

# 2020 ORCi NATIONAL BANGER SPECIFICATIONS



## SECTION 1:- UNLIMITED CC NATIONAL BANGER SPECIFICATIONS

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## **REVISED RULES FOR 2020 IN BOLD/ITALIC/RED PRINT ITEMS MARKED ~~STRIKETHROUGH~~ ARE NO LONGER ALLOWED**

### **2020 National Banger UNLIMITED Technical Specifications Issue 1 dated February 16<sup>th</sup> 2020**

**These rules are valid from March 1<sup>st</sup> 2020.**

**The overriding principle of these regulations is that unless it is stated that you can do it, you must work on the principle that you CANNOT.**

#### **1. TYPE OF CAR PERMITTED FOR USE**

- You must use any Rear Wheel Drive four wheel saloon, coupe, estate car or people carrier.
- No SUV's, 4 x 4 or van derived (e.g. SsangYong Rodius) vehicles allowed.
- The MOT Brake Weight Chart maybe used to determine which cars are eligible for the unlimited cc class as follows. (1360kg - over) ~~e.g. Triumph 2000 — unlimited~~
- Front wheel drive American cars maybe permitted with prior permission from the staging promotion only
- Chrysler Imperial chassis cars are NOT permitted for use.
- The Toyota Previa is permitted for use but must run on a radiator which must be fitted in front of the engine and in the engine compartment. The rear suspension must be lowered to an average 410mm bumper height.
- As from 3 April 2017 the SsangYong Rodius is not permitted for use.
- Cars that would be unsuitable for racing due to age/corrosion or style, may be allowed to race with the Staging Promoter's permission for welding repairs to make it track worthy.

#### **Special Meetings**

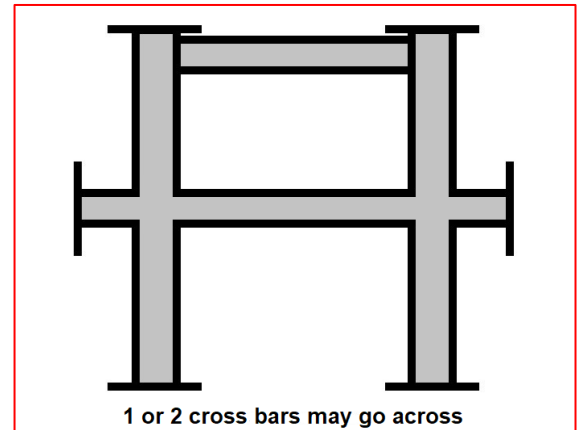
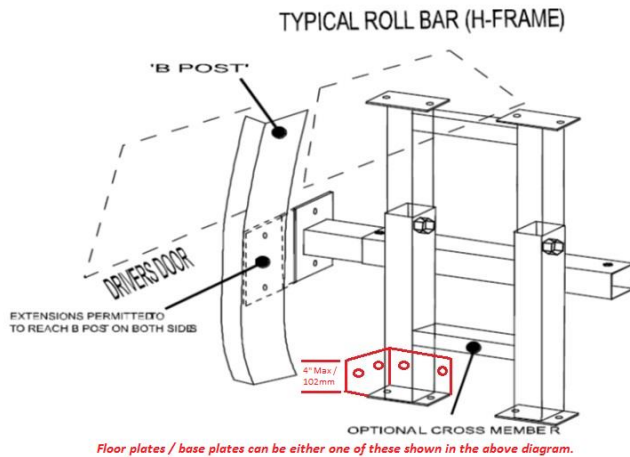
- Your promoter will state either via the fixture list or special entry form at which meetings this rule can be used and therefore cannot be used by a driver regardless of type of car at a normal meeting!!
- Promoters may run special meetings for a certain type of vehicle e.g. 7.5 tonnes vehicles, SUV's, 4 X 4's, Reliant Robins, Coaches etc, for which rules will be issued by the Staging Promoter. Left hand drive vehicles may be permitted at the promoter's discretion – this should be checked in advance with the staging promoter.

#### **2. STRIPPING & PREPARATION**

- It is compulsory to remove all the interior, glass, airbags and charges, spoilers and side-skirts.
- The complete dashboard should be removed wherever possible.
- Remove all seats except the driver's which must be retained, the use of a racing seat is not allowed.
- Remove spare wheel carriers and tow bars plus associated steelwork if fitted.
- Original fuel tanks must be removed. If however, the tank is an integral part of the body you must remove as much as possible.
- You may use the original standard steel bumper.
- If a front bumper is fitted, a maximum of three additional bolts may also be fitted to secure it in place on the front of the bumper but not up the chassis. You may also weld on the ends of the bumper two strips of plate that are 3mm thick & 100mm in depth, these strips maybe folded & welded a maximum of 50mm along the back of the bumper & 180mm along the chassis with a maximum of two bolts each side through the chassis. These strips must not connect to engine mounts/bonnet bolts/or any other part except the chassis.
- The standard bumper cannot be folded or flattened with exception of where the 3 bolts go through with maximum of 50mm washers.
- No wrap around bumpers allowed.
- Plastic on bumpers must be removed.
- All cars with aluminium bumpers, **excepting Yanks**, must have the bumper and retaining irons removed before racing e.g. Volvo 2 series. You **must** fit a flat plate 100mm x 3mm in its place. This may be folded back a maximum of (180mm) with a maximum of two bolts per side & three bolts on the front. The bolts must go THROUGH the chassis and not UP the chassis. You may add a maximum three extra bolts on the front of the plate coming back through but not up the chassis.
- ~~Later type cars with extended chassis rails e.g. Vauxhall Omega, may also be fitted with a plate to the above rule or cut the chassis rail back to the front valance.~~
- Cars with no front cross members are permitted to link the chassis members with a chain.
- Chassis rails CANNOT be cut/shortened on fresh cars, if the chassis is cut back due to rot or damage the front crossmember CANNOT be re-fitted, the 3mm X 100mm Bumper MUST then be fitted.

### 3. ROLL BAR

- You must fit a single "hoop" roll bar in support of the door pillars, securely bolted to the roof and floor with a minimum size M12 bolt and **100mm square washers minimum**.
- You must have a minimum of four bolts in the top and four in the bottom, with a maximum of eight in the bottom on each side. The maximum size of the base plate is 15" (385mm) x 11" (280mm). The plate may go up the side of the sill or straight up the rear panel up to a maximum of 4" (102mm) high. This must be the same length and width as the base plate/floor plate of the cage. A maximum of two bolts are permitted through the side.
- Roll cages may be adjustable (height/width), however the use of screw adjusters i.e. acrow style, are not permitted. **Holes for adjustment must be at least 25mm apart, and two bolts per side must be used.**



These two diagrams are a guideline to how the frame should be constructed but gusseting or triangulation is accepted.

- The roll cage must be fitted upright or dog-legged, but not leaning back or forward.
- It is compulsory to pad with foam - roll cages by the driver's head, B pillar and steering column.
- The hoop must be one piece, or two uprights and one top bar of a welded construction. This top bar should be as shown at the top of the uprights.
- A second cross bar is compulsory, a third is optional; these must be welded or bolted to the uprights.
- THE ROLL BAR MUST NOT HAVE ANY REAR SUPPORTS but may have extensions no further forward than the B post (see diagram) (this applies to both sides of the car). If used, ~~it is highly recommended that this~~ **must** bolted through the B post.
- You may bolt the roll bar through both sides of the car.
- The minimum size steel for the roll bar is 2" (50mm) x 2" (50mm) RHS or tube equivalent, up to a maximum size of 4" (100mm) x 4" (100mm) RHS or tube equivalent. A minimum wall thickness of 3mm is required.
- Crossbars must have a 5" (125mm) square end plate fitted. This must be a minimum of 6mm thick.
- You must tie the seat at shoulder level to the roll cage or B pillar. This must be done through the seat frame and not the headrest; you may fit the 2<sup>nd</sup> cross bar in support of the seat just below the window aperture or weld a frame on the cage to support the seat at the top.

### 4. STRENGTHENING & PREPARATION

- Cars that fail pre or post-race scrutineering, found to be armoured or strengthened, including engine or gearbox suspension mounts that are over the top and not rectifiable on the day, will receive an immediate ORCi ban. If the vehicle can be rectified at the track then the vehicle must race, otherwise the driver will face an ORCi ban.
- If the Steward of the Meeting or the Promoter feels that the car is over built for strength this will result in an automatic 12month ban. For example, excessive welding or added steel work added to the car.

#### Doors & Door Plates

- The driver's door may be welded but must have no additional strengthening (this includes gussets) other than steel RHS, which is allowed in the lower window aperture of the drivers and rear driver's door, not extending further than the rear of the H frame. Please note that this is not allowed on the passenger side.
- A FLAT (no channel or angle) steel plate **MUST** be bolted over the driver's door to the following dimensions:
- **Height** – minimum 10" (255mm) to a maximum of 15" (380mm)
- **Thickness** - minimum 3/8" (9mm) – 3/4" (20mm)
- This must be fitted with a minimum of 3" (75mm) and a maximum of 6" (150mm) past the A & B pillars.
- This must be securely bolted with a minimum of four bolts.
- It is not permitted to cut slots in the driver's doorplate. Holes for bolts only.

The bolt size must be at least M16 studding or bolt. M12 is acceptable on all other bolts. **There must be at least one bolt through the A pillar and one bolt through either the B pillar or roll cage (B pillar AND roll cage if possible).** For 2 door and pillar-less cars (no B Pillar), the door plate MUST be bolted through the roll cage.

Door plates cannot be joined to the water tank in any way.

All other doors must be secured by bolting, chains or seat belt webbing. The maximum number of bolts permitted is four per door. Where plates are used to secure doors (other than the driver's door), the plates must be a maximum of 12" x 12" (300mm x 300mm) – you may use ONE additional bolt per plate to secure through the A or B Pillar, this must be a minimum size ¼" (6mm).

### **Driver's Floor Plate**

- A steel plate fitted to the driver's floor pan is compulsory.
- It must be no thicker than 6mm and must be bolted in only.
- Floor plates may extend up the side of the transmission tunnel **to 150mm maximum**, to the same height as the door sill, and up the bulkhead to within 200mm (8") of the top of the bulkhead, but the plate can only be bolted through the floor and the A-pillar only, not to the sill or bulkhead. You may put two bolts maximum in the gearbox tunnel with a maximum 50mm washer size.
- A 4" (100mm) steel plate no thicker than 6mm bolted through the A pillar to the door plate can be welded or bolted to the floor plate.

### **Bonnet/Boot**

- The driver must present their car for pre-meeting safety checks with the bonnet and bolts but they must NOT be fixed to the car.
- Triangular corner plates or straps may be used to secure the rear of the bonnet. They must be attached to the car by bolting or tack welding to a maximum of 1" (25mm) weld with a 1" (25mm) gap in between. Plates or straps must be placed no further than 20" (500mm) ~~across or down from the back edge and side of the bonnet.~~ **WELDING MUST NOT REACH THE 'A' PILLAR ON THE PASSENGER SIDE.**
- Bonnets must be bolted down using a maximum of four bolts, two bolts in either side of the bonnet. Maximum height of bolt above the washer is 1½" (37.5mm).
- Bonnets must not be moved forward or overlapped.
- Front bonnet bolts may go through either the slam panel, inner wings or the chassis or you may weld / bolt a piece of 2" x 2" (50mm x 50mm) metal SHS OR 3" x 3" (75mm x 75mm) metal angle to a maximum length of 3" (75mm) for the bonnet bolt to pass through **and the be no higher than the top of the chassis.**
- Crush tubes may be used under the bonnet only and not in the boot area, which must be a maximum of 2" (50mm) outside diameter steel tube, with a maximum 5mm wall thickness. If bolted, a secondary plate on the opposite side is not permitted. Front crush tubes must not be bolted or on sliders and they must fall out when the bonnet bolts are removed. The front crush tubes must either sit on top of the wing or on top of the chassis and not through them,
- Rear crush tubes can be secured by either bolting or welding.
- Maximum size of bolt or studding is 1" (25mm), including shouldering. Cam wheels must not be used as bonnet washers. Maximum size of the washer is 7" (175mm) x 5" (125mm).
- Maximum length of chain if used is 24" (60cm).
- Boot lid or rear door on estate cars may be ~~chained or~~ bolted. If using bolts, a maximum of four, one in each corner, a maximum size of 3/8" (9mm) maybe used, or if using chain up to 24" (60cm) in length is permitted.
- If you can not get to one side and have to weld a plate, this plate must be no bigger than 6" X 4" and can only be welded to either the boot or the rear quarter panel.

