

2018 CLASSIC TOURING CAR CHAMPIONSHIP

TECHNICAL REGULATIONS

MRF TYRES CLASSIC THUNDER SALOONS



Organised by the British Automobile Racing Club

Thruxton Circuit, Andover, Hampshire, SP11 8PN

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5 TECHNICAL

5.1 Introduction:

- a. The following technical regulations are set out in accordance with MSA specified format and it should be clearly understood that if the following texts do not clearly state that you can do it, you should adopt the principal that you cannot.
- b. Anything that is not explicitly authorised in writing by the Championship Technical Committee and anything that is not specified either in these regulations or in any Official Championship Bulletin is therefore strictly forbidden and thus will be regarded as a breach of these Technical Regulations and may be penalised as described in section 4. It should be clearly understood that technical regulations will be strictly enforced and any modification, addition, variation, tuning or removal other than specifically permitted in these regulations is prohibited.
- c. Regulations that have changed in substance from the 2017 HAMMERITE CLASSIC THUNDER SALOONS Technical Regulations are normally indicated by being highlighted.

5.1.1 Any matter affecting Technical Regulations must be put in writing to the Championship Eligibility Scrutineer, as any claim to have received clarifications or rulings on the Regulations must be substantiated by the production, on demand, of written confirmation of such rulings.

5.2 Description:

5.2.1 General

The Thunder Saloon Championship is for competitors participating in Saloon, Coupe, Hatchback and Estate cars based on the standard fibreglass or steel production shell and designed to carry at least four people which were marketed before 1st January 2011 and Historic Thunder Saloon Cars marketed before 1st January 1983. Sportscars built prior to 1983 may be eligible for class H1 or H2 and will be approved each season on an individual vehicle basis by the Championship Organisers, the car must not deviate from the submitted specification unless such changes are approved by the Championship Organisers.

5.2.2 Eligibility:

- a. All cars are subject to approval of their eligibility by the Championship Organisers.
- b. Cars marketed after 1st January 2011 may be eligible subject to Championship Organisers approval.
- c. Cars not complying with these regulations may be eligible subject to Championship Organisers approval.
- d. The following cars are NOT eligible for this championship.
 - i. The Nissan Skyline four-wheel drive
 - ii. Sports cars.
 - iii. Silhouettes
- e. **Space frame cars**
 - i. "Fully" space frame cars may be eligible for the series, subject to the requirements of Technical Regulations 5.2.2 e. ii. and 5.2.2 e. iii.
 - ii. "Partial" space frame cars may be eligible for Classes H1 & H2, subject to the requirements of Technical Regulations 5.2.2 f. ii. and 5.2.2 f. iii.
 - iii. Competitors wishing to run either a Fully, or Part space frame car must submit a written specification of the car to the Championship Organisers. This specification will be made available to the eligibility scrutineers for pre-and post-event checks. The specification must be submitted by the Competitor at the time of registration for the Championship. A Registration will not be accepted without submission of the relevant details.
 - iv. Space frame cars will be approved each season on an individual vehicle basis by the Championship Organisers and the car must not deviate from the submitted specification unless such changes are approved by the Championship Organisers.

