

**MODSTOX**  
**RACING CLUB**

**RULES AND  
REGULATIONS 2024**

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# **Modstox Competition Racing Rules**

## **Introduction**

A Modstox is a low-cost single seat open wheel race car powered by a four-cylinder Reliant engine fitted into a box section ladder type chassis with front and rear bumpers for contact racing. The minimum age for a driver is 16 however under 18's will be required to satisfy the Club that they are competent (e.g. ex junior formula drivers or attended a practice session), have parental approval to compete and be subject to age constraint limits set by individual track promoters. The regulations below define what is permissible both in terms of construction and racing rules. Unless it states that you can do it within the rules drivers should presume any variation from the rules below is not permissible. The Modstox Committee accepts neither legal or financial liability/responsibility arising to any individuals, driver or car due to any variations outside the rules below nor any racing incident. The Modstox Racing Club is a member of Oval Racing Council International (ORCi).

## **General notes**

- All rules are subject to the interpretation of the club officials and not the driver or car constructor, if there is any doubt about any rules ask before assuming. The scrutineers' and club officials' decision is final.
- Drivers must register with the Modstox club to obtain their racing number before applying for their ORCi license; this prevents duplicate numbers being used. ORCi license fee for 2024 is £50.
- All active club members have the duty to assist with the business of the club when asked. The management committee may also co-opt or suggest additional officials as required.
- All cars raced are "dual surface" i.e. it is to be raced on both tarmac and shale surfaces. No specific surface cars are allowed. 1 car, 1 driver, both surfaces.

## **Car Construction**

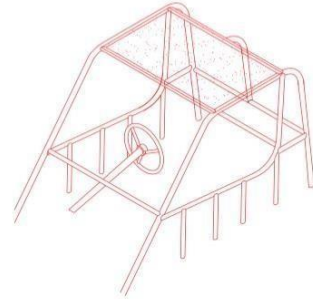
### **1. Chassis general construction**

- I. The chassis is to be a welded steel construction (steel only, no non-ferrous materials such as aluminium or such alloys). The chassis is deemed to include main rails, roll cage, bumpers, side iron/nurf rails and under carriage framework. Roll cage Panels, sump plate and firewalls are not included, but must be metallic and are usually made from aluminium.
- II. High tensile steel in the construction of cars is banned. Current cars that have high tensile steel in their construction are ok, so long as over time, the change is made to regular steel appropriately.
- III. The main chassis rails are to be constructed from a minimum of 40mm x 40mm box section and a maximum of 60mm x 60mm, with a minimum wall thickness of 3mm. Cars raced prior to 2008 are allowed to use 40mm x 40mm box section with a minimum wall thickness of 2mm. All cars must have a 6mm hole drilled in the chassis to ascertain the material thickness during scrutineering.
- IV. The chassis rails must be built symmetrically about the centre line of the car (e.g. – two main chassis rails must be a mirror image of each other about the centre line). Stepped chassis are not allowed.
- V. The engine, gearbox, rear axle and seat may be offset a maximum of 51mm (2") either side of the centre line of the chassis but must remain vertical (90 degrees to the floor).
- VI. Ballast is allowed but must be securely fixed to the car and in plain view; this means no solid rails, liquids, sand, lead or similar. If ballast is deemed inadequately secured by the scrutineer, it must be removed or secured before being allowed to race or even practice.
- VII. All cars will be inspected for weld quality where possible, if found to be substandard the driver will be instructed to rectify before they can race.

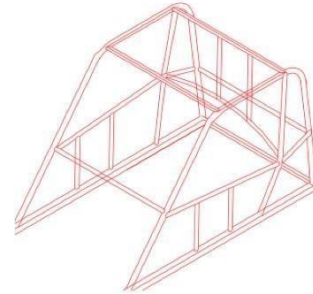
### **2. Roll Cage**

- I. The chassis shall have an integral roll cage fully welded to the chassis consisting typically of two main hoops running from front to rear and two intermediate/side hoops all made from a minimum diameter of 30mm with a minimum wall thickness of 3mm (2.5mm wall tube allowed but with a minimum diameter of 38mm) producing the basis for a 6 leg roll cage, no box section allowed in the construction of the main hoops. Additionally, the driver's head with helmet must be below the top of the roll cage hoops when sitting in the car in race conditions, also with a minimum of 50mm (2") gap between the driver's head and the roof plate when sitting in the car in race trim.

II. Alternative central leg and side bar combinations are allowed, for details see typical drawings. A 7th roll cage leg must be installed behind the driver's head; this is to be positioned between the two rear roll cage legs. It can be welded to the horizontal bar at shoulder height as long as the horizontal bar is equal to or greater in diameter than the roll cage leg, if not it must go to the chassis.



III. The side bar/door bars shall be placed at approximately elbow height running from the front hoop to the rear hoop and integrate the central hoops, it shall be fully welded to all 6 legs and positioned a minimum of 300mm above the chassis rail (or imaginary line drawn between the front and rear bumper), this shall be made from a minimum diameter of 25mm with a minimum wall thickness of 2.5mm. Two stays each side must connect each side bar/door bars to the chassis and be constructed with a minimum of 25mm tube or 25mm x 25mm box section and be equally spaced between the front and side/intermediate hoops. (See drawing for minimum structural requirements).



IV. The minimum width of the rear of the roll cage at shoulder height should be 635mm (25").

V. The roof plate must measure as a minimum 610mm (24" long) long x 508mm (20") wide x a minimum of 3mm thick and welded to all sides to the roll cage (the roof plate may not be lightened in any way). It must be one continuous piece without extra cuts, welds or adjustments.

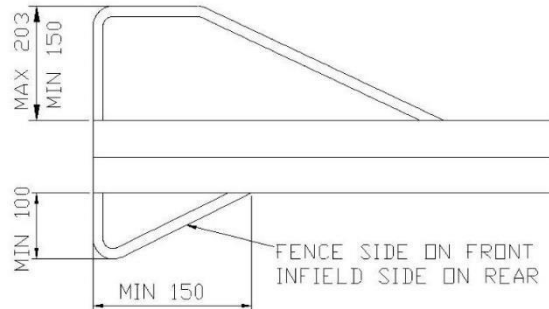
VI. The remainder of the roll cage to be constructed with a minimum of diameter 25mm with a minimum wall thickness of 2.5mm or 25mm x 25mm box section with a minimum wall thickness of 2.5mm.

