

Warton Stock Car Club

Senior Mini Rules

- 1) This class will be known as senior minis. It is intended to be a '**controlled formula**' and will race in the clockwise direction. Contact rules, no deliberate walling, and no turning into overtaking vehicles. Pushing in the direction of racing is allowed.
Minimum weight of 712kg and maximum width of the frame will be 64". Driver to sit on the right-hand side of centre or in the centre of the car.
- 2) The driver shall be 16 years old or over. Once Ministox drivers are too old to race in their class (16) they can race there Ministox with the 1000cc engine, the engine will be junior spec with the restrictor removed, to see if they like it. If the 1000cc engine is continued to be used the engine must stop at junior spec, the gearbox, manifold, carb, and exhaust can be put to the Senior Mini rules.
- 3) If it is not covered in the below rulings, then it cannot be done.
Any questions raised will be circulated to all the members in the class and the rule amended where necessary for the following year.
- 4) Only the registered driver may drive under his registered number.
- 5) Fin plates must be fitted above the roof line & be bolted securely to the car. Fin plate numbers must be clear & legible. Black on white or white on black is highly recommended, if you have different types and if the lap scorers cannot make out the number, you won't be scored during a race. Small spoilers may be used.
- 6) All cars must display the roof colour on the roof at the front, minimum 100mmx50mm.
- 7) All references to parts below are all BMC Type & pre-2000 mini/pre-1991 metro parts that are readily available & off the shelf.

Chassis Construction

- 1) Mini Saloon, Clubman, Vans, All Steel Travellers and Riley Elf B.M.C Type are acceptable, where a van is used the side panels maybe cut out like that of a Traveller, Fiberglass body shells are permitted if they are flame resistant, be full & represent the same as a steel shell.

If a steel shell is used, the doors & boot must be welded in. The body including the bonnet must remain of original appearance, with the allowance of a fire extinguisher hole, (to be a minimum of 27mm) bonnet scoop & raised area in the bonnet for the radiator is permitted. The driver's door of either the fiberglass or steel shells may not be cut down, it must be present to the level of the wide window aperture, the passenger side may be cut down or omitted.
- 2) The cab sides must be at least 4" +1" above the side rails & be consistent through the length of the side of the car, the cab sides must not be any higher than 1" above the main/side rails.
- 3) All cars are to weigh a minimum of 712kg without the driver, if your car is found to be underweight you cannot race until the issue is corrected, the car can be checked post-race and after the race and must still be minimum weight on either. Bolt in ballast is NOT permitted, additional weight should be evenly distributed throughout the chassis with additional cross bracings.
- 4) The car's interior & exterior must have all original combustible materials removed. 1 rear view mirror must be fitted inside the cab, you can also put 2 small side mirrors on, one each side, but must be within the maximum width (64"). All external lights and fittings, including chrome strips, handles and wheel embellishers must be removed, small lights can be put on the roof, i.e., LEDs, a maximum of 3.