### **Wings**

- Front wings may be folded and two additional bolts may be added to secure the wing.
- A maximum of two additional bolts are allowed on rear wings/wheel arches.
- Cars manufactured without metal inner wings MUST not be fitted with fabricated panels.
- Cars with inner wings cannot be replaced with thicker or additional material.

### **General**

- If the complete dashboard has been removed, then you may be required to make an additional brace to secure the steering column, however this is mandatory if the standard support is removed i.e. cross bar on a Mondeo.
- No screen bars allowed.
- You are not permitted to strengthen the gearbox tunnel.
- Expanding foam or any other material must not be used to fill chassis or door sills etc.
- Sunroof must be bolted or welded. If covered, the **minimum** thickness of flat steel plate is 1/8" (3mm), and the maximum size is 4" (100mm) larger than the sun roof opening. Cars without a sunroof may also be fitted with a roof plate - this must be no further than back than the roll cage and must not extend beyond the edges of the roof. This plate must be a maximum of 3mm thick and must be securely bolted or welded.

- Any repair welding can only be made with the same gauge metal as the original part of the body or chassis being repaired (maximum of 3" (75mm) square). This can only be secured by tack welding - welding 1" (25mm) with a 1" (25mm) gap before the next weld. One plate can be used to secure the inner wing to the chassis rail. – THIS IS ONLY ON NEW CAR BUILDS.
- It is not permitted to panel in headlight and window apertures.
- It is not permitted to panel in the inside of doors and or the rear parcel shelf and these must be left as original. Drivers name visors must be at the top of the windscreen only and must not be welded in place. THIS INCLUDES CHAMPIONSHIP MEETINGS.

## Suspension

- You may strengthen the Track Control Arm (the steering adjustment arm on the steering rack) by welding or sleeving.
- You may strengthen the standard original top and bottom arm, but this must remain standard in dimension.
- Re-positioning of the ball joint is not allowed.
- Suspension legs may be welded to the hub.
- ~~No additional strengthening of any other suspension parts is allowed.~~
- Front and rear sub frames may be secured by bolting or tack welding to the width of the mounting only.

## 5. FUEL SYSTEM

- The original petrol tank must be removed and replaced with a maximum size 2-3 gallon safety tank fitted inside the car on or under the roll bar. Before fitting, the tank should be carefully checked to see that it cannot leak when inverted or on its side and the outlet must be from the top of the tank. The vent pipe from the top of the tank must be terminated below the floor level of the car.
- All fuel lines must be in good condition and securely clamped.
- With carburettor fuelled cars, a manual shut-off tap must be fitted within reach of the driver when strapped in the car, but with fuel injected cars, the fuel flow must be controlled by the ~~pump cut-off~~ battery isolator switch. Immersed fuel pumps are permitted.
- All fuel tanks must be of steel construction and have a metal screw top and must be fitted ONTO the H frame and NOT on the H Frame Floor plates, i.e. NOT on the car floor itself.
- A one-way valve must be fitted to the breather pipe.

## 6. ELECTRICAL SYSTEM

- Batteries must be bolted or clamped in position and completely covered with rot-proof material to prevent acid leakage. Ratchet straps may be used as a secondary fixing only. Batteries must be fitted on or under the roll bar. If batteries are secured in a box the maximum dimensions are 18" x 12", 460mm x 300mm.
- Alternators, if fitted, cannot be wired to charge.
- All wiring must be fully insulated.
- Electrical starters must be fitted and in working order.
- **Ignition and starting must be activated through an insulated switch, not by connecting bare wires together. A battery cut off switch MUST be mounted on the roll cage on the near side of the car; the switch must be wired to the earth side of the battery.**
- Engines that are fitted with ignition system relying on a flywheel sensor (or similar), must not be modified to use a gear driven distributor.
- Ignition boxes on any fuel injection engine converted to carburettor are free, aftermarket products mapped to suit or modified original boxes modified are allowed
- ~~On fuel injection cars the engine management system including ignition boxes must remain as originally fitted and not re-mapped.~~

## 7. COOLING SYSTEM

- Only rectangular or L shaped tanks are permitted, with no braces. An L-shaped tank may extend towards the turret on Passenger side of the engine only.
- An L-shaped tank may extend towards the turret on one side of the engine only.
- Flat type water tanks laid on top of the engine are NOT allowed.
- Any modifications must be within the original bonnet outline.
- U Shaped tanks are NOT allowed.
- Tanks must not extend beyond the front of the engine block.
- The front of the engine is classed as the block not the pulleys or water pumps etc.
- These tanks must only be secured by four fixings and may not be welded into the car or connected to any door or floor plates in any way, The tank must NOT be bolted to or through any part of the chassis. Bonnet bolts may go through the water tank but if you choose this option they must not be connected to the chassis in any way & only through the inner wing.
- Only two outlets are allowed from the water tank.
- **PLEASE NOTE THAT WATER TANKS ARE FOR COOLING PURPOSES ONLY AND NOT FOR STRENGTHENING, AND ALL PARTS MUST CARRY WATER.**
- The water pump may be removed and blanked off.
- Electric water pumps are allowed.
- No cutting of bulkheads allowed.
- Tanks must be non-pressurised.
- An overflow pipe, minimum size ½" (13mm), must go under the floor of the car and terminate at the back axle.
- Water outlets may be modified but not used for armouring.

## 8. ENGINES, GEARBOX & PROPSHAFTS

- You may replace the standard engine with any engine, provided it is of the same or smaller cc.
- ~~Engine mounts may be strengthened but must remain in the original place if fitted. No additional mounts allowed. Modified mounts can be welded/bolted to the cross member or bolted to the chassis not both.~~
- On transplanted engines the position of the mounts on the engine are free, but the rule on chassis or cross member mounts is as above. The purpose is to hold the engine and not strengthen the car. ~~Every part must be behind the front of the engine and not used for armouring. For clarification purposes the engine cradle or manufactured mounts must be made from two pieces of steel angle, two pieces of steel plate and one piece of steel RHS or tube equivalent connecting the two plates. Each length of steel angle must only be a maximum of 10" (250mm) long. The maximum thickness of steel angle and steel plate is 6mm. The cradle must not be attached to the water tank. If an engine cradle is used, the engine may only be bolted to the cradle and nothing else e.g. no bolts going through the original cross member, no bolts going through the chassis to do with engine mounting.~~ **All parts must be behind the front face of the engine block. Engine cradles/mountings must be made of material no thicker than 10mm. Plate or angle along the chassis and be no longer than 250mm, bolted through the chassis with a maximum of 2 bolts per side, with washers of 100mm square maximum. Mounts on the engine must not be any further back than the front face of the bellhousing, no higher than the top of the block, and no further forward than the front face of the block. Cradles/mounts may be bolted through the subframe or the chassis but not both.** Aluminium engine cross members may be replaced with a copy made from steel.
- The external parts of the engine must remain standard.
- Additional gearbox mounts are only allowed on rear wheel drive cars. ~~On front wheel drive gear box mounts must occupy the original position but can be strengthened.~~
- Flywheels may be modified.
- Prop shafts may be made and modified to use sliding components.
- Drive shafts may be modified using sliding components.
- No turbos or superchargers.
- No dry sump systems.
- Bulkheads must remain original and not be cut or modified to fit an engine. You may cut a hole in the bulkhead to accommodate the wiring and fuel pipe.
- Any Ford Pinto, Duratec 'i4' or Zetec engine and gearbox may be used in any RWD car as long as this is no larger than the original engine cc.
- Gearbox mountings on rear wheel drive cars must be original, and can be modified to be solid, or may have secondary fixing of a ratchet strap, ~~or M16 studding made into a u-bolt with a flat plate as a washer maximum size 50mm wide by 6mm thick, and 300mm long.~~ No additional metal is allowed on the chassis to mount the gearbox, **but it is permitted to bolt a plate size 150mm x 250mm x 6mm maximum to the top of the transmission tunnel to facilitate the use of a ratchet strap.**

### 8a. ENGINE / CAM GUARD

- This can only be bolted to the engine. It cannot be butted or connected or bolted to any of the engine mounting bolts or cradle bolts or water tank, **and must be made of flat plate** The purpose of this is to protect the front of the engine, the distributor and crank sensors. This is on RWD cars only. Anything deemed excessive will have to be removed or altered.

## 9. EXHAUST & EXHAUST MANIFOLDS

- Exhaust manifolds must remain standard to the range of engine being used.
- Tubular manifolds must be standard and genuine manufacturers items for the range of the engine being used and not an optional/aftermarket extra. In some cases these may have to be modified by heating and bending for engine transplants only, i.e. not for gain.
- If the original exhaust system has to be replaced, there must be at least one silencer to each exhaust pipe and they must be securely fixed after the manifold. No Cherry Bombs or 'straight-through' systems allowed.
- The original mount must be supplemented with at least one additional fixing to secure the system to the car.
- No car will be allowed to race without an exhaust system. Drivers must be aware that if your car appears to be too noisy by a scrutineer or the Steward then you may not be permitted to race or may be black flagged.

## 10. CARBURETTOR/INLET MANIFOLD

- Fuel injection systems may be modified to carburettor using a manufactured or adapted inlet manifold and must run with one standard downdraft Weber type carburettor to a maximum size or equivalent 38 DGAV e.g. Pierburg, Solex, Weber. No multiple carburettor setups on four cylinder engines. Six cylinder and above engines may run twin SU carburettors but not two twin choke carburettors.
- Carburettors may be replaced with the equivalent size Weber conversion as per specification below. Adapter plates may be fitted by bolting or welding (max size carburettor allowed is 38DGAS as fitted to the 3.0 Litre V6 or 2.8 carburettor).

- Vehicles fitted with fuel injection can be used providing they are fitted using the standard banger fuel system and the fuel pump is replaced with a standard high pressure pump, or submersible pump. Suitable high pressure fuel lines must be used between the fuel pump and the injection system.
- Cold starting devices may be removed.
- Jets may be changed.
- Replacement Spindles with standard screws may be fitted, no polishing or reproofing allowed, no modifying or enlargement of any fuel galleries allowed.
- Floats must not be modified or weighted and needle valve must remain standard size, enrichment or power valve must be fitted and working.
- Solex or Pierburg carburettor may be replaced with the equivalent size Weber conversion as above.
- All carburettors must have a visual secondary fixing on the fuel inlet pipe.
- Air filters may be removed or replaced by competition type.

## 11. SUSPENSION, BRAKES AND AXLES

- Suspension components must remain standard, except where specific strengthening is allowed in section 4.
- Spring assistor rubbers are allowed.
- Springs may be changed ~~but no 2¼" competition springs.~~
- Springs may be heated or cut for lowering purposes.
- A secondary fixing is required on coil springs that may fall out, chain-~~or~~ wire, **or both** should be used.
- Shock absorbers must be standard type as fitted originally. No interchanging of suspension parts allowed.
- Bump stops may be removed.
- Camber must not be altered from standard, race damage must be proven and this will not be tolerated on new cars. The Scrutineers decision is FINAL.
- The tack welding of anti-roll bar brackets is allowed. On the Mercedes the front spring mount you may weld or bolt a support but must not be any longer than the standard spring platform.
- All suspension rubber mounted tops may be secured (no welding permitted) with a larger washer than original.
- Front suspension can only be altered with car derived parts.
- Back axles can be interchanged ~~with light commercial type~~ but the car's ride height must remain the same.
- Front axles can be changed with car derived parts but mountings must be no larger than standard.
- Brakes must be effective.
- Aluminium rear hubs maybe modified.

## 12. DIFFERENTIALS

- Differential are free and may even be welded and locked.
- Axle casings must not be welded or reinforced.