VII. The side and rear panels of the cage/side pod must be plated with a minimum of 2mm plate, continuously welded on all sides. The cab side panels (above the chassis rails) must extend from the front of the roll cage to the rear pillar. The foot well side panels (below the chassis rails) must run from the bulkhead to within 4 inches of the front edge of the seat.

### 3. Bumpers/armouring

I. Bumpers are to be 100mm (4") deep. The front bumper must be a minimum of 1320mm (52") wide and no wider than the outside of the front wheels. The rear bumper must be as wide as the outside of the rear wheels/tyres to allow fitment of the wheel guard. Bumpers must be capped with fully welded plates on all ends and without any sharp points.

- II. Bumper height of front & rear bumpers must be 400mm from ground to the horizontal centre line, +10mm (3/8")/-25mm (1") in racing trim across the whole length of the bumper with the driver in the car (see scrutineering). Bolt on bumpers may be used. An over rider/cable bar (cowcatcher) must be fitted above the front bumper at the fence side with a minimum height of 150mm (6") high and a maximum of 203mm (8") high (See indicative drawing right), the top section must be flat with a minimum length of 150mm (6") or a radius if 150mm (6" minimum).



- In addition, front right (below the main over rider) and left rear bumper (above and below) must have under/over rider bars minimum 100mm (4") high by minimum 150mm (6") wide, construction to be minimum of 25mm diameter tube or 25mm x 25mm box section (See indicative drawing above), the top section must be flat with a minimum length of 150mm (6") or a radius if 150mm (6" minimum). The upper hoop on the rear bumper extends past the left leg of the roll cage. All bolt on front bumpers must have 4 points of attachment (2 chassis, 2 braces).
- III. Nurf rails are required on both sides of the car and must be as wide as the rear wheel/tyres and main outer bar must be constructed from a minimum of 25mm diameter tube or 25mm x 25mm box section. Nurf rails must have a minimum depth of 100mm (4") and extend along a minimum 90% the length of the contact area of the nurf. This can be either twin rails or plate type construction. Chassis nurf rails from the date of the AGM (19/11/2016) must have plate support when joining on to the chassis. The plates must be at least 3mm thick. Any current cars with nurf rails without these plates are fine, but upon replacing the nurf rails, these plates must be added.
- IV. Wheel guards/spring guards must be used on both sides at the rear only and be present during Scrutineering and at the start of each race. Wheel guards must be securely fitted and bolted at both ends to the car with a minimum of M10 high tensile bolts with a minimum tensile rating of 8.8. The head of the bolts must be protected from potential contact (not exposed) to reduce the chance of the spring guard coming loose. Any spacers used to adjust the spring guard must be greater than the spring guard contact area. Carbon steel (fabricated) wheel guards are allowed but must be constructed from a minimum of 25mm (1") x 50mm (2") box section by 3mm wall thickness.
- V. Bolt on bumpers are allowed but each bumper must be secured with a minimum of 4 x M10 high tensile bolts with a minimum tensile rating of 8.8. Bolt on bumpers must also have secondary fixings in the form of chains, minimum of two per bumper at the point the bumper is bolted to the chassis. The chains must loop around the main chassis rail and bumper to form a

complete loop. The chain links must have a minimum cross section of 8mm. If the chains are bolted together, they must also be high tensile bolts of minimum size of M10 with minimum tensile rating of 8.8.

#### **4. Bodywork/panelling**

- I. The roll cage, foot well and bonnet of the Modstox require panelling. The roll cage and must be panelled with metallic panels, though the bonnet may be panelled using non-metallic panels such as fibreglass/composite materials. All panels including the bonnet must be securely fastened before going on track at any time.

#### **5. Seat**

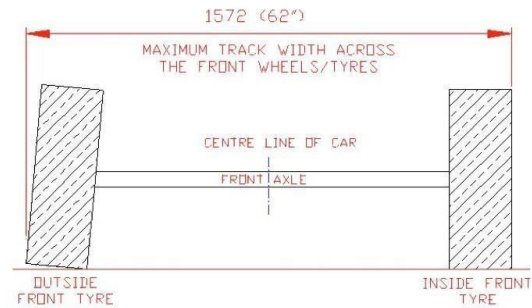
- I. The rear of the seat must be protected with single bar minimum diameter of 38mm x 2.5mm (or 40mm x 40mm box section) or 2 bars diameter 25mm x 2mm (or 25mm x 25mm box section) from the rear roof bar to the cross member connected to either side of the roll cage level with the top of the doors, with the cross member constructed with a minimum diameter of 25mm x 2 mm tube or 25mm x 25mm box section x 2mm wall. (See drawing within roll cage section). A 3mm steel plate must be fitted to the bottom of the seat covering the whole width and length of the flat part of the seat; it may not be lightened in any way except for fastening the plate to the seat or chassis. The plate is to be welded to the chassis or seat supports but if bolted direct to the base of the seat it should be spaced away from the seat.

#### **6. Suspension**

- I. The wheelbase shall be between 1778mm (70") and 2032mm (80") measured with the front wheel parallel to the rears, taking the centre of each wheel.
- II. Only leaf springs are allowed for the springing media anywhere on the car. Coil springs, coil-overs, torsion bars or gas type suspension are not allowed. Any leaf spring is acceptable as long as used in accordance with rules below.
- III. Shock absorbers must be off a road going mass production vehicle. They can be oil or gas but cannot cost more than £30 brand new nor can they be adjustable by the driver or anybody else. Special competition type shock absorbers are not allowed, this includes, any adjustable shock absorbers and modified shock absorbers, although repairs can be made with regards to mountings in the event of damage.
- IV. Anti-roll bars can be used but taken from a road going mass production vehicle, such as the ones that come with the Reliant rear axle. Mounting and connection is free, although rose joints cannot be used in the mounting or connection. The length of the anti-roll bar can be modified to suit the car.

