

# UKRRA 2016

## UK Retro Racing Association

### Saloon Cars

#### Technical Regulations

- A. 1. Maximum Overall Car Width: 3.125" (79.37mm) over front and rear axles wheels, tyres and including the body fitted ready to race.
2. Maximum Overall Chassis Width: 3.00" (76.02mm) measured across any part of the chassis excluding the front and rear axles, wheels and tyres
3. **Wheelbase: No maximum or minimum is specified** (but see rules **A15 & D1A**).  
The following is included for information/guidance only as we are totally at the mercy of the body manufacturers as regard scale accuracy.  
Lotus Cortina wheelbase – real car 8' 0" – 1/24<sup>th</sup> scale = 4.00" (101.60mm).  
Typical Tran-Am car – real car 9' 0" – 1/24<sup>th</sup> scale = 4.50" (114.30mm).  
Typical NASCAR – real car 10' 0" – 1/24<sup>th</sup> scale = 5.00" (127.0mm).
4. **Rear Wheels and Tyres:**
- A. **Maximum Rear Tyre Width: 0.810" (20.57mm).**
- B. **Minimum Rear Tyre Diameter: 0.750" (19.05mm).**
- C. **Wheels can be made from any material and be of any diameter.**
- D. **Rear Tyre Material: Free choice but must be black and not be made from, contain, or be coated with silicone.**
- E. **Speed rubber is prohibited.**
5. **Front Wheels and Tyres:**
- A. **Minimum Front Tyre Width: 0.375" (9.53mm).**
- B. **Minimum Front Tyre Diameter: 0.750" (19.05mm).**
- C. **Must be made of two pieces, i.e. a Wheel and a Tyre.**
- D. **Wheels can be made from any material and be of any diameter.**
- E. **Tyres must be glued to the wheels and be made of black rubber.**  
Only SBR, Wonder, and natural rubber type materials are acceptable.
- F. **Tyres made from, containing, or coated with, silicone, urethane or other similar compounds must not be used.**
- G. **Tyres may be coated with cyanoacrylate adhesive ("Super Glue") or nail polish.**
- H. **Wheels with O-ring 'tyres' are prohibited.**
- I. **Tyre contact patch must touch the track across the full width of the tyre. Coning, angling or knife-edging is not allowed.**
- J. **Tyre edges may be rounded to a maximum 1/16" (1.6mm) radius.**
6. **Minimum Chassis Clearance:**  
Measured with the car sitting on its tyres on a flat tech block and without the guide.
- A. **Rear: 0.050" (1.27mm).** The entire motor bracket, gear, and all parts of the chassis, including pans, aft of the motor mounting face of the motor bracket must meet this clearance.
- B. **Front: 0.015" (0.38mm),** measured under the most forward part of the chassis.
- C. **The bottom surface of the whole chassis** (including the motor, but excluding the guide flag) **must be flat and straight in all directions**, with no bowing or drooping of any parts below the plane defined by the front and rear clearance specifications. This

will be checked by applying a straight edge to the underside of the car both across the frame and along the length of the frame.

**D. Touch and Roll Check.** Scrutineers are instructed to ensure that all cars are checked, in the slot on the track being used for the event, to ensure that the Front Wheels touch the track surface and roll when the car is pushed forward.

**7. Axles (Front & Rear):**

**A. Minimum diameter 3/32" (2.36mm).**

**B. Both axles must be straight, one piece and made from solid steel.**

**C. Hollow axles are not permitted.**

**D. Front axles do not have to rotate but both front wheels must be mounted onto the same axle.**

**E. Front wheels may rotate independently.**

**F. Maximum front axle side play: 0.125" (3.18mm)** as part of the maximum front track. At no time can the front wheels and tyres extend out past the body.

**G. Axles must not protrude beyond the outer face of any wheel or tyre.**

**H. Axles may only be flattened in the areas where the wheels and gear are secured.**

**8. Bushings and Bearings: Free Choice.**

**9. Drive Type:**

**A. 'Inline' only**, with the motor shaft at 90° to the rear axle.

**B. Offset motors are not permitted**, i.e. the armature shaft of the motor must be located on the longitudinal centre line of the chassis.