## 13. WHEELS

- Any standard steel or alloy wheel ~~up to 7J~~ that fits without modification **within the body of the car** may be used ~~if it is standard to the car.~~
- Cut and shut or banded wheels are not permitted.
- All wheel nuts must be fitted **and secure.**

## 14. TYRES

- On unlimited meetings only, conventional road tyre up to 235 may be used and a minimum of 50 profile.
- All tyres should have a minimum durometer reading of 60, whenever tested.
- All identification markings to remain on tyres.
- Any tyre with buffed markings will not be accepted and will be subject to disciplinary action.
- Tyre gaiters are permitted.
- "Run flat" tyres, 1B rated 'Track-day' tyres, Rally tyres, competition type, cut tyres, Town and Country, Mud & Snow Type or Kingpin Alpine Series tyres are NOT allowed.
- As from 1 May 2017 any **Winter Pattern/M&S Type** Kingpin tyres eg ALP4 are banned - see example photos
- The ORCi reserves the right to ban any tyre make or type which gives an unfair advantage.
- All tyres listed in the table below are NOT allowed.



<p><b>AVON</b></p> <ul style="list-style-type: none"> <li>• ACB 10 Sport</li> <li>• CR6ZZ (Including Sport)</li> <li>• Turbospeed CR28 Sport</li> <li>• CR500</li> <li>• ZZR</li> </ul> <p><b>BRIDGESTONE</b></p> <ul style="list-style-type: none"> <li>• Potenza S007 RFT</li> </ul> <p><b>CONTINENTAL</b></p> <ul style="list-style-type: none"> <li>• ContiForce Contact</li> </ul> <p><b>DMACK</b></p> <ul style="list-style-type: none"> <li>• Trackday</li> </ul> <p><b>DUNLOP</b></p> <ul style="list-style-type: none"> <li>• Formula R D83J/D84J</li> <li>• Formula R D93J</li> <li>• Direzza 02G or 03G</li> </ul>	<ul style="list-style-type: none"> <li>• CR 311</li> <li>• Sport Maxx Race</li> <li>• SP Sport R7</li> </ul> <p><b>FEDERAL</b></p> <ul style="list-style-type: none"> <li>• 595 EVO</li> <li>• 595 RSR</li> <li>• FZ 201</li> </ul> <p><b>GOODYEAR</b></p> <ul style="list-style-type: none"> <li>• EAGLE F1</li> </ul> <p><b>HANKOOK</b></p> <ul style="list-style-type: none"> <li>• Z209</li> <li>• Z210</li> </ul> <p><b>KUMHO</b></p> <ul style="list-style-type: none"> <li>• Ecsta V700 (inc V78)</li> <li>• Ecsta V70A</li> <li>• Ecsta TW01</li> </ul>	<ul style="list-style-type: none"> <li>• Ecsta TW02</li> <li>• Ecsta C03</li> <li>• Zeta Linea Sport</li> </ul> <p><b>MAXSPORT</b></p> <ul style="list-style-type: none"> <li>• RB4 Intermediate</li> <li>• RB5</li> </ul> <p><b>MAXXIS</b></p> <ul style="list-style-type: none"> <li>• Maz1 Drift</li> </ul> <p><b>MICHELIN</b></p> <ul style="list-style-type: none"> <li>• Pilot Sport Cup</li> <li>• Pilot Sport Cup 2</li> <li>• TB 15</li> <li>• TB 15 (f &amp; r)</li> </ul> <p><b>NANGKANG</b></p> <ul style="list-style-type: none"> <li>• NS-2R</li> </ul>	<p><b>PIRELLI</b></p> <ul style="list-style-type: none"> <li>• P Zero Trofeo</li> <li>• P Zero C</li> <li>• CA67</li> <li>• CF67</li> <li>• P Zero Corsa</li> <li>• P7 Corsa Classic</li> <li>• P Zeri Torfeo R12</li> </ul> <p><b>SILVERSTONE</b></p> <ul style="list-style-type: none"> <li>• FTZ Sport RR</li> <li>• FTZ Wet Tyre</li> <li>• S575</li> <li>• S585</li> </ul> <p><b>SYRON TOYO</b></p> <ul style="list-style-type: none"> <li>• R888</li> <li>• R1-R</li> </ul>
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## 15. SAFETY EQUIPMENT

- ~~Flame retardant racing suits are compulsory. Neck braces & Frontal Head Restraint Systems may be used. Fireproof Balaclavas are MANDATORY. Fireproof gloves are MANDATORY and must be marked appropriately.~~
- ~~A full shoulder type safety harness as approved by ORCi for Bangers with lap-straps must be fitted and bolted to the floor.~~
- ~~A minimum of a four-point buckle fixing must be used with a minimum of 3 floor fixings. A secure part of the floor or cage (including the seat bar), are recommended anchor points.~~
- **Seat belts can be fitted using chain, the chain must be at least 8mm thick & be solid links.**
- ~~A suitable head restraint must be fitted to the roll cage or seat. It is compulsory to pad roll cages by the drivers head including the B pillar and steering columns must also be padded with foam.~~
- ~~A 1Kg Dry Powder Gauge Fire Extinguisher may be fitted, this should be in a tube with a spring top and should be within easy reach of the driver. Old type BCF (green) type extinguishers are not allowed. All tow vehicles, must carry a minimum of a 2kg fire extinguisher dry powder or gas, which must be within easy reach of the driver and mechanics at all times, especially when refuelling.~~
- ~~Helmets MUST meet or exceed the MINIMUM standard as directed by BORSE. The current approved standards are:~~
  - ~~FIA8860-2004, FIA 8860-2010, FIA 8859-2015~~
  - ~~Snell SA2005, Snell SA2010, Snell SAH2010, Snell SA2015, Snell EA2016~~
  - ~~SFI Foundation 31.1A, SFI Foundation 31.2A, SFI 31.1~~
  - ~~ECE R22.05 (in Fibreglass, Carbon or Tri-Composite form ONLY)~~
  - ~~The use of polycarbonate helmets is NOT permitted.~~
  - ~~It is important that the helmet fits the driver correctly. Shatterproof goggles/visors must be worn although tinted visors are not advisable. Your helmet must display the current ORCi (ORC15) sticker.~~

~~On wet meetings waterproofs may be worn as over garments.~~

# 2020 Safety Equipment Specification Regulations v2020.01 (Published)

## Issued: 6th February 2020

*Text highlighted in bold, red, italics, indicates a change from the previous version of this document.*

### Definitions used in these Regulations

FHR Frontal Head Restraint (including HANS, Hutchens, Defender and similar type devices)

BORSE British Oval Racing Safety Executive

Junior Drivers Drivers aged 15 and under

### General Notes

It is the competitor's responsibility to ensure that they and their team comply with all Safety Equipment Specification Regulations **at all times** (including scrutineering, practise, and racing).

Any necessary changes to the Safety Equipment Specification Regulations during the course of a season will be notified to competitors through the official ORCi / WatchItRaceIt website (orci.co.uk / watchitraceit.co.uk), and individual formulas' own approved communication channels. Change advisories received from any other source should be checked against these official sources for authenticity and accuracy.

- Proposals for any change(s) to the Safety Equipment Specification Regulations MUST be submitted in writing to the ORCi through one of the following channels:
- Mail: **ORCi Secretary, PO Box 530, Hoddesdon, EN11 1RR**
- Web: Use the online contact form at <http://orci.co.uk>
- Email: [safety.rules@orci.co.uk](mailto:safety.rules@orci.co.uk)
- Proposed changes will be considered by BORSE and an official response duly made as appropriate.
- Competitors must NOT use unapproved items, or make modifications to existing items, that do not meet the current Safety Equipment Specifications Regulations, whether they believe they have a case for them or not. A process for approval exists and should be followed by all competitors.

2020 - ORCi Safety Equipment Specification Regulations - v2020.01.doc Page 2 of 5

**900 General 900.01** All Safety Equipment Specification Regulations apply to all competitors in all ORCi and ORCi affiliated formulas unless otherwise stated.

**900.02** All safety equipment must be worn/engaged at all times when on track during racing, practise or test sessions, and at ANY other time when moving at a speed greater than walking pace (4mph).

**900.03** Clothing that does not conform to the standards below may only be worn underneath the mandated safety equipment. For example, hooded tops must only be worn underneath a race-suit/overall, and the hood **MUST** be tucked inside.

**901 Helmets and Goggles/Visors 901.01 Helmets 901.01.01** A helmet conforming to at least one of the approved standards **MUST** be worn.

**901.01.02** Helmets **MUST** meet or exceed the **MINIMUM** standard as directed by BORSE.

- FIA 8860-2004 (This standard will NOT be permitted after 31<sup>st</sup> December 2019)
- FIA 8860-2010
- FIA 8859-2015
- **FIA 8860-2018**
- **FIA 8860-2018 ABP**
- Snell SA2005 (This standard will NOT be permitted after 31<sup>st</sup> December 2019)
- Snell SA2010
- Snell SAH2010
- Snell SA2015
- Snell EA2016
- **Snell SA2020 (From 1<sup>st</sup> October 2020\*)**
- SFI Foundation 31.1A
- SFI Foundation 31.2A
- SFI Foundation 31.1
- ECE R22.05 (in Fibreglass, Carbon or Tri-Composite form **ONLY**)

The current approved standards permitted for all drivers are:

**(\*Note: The SA2020 standard is currently scheduled by the Snell Memorial Foundation to take effect from 1<sup>st</sup> October 2020, and thus is not valid until that date.)**

The following approved standards are permitted for Junior drivers only in addition to those above:

- • Snell CMR 2007
- • Snell CMS 2007
- • Snell CMR 2016
- • Snell CMS 2016
- • SFI 24.1 **901.01.03** The use of polycarbonate helmets is **NOT** permitted.
- **901.01.04** The helmet **MUST** fit the competitor correctly, according to the manufacturer's sizing/fitting guidelines.
- **901.01.05** All helmets **MUST** display **a new green** "ORC20 Approved" serial numbered helmet sticker, as per Illustration 01. Older **blue 2015, and** red 2010 stickers are **NOT** valid (Illustrations 02 **and** 03).
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**Illustration 01 Illustration 02 Illustration 03**

**(Note: A programme of re-validation and issuing of the new green stickers will be undertaken by ORCi appointed officials during the 2020 season. This programme will take some time to implement, and therefore the blue ORC15 Approved sticker will remain temporarily accepted until the programme has been completed. Helmets to the SA2005 and FIA 8860-2004 standards must NOT be used/presented, as per 901.01.02 above, as they are no longer permitted.)** 2020 - ORCi Safety Equipment Specification Regulations - v2020.01.doc Page 3 of 5

**901.02 Goggles/Visors 901.02.01** Shatterproof goggles or a shatterproof visor **MUST** be worn with the helmet at all times.

**901.02.02** The use of tinted visors is **NOT** advisable.

**902 Clothing 902.01 Race-Suits/Overalls 902.01.01** A flame resistant race-suit/overall **MUST** be worn.

**902.01.02** Flame resistant race-suits/overalls **MUST** be manufactured from Proban, or material of a higher specification, e.g. Nomex.

**902.01.03** Flame resistant race-suits/overalls **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.01.04** Race-suits/overalls **MUST** be maintained in a clean and tidy condition.

**902.01.05** Race-suits/overalls manufactured/certified to Karting standards, including, but not limited to, the CIK-FIA Level 1 or Level 2 standards, are **NOT** permitted as they do **NOT** provide the appropriate level of heat/flame protection.

**902.02 Gloves 902.02.01** Flame resistant gloves **MUST** be worn.

**902.02.02** Flame resistant gloves **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.03 Balaclavas 902.03.01** A flame resistant balaclava **MUST** be worn.

**902.03.02** Flame resistant balaclavas **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.04 Undergarments 902.04.01** Flame resistant socks and undergarments provide a high degree of protection and are highly recommended to all competitors.

**902.05 Wet-Weather Protection 902.05.01** Any wet-weather clothing must be worn in **ADDITION** to the required flame resistant race-suit/overall specified above.

**903 Head/Neck Restraint 903.01 All Junior Formulas (Competitors Under The Age Of 16) 903.01.01** An FHR or neck-brace **MUST** be worn.

