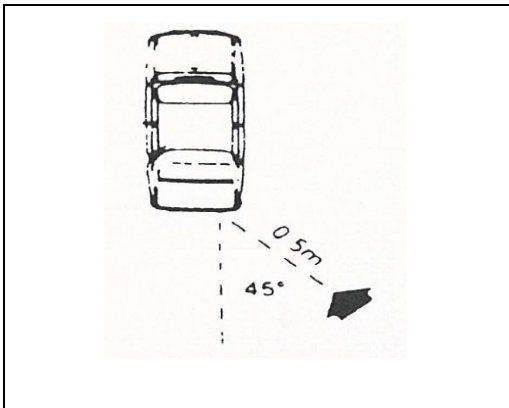
The maximum noise permissible for all vehicles is 102 Db (A).

Sound level meter readings shall be taken at 0.5 of a metre from the exhaust outlet with the microphone of the Noise Meter at 45 degrees to the exhaust axis, and with the car engine running at the appropriate r.p.m. A list of engines/r.p.m's. is available from the scrutineers – See NASA Noise Test Chart.

Noise Meter Standards (minimum requirements):

- Type 1 or 2 instrument.
- International Standard IEC 651
- British Standard BS 5969.
- Range 70-120dB(A)
- Time constants Fast/Slow.
- Maximum "Hold" recommended.

NB - Please see Members Book for more detailed information



TABLE

British Standard Wire Gauges

Gauge	Diameter	(mm)
0	0.324	8.23
1	0.300	7.62
2	0.276	7.01
3	0.252	6.41
4	0.232	5.89
5	0.212	5.38
6	0.192	4.87
7	0.176	4.47
8	0.160	4.06
9	0.144	3.65
10	0.128	3.25
11	0.116	2.95
12	0.104	2.64
14	0.080	2.03
16	0.064	1.62
18	0.048	1.22
20	0.036	0.91
22	0.028	0.71

NASA NOISE TEST CHART

CLASS	ENGINE	TEST RPM
1	4 Cyl	4500
2	4 Cyl	4500
3	4 Cyl	5000
	V4 / V6 / V8	4500
4	4 Cyl	5000
5	4 Cyl	5000
6	4 Cyl	5000
	V4 / V6 / V8	4500
7	4 Cyl	5000
	M'Bike	8000
	V4 / V6 / V8	4500
	Chevy V8	3500
	Twin M'Bike	8000
	M'Bike V8	8000
8	4 Cyl	5000
	M'Bike	8000
9	4 Cyl	5000
	V4 / V6 / V8	4500
10	4 Cyl	5000
	V4 / V6 / V8	4500
	Chevy V8	3500
	Twin M'Bike	8000
	M'Bike V8	8000

The construction rules in this book are intended for use by Autograss cars taking part in Autograss events as defined by the NATIONAL AUTOGRASS SPORT ASSOCIATION on a natural surface and are not necessarily considered safe for other forms of motor sport.

Drivers are advised that if they intend using their cars at events, other than events as defined by the NATIONAL AUTOGRASS SPORT ASSOCIATION They should ensure that their cars comply with the organiser's construction rules.

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