- 5) The car will have a full metal (steel) floor fitted, from the rear of the front bulkhead location to the front of the rear sub frame location & is to be at least the full width of the original mini floor, the floor is to be securely welded, bolted, or riveted in position & is to be at least the original thickness of the original mini floor, which is 0.8-0.9mm.
- 6) A four-post roll cage; the roll cage to be constructed from steel and will consist of either two side to side hoops, two front to rear hoops or similar configuration, with a screen hoop & a hoop over the driver's head (welded joints are permissible if box section is used, extra braces or gussets must be welded in)
- There must be two bars of roll cage material in the top of the roll cage, they must be a minimum of 9" apart when measured internally.
 - A 3mm thick steel plate must be welded between these bars and it will be a minimum of 12" long & be fitted above the driver's head.
 - The roll cage must be an all-steel construction & be made from the following materials.
 - 34mm round tube x 4.5mm wall thickness
 - 38mm round tube x 3.5mm wall thickness
 - 40mm square section x 3.0mm wall thickness
 - 42.4mm round tube x 3mm wall thickness
 - 43.4mm round tube x 3.2mm wall thickness
 - 50.5mm round tube x 3mm wall thickness
 - Tolerances for the cage material size & thickness ± 0.5 mm on tube diameter & ± 0.5 mm on material thickness
 - Where round tube is used, it must be at least 38mm diameter for the main roll cage, 34mm round tube may only be used as secondary bracing & strengthening to the main roll cage.
 - The upright posts of the whole roll cage must be welded to the under carriage/floor box section structure.
 - Extra braces, gussets & connecting bars can be fitted at the constructor's discretion.
 - There will be at least 1 diagonal cross brace or 2 side to side cross braces in the rear hoop.
- 7) Metal, steel, or alloy side plates are to be fitted to both sides of the car & run from the side rail height to the top of the sill bar, it must run the full length of the floor as stated in rule 6, the side plates are to be secured either by way of riveting, welding, or bolting in a way they will not come loose.
- 8) The front bumper must be flat faced/vertical in construction & run parallel to the width of the bonnet (it doesn't have to touch the body work) the bumper depth should be 12" minimum & 16" maximum. The front bumper should be made from square & rectangle box section minimum of 25mm x 50mm & maximum of 50mm x 50mm. Round tube minimum 1.5" to a maximum of 2", all material is to be 3mm thick with a tolerance of ± 0.5 mm material thickness, fence protecting posts can be fitted & are optional, these are to be fitted to the corners of the front bumper, be made from a minimum of 25x50x3mm to maximum of 40x40x3mm section with interconnecting bracings, they must terminate before the front roll cage post & have a gap between when viewed from the front. (Fence protecting posts are not included in the bumper depth measurement)
- 9) The rear bumper must be flat faced/vertical in construction & run parallel to the width of the boot (it doesn't have to touch the body work), the bumper depth should be 12" minimum & 16" maximum. The rear bumper should be made from square & rectangle box section minimum of 25mm x 50mm & maximum of 50mm x 50mm, round tube minimum 1.5" to a maximum of 2", all material is to be 3mm thick with a tolerance of ± 0.5 mm material thickness, fence protecting posts can be fitted & are optional, these are to be fitted to the corners of the rear bumper, be made from minimum 25x50x3mm to maximum of 40x40x3mm section with interconnecting bracings, they must terminate before the front of the rear wheel. (Fence protecting posts are not included in the bumper depth measurement)
- 10) The external side rails should fasten to the rear face of the front bumper & the front face of the rear bumper with a minimum of 40x40mm box section or 38mm tube at an angle on each corner, front and back.
- 11) Minimum ride height 2" measured at the sump guard, front lowest point of the rear sub frame/chassis (if the rear suspensions have been fabricated) to be checked on the racing surface with the driver in the car using a piece of 2"x1" box section. This must pass under the cars lowest points front & rear, if it doesn't clear the car the driver will forfeit the results accumulated on that day & must be corrected before it can continue to race.

- 12) All cars to have two bars (under-chassis rails) of a minimum of 25mm x 50mm & maximum of 50mm x 50mm with a minimum wall thickness of 3mm will be fitted to the underside of the front subframe, this can have box section under the subframe to the rail to lift the subframe. The rails are to connect to the rear face/underside of the front bumper, through to the rear/underside of the rear bumper, these can be angled, bent & fabricated. The two bars must be centre to the bulkhead, tolerance of +/- 20mm. The two bars must at least reach the rear cab floor bar, but bars must connect from the rear floor bar to the rear face/underside of the rear bumper, with a least two bars, i.e., bars stepped or crossed.
- 13) All cars are to have two rails across the cab, with a minimum of 25mm x 50mm & maximum of 50mm x 50mm with a minimum wall thickness of 3mm will be fitted, one at the top of the bulkhead and one behind the driver's seat.
- 14) The inner chassis rails should connect to the rear face of the front bumper through to the rear face of the back bumper, the bars can be stepped or curved.
- 15) The external rail must be attached to the inner chassis rails using additional cross bracings to add additional strength, minimum of 25mm x 25mm box section & a maximum of 40mm x 40mm, tube can be used if it is within the above-described parameters. All have a minimum wall thickness of 3mm with a -0.5mm tolerance, with a minimum of 6 on each side.
- 16) Standard bulkheads are optional & can be fabricated for ease of access but **must be** sealed in case of any engine bay fires, except for the steering column hole.
- 17) No manufactured or formed curved arches are allowed on the external side rail over the top side of wheels, wheel protectors can be put on the side of the external rail but cannot exceed the maximum width of 64", the wheel protectors must be fitted neatly and have no catch points. If the chassis is at the maximum width all wheels/tyres must be within the external rail.
- 18) All sharp edges to be removed from bumpers & side rail.
- 19) Steel mesh fitted over the full front windscreen opening 40mm x 40mm maximum mesh size, larger mesh size can be used, but small mesh must be on the top in front of the driver.
- 20) All cars to have towing hoops front and rear, clearly marked up for the tractor to hook onto.
- 21) All welding must be carried out by a competent welder & must reach a level that satisfies the scrutineers.