**903.01.02** If a neck-brace is used, it **MUST** be of the complete-circle type, i.e. it must form a complete circle around the competitor's neck with no gaps.

**903.01.03** The use of "U" shaped, or "horseshoe" neck-braces is **NOT** permitted.

**903.02 ORCi Saloon Stock Cars, Lightning Rods And Stock Rods 903.02.01** The use of an FHR or neck-brace is recommended.

**903.03 Other Formulas 903.03.01** The use of an FHR or neck-brace **MUST** be in accordance with the regulations laid down by the governing body for each formula, e.g. BriSCA F1, NHRPA, Stoxkarts Ltd., Spedeworth, etc.

**903.03.02** Where no specific FHR/neck-brace regulations exist for each formula, the use of an FHR or neck-brace is recommended.

**904 Safety Harness 904.01 Usage 904.01.01** A full safety harness **MUST** be used in accordance with the specifications below.

**904.01.02** All mandated straps **MUST** be used at all times.

**904.02 Type And Design 904.02.01 ALL Formulas, EXCEPT Banger Type Formulas** - the harness **MUST** comprise of a **MINIMUM** of 2 shoulder straps, 2 lap straps, and an anti-submarine strap (also referred to as a sub-strap, or crotch-strap) in a **MINIMUM** 5-point design.

**904.02.02 Banger Type Formulas ONLY** - The use of a sub-strap in Banger type formulas is not recommended, and therefore in Banger type formulas the harness **MUST** comprise of a **MINIMUM** of 2 shoulder straps and 2 lap straps in a **MINIMUM** 4-point design.

**904.02.03** Shoulder straps with a sternum protection latch are highly recommended.

**904.02.04** The harness **MUST** incorporate a quick-release buckle (including rotary buckles, and NASCAR lever-latch type buckles), to which all straps **MUST** be connected.

**904.02.05** Where a NASCAR lever-latch type buckle is used, it is advisable to fit a method of protection to prevent race-suit/overall sleeves from accidentally unhooking the buckle during racing. A small section of “Tubegrip” elasticated bandage, slid over the hooked buckle is sufficient for this purpose.

**904.03 Harness Strap Width – ALL Adult Formulas (Competitors Aged 16 And Over) 904.03.01 Shoulder and Lap/Pelvic Straps** • ALL non-homologated harnesses

- • ALL harnesses with NASCAR lever-latch type buckles
- • ALL harnesses homologated to SFI standards
- • ALL harnesses homologated to FIA standards that do not meet the alternate FIA criteria below

**904.03.02 Anti-Submarine Strap(s)**

**904.03.03 Lap/Pelvic Straps Exception** • The harness MUST be certified/homologated to the current FIA standards: 8853/98 or 8853-2016

- • The shoulder straps MUST measure at least a MINIMUM of 2.75in/70mm in width (unless used in conjunction with an FHR device – see below).
- • The lap/pelvic straps MUST measure at least a MINIMUM of 2in/50mm in width.
- The FIA identification/homologation/date labels MUST be intact and visible to scrutineers on ALL sections of the harness.
- The harness MUST be within its visibly stated validity period.

**904.03.04 Shoulder Straps Exception**

**Applies to: ALL Harnesses (Unless Specified Below)** – The shoulder and lap/pelvic straps of ALL harnesses MUST measure at least a MINIMUM of 3in/75mm in width, unless explicitly stated below. This applies to, but is not limited to:

**Applies to: ALL Harnesses** – The anti-submarine strap MUST measure at least a MINIMUM of 1¾in /44mm in width on ALL harnesses.

**Applies to: Only FIA Approved Harnesses with Lap/Pelvic Straps less than 75mm/3in in width** – The use of narrower lap/pelvic straps is permitted on FIA approved harnesses ONLY. The harness MUST meet ALL the following criteria:

**Applies to: Only Harnesses Used with an FHR Device** – Where an FHR device is used by a competitor, it is permitted to use shoulder straps that narrow below the minimum specification (stated above) in order to ensure the correct fitment of the harness/FHR device combination.

- • This exception applies to the shoulder straps ONLY.
- • Any such straps MUST be manufactured by a recognised industry supplier AND be specifically designed for use with an FHR device. **904.04 Harness Strap Width – ALL Junior Formulas (Competitors Under The Age Of 16)** **904.04.01** The shoulder and lap/pelvic straps MUST measure at least a MINIMUM of 2in/50mm in width.

**904.04.02** The anti-submarine strap MUST measure at least a MINIMUM of 1¾in /44mm in width.

**904.05 Installation 904.05.01** The harness MUST be securely mounted to the floor, roll-cage, and/or chassis of the race car.

**904.05.02** Harness manufacturers specify their own installation requirements depending on the design of their harnesses. Therefore, harnesses MUST be installed according to the manufacturer’s recommended best practice using only approved mounting components/methods.

**904.05.03** All the major manufacturers have installation information on their websites, and competitors are advised to refer to this when fitting harnesses to their racecars. Useful websites include (addresses correct at time of publication):

- [www.willans.com](http://www.willans.com)
- • [www.schrotracing.com](http://www.schrotracing.com)
- • [www.tris-motorsport.com](http://www.tris-motorsport.com)
- • [www.racequip.com](http://www.racequip.com)
- • [www.sfifoundation.com](http://www.sfifoundation.com)
- • [www.fia.com/homologations](http://www.fia.com/homologations)

**904.05.04** Key general guidelines from manufacturers for the installation of harnesses state that: • Strap lengths should be kept as short as possible to avoid excessive stretching under impact.

**Manufacturer’s Websites**

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Shoulder straps should be supported at or just below shoulder level.

- • Shoulder straps should be prevented from moving sideways, such that they may drop off a competitor's shoulders under severe impact/stretching.

**904.05.05** It is recommended that any seat apertures, through which the straps pass, are lined to prevent chaffing of the straps.

**904.06 Condition and Maintenance 904.06.01** Special attention **MUST** be paid to the condition of straps and fixings once installed.

**904.06.02** The harness **MUST** be maintained according to the manufacturer's recommended best practice, and where possible kept free of dirt, oil and grease that could degrade any materials.

**905 Window Nets 905.01 Requirement 905.01.01** A quick-release fabric window net **MUST** be fitted in the driver's side door window aperture of all saloon car formulas, with the exception of Banger type formulas.

**905.02 Specification/Installation 905.02.01** The width of the netting holes must **NOT** exceed a **MAXIMUM** size of 3in/75mm wide.

**905.02.02** The window net **MUST** be fitted such that it hangs down level with the steering wheel.

**905.02.03** The window net **MUST** be flexible and easily removable, independent of any movement of the driver's-side door.

**906 Fire Extinguishers 906.01 Requirements 906.01.01** A fire extinguisher, meeting the specifications below, **MUST** be carried in the competitor's tow-vehicle/transporter at all times.

**906.01.02** The fire extinguisher **MUST** be within easy reach of the competitor and team members at all times, especially when re-fuelling the racecar.

**906.02 Specification 906.02.01** The fire extinguisher capacity **MUST** be at least a **MINIMUM** of 2Kg.

**906.02.02** The fire extinguisher **MUST** be of a dry powder or gas type.

**906.02.03** Old type BCF (green) fire extinguishers are **NOT** permitted.

## **16. SEATS**

- The driver's seat must be secured and supported to the roll cage at shoulder level by bolting or tying.
- The 2<sup>nd</sup> roll cage cross brace may be used to support the seat, but it must be set below the bottom of the window aperture or you may construct and weld a frame on to the cage to support the seat.
- The driver's seat must be a standard production seat, not a racing seat.

## **17. NUMBERS**

- You must fit a fin plate to the roof of your car, minimum size 18" x 12"(460mm x 300mm) and a maximum size of 20" x 15" (510mm x 380mm).
- Your number must be either white on a black background or black on a white background, no other colours allowed, **any other writing allowed must not interfere with the numbers**, which must be minimum size 9" (230mm) high x 1½" (40mm) wide. If your number is not to the above specification, you may not be lap scored.

## **18. ROOF GRADES**

- If applicable to the Promotion you race for, your grade colour must be painted on the whole roof of your car.

## **19. FINAL PREPARATION**

- Rusty or dirty vehicles will not be allowed out onto the circuit.
- Rude or provocative slogans are not allowed; please remember this is a family sport.
- In addition to the car construction rules, all cars presented at scrutineering must be considered safe and not unsightly.
- ***New under sealing of the underside of the car is strictly forbidden.***



# **2020 NATIONAL BANGER SPECIFICATIONS** **EXCLUDING UNLIMITED CC**

**REVISED RULES FOR 2020 IN BOLD/ITALIC/RED PRINT**  
**ITEMS MARKED STRIKETHROUGH ARE NO LONGER ALLOWED**  
**2020 National Banger Technical Specifications Excluding Unlimited cc**  
**Issue 1 dated February 16<sup>th</sup> 2020**  
**These rules are valid with March 1<sup>st</sup> 2020.**

The overriding principle of these regulations is that unless it is stated that you can do it, you must work on the principle that you CANNOT.

### **1. TYPE OF CAR PERMITTED FOR USE**

- You must use any four wheel saloon, coupe, estate car or people carrier. No SUV's or 4 x 4 vehicles allowed.
- ~~For ease of classification weight categories taken from MOT Brake Weight Chart maybe used to determine which cars are eligible.~~
- ~~(900kg - 1180kg) e.g. Metro - Cavalier~~
- ~~(1180kg - 1560kg) e.g. Cortina - Granada Estate~~

Furthermore, classifications may be done using engine cc and may include (but not exclusively) the following:

### **2 Litre National Banger Events**

- On rear wheel drive cars the engine and gearbox can be replaced with any other 2 litre engine.
- On front wheel drive cars, engines can only be swapped within the Ford Mondeo/Cougar model range 2 Litre and below (this excludes the use of any Ford ST170 or RS components which are not permitted in this class).
- In respect of the Mondeo/Cougar interchange of engines, the cradle must not be changed.
- Drive shafts may be extended.
- X Type Jaguar is not allowed.
- Bonnet plates must be a maximum of 12" (300mm).

### **Micro (under 1400cc) National Banger Events**

- No engine swaps are permitted.
- Engine mounts. Original mounts can be strengthened but must remain in original position OR replaced with fabricated mounts, fabricated mounts can be bolted to the chassis with the maximum of 3 bolts, the maximum size of mount on the chassis is 8 1/2 inches and must not pass the engine face more than 50mm for a bolt. Original bolt holes can be used but new holes can be made. The mounts can include a sump guard (if the sump is exposed) an oil filter guard (if the filter is forward facing) and a knock sensor guard (if sensor is forward facing) this mount can only be bolted to the front of the engine or engine mount, NOT UNDER the engine or to any gearbox fixings, the guard can be a max of 6mm and is solely to keep the engine running. Engines CANNOT be attached to subframes on Astra/Corsa  
Gearbox mounts can be strengthened OR replaced with fabricated mounts, the maximum size of mount on the chassis is 6 inches, and cannot pass the engine face. Original fixing holes can be used, or new holes drilled. ( for clarity the engine face is where the manifold bolts to engine). An exception to this rule is the Fiesta/KA, where the gear box mounting must not go above the main chassis leg and be bolted only to the lower bolts in the chassis of the gearbox mount. No part of the mounting can protrude further forward than 10mm of the gearbox.
- No additional metal is allowed on the chassis to mount the engine, and engine mounts must not protect water outlets or distributors etc.
- Only cars which are included on the following list can be used. For any cars which are not included please contact the relevant promoter for permission to use the car you believe meets the necessary specifications.

