

Specific Regulations for Autocross and Rallycross (N)



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Autocross and Rallycross

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Autocross and Clubcross Events

Organisers' Regulations

1. Permits for Autocross and Clubcross events are issued at the sole discretion of the MSA and are subject to prior approval of the track details.

1.1. A Club will only be allowed to organise an Autocross event of up to National B status unless the MSA has specifically approved an application for higher status.

1.1.1. A Club will only be allowed to organise a Clubcross event if in possession of a Clubman grade Permit.

Track Criteria

2. The requirement for a Track Licence will be waived, subject to approval of the Track Plan for the proposed course.

2.1. The Track Plan must be submitted to the MSA for approval with the Permit application and must be on a sheet A4 scale or larger. It must include:

2.1.1. Name of the organising Club, date of event and name of venue.

2.1.2. Length of course (per lap).

2.1.3. Length of longest straight.

2.1.4. Position of the Start/Finish line and direction of travel.

2.1.5. Minimum width of course.

2.1.6. Position of paddock and spectator enclosures and their distances from the course.

2.1.7. Type of fencing surrounding enclosures (a post and rope fence is the minimum Permitted)

2.1.8. Position and type of protective barriers

2.1.9. Distance from the course to all boundary lines

2.1.10. Types of boundaries (ie hedge, fence, wire; if wire: mesh, plain or barbed)

2.1.11. Type of course markers

2.1.12. Number of Judges required to ensure that all course markers can be overseen by a Judge

2.1.13. Siting of Timekeeper, Flag Marshals, fire, emergency and first aid equipment and ambulance

2.1.14. Number of cars proposed to start consecutively (see 2.13).

Course Layout

2.2. The course should not include any straight exceeding 200m long, and all straights must be followed by a corner of at least 90°, off-setting the course from its original line by at least twice the width of the track.

2.2.1. The Start line should be not less than 100m from the first corner.

2.2.2. The Finish line should be situated so as not to allow competing cars to be driven in a straight line from the course to the paddock. Bales must protect the spectator and paddock areas where the entrance to the paddock is less than 30m from spectator enclosures.

2.2.3. The paddock and any spectator enclosures should not be less than 30m from the course where there is no barrier designed to halt a competing car travelling between these enclosures and the course. Where there is a barrier, the distance should not be less than 25m all the way round corners, and 20m alongside straights. The minimum acceptable barrier will be two rows of straw bales or equivalent, placed approximately half way between the course and the enclosures. The rows of bales must be approximately 3m apart and if each row is not continuous, any gaps must not exceed the length of a bale.

2.2.4. Any cars parked in an enclosure must be at least 10m from the front of the enclosure.

2.2.5. Any natural hazards, such as trees, ditches and fences, must not be less than 20m from the course, or, in the case of any strand or barbed wire fence, not less than 30m from the course (though where hazards on the inside of the course are protected by straw bales or the equivalent, a 10m clearance from the track is sufficient). Straw bales must not be used as course markers.

2.3. Clubcross courses must comply with 2.2.1, 2.2.2, 2.2.3, 2.2.4 and 2.2.5 and the following:

2.3.1. The maximum length must not exceed 800 metres.

2.3.2. The maximum length of any straight must not exceed 100m and all straights must be followed by a corner of at least 90°, off setting the course from its original line by at least twice the width of the course.

Organisation

2.4. The course must be defined by penalty markers placed on both sides of the track.

2.4.1. The number of penalty markers must be kept to the minimum necessary to ensure that cars keep to the course.

2.4.2. All penalty markers must be supervised by a Judge, who must be in a safe location.

2.4.3. Other markers can also be used to show the outline of the course, but the penalty markers must be at least twice the height and of a different colour to any other markers.

2.4.4. There must be an adequate supply of spare markers and sufficient Officials to ensure that any marker that is displaced is immediately reinstated.

2.5. The course must not be changed once practice has commenced, except as instructed by Stewards to improve safety.

2.5.1. Any such change should be made at an appropriate time when all Competitors will have an equal number of runs on the modified course. **2.5.2.** Competitors must be informed of any such change and given the opportunity to inspect and comment upon the modifications.

2.6. Only a visual communication system is mandatory.

2.6.1. At each corner of the course, there should be at least one Flag Marshal as well as one Fire Marshal with an extinguisher to cope with a petrol or electrical fire.

2.6.2. In the paddock, at least one 9kg dry powder or equivalent extinguisher, one fire resistant blanket and a pair of fire resistant gloves should be available.

2.6.3. A Small Spill Kit must be available in the paddock area.

2.7. Only red flags will be issued to Marshals for signalling purposes.

2.7.1. If a heat is stopped by a red flag, it must be re-run.

2.7.2. Any car which had not started, or which had retired from that heat, may not take part in the rerun.

2.8. The appropriate local hospital authorities must be notified of the date and time of an event, including practice.

2.9. MSA Timekeepers and Scrutineers, appropriate to the grade of the event, must be appointed.

2.10. It is strongly recommended that a breakdown vehicle capable of lifting at least two wheels of a competing car off the ground is in attendance.

2.11. Clubcross events must not be timed to less than one second.

2.11.1. Timing should be by handheld watches and the appointment of an MSA-licensed Timekeeper is recommended.

2.11.2. Clubcross cars must be scrutineered for basic safety, preferably by an MSA licensed Scrutineer.

Practice and Starts

2.12. All Competitors must be allowed three practice laps, except where they are required to walk the course before competitive runs begin (or are allowed to drive over it at non-competitive speeds) when only two practice laps will be allowed.

2.12.1. The Specific Regulations (SRs) must specify the starting signal, the method of timing and when timing commences.

2.12.2. Cars will be started in groups from a standing start with engines running.

2.12.3. The Finish line must be clearly indicated.

2.12.4. All Clubcross Competitors will be given the opportunity to walk the course prior to competing, but no practice runs will be allowed, with all runs counting towards the Competition.

Number of Starters

2.13. If the course is less than 10m wide, a maximum of two cars can be started consecutively. The second car is started when the first has a lead of not less than 200m (or one-third of a lap, whichever is the lesser). If the course is less than 10m wide but over 600m long, three cars can run consecutively so long as they are started not less than 200m apart.

2.13.1. If the course is less than 10m wide at any point but over 600m long, two cars can be started simultaneously and a second pair started when the slower car of the first pair is at least 300m from the Start line.

2.13.2. If the course is not less than 14m wide at any point and over 1200m long, two cars can be started simultaneously and a second pair started when the slower car of the first pair is at least 300m from the Start line. A third pair can be started when the slower car of the second pair is at least 200m from the Start line.

2.13.4. If the course is not less than 15m wide at any point and over 600m long, four cars may be started simultaneously.

2.13.5. The starting of cars consecutively at 200m intervals is subject to their being reasonable visibility. Where visibility may be impaired, cars should be started at greater intervals or singly, so that there is no possibility of overtaking.

2.13.6. In the interests of accurate time-keeping, and because of the difficulty of correctly lining up vehicles on a soft surface, vehicle-actuated starts are not permitted on non-metalled surfaces.