### Front Suspension

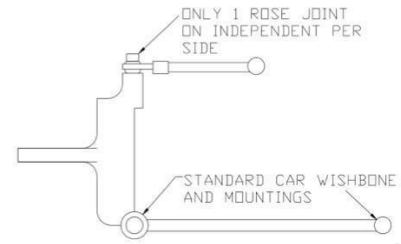
V. The track width of the front suspension (as measured in the diagram right) must not exceed 1572mm (62"). This includes wheels and tyres and any effects of suspension geometry.



VI. Transverse spring suspension (as used on Fiat 126), fabricated beam axles with trailing arms, independent front suspension options are allowed.

VII. Front hubs and bottom arms are free as long as they originate from a budget mass production road car and are subject to the approval of the Modstox officials (No Ford), hubs and wishbones may be modified, i.e. lightened brackets added or removed but length and geometry of the wishbones cannot be altered.

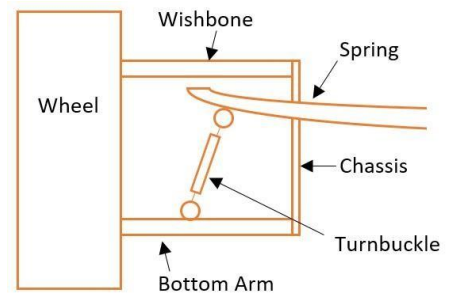
VIII. Hubs and uprights must be from the same vehicle and made of ferrous materials. Typical examples are Nissan Micra, Vauxhall Corsa, and Fiat Punto etc. Top wishbones are free and may be fabricated but must be made of ferrous materials. Rose joints are allowed, but not anywhere in the mounting of lower wishbones of independent suspension and only one to mount the top wishbone to the hub but not to the chassis (e.g. one rose joint per upper wishbone, if in doubt ask) (See indicative drawing right).



IX. Steering arms may be cut and modified to alter steering speed but must be securely fitted. Leaf springs may be cut, mounted or used in any way on the front suspension, but must be the only springing media.

X. Beam axles and mounting is free. Panhard rods can be used on beam axles.

XI. Where a car has independent front suspension a turnbuckle link with rose joint at either end may be used to connect the front transverse leaf spring to the upper or lower suspension arm and is solely for the purpose of adjustment to spring rate and ride height, thus, allowing a maximum of three rose joints to each front suspension unit but only if the turnbuckle is used in this way.



### Rear Suspension

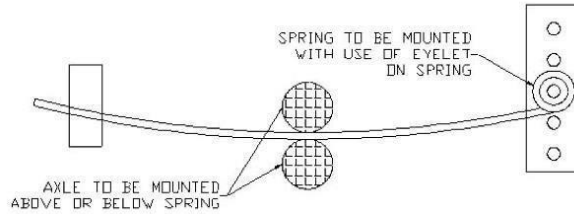
XII. Cars can only be rear wheel drive and must be driven by a solid type axle. Only the following axles can be used. Reliant Robin, Rialto or Regal and Morris Minor, Sprite, MG axle and hubs. Axle tubes/half shafts may not be shortened or



lengthened, although external axle bracing and repairs are allowed to strengthen the axle.

- XIII. Reliant differential ratios are free including the use of the Reliant fox differential. Morris Minor differential ratios can only be either the 4.22:1 or 4.54:1 ratio as found in the Morris Minor. Differential may be locked but no limited slip units.

- XIV. The axle must be mounted on two half semi-elliptical springs as per original configuration with axle either on top or below springs.



The original solid fixed end of the spring must remain on the front of car/spring (See indicative above).

- XV. The axle must be solidly fixed to the springs, the front of the springs must be solidly mounted to the chassis (via usual bushings) and the rear sliding assembly must also be fixed. All three points can be adjusted but not while the car is moving or by the driver while seated in the car.
- XVI. Anti-roll bars and panhard rods are allowed. Rose joints can be used at both ends of the panhard rod to allow adjustment. A maximum of 2 bars are allowed with mountings from the chassis to the rear axle, these bars can have adjustment at one end only. No other rose joints can be used on any other part of the rear suspension. No other means of location or stability are allowed.

## 7. Steering

- I. Steering design is free and rose joints may be used in the construction and mounting of the steering. This includes the connection of the steering arms to the hubs. Steering shall be via the front wheels only, but setting the rear axle at an angle is allowed as long as it does not contravene any other rules.

## 8. Brakes

- I. Brake type/designs are free; disk or drum brakes are allowed subject to the following. Brake calipers and discs must be made of a ferrous material and from a mass-produced road car. The disc face must remain standard as per manufacture. No lightening or cross drilling is permitted. No other brakes are to be used.
- II. The use of competition calipers, disks etc. are strictly not allowed.
- III. Only one master cylinder is allowed per car, no adjustable braking devices allowed including brake biasing, no electrical/electronic braking/traction aids allowed, brakes may only be located at each wheel (i.e. – no prop/differential brakes).
- IV. There must be three working brake calipers as a minimum on each car and operational at all times. Hubs may be modified to suit either drum or disk

brakes. Brakes may be tested at all events, anyone found with unsafe brakes will be required to rectify before being allowed to compete.

## **9. Wheels and tyres**

- I. Wheel material is free with a maximum wheel width between beads of 8" max.
- II. The maximum tyre price is £20.00 each. Once a tyre has been used at a meeting any driver active at that meeting may buy any tyre (not wheel) for the price of £20.00. This action must be taken with an official in attendance and must be written down at the time as proof of action taken. The present owner of the tyre may use it until the end of the meeting, if the tyre is damaged during this time the sale may be withdrawn. Any driver not agreeing with this sale will not race again until the sale takes place.
- III. The Modstox control tyre will be the Yokohama A021 of the following size only 170/590R13-185/70R13. In addition, drivers may use if they choose 1 x 13-inch tyre of any type. There is no restriction to the placement of tyres on either axle.
- IV. If the committee deems a tyre to be uncommon and unattainable, they may deem that tyre type as a competition tyre and subject to the limited use above.
- V. Wheel spacers may be used but must be located over the wheel stud's and between the back of the race wheel and hub outer face. Only spacers of professional manufacture may be used and not non-specific items such as washers.
- VI. All wheels to have a minimum of 4-wheel studs. Broken wheel studs (i.e. 3) is a scrutineering failure (safety grounds). Wheel studs, such as on the Reliant axles are upgraded to stronger/larger diameter.