- **Austin** - A30 / A35 / A40 (Farina only NOT Somerset or Cambridge)
- 1100/1300/Allegro/Metro
- **Chevrolet** – Matiz
- **Citroen** - 2CV / Diane / AX / Saxo / Visa / C1
- **Daewoo** – Matiz
- **Daihatsu** – Charade
- **Datsun** - 100A (Cherry)
- **Fiat** - Panda / Punto / Uno / 126 / 127
- **Mitsubishi Colt**
- **Mazda** – 121, Demio
- **Morris** - 1100 / 1300 / Minor
- **Nissan** – Micra / Pixo
- **Peugeot** - 104 / 106 / 107 / 205 / 206
- **Proton** – Satria / Compact
- **Renault** - 4 / 5 / 6 / 10 / Clio / Modus
- **Riley** – Elf
- **Rover** – Metro (known as 100)
- **Skoda** – Favorit

- **Cinquecento**
- **Ford** – Fiesta / KA / Popular 100E / Anglia
- **Hillman** – Imp (derivatives of this model)
- **Honda** - Civic (*1st generation 1972-1979 only*)
- **Hyundai** – i10, Getz,
- **Kia** – Pride / Picanto
- **Lada** – Samara
- **Lancia** – Fulvia
- **Mini** – Classic
- **Smart Car**
- **Subaru** – Vivio
- **Suzuki** – Swift / Wagon R
- **Talbot** – Samba
- **Toyota** – Starlet / Aygo
- **Vauxhall** - Nova / Corsa / HA Viva / Chevette
- **Volkswagen** - Polo / Beetle (Type 1) / Fox
- **Wolseley** – Hornet
- **Yugo**

The Vauxhall Corsa C must have a maximum engine size of 1200cc (1400 engines are not permitted)  
Nissan Micra K12 and Vauxhall Corsa D are NOT permitted in Micro banger events.  
This will be reviewed for 2021.

#### Van National Banger Events

- Roll cages must be a minimum of one across bar up to a maximum of a full roll cage. If the single bar option is used, it must be fitted centrally behind the driver's seat, plated top and bottom, minimum four bolts per plate. A full roll cage is recommended on fibreglass bodies and flat fronted vans, so as to help protect the driver's feet. If fibreglass type body, then the door plate can be welded to the roll cage on the driver's side. The driver's seat must be secured at shoulder height to the door pillars or cage, if fitted. If for example an LDV high top fibreglass roof van is used then you may use two bars going up with cross bars, with two bars going back at 45 degrees. Each promotion may have additional regulations – please check.
- An engine guard is permitted. The scrutineer's decision is final.
- Vans with independent chassis, the rear end must be removed back up to the rear spring hanger, to allow the body to collapse.
- If it is not possible to fit a water tank within the National Banger rules above, the local Promoter may allow the fitment elsewhere within the vehicle.
- Engines must be in original position.
- No air cooled 'Plant' type engines
- Roll cage must not extend beyond the front bulkhead.

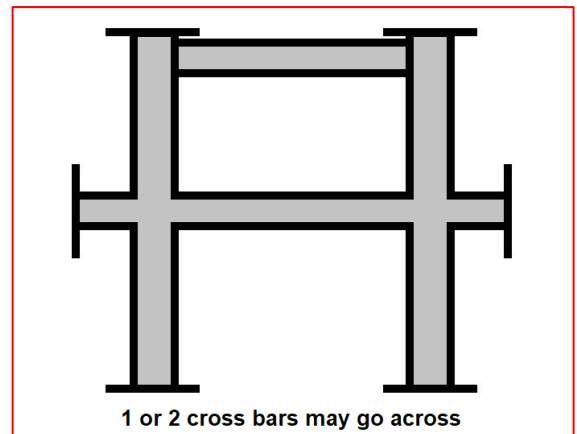
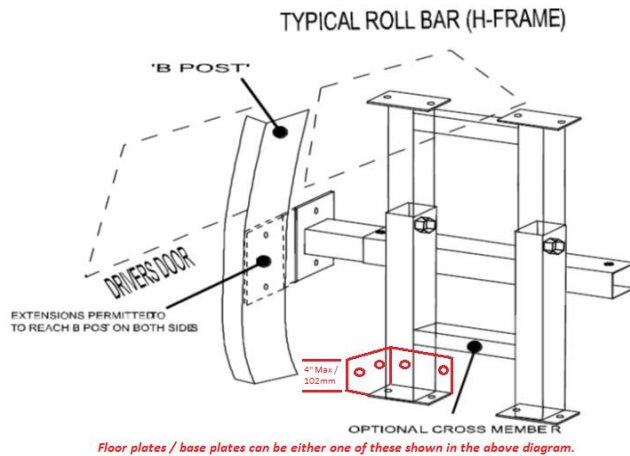
#### Special Meetings

- Your promoter will state either via the fixture list or special entry form at which meetings this rule can be used and therefore cannot be used by a driver regardless of type of car at a normal meeting!!
- Promoters may run special meetings for a certain type of vehicle e.g. 7.5 tonnes vehicles, SUV's, 4 X 4's, Reliant Robins, Coaches etc, for which rules will be issued by the Staging Promoter. Left hand drive vehicles may be permitted at the promoter's discretion – this should be checked in advance with the staging promoter.

## 2. STRIPPING & PREPARATION

- It is compulsory to remove all the interior, glass, airbags and charges, spoilers and side-skirts.
- The complete dashboard should be removed wherever possible.
- Remove all seats except the driver's which must be retained, the use of a racing seat is not allowed.
- Remove spare wheel carriers and tow bars plus *associated steelwork* if fitted.
- Original fuel tanks must be removed. If however, the tank is an integral part of the body you must remove as much as possible.
- You may use the original standard steel bumper (with the exception of Vectras and Mondeos noted below). If a front bumper is fitted, a maximum of three additional bolts may also be fitted to secure it in place. No wrap around bumpers allowed. Plastic bumpers must be removed. All cars with aluminium bumpers must have the bumper and retaining irons removed before racing e.g. Volvo 2 series and Saab. You may fit a bumper/flat plate 100mm x 3mm in its place. This may be folded back a maximum of 3" (75mm) with a maximum of two bolts per side. The bolts must go THROUGH the chassis and not UP the chassis. Vectra's, Mk1 or Mk2 Mondeo's must not be fitted with bumpers or steel plate.
- Later type cars with extended chassis rails e.g. Mk3 Mondeo/Focus, may also be fitted with a bumper or plate to the above rule or cut the chassis rail back to the front valance.
- Cars with no front cross members may use a Ford Galaxy people carrier front bumper or similar replacement. It is also permitted to link the chassis members with a chain.
- Chassis rails CANNOT be cut/shortened on fresh cars, if the chassis is cut back due to rot or damage the front crossmember CANNOT be re-fitted, the 3mm X 100mm Bumper MUST then be fitted.

## 3. ROLL BAR



These two diagrams are a guideline to how the frame should be constructed but gusseting or triangulation is accepted.

- You must fit a single "hoop" roll bar in support of the door pillars, securely bolted to the roof and floor with a minimum size M12 bolt and suitable washers.
- You must have a minimum of four bolts in the top and four in the bottom, with a maximum of eight in the bottom on each side. The maximum size of the base plate is 15" (385mm) x 11" (280mm). The plate may go up the side of the sill or straight up the rear panel up to a maximum of 4" (102mm) high. This must be the same length and width as the base plate/floor plate of the cage. A maximum of two bolts are permitted through the side.
- Roll cages may be adjustable (height and width), however the use of screw adjusters i.e. acrow style, are not permitted.
- The roll cage must be fitted upright or dog-legged, but not leaning back or forward.
- It is compulsory to pad with foam - roll cages by the driver's head, B pillar and steering column, **and advisable to pad the inside of the driver's door**
- The hoop must be one piece, or two uprights and one top bar of a welded construction. This top bar should be as shown at the top of the uprights.
- A second cross bar is compulsory, a third is optional; these must be welded or bolted to the uprights.
- THE ROLL BAR MUST NOT HAVE ANY REAR SUPPORTS but may have extensions no further forward than the B post (see diagram) (this applies to both sides of the car). If used, it is highly recommended that this is bolted through the B post.**
- You may bolt the roll bar through both sides of the car.
- The minimum size steel for the roll bar is 2" (50mm) x 2" (50mm) RHS or tube equivalent, up to a maximum size of 4" (100mm) x 4" (100mm) RHS or tube equivalent. A minimum wall thickness of 3mm is required.
- Crossbars must have a 5" (125mm) square end plate fitted. This must be a minimum of 6mm thick.
- You must tie the seat at shoulder level to the roll cage or B pillar. This must be done through the seat frame and not the headrest; you may fit the 2<sup>nd</sup> cross bar in support of the seat just below the window aperture or weld a frame on the cage to support the seat at the top.

#### 4. STRENGTHENING & PREPARATION

- Cars that fail pre or post-race scrutineering, found to be armoured or strengthened, including engine or gearbox suspension mounts that are over the top and not rectifiable on the day, will receive an immediate ORCi ban. If the vehicle can be rectified at the track then the vehicle must race, otherwise the driver will be subject to an ORCi ban.**

##### Doors & Door Plates

- The driver's door may be welded, but must have no additional strengthening (this includes gussets) other than steel RHS, which is allowed in the lower window aperture of the drivers and rear driver's door, not extending further than the rear of the H frame. **Please note that this is not allowed on the passenger side.**
- A FLAT (no channel or angle) steel plate **MUST** be bolted over the driver's door to the following dimensions:
- Height – minimum 10" (255mm) to a maximum of 15" (380mm)**
- Thickness - minimum 3/8" (9mm) – 3/4" (20mm)**
- This must be fitted with a minimum of 3" (75mm) and a maximum of 6" (150mm) past the A & B pillars.
- This must be securely bolted with a minimum of four bolts.
- It is not permitted to cut slots in the driver's doorplate. Holes for bolts only.
- There must be at least one bolt through the A pillar and one through the B pillar or through the roll cage.
- The bolt size must be at least M16 studding or bolt. M12 is acceptable on all other bolts
- For 2 door and pillar-less cars (no B Pillar), the door plate **MUST** be bolted through the roll cage.
- Door plates cannot be joined to the water tank in any way.

- All other doors must be secured by bolting, chains or seat belt webbing. The maximum number of bolts permitted is four per door. Where plates are used to secure doors (other than the driver's door), the plates must be a maximum of 12" x 12" (300mm x 300mm) – you may use ONE additional bolt per plate to secure through the A or B Pillar, this must be a minimum size ¼" (6mm).

### Driver's Floor Plate

- A steel plate fitted to the drivers floor pan is compulsory
- It must be no thicker than 6mm and must be bolted in only.
- Floor plates may extend up the side of the transmission tunnel, to the same height as the door sill, and up the bulkhead to within 200mm (8") of the top of the bulkhead, but the plate can only be bolted through the floor and the A-pillar only, not to the sill or bulkhead. You may put two bolts maximum in the gearbox tunnel with a maximum 50mm washer size.
- A 4" (100mm) steel plate no thicker than 6mm bolted through the A pillar to the door plate can be welded or bolted to the floor plate.

### Bonnet/Boot

- The driver must present their car for pre-meeting safety checks with the bonnet and bolts but they must NOT be fixed to the car.
- Triangular corner plates or straps may be used to secure the rear of the bonnet. They must be attached to the car by bolting or tack welding to a maximum of 1" (25mm) weld with a 1" (25mm) gap in between. Plates or straps must be placed no further than 12" (300mm) across or down from the back edge and side of the bonnet. **WELDING MUST NOT REACH THE 'A' PILLAR ON THE PASSENGER SIDE.**
- Bonnets must be bolted down using a maximum of four bolts, two bolts in either side of the bonnet. Maximum height of bolt above the washer is 1½" (37.5mm).
- Bonnets must not be moved forward or overlapped.
- Front bonnet bolts may go through either the slam panel, inner wings or the chassis or you may weld / bolt a piece of 2" x 2" (50mm x 50mm) metal SHS OR 3" x 3" (75mm x 75mm) metal angle to a maximum length of 3" (75mm) for the bonnet bolt to pass through.
- Crush tubes may be used, which must be a maximum of 2" (50mm) outside diameter steel tube, with a maximum 5mm wall thickness. If bolted, a secondary plate on the opposite side is not permitted.
- Rear crush tubes can be secured by either bolting or welding.
- Maximum size of bolt or studding is 1" (25mm), including shouldering. Cam wheels must not be used as bonnet washers. Maximum size of the washer is 7" (175mm) x 5" (125mm).
- Maximum length of chain if used is 24" (60cm).
- Boot lid or rear door on estate cars may be chained or bolted. If using bolts, a maximum of four, one in each corner, a maximum size of 3/8" (9mm) maybe used, or if using chain up to 24" (60cm) in length is permitted.