Sub Frames/Suspension/hubs

- 1) The front subframe must be a Mini pre 2000 only, automatic or manual, it can be seam welded for additional strength, tie bar mounts can be reinforced, it must remain to its original build dimensions, the rear of the subframe can be cut away for additional access, the towers can be cut back to allow for the use of coil overs, it is not permissible to mount the subframe in any other position than of it being fastened into its standard position, no angles, offset or askew positions, it is to fit central to the under chassis rails, each rail must go under the flat part on the bottom of the subframe, just below where the bottom arm mounts. It can be raised but must be kept central.
- 2) The engine must remain in its original position of manufacture and must be front wheel drive.
- 3) Engine mountings are free and extra engines steadier's can be added but the engine must be within 20mm of the original manufactures position.
- 4) Adjustable high-low suspension is allowed, rubber doughnuts & springs, performance rubber doughnuts are allowed.
- 5) Single adjustment coil overs/shockers can be used front & rear.

- 6) Top arms are to be Mini or Metro only (pre-2000 Mini / pre-1991 Metro) and are not to be lengthened or shortened in any way, the top arm shocker mount can be drilled out to accept a stronger shocker mount, have additional material added for strength & to aid the mounting of coil overs but cannot be modified in any other way.
- 7) Front track control arms & tie bars (rose joint only allowed on the subframe mounted end) can be adjustable, all front suspension arms must be made from steel & must retain their original mounting positions in the sub frame, they must be readily available to all competitors.
- 8) Bottom arms can be adjustable, these must be made from steel & retain their original mounting position in the subframe (rose joint only allowed on the subframe mounted end), they must be readily available to all competitors. original standard-length arms maybe cut, and their lengths altered to suit camber change but cannot deviate from their original design in any other way.
- 9) The use of fully rotational rod ends i.e., rose joints are only allowed on the following: bottom arms, 1 end, the end that bolts to the subframe in the original mounting position, tie rods 1 end that bolts to the subframe original mounting position, steering arms, both ends and coil overs, no other parts on the suspension can have rose joints. This applies to the front suspension only.
- 10) Front hubs are to be mini or metro (pre-2000 Mini per 1991 Metro) & cannot be fabricated.
- 11) Top & bottom ball joints are free.
- 12) Front drive flanges can be either mini or metro, it is permissible to re drill them to suit a larger PCD & not for lightening.
- 13) The use of aluminium suspension parts is not permitted, the only exception is brake callipers, shock absorbers, coil overs & Hi/Low tops.
- 14) Standard rear sub frames, fabricated rear beams & independent rear swing arms are allowed.
- 15) The use of anti-roll bars is permitted.

Steering/Wheels/tyres

- 1) Steering racks are free.
- 2) Steering arms can be drilled out to accept a larger diameter bolt. Only off the shelf mini & metro arms (pre-2000 Mini / pre-1991 Metro) are permitted, these are not to be modified in any way other than stated.
- 3) Rose joints and track control arms can be used on the steering rack arms.
- 4) Steering column is free, but it is recommended to fit a removeable steering wheel to minimise damage to the car should it be necessary to cut out the driver in the case of an accident.
- 5) 10", 12" or 13" diameter wheels with a maximum of 8" width +/- 0.25" rim to rim is allowed, any tyres, but within the 64" frame width restriction. Original or aftermarket wheels are permitted. Wheels can be banded to accept the use of wider tyres. It is NOT permissible to use split rim types. Wheel back depths & offsets are to be within 1" across each axle.
- 6) It is permitted to carry out wheel repairs if it is to a professional standard providing it meets the above requirements.
- 7) Wheel spacers are allowed up to a maximum of 20mm difference across the same axle.
- 8) Any type of tyre can be used that fits the wheel correctly, except for no studded tyres, inner tubes can be used.

Brakes

- 1) All cars must be fitted with a working braking system, these are to work across the front axle, compensator valves/bias valves may be used. Ap 4 pot metro brakes are allowed, all readily available mini (pre-2000) brakes can be used with a maximum of 4 pots per calliper, including Alloy & 1 calliper per wheel. No modification to hubs to accommodate brake callipers is allowed. The use of brake servos, standard/race master cylinder's is permitted.
- 2) Brake disc maximum size of 8.4" vented & solid discs on the front are allowed.
- 3) Rear brake Drums, callipers & disc sizes are free.
- 4) Pedals may be standard, fabricated, or bespoke including master cylinders, adjustable bias is allowed either by reducing valve or twin cylinder setup. Pedals must be orientated as single pedals for clutch, brake, and throttle.
- 5) Standard and braided hoses are permitted.