## **10. Engine**

- I. The engine must be a Reliant 4-cylinder 850cc 40 HP engines and must remain standard production Reliant engine unless otherwise stated. Internal dimensions of engine must remain standard except for normal rebuild tolerances i.e. max +20 thou pistons, rings and shells.
- II. Non-standard i.e. re-profiled or competition camshafts may be used, competition valve springs may be used (Kent or Piper). Head and block may be skimmed but not the pistons. Porting or polishing internally is allowed (carburettors cannot be polished or ported). Inlet manifold may be modified at the end that connects to the cylinder head; the end that connects to the carburettor may not be modified (studs may be repaired/moved but must not affect the inlet opening in any way). Original cast iron exhaust manifold must be used – this may be port matched, but the head studs must remain in the standard position. No crank or flywheel lightening. Items not mentioned must not be machined in any way, although balancing is allowed. Repairs to the head and block are allowed as long as it does not alter the performance of the engine,

i.e. around the combustion chamber and valve arrangement/spring seats. If in doubt, ask.

- III. Carburettor must be either SU 1.1/4 type or standard 1 1/8" zenith type no other carburettor is allowed. The only parts that may be changed or modified (unless direct replacements) are the needle, damper spring, damper oil, float/valve and throttle cable mount/attachment. Any air filter may be used but must be fitted direct to the carburettor. Electric fuel pump and pressure regulators are allowed. Any carburettor having a return connection on the top of the float bowl must have it either blanked off or returned to the fuel tank. Spacers between the carburettor and manifold are not allowed unless originally fitted to the engine. **The fuel feed pipe must have a secondary means of fixing to carburettor (e.g. Lock Wire or Tie Wrap).**
- IV. Sumps may be enlarged, but no dry sumps. Oil coolers are allowed.
- V. Distributors must be standard Lucas type. Weights and base plates may be altered. Ignition systems may be either standard points & condenser or fixed electronic ignition types such as ones that are direct replacements for the points and condenser (E.g. lumenition MTK003/7). Any electronic ignition system that can be adjusted is not allowed. Anyone wishing to use electronic ignition system must check with the committee to ensure that type is allowed.

**Electronic Ignition units allowed:**

- Aldon electronic ignition unit LU142A (25D) Approx. cost £90
  - Aldon electronic ignition unit LU144 (45D) Approx. cost £90
  - Lumenition Electronic ignition unit MTK007 (45D) Approx. cost £90
  - Lumenition Electronic ignition unit MTK003 (25D) Approx. cost £90
  - Simonbbc (Ebay) Electronic ignition unit (25 and 45D) Approx. cost £25
- VI. Alternators may be removed. Standard or electric fans may be used.
  - VII. Non-standard aftermarket parts are allowed on external side of engine, these include spark plugs, plus leads, oil filters, distributor cap, rotor arm.
  - VIII. No external mechanical or bolted on induction systems are permitted (e.g.; ram pipes or stub stacks).

## **11. Exhaust system**

- I. Exhaust systems are free but must use the cast manifold as described in rule 10, part ii above. A club-supplied silencer is compulsory on all cars (price £45 to driver (2024)). Club Silencer may not to be tampered with in anyway; any silencer deemed to have been tampered with or not supplied by club prior to any race will be replaced at the driver's expense. Exhausts must exit away from the car and away from fuel tanks. A club official can exchange silencers at any time. All silencers must be clamped only to the exhaust system.

## **12. Transmission**

- I. The Gearbox must be a standard aluminium 4 speed Reliant to match engine, as per Robin, Rialto & regal only. Gear selectors may be blanked off but internals

and ratios may not be modified. Remote gear linkages are allowed. Access to the flywheel must be made around the bell housing of the gearbox to allow inspection of the flywheel during scrutineering. This can be either by the starter motor or a minimum 25mm (1") hole.

- II. The prop shaft must also be a standard reliable Prop shaft, but may be altered in length only to accommodate the car design. A transmission tunnel must be in place between the gearbox and the driver's seat.
- III. A second hoop is also required used under the seat to restrain the prop shaft if it was to come free during a race. This must be securely fastened and made from steel with a minimum of 25mm (1") wide by 3mm (1/8") strip. It must be located as close to the differential as possible, less than 300mm (12")
- IV. Any standard clutch may be used and may not be lightened in any way.

### **13. Radiators**

- I. Radiator number and types are free but must be fitted forward of the firewall and the overflow pipe directed to ground. Radiators may be fitted within the nurf rails but should be securely fitted and with protection in place to separate it from the driver.

### **14. Firewall, Floor, Fuel cell, fuel lines and fuel**

- I. Fuel cells must be a maximum of 2-gallon capacity and must be securely fitted. The cap must be screw on type. A breather pipe must be fitted to the top of the tank. This must rise above the highest part of the tank and then exit below bottom of tank and fitted with a non-return valve. Fuel pipe may be metal or metal braided hose. If metal hose, the maximum amount of braided fuel hose to be used in joints will be 75mm (3"). Pressurised fuel systems are not permitted. A one action fuel tap, i.e. lever type, not screw type, must be within easy reach of driver clearly marked on off. The fuel link from fuel pump to carburettor may be flexible pipe. Metal braided hose may be used throughout the length to minimise joints in the fuel line. **See 10(III) re: fuel line fitment to carburettor.**
- II. The floor area of the driver's cab and the engine compartment will have firewalls which must be complete, with the firewall complete vertically from the floor of the car to the bonnet and the floor area complete horizontally from the firewall back to level with the front of the seat. Even if the fuel cell is fitted under inside nurf rail or behind the driver within the cab, there must be a firewall to separate the driver from the fuel cell. If the exhaust runs close to the fuel cell a heat shield must also be fitted between it and the cell (safety grounds).
- III. The driver's cab floor must be made from 3mm steel; the floor must extend from a vertical line taken from the front of the driver's seat to the engine bulkhead/firewall. The firewall/bulkhead is a complete metal division between the driver's cab and engine bay. The floor should be welded to form

part of the chassis, if this is not possible it may be bolted. Each floor plate (if more than one) must be bolted using a minimum of 8 off 8mm 8.8 high tensile bolts with lock nuts to the same standard or 6 off 10mm 8.8 high tensile bolts with lock nuts to the same standard. If a side pod is situated on the car, the floor of it will be considered an extension of the cab floor and be 3mm steel as well.