**10. Drive Gears: Free choice.**

**11. Minimum Weight: 120 grams ready to race.**

**12. Minimum Body Height:**

**A. The body may not be trimmed above the lower door lines**

**B. Severe raking of the body for aerodynamic effect is not allowed.**

**13. Guide Lead:** The centre point of the guide post can be a maximum of 0.750" (19.05mm) forward of the front axle centre line.

**14. All chassis parts, excluding the guide, but including the wheels, tyres and all other running gear, must be covered by the unmodified body when viewed from above.**

**15. All wheels must be located centrally in relation to the wheel arches in the body.**

**B. Chassis.**

**1. Chassis Type:**

Any chassis, built from scratch or from a commercially available kit or parts, and conforming to these specifications is allowed.

**2. Chassis Materials:**

**Brass: sheet, rod, and tube.**

**Steel: wire, pin tubing, and commercial guide tongues.**

**Solder and Glues: may only be used for assembly of components.**

**No other materials are allowed.**

Chassis parts, such as pans, brackets, guide tongues, etc., that are made using EDM, laser, or water-cutting techniques are allowed only if they are individual commercially-available components or components of chassis kits, i.e. these techniques may not be used in the private manufacture of one-off components. **Materials** such as printed circuit board, glass fibre and carbon fibre are not permitted.

**3. Chassis Construction:**

**A. Each car must have a one-piece brass rear bracket** consisting of at least three sides (vertical or horizontal), with each connected side having a minimum width or height of at least 0.200" (5.08mm).

**B. The motor bracket must support the motor and extend to touch the rear axle tube.**

- C. The rear axle tube does **not need** to **travel through** the **motor bracket**.
- D. The **motor** can be **fixed** to the **motor bracket** with **screws** and/or **solder**.
- E. **Wire or tubing rails** must **connect** the **front** and **rear** sections of the **chassis**. Using **metal strip** for this purpose is **not permitted**. A **rail** is **defined** as **that which connects** the **motor bracket** to the **front** of the **chassis**.
- F. **Main chassis rails** constructed of **round** steel or brass **wire** maybe ground or sanded **flat on the bottom**, but **no more** than **20%** of the **rail diameter** may be **removed**.
- G. **Pieces of steel** used for **guide tongues** are limited to a **maximum 1.00” (25.4mm)** total **width** and **1.50” (38.1mm)** total **length**. Steel tongues cut from a flexi or wing car chassis are not considered "commercial guide tongues" and are not allowed
- H. **Floating pin tubes** inside another tube **are allowed**.
- I. **Tape** is **not** allowed on the **bottom** of the **chassis** at **any point**, **except** as a **temporary repair during a race** (see also rule **B6C**).
4. **Hinged Movements:**
- A. **Other than a drop arm**, all **hinged movements** must be **oriented** in only **one direction** on any individual chassis.
- B. A **chassis** may have **transverse hinges** (examples: Iso-fulcrum hinges and plumber hinges) **OR** it may have **longitudinal hinges** (example: side pan hinges) but a **chassis** may **not** have **both** types.
- C. The **total number** of **individual hinges** is **not restricted**.
- D. **Centre line hinges** are **NOT** allowed.
- E. **NO** **hinged front wheel movements** are allowed (i.e. no “L” arms).
- F. ‘**Rattle Pan**’ designs are **permitted**.
- Any such design must consist of only **two parts**:
- The ‘**Central Chassis**’, onto which the rear axle U bracket, the motor, the front axle and the guide must be mounted, and the ‘**Rattle Pan**’ on to which the body must be mounted. Other than a Drop Arm no **hinged movements** are allowed for this type of chassis.
5. **Guide:**
- A. A **single guide flag** only is allowed.
- B. The **guide** must be **centred** on the **longitudinal axis** of the **chassis** (i.e. no sideways “free float” or offset).
- C. The **guide blade** must be **no larger** than **0.086” (2.20mm)** wide and **1.060” (27.18mm)** long.
6. **Tape/Lead:**
- A. **Lead Weight** may **only** be **added** to the **top side** of a **chassis** and must be **securely attached**.
- B. **Strapping or other tape** to **control** or **restrict movements** is **allowed** but may **only** be **affixed** to the **top side** of the **chassis**.
- C. **Taping a damaged body** to a pan to **finish a heat** is **permitted** but the **body** must be **repaired**, and the **tape removed**, **before the start** of the competitor’s **next heat**.
- D. **Only Clear Sellotape** may be applied to the **Bottom** of the **chassis** to **prevent tarnishing** of **brass**. This must **not modify** the **movement** of any **chassis component**.
7. **Centre line Torsion Bars** will **only** be **legal** if they are **solidly** and **visibly soldered** at **both ends** either to **pockets** in the **main chassis components** or if **soldered into tubes** at either or both ends have a “free wire” distance of **4mm** minimum between the tubes, additionally the tubes to be **slotted crosswise** and **soldered**, to **openly display** to scrutineers that it is a **Torsion Bar** and **not a pivot**.