### Wings

- Front wings may be folded and two additional bolts may be added to secure the wing, however this is not allowed on Vectra's or Mk1 or Mk2 Mondeo's.
- A maximum of two additional bolts are allowed on rear wings/wheel arches.

### General

- If the complete dashboard has been removed, then you may be required to make an additional brace to secure the steering column, however this is mandatory if the standard support is removed i.e. cross bar on a Mondeo.
- No screen bars allowed.
- You are not permitted to strengthen the gearbox tunnel.
- Expanding foam or any other material must not be used to fill chassis or door sills etc.
- Sunroof must be bolted or welded. If covered, the maximum thickness of flat steel plate is 1/8" (3mm), and the maximum size is 4" (100mm) larger than the sun roof opening. Cars without a sunroof may also be fitted with a roof plate - this must be no further than back than the roll cage and must not extend beyond the edges of the roof. This plate must be a maximum of 3mm thick and must be securely bolted or welded.
- Any repair welding can only be made with the same gauge metal as the original part of the body or chassis being repaired (maximum of 3" (75mm) square). This can only be secured by tack welding -welding 1" (25mm) with a 1" (25mm) gap before the next weld. One plate can be used to secure the inner wing to the chassis rail. – **THIS IS ONLY ON NEW CAR BUILDS.**
- It is not permitted to panel in headlight and window apertures.
- **It is not permitted to panel in the inside of doors and or the rear parcel shelf and these must be left as original. Drivers name visors must be at the top of the windscreen only and must not be welded in place. THIS INCLUDES CHAMPIONSHIP MEETINGS.**

### Suspension

- You may strengthen the Track Control Arm (the steering adjustment arm on the steering rack) by welding or sleeving.

- You may strengthen the standard original bottom arm, but this must remain standard in dimension.
- Re-positioning of the ball joint is not allowed.
- Suspension legs may be welded to the hub.
- No additional strengthening of any other suspension parts is allowed.
- Sub frames must not be welded in place.

### Guards/Covers

- Where relevant, a crank sensor protector may be fitted to a maximum size of 2" x 2" (50mm x 50mm) steel angle, 4" in length (100mm), with a maximum of two bolt fixings, secured to the bell housing/engine.
- You may fit a steel plate distributor guard to the following specification.
  - Maximum area of 9" x 9" (230mm x 230mm), with a maximum thickness of ¼" (6mm).
  - The steel plate may be bolted or braced using steel RHS, maximum 1" x 1" (25mm x 25mm) or welded TO THE ENGINE ONLY, I.E you CANNOT fit the guard to the sub-frame or gearbox and it must not be touching the water tank in any way.
- Forward facing cam belt engines may run a cam cover, but these must be the same silhouette as the original and bolted to the original mountings. For avoidance of doubt, cam guards cannot be used where the engine does not have a cam belt. Maximum thickness of cam guard is 6mm.
- On Micro Bangers only, a sump guard may be bolted **or welded** to the front of the engine/engine mount on the driver's side only, and only drop down in front of the sump and no lower than the bottom of the sump. The guard must have a maximum thickness of 6mm plate; no steel RHS, SHS or angle is permitted. The scrutineer's decision is final on oversizing.
- On Micro Bangers & up to 1600cc Bangers, an oil filter guard is permitted on forward facing oil filters. It must be made from flat plate being a maximum of 4" x 4" diameter and a maximum of 6mm thick, secured back to the engine using 2 pieces of 1" box section. The plate must not come forward of oil filter more than 1" and be mounted on the engine as close as possible to oil filter. The object of this is to prevent oil fires and not to strengthen the car therefore if the scrutineers believes the guard to be excessive you will be asked to remove it.
- A clutch guard is permitted on front of the engine/gearbox if fitted forward facing of the engine, with a maximum size as follows:- 6" x 4" and a maximum thickness of 6mm. This must be secured to the engine/gearbox only.

## 5. FUEL SYSTEM

- The original petrol tank must be removed and replaced with a maximum size 2-3 gallon safety tank fitted inside the car on or under the roll bar. Before fitting, the tank should be carefully checked to see that it cannot leak when inverted or on its side and the outlet must be from the top of the tank. The vent pipe from the top of the tank must be terminated below the floor level of the car.
- All fuel lines must be in good condition and securely clamped.
- With carburettor fuelled cars, **a manual shut-off tap must be fitted within reach of the driver when strapped in the car**, but with fuel injected cars, the fuel flow must be controlled by the pump cut off switch. Immersed fuel pumps are permitted.
- All fuel tanks must be of steel construction and have a metal screw top and must be fitted ONTO the H-frame and NOT on the H Frame Floor plates, i.e. NOT on the car floor itself.
- A one-way valve must be fitted to the breather pipe.

## 6. ELECTRICAL SYSTEM

- Batteries must be bolted or clamped in position and completely covered with rot-proof material to prevent acid leakage. Ratchet straps may be used as a secondary fixing only. Batteries must be fitted on or under the roll bar. If batteries are secured in a box the maximum dimensions are 18" x 12", 460mm x 300mm.
- Alternators, if fitted, cannot be wired to charge.
- All wiring must be fully insulated.
- Electrical starters must be fitted and in working order.
- Ignition and starting must be activated through an insulated switch, not by connecting bare wires together. A battery cut off switch MUST be mounted on the roll cage on the near side of the car; the switch must be wired to the earth side of the battery.
- Engines that are fitted with ignition system relying on a flywheel sensor (or similar), must not be modified to use a gear driven distributor.
- Ignition boxes on any fuel injection engine converted to carburettor are free, aftermarket products mapped to suit or modified original boxes modified are allowed.
- On fuel injection cars the engine management system including ignition boxes must remain as originally fitted and not re mapped.

## 7. COOLING SYSTEM

- Only rectangular or L shaped tanks are permitted, with no braces. An L-shaped tank may extend towards the turret on Passenger side of the engine only.

- Any modifications must be within the original bonnet outline.
- U Shaped tanks are NOT allowed.
- Tanks must not extend beyond the front of the engine block.
- The front of the engine is classed as the block not the pulleys or water pumps etc.
- These tanks must only be secured by four fixings and may not be welded into the car or connected to any door or floor plates in any way. The tank must NOT be bolted to or through any part of the chassis, bonnet bolts may go through the water tank but if you choose this option they must not be connected to the chassis in any way & only through the inner wing.
- Only two outlets are allowed from the water tank.
- **PLEASE NOTE THAT WATER TANKS ARE FOR COOLING PURPOSES ONLY AND NOT FOR STRENGTHENING, AND ALL PARTS MUST CARRY WATER.**
- The water pump may be removed and blanked off.
- Electric water pumps are allowed.
- No cutting of bulkheads allowed.
- Tanks must be non-pressurised.
- An overflow pipe, minimum size ½" (13mm), must go under the floor of the car and terminate at the back axle.
- Water outlets may be modified but not used for armouring.

## **8. ENGINES, GEARBOX & PROPSHAFTS**

- The engine and gearbox must be the one originally fitted to the range as manufactured. On Micro Banger meetings, gearboxes may be changed within the manufacturers range.
- The external parts of the engine must remain standard.
- No skimming of the head more than 60 thou from standard.
- No porting or gas flowing.
- No removing or adding material to the ports or combustion chamber.
- No ST170 or ST220 engine components are permitted.
- The cylinder head and the camshaft(s) must remain standard and the Ford Zetec engine must stay on the original Ford camshafts. You may skim the head face for head gasket purposes only.
- On front wheel drive gear box mounts can be modified but must occupy the original position.
- Flywheels may be modified.
- Clutches are free.
- Prop shafts may be made and modified to use sliding components.
- Drive shafts must be standard to the car and must not be fabricated.
- No turbos or superchargers
- No dry sump systems.
- Bulkheads must remain original and not be cut or modified to fit an engine. You may cut a hole in the bulkhead to accommodate the wiring and fuel pipe.
- Any Ford Pinto, Duratec or Zetec engine and gearbox may be used in any RWD car as long as this is no larger than the original engine cc.
- Engine mounts may be strengthened but must remain in the original place if fitted. No additional mounts allowed. Modified engine mounts can be welded to the cross member, but must be bolted if attached to the chassis.
- The top left engine mounting on a Mondeo/Focus may have an extra engine mount fitted on the rear of the engine.
- Gearbox mountings on rear wheel drive cars must be original, and can be modified to be solid, or may have secondary fixing of a ratchet strap, or M16 studding made into a u-bolt with a flat plate as a washer maximum size 50mm wide 6mm thick, and 300mm long. No additional metal is allowed on the chassis to mount the engine, and engine mounts must not protect water outlets or distributors etc.
- External cambelt engines may have a copy of the original cambelt cover bolted in the original bolt holes of the cover to a maximum thickness of 6mm. These cannot be bolted in any other way except through the original bolt holes.

## **9. EXHAUST & EXHAUST MANIFOLDS**

- Standard tubular manifolds may be used, only if fitted as standard to that model e.g. Nissan Primera.
- Ford Mondeo MK1, Ford Mondeo MK2 models must use the standard cast manifold i.e. cannot use a 4 branch tubular manifold.
- No non-standard aftermarket exhaust manifolds are permitted.
- A Ford Mondeo MK3 running the original Mk3 engine with the inlet manifold at the front, may use the standard 4 branch exhaust manifold fitted.
- In all cases the 4 branch manifolds allowed, must be genuine original manufacturers parts.
- If the original exhaust system has to be replaced, there must be at least one silencer to each exhaust pipe and they must be securely fixed after the manifold. No Cherry Bombs or 'straight-through' systems allowed.
- The original mount must be supplemented with at least one additional fixing to secure the system to the car.

- No car will be allowed to race without an exhaust system. Drivers must be aware that if your car appears to be too noisy by a scrutineer or the Steward then you may not be permitted to race or may be black flagged.

## **10. CARBURETTOR/INLET MANIFOLD**

- Fuel injection systems may be modified to carburettor using a manufactured or adapted inlet manifold and must run with one standard downdraft Weber type carburettor to a maximum size or equivalent 38 DGAV e.g. Pierburg, Solex, Weber – NO MULTIPLE CARB SETUPS. If the engine is manufactured in both forms as standard, inlet manifold may be modified or self-manufactured items e.g. Cavalier with the earlier style inlet manifold.
- Carburettors may be replaced with the equivalent size Weber conversion as per specification below. Adapter plates may be fitted by bolting or welding (max size carburettor allowed is 38DGAS as fitted to the 3.0 Litre V6 or 2.8 carburettor).
- Vehicles fitted with fuel injection can be used providing they are fitted using the standard banger fuel system and the fuel pump is replaced with a standard high pressure pump, or submersible pump. Suitable high pressure fuel lines must be used between the fuel pump and the injection system.
- Cold starting devices may be removed.
- Jets may be changed.
- Replacement Spindles with standard screws may be fitted, no polishing or reproofing allowed, no modifying or enlargement of any fuel galleries allowed.
- Floats must not be modified or weighted and needle valve must remain standard size, enrichment or power valve must be fitted and working.
- Solex or Pierburg carburettor may be replaced with the equivalent size Weber conversion as above.
- All Weber carburettors must have a visual secondary fixing on the fuel inlet pipe.
- Air filters may be removed or replaced by competition type.

## **11. SUSPENSION, BRAKES AND AXLES**

- Suspension components must remain standard, except where specific strengthening is allowed in section 4.
- Spring assistor rubbers are allowed.
- Springs may be changed but no 2¼ type competition springs.
- Springs may be heated or cut for lowering purposes.
- A secondary fixing is required on coil springs that may fall out; chain or wire should be used.
- Shock absorbers must be standard type as fitted originally. No interchanging of suspension parts allowed.
- Bump stops may be removed.
- Camber must not be altered from standard, race damage must be proven and this will not be tolerated on new cars. The Scrutineers decision is FINAL.
- Bluebird/Micra or similar car may use a strap connecting the two wishbones, but this may not be connected to any other part of the car or the engine. This strap must be a maximum of 2"x 2" (50mm x 50mm), and can only be used on cars with no subframe.
- The tack welding of anti-roll bar brackets is allowed.
- All suspension rubber mounted tops may be secured (no welding permitted) with a larger washer than original.
- Brakes must be effective.
- Axle casings must not be welded or reinforced.