2.13.7. Only one car may run at a time in Clubcross events.

Team Relays

2.14. In Autocross relay events where cars of more than one team are on the course, all cars other than the first to start must be located in a safe position on the inside of the course with their Drivers aboard.

2.14.1. Any car finishing, except the last car of a team, must do so by crossing a special line adjacent to but outside the course proper. The car must then stop at a

Note: Throughout these sections an asterisk(*) indicates a requirement for additional information to be printed in the Supplementary Regulations (SRs).

Text shown in Italics indicate a Regulation which may be amended in the SRs.

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specified location and the Driver remain aboard until instructed by an Official to remove the car to the paddock.

2.14.2. As soon as the front wheels of a finishing car cross this special line, an Official will indicate with a green flag that the next team car can proceed. All Drivers joining the course must do so with due regard to other Competitors already on the course.

Medical and Rescue Requirements

2.15. The minimum course requirements are for one Doctor or MSA-registered paramedic (F.7.3) and one ambulance to be in attendance.

2.15.1. Ambulances should be equipped with basic resuscitation equipment and, if possible, a Casualty Immobiliser for handling patients over difficult terrain. This essential equipment should not have to be taken from any rescue vehicles which must remain at all times fully operational on the course. The ambulances must only be used in connection with casualties arising from the Competition.

2.15.2. The Organisers, in conjunction with the Chief Medical Officer, must ensure that during both practice sessions and Competition, adequate first-aid staff are in attendance (eg St John's or St Andrew Ambulance, Red Cross etc).

2.15.3. Clerks of the Course must have under their control either a licensed rescue vehicle or at least one emergency vehicle equipped with the following:

- Bolt cutters
- Pipe cutters capable of severing chassis tubes
- Tin snips
- Hacksaws complete with a quantity of blades
- Pad saw complete with a quantity of blades
- Spanners
- Fire resistant blanket
- Industrial gloves.

Awards

2.16. The maximum value of awards or benefits accrued to any Competitor in an event must not exceed the following:

2.16.1. Clubman and National B: £250

2.16.2. National A and International: No limit.

Off-Road Racing

2.17. Off-Road Racing, which includes Minicross and similar events, can only take place on a circuit complying with MSA regulations.

2.17.1. The maximum number of vehicles that can start a race is limited to 12.

2.17.2. Events must comply with the provision for Rallycross, particularly in relation to medical requirements.

2.17.3. Vehicle regulations must be laid down by the organising Clubs and approved by the MSA.

2.17.4. Competitors must comply with Sections H and S, and with the Regulations issued for the event.

2.17.5. Vehicles must remain in the paddock when not competing. They must not be driven in the paddock, or at any other time off the track, at a speed in excess of

5mph. They must not be driven into the spectators' enclosure at any time, without the express permission of the Clerk of the Course.

Competitor's Regulations

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3.1. *Cars must be presented for scrutineering and practice at the times specified in the SRs, with any previous Scrutineering tickets removed.

3.1.1. Classes must be specified in the SRs.

3.1.2. Any Competitor not reporting as instructed may be fined, excluded or may forfeit any claim to a favourable starting position.

3.1.3. Car being used must comply as follows:

- In Autocross with Technical Regulations 4.1 to 4.19
- In Clubcross with the whole of 4.20
- In Junior Autocross with 4.1 to 4.8 and 4.21.

Signing On

3.2. When signing on, a Competition Licence valid for the event must be produced (see Table in Section H).

3.2.1. Competitors must declare on their entry forms whether or not they have ever held a valid RTA licence.

3.2.2. Competitors aged 16 and above who have never held a valid RTA Licence must produce proof of having competed as a Driver in three Minicross or Clubcross events, or three other MSA-Permitted events (such as Kart Racing, Autotests, Production Car Trials, etc), or show proof of having completed an approved driving course at a Race or Rally School recognised by the MSA.

3.2.3. Competitors aged 14 and above can compete in Minicross (grid size to be a maximum of four cars) and Clubcross. In the case of Minicross, new Competitors will have to drive observed laps prior to practice. In the case of Clubcross they must drive observed laps prior to the Competition in order to satisfy the Clerk of the Course that they are competent to take part. Observed laps are not required if the Competitor can provide the Clerk of the Course with proof of having competed as a Driver in three other MSA-Permitted events.

3.2.4. Competitors aged 14 and above may compete in Junior Autocross, and may continue until the end of the year of their 17th birthday.

3.2.4.1. Grid size to be a maximum of four cars, and may not include any Class other than Juniors.

3.2.4.2. New Competitors will have to drive observed laps prior to the Competition in order to satisfy the Clerk of the Course that they are competent to take part, subject to the following:

- (i) Cars will start singly and run over three laps.
- (ii) No passengers are permitted in the vehicle.
- (iii) Observed laps are not required if the Competitor can provide the Clerk of the Course with proof of having competed as a Driver in three other MSA Permitted events.

Licence Upgrading Criteria

3.3. Autocross: See Table in H.

Scrutineering

3.4. No car may be driven in the event until it has been approved by an MSA Scrutineer at the meeting.

3.4.1. If after approval any car is dismantled or modified, or is involved in an accident, in a way which may affect its safety or eligibility, or any aerodynamic device is added or removed, it must be represented for approval. The Entrant is responsible for seeking fresh approval.

3.4.2. Any car involved in an incident from which it is unable to proceed must not be touched by anybody other than Officials without the specific approval of the Clerk of the Course. The Driver concerned may not drive again without the approval of the Medical Officer in Charge.

Drivers

3.5. The following items must be produced by Drivers for inspection and approval at Scrutineering and be worn throughout the Competition, properly fastened and positioned:

3.5.1. A crash helmet meeting all current regulations, which fits properly, is in a serviceable condition and bears an MSA approval sticker (see K.10.1 to 10.3.1).

3.5.2. Goggles or visor of splinter proof material (unless in a closed car with a full-size windscreen).

3.5.3. Flame-resistant overalls covering arms, legs and torso up to the neck. The use of a flame resistant balaclava, socks, shoes and underwear is strongly recommended (K.9.1 to 9.3).

3.5.4. Complete gloves (not mitts or gloves with open backs). The use of flame-resistant gloves is strongly recommended.

3.6. Any Driver who has not previously competed over the course within the preceding four weeks must complete at least one observed practice lap in the car to be raced. Only the Driver may be in a car during the Competition or practice.

3.6.1. In Autocross and Clubcross events, the same car may compete for the same award, however it must be driven by different Drivers.

3.6.2. Cars will be identified by Competition Numbers allocated by the Organisers, and displayed as specified in the Technical Regulations (J.4). The colour may be varied for different categories.

Results – Autocross

3.7. To be classified as a finisher in a Competition, a Competitor must complete at least one timed run.

3.7.1. Each Driver will be given two runs in the same car in each Class entered, the faster run to count unless the SRs specify otherwise.

3.7.2. The Competitor who completes the course fastest will be judged the winner.

3.7.3. Only an equal number of runs for all Competitors in the same Class will be counted. In the event of a tie between two or more Competitors, the results of the next fastest run recorded by the Competitors concerned will be compared, and so on.

3.7.4. If through their own error Drivers fail to record a time, they are not entitled to a re-run.

3.7.5. In other circumstances (eg baulking) a re-run may be granted by the Clerk of the Course who may order that any penalties incurred in the initial run are applied to the re-run.