- v. The committee reserve the right to amend this specification over the course of the season for the purposes of performance equalisation. Such specification will include but is not limited to; turbo and ancillaries, turbo restrictors (if required), injection systems, wheel sizes, tyres and minimum weights.
 - vi. Any approval may be withdrawn at any time by the Championship Organisers.
 - vii. Space frame cars will not eligible for: -
 - i. Championship award / trophies
 - ii. Championship points.
 - viii. Space frame cars may be eligible for a club award at the end of the season.
- f. **Four Wheel Drive Cars**
- i. Forced Induction, four-wheel drive cars up to a maximum engine capacity of 2200cc may be eligible for the series subject to the requirements of Technical Regulations 5.2.2 f. iii. to 5.2.2 f. vii inclusive.
 - ii. Normally aspirated, four-wheel drive cars of any engine capacity, may be eligible for the series subject to the requirements of Technical Regulations 5.2.2 f. iii. to 5.2.2 f. vii inclusive
 - iii. Competitors wishing to run a four-wheel drive car must submit a written specification of the car to the Championship Organisers. This specification will be made available to the eligibility scrutineers for pre-and post event checks. The specification must be submitted by the Competitor at the time of registration for the Championship. A Registration will not be accepted without submission of the relevant details.
 - iv. Cars will be approved each season on an individual vehicle basis by the Championship Organisers and the car must not deviate from the submitted specification unless such changes are approved by the Championship Organisers.
 - v. The committee reserve the right to amend this specification over the course of the season for the purposes of performance equalisation. Such specification will include but is not limited to; turbo and ancillaries, turbo restrictors (if required), injection systems, wheel sizes, tyres and minimum weights.
 - vi. Any approval may be withdrawn at any time by the Championship Organisers.
 - vii. Four-wheel drive cars will not be subject to the equivalency factor detailed in 5.2.4.3 a. when calculating engine capacity for the purposes of class eligibility.
- g. **Historic Cars**
- i. Forced Induction Historic cars are eligible for the series subject to the requirements of Technical Regulations.
 - ii. Normally aspirated, Historic cars are eligible for the series subject to the requirements of Technical Regulations.
 - h. The responsibility to prove eligibility is that of the Competitor at all times. For clarification of a Competitor refer to the MSA Yearbook 2018 section (B) Nomenclature & Definitions.
 - i. Proof of a vehicles' eligibility may be substantiated by production of a Historic Technical Passport (HTP) or Homologation papers stamped by the ASN. These documents, where issued, for that vehicle and these must be available for inspection when required.
 - j. Where no such paperwork is available, the Competitor must produce written confirmation from the Championship Organisers as to the eligibility of the vehicle model in question.
 - k. The Championship Organisers in conjunction with a Licensed Eligibility Scrutineer shall determine matters as to the eligibility and the implementation which may involve photographing any part of the vehicle and performing electrical diagnostics at the scrutineer's discretion.
- 5.2.3 Unless specifically permitted in these regulations, all components must be to original Manufacturers specification.
- 5.2.4 **Classes:**
- 5.2.4.1 Cars will run in five classes based on actual capacity plus equivalency factor, plus various modification based penalties and bonuses where applicable.
- Class A4 All four-wheel drive cars, inc forced induction, max 2200cc normally aspirated induction system cars. (No upper cc. limit)

~~Class A4T~~ All four-wheel drive forced induction system cars. (up to a maximum limit of 2200cc).

Class A2 All two-wheel drive cars 4000cc and above

Class B All two-wheel drive cars 3000cc to 3999cc

Class C All two-wheel drive cars 0000cc to 2999cc

Class S Space frame cars

~~Class D~~ All vehicles eligible for classes A4. and A2 with a power rating of less than 300 BHP at the flywheel.

Class H1 Historic cars 3,300cc and over

Class H2 Historic cars up to a maximum of 3299cc

5.2.4.2 Invitation Competitors

- a. Competitors with Vehicles not complying with these regulations may be invited to compete subject to Championship Organisers approval.
- b. Vehicles that, whilst not strictly adhering to the regulations, have been prepared sympathetically to the spirit of the championship and with Championship Organisers approval, may be invited to race under observation.
- c. Competitors wishing to race as invitation must submit a written specification of their vehicle, to the Co-ordinator. It must detail all areas where the vehicle does not comply with these regulations. This specification shall be made available to the eligibility scrutineers for pre-and post-event checks.
- d. Invitation vehicles will be invited by the Championship Organisers on a race by race and individual vehicle basis. The vehicle must not deviate from the specification submitted, unless such changes are approved by the Championship Organisers. Any approval may be withdrawn at any time by the Championship Organisers.
- e. Invitation competitors will not be eligible for:
 - i. Podium recognition
 - ii. Championship award / trophies
 - ii. Championship points.

5.2.4.3 The following rules will also be applied;

- a. Forced induction engines are subject to an equivalency factor of 1.7 except as detailed in 5.2.2 f. vii.
- b. Rotary engines are subject to an equivalency factor of 2.0

5.2.5 Presentation:

- a. At the start of each free practice, qualifying session or race, the cars must be presented to a high standard and must be clean and in good order. The Championship Organisers reserve the right to forbid cars not meeting this requirement from taking part.
- b. Presentation of a vehicle for scrutineering is a declaration by the Competitor that the vehicle is eligible for that event.

5.2.6 Technical Checking:

- a. The Championship Eligibility Scrutineer / Championship Organisers reserve the right to inspect, test, measure, seal or impound any component fitted to or used in conjunction with any car registered in the Championship either personally or through a nominated representative.
The costs of such checking shall be borne by the CTCRC but the CTCRC shall not be liable for the costs of stripping or reassembly of vehicles after the checks have been carried out. This will be the sole responsibility of the Competitor. Exceptions to this may include appeal / protest according to the MSA Yearbook 2018.
- b. Any vehicle inspected following qualification or race and found to be in breach of the 2018 Technical Regulations or a breach of the procedure surrounding the Technical Regulations will be the subject of a report to the Clerk of the Course.
- c. A car found to be ineligible for the championship must race only in the invitation class and no points will be scored until the vehicle conforms to the regulations.