## **15. Battery**

- I. All batteries must be securely fitted and covered with a non-conductive cover such as rubber, which will reduce any chance of sparking and help reduce the chance of acid leaking in the event of a roll over.

## **16. Car weights**

- I. All cars must be no less than 565Kg without race fuel as would be expected at the end of a race. Any car found to be below 570Kg during scrutineering will be re-weighed after the final (longest race/most fuel used/degradation) to ensure changes in fuel/tyres has not left the car below the minimum 565Kg. An additional minimal weight of the car as expected at the end of a race plus the driver's weight should not be below 645kg. There will be no tolerance for minimum weight, any driver found to be below the minimum weight during scrutineering will be asked to bring the car up to the minimum weight as long as it's within the rules. Any car found to be illegal after a race will be loaded up and lose any points from that meeting; any repeat offenders within a racing season shall receive a 12-month ban. The maximum weight for any car (without driver) is 625Kg, any car found to be above that weight will have to rectify the issue before they can race as long as it's within the rules.
- II. Cars not going straight to the weighing scales following a championship race will be disqualified. Each driver will be notified of their 'top 3' or 'one random position' status upon leaving the track.

## **17. Safety equipment**

- I. CRASH HELMET  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- II. RACING OVERALLS  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- III. GLOVES  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- IV. BALACLAVAS  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.

- IV. NECK BRACE  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulation.
- V. HARNESS  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- VI. WET WEATHER CLOTHING  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- VII. HEAD RESTRAINT NET/WINDOW NETS  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- VIII. 2kg FIRE EXTINGUISHER  
Please visit the ORCi website [www.orci.co.uk](http://www.orci.co.uk) for current safety equipment regulations.
- IX. COMPETITION STYLE DRIVERS SEAT WITH HEAD RESTRAINT  
You must have a Competition Type Driving Seat with a head restraint. The seat should be suitably supported at shoulder height and on both of the sides and back, with a suitable framework or seat stiffener's.
- X. Window mesh  
The front aperture of the roll cage must be covered with steel mesh with a maximum size of 50mm (2") x 50mm (2") and must be securely fixed, by either weld or bolt, to the roll cage at a minimum of 8 points (if welded must not be galvanised mesh).
- XI. Battery Isolator  
A battery isolator must be fitted and in working order at the start of every meeting, it must cut all power to the car when turned off. It must be located on the left-hand side of the dash area within reach of the driver and labelled on/off. The isolator must be labelled to its location on the outside of the cab; the sticker will be supplied and fitted by ORC/Club officials. The engine's starter switch/button (not master/ignition) must be at least in line with the steering wheel or above. This is so marshals/officials can see when a driver is attempting to start the car.
- XII. Rollover Valve  
Each car must have a rollover/one-way valve fitted to the fuel tank. They should be in working order and not tampered with. For ease of scrutineering, they should be easily visible to the scrutineer.
- V. Race Receivers  
Each driver must use a Race receiver as directed by ORCi from 29/02/2020. It is the driver's responsibility to ensure they have a working Race Receiver for the duration of the meeting otherwise they will not be allowed to race. The Race Receiver must be presented as part of the driver's safety equipment

during scrutineering. A Race Receiver may be hired from the club for a price of £10 per meeting but the club will not provide earphones.

## 18. Car identification/Race number

- I. Aerofoils or wings designs are free but must be made of metal materials, although wood forms or supports can be used. All aerofoil's must be securely mounted and not inhibit a driver in any way. Aerofoils if fitted must measure 1118mm (44") x 1118mm (44") body maximum, with side plates of 1220mm (48") x 610mm (24") maximum. Large wings must have MODSTOX clearly visible on the wing when viewed from either side of the car.
- II. Numbers must appear on both sides of the roof fin and aerofoil (If an aerofoil is not used, a roof fin must be) of a minimum of 150mm (6") tall and be visible from the top of the car to aid lap scoring when necessary. Also, a number behind the driver's head, which must be clearly visible to cars behind.
- III. The whole of the roof must be painted the correct grading colour. A Superstox wing may be either grading colour or a non-grading colour. Side panels and bonnets may be a different colour. If driver has incorrect grade colour, the driver will have to start at rear of grid until correct colour is displayed. Optionally superstars may display flashing lights. All cars must have drivers name, number and Modstox clearly sign written on them.
- IV. Competition race numbers can only be retained by obtaining a full club license each year. Existing driver's numbers will be retained up to the 31st January, after this time they will be released and free for request by any licensing driver. No number starting with a zero will be allowed as these conflicts with the electronic lap counting system.
- V. Grades are to be displayed via the car roof and via the wing/aerofoil endplates (via the roof fin if no wing fitted) The endplates/fins must be as follows: -
  - White Grade – Black numbers on white background
  - Yellow Grade – Black numbers on yellow background
  - Blue Grade – White numbers on dark blue background
  - Red Grade – White numbers on red background
  - Superstar Grade – White numbers on red background
  - British Champion – **As per red/superstar grade**
  - Shaleshifter Champion – **As per red/superstar grade**
  - Points Champion – Black numbers on silver background
  - National Champion – Black numbers on gold background

**Reigning champions must display championship status on their roof. Whites and Yellows Champion and Driver of the Year to display chequer roof on roof panel and/or wing but end plates are to remain current grade.**

No sign writing is permitted on the roof of the car displaying previous championship history which is no longer current.