3.7.6. A Competitor's time will be valid only if:

- (a) All four wheels of the car are on the course when it crosses the Finish line
- (b) The run is made in the correct period for the appropriate Class and no more than the appropriate number of timed runs has been made
- (c) The Competitor has correctly complied with any starting signal
- (d) The vehicle completes the correct course without outside assistance.

3.7.7. Where the boundaries of a course are defined by penalty markers (see 2.4), the following penalties will apply:

- (a) If a car strikes a penalty marker, five seconds is added to the car's time for each marker touched
- (b) If all four wheels of a car cross a straight line between any two markers, no time is recorded, and in addition the car must stop and not proceed until instructed to do so by an Official. Failure to stop may be deemed as driving in a manner incompatible with general safety (a breach of C.1.1.5).

Results – Clubcross

3.8. Competitors will be given the opportunity of a minimum of two runs, the aggregate time of which will count for the results.

3.8.1. If more than two runs are permitted, the worst time will be ignored and the aggregate of the remaining runs will count for the results.

3.8.2. The maximum number of runs must not exceed six.

3.8.3. All Competitors must have the opportunity to complete the same number of runs to count towards the results.

Technical Regulations

Autocross and Clubcross Vehicles

4.1. Racing Cars are prohibited.

Body

4.2. If one bumper is removed, then both must be, along with all supports.

4.2.1. Reinforcing the front apron is not permitted.

4.2.2. Any undertray must be provided with drainage holes to prevent accumulation of liquids.

Wheels

4.3. At the start of each heat or race, cars must be fitted with mudflaps behind all four wheels extending to a minimum of 3.8cm either side of the tyre tread and to a maximum of 7.6cm above the ground.

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4.3.1. All nuts securing roadwheels (except centre-lock types) must be made of steel and in thread contact over a minimum length of 1½in bolt/stud diameters.

4.3.2. Extended or composite wheel bolts/studs are prohibited.

4.3.3. The use of safety wheel nuts, to prevent wheels pulling over standard nuts, is strongly recommended.

Oil Systems

4.4. Any oil tank located outside the chassis or main structure of a vehicle must be covered with a protective coating (eg GRP).

Fuel Systems

4.5. These should be equipped with an effective method of stopping fuel supply which can be operated by the Driver when seated normally with seat belt secured.

Electrical Systems

4.6. Vehicles should be equipped with an ignition cut-off switch, having a clearly marked and positive ON-OFF position, which can be operated by the Driver when normally seated with seat belt secured. It must also isolate electric fuel pumps.

4.6.1. Any forward-facing lamps of more than 32 sq cm surface area must be adequately protected against glass breakage.

Safety

4.7. Closed cars must have a means of access on either side of the Passenger compartment which can be operated from inside or outside. Access must be sufficient to remove an occupant without interference from any door locking devices.

4.7.1. They must have an operating windscreen wiper and washer system.

4.7.2. The following parts of Section J remain unmodified: Chassis, Seating, Suspension, Steering, Cooling, Weight/Ballast, Exhausts, Protecting Bulkheads.

Miscellaneous

4.8. Cars must be fitted with at least one mirror of minimum surface area 50 sq cm securely mounted to give a clear view to the rear. The edges of the mirror must be protected by a suitable cover to help prevent injury in event of an accident.

4.8.1. Where advertising is allowed on windscreens, this must not obscure the Driver's vision nor reduce the minimum unobstructed vertical height to less than 25cm.

4.8.2. Vehicles must be presented at Scrutineering with all steering mechanisms, suspension linkages and flexible brake lines in a clean condition.

4.8.3. Four-wheel steering is permitted unless SRs state to the contrary.

Autocross Vehicles

4.9. Categories and Classes are free but must be stated in the SRs. The following Classes are

recommended and where used must comply with 4.9.1 to 4.9.4 and 4.10 to 4.19. Capacity splits must be specified in the SRs.

- A Economy – “standard” production saloon cars
- B Rally cars
- C All other cars based on production vehicles
- D Specials and all four-wheel drive vehicles.

4.9.1. Cars which have never been homologated, but which comply with R.46.2 and R.46.3, are eligible for Class B.

4.9.2. Except for Classes A and B, modifications are free within Vehicle Regulations.

4.9.3. Class A cars must comply with the following requirements:

- (a) The complete body shell, doors, boot or tailgate must be in production material, with no modification or lightening. Windscreens must comply with 4.10
- (b) No torque biasing, locked differentials or traction control devices are Permitted
- (c) Interior trim and lights may be removed but standard dashboards must be retained. Additional instruments may be fitted
- (d) All seats, apart from the Driver's, may be removed, but the specification of the Driver's seat may be changed
- (e) **Wheel sizes are free.**
- (f) Wheel spacers are not permitted
- (g) Suspension operation must be as manufacturer's specification
- (h) No four-wheel drive system is permitted
- (i) The engine block (which may be bored out) must be standard for the model of car, with standard inlet and exhaust manifold. There can be a maximum of two chokes, unless the car is fitted as standard with more than two chokes. Fuel injection is Permitted if standard on the model
- (j) A roll-over bar or roll cage may be fitted
- (k) The manufacturer's original gearbox and axle, with all internals as originally supplied for that model of car, must be retained and in their original positions
- (l) Cars need not be taxed or insured.

4.9.4. Class B. Road Rally Cars must be taxed and comply with R.18 to 18.6.4. Stage Rally Cars must comply with R.46.2, R.46.3 and R.47.1.1 Stage cars need not be taxed but for either a Road or Stage Rally Car, a current MoT, where appropriate, must be produced if applicable. Any forward-facing lights must comply with 4.6.1. Tyres must comply with 4.1.4.

Body (including Aerodynamics)

4.10. Cars must be fitted with a laminated glass or polycarbonate windscreen, or have a 2.5cm matrix wire mesh fitted over the whole of the windscreen aperture. If fitted with a glass or polycarbonate windscreen, the vehicle must have an operative wiper/washer system. Where windscreens are removed, rear windows must also be removed. For open vehicles, approved goggles/visors must be worn at all times.

4.10.1. If fitted with non-standard or lightened doors, cars must have an internal horizontal safety bar across each door aperture below the line of the window and at a suitable height to protect the Driver. This must not be integral with the door.

4.10.2. Any cover over the Passenger's compartment alongside the Driver must be made of foldable material, except where the Driver/Passenger compartment is separated by a stress-bearing solid chassis member as part of the original design.

4.10.3. With the exception of cars in Class D, any vehicle's silhouette viewed in side elevation must remain unaltered above the wheel hub centres of the original car, except for the engine bonnet/cover the shape of which can be altered.

4.10.4. In Class C the following are permitted to reduce weight:

- (a) One-piece lightweight bonnet wing assemblies, providing adequate bracing is provided to replace lost strength
- (b) Lightweight engine bonnet covers, boot lids and doors
- (c) All non-stress-bearing internal components may be removed.

4.10.5. Cars more extensively lightened than indicated above must be fitted with full roll-over bars to requirements K.1.6.1 to 1.6.2.