## **12. DIFFERENTIALS**

- Ratios are free but must be standard to the range.
- Limited slip differentials (except shale see below), locked differentials, welded (except shale see below) or power-locked differentials are not allowed, even if fitted as standard or available as an optional extra to the car. However, on shale surfaces Limited Slip and welded Differentials are permitted.

## **13. WHEELS**

- Any standard steel or alloy wheel up to 6½"J that fits without modification may be used.
- Cut and shut or banded wheels are not permitted.
- All wheel nuts must be fitted.

## **14. TYRES**

- You may only use conventional road tyres up to 205/50.
- All tyres should have a minimum durometer reading of 60, whenever tested.
- All identification markings to remain on tyres.
- Any tyre with buffed markings will not be accepted, and will be subject to disciplinary action.
- Tyre gaiters are permitted.

- “Run flat” tyres, 1B rated ‘Track-day’ tyres, Rally tyres, competition type, cut tyres, Town and Country, Mud & Snow Type or Kingpin Alpine Series tyres are NOT allowed.
- As from 1 May 2017 any **Winter Pattern/M&S Type** Kingpin tyres eg ALP4 are banned - see example photos
- The ORCi reserves the right to ban any tyre make or type which gives an unfair advantage.
- All tyres listed in the table below are NOT allowed.



<p><b>AVON</b></p> <ul style="list-style-type: none"> <li>• ACB 10 Sport</li> <li>• CR6ZZ (Including Sport)</li> <li>• Turbospeed CR28 Sport</li> <li>• CR500</li> <li>• ZZR</li> </ul> <p><b>BRIDGESTONE</b></p> <ul style="list-style-type: none"> <li>• Potenza S007 RFT</li> </ul> <p><b>CONTINENTAL</b></p> <ul style="list-style-type: none"> <li>• ContiForce Contact</li> </ul> <p><b>DMACK</b></p> <ul style="list-style-type: none"> <li>• Trackday</li> </ul> <p><b>DUNLOP</b></p> <ul style="list-style-type: none"> <li>• Formula R D83J/D84J</li> <li>• Formula R D93J</li> <li>• Direzza 02G or 03G</li> </ul>	<ul style="list-style-type: none"> <li>• CR 311</li> <li>• Sport Maxx Race</li> <li>• SP Sport R7</li> </ul> <p><b>FEDERAL</b></p> <ul style="list-style-type: none"> <li>• 595 EVO</li> <li>• 595 RSR</li> <li>• FZ 201</li> </ul> <p><b>GOODYEAR</b></p> <ul style="list-style-type: none"> <li>• EAGLE F1</li> </ul> <p><b>HANKOOK</b></p> <ul style="list-style-type: none"> <li>• Z209</li> <li>• Z210</li> </ul> <p><b>KUMHO</b></p> <ul style="list-style-type: none"> <li>• Ecsta V700 (inc V78)</li> <li>• Ecsta V70A</li> <li>• Ecsta TW01</li> </ul>	<ul style="list-style-type: none"> <li>• Ecsta TW02</li> <li>• Ecsta C03</li> </ul> <p><b>MARANGONI</b></p> <ul style="list-style-type: none"> <li>• Zeta Linea Sport</li> </ul> <p><b>MAXSPORT</b></p> <ul style="list-style-type: none"> <li>• RB4 Intermediate</li> <li>• RB5</li> </ul> <p><b>MAXXIS</b></p> <ul style="list-style-type: none"> <li>• Maz1 Drift</li> </ul> <p><b>MICHELIN</b></p> <ul style="list-style-type: none"> <li>• Pilot Sport Cup</li> <li>• Pilot Sport Cup 2</li> <li>• TB 15</li> <li>• TB 15 (f &amp; r)</li> </ul> <p><b>NANGKANG</b></p> <ul style="list-style-type: none"> <li>• NS-2R</li> </ul>	<p><b>PIRELLI</b></p> <ul style="list-style-type: none"> <li>• P Zero Trofeo</li> <li>• P Zero C</li> <li>• CA67</li> <li>• CF67</li> <li>• P Zero Corsa</li> <li>• P7 Corsa Classic</li> <li>• P Zeri Torfeo R12</li> </ul> <p><b>SILVERSTONE</b></p> <ul style="list-style-type: none"> <li>• FTZ Sport RR</li> <li>• FTZ Wet Tyre</li> <li>• S575</li> <li>• S585</li> </ul> <p><b>SYRON</b></p> <p><b>TOYO</b></p> <ul style="list-style-type: none"> <li>• R888</li> <li>• R1-R</li> </ul>
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## 15. SAFETY EQUIPMENT

# 2020 Safety Equipment Specification Regulations v2020.01 (Published)

Issued: 6th February 2020

*Text highlighted in bold, red, italics, indicates a change from the previous version of this document.*

### Definitions used in these Regulations

FHR Frontal Head Restraint (including HANS, Hutchens, Defender and similar type devices)

BORSE British Oval Racing Safety Executive

Junior Drivers Drivers aged 15 and under

### General Notes

It is the competitor’s responsibility to ensure that they and their team comply with all Safety Equipment Specification Regulations **at all times** (including scrutineering, practise, and racing).

Any necessary changes to the Safety Equipment Specification Regulations during the course of a season will be notified to competitors through the official ORCi / WatchItRaceIt website (orci.co.uk / watchitraceit.co.uk), and individual formulas’ own approved communication channels. Change advisories received from any other source should be checked against these official sources for authenticity and accuracy.

- Proposals for any change(s) to the Safety Equipment Specification Regulations **MUST** be submitted in writing to the ORCi through one of the following channels:
  - Mail: **ORCi Secretary, PO Box 530, Hoddesdon, EN11 1RR**
  - Web: Use the online contact form at <http://orci.co.uk>
  - Email: [safety.rules@orci.co.uk](mailto:safety.rules@orci.co.uk)
  - Proposed changes will be considered by BORSE and an official response duly made as appropriate.
  - Competitors must **NOT** use unapproved items, or make modifications to existing items, that do not meet the current Safety Equipment Specifications Regulations, whether they believe they have a case for them or not. A process for approval exists and should be followed by all competitors.

**900 General 900.01** All Safety Equipment Specification Regulations apply to all competitors in all ORCi and ORCi affiliated formulas unless otherwise stated.

**900.02** All safety equipment must be worn/engaged at all times when on track during racing, practise or test sessions, and at ANY other time when moving at a speed greater than walking pace (4mph).

**900.03** Clothing that does not conform to the standards below may only be worn underneath the mandated safety equipment. For example, hooded tops must only be worn underneath a race-suit/overall, and the hood **MUST** be tucked inside.

**901 Helmets and Goggles/Visors 901.01 Helmets 901.01.01** A helmet conforming to at least one of the approved standards **MUST** be worn.

**901.01.02** Helmets **MUST** meet or exceed the MINIMUM standard as directed by BORSE.

- FIA 8860-2004 (This standard will NOT be permitted after 31<sup>st</sup> December 2019)
- FIA 8860-2010
- FIA 8859-2015
- **FIA 8860-2018**
- **FIA 8860-2018 ABP**
- Snell SA2005 (This standard will NOT be permitted after 31<sup>st</sup> December 2019)
- Snell SA2010
- Snell SAH2010
- Snell SA2015
- Snell EA2016
- **Snell SA2020 (From 1<sup>st</sup> October 2020\*)**
- SFI Foundation 31.1A
- SFI Foundation 31.2A
- SFI Foundation 31.1
- ECE R22.05 (in Fibreglass, Carbon or Tri-Composite form ONLY)

The current approved standards permitted for all drivers are:

**(\*Note: The SA2020 standard is currently scheduled by the Snell Memorial Foundation to take effect from 1<sup>st</sup> October 2020, and thus is not valid until that date.)**

The following approved standards are permitted for Junior drivers only in addition to those above:

- • Snell CMR 2007
- • Snell CMS 2007
- • Snell CMR 2016
- • Snell CMS 2016
- • SFI 24.1 **901.01.03** The use of polycarbonate helmets is NOT permitted.
- **901.01.04** The helmet **MUST** fit the competitor correctly, according to the manufacturer's sizing/fitting guidelines.
- **901.01.05** All helmets **MUST** display **a new green** "ORC20 Approved" serial numbered helmet sticker, as per Illustration 01. Older **blue 2015, and red 2010** stickers are NOT valid (Illustrations 02 **and 03**).
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**Illustration 01 Illustration 02 Illustration 03**

**(Note: A programme of re-validation and issuing of the new green stickers will be undertaken by ORCi appointed officials during the 2020 season. This programme will take some time to implement, and therefore the blue ORC15 Approved sticker will remain temporarily accepted until the programme has been completed. Helmets to the SA2005 and FIA 8860-2004 standards must NOT be used/presented, as per 901.01.02 above, as they are no longer permitted.)** 2020 - ORCi Safety Equipment Specification Regulations - v2020.01.doc Page 3 of 5

**901.02 Goggles/Visors 901.02.01** Shatterproof goggles or a shatterproof visor **MUST** be worn with the helmet at all times.

**901.02.02** The use of tinted visors is **NOT** advisable.

**902 Clothing 902.01 Race-Suits/Overalls 902.01.01** A flame resistant race-suit/overall **MUST** be worn.

**902.01.02** Flame resistant race-suits/overalls **MUST** be manufactured from Proban, or material of a higher specification, e.g. Nomex.

**902.01.03** Flame resistant race-suits/overalls **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.01.04** Race-suits/overalls **MUST** be maintained in a clean and tidy condition.

**902.01.05** Race-suits/overalls manufactured/certified to Karting standards, including, but not limited to, the CIK-FIA Level 1 or Level 2 standards, are **NOT** permitted as they do **NOT** provide the appropriate level of heat/flame protection.

**902.02 Gloves 902.02.01** Flame resistant gloves **MUST** be worn.

**902.02.02** Flame resistant gloves **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.03 Balaclavas 902.03.01** A flame resistant balaclava **MUST** be worn.

**902.03.02** Flame resistant balaclavas **MUST** be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

**902.04 Undergarments 902.04.01** Flame resistant socks and undergarments provide a high degree of protection and are highly recommended to all competitors.

**902.05 Wet-Weather Protection 902.05.01** Any wet-weather clothing must be worn in **ADDITION** to the required flame resistant race-suit/overall specified above.

**903 Head/Neck Restraint 903.01 All Junior Formulas (Competitors Under The Age Of 16) 903.01.01** An FHR or neck-brace **MUST** be worn.

**903.01.02** If a neck-brace is used, it **MUST** be of the complete-circle type, i.e. it must form a complete circle around the competitor's neck with no gaps.

**903.01.03** The use of "U" shaped, or "horseshoe" neck-braces is **NOT** permitted.

**903.02 ORCi Saloon Stock Cars, Lightning Rods And Stock Rods 903.02.01** The use of an FHR or neck-brace is recommended.

**903.03 Other Formulas 903.03.01** The use of an FHR or neck-brace **MUST** be in accordance with the regulations laid down by the governing body for each formula, e.g. BriSCA F1, NHRPA, Stoxkarts Ltd., Spedeworth, etc.

**903.03.02** Where no specific FHR/neck-brace regulations exist for each formula, the use of an FHR or neck-brace is recommended.

**904 Safety Harness 904.01 Usage 904.01.01** A full safety harness **MUST** be used in accordance with the specifications below.

**904.01.02** All mandated straps **MUST** be used at all times.

**904.02 Type And Design 904.02.01 ALL Formulas, EXCEPT Banger Type Formulas** - the harness **MUST** comprise of a **MINIMUM** of 2 shoulder straps, 2 lap straps, and an anti-submarine strap (also referred to as a sub-strap, or crotch-strap) in a **MINIMUM** 5-point design.

**904.02.02 Banger Type Formulas ONLY** - The use of a sub-strap in Banger type formulas is not recommended, and therefore in Banger type formulas the harness **MUST** comprise of a **MINIMUM** of 2 shoulder straps and 2 lap straps in a **MINIMUM** 4-point design.