### C. Motor.

#### 1. *Eligible Motors:*

A. All cars must be powered by **one of the following motors:**

**Falcon 7: TSR D3: Slick 7 Mini Brute: JK Hawk 7: JK Hawk Retro: Trinity Evil 9: Fast Ones Demon.**

#### 2. *Modifications:*

A. The **Armature Shaft** may be **shortened** to clear the crown gear boss.

B. All motors must remain **unopened** and **unmodified** in any other way.

### D. Body.

#### 1. *Body Type:*

A. Any vac' formed (Lexan, PETG etc) 1/24<sup>th</sup> scale replica of a real, four plus seat, Saloon/Sedan/Touring car built and raced before the end of December 1975 and not included on the 'Banned Bodies' list (see regulation D4) can be used.

Closed top cars only including NASCARs and Trans-Am cars.

B. No "flattened" or "aerodynamically-improved" bodies are allowed.

(i.e. no moulded-in spoilers, wings, etc., that were not on the original full-size car or original mould). **Note:** moulded-in spoilers may not exceed the allowed specification governing the maximum width of the body.

C. **Bodies** may **not** be any **less than .010" thick on the sides**. Any body found to be flimsy or a detriment to marshalling will need to be corrected by the racer. Tape or body armour may be used to achieve the required side thickness.

#### 2. *Body Finishing:*

A. Racers are encouraged to present cars with scale realism. Simple 2 tone fades, numbers drawn on with a pen and un-detailed interiors are not acceptable. It is however accepted that not all racers will wish to adopt strict scale colour schemes.

B. **Front and rear wheel arches** must be **cut out to match the shape** of the full-size car and not exceed the moulded in wheel arch line.

C. **Bodies** may **not** be **trimmed above the lower door line**.

D. The **full front bumper** must **remain intact** except for **trimming to provide clearance** for the **guide flag**.

E. **Bodies must be presentably-painted** and carry at least **three racing numbers, one on each side**, and **one** on the **front** or on the **roof**.

To further clarify this regulation, all bodies must be fully opaque on all sides except for those areas deemed to be windscreens or windows.

The term 'opaque' means: Covered by paint, tape, or other suitable material, so that a finger is not visible through the paint, or other covering, under normal lighting.

F. **Openings**, such as **air vents** and **intakes**, must be **cut out or painted** to look realistic.

G. **Windscreens** and **windows** must **remain transparent** but may be **tinted**.

H. **Windscreens** and **windows** must **not** be **cut out**.

I. All bodies must carry a fully-moulded **three-dimensional cockpit interior** which includes a **correctly positioned driver** comprising of **at least a helmet, shoulders, arms, hands** and the **upper part** of a **steering wheel**.

J. **Interiors** must be **presentably painted** and **realistically detailed**.

K. **Paper interiors** are **not permitted**.

L. **No part of the chassis**, excluding the **guide**, but **including the wheels, tyres** and **all other running gear**, may be seen when looking down on the car from above, either **outside the body** or **through the cockpit/cabin area**.

#### 3. *Add on Spoilers and Air Control:*

**NO add on spoilers or other air control devices** are permitted.

**4. *The Saloon 'BANNED BODIES' List:***

**A. Guidelines for acceptable bodies.**

**The Body shape must be a reasonable 1/24<sup>th</sup> scale representation of the real car, within the logical limits of vacuum formed production, and not grossly lowered in profile. See rules D1A, D1B & D1C above.**

**B. BANNED BODIES**

**There are currently no Bodies on this list.**

**C. The procedure for getting a body added to or removed from this list can be found in the SPORTING REGULATIONS.**