Engine

4.11. See J.5.4.

Brakes

4.12. Brakes must comply with Statutory Requirements as to the Construction of Motor Vehicles.

4.12.1. If there is no mechanical system available for braking on at least two wheels, two hydraulic systems are required so that in event of failure of one, braking can be maintained on at least two wheels.

4.12.2. Vehicles constructed after 1930 must have brakes on all wheels.

4.12.3. When tested immediately prior to an event, the braking system on all vehicles must work without impairing the Driver's control.

4.12.4. It must be possible under all conditions, running or stationary, for 25% minimum braking effort to be applied by the Driver through the braking system to each axle.

4.12.5. Brake balance adjusters must not be available for adjustment during running if they contravene (iii).

Wheels

4.13. Any spare wheel must be securely fastened in position (a spare need not be carried unless specified in SRs).

Tyres

4.14. Only tyres for use on the public highway by cars or light commercial vehicles are permitted. Slicks or any tyres that have been wholly or partly hand-cut are not allowed unless the SRs state otherwise.

Transmission

4.15. If fitted with front wheel drive, vehicles must have

an effective differential action between the driving wheels. Reverse gear is optional in Autocross Specials (Class D).

Oil Systems

4.16. In rear-engined vehicle, no part of the oil tank may be located to the rear of the gearbox casing.

Electrical Systems

4.17. It is permitted to remove all lamps. The fitting of generators is optional.

Silencing

4.18. Vehicles must comply with silencing levels in J.5.17.

Safety

4.19. Safety Criteria, K.2.1.1 point and K.3.1.2 (not necessarily plumbed in) are mandatory. K.1.6.1 to 1.6.2, K.2.1.2 and K.8 are strongly recommended.

Clubcross Vehicles

4.20. Only the following categories of vehicle are allowed to compete in Clubcross events. They must comply with the following:

4.20.1. Category 'A' Economy "Standard" Production Saloons. Cars must comply with 4.9.3 and the following: Maximum engine capacity: 2000cc, forced Induction is prohibited, four Wheel Drive is prohibited, tyres must comply with 4.20.5.

4.20.2. Category 'B' Road Saloon Cars. Maximum engine capacity: 2000cc, forced Induction is prohibited, four Wheel Drive is prohibited, tyres must comply with 4.20.5.

4.20.3. Category 'C' Minicross Cars. Cars must comply with Minicross Regulations, tyres must comply with 4.20.5.

4.20.4. Category 'D' Stock Hatch Cars. Cars must comply with Stock Rallycross Hatch Rallycross Regulations Maximum engine capacity 1600cc, Tyres must comply with 4.20.5.

4.20.5. Only highway pattern tyres are permitted (ie not off-road, on/off-road or winter pattern).

Junior Autocross Vehicle

4.21. The only category of vehicle permitted in Junior Autocross events are those complying with the following:

4.21.1. The engine must be naturally aspirated and must not have a capacity exceeding 1400cc.

4.21.2. Be production vehicles, front or rear wheel drive with standard unmodified engine in original position.

4.21.3. Must run induction systems, inlet manifolds and exhaust systems which are standard to the vehicle.

4.21.4. Performance air filters and exhaust back boxes are permitted, but turbochargers or superchargers are not.

4.21.5. The dashboard is to remain as standard and in the original position, additional instruments may be fitted. All other interior trim may be removed. The

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drivers seat must be a Competition Seat compatible with the requirements of 4.21.11.

4.21.6. Wheels are free.

4.21.7. Suspension is free but must use standard pick up points and locations.

4.21.8. Standard gearbox and differential applicable to the vehicle must be used.

4.21.9. Modification or relocation of the petrol tank is free.

4.21.10. The silhouette of the vehicle must not be altered.

4.21.11. Seat belts fitted in accordance with K.2.1.2. Four point (FIA homologated and with four separate fixing points) as a minimum are mandatory.

4.21.12. Must have no body kits, space framing or alterations, fibreglass or alloy panels to make the car lighter.

4.21.13. The windscreen may be of either laminated glass or plastic of the required thickness. No apertures will be permitted in windscreens. If fitted with a glass or plastic windscreen (J5.20.8.), the vehicle must have an operative wiper/washer system. It is permitted to replace all other windows with plastic of the required thickness.

4.21.14. K.1.6.1, K Appendix 2, drawing number 5 or 6 mandatory.

non-starters. At the exit of the Joker Lap, the cars on the main track have priority.

5.1.5. Joker lap

Characteristics:

Length: must be such that the time needed to cover a lap is at least 2 seconds longer than the best lap time achieved by a Super Car.

Width: minimum 10 m, maximum 12 m.

The entry and the exit cannot be on the racing line.

Safety protection, to separate the two roads, must be in place. At the exit it must be possible for the cars to be driving at the same speed as on the traditional circuit.

A marshal post will be put in place if judged necessary for safety reasons.

Practice and Starts

5.2. All Competitors must be allowed three practice laps.

5.2.1. The SRs must specify: the starting signal; the timing method; when timing commences; and the method of allocating starting positions.

5.2.2. Cars will be started from a standing start, with the engines running, and the Finish line must be clearly indicated.

Flag Signals

5.3. Flag signals in accordance with Q.15.1(a), (e), (f), (g), (h), (j), (l), (m) and (n) may be used as appropriate, with the same meanings and restrictions as in Racing.

5.3.1. A Yellow flag gives warning of an incident and prohibits overtaking until the incident is passed.

5.3.2. Any race can be stopped at the sole discretion of the Clerk of the Course by waving the Red flag at the Start/Finish line. Competitors will be warned that the race has been stopped by the simultaneous waving of the Red flag at all Flag Marshalling Posts.

5.3.2.1. Re-runs will only be permitted at the discretion of the Clerk of the Course and:

- (a) When a red flag has been shown during a Heat or Final and/or
- (b) when the end-of-race signal is displayed inadvertently or otherwise before the leading car completes the scheduled number of laps.

5.3.2.2. Only the participants in the first start are entitled to participate in the re-run and must occupy the same place as for the previous start. In this case, any possible warnings or penalties will however, apply for the re-run.

5.3.2.3. Where a driver in a Heat or Final causes a re-run, the driver concerned may be excluded from the results.

5.3.2.4. All other incidents will be treated as "force majeure".

5.3.2.5. If a Heat or Final is stopped by a Red flag and subsequently restarted, any driver who started in the original Heat or Final, but who is not able to start in the re-run, will be classified in front of any drivers who did not start at all.

Rallycross Events

Organisers' Regulations

Permits for Rallycross

5.1. Permits for Rallycross events are issued at the sole discretion of the MSA. Venues must have a valid Track Licence for Rallycross.

5.1.1. A Club will only be allowed to organise events of up to National B status, unless the MSA has specifically approved an application for higher status.

5.1.2. New circuits will have to comply with the FIA Criteria for Rallycross Circuits.

5.1.3. The Clerk of the Course for a Rallycross event must hold a valid MSA Licence.

5.1.4. For National 'B' and above status Permitted Events only, for venues authorised by the issued Track licence to include Joker Laps, the Joker Lap may be used. Two Judges of Fact to be appointed to oversee its use.