- d. Any component sealed by an MSA Licensed Scrutineer must remain sealed and may not be tampered with in any way. In the event of a seal needing to be broken for repair or replacement, prior to doing so the Championship Eligibility Scrutineer must be informed in writing and approve the seal being broken. Re-sealing by an MSA licenced Scrutineer will take place after technical checks have been made at the next race meeting.
- e. If a vehicle/component is sealed for subsequent technical examination the Championship Eligibility Scrutineer, within the applicable time limit, will state to the Competitor/Competitor that he will examine the vehicle/component on a stated date and time and at a specified location and the sealed items must be made available for his inspection. These arrangements are not negotiable. If a vehicle/component is not made available for an eligibility examination as required by the Championship Eligibility Scrutineer, it will be considered as ineligible and will be reported as such to the Clerk of the Course for the application of penalties laid down under MSA Regulations and these Championship Regulations.

~~5.2.7 Technical Passport:~~

- ~~a. All Competitors/Drivers are issued with a Technical Passport. This is used to record information relating to that car during the season.~~
- ~~b. The Competitor/Driver is responsible for the safe keeping of the passport, which shall be carried in the car at all times.~~
- ~~c. All cars are issued with a Technical Passport wallet.~~
- ~~d. No car is permitted to take part in an Event unless the Technical Passport is available for inspection and is a true reflection of the vehicle details.~~
- ~~e. The only person authorised to make changes to the details of the Technical Passport is the Championship Eligibility Scrutineer or his appointed representative.~~
- ~~f. Missing Technical Passports will be the subject of a report to the Clerk of the Course.~~
- ~~g. Details contained within the Technical Passport must be submitted by the Competitor at the time of registration for the Championship. A Registration will not be accepted without submission of the relevant details.~~

5.3 Safety Requirements:

5.3.1 All MSA Yearbook 2018, Section K, Competitor Safety Criteria Regulations, apply as relevant unless stated herein.

5.3.2 **Safety Roll-Over Structures:** - (K 1 to K1.8) applies

- a. All vehicles must be fitted with a safety roll-over structure as defined in the MSA Yearbook 2018- Section K.
- b. Interior fittings, trim and bodywork may be locally modified to allow fitting of the safety roll-over structure roll cage and any door bars.
- c. Cars running non-steel doors must be fitted with double door bars on the driver's side, either crossed or parallel.

5.3.3 **Fire Extinguisher:** K (3 to 3.5 applies)

- a. All vehicles must be equipped with a fire extinguisher. MSA Yearbook 2018 Regulation Q 19.14.7 applies
- b. Vehicles of Periods A-F must be equipped with a fire extinguisher in accordance with MSA Yearbook Regulation K3.1.2(b)
- c. All other vehicles not detailed in Championship Regulation 5.3.3 b. must be equipped with a fire extinguisher in accordance with MSA Yearbook 2018 Regulation K3.1.2(a)
- d. The fire extinguisher must not be disarmed in any Parc Fermé area without the specific permission of the Championship Eligibility Scrutineer. Any Competitor that is found with a disarmed fire extinguisher in Parc Fermé for whatever reason will be penalised.
- e. The following information must be clearly displayed on each fire extinguisher:
 - i) Type of extinguishant
 - ii) Weight or volume of extinguishant

- f. It is recommended that the following information is clearly displayed on each fire extinguisher:
 - i) Capacity
 - ii) Service date of extinguisher, It is recommended that it must be less than 2 years since the filling date or the last service date
- g. During Events, all extinguisher systems must be in the 'ARMED' condition (i.e. be capable of being operated without the removal of any safety device) at all times while competing or practising, including post-event scrutineering.
- h. The external triggering point must be positioned close to the circuit breaker (or combined with it) and must be marked by the letter "E" in red inside a white circle of at least 10cm diameter with a red edge in accordance with MSA Yearbook 2016 Regulation (K)3.2.2

5.3.4 Main External Circuit Breaker:

- a. A Main External Circuit Breaker in compliance with the 2018 MSA Yearbook Section (K) 8. is mandatory.
- b. The switch location must be identified by a Red Spark on a white edged blue triangle with a base of at least 12cm. and the 'On' and 'Off' positions clearly marked.
- c. The circuit breaker when 'operated' must isolate all electrical circuits, data loggers, transponders, etc.
- d. When the circuit breaker is 'operated' there must be no power source capable of keeping the engine running.
- e. The triggering system for the circuit breaker should be situated at the lower part of the windscreen mounting, preferably on the driver's side or below the rear window.
- f. On cars of Periods A to F (pre-1977) the triggering system may be mounted approximately vertically below the line of the scuttle on the driver's side.

5.3.5.5 Lights:

Lights detailed in Championship Regulations 5.10.5 must be in working order throughout the entire Event.