**904.02.03** Shoulder straps with a sternum protection latch are highly recommended.

**904.02.04** The harness **MUST** incorporate a quick-release buckle (including rotary buckles, and NASCAR lever-latch type buckles), to which all straps **MUST** be connected.

**904.02.05** Where a NASCAR lever-latch type buckle is used, it is advisable to fit a method of protection to prevent race-suit/overall sleeves from accidentally unhooking the buckle during racing. A small section of “Tubegrip” elasticated bandage, slid over the hooked buckle is sufficient for this purpose.

**904.03 Harness Strap Width – ALL Adult Formulas (Competitors Aged 16 And Over) 904.03.01 Shoulder and Lap/Pelvic Straps** • ALL non-homologated harnesses

- ALL harnesses with NASCAR lever-latch type buckles
- ALL harnesses homologated to SFI standards
- ALL harnesses homologated to FIA standards that do not meet the alternate FIA criteria below
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**904.03.02 Anti-Submarine Strap(s)**

**904.03.03 Lap/Pelvic Straps Exception** • The harness MUST be certified/homologated to the current FIA standards: 8853/98 or 8853-2016

- The shoulder straps MUST measure at least a MINIMUM of 2.75in/70mm in width (unless used in conjunction with an FHR device – see below).
- The lap/pelvic straps MUST measure at least a MINIMUM of 2in/50mm in width.
- The FIA identification/homologation/date labels MUST be intact and visible to scrutineers on ALL sections of the harness.
- The harness MUST be within its visibly stated validity period.

**904.03.04 Shoulder Straps Exception**

**Applies to: ALL Harnesses (Unless Specified Below)** – The shoulder and lap/pelvic straps of ALL harnesses MUST measure at least a MINIMUM of 3in/75mm in width, unless explicitly stated below. This applies to, but is not limited to:

**Applies to: ALL Harnesses** – The anti-submarine strap MUST measure at least a MINIMUM of 1¾in /44mm in width on ALL harnesses.

**Applies to: Only FIA Approved Harnesses with Lap/Pelvic Straps less than 75mm/3in in width** – The use of narrower lap/pelvic straps is permitted on FIA approved harnesses ONLY. The harness MUST meet ALL the following criteria:

**Applies to: Only Harnesses Used with an FHR Device** – Where an FHR device is used by a competitor, it is permitted to use shoulder straps that narrow below the minimum specification (stated above) in order to ensure the correct fitment of the harness/FHR device combination.

- This exception applies to the shoulder straps ONLY.
- Any such straps MUST be manufactured by a recognised industry supplier AND be specifically designed for use with an FHR device. **904.04 Harness Strap Width – ALL Junior Formulas (Competitors Under The Age Of 16) 904.04.01** The shoulder and lap/pelvic straps MUST measure at least a MINIMUM of 2in/50mm in width.

**904.04.02** The anti-submarine strap MUST measure at least a MINIMUM of 1¾in /44mm in width.

**904.05 Installation 904.05.01** The harness MUST be securely mounted to the floor, roll-cage, and/or chassis of the race car.

**904.05.02** Harness manufacturers specify their own installation requirements depending on the design of their harnesses. Therefore, harnesses MUST be installed according to the manufacturer’s recommended best practice using only approved mounting components/methods.

**904.05.03** All the major manufacturers have installation information on their websites, and competitors are advised to refer to this when fitting harnesses to their racecars. Useful websites include (addresses correct at time of publication):

- [www.willans.com](http://www.willans.com)
- [www.schrothracing.com](http://www.schrothracing.com)
- [www.trs-motorsport.com](http://www.trs-motorsport.com)
- [www.racequip.com](http://www.racequip.com)
- [www.sfi-foundation.com](http://www.sfi-foundation.com)
- [www.fia.com/homologations](http://www.fia.com/homologations)

**904.05.04** Key general guidelines from manufacturers for the installation of harnesses state that: • Strap lengths should be kept as short as possible to avoid excessive stretching under impact.

**Manufacturer’s Websites**

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Shoulder straps should be supported at or just below shoulder level.

- Shoulder straps should be prevented from moving sideways, such that they may drop off a competitor's shoulders under severe impact/stretching.

**904.05.05** It is recommended that any seat apertures, through which the straps pass, are lined to prevent chaffing of the straps.

**904.06 Condition and Maintenance 904.06.01** Special attention **MUST** be paid to the condition of straps and fixings once installed.

**904.06.02** The harness **MUST** be maintained according to the manufacturer's recommended best practice, and where possible kept free of dirt, oil and grease that could degrade any materials.

**905 Window Nets 905.01 Requirement 905.01.01** A quick-release fabric window net **MUST** be fitted in the driver's side door window aperture of all saloon car formulas, with the exception of Banger type formulas.

**905.02 Specification/Installation 905.02.01** The width of the netting holes must **NOT** exceed a **MAXIMUM** size of 3in/75mm wide.

**905.02.02** The window net **MUST** be fitted such that it hangs down level with the steering wheel.

**905.02.03** The window net **MUST** be flexible and easily removable, independent of any movement of the driver's-side door.

**906 Fire Extinguishers 906.01 Requirements 906.01.01** A fire extinguisher, meeting the specifications below, **MUST** be carried in the competitor's tow-vehicle/transporter at all times.

**906.01.02** The fire extinguisher **MUST** be within easy reach of the competitor and team members at all times, especially when re-fuelling the racecar.

**906.02 Specification 906.02.01** The fire extinguisher capacity **MUST** be at least a **MINIMUM** of 2Kg.

**906.02.02** The fire extinguisher **MUST** be of a dry powder or gas type.

**906.02.03** Old type BCF (green) fire extinguishers are **NOT** permitted.

## **16. SEATS**

- The driver's seat must be secured and supported to the roll cage at shoulder level by bolting or tying.
- The 2<sup>nd</sup> roll cage cross brace may be used to support the seat, but it must be set below the bottom of the window aperture or you may construct and weld a frame on to the cage to support the seat.
- The driver's seat must be a standard production seat, not a racing seat.

## **17. NUMBERS**

- You must fit a fin plate to the roof of your car, minimum size 18" x 12" (460mm x 300mm) and a maximum size of 20" x 15" (510mm x 380mm).
- Your number must be either white on a black background or black on a white background, no other colours allowed, **any other writing allowed must not interfere with the numbers**, which must be minimum size 9" (230mm) high x 1½" (40mm) wide. If your number is not to the above specification, you may not be lap scored.

## **18. ROOF GRADES**

- If applicable to the Promotion you race for, your grade colour must be painted on the whole roof of your car.

## **19. FINAL PREPARATION**

- Rusty or dirty vehicles will not be allowed out onto the circuit.
- Rude or provocative slogans are not allowed; please remember this is a family sport.
- In addition to the car construction rules, all cars presented at scrutineering must be considered safe and not unsightly.
- **New under sealing of the underside of the car is strictly forbidden.**

# GENERAL BANGER RACING RULES

1. All flag signals must be obeyed immediately.
2. Drivers who appear to have indulged in the intake of alcohol or drugs will be excluded from racing. Smoking is not permitted in cars, on track or in the pits at any time.
3. No passengers are allowed in the car. The driver may only travel on the car on a parade or lap of honour.
4. Banger racing is a full contact sport - drivers can race to win or attempt to win by stopping the opposition.

The Steward's interpretations and decisions on these rules are FINAL.

All heats, consolations and finals must be in one direction only. Certain Promotions allow turning around on the bends, however this does not allow a driver to drive the wrong way down the straights. It is the driver's responsibility to check with the staging Promoter exactly what rules apply at any particular meeting.

Drivers must not attack any car on the infield/safety area, or attack from the infield/safety area. An infield hit is defined when the whole car being hit is on the infield, i.e. if one wheel is still on the track, then hitting this car would be a legal hit. Again, the Stewards decision is final on this. Any serious breaches of the infield safety area rule will carry an automatic 3 month ORCi ban.

Drivers must not attack any cars after the red flag or if the stationary yellow is displayed above a car. Drivers must not attack an empty or overturned car. Any damaging collision on the driver's side between the centre of the front wheel and centre of the rear wheel will result in a penalty.

**The T-boning of cars which are against or close to the barrier with excessive force is not allowed. It is also not permitted to T-bone a car which is close enough to the barrier to mean that significant impact with the barrier is inevitable after the hit. Even where cars are not against or near the barrier, the Steward may still consider a hard T-bone anywhere on the circuit to be excessive, and may take the appropriate action to discipline the driver. The penalty for a T-boning offence as detailed above will be 3 months.**

Dangerous and/or irresponsible driving as deemed by the Steward will incur a minimum of three months ORCi ban. For avoidance of doubt, length of the straight T-bones is considered dangerous and/or irresponsible driving.

For further guidance, the following examples may also be considered as dangerous and/or irresponsible driving at the discretion of the Steward:

- a) Attacking a car which has been stationary for what the Steward determines to be a significant length of time.
- b) Attacking a car which is clearly already crippled.

Please note that repeat offences will carry additional penalties where the current ban will be double the previous ban. This means that a 2<sup>nd</sup> offence of a 3 month ban as noted above will be 6 months and then a further offence would double again to 12 months.

Using the infield or safety area in any way so as to gain an advantage is also an offence and can be punished as so by the Steward.

5. Demolition type events. Any race where the nature of the event is to stop the opposition to win the following rules apply attacking from the opposition direction is permitted providing the attack is from the outside of the track (fence side). You are also allowed to wait for car or attack any part of the car except the driver area, which is considered to be from the centre of the front wheel to the centre of the rear door driver's side.
6. Demolition Derby rules may only be used when the staging promoter declares by way of drivers briefing, letter or notice in the programme that these rules apply.
7. Drivers are not allowed to exit their cars whilst the race circuit is live i.e. under "green" racing conditions. This includes both drivers on the race track whose cars have become immobilised and those who retire to the infield who must also remain in their cars with both their safety harness and helmet on. The only exception to this is where a car needs to be vacated in emergency conditions – i.e. fire etc. If a driver is in a car and feels there is a problem which officials may not be aware of which potentially makes staying there unsafe, they should indicate this to an official with the "thumbs down" signal who will then ask race control to suspend the race. It should be noted that in all cases, the primary cause(s) of the suspension/stoppage, shall be excluded for any re-run or re-start.

If a waved yellow caution or red flag race stoppage is instigated, drivers who are already on the centre must remain strapped in and with helmets on. Drivers who are in immobilised cars on other parts of the circuit may exit their cars

whilst the race is suspended but must go into a designated area which is considered by the promotion to be the safest place to be whilst the race is live, which may well be off the track completely.

8. It is an offence to put or attempt to put an overturned car back onto its wheels during a race, drivers are not allowed to re-enter a car once they have left it. Repairs are not allowed on the circuit and car must not be pushed or handled in any way during a race.
- ~~9. Team tactics in an individual event may be subject to penalty. The decision of the steward will be final.~~
10. **A driver will be held responsible for his or her mechanics or helpers at all times.** Drivers will be bound by the decision of the officials in all matters (these two items are a condition of booking).
11. Drivers must bring his or her log book every time he or she races.
12. It is an offence for two drivers to share a car at the same meeting; you may only race one car at a meeting unless the promotion allows it as an option for special events, and with specific permission.
13. All cars, trim, glass and wheels must be removed from the stadium directly after the meeting.
14. In all events the racing must be on track indicated, drivers who try to gain advantage by corner cutting will be penalised or disqualified. Also, drivers who continue to drive on and off the safety area will be disqualified.
15. Drivers must comply with any reasonable instruction given by an official of the meeting, failure to do so will result in a penalty or disqualification.
16. Mechanics are not allowed onto the circuit or to repair any competing car. Mechanics are allowed onto the track by invitation of the Clerk of the Course or the Racing Manager only to take part in parades or lap of honour for trophy winners.

**REVISED RULES FOR 2020 IN BOLD/ITALIC/RED PRINT**  
**ITEMS MARKED STRIKETHROUGH ARE NO LONGER ALLOWED**  
**2020 National Banger UNLIMITED Technical Specifications**  
**Issue 1 dated February 16yj 2020**  
**These rules are valid from the 1<sup>st</sup> March 2020**