Fuel tank/lines/pump

- 1) The original petrol tank must be removed & replaced with a metal, steel or alloy tank fitted with a metal screw cap with a maximum capacity of 3 gallon.
- 2) The fuel lines must be of metal type or braided, with a maximum of 6 rubber joints secured with jubilee type clips. The rubber hose is to be a maximum of 6" in length, it is to be routed away from all electrical cables, they must be securely fastened, one fuel filter is permitted in the fuel line. Any carburettor fitted with an overflow facility must have an overflow pipe directing away from hot areas.
- 3) A fuel on off tap must be fitted within easy reach of the driver when strapped in, the fuel line will be a metal type or braided hose, plastic or rubber joints will not be more than 6". All joints are to be leak proof & secured with jubilee type clips.
- 4) A one-way safety valve must be fitted in line with the fuel tank breather pipe, this must be in working order, modification or tampering with the one-way safety valve is not permitted.
- 5) Any fuel pump is allowed, either mechanical or electric.
- 6) Fuel line must be kept separate from the battery lead, at least 500mm apart.

Engine & Gearbox Specification

- 1) Engine is to be A or A+ series 1275cc.
- 2) Blocks maybe overbore to +0.20thou (71.2mm) diameter. The block maybe decked; the engine stroke must remain unchanged at 81.28mm, the stroke measurement is from the top of the piston at TDC to top of the piston at BDC, no offset grinding is allowed. Centre main bearing straps are allowed, the use of remote oil filters & coolers is permitted. The use of the original fuel pump hole as an additional breather is permitted.
- 3) Liners are permitted to allow re-use of damaged blocks; the bore should be returned to the dimensions in rule 2.
- 4) Connecting rods, these are to remain of original manufacture standard, spot balancing is allowed one rod must remain standard, they must be original specification & length. No forged or race con-rods allowed.

- 5) Crankshafts must be to original specification & material. Balancing is allowed by spot balancing only & 1 web must remain standard & untouched, crank grinding is permitted only on main & big ends.
- 6) Stroke must remain original 1275cc (81.28mm)
- 7) Pistons can be dished or flat top, they may not protrude past the top of the engine block at any point, for clarity they should be level with the block face or down the bore. Forged pistons are allowed, these can be spot balanced, but 1 piston must remain standard.
- 8) Camshafts profiles are free, they must be manufactured from cast or steel and manufactured for a per-2000 Mini or pre-1991 Metro.
- 9) Any camshaft timing chain that fits can be used, they must be manufactured for a per-2000 Mini or Metro, Vernier pulleys & offset woodruff keys are allowed, timing belts are not permitted.
- 10) Distributors – must provide a spark to the engine, these are open to modification, mappable ignition is not permitted, bob weights and springs are free. The distributor timing curve can be modified & the vacuum take off can be removed. The use of electronic ignition is allowed either internal to the distributor or externally. No other modifications are permitted.
- 11) Roller rockers that fit without modification are permitted; all standard production rockers are permitted. Machining of pillars is not permitted, Standard push rods only, carbon fibre push rods are not permitted. The rocker cover can be altered to include an additional engine breather.
- 12) Flywheel & clutch assemblies are to be ferrous metal, lightening, balancing & competition clutches are permitted. Components can be changed for lighter aftermarket ferrous metal parts. An inspection hole may be drilled in the bellhousing cover, or the starter motor may be removed to aid inspection.
- 13) Cylinder Head is to be a standard 1275cc (Casting Number 12G940) valve sizes are to be of standard length & head sizes, inlet 35.6mm (1.406") & exhaust 29.38mm (1.1565") the polishing or machining of either the inlet or exhaust ports is not permitted, the combustion chambers can be machined to lower compression, but must not go beyond the valve seats. The surfaces of the inlet & exhaust ports must remain as originally manufactured (rough cast) valve guides may be replaced, valve guides cannot be machined or fettled for non-standard production type valves. Valve seats angles can be up to 3 angled but must not encroach into either port. Rim-flow valves are not permitted. Spring tops and retainers must be a ferrous material (i.e., no titanium) double valve springs are permitted. The cylinder head casting/part number must not be removed or modified. Any head gasket can be used that fits without modification to the engine.
- 14) Inlet/Exhaust Manifolds are free, exhausts may be wrapped in heat protecting wrap. The exhaust must reach the rear of the floor & have a working silencer fitted, the end of the exhaust must blow into clear air and not blow back into the cab, the exhaust can also exit on the side of the car but must blow into clear air and not back into the car. The use of turbo chargers, super chargers & nitrous is not permitted.
- 15) Carburettor can only be HS6, HIF6 or HIF44 (1.75") SU with a two or four bolt fixing. It must not be bored or machined in any form; this includes the piston, butterfly, or spindle. Springs, jets & needles are free. ram pipes up to 3" in length are permitted. All vacuum pipes are to be sealed off unless being used for their original purpose. Air is only permitted to enter the engine through the original intake of the carburettor.
- 16) Gearbox must be standard A or A+ Type, have 4 forward & 1 reverse gear (all working) and must be factory supplied gearbox ratios.