5.3.6 Seat and Seat Mounting:(K 2.2. applies)

- a. The Seat and Seat Mounting shall comply with the MSA Yearbook 2018 Regulation (K) 2.2 and (K) 2.3
- b. It is recommended that the Driver's seat is a racing seat with a current FIA homologation.
- c. Additional seat padding is permitted to a maximum of 50mm. Any additional padding or covering placed on the seat must be fire retardant to FIA standard 8855-1999.
- d. The seat mountings shall be appropriate to the seat fitted (and complying with FIA Article 253.16) must be used.

5.3.7 Seat Belts: (K 2.1. applies)

- a. Mandatory use of seat belts. MSA Yearbook 2018 regulation Q19.14.2 applies.
- b. Where Vehicles constructed in Periods A to E have seat belts fitted, the seat belts must comply with Championship Regulation 5.3.7 c.to 5.3.7 f. inclusive.
- c. The Driver's seat belts must have a current FIA homologation.
- d. It is mandatory to use seat belts, with a minimum 'four point' configuration complying with the 2018 MSA Yearbook Regulation (K) 2.1.2.
- e. Seat belts must be correctly adjusted at all times during events: (Two shoulder straps and one lap strap, with four anchorage points on the chassis/body shell or roll over bar of the vehicle).

5.3.8 Race Clothing: (K9.1 and K9.3 applies)

- a. Competitors are strongly advised to wear flame resistant, socks, underwear and balaclava.
- b. Flame resistant gloves and shoes are mandatory. MSA Yearbook 2018 Regulation Q10.1. (c) applies.

5.3.9 Crash Helmet.

Crash helmets must comply with the requirements of MSA Yearbook 2018 (K 10.1 to K10.4 applies).

5.3.10 FHR.

Mandatory for all forms of circuit racing with the exception of period defined vehicles (pre-1977), which will remain as a recommendation. MSA Yearbook 2018 (Q) 10.1.e. applies.

5.4 General Technical Requirements and Exceptions:

- a. All vehicles must comply with MSA General Technical Regulations and the relevant parts of sections J & Q of the MSA Yearbook 2018 except where specified below.
- b. Fixing components such as nuts, screws, washers, lock washers; spring washers, etc. are free and may be upgraded.
- c. "Free" as referred to in these Technical Regulations shall mean be interpreted as "within the limitations imposed by the MSA Yearbook 2018 Regulations".
- d. Advertising on vehicles is subject to requirements set out in MSA Yearbook 2018 H29.1.2 & H29.1.3.

5.4.5 Competitors registering do so in the full knowledge that CTCRC reserves the right to require the Eligibility Scrutineer to carry out, record and enforce eligibility checks which may include the sealing of component(s) for subsequent checking. The costs of such checking shall be borne by the CTCRC but the CTCRC shall not be liable for the costs of stripping or reassembly of vehicles after the checks have been carried out.

5.5 Chassis:

5.5.1 The standard floor pan, sills, front bulkhead, doors and roof must remain exactly as produced by the manufacturer in construction, dimension and material except as allowed in Championship Regulations 5.5.8

5.5.2 The rear bulkhead (driver compartment to boot, Saloon/Coupe cars) may be made from an alternative material and may be relocated from the original

5.5.3 The floor pan, bulkheads, front and rear inner wings may be locally modified for the purpose of mounting, or giving clearance to, suspension components. Inner wings may be modified to provide additional wheel/tyre clearance.

5.5.4 Front bulkheads and inner wings may be modified to permit the clearance of the induction system. Induction system shall be understood to include air induction ducting, manifolds, inlet trumpets, and ram pipes for engine carburetion or fuel injection system only. A maximum clearance dimension of 3" (75mm) is allowed.

5.5.5 The boot floor between the chassis rails rearward of the rear axle may be modified to accept fuel and oil systems and may be made from an alternative material.

5.5.6 Transmission tunnel and tunnel apertures may be enlarged to ease the fitment of larger transmissions.

5.5.7 Strengthening of the chassis in the interest of safety, by the addition of material is permitted.

5.5.8 Seam welding is permitted.

5.5.9 Towing eyes / straps

a. Must be a contrasting colour to the surrounding area (usually either Day-Glo red or yellow) and must respect the requirements of MSA Yearbook 2018 (Q19.1.3).

b. In addition to 5.5.9 a. it is strongly recommended that all cars must, wherever possible, be equipped with two front and two rear towing eyes positioned equally either side of the longitudinal centre-line. They must be clearly visible, marked with an arrow and the word "tow" and the wire painted in yellow, red or orange to contrast with the vehicle colour scheme.