5.1.4.1. In each qualifying heat, one of the laps must be the Joker Lap. Those drivers who do not take this Joker Lap will receive a time penalty of 30 seconds. The penalty for drivers who take it more than once will be decided by the Clerk of the Course. At the exit of the Joker lap, the cars on the main track have priority.

5.1.4.2. In each Final, one of the laps must be the Joker Lap. Those drivers who do not take this Joker Lap, or who take it more than once, will be classified last in that Final before the non-starters. If this concerns more than one driver, they will be classified in the order of their respective positions on the starting grid before the

5.3.2.6. If not restarted the result will be based on the order of crossing the finish line at one lap less than at the time of the first showing of the Red Flag.

5.3.2.7. No work may be carried out on the grid unless on grounds of safety and only with the approval of the scrutineer.

5.3.2.7.1. The Clerk of the Course may order that the duration of the second part or re-run of any race shall be of a shorter distance than originally scheduled, or may be abandoned altogether.

5.3.2.8. If during any race no car crosses the start/finish line under its own power during a period of five minutes the end of race signal shall be displayed and the results announced on the relative positions of cars at the time they last crossed the finish line under their own power.

Medical and Rescue Requirements

5.4. The minimum course requirements (including at practice) are as follows:

5.4.1. Rallycross: one Doctor or MSA-registered Paramedic (F.7.3.1), one ambulance and one licensed Rescue Unit crewed in accordance with F.2.5.

5.4.2. Minicross: one Doctor or MSA-licensed paramedic, one ambulance and either one licensed Rescue Unit with licensed crew, or one emergency vehicle equipped as in 30.

5.4.3. Where Minicross is organised within a Rallycross meeting, the medical and rescue requirements stipulated for Rallycross also apply to the Minicross event within that meeting.

5.4.4. Ambulances should be equipped with basic resuscitation equipment and, if possible, a Casualty Immobiliser for handling patients over difficult terrain. This essential equipment should not have to be taken from any rescue vehicles which must remain at all times fully operational on the course. The ambulances must only be used in connection with casualties arising from the Competition.

5.4.5. The Organisers, in conjunction with the Chief Medical Officer, must ensure that during both practice sessions and Competition adequate first aid staff are in attendance (eg St John or St Andrew Ambulance, Red Cross etc).

Competitor's Regulations

Signing On

5.5. When signing on, a Competition Licence valid for the event must be produced (see Table in Section H).

5.5.1. Competitors must declare on their entry forms whether or not they have ever held a valid RTA licence.

5.5.2. Competitors aged 16 and above who have never held a valid RTA Licence must produce proof of having competed as a Driver in three Minicross or Clubcross events, or three other MSA-Permitted events (such as Kart Racing, Autotests, Production Car Trials, etc), or show proof of having completed an approved driving course at a Race or Rally School recognised by the MSA.

5.5.3. Competitors aged 14 to 17 may compete in Junior Rallycross, and may continue until 31st December of the year of their 17th birthday:

5.5.3.1. For Junior Rallycross maximum grid size to be as per Track Licence.

5.5.3.2. New competitors will have to drive observed laps prior to the competition in order to satisfy the Clerk of the Course that they are competent to take part. Cars will start singly and run over three laps. Observed laps are not required if the Competitor can provide the Clerk of the Course with proof of having competed as a Driver in three other MSA-Permitted events or having successfully completed an approved driving course at a Race or Rally School recognised by the MSA.

Licence Upgrading Criteria

5.6. Rallycross: See H.17.2.1.

Scrutineering

5.7. No car may be driven in the event until it has been approved by an MSA Scrutineer at the meeting.

5.7.1. *Cars must be presented for scrutineering and practice at the times specified in the SRs, with any previous Scrutineering tickets removed. Classes must be specified in the SRs. Any Competitor not reporting as instructed may be fined, excluded or may forfeit any claim to a favourable starting position.

5.7.2. Cars being used must comply with Technical Regulations 6.1 and 6.14.3.

5.7.3. If after approval any car is dismantled or modified, or is involved in an accident, in a way which may affect its safety or eligibility, or any aerodynamic device is added or removed, it must be represented for approval. The Entrant is responsible for seeking fresh approval.

5.7.4. Any car involved in an incident from which it is unable to proceed must not be touched by anybody other than Officials without the specific approval of the Clerk of the Course. The Driver concerned may not drive again without the approval of the Medical Officer in Charge.

Drivers

5.8. Any Driver who has not previously competed over the course within the preceding four weeks must complete at least one observed practice lap in the car to be raced. Only the Driver may be in a car during the Competition or practice.

5.8.1. Rallycross Drivers must conform to the Medical Requirements specified in H.10.

5.8.2. Cars will be identified by Competition Numbers allocated by the Organisers, and displayed as specified in the Technical Regulations J.4. The colour may be varied for different categories.

5.9. The following items must be produced by Drivers for inspection and approval at Scrutineering and be worn throughout the Competition, properly fastened and positioned:

5.9.1. A crash helmet meeting all current regulations, which fits properly, is in a serviceable condition and bears an MSA approval sticker (see K.10.1 to 10.3.1).

5.9.2. Goggles or visor of splinter proof material (unless in a closed car with a full-size windscreen).

5.9.3. Flame-resistant overalls covering arms, legs and torso up to the neck. The use of a flame resistant balaclava, socks, shoes and underwear is strongly recommended (K.9.1 to 9.3).

(N) Autocross and Rallycross

5.9.4. Complete gloves (not mitts or gloves with open backs). The use of flame-resistant gloves is strongly recommended.

Results

5.10. *The SRs will specify the method by which a winner is decided.

5.11. Judges may be appointed to adjudicate on:

5.11.1. False starts.

5.11.2. Not following correct course, or touching a marker.

5.11.3. Baulking or contact.

5.11.4. Noise.

Technical Regulations

Rallycross Vehicles

6.1. Racing Cars are prohibited.

6.1.1. Vehicles will be classified as detailed in the SRs. They must be of rigid construction and comply with the regulations below. They must have been homologated in Group N, A or B of FIA Appendix J or in groups 1, 2, 3 or 4 of 1981 FIA Appendix J (although homologation may have lapsed).

6.1.2. Cars complying with current FIA Appendix J Article 279 regulations, in their entirety, are also permitted, even where homologation may have lapsed.

6.1.3. *Mass-produced non-homologated vehicles may be accepted for events up to National A level.

6.1.4. Rallycross vehicles in compliance with 8 and issued the Rallycross Space Frame Vehicle Identity Form (RXVIF). The vehicle may not be used in competition until the Vehicle Identity Form has been validated by the MSA and returned to the vehicle owner.

Body (including Aerodynamics)

6.2. The vehicle must have a bulkhead separating the cockpit from the engine compartment. It must retain its original material and location compared to the standard car. Installing components up against or passing through this bulkhead is permitted, providing nothing protrudes into the cockpit more than 20cm (as measured perpendicularly to the bulkhead). This will be measured at the point of intrusion, and parallel to the ground. If the protrusion includes the engine, the cam/valve cover may not extend further back than the forward most point of the windscreen aperture when viewed directly from above. For Scrutineering purposes, a 13mm diameter hole must be drilled at the forward most point of the screen aperture.