Straight cut, semi helical gears or drop gears are not permitted (1st & reverse are straight cut as standard). Splash plates are permitted. It is permitted to remove the speedo drive and blank off.
- 17) Differentials – final drive ratio are interchangeable, no straight gears are allowed, standard, or cross pin differentials are permitted.

Limited slip, worm drive, torque, locked or welded diffs are not permitted. Drive cups can be extended, drive shafts are not permitted to be lightened.

- 18) Any radiator is permitted providing it fits within engine bay, extra radiators can be added, all within the engine bay.
- 19) Water pumps can be standard or electric but must be in the original manufacture position. (Electric pump must fit using an adapter, that fit to the original water pump area on the engine, no machining to the engine is permitted to aid fitment)
- 20) It is permitted to use uprated engine bolts/studs i.e., ARP. Titanium fasteners are not permitted.
- 21) The use of ceramic or any surface coating and treatment is not permitted on any components within the engine/gearbox. External coatings of components for aesthetics purposes are permitted.
- 22) Standard fuel available from at least 300 fuel suppliers' forecourts is permitted.
Lead additives can use to stop valves burning out.
- 23) **All switches must be clearly marked up with on/off, an extra pull cord marked up with KILL SWITCH must be within easy reach of the marshal.**
- 24) All seats must incorporate a correct head restraint, no homemade versions. The head restraint must be secure to the body of the seat and not to the roll cage or seat support. All seats must be securely fitted either on the right or the centre of the car with adequate support for the back of the seat. All seats must be padded with fire retardant foam, it is the driver's responsibility to ensure the seat is a good fit, all seat mounting fasteners should be minimum of M8, and seats must be always secure and safe. Seats should be fitted to manufactures fitting instructions.
- 25) A full 3" harness (minimum of 5 point) shall be fitted unless a neck restraint system device is used, the harness should be fitted following the manufactures instructions.

Other rules

- 1) **The committee/scrutineers can and will check any car without notice on the day of racing, i.e., heads/carbs removed, if anything is found not to comply with the above rules the driver can receive disciplinary action and/or suspension. If you don't agree with the rules don't race in the class.**
- 2) **You do have the right to appeal any decisions, but the committee/scrutineer's decision is final.**

ANY CONTRAVENTION OF THE ABOVE RULES CAN RESULT IN THE DRIVER RECEIVING DISCIPLINARY ACTION AND/OR SUSPENSION.

THE ABOVE RULES WILL BE AMENDED, OMITTED OR ADDED TO AT THE DISCRETION OF THE CLUB COMMITTEE/SCRUTINEERS, THIS WILL BE DISCUSSED WITH THE CLASS AND VOTED ON, WITH THE EXCEPTION OF ANY MUST HAVE SAFETY RULES.

THE LICENCES ISSUED BY THE CLUB ARE FOR WARTON ONLY, THEY ARE NOT TRANSFERABLE.

THE RULE BOOK IS WRITTEN IN GOOD FAITH, ANY OMISSIONS THAT LEAD TO AMBIGUITY THE DEFAULT POSITION IS IT REPRESENTS A STANDARD FACTORY TYPE COMPONENT.

DELIBERATE MISINTERPRETATION OF THE RULES WILL BE DEEMED A BREACH.

ALL CARS TO BE BUILT AND DEVELOPED IN 'THE SPIRIT OF THE CLASS', WITH THE AIM OF CARS BEING EVENLY MATCHED AND BUILT. IF IT IS FELT MODIFICATIONS GO BEYOND 'THE SPIRIT' YOU WILL BE ASKED TO BRING YOUR CAR BACK IN LINE WITH THE REST OF THE CLASS.

IF THE RULES DO NOT SPECIFY THAT YOU CAN, THEN TAKE IT THAT YOU CAN'T, IF YOU ARE NOT SURE ABOUT ANY RULE ASK THE SCRUTINEERS, DO NOT JUST GO AHEAD AND DO IT.

ALL THE AMENDMENTS FROM THE 2022 AGM THAT WERE DUE TO COME IN 2023 ARE INCLUDED IN THIS RULE BOOK.