## 19. Measurements Summary

- Wheelbase length: 70"-80" (1778mm – 2032mm)
- Rear roll cage width (shoulder height) – 25" (635mm)
- Cab Panel Height – 11 <sup>3</sup>/<sub>16</sub>" (300mm) above chassis rail
- Roof Plate – (minimum length x width) 24" x 20" (610mm x 508mm)
- Engine/Gearbox/Rear Axle offset: 2" (51mm) either side of centre line
- Bumper width
  - Front minimum 52" (1321mm) to maximum no wider than outside of wheels
  - Rear – as wide as the outside rear wheels
- Bumper/Nurf depth – 4" (102mm)
- Nurf bar width – as wide as rear tyres.
- Bumper over/under riders
  - Front overrider – min 6" (152mm), max 8" (203mm) high
  - Front underrider – min 4" (102mm) high, 6" (152mm) wide
  - Rear overrider - min 4" (102mm) high, 6" (152mm) wide (extends past left roll cage leg)
  - Rear underrider - min 4" (102mm) high, 6" (152mm) wide
- Bumper Height (centre line) – 400mm (+10mm, - 25mm)
- Car Weight
  - - Without driver/fuel - 565kg – 625kg
  - - With driver (as at end of race) -minimum 645kg
- Front Suspension track width (maximum) – 62" (1572mm)
- Window Mesh – max 2" x 2" (50x50mm)
- Transponder – 1800mm from front bumper



## **Racing Rules**

### **1. Scrutineering**

- I. Prior to racing at each meeting each driver shall submit his/her car & equipment to the nominated Modstox scrutineer(s) (or chairman/vice chairman in the absence of the scrutineer(s)). A member of the committee in conjunction with a driver shall carry out Scrutineering with a driver selected at random on the day. Drivers may be requested to assist/witness scrutineering of other cars. Failure to assist in this activity is deemed a disciplinary offence.
- II. All drivers must drive their own car to scrutineering to allow correct bumper height checks to be completed and to ensure they can prove correct control of their car.
- III. If a car fails Scrutineering the driver is allowed to make corrective action at the track & resubmit for scrutineering. Scrutineering records are to be recorded in driver's logbook. Failure for a driver to submit his/her logbook at the time of scrutineering shall result in a £10 fine per meeting. Any car subsequently failing Scrutineering or deemed unsafe by the scrutineer will not be allowed to race. Any disputes on a scrutineer's decision to be referred to Chairman & Vice-Chairman for decision. The decision of the Chairman/Vice-Chairman is final subject to appeal procedures outlined below in section 5.
- IV. Scrutineering will have a designated bay in which drivers will have to bring their car complete ready to race including his/her overalls, helmet, safety equipment, license etc.
- V. Drivers MUST be signed in before presenting their car to scrutineering a minimum of 1 hour before the meeting start time. Anyone who is going to be late won't be scrutineered unless they contact a committee member by phone, any driver failing to attend the promotions driver briefing will miss the first race.
- VI. Modstox will hold their own drivers' briefing after scrutineering and before racing commences. This will be to inform drivers of any information necessary to the meeting. The Chairman, Vice-Chairman or a present committee member will control the briefing.
- VII. Carburettor checks will be completed at every meeting, checking body size, venturi, state of spindle, screws, damper, induction and general state. Top 3 in the final will be checked at championship meetings and 1 random. Normal meeting will be 4 random cars and will be picked by nominated person on the day by the committee. All drivers will be checked within the racing season.
- VIII. In the event of an illegal carburettor being found the following disciplinary will be issued. 1st offence loaded up and loss of meeting places/points. 2nd offence 1-month ban. 3rd offence, 12-month ban effective immediately of the issue date.
- IX. Bumper height checks will be completed whilst cars are lining up to race, cars not deemed within tolerance will be ordered to correct before racing.

*Note – due to the nature of radical changes for shale setup-up (size/stagger), these checks will be performed with a greater discretion.*

- X. Axle differentials may be checked more frequently during scrutineering.
- XI. For Championships only, the club will adhere to a three-strike rule, meaning that if the car fails scrutineering three times, you will not be allowed to race.
- XII. If a driver wishes to race a new car at any meeting the car must be fully scrutineered before it is allowed to race or even take part in the official race day practice. It is the driver's responsibility to organise suitable time to allow this to be performed with the club officials. It is mandatory that the scrutineering be completed 14 days before the cars first meeting.
- XIII. Any car previously not raced with Modstox it is the driver's responsibility to inform the committee their intention to race and it needs presenting for scrutineering at least 2 hours prior to the start of the cars first meeting.

## **2. Racing Rules**

### **I. Personal Safety**

Drivers are advised that under Health & Safety, they are responsible for their own and their Mechanic's actions. Promoters have had complaints made about Registered Drivers & Mechanics consuming large amounts of alcohol at meetings, which could affect their judgement or be detrimental to their health, when medical attention has to be administered by Paramedics, St Johns or Hospital Staff. Should an incident occur that proves fatal on the raceway and you are involved, it is likely that the Police will want interview you. If you drive, don't drink! Scrutineers and Officials will report to the Steward; anybody they believe is under the influence of Drink or Drugs. Drivers whom it is thought are under the influence may be breathalysed.

- II. Smart phones and devices must not be on the driver's person whilst racing.
- III. Drivers must line up in accordance with their position within the national points (unless race line up is in accordance with a championship's rules). The positions, relative to which drivers attend a meeting, will be listed at the point of scrutineering. It is the driver's responsibility to ensure they find out where they start at the beginning of the meeting. In the event of a driver winning a heat they must start at the rear of their grade for the remainder of the meeting. If spotted starting in the wrong position before the initial green flag you will be penalised to the back of the grid. If brought to attention of the steward after the green flag you will be excluded from the results. No weaving or surging during the rolling lap, anyone found to disrupt the formation of the pack during the rolling lap will be docked places or potentially removed from the results (refer to disciplinary section)