6.2.1. Bumpers and supports, if fitted, must both be as originally fitted to the mass-produced vehicle. No reinforcing of bumpers or supports is permitted. If one bumper is removed, then both must be, along with all supports.

6.2.2. Reinforcing the front apron is not permitted.

6.2.3. Any undertray must be provided with drainage holes to prevent accumulation of liquids.

6.2.4. The windscreen must be of either laminated glass or polycarbonate of the required thickness. No apertures will be permitted in windscreens. If fitted with a glass or polycarbonate windscreen, the vehicle must have an operative wiper/washer system. All Drivers must wear approved goggles or visors, unless the car is fitted with a polycarbonate windscreen. A wire mesh stone guard adequately fitted to the bodywork and with a minimum matrix of 1in is permitted with any type of windscreen.

6.2.5. When viewed from above, wheels must be covered by rigid material at all times. The outside shape of the original coachwork must be retained, except around the wings.

6.2.6. Openings may be made in the bonnet or boot lid for ventilation, providing they do not make mechanical components visible.

6.2.7. The Bodywork must be of the vehicle manufacturers specifications and minimum thickness with the exception of airboxes, radiators rear wings/rear quarter panels and removable parts and panels, which may be of alternative materials. Seam welding, and localised gussets/reinforcement is permitted.

Engine

6.3. The engine may be modified, but the block must be from a mass-produced engine and must have the same number of cylinders as the original mass produced engine for that car.

6.3.1. Specialist Competition Engines, as defined in Nomenclature and Definitions, are also permitted.

6.3.2. The engine must be located within the original engine compartment.

6.3.3. Twin engine configurations are not permitted unless mass produced in that form.

Oil Systems

6.4. Oil systems must have catch tanks fitted.

6.4.1. Any oil tank located outside the chassis or main structure of a vehicle must be covered with a protective coating (eg GRP).

Fuel Systems

6.5. These should be equipped with an effective method of stopping fuel supply which can be operated by the Driver when seated normally with seat belt secured.

Transmission

6.6. Transmissions can be modified.

6.6.1. The clutch and its control are free, but automatic operation of the clutch is prohibited, unless fitted by the manufacturer to that body style. The clutch must be operated by the Driver's feet, unless an alternative method of operation is fitted by the manufacturer to that body style.

6.6.2. The gear selection mechanism must be mechanically operated. Electronic, hydraulic or

pneumatic mechanisms are prohibited, unless fitted by the manufacturer to that body style.

6.6.3. The final drive assembly, differentials, propshafts and driveshafts are free. Electronically-controlled systems are prohibited.

6.6.4. *The SRs may require four-wheel drive vehicles to be subject to some form of handicap (not necessarily a delayed start).

Electrical Systems

6.7. Vehicles should be equipped with an ignition cut-off switch, having a clearly marked and positive ON-OFF position, which can be operated by the Driver when normally seated with seat belt secured. It must also isolate electric fuel pumps.

6.7.1. Any forward-facing lamps of more than 32 sq cm surface area must be adequately protected against glass breakage.

6.7.2. All lights may be removed, but all cars must be equipped with two rear red warning lights to be used in fog, with a minimum of 15W each and an illuminated area of 60 sq cm. These must work with or replace the car brake light system at all times, must be between 115cm and 150cm above the ground and must be clearly visible from behind.

6.7.3. Generators are optional but a self-starter system must be operable at all times.

Brakes

6.8. Brakes may be modified, but an effective handbrake is obligatory. The handbrake may be modified for fly-off operation.

6.8.1. There must be at least two hydraulic systems so that if one fails, braking is maintained on at least two wheels (not on the same side).

6.8.2. The braking system on all vehicles must work without impairing the Driver's control when tested immediately prior to an event. It must be possible under all conditions, running or stationary, for 25% minimum braking effort to be applied by the Driver through the braking system to each axle.

6.8.3. Brake balance adjusters must not be capable of adjustment during running if they contravene 6.8.2.

6.8.4. Anti-lock devices are prohibited but brake discs are free, subject to being made of ferrous material.

Wheels

6.9. At the start of each heat or race, cars must be fitted with mudflaps behind all four wheels extending to a minimum of 3.8cm either side of the tyre tread and to a maximum of 7.6cm above the ground.

6.9.1. All nuts securing roadwheels (except centre-lock types) must be made of steel and in thread contact over a minimum length of 1½in bolt/stud diameters.

6.9.2. Extended or composite wheel bolts/studs are prohibited. The use of safety wheel nuts, to prevent wheels pulling over standard nuts, is strongly recommended.

6.9.3. Maximum wheel width on all cars is 25cm (wheel width = flange + rim + tyre).

Silencing

6.10. Vehicles must comply with silencing levels in J.5.17.

Safety

6.11. Closed cars must have a means of access on either side of the Passenger compartment which can be operated from inside or outside. Access must be sufficient to remove an occupant without interference from any door locking devices. They must have an operating windscreen wiper and washer system.

6.12. Vehicles must comply with safety criteria in:

6.12.1. K.1.6.1, K Appendix 2, drawings number 5,6 or 8, with the longitudinal strut(s) as shown in drawing 9) mandatory. With the exception of Lotus Elise/Exige derivatives and Vauxhall VX220 vehicles, longitudinal door bars must be fitted to the driver's side of the roll cage in accordance with Section K Appendix 2 Drawing number 12(g), 12(h) or 12(j).

6.12.2. K.2.1.2 (FIA homologated and with four separate fixing points).

6.12.3. K.3.1.2 (not necessarily plumbed in).

6.12.4. K.5.1 to 5.2.

6.12.5. K.8.

6.12.6. K.13.

Miscellaneous

6.13. The following parts of Section J remain unmodified: Chassis, Suspension, Steering, Cooling, Weight/Ballast, Exhausts.

6.13.1. Active suspension, and any system which allows control of the spring flexibility, shock absorption or trim height when the car is moving, is prohibited unless fitted by the manufacturer to that body style.

6.13.2. MSA or FIA Competition Car Log Books are required at all Rallycross events.

6.13.3. Cars must be fitted with at least one mirror of minimum surface area 50sq cm securely mounted to give a clear view to the rear. The edges of the mirror must be protected by a suitable cover to help prevent injury in event of an accident.

6.13.4. Where advertising is allowed on windscreens, this must not obscure the Driver's vision nor reduce the minimum unobstructed vertical height to less than 25cm.

6.13.5. Vehicles must be presented at Scrutineering with all steering mechanisms, suspension linkages and flexible brake lines in a clean condition. Four-wheel steering is permitted unless SRs state to the contrary.

6.13.6. Seats. Be fitted with a driver's seat in accordance with Section J. It is recommended that the seat be currently FIA Homologated, mounted in accordance with K.2.2.

6.14. Vehicles must have:

6.14.1. Internal bonnet locks removed and external positive locking fasteners fitted.

6.14.2. Steering column locks rendered inoperative.

6.14.3. Towing eyes of adequate strength and size fitted front and rear. These should be painted a contrasting bright colour.

(N) Autocross and Rallycross

Junior Rallycross Vehicle

7.1. The only category of vehicle permitted in Junior Rallycross events, other than vehicles complying with the MDA Junior Minicross Regulations (as approved by the MSA), are those complying with the following:

7.1.1. Be a Series Production Car, front or rear wheel drive complying with the provisions of Sections J, K and 6.1 to 6.14.

7.1.2. Be specifically authorised by the MSA by issue of a Junior Rallycross Competition Car Log Book. The vehicle may not be used in competition until the Junior Rallycross Competition Car Log Book has been validated by the MSA and returned to the vehicle owner.

7.1.3. The engine must be naturally aspirated and must not have a capacity exceeding 1400cc.

7.1.4. The cylinder head and block must remain as originally supplied by the Manufacturer as a Standard Part for that model.

7.1.5. Where the car is fitted as standard with an ECU then that ECU must remain fitted and as specified by the Championship Regulations.

7.1.6. The engine cooling system must remain standard to the vehicle.

7.1.7. Induction systems, inlet manifolds and exhaust systems must remain standard to the vehicle. Performance air filters and exhaust back boxes are permitted (J.5.18. applies).

7.1.8. At any time the MSA may impose further restrictions to limit engine performance.

7.1.9. The silhouette of the vehicle must not be altered.

7.1.10. The bodyshell must be of the vehicle manufacturers specifications and minimum thickness with the exception of rear wings/rear quarter panels and removable parts and panels, which may be of alternative materials. Seam welding, and localised gussets/reinforcement is permitted.

7.1.11. The dashboard is to remain as standard, in the original position and the standard instruments retained and operable.

7.1.12. All other interior trim must be removed including carpets, roof lining and passenger seats. Interior door panels may be replaced with an alternate non-flammable material.

7.1.13. All window glass to be replaced with polycarbonate, J.5.20.8. applies.

7.1.14. Glass sunroofs are not permitted. Sunroofs may be of a non-shattering solid rigid material other than glass. Any sunroof must be firmly secured in the closed position. The sunroof aperture may be closed by solid metallic material permanently fitted in place.

7.1.15. An interior rear view mirror must be fitted to the vehicle.

7.1.16. All vehicles must have substantial underbody protection covering any area of both the fuel tank and engine sump exposed to running damage.

7.1.17. The handbrake system is to remain as standard.

7.1.18. Mud flaps are to be fitted behind all 4 wheels, in accordance with R.48.1.12.

7.1.19. Wheels must be of the standard production size and material applicable to the vehicle.

7.1.20. The steering column is to remain as standard (6.14.2. applies). The steering wheel and mounting hub are free.

7.1.21. Standard production gearbox and differential applicable to the vehicle must be used.

7.1.22. The original method of suspension operation must be retained and utilise the mounting points as provided by the manufacturer. Shock absorbers and coil springs may be updated and adjustable.

Safety

7.1.23. In addition to the requirements of Section K and 6.11 to 6.12:

7.1.23.1. Double longitudinal door bars must be fitted to the drivers side of the roll cage in accordance with Section K Appendix 2 Drawing No 12(g) or 12(h).

7.1.23.2. Fire Extinguisher in accordance with K3.1.2(a).

7.1.23.3. Be fitted with a driver's seat that is currently FIA Homologated, mounted in accordance with K.2.2.

Rallycross Spaceframe Technical Requirements

All vehicles must comply with Section J, Rallycross Vehicles 6.1-6.14.3 unless where specified below:

8.1. General Technical Requirements and Exceptions

8.1.1. The use of magnesium or titanium alloy is not permitted, with the exception of titanium sheets which may only be used for heat shields.

8.1.2. All Spaceframe cars must have an identification number stamped into a plate measuring 80mm x 20mm which must be welded to the centre of the underside of the main 'B' hoop.

8.2. Safety Requirements

As a minimum:

8.2.1. ROPS door bars to K Appendix 2 Drawing 12a, g or h are mandatory, on driver and passenger side.

8.2.2. Where the door bar elements of the ROPS cross, a reinforcement for the bend or junction must be fitted in all four angles. This reinforcement must be made from bent sheet metal with a U shape the thickness of which must not be less than 1.0 mm. The ends of this gusset (point E) must be situated at a distance from the top of the angle (point S) of between 2 to 4 times the outer diameter of the biggest of the tubes joined. Appendix 1, Drawing 8.6. A cut-out is permitted at the top of the angle but its radius (R) must be no greater than 1.5 times the outer diameter of the biggest of the tubes joined. The flat sides of the gusset may have a hole, the diameter of which must not be greater than the outer diameter of the biggest of the tubes joined.

8.2.3. A currently FIA homologated competition seat with appropriate mountings is mandatory in accordance with K.2.2.

8.2.4. All vehicles must be fitted with an extinguisher system plumbed-in for discharge into both the engine compartment and the cockpit (K.3.1.2(a)).

8.3. Chassis and Bodywork

The vehicle must have the Silhouette of a Series Production Car of a closed type.

8.3.1. The wheelbase will be as per the Series Production Car specification with a tolerance of $\pm 0.5\%$. The vehicle width of the Series Production Car must be retained with a maximum permitted increase of 100mm.

8.3.2. The minimum elements of the spaceframe are shown in Appendix 1 Drawings.

8.3.3. Drivers door must be of steel construction.

8.3.4. No element of the ROPS may pass through the space normally used for the front passenger; to allow driver extraction from either side of the car.

8.3.5. The floor frame is an integral part of the structure and the 'A' and 'B' main hoops must attach to it. The floor frame must be constructed from either minimum 50mm x 2mm square box section or minimum 50mm x 2mm diameter tube material in accordance with K1.4.1. The floor must be made of either minimum 10mm composite, 1mm steel or 2mm aluminium alloy to be fixed to the top of the floor frame as defined in Drawing No. 8.2.

8.3.5.1. The forward most part of the spaceframe must be at least 100mm behind the forward most part of the front bumper (Drawing No. 8.5).

8.3.5.2. The rear most part of the spaceframe must be at least 100mm forward the rear most part of the rear bumper (Drawing No. 8.5).

8.3.6. The roof must be of either minimum 10mm composite, 1mm steel or 2mm alloy to be fixed to the top of the upper surface to protect the driver as defined in Appendix 1, Drawing 8.3. Main cage.

8.3.7. The bulkheads (J5.2.1) must extend across the full width of the spaceframe.

8.3.7.1. Bulkheads must be made of minimum 1mm steel and be welded to the spaceframe.

8.3.7.2. For front bulkheads 6.2 applies.

8.3.7.3. No part of the rear bulkhead must be further forward than the rearmost part of the driver's seat.

8.3.7.4. Cars with a front engine location must be constructed so that the rearmost part of the engine is at least 25mm in front of the front bulkhead.

8.3.7.5. In rear-engine cars the bulkhead must extend vertically to at least the same height as the highest part of the engine. From this point a polycarbonate window, minimum thickness 5mm may complete it, extending to the full height of the interior space as well as a horizontal cover extending to the rearmost part of the interior space (J5.2.2).

8.3.7.6. In either case the full bulkhead must completely isolate the driver from the engine compartment.

8.3.7.7. A similar bulkhead must isolate the engine and exhaust system from the fuel tank (J5.2.1).

8.3.7.8. No part of the engine may protrude through either the front or rear bulkheads (J5.2.2).

8.3.8. Power Transmission System/Flywheel Protection

8.3.8.1. The transmission tunnel frame will be fabricated from steel tubing with minimum dimensions of 25mm x 2mm (Drawing No. 8.4).

8.3.8.2. This frame to be reinforced (on the drivers' side and top of tunnel), at the rear of the gearbox and at the clutch/flywheel area, for a minimum distance of 200mm (centre lines based on the front propshaft flange and 25mm rearward from the gearbox to engine mounting face) using minimum 2.6mm steel extensively welded to the inside of the frame. Using the same centre line for 300mm minimum 1.2mm steel will be extensively welded to the outside of the tunnel. The remainder of the tunnel may be covered by minimum 1mm steel or minimum 1.5mm aluminium.

8.3.8.3. Front wheel drive, the front bulkhead must be reinforced where the flywheel and drive shafts are directly in line with the driver.

8.4. Aerodynamic Devices

8.4.1. Must not exceed the overall limits of the original bodywork dimensions (J5.2.7).

8.4.2. Must not be wider than the widest part of the car's bodywork or higher than the highest part of the roof.

8.4.3. Within these restrictions their design is free.

8.5. Body panels

8.5.1. Door hinges must be of adequate strength.

8.5.2. Body material is free subject to 8.1.1 and 8.3.3.

8.6. Engine

8.6.1. With the exception of 6.3.2, 6.3 applies.

8.6.2. Forced Induction engines must be fitted with a restrictor in compliance with FIA Appendix J, Article 279, Article 3.7.

8.7. Suspension and Steering

8.7.1. The operating method and the design of the suspension system are free.

8.7.2. Suspension parts may not be attached to the spaceframe at those elements making up the major components of the ROPS i.e. main/front hoop and main braces.

8.7.3. The springing medium must not consist solely of bolts located through flexible bushes or mountings but may be of fluid type.

8.7.4. There must be movement of the wheels to give suspension in excess of any flexibility in the attachments.

8.7.5. Chromium plating of steel suspension members is prohibited.

8.7.6. All suspension members must be made of homogeneous metallic material.

8.7.7. All vehicles must be fitted with a steering column of a collapsible type.

8.8. Fuel Tank/Fuel

In accordance with J5.13.

8.8.1. No part of the fuel tank to be located less than 300mm from the bodyshell in both lateral and longitudinal directions, and must be outside the driver's compartment, and be separated from the driver's compartment by a metal firewall or container, both of which must be flameproof and liquid-proof. The remainder of the system will be as per J5.13. K4 is recommended.

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8.8.2. Fuel fillers passing through the cockpit must be isolated and fitted with non-return valves at the fuel tank.

8.9. Exhaust and Silencing

8.9.1. The orifices of the exhaust pipes must be between 100mm and 450mm above the ground.

8.9.2. Exhaust gas may only exit at the end of the exhaust system.

8.9.3. All exhaust gasses including wastegate outlet must pass through the main exhaust system.

8.9.4. No part of the chassis may be used to evacuate exhaust gases.

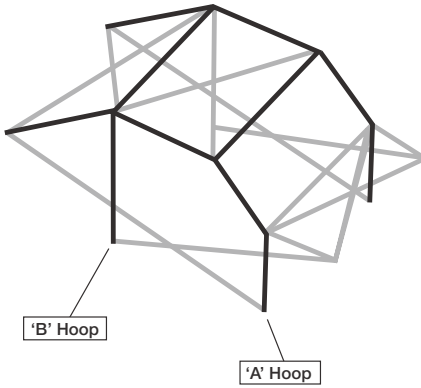
8.10. Weights

The weight of the car is measured with the driver on board wearing his/her full racing apparel, and with the fluids remaining at the moment at which the measurement is taken.

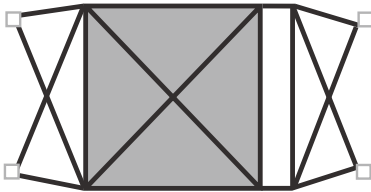
The weight must be according to the following table:

upto 1000 cm ³	770kg
over 1000 and upto 1400 cm ³	860kg
over 1400 and upto 1600 cm ³	1000kg
over 1600 and upto 2000 cm ³	1100kg
over 2000 and upto 2500 cm ³	1130kg
over 2500 and upto 3000 cm ³	1210kg
over 3000 and upto 3500 cm ³	1300kg

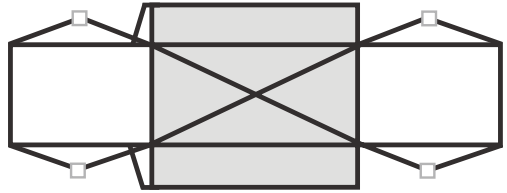
Appendix 1: Rallycross Spaceframe Drawings



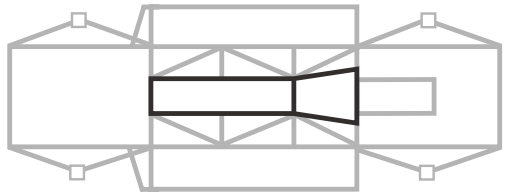
Drawing 8.1:
ROPS



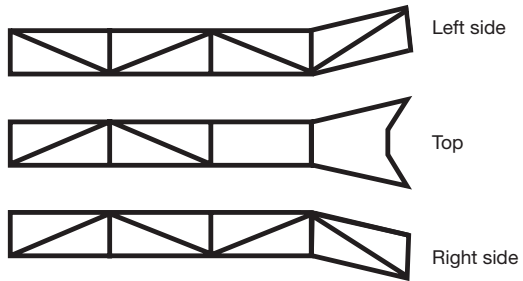
Drawing 8.3:
Plan View



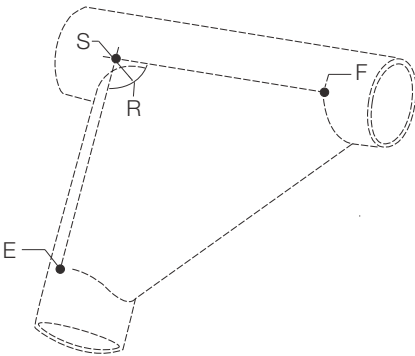
Drawing 8.2:
Floor frame



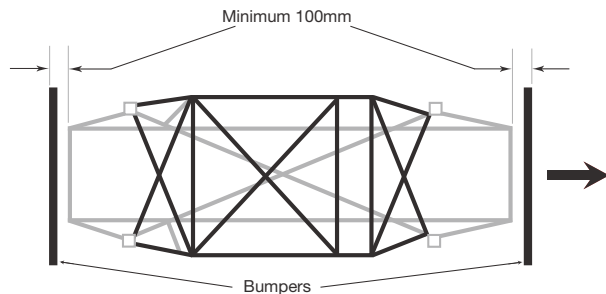
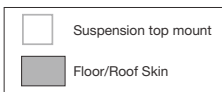
Drawing 8.4 (Pt 1):
Transmission tunnel



Drawing 8.4 (Pt 2):
Detail of transmission tunnel



Drawing 8.6:
Gusset



Drawing 8.5

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