The towing eyes must be made of at least 6mm diameter steel wire rope with a 6x19 wire core, each which must have a breaking-strain of at least 2 tons. Each towing eye must allow the passage of a cylinder with a diameter of 60 mm, situated 25mm forward of the adjacent bodywork - 100 mm above and below this hole must retain clearance to enable the recovery crews to attach straps and shackles.

The towing eye must be fixed to a structural part of the chassis with a minimum of M12 fixings, the inner part must be flexible in order for the towing eye to be retracted inside the bodywork profile. A "pull-cord" must be attached to the towing eye to enable the marshals to access the wire loop. The end attached to the chassis may be either 'thimble' or 'open-loop' style.

5.6 Bodywork and Dimensions:

5.6.1 General:

- a. Where original materials are unobtainable, local repairs of adequate strength may be made using modern equivalents.
- b. It is only permitted to make holes **in bulkhead** for the passage of cables, fuel, water, oil, hydraulic, instrument or fire extinguisher lines.
- c. All redundant holes must be covered with a non - flammable material.

5.6.2 Interior:

- a. Floor carpets, under felt, sound deadening, headlining, front and rear parcel shelves, centre consoles, the front passenger and rear seats and trim in the boot/luggage compartment may be removed.
- b. It is permitted to carry out modifications on the window winders, instrument panel and all the driving controls. Additional instruments may be added.
- c. Driver's seat is free subject to MSA requirements. The driver must be located entirely to one side of the centre line of the car. Local modifications are permitted for the purposes of secure and safe mounting.
- d. The removal of the heater, heater controls and audio systems is permitted.
- e. Vehicles must be fitted with an interior rear-view mirror. The fitment of a wide angle mirror is recommended.

5.6.3 Exterior:

- a. Front and rear wings and front body panels may be replaced by replicas made from alternative material provided they exactly retain the standard silhouette in side elevation.
- b. "Front" is defined as the point forward of the baseline of the windscreen.
- c. "Rear wing" is defined as being in the area below the baseline of the windows and rearward of the line of the rearmost side door opening.
- d. Standard wings, if retained, may be modified by working the original metal and/or fitting wing extensions.
- e. In all cases wings, shall respect the requirements of MSA Yearbook **2018** Regulation (J)5.2.6.
- f. Bonnet lid, boot lid and door panels may be replaced by lightweight material providing they exactly retain the original standard shape and outline except for bonnet bulges, bonnet scoops and blending to wheel arches. To aid cooling the engine bonnet may be raised at the rear by a maximum of 20mm.
- g. It is permitted to cut holes in the bonnet and front wings to aid ventilation / heat dissipation. The vents/grills covering the holes should retain the standard shape and outline of original panels.
- h. Spoilers of standard dimensions and air dams are permitted below the level of the road wheel centres providing they do not protrude beyond the coachwork at the widest point in plan view including bumper, grill, etc.
- i. A horizontal front spoiler/splitter may be fitted to the bottom edge of the front bodywork but may not extend more than 100mm beyond the original plan view and may not exceed the width of the car across the front wheel arches and must form a continuous part of the bodywork.
- j. Headlights must be fitted in the original locations. They need not be the original headlight unit for the vehicle but must respect the requirements of Technical Regulation 5.10.5 a.i.
- k. Aftermarket body kits not meeting the above criteria may be allowed provided they are validated in writing by the Championship Organisers
- l. It is permissible to cut holes in the rear wing extensions of 6" square maximum to accommodate oil coolers. The holes must be parallel and vertical. Wheels and tyres must not be visible through the apertures.

- m. Rear aerofoils (MSA Yearbook 2018 Regulation J 5.2.7 applies)
 - i. Excluding mounting pylons, rear aerofoils must be able to fit through a box 310mm x 200mm.
 - ii. Rear aerofoils must not extend beyond the maximum width of the coachwork (excluding wing mirrors).
 - iii. Rear aerofoils must not extend beyond the rear of the rear bumper more than 100mm.
 - iv. Rear aerofoils must not extend above the maximum height of the roof.
 - v. Competitors wishing to run a rear aerofoil that does not adhere to Championship Regulation 5.6.3m. must submit a written specification of the aerofoil to the Championship Organisers for approval/ rejection. The Championship Organisers reserves the right to withdraw approval at any time.
- n. The removal of exterior trim is allowed
- o. Window material is free but must comply with current MSA regulations. Holes may be cut in the rear or side window for de-misting. Ducts may only be fitted to side window for cooling the driver and de-misting purposes so long as they do not impede the sight line between the competitor and the rear-view mirror and nor shall they impede the competitors vision of flag signals, etc.
- p. The original mirrors may be removed but vehicles must be fitted with at least one externally mounted rear view mirror in accordance with MSA Yearbook 2018 section (Q)19.15.1
- q. Roof mounted air vents are permitted.
- r. Rear diffusers are permitted.