- IV. Flag rules are as follows:
- GREEN - Start or restart of race,
  - YELLOW HELD STATIC - Caution localised incident,
  - YELLOW WAVED - Extreme caution, reduce speed to walking pace, adopt a single file, no overtaking,
  - RED - Stop immediately,
  - UNION JACK - Halfway, no retired cars may rejoin from the centre,
  - BLACK - Individual driver excluded,
  - CHEQUERED FLAG - Lead car completed full distance,
  - CHEQUERED AND RED - End of race.
- V. Jump starts – drivers found guilty of jumping the start will be docked the number of places they gained following the jump-start. If it is from a race start and the driver does not make up places but catches the back of the grade ahead, they will be docked 2 places.
- VI. Racing shall always be in an anticlockwise direction. Side swiping other drivers on the straights is deemed to be dangerous/not allowed and will be subject to disciplinary action (*refer to disciplinary section*). Deliberate driving into stationary cars during racing is deemed to be dangerous/not allowed and will be subject to disciplinary action. Physical or verbal abuse of drivers, mechanics, team members or officials or any other person at any meeting is deemed to bring the sport into disrepute and will be subject to disciplinary action.
- VII. Anyone deemed to have "followed in" another racer will be subject to have their license suspended for a period of time, set at the discretion of the committee.
- VIII. Drivers being lapped by the racing pack shall not interfere with those cars, which includes contact, blocking and unwanted gestures. Unsporting conduct will not be accepted. Any action will be subject to disciplinary action (*refer to disciplinary section for details of penalty*).
- IX. Drivers are responsible at all times for the actions of themselves, their mechanics and team members on and off the track during the course of any meeting and any action deemed to unacceptable may be subject to disciplinary action (this can include loading up and exclusion from the meeting). This includes physical and verbal aggravation and social media abuse.
- X. If you stop or crash out on track during a race, indicate to marshals if possible that you are ok or not.
- XI. At the end of each race, assist in removing non-running cars from track.
- XII. The lead driver in each grade governs the rolling start, they shall be responsible for maintaining a constant gap, no accelerating or backing off or they could face removal from the results.

- XIII. The following gaps must be maintained during the rolling lap;
- a. Whites to Yellows – 4 car lengths
  - b. Yellows to Blues – 4 car lengths
  - c. Blues to Reds – 4 cars lengths
  - d. Reds to Superstars – 4 car lengths
  - e. Gold and silver – immediately behind the superstars
- XIV. Drivers must stay in their cars at all times unless instructed to exit. This applies to stopped cars on track and cars stopped in the middle.

### 3. Grading

- I. Modstox operates a handicapped starting/race line-up system. Roof grades are taken on a total points basis. A new grading list will be issued after every 4 meetings. The committee reserve the right to increase or decrease the grading period dependent on the fixture list.
- II. Grades in descending order of achievement:
  - Gold roof and silver roof, Superstars, reds, blues, yellows, remainder white tops. Graders will use discretion to increase and decrease the numbers in each grade to suit increasing number of drivers during a season. New drivers may opt to start at rear of grid for their first three meetings. Drivers exercising this option should have a black cross markings displayed on the rear of their car.
  - The Grading Points Champion will be nominated superstar status for the duration of the whole season. They will start beside the other title holders within the superstar grade.
  - The British and Shaleshifter Championships are worthy of Superstar status and will start at that grade for the time that they hold the Championship. If they lose the championship, they will go to their grade dependent on points scored.
- III. **A driver will be regraded dependent on total points scored. A driver will only be upgraded a maximum of 2 grades. If a driver has insufficient points to maintain their current grade, they will be downgraded.**  
**If during the last grading period they have attended:**
  - **no meetings they will remain in their current grade,**
  - **less than 50% of the meetings, they can only be demoted 1 grade,**
  - **50% or more, they can be downgraded more than 1 grade.**
- IV. Once a driver has attained red top status, the driver cannot be re-graded lower than Yellow. Any driver who has reached Superstar grade for 3 grading periods in 3 seasons cannot drop below Blue.
- V. Racers from other formula commence at their retiring grade less 1 i.e. if were blue start as yellow.
- VI. A driver returning to racing after a time off will race at their previously held grade.

- VII. On winning a final you will start at the back of your grade until the next grading period.
- VIII. Drivers winning 2 or more races at the same meeting shall be upgraded 1 grade for the next meeting.
- IX. Points are awarded as follows:

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Heat	10	9	8	7	6	5	4	3	2	1
Final	20	18	16	14	12	10	8	6	4	2
Championship	20	18	16	14	12	10	8	6	4	2
Allcomers/GN	10	9	8	7	6	5	4	3	2	1

In the event that less than 10 cars race/start at a meeting, points will descend in line with the number of cars (e.g. – 7 cars - 7 points for a win, 6 for second and so on). At an event with three races, points will run as follows: Heat, Heat, Final. If the first race is a championship, points are as follows: Final, Allcomers, Allcomers. If there are more than three races, the additional race format will be decided by the drivers and present committee members on the day.

#### 4. Championship rules

##### **Grading Points Championship** – Silver Roof

Total cumulative points gained throughout season irrespective of number of meetings attended.

##### **National Championship** – Gold Roof

Designated qualifying rounds. Highest points scorers at front. Only drivers having scored points in qualifying rounds eligible to take part in this race.

##### **British Championship** – Black and White chequered roof.

One-off race with grid based on points scored in a preset number of qualifying heats. Highest points scorer on pole. To be held on the opposite racing surface to the National Championship.

##### **Shaleshifter Championship** – White and Red Chequer Roof

One-off race at last shale meeting of the season. Qualifying points scored at all shale meetings. Highest point scorers on pole. If the final meeting is cancelled, the highest point scorer will be awarded the Shaleshifter title.

##### **Driver of the Year** – Red/Yellow chequered roof

All drivers' points are factored throughout the year and count towards a final total. The grade factor is scored: White/Yellow x3, Blue x2, Red/Superstar x1.

##### **Under 25's Championship & Over 40's Championship**

Total cumulative points for all drivers of the correct age to the relevant series as of 1st January.

**Whites and Yellows Championship** - White and Yellow Chequer Roof

Points scored by white and yellow graded drivers towards a final overall points tally. Highest points scoring driver wins the title. Drivers must be graded white or yellow for at least 2 grading periods to be eligible to win.

