2021

Regional Standing Supplementary Regulations

Northern Regions Lotus Challenge Regional Championship

Version 1

1 January 2021

Ref: 162236

REVIEW AND AMENDMENTS

Motorsport South Africa (MSA) will periodically review these rules and will present the revised version to all members for agreement to publish the updated version.

Amendments and updates to the rules will be recorded in the Amendment Record, detailing the updated version, date of approval of the amendment and a short summary of the amendment.

AMENDMENT RECORD

Modified SSR / Art	***Date Applicable***	***Date of Publication***	***Clarifications***

CONTROLLERS OF THE CHAMPIONSHIP

The controllers of the championship shall be the MSA Northern Regions Motorsport Committee, which may delegate certain authorities and responsibilities to the Lotus Register of South Africa. In these regulations, any reference to "Committee" shall mean the Racing Committee (RC) of the Lotus Register of South Africa and/or a member of the Racing Committee as applicable.

DOMICILE

The Championship is open to all holders of a valid MSA competition license.

DISCLAIMER

Drivers race entirely at their own risk. The safety equipment specified in these regulations, whether in respect of the vehicle or the driver, is regarded as the necessary minimum to be used or applied. It is the driver's responsibility to always use the best safety equipment at all times.

INTRODUCTION

The **LOTUS CHALLENGE REGIONAL CHAMPIONSHIP** is a series of race events aimed at attracting wide participation by owners of Lotus 7 type cars and replicas. Previous race experience is not a requirement and new competitors are most welcome. Track day experience for new entrants in a Lotus is advised to ensure the safety of the new entrant, as well as the rest of the competitors.

OBJECTIVE

1.1. Scratch
The objective is to drive as fast as possible so as to have the lowest race time over the required race distance.

1.2. Index of performance
The objective is to drive as consistent as possible to have the best Average vs Best laptime ratio

CHAMPIONSHIPS & TROPHIES

1.3. The Northern Regions & Lotus Challenge Champion will be the overall winner from Classes B, C, or L based on accummulated points from the respective class. Should there be a tie, then the greater number of class wins followed by second positions and, if required, third positions etc, will be considered in order to break the tie.

1.4. Class winner championship trophies will be awarded to drivers accumulating the most points within:

1.4.1. Class B - Scratch

1.4.2. Class C – Index of performance with a breakout time (Refer class rules)

1.4.3. Class L - Scratch

1.5. There will be four TLR Club Championships which do not have Regional Status

1.5.1. Index of Performance Championship as detailed later on in these Regulations

1.5.2. Rookie championship as detailed later in these regulations

1.5.3. Masters championship as detailed later in these regulations.

1.5.4. Lotus Challenge Endurance club championship as detailed later on in these regulations

Points per sprint race heat in respect of all Classes shall be awarded as follows: (for Endurance races refer to LOTUS CHALLENGE CLUB ENDURANCE CHAMPIONSHIP detailed below)

1.6.)

No. of Participants in class

>8	**8**	**7**	**6**	**5**	**4**	**3**	**<3**
14	12	10	8	6	5	4	4
12	10	8	6	4	3	2	
10	8	6	4	3	1		
8	6	4	2	1			
6	4	3	1				
5	3	2					
4	2						
3							
2							
1							

1.7. The Number of participants in a Class shall be determined as the total number of cars in that class participating in any of Qualifying or Heats 1 or 2. Drivers sharing a car at the same race meeting will be counted as one car only. Individual points scored will not be affected. Points earned in one class may not be carried over into another class but all points earned will be combined in the Rookie, Masters and Northern Regions Championships.

1.8. For championship events at circuits outside the Northern Regions area,(excluding Red Star Raceway) a competitor who participates by commencing a lap, whether in practice (official or unofficial), qualifying, or in a race, will be awarded an extra 10 (ten) points towards all Championships.

1.9. All races will be championship races. The points from one race meeting will be discarded if the number of events for the year exceed 6 (Six) . Events not entered are eligible to be discarded.. Points thus discarded will not include any away race bonus points Individual heats may not be discarded, the whole race meeting's points must be discarded. Any points lost due to exclusion as a result of any infringements may not be discarded. Discarded event for Index of performance championship need not be the same as Northern regions championship.

1.10. Subject to the number of competitors exceeding the minima stipulated in the organiser's regulations for the day, the trophies shall be awarded per event as follows:

- Class B - 1st 2nd 3rd
- Class C - 1st 2nd 3rd
- Class L - 1st 2nd 3rd

1.11. Awards per event shall be determined as follows:

1.11.1. Classes, B, and L – the highest number of laps at the lowest total race time across the two heats will determine the winner and subsequent positions in each class (subject, however, to relevant regulations regarding cut-off time that may be applicable within any class).

1.11.2. Class C the highest index percentage of both heats combined. No grid position adjustment will be made.

1.11.3. In the event a driver is disqualified or is not classified as a finisher, the race time and laps completed will be discarded

1.12. All championship race heats to be a minimum of 24kms in length. Race heats shortened by the race organiser, due to program pressure, will still count as championship heats.

1.13. For purposes of these regulations a 'racing event' is classified as qualifying and race heats

1.14. To be eligible for championship points and to receive trophies at individual race meetings a competitor has to be a member or affiliate member of The Lotus Register of South Africa (TLR).

1.15. A compulsory racers levy of R500 per annum is payable by all competitors and will be administered by the treasurer of The Lotus Register. Racers who join after 50% of the races have been completed will pay pro-rata for the remaining races. No refund will be paid if a racer does not compete in all the events.

1.16. The Racers levy is to be paid to The Lotus Register bank account: Banking Details:

Bank-	Nedbank Isando
Branch Code-	196142
Account Number-	1961277530
Account Holder Name-	Lotus Register
Reference:	Name & "RACE"

4. CONDUCT OF SERIES & EVENTS

4.1. Competition Licenses

Competitors require, as a minimum, a "Regional" level circuit racing competition licence for Classes B, C and L and a "Club" level circuit racing competition license for Classes P and X, which is obtainable from Motorsport South Africa.

4.2. Scrutineering & eligibility to compete

4.2.1. All competitor vehicles must be presented to, and approved by, the circuit Scrutineers prior to participation in any Qualifying or Race session.

4.2.2. Should a class change be required, the vehicle must be inspected for conformity in the new class prior to any racing event.

4.2.3. All vehicles must comply with the specifications stipulated herein, as well as the Annual Safety Inspection sheet. All vehicles must comply in full with the stipulated specifications of the class in which they are entered, save that:

- In the event that any non-compliance that by the agreement of all competitors in that class together with a member of the (RC). is deemed immaterial to the performance or safety of the non-compliant vehicle, that vehicle shall be permitted to compete in that class for that race meeting only and shall be eligible for inclusion in the results of the event and championship points; and

- In the event that no agreement is reached according to the foregoing, a (RC) member may permit the vehicle to compete "by invitation" but be excluded from the event results and the earning of championship points for that class.

4.2.4. Vehicles must be made available for technical inspections at any time during a race day. Should a participant's vehicle be found non-compliant with the technical regulations of the class in which they are competing, that participant will be, on consultation with the (CoC), excluded from the day's results and subject to disciplinary action which could result in further penalties being applied.

4.2.5. Decals indicating the positioning of Fire extinguishers, Cut-off switches and towing points must be fitted per MSA regulations.

4.2.6. Prior to participating in its first event for the season and, after any serious contact incident, or material modification, a competitor's vehicle must be presented for, and pass, a series inspection conducted by the series compliance officer or (RC).

4.2.7. The Race Committee may from time-to-time develop for adoption additional monitoring standards, guidelines, requirements, and/or procedures which it will then apply at its sole discretion.

4.3. **Starting Grid Positions**

4.3.1. The fastest of the recorded qualifying times will determine the grid positions for Heat 1.

4.3.2. The fastest of the recorded lap times in Heat 1 will determine the grid positions for Heat 2 regardless if a competitor was classified as a finisher in Heat 1

4.3.3. In the event of more than two race heats per event the, fastest of the recorded lap times in the preceeding heat will determine the grid positions for subsequent heat, regardless if a competitor was classified as a finisher in the preceeding heat or not.

4.3.4. Should there be no qualifying session the lap times of the last race of the previous event will be used except for the first event of the year where previous year points standing will be used. For new entrants, they will be put at the back of the class grid

4.3.5. Classes will be grouped together seperated by a minimum of 4 open grid positions.

4.3.6. The grid position of the fastest competitor in each class will be on the Pole position side of the grid.

4.3.7. Class Order will be B, L, and C but may be altered by the Race Committee based on the relative speed of entrants in the different classes.

4.3.8. Should there be class X or P entries the Race committee will decide on the class grid order based on performance potential of cars

4.3.9. Where no representative time is established in preceding Heat or official qualifying, the competitor concerned will be allocated a starting position at the back of the applicable class. Should more than one competitor be affected, the order will be determined by current championship points standing and if points are the same, a random draw administered by the race committee.

4.3.10. Competitors who switch classes during a racing event, after Qualifying, must comply fully with that class's eligibility requirement the grid position will be allocated as per Par 4.3.8

4.4. **Driver Conduct**

4.4.1. It is incumbent upon all competitors to refrain from reckless and dangerous driving which might constitute a danger to themselves and/or other competitors.

4.4.2. All on track incidents must be referred to the Clerk of the course (CoC) in writing on an Incident report and Stewards of the Day for investigation and establishment of any penalties applicable.

4.4.3. The race committee may introduce a card system to control driver behaviour

4.5. **New Competitors**

4.5.1. New competitors will be required to identify themselves by the attachment of a ribbon trailing behind the car. The ribbon will be red, white or yellow, 30mm wide and 1 meter in length and be supplied by the competitor

4.5.2. This is a requirement for the first 2 race meetings for any new competitors and will be reviewed thereafter by the Race Committee.

4.5.3. Prior to competing in their first event, competitors must

- Present their vehicle to the series compliance officer for inspection.
- Complete the Rookie Questionnaire.
- Be a paid up member of the TLR or TLR affiliated club
- Have paid the compulsory racers levy
- Have a valid MSA competition License
- Complete and handover to the RC a signed copy of the TLR Indemnity Form

4.6. **Disputes**

4.6.1. Competitor attention is drawn to Parts IX and X of the MSA General Competition Rules & Appendixes in respect of Protests and Appeals.

4.7. **Race Committee and Technical Consultant (RC)(TC)**

4.7.1. It is a requirement that, as per the TLR Constitution, a Race Committee (RC) be announced for the duration of the Race season.

4.7.2. A technical consultant (TC) may be appointed at the sole discretion of the Racing Representative at any time during the racing season. The TC compensation must be agreed with the racers at large as well as the funding model.

4.7.3. Expenses incurred by Race committee members to perform their duties will be refunded in the sole discretion of the TLR Racing rep.

4.7.4. The TC/RC shall get to know and operate within the bounds of the MSA General Competition Rules and circuit racing rule books.

- Represent the TLR and act as a liaison between competitors and race officials.
- Ensure that the rules of the class are applied and adhered to by all competitors.
- Act as a consultant to the Clerk of Course (CoC) and Stewards of the Day.
- Where rules are transgressed, it is the duty of the TC/RC to report these to the CoC for a ruling.
- Perform elegibility checks as appropriate.

4.8. **Voting rights**

4.8.1. The Race Committee may from time to time do surveys amongst racers or require voting on specific matters or rules relating to the series.

4.8.2. Voting rights will be limited to TLR members who have raced in the current or the previous season and the current race committee members.

4.8.3. Racers eligible to vote in terms of 4.8.2 must be paid up members of The Lotus Register and racers levy (Refer 2.11) must have been paid in full.

4.8.4. Voting or surveys may be done in person at a meeting or by means of an e-mail. In the event of e-mail vote or survey, no proxies will be used.

4.8.5. A quorum shall be constituted when 66% of eligible voters participate in the survey or vote

4.8.6. 51% of votes counted shall constitute a majority

4.8.7. In the event of a tie the TLR Racing representative will have the casting vote.

VEHICLE ELIGIBILITY, ALL CLASSES

4.9. **General**

4.9.1. It is recorded that only Lotus Seven-type vehicles are eligible to race in the Lotus Challenge, and the Race Committee may, from time to time at its discretion or by amendment to these regulations, or by Bulletin, permit departures from Vehicle Eligibilty to the extent that such departures serve not to present a safety risk

4.9.2. If requested, all electronic data (Data logger and/or video footage) must be made available to officials for investigation purposes.

4.10. **Seven Meter Rule**

4.10.1. All vehicles must conform to the Seven meter rule i.e vehicles must appear as fair representations of the models upon which they are based when viewed from a distance of 7 meters.

4.10.2. The placement of the engine, gearbox and differential must be consistent with the original design concept of the vehicle upon which it is based.

4.11. **Vehicle Dimensions**

4.11.1. The maximum track permissible for vehicle competing in any class is 1780mm measured at the outside edge of the tyre including the bulge made where the tyre contacts the ground, unless specified differently in the class specific regulations.

4.11.2. The maximum length for these vehicles is 3400mm.

4.11.3. No part of the power unit may protrude outside of the normal engine bay other than necessitated by certain types of carburettors and/or air filters and exhaust manifold.

4.12. **Body Work**

4.12.1. Except in respect of components clearly stipulated in these regulations, aerodynamic aids designed to promote down-force or constitute an aerodynamic advantage, are not permitted

4.12.2. Cladding is permitted on the underside of the vehicles.

4.12.3. Nothing is permitted on the underside of the vehicle that, as may be determined by the Committee, serves as a splitter, diffuser, or similar aerodynamic aid.

4.12.4. The area above the petrol tank must be completely covered by means of an aluminium cover, secured at its perimeter, to reduce fuel spillage in the event of an accident. The use of any other material shall be subject to the approval of the Race Committee. Should fuel tanks be positioned within the passenger compartment, they will be isolated from the driver by means of a firewall or be enclosed within a separate metal container which will prevent fuel spillage onto the driver or into the driver's compartment, a drain hole of at least 12mm must be made in the floor as far away from the exhaust as practically possible.

4.12.5. When Fuel cells are fitted behind the rear passenger compartment firewall they must be fitted above or in front of the rear axle, but may not protrude past the rear of the diff. Any tank fitted behind the rear axle must be completely drained of fuel. Bladder tanks are highly recommended.

4.12.6. The fuel tank must be fitted with an appropriate breather pipe which must include a one way roll-over vent valve to prevent fuel spillage in case of a roll-over.

4.12.7. Airboxes which are designed to induce a ram effect and protrude beyond the bodywork are not permitted.

4.12.8. Air intake scoops (that supply air for combustion purposes) that are positioned on the nose or bonnet must be of similar shape and no greater size than that detailed in Appendix B. Any other option used must comply with the inlet dimensions of Appendix B. Class specific requirements need to be adhered to

4.12.9. NACA type intakes are permitted but must comply with the inlet dimensions of Appendix B.

4.12.10. The passenger compartment may be covered from the scuttle rearwards. Refer Class L vehicle eligibility section.

4.12.11. All wheels must be covered. Cycle fenders are permitted on the front wheels and must cover the full width of the tyre tread and cover a minimum of 130 degrees of the wheel circumference. Should a cycle fender mounting bracket break during an event, the damaged fender/s may be removed for the remainder of the event, but must be repaired by the following race meeting.

4.12.12. Rear fenders must cover the area from the chassis bodywork to the outer edge of the rear tyre, must attach to the chassis cladding directly and cover a minimum of 180 degrees of the wheel circumference. Holes are allowed in either the front or rear surfaces of the rear fenders with a maximum total cross sectional area of 13500sq.mm per side.

4.12.13. No elements may be removed from any part of the chassis or bodywork if deemed to be detrimental to the structural integrity of the vehicle.

4.12.14. If no tail lights are fitted, a minimum of one red rain light must be fitted. The driver must be able to switch the rain light on when strapped into the seat. The light must be positioned above the lowest point of the rear body work or rear fender.

4.13. **Engines**

4.13.1. Only reciprocating 4-cylinder engines are permitted.

4.13.2. Engine capacity limitations are detailed in each individual class's specifications.

4.13.3. With the exception of class X, no forced induction is permitted.

4.13.4. The use of nitrous oxide is NOT permitted.

4.14. **Drive-train**

4.14.1. No four-wheel drive is permitted.

4.14.2. No anti-lock braking systems are permitted.

4.14.3. No traction-control or similar system of electronic intervention is permitted.

4.14.4. Gearbox: only "H" pattern gearboxes are allowed.

4.14.5. See Class eligibility requirements.

4.14.6. The distance in plan of the centerline of the crankshaft to the centerline of the car shall not exceeed 100mm

4.14.7. The distance in plan of the centerline of the nose of the differential to the centerline of the car shall not exceed 50mm

4.14.8.

4.15. **Suspension**

4.15.1. All cars shall have a double wishbone front suspension.

4.15.2. Any rear suspension design is permitted. Additional Class specific specifications are defined later in these Regualtions:-

4.15.3. All speherical bearings used between wishbones and uprights in single shear must have a captive washer to ensure the joint is not lost in the event of a spherical joint failure.

4.15.4. All rod ends must have a locking nut or physical fixing.

4.15.5. Rod ends may not be bent or deformed in any way

4.15.6. Rod ends/spherical bearings may not have any free play

4.15.7. Shock absorber damping shall be by conventional gas/hydraulic means only. Remote canisters are permitted. Permitted adjustability shall be only by manual means and limited to spring platform height and bump and rebound control.(maximum 2 way adjustable only per damper). Additional Class specific specifications are defined later in these Regualtions:-

4.15.8. No other part of the car may be lower than 40mm from the ground, such as a protruding sump, gearbox or skid plate.All measurements must be taken with the driver seated in his normal seating position and the suspension in its natural settled position (not having been artificially adjusted)Should a car fail the ride height test as a result of damage incurred in an on track incident the TC/RC may at their sole discretion allow for 5mm tolerance on the above measurements. Additional Class specific specifications are defined later in these Regualtions

4.15.9. Anti roll bars shall not be driver adjustable

4.15.10. Damping of the anti roll bar mechanism is not permitted other than the standard suspension shock absorbers

4.16. **Wheels and Tyres**

4.16.1. Tyres for classes B and L shall be marked as follows:

- Each set of tyres will be marked with one set of numbers using the TLR branding kit.
- Two digit Tyre Set Number e.g. “10” or “20” (set 1 or set 2 of 2020)
- Two digit Car Number (00 – 99)
- An LCR logo will be positioned between these two sets of numbers.

4.16.2. Tyres that are branded must be used by the allocated driver for any vehicle changes within a class.

4.16.3. Should a driver change class, tyres conforming to the new class have to be branded accordingly. Tyre allocation for that class will start accordingly.

4.16.4. The competitor must sign the tyre branding register. The onus is on the competitor to verify and confirm the branding to be correct.

4.17. **Racing Numbers & Logos**

4.17.1. All vehicles will carry Lotus Challenge backing decals and numbers and class identification colour strips as designated for the series. A minimum of 3 numbers must be placed on the vehicle, 1 on either side of the bonnet or passenger side cover, and 1 on the Nosecone. Placing one on the rear of the Vehicle is recommended, but optional.

4.17.2. The backing size must be a minimum of 300mm High and 370mm Wide, Colour, text and design must be in accordance with the Lotus Challenge approved design and art work. Race number and class letter font must be Arial Bold. and number size 180mm high x130mm wide. Class letter 180mm high x 65mm wide

4.17.3. The Committee or race organisers may, from time-to-time, determine the positioning, size and quantity of series sponsor logos.

4.17.4. Transgressions may result in a loss of points for the event concerned and the withholding of sponsor product if applicable

4.17.5. Numbers will be allocated to a driver by the (RC) and must be used by the driver in all Lotus Challenge events.

4.17.6. If a driver has not used his allocated race number for 1 Season, that number will become free for any other competitor to use. Each Competitor has the right to reserve his current Number for another Season, by requesting this in writing to the RC.

4.18. **Roll cages and side impact protection.**

4.18.1. All vehicles must be fitted with an approved Rollover Cage.

4.18.2. Unless equipped with a Rollover Cage approved and certified by the FIA for use on that type of vehicle, vehicles must conform to the minimum specification detailed in Appendix C.

4.18.3. All vehicles must be fitted with approved side impact protection as detailed in Appendix D.

4.18.4. It is recommended that an approved passenger side impact beam be fitted on cars with the fuel tank in the passenger compartment.

4.19. **Other**

4.19.1. Use of Tyre warmers are not permitted.

4.19.2. All Vehicles are required to be fitted with a silencer that will ensure that the noise generated will be compliant with MSA noise regulations.

4.19.3. Particular attention must be paid to the construction and assembly quality of the exhaust system and its fixings. Adequate supporting structures must be in place and all welds must be of good quality.

4.19.4. All vehicles must be fitted with an approved fire extinguisher minimum of 1.5kg. Plastic mounting brackets are not allowed. The use of approved Plumbed in extinguisher systems is recommended.

4.19.5. Unleaded pump fuel with a maximum Octane Rating of 95 must be used in all classes

4.19.6. The use of any form of octane booster or any fuel additive is not allowed

4.19.7. The use of water injection is not allowed.

4.19.8. The use of any form of intake air cooling inside or in front of the air intake system is NOT allowed. E.g. dry ice in airbox.

4.19.9. Fuel cooling is not permitted.

4.19.10. Only body panels and non- structural components may be manufactured from composite materials e.g. carbon fiber and fiber glass. unless specifically prohibited by class rules (Wheels are considered to be a structural component).

4.19.11. The use of Titanium, Kevlar and other exotic materials is forbidden.

4.19.12. Competitors need to inform the committee in advance of any changes to their equipment or to alert them if they require their services.

4.19.13. In-car communication (Car to car) is not permitted

VEHICLE ELIGIBILITY – CLASS B

In addition to the eligibility requirements applicable to all classes, Class B shall be subject to the following:

4.20. **Purpose & Description**

4.20.1. Class B is a full race car class with controlled standard engine and tyres as well as limitations on other components.

4.21. **General**

4.22. **Refer to VEHICLE ELIGIBILITY, ALL CLASSESVehicle dimensions**

4.22.1. Refer to VEHICLE ELIGIBILITY, ALL CLASSES

4.23. **Bodywork**

4.23.1. Refer to VEHICLE ELIGIBILITY, ALL CLASSES

4.24. **Interior**

4.24.1. Refer to VEHICLE ELIGIBILITY, ALL CLASSES

4.25. **Minimum weight**

4.25.1. During any racing event the combined weight of the car, including driver, helmet, race wear, and whatsoever fluids may be in the vehicle at the time of weighing must equal or exceed 630 kgs.

4.25.2. If the facility is available, all cars will be weighed after each of qualifying and heats.

4.25.3. In the event, mobile scales are used or any other forced limitation , the Race committee / TC may opt to select random cars for weight checks

4.25.4. Any weight required to be added to attain the minimum weight may be distributed anywhere within the confines of the chassis frame in the plane of the lower tubes and must be attached in a safe and secure manner.

4.26. **Engine**

4.26.1. Engines are limited to 1600cc Toyota 4AGE 20V series (Black or Silver top). Intermixing of parts from the two engine types is permitted, providing ALL other requirements listed below are complied with.

4.26.2. Save as expressly permitted or modified by this section, the engine specifications must remain as per the manufacturers' standard and be consistent with the FIA Homologation document No, A-5607 dated 01 October 1999 – available upon request.

4.26.3. The valve train - including valves, valve grind angles, springs, retainers and followers - must remain to manufacturer's standard specifications.

4.26.4. The stroke shall be standard as per the manufacturer's standard specification for that specific engine block.

4.26.5. The Piston may not protrude above the gasket surface of the cylinder block. (Measured on the machined portion on the top outer surface of the piston crown, with that piston at TDC.)

4.26.6. The compression ratio shall not exceed 10.7:1 and the individual effective combustion chamber volume shall not be less than 41.0 cc, gasket & piston crown included. It is permitted to remove material from the piston crown or combustion chamber to achieve this.

4.26.7. Boring of cylinders is permitted to a maximum of .5mm (0.020 inch) as long as the piston is the relevant manufacturer's production component, available off the shelf, and manufactured for that specific engine block. Forged and TRD pistons are NOT permitted.

4.26.8. The crankshaft and conrods must be standard production components. Balancing is permitted, but one conrod must remain untouched (polishing is not allowed). Manufacturer identification marks may NOT be removed. Steel crankshafts (incl Standard 4AGZ – supercharged) are NOT permitted. Material may only be removed for balancing purposes in the designated areas. The total mass of the conrod assembly is not to be less than 475 grams (measured without bearing shells but with standard bolts and nuts).

4.26.9. Knife edging of crankshaft is not allowed

4.26.10. Undersize grinding of crank to 1mm below the standard sizes of 48mm and 42mm for Mains & big ends respectively are allowed.

4.26.11. Engine and component assembly bolts are unrestricted.

4.26.12. The original Toyota 4AGE flywheel may be balanced and or lightened. Aluminium or remanufactured flywheels are NOT permitted.

4.26.13. The standard pressure plate must be retained.

4.26.14. A Copper button clutch plate is permitted.

4.26.15. Normal induction must be by way of a single fuel injector per cylinder only. Standard throttle bodies with a butterfly size not exceeding 45mm must be used.

4.26.16. The maximum length from the outermost gasket flange of the throttle body to the gasket flange of the cylinder head (including a Manufacturer's specification gasket), may not exceed 150mm. All air used for combustion must flow through the entire throttle body.

4.26.17. The fuel pressure regulator must be standard Toyota 4AGE 20v (non-adjustable) and pressure may not exceed 3.2 bar at 4000 rpm and above (no vacuum).

4.26.18. Fuel pump voltage during fuel pressure test to be equal to battery voltage.

4.26.19. An Adapter, obtainable from the race committee, which will facilitate the checking of fuel pressure, must be fitted to the fuel line.

4.26.20. Ram tubes are NOT restricted.

4.26.21. Fuel injectors must be Standard Toyota 4AGE 20v and capable of identification by part number.

4.26.22. Air intake or filtration system as per Appendix B.

4.26.23. Intake and exhaust port dimensions are free however metal may NOT be added to the existing port.

4.26.24. The exhaust system is free but must comply with MSA noise regulations.

4.26.25. Dry sump Lubrication is NOT permitted.

4.26.26. The sump pan may be modified and baffled.

4.26.27. A separate electric water pump is NOT permitted.

4.26.28. A properly functioning alternator is required to be fitted. Engine must be able to start with onboard battery. Assisted starting with secondary battery in pits, in order to save onboard battery is permitted. The alternator is not required to be fitted to or driven by the engine

4.26.29. Drilled bolts/nuts are to be fitted to the camshaft cover so that the cylinder head may be sealed upon assembly, Drilled bolts can be used to seal the sump, but are not compulsory. Competitors must have their engines inspected and sealed to show compliance with these requirements, an inspection fee of R400.00 will be payable to the official doing the inspection. Competitors are encourage to have their engines inspected at premises of the official where the require tools will be available to complete the assembly. To compensate the official should he be required to travel there will be a travelling fee of R250 per hour plus the current published AA rate per km plus toll fees for the distance travelled.

4.26.30. Unopened (import) engines can be sealed with limited inspection; Cam shafts must be measured and dyno checks may be performed to verify performance is in line with other class B cars

4.26.31. To allow head changes at the track during race meetings, a spare cylinder head which has been completely measured and sealed would be acceptable as if it was the original head used during the engine build. If necessary, the head can be checked with all the engines of the race series to see which engines the head can be used on.

4.26.32. The sealing tag may not be broken for any reason without the express consent of the TC/RC. The TC/RC can insist on being present at the breaking of the seal to perform an inspection and should the seal be broken without the TC/RC being present or engine be found to be illegal all points awarded for the current season since the last inspection will be forfeited

4.26.33. Crank pulley is unrestricted.

4.26.34. Head gasket must be standard Toyota 4AGE 20v or aftermarket head gaskets conforming to O.E.M specifications – TRD head gasket NOT permitted.

4.26.35. Spark plugs are not restricted.

4.26.36. An oil cooler is permitted.

4.26.37. Type of engine management system is not restricted, this includes the entire ignition system.

4.26.38. Water injection is NOT permitted.

4.26.39. The piston and gudgeon pin may NOT be modified save that material may be removed from the piston balance tabs for balancing purposes only. All 3 piston rings must be fitted. Non OEM rings are permitted provided they were manufactured for this engine to OEM specification.

4.26.40. The standard camshafts are to be fitted and may not be modified in any way. The following dimensions are applicable

4.26.41. The cam lobes to conform to the following dimensions.

- Inlet Min Dia 32.0 mm ± 0.1mm
- Inlet Max Dia 40.5 mm ± 0.1mm
- Exhaust Min Dia 32.2 mm ± 0.1mm
- Exhaust Max Dia 40.2 mm ± 0.1mm
- Maximum lift – Inlet 8.5mm ± 0.2mm
- Maximum lift – Exhaust 8.1mm ± 0.2mm

4.26.42. The use of Vernier Cam pulleys, off-set dowel pins or offset keys in the cam drive system is NOT permitted. Locating items of all cam pulleys must be installed and conform to the manufacturer's original specification and non-adjustable by any means

4.26.43. Cylinder Head may be skimmed. (But the compression ration per rule 6.7.6 must be maintained)

4.26.44. Cylinder head may be gas flowed, which includes valve guide protrusion being removed. (Refer rule 6.7.3 above). The inlet manifold porting may be ground to match those of the cylinder head.

4.27. **Engine management**

4.27.1. Choice of Engine management system is unrestricted

4.27.2. Launch control system (stand alone or built in to ECU) is NOT permitted.

4.28. **Gearbox**

4.28.1. Straight cut gears and / or dog engagement are NOT permitted.

4.28.2. Maximum of five forward gears.

4.28.3. Type / manufacturer of gearbox is not restricted subject to all other provisions herein being met.

4.28.4. Standard synchro rings may be replaced by steel rings.

4.28.5. Bearings may be replaced by heavy duty items

4.28.6. Any standard Toyota T50 or Ford Type 9 gearbox can be used. Any other standard gearbox must be agreed with the RC in writing for documentation purposes. Allowance to use this gearbox will not be unreasonably withheld.

4.28.7. The use of a 6 speed box, with the engagement of one forward gear blocked, is permitted. The gear engagement must be mechanically blocked and it must not be possible for the driver to remove the block from within the car, whilst driving. The mechanical block must be presented to and approved by the Lotus Challenge Race committee

4.29. **Differential**

4.29.1. Choice of differential type is unrestricted.

4.30. **Suspension**

4.30.1. No part of the car may be lower than 40mm from the ground, such as a protruding sump, gearbox or skid plate. Excl nuts and bolts

4.30.2. All measurements must be taken with the driver seated in his normal seating position and the suspension in its natural settled position (not having been artificially adjusted).

4.30.3. Should a car fail the ride height test as a result of damage incurred in an on track incident the TC/RC may at their sole discretion allow for 5mm tollerance on the above measurement

4.31. **Brakes**

4.31.1. Only fixed brake disks are allowed, the disks may be vented or solid and can be cross drilled or slotted. No floating disks are allowed.

4.31.2. Only one caliper per wheel and maximum of four pot calipers allowed

4.32. **Wheels & Tyres**

4.32.1.1.1.1. Rims restricted to - 15" Diameter and a maximum width of 7". Split rims are not permitted. The rims must be fitted with a minimum of 4 mounting bolts.

4.32.2. Tyre Manufacturer – Dunlop.

4.32.3. Tyre Type – "Type R". Size: 195-55-15. Compound: H1.

4.32.4. Tyres must have a minimum of 1mm depth of tread measured across 80% of the tread surface at the completion of any racing event. Transgressions shall result in a loss of championship points for that heat and/or relegation to the rear of the grid as applicable for the next heat or race.

4.32.5. Tyre Supplier: ATS Motorsport Supplies, 20 Schoongezicht Rd, Bergbron.

4.32.6. Tyres are limited to 2 sets per vehicle per season (i.e. 8 tyres), (or as might be determined by the race committee under abnormal circumstances, this will be communicated to competitors by means of a bulletin).

4.32.7. Tyres are to be branded as per Rule 5.8 VEHICLE ELIGIBILITY ALL CLASSES. Tyres must be presented to the Committee for branding at an agreed time and place prior to competition (tyres thus branded but not used are still considered as part of a competitors tyre allowance).

4.32.8. Competitors are to comply with the marking / branding system stipulated by the Committee for the regulation of the tyres used.

4.32.9. Tyres damaged as a result of on-track incidents or as a result of failure (blowouts, etc.) may be replaced at the discretion of the Committee upon their receipt of a written request (See Appendix E at the end of these Regulations – 2 tyre rule)

4.33. **Windscreen & Lights**

4.33.1. Vehicles may run without windscreens, headlamps, tail-lights, and brake lights.

4.33.2. If the windscreen is removed, use of an air deflector is permitted.

4.33.3. A minimum of one red rain light must be fitted. The driver must be able to switch the rain light on when strapped into the seat. The light must be positioned above the lowest point of the rear body work or rear fender

4.34. **Other**

4.34.1. Use of in-car lap timing and/or data logging equipment is permitted.

VEHICLE ELIGIBILITY - CLASS C

In addition to the eligibility requirements applicable to all classes, Class C shall be subject to the following:

4.35. **Purpose & Description**

4.35.1. This class caters for the road going Lotus 7 cars and serves as an entry class to Lotus Challenge racing.

4.36. **General**

4.36.1. Vehicles competing in this category shall comply with the Road Traffic Ordinance and be roadworthy in all respects, as may be determined by the race committee.

4.36.2. Class C trophies and championship points are based on Index of performance (Refer 4.49.7)

4.36.3. A break out lap time applies (Refer 4.49.8)

4.37. **Vehicle dimensions**

4.37.1. Refer VEHICLE ELIGIBILITY, ALL CLASSES

4.38. **Bodywork**

4.38.1. Refer VEHICLE ELIGIBILITY, ALL CLASSES

4.39. **Interior**

4.39.1. Passenger seat may be removed

4.40. **Minimum weight**

4.40.1. No minimum weight limit applicable

4.41. **Engine**

4.41.1. Engine capacity shall under no circumstances exceed 2050 cc

4.42. **Engine management**

4.42.1. Choice of Engine management system is unrestricted

4.42.2. Launch control system (stand alone or built in to ECU) is NOT permitted.

4.43. **Gearbox**

4.43.1. Choice of gearbox is unrestricted

4.43.2. Only H pattern shift gearboxes are permitted.

4.44. **Differential**

4.44.1. Choice of differential is unrestricted.

4.45. **Suspension**

4.45.1. Refer to VEHICLE ELIGIBILITY, ALL CLASSES

4.46. **Brakes**

4.46.1. Brakes are free

4.47. **Wheels & Tyres**

4.47.1. Rims and tyres are free from restriction subject to the points below.

4.47.2. Any road-legal tyre may be used.

4.47.3. Tyres must have a minimum of 1mm depth of tread measured across 80% of the tread surface at the completion of any racing event.

4.48. **Windscreen & Lights**

4.48.1. The front windscreen may be replaced with polycarbonate (Lexan) material conforming to the stock windscreen dimensions,Width min 900mm at the base and min 800 at the top excluding radii 300mm high and a minimum of 6mm thick, mounted at a maximum angle of 30 degrees from the vertical.

4.48.2. Windscreens may be mounted directly on the roll cage as long as all dimensions above are complied with.

4.48.3. Vehicles must have all necessary lights in working condition and facing the correct direction to comply with roadworthiness requirements. The headlights must have a minimum diameter of 160mm and be mounted in the correct position either side of the nosecone above the upper wishbone.

4.49. **Other**

4.49.1. The exhaust system is Unrestricted but must comply with MSA noise regulations

4.49.2. Use of in-car lap timing, pit board and/or data logging equipment from which timing data can be viewed by the competitor on-track is not permitted. To clarify, the use of any form of lap timing is not permitted.

4.49.3. All ancillary systems with the exception of windscreen wipers and hooter, that are required by the licensing authorities must be fitted and operational

4.49.4. Competitors in class C are required to conform to roll-over and side impact protection in Appendices C1 and D.

4.49.5. The passenger seat may be removed.

4.49.6. The fuel tank may be moved to the passenger compartment providing all other safety requirements for such a move is met.

4.49.7. Index of performance calculation

- The official results sheets will be used to calculate Index of performance
- Index of performance will be a racer's fastest lap in the race divided by his/her average lap time during the race, expressed as a percentage. Theoretical maximum is 100%. The racer with highest percentage will be declared the winner.
- Average lap time will be total race time divided by number of laps
- To qualify for points, the racer has to be classified as a finisher in terms of the standard MSA rules

4.49.8. The total index of performance percentage for the two race heats per event will be used to determine overall trophy alloctionClass C Break out Lap Times

- The Class C break out time will be determined by the Race Committee for each circuit and may be published from time to time by MSA Bulletin and/or Lotus Challenge Bulletin.
- If the fastest qualifying lap breaks the cut-off, the result is demotion to the back of the Race 1 Class C grid. If the fastest lap in Race 1,breaks the cut-off, the result is demotion to the back of the Race 2 Class C grid. If more than one car is affected the order will be determined by the margin of breakout. Largest at the back
- Any competitor bettering the circuit break out time in an official race will be excluded from that heat and excluded from earning any championship points in that heat.
- Any car that exceeds the published break out times by more than 2 seconds, will be banned from class C and will only be re-instated upon written agreement of the TLR Racing Representative.

VEHICLE ELIGIBILITY - CLASS L

In addition to the eligibility requirements applicable to all classes, Class L shall be subject to the following:

4.50. **Purpose & Description**

4.50.1. The only vehicles eligible for this class are replicas of the Lotus 7 manufactured in South Africa based in principle on the Locost book by Ron Champion "Build your own sports car for as little as £250"

4.50.2. Participants shall compete for the "Locost Club Trophy"

4.51. **General**

4.52. **Vehicle dimensions**

4.52.1. The maximum width of any bodywork forward of the centre line of the front wheels is 600mm, the minimum height of bodywork at the centre line of the front wheels is 600mm, no bodywork must protrude more than 300mm forward of the tyre on the front wheel.

4.52.2. The maximum overall length is 3400 mm,

4.52.3. The maximum permitted wheel track front and rear is 1700mm measured at the outside edge of the tyre including the bulge made where the tyre contacts the ground. The cockpit width must be 1067mm +-5mm

4.53. **Bodywork**

4.53.1. Kevlar, carbon fibre and titanium materials are not permitted.

4.53.2. Nosecone may only extend to the bottom of the chassis,a lower nosecone intake scoop is allowed but may not protrude below the bottom of the chassis.

4.53.3. All wheels must be covered. Cycle Fenders are permitted on the front wheels. Front wheel arches/fenders must not protrude further forward than the front tyre and must cover the full width of the tyre tread and at least 30% of the tyre Circumference, no vents, louvres or similar holes are permitted in wheel arches.

4.53.4. The engine and transmission must be fully enclosed by the standard bodywork, exhaust system may protrude through the bodywork without the need for any cover but must be a reasonably close fit. Air filters or any part of the induction system must not protrude outside of the bodywork. One bonnet scoop allowed and supplied by a race committee approved supplier.. No other intakes, scoops, ducts or holes are allowed in any part of the bodywork other than is standard with the commercially available Locost book bodywork or equivalent. Where bonnets is fitted that do not have the bulge to clear oil filter caps, the standard intake scoop may be fitted in reverse direction to allow for clearance of the oil filler and cam cover assembly.

4.53.5. One or two bonnet vents or sets of louvres allowed with a maximum area of 600 sq cm on the rearward part of the bonnet and supplied by a race committee approved supplier. The vents of louvres should be placed to only allow air to exit, and not in any way feed air into the induction system. Where a vent is a plain cutout on the bonnet, mesh should be fitted.

4.53.6. The construction of the transmission tunnel must be sufficient to restrain a broken prop shaft, indicated towing points must be provided front and rear.

4.54. **Interior**

4.54.1. The vehicle must have 2 standard size seats. Only a fire extinguisher, battery, ballast and any roll bar bracing may impinge upon passenger space. No loose carpets or other items may be present in the vehicle. The passenger area must remain open at all times, covers of any description are not allowed.

4.54.2. The fuel tank may be moved to the passenger compartment behind the passenger seat providing all other safety requirements for such a move is met. In this case a cover is mandatory but only covering the tank. Passenger seat can be moved forward by as much as 130mm to accommodate this. It is recommended that the passenger seat be adequately supported to avoid placing pressure on the fuel tank.

4.55. **Minimum weight**

4.55.1. In any official practice or race the combined weight shall exceed 650kg. including car, driver, helmet, racewear, and whatsoever fluids may be in the vehicle at the time of weighing.

4.55.2. Any ballast used to achieve the minimum weight must be placed in the passenger side of the cockpit area, and must be attached in a safe, secure manner.

4.56. **Engine**

4.56.1. Engine will be limited to the 1600cc Ford Rocam engine, as was produced in South Africa, , standard flywheel and clutch assembly will be used. Standard clutch plates with bonded material, or 4 puck button clutches with sprung centers is allowed. The crank and flywheel may be cut to allow fitment of a standard Ford Sierra pilot bearing, but no cutting to reduce weight will be allowed.

4.56.2. The sub assembly must be standard, no balancing of any kind allowed.

4.56.3. The stroke shall be standard as per the manufacturers' specification for that specific engine block.

4.56.4. No component of the engine, as supplied, may be disassembled or removed from the engine and no modification may be made to any component of the engine (unless allowed for elsewhere in these regulations). Should an engine rebuild be needed, standard replacement components can be fitted, but components may not be left out

4.56.5. A Class L control camshaft may be used. This cam will be available from the TLR race committee approved supplier

4.56.6. The use of Vernier Cam pulleys, off-set dowel pins or offset keys in the cam drive system is NOT permitted. Locating items of all cam pulleys must be installed and conform to the manufacturer's original specification and non-adjustable by any means

4.56.7. The induction system, comprising all components from the throttle body to the cylinder head inclusive, will be standard as supplied with the engine, no modifications to these are allowed. The standard idle valve and MAP sensors may be removed to reduce likelihood of cracking of the plastic intake manifold. The holes left must be properly sealed. The throttle body will be the standard one as supplied with the SA version Rocam engine, with a 46mm diameter opening

4.56.8. Intake system before the throttle body is Unrestricted.

4.56.9. The exhaust system is Unrestricted but must comply with MSA noise regulations.

4.56.10. A properly functioning alternator is required to be fitted to the engine, driven from the front crank pulley.

4.56.11. Sealing tags must be fitted to the sump so that the bottom end may be sealed should there be a dispute regarding the legality on an engine.

4.56.12. Maximum engine performance for the Rocam engine as measured on a specified dyno as agreed to from time to time:

- Maximum Power 60 Kw Maximum Torque 120 Nm.at Gauteng altitude
- The correct dyno correction factor for air temperature and pressure must be used
- Dyno run must be done with air filter removed. Accelerator butterfly must be fully open at maximum throttle
- Any engine making more power needs to be detuned.
- ECU maps and signed dyno sheet must be provided to the Lotus Challenge race representative for future checks.
- Class L competitors may request and receive a copy of any other class L competitor's Dyno chart and ECU map.

4.56.13. The sump pan may be modified and baffled.

4.56.14. A separate electric water pump is NOT permitted

4.57. **Engine management**

4.57.1. Engine Management electronics (ECU) will be the Perfect Power XMSL or XMS4A/XMS5A as supplied by Perfect Power or its dealers. Cars will be dynoed and sealed by a TLR appointed agent should any concerns be raised in writing with the TC/RC that an engine produces more power than the equivalent engines in the class.

4.57.2. ECU seals may be inspected at any time during a race meeting (practice or racing). In the event of any seal being broken, or bearing evidence of having been tampered with, the competitor concerned may be excluded from the race meeting. The onus is on the competitor to ensure all his/her seals are intact at all times and to immediately report any broken or damaged seals to the TC/RC

4.57.3. The sealing tag may not be broken for any reason without the express consent of the TC/RC. The TC/RC can insist on being present at the breaking of the seal to perform an inspection and should the seal be broken without the TC/RC being present or engine be found to be illegal all points awarded for the current season since the last inspection will be forfeited

4.57.4. Launch control system (stand alone or built in to ECU) is NOT permitted.

4.57.5. If the ECU has a multiple map feature, all maps must be identical

4.57.6. ECU maps changes for coastal races is permitted but original map saved during dyno run must be restored after the event

4.58. **Gearbox**

4.58.1. Transmission is a standard Ford 4 or 5 speed cast iron gearbox, only standard Ford ratios and gears as fitted in the chosen gearbox are allowed, straight cut or sequential gearboxes are disallowed.

4.58.2. Bellhousing is standard Ford cast iron. Modifications may be made to the bellhousing sides to be able to locate the gearbox and engine further back into the chassis, as well as holes for clutch hydraulic pipes entering and exiting the bellhousing. No extensive lightening allowed (example of drilling multiple holes in the bellhousing).

4.59. **Differential**

4.59.1. Differentials will be restricted to Ford Escort, Capri, Cortina, Sierra or Sapphire differential with ratios within the ranges of 3.32 - 4.11.

4.59.2. Locked or Limited Slip Differentials of any type are prohibited.

4.60. **Suspension**

4.60.1. The suspension is unrestricted except that the front dampers and springs must be placed in the air flow, all suspension mountings to the chassis must be through rubber or polyurethane bushes..

4.60.2. Front and rear shocks will be the steel bodied Gaz GP (130 / 90) range with 300lb springs fitted to the front and 200lbs springs fitted to the rear. No modifications to the shocks or springs allowed. Shock mounts to be rubber bushed.

4.60.3. Suspension should be free to travel through their full range of movement without interference from any other source.

4.60.4. No rose joints/spherical bearings will be allowed on the chassis attachment points of the suspension arms. For cost and safety reasons, rosejoints may be used for the attachment points of wishbones to uprights front and rear, as well as on the steering rack replacing the track rod ends

4.60.5. Anti-roll bars may be fitted front and/or rear. The use of spherical rod ends and rose joints is allowable for anti-roll bar links.

4.60.6. Bolting should be Grade 8.8 minimum throughout.

4.60.7. Front and Rear uprights material to be as per specified donor cars, or if custom manufactured, only mild steel material will be allowed.

4.60.8. Minimum ground clearance with the driver normally seated and the car not artificially raised under the sump or other lowest point protruding under car is 40mm, and chassis minimum ground clearance at its lowest point is 105mm excluding bolts and nuts sticking out under the body

4.61. **Brakes**

4.61.1. Brake calipers are restricted to one caliper per wheel.

4.61.2. For disk brakes only single piston callipers commercially available as standard on the following SA vehicles can be used: Ford Escort, Capri, Cortina, Sierra, Sapphire, Bantam VW MKI & MKII Golf, Jetta, Polo MK 4 & 5 callipers allowed front and rear.

4.61.3. Drum brakes are unrestricted.

4.61.4. Drums and front discs may not be cross drilled or grooved in any way, brake lining and pad material is unrestricted. Rear disks may be grooved and/or dimpled, but not cross drilled.

4.61.5. Brake bias adjustment is allowed but must not be adjustable by the driver whilst normally seated.

4.62. **Wheels and tyres**

4.62.1. Rims restricted to - 15" Diameter and a maximum width of 7". Split or magnesium rims are not permitted. The rims must be fitted with a minimum of 4 mounting bolts.

4.62.2. Tyre Manufacturer – Dunlop.

4.62.3. Tyre Type – "Type R". Size: 195-55-15. Compound: H1.

4.62.4. Tyres must have a minimum of 1mm depth of tread measured across 80% of the tread surface at the completion of any racing event. Transgressions shall result in a loss of championship points for that heat and/or relegation to the rear of the grid as applicable for the next heat or race.

4.62.5. Tyre Supplier: ATS Motorsport Supplies, 20 Schoongezicht Rd, Bergbron.

4.62.6. Tyres are limited to 2 sets per vehicle per season (i.e. 8 tyres), (or as might be determined by the race committee under abnormal circumstances, this will be communicated to competitors by means of a bulletin).

4.62.7. Tyres must be presented to the Committee for branding at an agreed time and place prior to competition (tyres thus branded but not used are still considered as part of a competitors tyre allowance).

4.62.8. Competitors are to comply with the system stipulated by the Committee for the regulation of the tyres used. Failure to comply may result in a loss of all championship points scored up to the point of the discovery of the transgression.

4.62.9. Tyres damaged as a result of on-track incidents or as a result of failure (blowouts, etc.) may be replaced at the discretion of the Committee upon their receipt of a written request (See Appendix E at the end of these Regulations – 2 tyre rule)

4.63. **Windscreen & Lights**

4.63.1. Vehicles may run without windscreens, headlamps and front indicators. An air deflector is permitted.. All other exterior lighting including rear brake, tail and indicators must be fitted A minimum of one tail light needs to be functioning as a rain light. Rear Indicators must be fitted but does not have to be operational.

4.64. **Other**

4.64.1. Use of in-car lap timing and/or data logging equipment is permitted. The data logs must be made available to the TC/RC on request.

4.64.2. In Car communication Car-to-Car, is not permitted

PARTICIPATION BY INVITATION (Class X)

4.65. For the purposes of accommodating as many competitors as reasonably possible, competitors may be permitted to compete by invitation at the discretion of the Committee.

4.66. Vehicles competing by invitation shall not be eligible for inclusion in the results of any championship class or for championship points but shall be classified separately. Award of trophies, if any, shall be at the discretion of the event organizers and/or the Committee.

4.67. A competitor or vehicle which has competed in a championship class previously may not elect to compete by invitation without the written agreement of the Committee or the TC.

4.68. In applying their discretion when considering permitting a vehicle to compete by invitation, the Committee shall give due regard to the following:

- The performance potential of the vehicle – it being a principle for competing by invitation that the potential or proven performance of the vehicle shall not be such that it might be reasonably capable of bettering the prevailing Class B lap record +1 second at the relevant circuit.
- Vehicles must conform to the safety requirements, including roll over protection applicable to the series.
- Permitted vehicles must comply substantially with the provisions of Vehicle eligibility all classes, General, Seven meter rule, Vehicle dimensions, Drive-train and Other
- Departures from the provisions of Vehicle eligibility all classes – Engines may be considered save that no injection of nitrous oxide or other performance enhancing additives shall be permitted. Unleaded Fuel with a Maximum octane rating of 95 must be used, - octane boosters, or other additives are NOT permitted.

4.69. Vehicles accepted for participation by invitation will be allocated grid positions per series starting grid positions

4.70. Holders of Club (and other) Competition Licenses shall be eligible for invitation and the requirements of MSA Bulletin 46(07) may be waived.

4.71. As might be generally applicable, participants by invitation shall comply with Conduct of series & Events

4.72. Acceptance for participation by invitation in any instance shall not serve to commit and/or bind the Committee to permit participation by invitation in any further or future event and permission to participate by invitation may be withdrawn by the Committee at any time without notice or warning.

4.73. Participation in Class X by any competitor is limited to a maximum of 3 Events (Race Meetings) after which it is expected that the competitor enter into one of the existing Championship Classes. The Race committee may use its own discretion to extend the number of events in the case of non regular racers

4.74. Guidelines and parameters governing eligibility for participation by invitation may be amended or supplemented at any time by issue of a Lotus Challenge Bulletin which shall then be read in conjunction with these regulations.

PROTOTYPE CLASS P (By invitation of the Race Committee only)

4.75. For the purposes of establishing any new class or to propose different engines, drive trains or tyres for existing classes, competitors may be permitted to enter and compete by invitation, at the discretion of the Race Committee. The vehicle entered would be classified as a prototype which should be based on the specification envisaged for that new class or new configuration of existing class

4.76. Such invitation will only be entertained on receipt by the Race Committee of a written specification proposal for such a Class or change, an investigation into the number of members prepared to invest in such a class or change and result in a written approval to construct and enter such prototype in the race series.

4.77. The committee will evaluate and either approve or decline the application to enter a car in class P for evaluation purposes within 30 days of receiving such application

4.78. Competitors are advised to first get approval before building and to do sufficient homework and test prior to entering the car in a race.

4.79. Evaluation period must start withing 6 months failing which, the race committee may extend this period on written requestby the competitor

4.80. Evaluation period may not exceed a period of 12 months

4.81. Only one example of the proposed prototype may be entered for evaluation

4.82. By allowing the car to be run as a prototype, the Race Committee is under no obligation to approve the proposal

4.83. The purpose of the evaluation period is to showcase and demonstrate the viability of the proposal and not for testing and development

4.84. The competitor accepts full responsibility for the costs encurred and may not have any claim against the race committee or The Lotus Register if his proposal is not approved.

4.85. Vehicles competing by invitation shall not be eligible for inclusion in the results of any championship class or for championship points. Award of trophies, if any, shall be at the discretion of the event organizers and/or the Committee.

4.86. In applying their discretion when considering such a proposal and thereafter permitting a vehicle to compete by invitation, the Committee shall give due regard to the following:

- The General performance should not be faster than 3 seconds per lap below (faster than) the prevailing class B lap record
- Any new class should be started only as a potential successor class to one of the existing Lotus Challenge Classes with a view to sustaining that class into the future for instance where the ongoing availability of engines or other major components become a problem.
- The complexity and cost of building a typical car to such a specification should be such that it could potentially attract at least 6 regular participants and encourage migration from the other classes.
- Vehicles accepted for participation by invitation will be allocated grid positions as per series Starting grid positions
- Vehicles must conform to the safety requirements, including roll over protection applicable to the series.

INDEX OF PERFORMANCE CHAMPIONSHIP

A club level Index of performance competition, with an overall championship floating trophy at the end of the season

4.87. **Championship:**

4.87.1. The Index of performance championship will be open to all classes.

4.87.2. The Index of performance championship will be a club championship only and will be scored and administered by the club's racing score keeper.

4.87.3. Points will be awarded per race and the racer with the highest total at the end of the race season will be declared the champion.

4.87.4. Tie breaker – Average % for all events followed by most wins.

4.87.5. Index of performance will only apply to official Lotus Challenge sprint races.

4.88. **Trophies:**

4.88.1. The average index of performance calculation for the two races per event will be used to determine the event winner and recipient of the event trophy if available

4.88.2. .

4.89. **Points system:**

4.89.1. Each racer classified as a finisher in a race will score points from first to last

4.89.2. First place will be awarded points equal to the number of starters in the race. Eg 40 starters, First place will get 40 points and last gets 1 (assuming all racers are classified as finishers). If for example there are two racers not classified as finishers, then first place still gets 40 but the last finisher gets 3.

4.89.3. To qualify for points, the racer has to be classified as a finishers in terms of the standard MSA rules

4.89.4. A disqualification will be considered a non-finisher.

4.89.5. Discarding of points – Same rule as per Northern region championship will apply. The discarded event need not be the same event discarded for NR Championship

4.89.6. All points scored by a driver, regardless if he changed classes during the course of a season, will count towards the overall championship.

4.90. **Index of performance calculation**

4.90.1. The official results sheets will be used to calculate Index of performance

4.90.2. Index of performance will be a racer's fastest lap in the race divided by his/her average lap time during the race, expressed as a percentage. Theoretical maximum is 100%. The racer with highest percentage will be declared the winner.

4.90.3. Average lap time will be total race time divided by number of laps. A 0,3 sec per grid Line behind overall pole position, will be subtracted from each racers overall race time, to compensate for relative starting positions.

4.90.4. In the event of a Safety Car or red flag, the results of that Heat become null and void.

ROOKIE CHAMPIONSHIP

4.91. To qualify as a Rookie a driver must have raced less than 3 races in Lotus Challenge

4.92. The Rookie champion will be the driver who scored the most points in the season, regardless the class/s raced in.

4.93. Should there be a tie, then the greater number of class wins followed by second positions and, if required, third positions etc, will be considered in order to break the tie.

MASTERS CHAMPIONSHIP

4.94. To qualify for the Master championship, a driver has to be 50 years and older

4.95. A driver will qualify for master championship from the day he turns 50

4.96. The Masters champion will be the driver who scored the most points in the season, regardless the class/s raced in.

4.97. Should there be a tie, then the greater number of class wins followed by second positions and, if required, third positions etc, will be considered in order to break the tie.

LOTUS CHALLENGE CLUB ENDURANCE CHAMPIONSHIP

4.98. **Controllers**

4.98.1. The controllers of the Motorsport South Africa Lotus Challenge Club Endurance Championship shall be Motorsport South Africa (hereafter referred to as MSA), who have delegated control of the Club Championship to the LOTUS CHALLENGE CLUB and the SPORTS CAR CLUB.. The MSA GCRs and SSRs, which shall prevail in the event of a conflict, must be read and understood in conjunction with these rules and regulations.

4.98.2. The championships will be known as the Lotus Challenge Club Endurance Championship.

4.99. **Eligibility of competitors**

4.99.1. The following eligibility for cars shall apply:

4.99.2. All Classes as per the Lotus Challenge Regional Race regulations, are eligible. Only Class B, Class C, and Class L will score points.

4.99.3. Cars must conform to the Lotus Challenge Regulations as applied to the Lotus Challenge Regional Racing Series.

4.99.4. Class classification will be exactly the same as applied to the Lotus Challenge Regional Race Series Rules.

4.99.5. All classes - Long range fuel tanks may be fitted

4.99.6. Class B Tyres must be of the same type and size as for the Lotus Challenge and do not need to be branded

4.99.7. Class C No Exceptions

4.99.8. Class L Tyres must be of the same type and size as for the Lotus Challenge and do not need to be branded

4.99.9. Drivers must hold a current and valid MSA licence that is applicable to this series. MSA circuit racing licences can be obtained by making application to MSA on the appropriate form. (see the MSA handbook for details).

4.100. **Sponsors exposure**

4.100.1. Advertising material, as deemed necessary by the relevant LC/SCC committee in terms of the promotion of a series sponsor/s, shall be displayed on each competitor's car and/or racing apparel and in a specified position.

4.100.2. Should such advertising material not be placed on a competing vehicle, that vehicle will not be allowed to participate in any qualifying session or race until such time as the specified advertising material is placed on the vehicle.

4.101. **Incidents on track**

4.101.1. Competitors involved in incidents are required by MSA to submit a report to the Clerk of the Course (CoC) within one hour of the finish of the practice or race. The relevant HRSA LCC committee may, in the absence of any incident report to the CoC, request incident reports from competitors which will be referred to the CoC.

4.101.2. The CoC will apply any such penalties as may be provided for in the MSA GCRs and SSRs.

4.101.3. Competitors must undertake to race within the spirit of the regulations and the relevant LCC / SCC committee will be the final judge of that fact.

4.102. **General rules**

4.102.1. The Championships will be run at all events where an endurance event is offered at the same event as the Lotus Challenge sprint races as determined by the LCC committee.

4.102.2. Each Championship round shall consist of one race of a minimum of 30 min duration.

4.102.3. The grid for each race will be determined by the fastest qualifying time and downwards.

4.102.4. The start of each race will be by way of a rolling start.

4.102.5. Points for The Lotus Challenge Club Endurance Championship will be scored in each class on the following basis for each Championship race:

1st 20 points
2nd 18 points
3rd 16 points
4th 14 points
5th 12 points
6th 10 points
7th 8 points
8th 6 points
9th 4 points
10th 2 point

4.102.6. A competitor may accumulate points from more than one class during the season, towards the Championships. All class points shall be scored in the relevant class in which the car raced.

4.102.7. No competitor may score points in more than one car in any one race. Should a driver contemplate competing in more than one car in a race, the car in which points are to be scored must be nominated to the responsible committee member before the race is started. In the event of the scoring car not being nominated the lowest score will count towards the championship even if it is a zero.

4.102.8. For any Lotus Challenge Club Endurance event at a circuit outside Gauteng (excl Red Star Raceway), a competitor who participates by commencing a lap, whether in practice (official or unofficial), qualifying, or in a race, will be awarded an extra ten points towards the Championship.

4.102.9. Should three or fewer cars in a particular class start official practice or race at an event, the championship points for that class will be awarded as follows for each race:

	Three cars	**Two cars**	**One cars**
1st	18 Points	16 Points	14 Points
2nd	16 Points	14 Points	
3rd	14 Points		

4.102.10. In the case of a tie, the competitor with the greater number of 1st place points will be declared the Champion. If this does not resolve the tie, then the greater number of 2nds failing this, 3rds and so on until the tie is resolved. If a tie still remains, MSA shall declare a winner on such basis as it deems fitting.

4.102.11. Should two drivers only compete together in one car, they will both have scored the same number of points and have the same number of placing's. In this case the overall and class positions will be jointly awarded to the two drivers.

4.102.12. Where the duration of the race is longer than 90 minutes, double points shall be awarded.

4.102.13. All rounds of the championship will count towards the championship points and no discards will be applied.

4.103. **Class Structure**

4.103.1. The Class structure will be exactly the same as for the Lotus Challenge regional Race series.

Class B
Class C
Class L

4.103.2. A competitor shall not be allowed to change a vehicle from one class to another without prior written permission from the relevant LCC / SCC committee.

4.103.3. The relevant LCC / SCC committee will maintain a list of all car driver combinations, together with their class history.

4.104. **Specific regulations for endurance races**

4.104.1. The chequered flag will be displayed to the leader the first time that he appears at the start / finish line after the prescribed time has elapsed.

4.104.2. The winner of each class will be the car that has covered the greatest distance in the race and where cars finish on the same lap, the first car in each class to cross the finish line will be the winner. Second in each class will be the car covering the second furthest distance and where cars finish on the same lap, the second car in each class to cross the finish line will be second and so forth through the field. Should there be a dead heat between cars, the car that started further back on the grid would have travelled a greater distance and be declared the winner.

4.104.3. To be classified as a finisher a car must cross the finish line on the circuit (not in the pits) under its own power after completion of the race duration. A competitor must complete 66% of the total laps completed by the leading car in its class to be classified as a finisher.

4.104.4. No outside assistance is permitted, except when:

- A car has stopped on the circuit and the marshals consider it necessary to move the car for safety reasons.
- When the car is in the pits.

4.104.5. In each race there will be a compulsory pit stop, during which the car must remain stationary in the pit area for a minimum of 120 seconds. Any car not complying with this regulation will be given a 10 lap penalty to be deducted from their race distance. There will be a pit window after first 20 min and 20 min before the end of the race when this compulsory stop will be allowed. Emergency pit stops will be allowed outside this window.

4.104.6. Refuelling is permitted during the pit stop. A maximum of 2 people are permitted to attend to the refuelling and they must wear flame-proof overalls, gloves, closed shoes and either a full face helmet or an open face helmet with a flame-proof balaclava. The driver must be out of the vehicle during refuelling and the engine switched off. No other work may be carried out on the car during refuelling. A fire extinguisher must be available during refuelling. Fuel spillage will be penalised by a penalty to be determined by the Clerk of the Course.

4.104.7. Should the Clerk of Course deem it necessary, refuelling may be restricted to a designated refuelling area, failing which refuelling may only take place in the pit lane and not in the enclosed area of the pit complex.

4.104.8. Other than during refuelling, a maximum of 4 people may work on the car in the pit lane during a pit stop (not counting the driver/s). Should any work requiring more than 4 people be contemplated, the car must be moved into the pit garage..

4.104.9. Driver changes are permitted and where more than one driver competes in one car they will all score the full points for the race provided that they have all driven for a minimum of:

- 20 minutes during an up to1hr race
- 30 minutes during a 90 minute race
- 40 minutes during a 2hr or longer race

4.104.10. No driver may drive for longer than two hours without taking a 15 minute break.

4.104.11. Only 1 driver needs to qualify the car in official practice. Should more than 1 driver participate in qualifying the fastest time set by the car will be used to set the grid.

4.104.12. Should a car not attend qualifying it will be placed on the grid in the next position behind the slowest qualifier in its class, even if cars of a slower class may be ahead of it.

Sprint race qualifying times may be used should there not be a qualifying session for Endurance

4.104.13. Radio communication between the car and the pits is permitted. Pit board signalling is permitted.

4.104.14. All-time under the safety car counts towards the race.

4.104.15. In the event of the race being red flagged the following will apply:

- Within 15 minutes of the start. Competitors to proceed to the start finish line and the race will be restarted as a new race with a grid as per the original start. The new race will be of a duration equivalent to the time remaining in the original race when the red flag was shown.
- After 45 minutes from the start. Competitors to proceed to the start finish line and the race will be stopped and scored on the competitors positions at the end of the lap before the one in which the red flag was shown.

4.104.16. At any time between the above. Competitors to proceed to the start finish line in race order and form up on the grid in that order. The race will be restarted with this grid order, either immediately or later in the program at the discretion of the Clerk of Course. The clock will stop on the showing of the red flag and be started when the start lights are extinguished to restart the race. Such a restarted race will be scored as a single race with the winners decided as per point 8.2 above.

4.104.17. Should a race have to be abandoned due to a red flag, it will be scored on the basis of the positions of the cars at the end of the lap before the one in which the red flag was shown.

APPENDIX A - SAFETY LIST

1. <u>Roll-over protection</u>

Compulsory all Classes

1.1. 6 Point Roll cage, FIA approved or to specifications described in Appendix C item 1

1.2. Side impact beam, as described in Appendix D

1.3. A head restraint must be fitted which must measure a minimum of 10cm x 10cm and be situated not more than 5cm behind the driver's head. The design of the head restraint is free. Head must be capable of restraining a 17kg mass decelerating at 5g. (FIA Appendix K)

1.4. There must be clearance of at least 5cm between the top of the driver's helmet and the top of the rollover cage main hoop.

Recommended

1.5. It is recommended that an approved passenger side impact beam be fitted on cars that have their fuel tank mounted in the passenger compartment

1.6. Fitment of roll cage padding to the roll cage main hoop, roof diagonal and drivers side rail to every part of the roll cage that might reasonably come into contact with drivers helmet or arms in impact is recommended

2. <u>Fire Extinguisher</u>

Compulsory all Classes

2.1. Fire extinguisher of 1 kilogram minimum extinguishant capacity must be fitted. Proof of service or purchase must be furnished in accordance with MSA regulation GCR 257. (service interval 6 months

2.2. Fire extinguisher to be within reach of driver with harness done up.

2.3. It is permitted to remove the passenger seat to allow optimal placement of the extinguisher. Specific class rules may override this rule
2.4. A decal should be positioned to show the marshals the location of the extinguisher.
2.5. Plastic mounting brackets are not permitted.
2.6. The extinguisher must be mounted in a position where it may be reached or activate from outside the car.

Recommended all Classes

2.7. An approved, plumbed in extinguisher system (for driver's & engine compartment protection) is highly recommended

3. Suspension

Compulsory all Classes

3.1. Where Triumph-type uprights are used on vehicles, it is required that the trunnion be replaced with a spherical joint. This has additional benefits in terms of suspension geometry. The modification must be properly engineered with a sleeve welded to the trunnion point to ensure structural strength.
3.2. Where a Ford or other type of upright is used and an extension is used to reduce ride height this extension must be properly/professionally welded to the upright
3.3. Suspension bushes/spherical joints to be in good condition and free of play.
3.4. Suspension should be free to travel through a full range of movement without interference.
3.5. Welds on suspension arms to be of good quality and continuous around all joints.
3.6. Bolting should be Grade 8.8 minimum throughout.

4. Chassis

Compulsory all Classes

4.1. Steel hoops or welded in centre tunnel to be fitted to restrain a broken prop shaft.
4.2. Modified / strengthened steering rack mounting bracket on all older Birkins
4.3. No structural members which may be deemed to affect the integrity of the car shall be removed from a chassis for any reason whatsoever
4.4. No grub screws on round steering shafts allowed
4.5. All tubes to be in good condition and tubes that should be straight must be straight.
4.6. Mounting points for suspension, engine, gearbox, safety belt and steering rack to be adequately supported.
4.7. All welds to be of good quality.

Recommended all Classes

4.8. On Birkin cars fitted with Independent rear suspension, it is recommended the mounting points of the differential support structure to the chassis be inspected for cracks regularly and if found to be cracked, a strengthening repair be carried out

5. Wheel Studs

Compulsory all Classes

5.1. Wheel nuts should have at least 1.5 x diameter's engagement with studs. Closed nuts are not allowed.

6. Brakes

Compulsory all Classes

6.1. Brake calipers to be attached to suspension using Grade 8.8 or better bolts.
6.2. Brake discs should not show evidence of structural cracking.
6.3. Brake hoses should be in good condition and must not rub against moving parts such as wheels, tires or the ground.

6.4. Brake fluid to be replaced at least yearly and should appear clean and be uncontaminated. The level of brake fluid should be within limits before every race.
6.5. Brake pads must have at least 3mm of friction material left before every race.
6.6. Dual circuit brakes are to be fitted to all cars.

7. Fuel system

Compulsory all Classes

7.1. Fuel lines should be in good condition and well removed from moving objects and heat sources such as exhaust systems.
7.2. Fuel should not be able to drip onto exhaust or distributor.
7.3. The tank is to be partitioned in such a way that fuel cannot spill onto the driver in the event of an accident. (Firewall)
7.4. All fuel lines going through the cockpit are to be steel or steel braided.
7.5. Fuel tanks in the cockpit area to be isolated from the driver with a suitable firewall
7.6. If the fuel tank is in the cockpit area a 12mm minimum hole to be drilled in the floor as far away from the exhaust as possible to allow any fuel spilled to drain away
7.7. Fuel tank to be in good condition.
7.8. Fuel tank to be adequately mounted.
7.9. Plastic tanks or fuel cells are strongly recommended. Only professionally made bladder tanks are permitted to be fitted behind the rear axle.
7.10. Grommets are to be fitted where flexible hoses go through body panels.
7.11. All joins in pipes are to be supported.
7.12. Fuel vent lines to be fitted with one way roll-over vent valves

8. Electrical system

Compulsory all Classes

8.1. Battery cut-off switches to be accessible to marshals from outside the car as well as being accessible to the driver when fully belted into the car.
8.2. A decal should show the position of the cut-off switch and the direction to turn the power off
8.3. Batteries to be securely mounted and covered if mounted in the driver area.
8.4. Wiring to be in good condition and connections should be insulated.
8.5. Grommets should be fitted where wiring goes through metal panels.
8.6. When the Battery cut-off is switched off, it must completely cut ALL electric power and the engine must stop.

9. Clothing

Compulsory all Classes

9.1. Fire Retardant Racing overalls to be worn by all competitors.
9.2. Fire retardant shoes and gloves to be worn by all competitors.
9.3. Correctly fitted Head And Neck Support device (H.A.N.S) is mandatory
9.4. Fire retardant Balaclava to be worn by all competitors.
9.5. Helmets are to be worn by all competitors and must be in good condition.

Recommended all Classes

9.6. All Helmets must be approved for circuit car racing with either SFi 24.1 (2015), Fia 8860-2010, Fia 8859-2015, Snell SA or SAH ratings. – compulsory from 2019

10. Seat Belts

Compulsory all Classes

10.1. Safety belts/harnesses five or six Point, including Crotch strap shall be fitted in accordance with the requirements of the MSA safety commission.

10.2. The harness must be in good condition and securely mounted to well-supported areas of the chassis.

10.3. All belts must be within the expiry date. Per MSA the expiry date can be extended by up to 5 years providing the belts are in good condition.

10.4. The harnesses shoulder strap mounting points MUST be in accordance with the recommendations of the Head And Neck Support device manufacturer

10.5. Head And Neck Support device may not be modified in any way. The original manufacturer's hardware fittings may not be removed or replaced.

10.6. The use of arm restraints is mandatory.

10.7. Arm restraints are not required to be made from fire resistant/retardant material. They shall be mounted on one end to the driver restraint lap belt and the other end to the arm or wrist. The minimum width for the portion of the arm restraint that wraps around the arm or wrist shall be 1 3/4 inches (4.4 cm) minimum. The lap belt end shall be mounted in such a manner as to prevent the arm from traveling outside of the driver's compartment. Each arm may have a separate strap, or the restraint may have a "Y" configuration, with only one attachment to the lap belt. Any loose webbing end shall incorporate a design method to prevent the strap from completely pulling out of any hardware (d-rings, 3-bar slide, etc.)

Recommended all Classes

10.8. Additional side netting (on either side of driver) can be used.

10.9. The use of Head And Neck Support device specific seat belts with 2" shoulder straps is recommended.

10.10. Competitors are recommended to replace complete belt sets after being involved in accidents

11. Seats

Compulsory

11.1. For all composite seats: (Fibre glass or Carbon fibre)

11.2. Unless the seat is mounted on a dedicated and integrated base (Caterham style seat) the following will apply:

11.2.1. There must be an adequate steel structure under the seat to support the composite seat

11.2.2. The cavity (open area between seat back and chassis cladding) behind the seat must be filled with expanding Polyurethane foam with a minimum density of 38kg/m3 to the full width of the seat

11.2.3. All seat belt locator openings must have no sharp edges and anti-chafing strips fitted.

11.2.4. The seatbelt must follow the natural "straight" line between the top seatbelt mounting points and the driver shoulder – The seatbelt must not be deflected by the holes in the seat

Recommended

11.3. The following composite seat recommended minimums:

- Four layers of fibre glass chopped strand matting to a minimum thickness of 4mm, OR
- One layer of fibre glass woven mat sandwiched between two layers of fibre glass chopped strand matting, minimum thickness 3mm,
- Carbon fibre and fibre glass woven matting to a thickness of 2mm.

11.4. Steel plate of minimum 1.6mm centred under the lowest point of the seat welded or bolted between seat rails or chassis members

12. Other

Compulsory all Classes

12.1. All cars shall, at a minimum, have 2 mirrors, positioned such as to have an unobstructed view behind the car.
12.2. Sump, gearbox and diff drain plugs, oil filters and any probes or threaded fittings, shall be safety-wired in place.
12.3. Indicated towing points are to be provided front and rear.
12.4. No loose carpets or other items shall be present in the car.
12.5. All light glass to be taped (Except during endurance races)
12.6. No cars shall take part in a practice or race on a tarred circuit with an open-ended pipe in any way connected with the lubrication system, sump, catch tank or other oil reservoir. All such pipes shall terminate in a metal or plastic container of at least 2000ml capacity, firmly secured to the vehicle. This container must be translucent or, in the case of a metal container, be fitted with a translucent "window" for checking the level of the contents. These containers shall be empty at the start of the race.
12.7. No re-treaded tires allowed.
12.8. The use of anti-freeze in the cooling system is forbidden
12.9. The competitor is advised to read the FIA “Common regulations competitors: Safety” document (Appendix K) for additional information regarding safety equipment.

APPENDIX B - Inlet Ducts and Scoops

1. Inlet Ducts or Scoops

An inlet duct or air scoop (the sole purpose of which is to supply air to the engine for combustion purposes), as detailed below is allowed to be fitted to the nose only.

1.1. Types of Duct

1.2. Types permitted are: **NACA** type (submerged into the bodywork), protruding (above the bodywork) or concealed (taking air from within the confines of the vehicle).

1.2.1. Protruding scoop (refer Figure 1)

1.2.1.1. Inlet Dimensions.

The **maximum** dimensions of the opening or air inlet is 180mm wide by 45mm high. 8100sq. mm

1.2.1.2. Height.

The **maximum** height permitted is 57mm measured from the highest point of the scoop to the surrounding bodywork closest to the scoop.

1.2.1.3. Width of scoop.

The **maximum** width is not restricted as long as the aperture does not exceed the dimensions in 1.2.1.1 above.

1.2.1.4. Length of scoop.

The length is limited to 350mm.

1.2.1.5. Quantity.

The sizes mentioned in a) above is for a single duct. If more than one duct is used, their individual areas must be added up, and that Total may not exceed 8100sq. mm

1.2.2. NACA Duct (refer Figure 2)

1.2.2.1. Inlet Dimensions

The **maximum** dimensions of the opening or air inlet 180mm wide by 45mm deep 8100sq. mm

1.2.2.2. Depth

The **maximum** depth allowable is 57mm

1.2.2.3. Length of Duct

The length is limited to 350mm.

1.2.2.4. Width

The **maximum** width of the duct is 180mm.

1.2.2.5. Quantity

The sizes mentioned in 1.2.2.1 above is for a single duct. If more than one duct is used, their individual areas must be added up, and that Total may not exceed 8100sq. mm

1.2.3. Concealed

1.2.3.1. Inlet Dimensions.

The **maximum** dimensions of the opening or air inlet 180mm wide by 45mm deep, or a Total area not exceeding 8100sq. mm

1.2.4. Class L scoop.

Only one bonnet scoop is allowed available from the RC or approved supplier.

1.3. Exceptions

1.3.1. Should any duct, scoop or air box fall outside the definitions and sizes listed above, adequate and timely written representation requesting consideration for approval must be made to the Committee who shall determine the eligibility of the duct at their discretion.

1.3.2. No duct will be allowed should the area of the aperture be greater than 8100 sq. mm.

1.3.3. Air scoops or ducts mounted below the nose, and supplying or extracting air for cooling or other reasons may not be wider than the chassis at their at their furthermost forward mounting point, nor extend below the chassis frame, but will fall under Items 4.1 to 4.4 of the Regulations and Specifications for the Lotus Challenge.

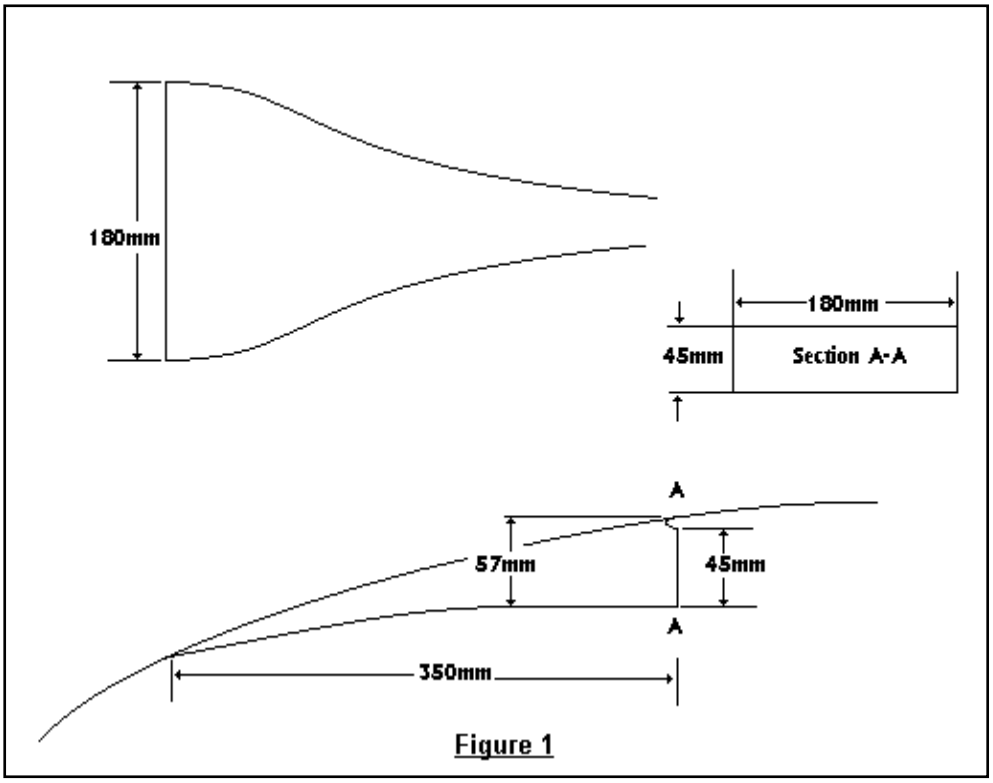

Figure 1

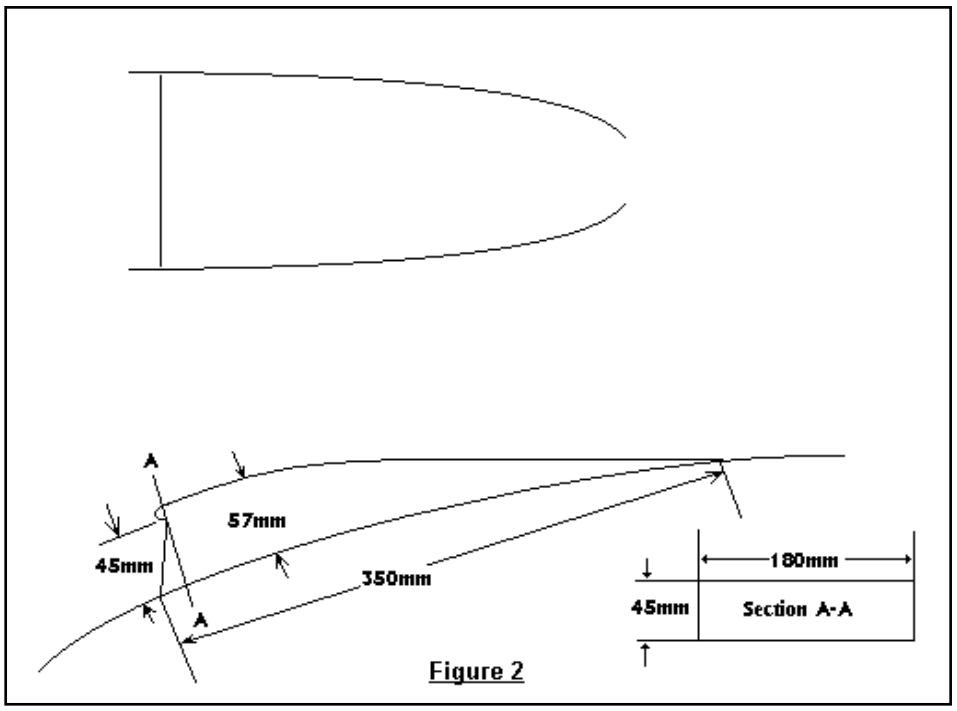

Figure 2

APPENDIX C - Roll over protection

1. **Roll cage specification applicable to all classes**

All cars must be equipped with a rollcage consisting, at a minimum, of a structural framework made up of:

- a main rollbar, and
- a front rollbar, and
- their connecting members, and
- one diagonal member, and
- backstays, and
- a minimum of 6 mounting points, and
- all generally configured in accordance with Figure 1

Unless fitted with an FIA certified and approved Roll Cage (minimum of 6 mounting points) for use on that type of vehicle **(The original identification plate must be attached)**, the following minimum specification detailed below is applicable to **ALL**. Roll cages supplied by Caterham U.K., Birkin S.A. and Locost S.A. are acceptable.

1.1. Main roll cage structure: (Refer Figure 1 below)

1.1.1. Two safety rollover structures (front and rear) are mandatory.

1.1.2. The rear structure tubing must be straight and vertical when viewed from the side, front or rear of the car. When fitted to an enclosed car (e.g. Exige), it must follow the internal contour of the bodyshell as close as possible. It must have at least 1 diagonal brace, left to right, lowest point at the base plate on the passenger side of the vehicle.

1.1.3. The front structure must be separated by a minimum of 600 mm from the rear structure, measured at its nearest point. It should loosely follow the profile of a standard windscreen as fitted to a road going "Seven" or the internal bodyshell if fitted to an enclosed car. The vertical tubes must be straight and can have a maximum of 1 bend on their lower part.

1.1.4. The front structure must be connected to the rear structure by tubes attached near the top outer bends of the forward and rear main structures on both sides of the car.

1.1.5. At least 1 diagonal member must connect the front & rear rollover structures, its front connection must be at the driver's side. These connections must be at the same location as the side tube joints This member may be replaced by two curved tubes (U shaped) the legs of each "U" must attach at the attachment points of the side tubes connecting the front and rear roll structures and the base of the "U" must meet on the longitudinal centreline of the roll structure.

1.1.6. Two backstays must be fitted, these must meet the main rear rollover structure at the side tube joints. For certain types of enclosed cars these backstays may be omitted with the approval of the race committee and circuit scrutineers. The rear of these stays must locate on the factory mounting points for Sevens.

1.1.7. The base plates for the main Rollover structures must be made from at least 3mm steel plate. Mount plates for the backstays must be at least 2mm.

1.1.8. If not forming part of the seat construction, a head restraint must be fitted to the roll cage, of minimum dimensions 100x100mm and positioned so that the drivers head cannot move past it under rearward forces or get trapped between the roll bar and head restraint. The drivers head should be within 50mm of it when normally seated.

1.1.9. The fwd & rear safety rollover structures must be symmetrical about the lengthwise centre-line of the car.

1.1.10. The fwd & rear structures must have at least one 5mm hole drilled through to enable tubing wall thickness to be verified.

1.1.11. The forward and rear rollover safety structures must be made in one piece without joints. Their construction must be smooth and even, without ripples or cracks. The centreline bend radius must be a minimum of 3 times the tube Dia.

1.1.12. The areas within the roll cage structure shall remain entirely open and shall not, when viewed from any angle, be covered with, or supplemented by, any additional material which, as might be determined by the race committee, might serve, or be intended to serve, as an aerodynamic aid.

1.1.13. The top of the driver's helmet may not be less than 50mm below the top edges of the two roll over structures. Any extension added to the main structure to facilitate this, may not be higher than 100mm above the main roll hoop.

1.1.14. It is recommended that rollcage tubes within 150mm of the driver's helmet are covered with a suitable energy absorbing material.

1.1.15. The tubes may not carry fluids.

1.2. <u>Tubing Specifications</u>

1.2.1. All compulsory elements of the roll cage structures shall be - Cold drawn unalloyed carbon steel

1.2.2. Minimum dia. 38mm

1.2.3. Min wall thickness x 2mm

1.2.4. All bolts securing the roll cage must be at least grade 8.8"

1.2.5. Optional reinforcing members may be fitted (shaded items in fig. 1) but none may extend forward of the front roll hoop although an additional diagonal brace within the top of the roll cage is recommended;

1.2.6. Side-intrusion bars may be fitted external to the chassis and/or incorporated into the roll cage structure but may not extend further forward than the front of the driver foot well.

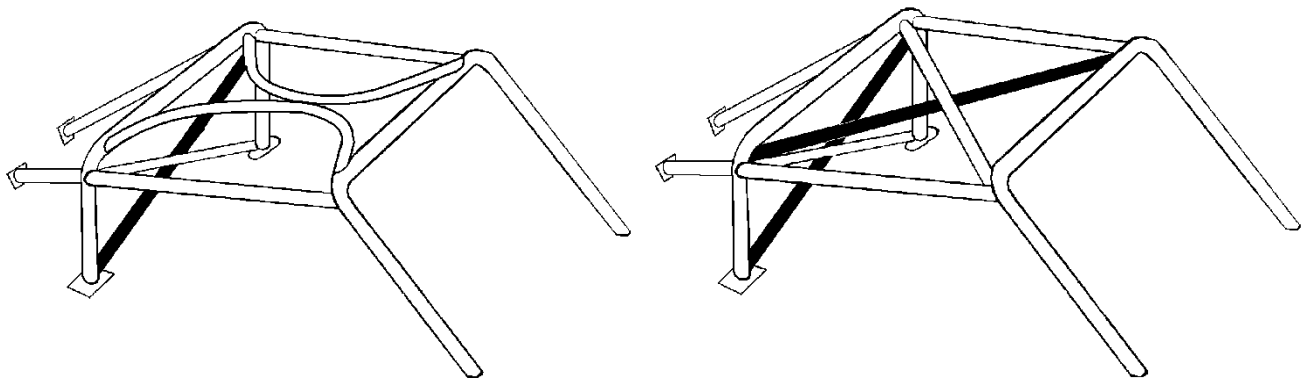

Figure 1

APPENDIX D - Side impact protection

1. <u>Side Impact specification, applicable to all Lotus 7 type vehicles.</u>

All Lotus 7 type cars must be equipped with externally mounted side impact protection bars consisting of a structure mounted on the outside and, at minimum, to the driver's side of the vehicle and generally configured in accordance with Figure 1. Although option 2 is the preferred and recommended configuration, the utilisation of one, or a combination of, options 1, 2 or 3 is permitted. This requirement is in addition to any existing internally fitted side impact protection.

1.1. <u>Main structure: (Refer Figure 1 below)</u>

One tubular side impact bar mounted to the chassis frame at a minimum of three points along the side of the vehicle. Two of these points may be attached to the existing roll-cage structure. Tubing to be cold drawn unalloyed steel. Minimum of 31mm diameter and 2mm wall thickness. Spacing between the tubing and chassis/cladding to be either 0 to 30mm, or 200 to 300mm. The structure may be removable.

1.2. <u>Mounting points to be, from rear to front:</u>

- **A**. Rear roll-over hoop maximum 150mm above base mount (a mount point can be sandwiched between the vehicle chassis and the rear roll hoop mount base plate) Minimum fastener size 10mm.
- **B**. **<u>This point is an optional point and does not have to be included in the structure.</u>** Located about 50mm below the point where the angled trailing arm mount tube, the cockpit side rail "elbow rail" and the curved tube from the backrest/shock mount point are joined. Recommended minimum fastener size 8mm.
- **C**. At the down tube which links the dashboard frame tubing to the lower chassis longeron tube. A minimum of 150mm and a maximum of 300mm from the bottom of the lower chassis longeron tube. Or, on roll-cages that mount to the chassis in this area, the lower mounting point of the forward roll hoop. Minimum fastener size 8mm.
- **D**. At the furthermost forward footwell/cockpit bulkhead vertical tube, a Maximum of 100mm from the bottom of the lower chassis longeron tube. Minimum fastener size 10mm.
- **E**. An additional tube from point C to a point in the area where the lower trailing arm is mounted to the chassis is permitted

Cars fitted with side impact bars that form an integral part of the roll-cage structure (e.g. Caterham), need only install a footwell side impact bar, utilising mounting points C & D as shown in option 3 of figure 1 below.

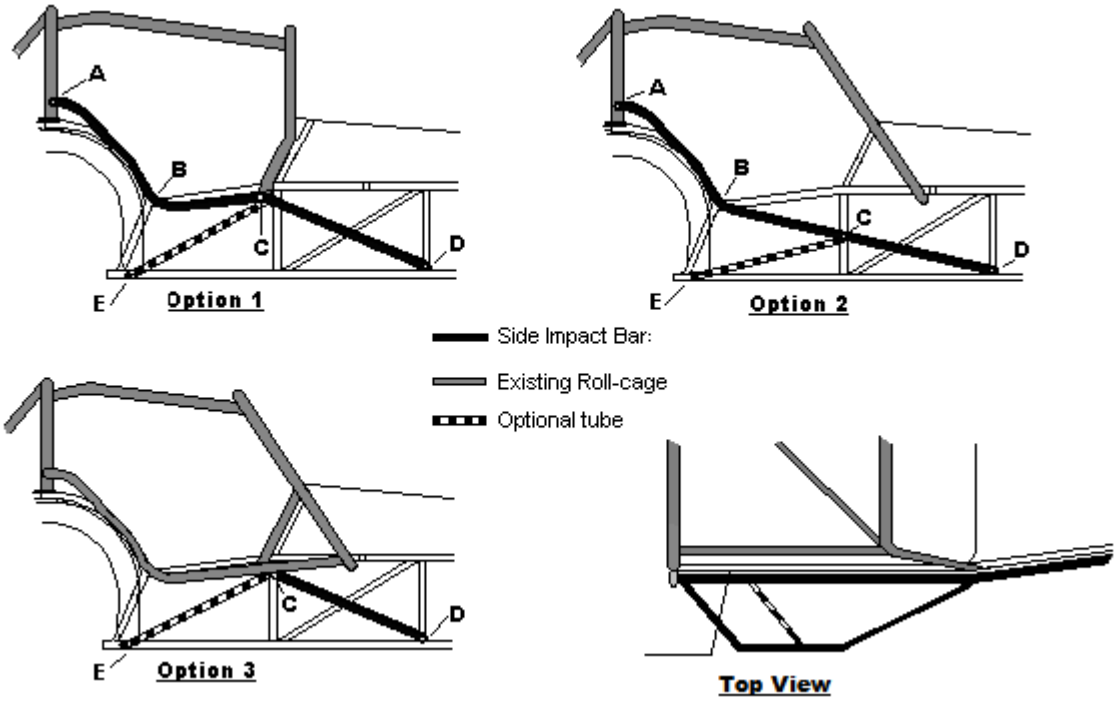
A
B
C
D
E
Option 1
A
B
C
D
E
Option 2
Side Impact Bar:
Existing Roll-cage
Optional tube
C
D
E
Option 3
Top View

Figure 1

APPENDIX E - Two Tyre Rule

Interpretation and Application

The following represents the Race Committee's interpretation of the so-called "two-tyre" rule and its application in the context of the permitted number of tyres that a competitor may use during the course of a single season.

1. <u>Intent of Rule</u>

1.1. The rule was introduced (for Class A and, by extension, A-1600) for the purpose of containing costs and, by implication, to require that competitors 'manage' the longevity of their tyres through considered and disciplined husbandry of their tyre allocation through appropriate driving and set-up practices.

1.2. The race committee believes these principles must guide their interpretation and application of the rule.

2. **<u>Number of permitted tyres:</u>**

2.1. The so-called "two-tyre" or "two-set" rule might be more properly described as the "eight-tyre" rule as competitors are permitted to use up to eight branded tyres during the course of the season.

2.2. Four tyres are branded as "set-one" and four as "set-two", but there is no limitation upon the combination of tyres from within these two "sets" that may be used during the season which therefore allows competitors to mix-and-match their branded tyres irrespective of the "set" from within which each of the tyres may be drawn.

2.3. This interpretation would permit, for example, the utilization during the season of six front tyres and two rear tyres rather than the more 'conventional' four / four split.

3. <u>Branded tyres are allocated by driver and not by car:</u>

3.1. Our championships are for drivers and not for vehicles.

3.2. If a competitor changes vehicles during the course of a season for whatever reason (temporarily or permanently), the driver remains 'tied' to the tyres that might have already been branded and must use those (or those of the remaining permitted allocation) on the replacement vehicle in order to remain eligible for classification in the race results and championship points.

3.3. In the case of a driver changing classes during the course of a season, he starts in that class as if he had never raced before and his full allocation of 8 tyres is available. He must inform the Race Committee of which branded tyres he will use going forward in that class and have his decision recorded.

4. <u>Replacement of Damaged Tyres:</u>

4.1. Under certain circumstances and upon written request, the race committee has the discretion to permit the replacement of a 'damaged' tyre with one of fundamentally similar remaining life.

4.2. This discretion is interpreted as being for the purpose of dealing solely with extraordinary tyre damage caused in circumstances that are clearly distinct from those that might relate to driver or set-up error (e.g., sidewall damage from impact or accident might justify discretionary replacement)

4.3. Therefore, this discretionary replacement is not available in circumstances where a tyre has sustained an uneven pattern of wear (e.g. through poor set-up) or has been flat-spotted or has been punctured as a result of driver going off track (e.g. through poor driving).

4.4. While it might be conceivably claimed that a flat-spot has resulted in consequence to the conduct of another driver (e.g. in reaction to someone else's accident), this will be viewed by the race-committee as (to use a golfing analogy) "rub-of-the-green" and, therefore, not good grounds for replacement.

4.5. By example, and for the purposes of clarity, a tyre which has sustained accidental and extraordinary damage as described above may be replaced at the discretion of the race committee with one of fundamentally similar remaining life. But, if the damaged tyre for which replacement is sought has also been flat-spotted (say, to the extent that canvas is exposed rendering it unsafe on those grounds alone) replacement of that tyre becomes impossible on the grounds that the replacement tyre (in order to have fundamentally similar remaining life) would also carry the same flat-spot damage and, therefore, be unsafe for racing.

4.6. If, by the preceding example, replacement of the damaged tyre becomes impossible and the driver has exhausted his full allocation of eight tyres for the season, the driver may continue to race on substitute tyres but will have become ineligible for classification within the results and for championship points.

4.7. By reference to the foregoing intent of the so-called “two-tyre” rule, the committee believes this interpretation and application of the damaged tyre provision to be consistent with the objective of promoting prudent tyre use in a manner that is fair to all competitors.