5.6.5 **Ground clearance:**

- a. Under no circumstance can any part of the bodywork or of the suspended part of the car be below a horizontal plane passing 40mm above the ground.
- b. Will be measured with the Driver on board (wearing his complete racing apparel),
- c. Will be measured with the vehicle and driver, including minimum Weight Ballast where applicable in the condition in which they cross the finish Line or at any other time during an Event and without the removal of any solid or fluid matter including fuel.
- d. Ride height will be measured on any reasonably flat surface as deemed by the Championship Eligibility Scrutineer or his nominated representative. In the event of any discrepancy the circuit designated flat patch will be used to make any final judgement.

5.7 **Engine:**

5.7.1 **General:**

- a. All internal engine components are free.

5.7.2 **Cylinder Block:**

- a. The engine block must be based on a production block from a model eligible for the championship, except as detailed in Championship Regulations 5.7.2 b.
- b. Class H1 & Class H2 may utilise any production engine block providing Regulation 5.7.4 is respected.

5.7.3 **Cylinder head(s):**

- a. Cylinder head/s are free.
- b. The replacement or modification of all mechanical components is permitted

5.7.4 **Location:**

- a. The engine must remain on the original side of the front or rear bulkhead as specified and supplied by the manufacturer for the particular model entered in the Championship.
- b. The engine must be orientated as fitted in the particular model entered in the Championship.

5.7.5 Engine mountings and support members may be changed for alternative units and may be chassis mounted.

5.7.6 **Oil / Water Cooling:**

- a. Radiators are free but must remain in their original location.

- b. The fitting of additional water radiators is permitted provided they are located within the periphery of the bodywork.
- c. The fitting of additional oil coolers is permitted provided they are located within the periphery of the bodywork.
- d. Modification of the cooling system is permitted to facilitate the installation of items detailed in Championship Regulation 5.7.6 a. to 5.7.6 c. inclusive.

5.7.7 Induction Systems:

5.7.7.1 Forced induction systems:

- a. Forced induction systems are permitted and unrestricted whether fitted as standard or not, except as detailed in Championship Regulations 5.7.7.1 i and 5.7.7.1 j.
 - b. Intercoolers are free provided they remain within the periphery of the vehicle.
 - c. Boost pressure is free.
 - d. Water injection is permitted.
 - e. Fuel injection is permitted and unrestricted whether fitted as standard or not.
 - f. Fuel injection systems may be replaced with carburettors.
 - g. Competitors wishing to replace the fuel injection systems with carburettors must submit a written specification of the engine to the Championship Organisers, detailing all changes carried out. The CTCRC Committee will then re-classify the engine.
 - h. Inlet manifolds and systems are free.
 - i. Class H1 and Class H2 are not permitted to use Turbochargers.
 - j. Class H1 and Class H2 are not permitted to use Superchargers.

5.7.8 Exhaust Systems:

- a. All cars must conform to the current MSA requirements as detailed in the MSA Yearbook 2018 J5.16
- b. Side exit exhausts are permitted but must exit behind the midpoint of the wheel base. It is prohibited to pass any part of the exhaust system through the driver compartment.
- c. Exhaust manifolds and systems are free.

5.7.9 Ignition Systems:

- a. Ignition systems are free

5.7.10 Fuel Delivery Systems:

- a. Fuel pumps, regulators, filters, type, position and system are free, subject to compliance with MSA Yearbook 2018 requirements.

5.7.11 'Dry' sump oil systems are permitted

5.7.12 Sealing:

- a. To allow for Scrutineers wire seals, every installed engine must have 1.6mm (1/16") holes drilled in readily accessible locations as follows: -
 - i) Sump: Cross drilled through two adjacent retaining screws or studs.
 - ii) Rocker/cam cover: Cross drilled through two adjacent retaining screws or studs.
 - iii) Turbo: Cross drilled through one retaining screw or stud fastening the compressor housing to the centre housing and the nearest retaining screw or stud to it fastening the turbine housing to the centre housing.
- b. Engines may be sealed at any time by a Licensed Eligibility Scrutineer and only by written permission in advance from the Championship Organisers or a Licensed Eligibility Scrutineer may seals be broken.

5.8 Suspensions:

- a. Suspension is free if Championship Regulation 5.8 b. is respected.
- b. Wheelbase must remain as per the original car within a tolerance of +/-2" (50mm).