**Northern and Midland Championship**

Preset number of rounds based at separate tracks in the north and midlands.

**Skegvegas Championship**

A random grid drawn from a pack of cards, card number corresponds with row, card suit colour corresponds to position, red inside, black outside, joker starts at front on their own.

**Neil Clayton Memorial**

First race of the meeting for the formula, held over a distance of 9 laps. Final points are awarded. **Held on the first meeting of a double header.**

**Newcomer of the Year**

Highest points scorer that has never raced in Modstox before, irrespective of meetings.

**Summer Bash**

Total points across preselected meetings in summer with the final race gridded at the final meeting.

**All other Championships**

Sponsored meeting finals that follow a usual meeting format.

**5. Disciplinary & administrative procedures**

- I. The Modstox racing club holds the right to refuse the issue of a driver license. The Modstox racing club reserves the right to obtain a health reference as part of the consideration for a license application. Anyone over the age of 65 will automatically require a health reference. Anybody banned from another formula or promotion is also banned from Modstox.
- II. If any driver wishes to complain about another driver, they must do so in writing within 7 days of the meeting in question and must give the written complaint to the Chairman or Vice Chairman. Verbal complaints will just be classed as having a moan and no action will be taken.
- III. The Modstox Committee reserves the right to make minor rule changes/clarification outside the AGM if it sees fit, more major changes would be put to a membership ballot. This would be carried out by an online vote held within the Modstox Registered Drivers forum on Facebook.
- IV. If a vote is taken on a Club matter only active drivers are eligible to vote, no proxy voting allowed at AGM or any other vote. Membership does not give an automatic right to vote. Active driver is defined as those drivers holding a full license for at least two seasons or raced in a minimum number of the meetings in the current season prior to the AGM.
- V. Registered Modstox drivers are allowed to race other formulas. However, no driver is allowed to race his/her Modstox at meetings other than those

sanctioned by the Modstox racing club. Drivers in breach of this rule will receive a 12-month ban from racing Modstox.

- VI. Any driver(s) subject to an active ban following any disciplinary action within section 2 is not eligible to attend or vote at the AGM during the ban.
- VII. Engines can be stripped at the end of any meeting without any warning. The Modstox Racing Club Committee does not accept any costs or the task of re-assembling of any driver's engines following a strip or inspection. If you are caught with anything illegal, you will be banned.
- VIII. If you have been banned by the unanimous decision of the chairman and vice-chairman you have the right to appeal against this. The ORCi council will send an accompanying letter to confirm the ban. The appeal will be sent to the ORCi for them to review. Any ban will be in calendar months not racing season months.
- IX. The position of Chairman, Vice-Chairman, Treasurer and Secretary shall be re-elected annually at AGM. Other members may be elected at the AGM or may be coopted as and when necessary, by vote of the existing committee.
- X. Any driver banned from racing Modstox for greater than 6 months can reapply at a fee of £150 paid direct to the club, which is non-refundable. The driver's application must be submitted 28 days prior to the drivers required race date, direct to the club. Applying does not ensure application acceptance.
- XI. Drivers are responsible for their whole team irrespective of owner or hired cars. Any unacceptable actions will be applied to the driver. This includes any comments on Internet web sites and forums.
- XII. Verbal or physical abuse of any club officials including scrutineers who represent ORCi will not be tolerated. In the event of such abuse the driver and team will be asked to load up and leave the track. Further action may be taken after the meeting.

## **6. Booking in format**

Modstox is a Pay to Race formula and operates a booking in procedure. The onus will be on drivers to book in no later than 5 days in advance of the meeting, by way of contact through the Registered Drivers Facebook page.

This process will help alleviate the following:

1. Help identify car numbers when dealing with promoters.
2. Prevent club officials spending unnecessary time chasing drivers prior to an event. Some drivers may feel antagonized by being chased.

The driver will be required to pay the fee of £30 per car and driver per meeting by the Wednesday prior to the meeting to enable the committee to transfer the entry fees to the promotion. Payment should be by bank transfer – alternative methods can be used after agreement by the Club committee. Provisional bookings will not be permitted. Late payments and arrival without

booking/payment will be subject to fines (£5). Any driver not adhering to the above rule will start the scheduled event at the rear of their specific grade for the entire meeting. The club committee should also be informed of any cancellation. Any driver failing to attend without notification will also start their next event at the rear of their specific grade for the entire meeting.

## **7. Club License Fees**

You can apply for your 2024 Modstox club membership and license by filling in the Incarace form (pay to race option) and the Modstox club membership application and sending them together with the parental consent form (if under 18), the appropriate fee and two passport photos (with your name written on the back) to the following address:

Modstox Racing Club,  
14 Thorn Tree Drive,  
Crewe,  
Cheshire,  
CW1 4UA

**Please do not apply directly to Incarace, as they will not be able to confirm a racing number for you.**

Depending on the workload, Incarace will issue your license as soon as possible.

The appropriate fee is as follows:

For applications received before 31st December 2023 - £80  
For applications received before 29th February 2024 - £90  
For applications received after 29th February 2024 - £100  
For applications received after 20th July 2024 - At club's discretion.

No refunds of membership or licensing fees will be made in any circumstances.

## **8. Transponders/Lap counting equipment**

As of the 1<sup>st</sup> January 2013 the Modstox Racing Club has been using transponders for lap counting. Transponders must be mounted a minimum of 1800mm from the front bumper. It is the driver's responsibility to ensure their transponder is mounted and working correctly.



## **9. Club Contact details**

Modstox Racing Club – Mark Billington  
14 Thorn Tree Drive  
Crewe  
Cheshire  
CW1 4UA  
Tel.: 07752 950672  
Email: [Modstox@live.co.uk](mailto:Modstox@live.co.uk)

## **10. Modstox Racing Club Management Committee**

Adam Perkins – Chairman  
Andy Wilson – Vice Chairman  
Mark Billington – Treasurer  
Alastair Needham – Secretary/Administration

*NB - Above subject to change following AGM later in 2024, see club website for latest contact information – [www.modstox.com](http://www.modstox.com)*