- 5.9 **Transmission:**
- a. Clutch and clutch operating system is free but electronic operation is prohibited unless fitted as standard.
 - b. Gearbox is free. Sequential gearboxes are permitted
 - c. The fitting of automatic gear changing mechanisms to manual gearboxes is prohibited. Transaxles are prohibited unless fitted as standard.
 - d. Gear ratios and type are free. The final drive ratio is free.
 - e. Mechanical limited slip or torque biasing differentials are permitted.
- 5.10. **Electrical:**
- 5.10.1 Electrical equipment is free if Championship Regulation 5.10.2 to 5.10.5 inclusive are respected.
- 5.10.2 **Vehicle on board Starter:**
- a. Engines are to be started always by the Vehicle on board Starter except that the use of an external portable slave battery is permitted to aid start up only in the paddock, assembly area, pit lane and on the grid.
- 5.10.3 **Battery:**
- a. The battery and starter motor must be capable of performing a number of repetitive starts.
 - b. The battery make is free.
 - c. The Battery position and orientation is free within MSA Yearbook 2018 Regulations, ((J) 5.14.1 to (J) 5.14.7) applies.
- 5.10.4 **Charging Circuit:**
- a. Use of the 12-volt (nominal) 'standard' generator, is compulsory.
 - b. The Charging Circuit must be connected and operational all times whilst the Engine is running.
- 5.10.5 **Lights:**
- a. All cars must be fitted with the following: -
 - i. A minimum of two forward facing high intensity, white, main headlights.
 - ii. A minimum of two rear facing red tail lights.
 - iii. A minimum of two rear facing red brake lights.
 - iv. A rear facing red high intensity fog light (or two where two are fitted as standard equipment by the vehicle manufacturer in question) MSA Yearbook 2018, Section (K) 5. Applies.
 - b. Lights detailed in Championship Regulation 5.10.5 a. iii. must be operated only by the brake pedal and without a delay.
 - c. Lights detailed in Championship Regulation 5.10.5 a. iv. must not be operated by the brake pedal.
 - d. It is not permitted to tint or paint the front or rear lighting units.
 - e. All lights detailed in Regulation 5.10.5.a. must be in working order throughout the entire Event and must be able to be switched on by the Driver when seated normally in the car.
- 5.10.6 A fully operating windscreen wiper must be fitted and in full working order throughout the entire Event. MSA Yearbook 2018 Regulation (Q) 19.15.3. Applies.
- 5.11 **Brakes:**
- a. Brake systems are free if Championship Regulation 5.11 b.is respected.
 - b. Carbon disks are prohibited, unless fitted in production in which case they must be to production specification.
 - c. Ducting for cooling brakes or removing dust is permitted and holes may be made in inner wheel arches for the passage of brake ducts.
- 5.12 **Wheels & Steering:**
- a. Wheels are free
 - b. Wheels must fit within the confines of the bodywork in accordance with MSA regulations.

5.13 **Tyres:**

- a. Tyres must fit within the confines of the bodywork in accordance with MSA regulations.
- b. Tyres are unrestricted subject to the following: -
 - i. For list 1b tyres and slicks the compound of the tyre must be listed by the tyre manufacturer as medium, or harder, for saloon car circuit applications.
 - ii. For wet (non-list 1b) tyres the compound of the tyre must be listed by the tyre manufacture as medium, or harder, for saloon circuit wet applications.
- c. The use of tyre heating / heat retention devices, tyre treatments and compounds is prohibited.
- d. Pressure regulation valves are prohibited. MSA Yearbook 2016 Regulation, ((J) 5.9.4. applies)

5.14 **Weights:**

5.14.1 **Minimum Weight:** There are no minimum weights applicable.

5.14.2 **Ballast:**

- a. Ballast required as success ballast or as a performance equalisation measure must only be added inside the car on the front and/or rear passenger foot well.
- b. It is the competitor's responsibility to provide and fit their own ballast if it is required, and to ensure that ballast is fitted in a safe manner.
- c. Ballast must be attached to the shell/chassis via at least 4 mounting points using bolts with a minimum diameter of 8mm each with steel counter plates of at least 400 sq. mm surface area and 3mm thickness. Ballast mountings must include provision for the fitting of Scrutineers wire seals.
- d. The total weight of "success ballast" carried must be declared, in writing to the Championship Eligibility Scrutineer and/or his appointed representative and be in position, at all times during practice and racing.

5.14.3 **Success Ballast:**

- a. Any vehicle may be required to carry success ballast as a performance equalisation measure. Such success ballast will be specified by the Technical Committee based upon the performance of the car in competition.
- b. The Technical Committee reserves the right to review the weight handicaps at any time during the Championship.
- c. Competitors will be informed by official bulletin of the amount of weight they must carry.
- d. The maximum success ballast allocated shall be 150kg.
- e. Any vehicle which fails to carry the success ballast specified by the Technical Committee will automatically be deemed not to comply with the Technical Regulations.

5.14.4 Compliance with regulation 5.14.2 and 5.14.3 will be checked prior to removal of fuel samples.

5.15 **Fuel Tank/Fuel:**

5.15.1 **Types:**

- a. Fuel tank construction is "free" subject to compliance with MSA Yearbook 2018 Requirements.
- b. Racing type safety fuel cell may be used. MSA Yearbook 2018 Regulation (K)4 applies

5.15.2 **Location:**

Fuel tank/cell may be located anywhere to the rear of the driver's seat, subject to compliance with MSA Yearbook 2018 Requirements.

5.15.3 **Fuel:**


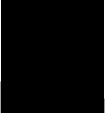
- a. Only 'Pump' fuel as defined in section (B) Nomenclature & Definitions of the MSA yearbook 2018 is allowed.
- b. An MSA approved additive is permitted.
- c. Refuelling is not permitted during qualifying, on the starting grid or during a race.

5.16 **Silencing:**

Silencers are free. Silencing must comply with MSA Yearbook 2018 Regulation J5.17 & J5.18.

5.17 **Numbers and Championship Decals:**

- a. Only competition numbers allocated by the CTCRC Registrar are to be displayed. They must be displayed in accordance with MSA regulation J4 and remain as allocated until the end of the season.
- b. Competitors must display competition numbers on a CTCRC number background. CTCRC decals and those of the series sponsors, promoters and the BARC are required to be displayed in an un-obscured position in accordance with the following table.

Item		Placement
CTCRC Number Background (round or square)		One on each front door, one on the bonnet
CTCRC "classictouringcars.com" sun strip	TBC	Top of rear windscreen
Series Sponsor Sun strip	TBC	Top of front windscreen
Series Sponsor logos (if required - TBC)	TBC	One on each side of the car (front wing, rear door or rear quarter)
BARC Logo		One on each side of the car (front wing, rear door or rear quarter)
Class Letter (40mm Black lettering)	e.g. 88A	One on each CTCRC number background, adjacent to race numbers

- c. Decals shall be fitted as issued. They may not be cut or otherwise defaced or deformed without prior approval from the Championship Organisers.
- d. Non CTCRC approved decals such as, but not restricted to, other clubs and other championship/series decals are not to be displayed on vehicles. These should be removed or covered up.
- e. Points will ONLY be awarded to competitors correctly displaying the required decals
- f. One set of Decals may be obtained from the CTCRC nominated supplier free of charge. A charge may be levied for any extra decals required.
- g. 5.17 e. & f. are only applicable to current fully paid up, Racing members of the CTCRC

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5. **APPENDICES**

The following Commercial Undertakings are not subject to the Judicial procedures of either the Championship Stewards and/or the MSA/MSG.

6.1 The Classic Touring Car Championship is aimed at providing close racing for a wide variety of cars and it must remain a non-contact sport at all times. The Organisers acknowledge that racing incidents do happen, however there will be no acceptance of any aggressive driving of any kind. In accordance with the MSA regulations penalties will be applied to drivers who do not comply with this principle. Competitors are reminded that the majority of these cars are getting rare, to that extent parts are getting to be harder to find and most of these cars are not run on big budgets. Therefore, you are requested race accordingly, remembering this is club racing and it should be an enjoyable experience for everyone involved.

6.1.1 Social Media

Drivers and their supporters are reminded about the use of social media. Regulation 6.1.1.2 of the Championship Regulations clearly states the position and anyone found in breach of 6.1.1.2 will be dealt with accordingly. A negative or derisory comment on social media can be seen instantly by a large number of people. This may include one or more of our sponsors, hence the need for restraint. There can be, and have been, serious consequences caused by the misuse of social media. Therefore, if a driver considers that they have a genuine issue that needs resolution they should use the appropriate channel either the Championship Co-ordinator or Championship Committee

6.1.1.1

Anyone posting anything derogatory, defamatory, insulting, unfavourable or disrespectful in relation to the Championship or Series – including any of its participants, officials, partners or supporters – in any form of Social Media, would be dealt with in the same manner as if he comments had been published in the traditional print/broadcast media. In the worst instance this could mean exclusion from the championship/series, in the least it will be a deduction of points.

NB: for the avoidance of doubt the MSA may of course take any action as it considers appropriate, in addition to any action taken by the Championship Stewards.

6.2 Race Organisers and Contacts:

BARC, Thruxton Circuit, Andover, Hampshire, SP11 8PN

Contact: David Wheadon

Tel: 01264 882209

Email: dwheadon@barc.net

Drivers Representative:

Contact: Colin Gibbons

Tel: 07814 052142

Email: colin.gibbons@classictouringcars.com

Championship Eligibility Scrutineer:

Contact: