

# ***Ballymena Raceway & Nutts Corner Raceway***

## **2018 Junior-Rods SPECIFICATIONS**



### **INTRODUCTION**

***The Junior-Rods Formula is NON-CONTACT*** and cars should be prepared with a professional racing appearance. This standard is required to be kept up throughout the driver's racing season. Cars with tatty, dented and badly battered panels will not be passed by the Scrutineer. (Metal panels only may be used with the exception of front and rear bumpers and these must originate from the make and particular Model of car being used). Cars which had plastic panels as standard (i.e. wings) are eligible.

### **VIOLATIONS**

When referring to the engine, gearbox, differential, mechanical or construction, rules and regulations, the principle will always be: - **UNLESS PERMISSION IS SPECIFICALLY GRANTED TO MAKE MODIFICATIONS OR ANY VARIATION, NOTHING MAY BE DONE TO ALTER OR CHANGE IN ANY WAY THE STANDARD PARTS. UNLESS THESE RULES STATE YOU CAN DO IT, YOU CANNOT DO IT.**

Violations will result in an immediate suspension of all racing facilities and any refusal will also result in an immediate suspension.

Cars, engines etc. will be checked on a random basis and the promotion will exercise its judgement which will be final in every case. If parts are suspected as being illegal, make sure you leave them with the promotion if you do not agree. If you remove any parts that are in dispute from the stadium, without the consent of the scrutineer/promotion they will automatically be deemed illegal.

**If any car is found with an illegal Engine/Tyres/Suspension, the driver concerned will lose all points gained for the season with a minimum 4 meeting ban being put in place.**

### **1. DRIVERS**

Must be aged between 10-16 years and must prove their date of birth by producing their Birth Certificate when applying for a Licence. A parent or guardian must sign the Licence Application Form. A driver may compete until the end of the season in which his/her 16th Birthday is attained.

**All drivers have to complete an ORCi competence assessment prior to racing. This should be arranged in advance with your either Promotion – please check well in advance of the race meeting that promoter may wish this to be carried out on a separate date prior to your race day if there is not sufficient time to do so on race day.**

## **2. CARS**

All cars must be presented for scrutineering before being permitted out on track to Practice or Race at all Raceway meetings.

The only cars eligible for use are those set out within these specifications with the engine capacity not exceeding 1200cc.

Cars must be of all steel Saloon, Hatchback or Coupe type bodies.

No fuel injection, No Turbos permitted. Cars must be painted in bright colours.

## **3. ENGINES**

The only modifications that can be done are the ones that are stated below: -

VAUXHALL CORSA car may use Corsa block with Nova Head.

VAUXHALL NOVA car may use Corsa block with Nova Head.

PEUGEOT 106's may use carburettor from Citroen AX or Peugeot 205.

FORD KA MUST USE 1118cc Fiesta engine.

Flywheels may be lightened.

Hydraulic tappets must not be welded, and solid lifters are not allowed.

Camshafts must remain standard i.e. 1200cc engine, 1200cc cams must be used.

The only Camshaft permitted for use in the Vauxhall Nova and Corsa is a camshaft with the lift – Inlet 200, Exhaust 215. Any Camshaft discovered to be fitted having a greater lift than stated will be considered to be illegal.

Carburettor chokes sizes and butterfly size to remain standard.

Skimming of the mating surface with the head to the block only is permitted but pistons must not protrude beyond block surface. Pistons may be up to 1.5mm oversize. Sump may be baffled.

## **4. EXHAUST**

Manifold and downpipes must be standard and be fitted with a silencer.

Silencer baffles must not be removed. The Promotion reserves the right to prevent any car from racing which in the opinion of the Scrutineer, is too noisy.

## **5. TRANSMISSION**

The Gearbox must take all gears as normal and the external casing must remain as standard.

Mountings must also remain as standard. Gear ratios and final drive are free but must remain standard to the manufacturer's range. Driveshafts to remain within the Manufacturer's range.

The diff assembly must not be changed in any way i.e. limited slip diffs or welded diffs are not permitted.

## **6. WHEELS and TYRES**

Any Steel or Alloy wheels, subject to a maximum width of 6" can be fitted.

It is permitted to replace the wheel fixings to wheel stud type.

The only tyre permitted is the Pace 20. Size 175x70x13 or 175x70x14.

Tyres are priced at £25 each plus vat.

No cutting or buffing of tyres is allowed. No competition tyres allowed. Tyre Softener is not permitted. Dangerous Tyres are not allowed.

## **7. SUSPENSION**

All suspension and pickup points must be as originally manufactured.

***NO COMPETITON SHOCKS.***

Coil springs and leaf springs are free - mounting points must be original, although negative camber is permitted on front nearside wheel and positive camber is permitted on front offside wheel. This to be achieved by slotting of turrets and bottom suspension arms may be altered to help achieve said cambers. Holes can be elongated, and standard struts bolts must be used with washers welded to strut. The rear springs must be retained by wire, tie wraps or clips at one end only.

Caster adjustment is permitted and may be achieved by modification of original standard parts only, but suspension parts may not be left adjustable.

Back axles and hubs must remain standard and must not be altered in any way.

Adjustable shock absorbers are not permitted.

## **8. BRAKES**

To be as original and to work on all four wheels.

Handbrake is compulsory.

## **9. BODYWORK**

To remain exactly as production, with the passenger door being tack welded i.e. 2" weld with a 6" gap before the next weld.

Wheel arches and skirts are optional.

De-skinning of bonnet, boot, doors and quarter panels is permitted but is optional.

Original front and rear Bumpers can be retained with the option of replacing both bumpers with a steel panel similar to the Stock Rod one. No heavier than 1.5mm. Please note one or the other must be used.

For STEEL bumpers, there must be one 2" (50mm) inspection hole on the driver's side.

FRONT CHASSIS MUST NOT BE EXTENDED, EXCEPT FOR A MAXIMUM OF TWO VERTICAL 18 GAUGE FLAT PLATES FROM CHASSIS TO FRONT PANEL. THIS MUST NOT BE BOXED IN ANY TYPE OF WAY.

Holes are permitted in the front panel between the headlamp apertures for cooling purposes only.

Where two sections are used to form a front panel, the overlap must not exceed ½"(13mm). Repairs to front wings and flich panels must be carried out with material of original thickness, not 18 SWG. Where front panels are non-original of 18 SWG, only the front section may be of that material; the "wrap-around" section to join it up to the wings and the inner fliches etc. must all be constructed with the original thickness of material which is usually 22 or 24 SWG.

Where front panels are non-original, the shape reproduced must be the original silhouette of the car when the original bumper is removed. Front panels must not incorporate a front bumper in the shape produced.

Likewise, the fliches must follow approximately the original contour, not folded with angles to provide strength.

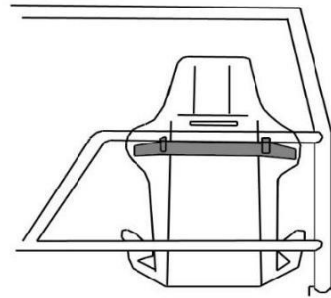
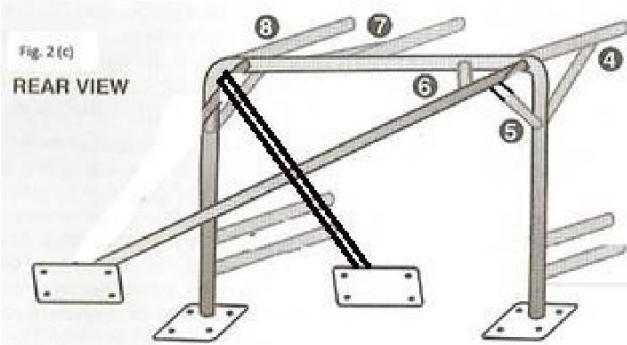
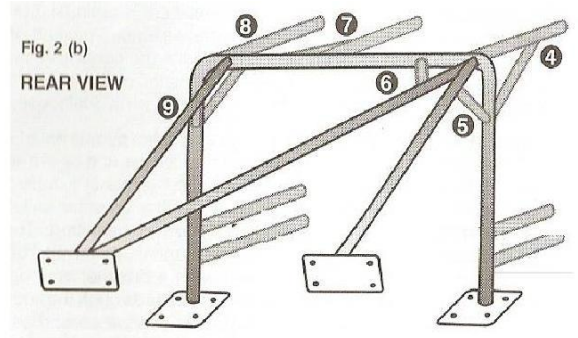
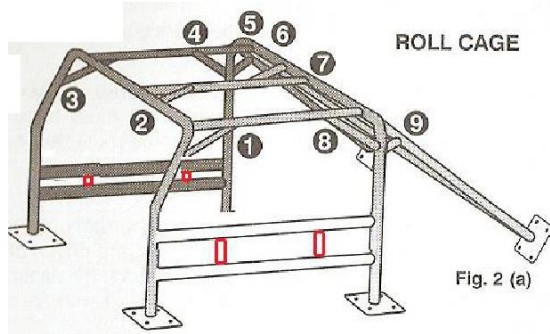
No spoilers or aerofoils are permitted. No armouring is allowed.

## **10. ROLL CAGES**

No Alloy roll cage or part cages are allowed. The minimum steel roll cage protection you must have is one front hoop, one rear hoop, one rear hoop cross bar at shoulder height to mount seat support or a seat brace hoop as a seat support, three roof connecting bars, one dash cross bar, two D/S chicken bars plus two connecting bars, & two P/S chicken bars plus two connecting bars, & minimum 2 rear stay bars to the rear shock towers or floor but must terminate at least 4" from the rear panel (must be either Fig 2(b) or 2(c)). The lower bar on the driver's side (if horizontal) should be a minimum of 3" (76mm) above the sill. The roll cage hoop feet must be on four welded 23cm square plate 3mm (min.) thick, or a piece of 38 x 38 mm box section, 2.5mm minimum thickness, connecting front and rear hoop feet welded to sill or floor. This bar will not be classed as a chicken bar. All joints must be welded over 90% of the joint unless as approved RACMSA cage is used. The cage must not protrude through the bulkhead with the following exception.

It is permitted to support both turrets from the roll cage with the maximum material and gauge as the roll cage, but the shock absorber must not connect to it. All bars connected to the cage must be steel. The minimum thickness of the roll cage is 1¼" OD 10swg (3mm) tube 1½" OD 12swg (2.5mm) tube 1½" x 1½" 10swg (3mm) box iron.

## ROLL CAGE DIAGRAM



### **11. SCREENS**

No glass is allowed in the window apertures. All glass must be removed, including headlights/sidelights and all rear lights, an internal mirror and external mirror are compulsory. A metal upright  $\frac{3}{4}$ " x  $\frac{3}{4}$ " must be welded or bolted into the centre of the windscreen aperture. A sun visor **MUST BE FITTED** across front windscreen.

Wire mesh over the windscreen aperture is not permitted.

### **12. STOP LIGHTS**

Two stop/brake lights must be fitted onto the rear parcel shelf or hung from the roof. Lamps must be operated by the standard stop light switch as fitted to that particular model of car. Bulbs to be of 21-watt intensity. A strip light may be fitted instead of the above.

Stop Lights/brake lights must be checked and working at all times.

### **13. BATTERIES AND ELECTRICAL**

Batteries must be securely clamped in place and covered with a leak proof material (such as rubber) to prevent spillage of acid. An electrical cut-off switch must be fitted to the rear nearside corner of the car.

If the car is fitted with an electrical fuel pump, a switch must also be within easy reach of the driver. Alternators are optional. Fans belts must be in place. REV counters are not permitted.

Plastic battery boxes are not permitted.

### **14. SEATS**

Competition seats are mandatory and must be securely fitted. The seat should occupy its original position where possible.

The back of the seat must be adequately supported at shoulder height and a strong head restraint must be an integral part of the roll cage, if not part of the seat.

The suit must have a suitable framework or seat stiffeners fitted.

## **15. STEERING**

The steering rack or box should retain its original position, but the rake and height of the steering column can be altered to suit the driver. It is recommended that the upper retaining bracket of the column be strengthened for safety.

## **16. FUEL TANKS**

Fuel tanks must be metal, or FIA approved with a maximum capacity of 4 gallons or less are permitted. Suitable metal or braided fuel lines must be used between the fuel pump and the carburettor. Extra care must be taken on how to fit them correctly.

A shut off tap must be fitted and kept within easy reach of the driver.

Please note the original fuel tank must be removed. The fuel tank must be fitted rear of the driver but in front of the rear axle centre line and be securely mounted, they must also be 6" away from the battery, i.e. they are no longer allowed to be fitted in the boot area. All tanks must be fitted with a breather system which prevents spillage if the car overturns.

All petrol pick up pipes must draw through a stand pipe from the top of the fuel tank. Four 2" holes must be drilled at the lowest point under tanks to allow spilled petrol to drain.

You may use an Electric pump.

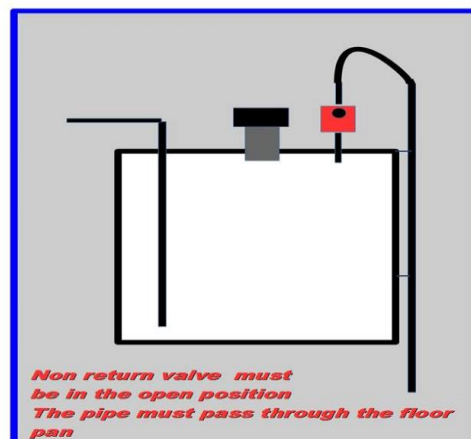
A firewall between fuel tank including filler cap/pump and driver must be fitted.

A complete metal firewall must exist between the driver and the engine compartment.

**A non-return valve to the tank must be fitted** (see diagram below). The electrical isolation switch (cut off switch) must be fitted in the R/S/N window area, for easy access of Safety Marshals. All tank filler caps must be of secure leak proof metal with a screw fitting.

**If using an electric fuel pump, the cut-off switch must be positioned before the pump.**

**NON-RETURN VALVE MUST BE FITTED TO ALL CARS:**



## **17. RADIATORS**

Radiators are free and must be fitted forward of the engine.

## **18. NUMBERS**

Must be displayed on both sides of the car in contrasting colours with a minimum of 12" high in 2" strokes. Numbers must be black on a white background. Fin plates must be fitted in 9" high 1½" strokes.

## **19. ROOF COLOURS**

When notified of your grading, driver will paint at least 90% of the roof to their appropriate grading colour. White, Yellow, Blue or Red. Race car numbers can be painted on the top of the roof but will not be used as an excuse to have the incorrect roof grading. Winner of the Irish Championship must paint his/her roof Green. Silver stripe denotes Points Champion. Gold stripe denotes Golden Helmet Champion. If you win a race at a meeting; you will start the remaining races from the rear of your grade.

## **20. SIGN WRITING**

The drivers name must appear plainly on the sun visor. Only other writing confined to sponsors or mechanics names which must have the approval of the promotions at all times.

## **21. SAFETY EQUIPMENT**

General - All safety equipment specification rules apply to all competitors in all ORCi and ORCi affiliated formulas unless otherwise stated. All safety equipment must be worn/engaged at all times when on track during racing, practice or test sessions, and at ANY other time when moving at a speed greater than walking pace (4mph). 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.

### **HELMETS & GOGGLES/VISORS**

HELMETS- Helmets must be a minimum standard as directed by British Oval Racing Safety Executive (B.O.R.S.E).

A helmet conforming to at least one of the approved standards MUST be worn.

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

The current approved standards permitted for all drivers are: • FIA 8860-2004 • FIA 8860-2010 • FIA 8859-2015 • Snell SA2005 (This standard will be reviewed at the end of the 2017 season) • Snell SA2010 • Snell SAH2010 • Snell SA2015 • Snell EA2016 • SFI Foundation 31.1A • SFI Foundation 31.2A • SFI Foundation 31.1 • ECE R22.05 (in Fibreglass, Carbon or Tri-Composite form ONLY)

New – Helmets certified to one or more of the following standards are permitted for use by youth drivers aged 15 and under. These are ADDITIONAL permitted standards to those currently allowed. Snell CMR 2007, Snell CMS 2007, Snell CMR 2016, Snell CMS 2016 & SFI 24.1.

The use of polycarbonate helmets is NOT permitted.

The helmet MUST fit the competitor correctly, according to the manufacturer's sizing/fitting guidelines.

All helmets MUST display the current "ORCi Approved" helmet sticker.

Goggles/Visors - Shatterproof goggles or a shatterproof visor MUST be worn with the helmet at all times. The use of tinted visors is NOT advisable.

## **SAFETY BELT AND EQUIPMENT**

Usage - A full safety harness MUST be used in accordance with the specifications below. All mandated straps MUST be used at all times.

Harness Strap Width – ALL Junior Formulas (competitors aged under 16)

The shoulder and lap/pelvic straps MUST measure at least a MINIMUM of 2in/50mm in width.

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

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

All the major manufacturers have installation information on their websites, and competitors are advised to refer to this when fitting harnesses to their race cars.

Useful websites include (addresses correct at time of publication):

Manufacturer's Websites • [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)

Safety Standards • [www.sfifoundation.com](http://www.sfifoundation.com) • [www.fia.com/homologations](http://www.fia.com/homologations)

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.
- 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.

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

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

## **WINDOW NET**

Requirement - A quick-release fabric window net MUST be fitted in the driver's side door window aperture of all saloon car formulas. Specification/Installation The width of the netting holes must NOT exceed a MAXIMUM size of 3in/75mm wide. The window net MUST be fitted such that it hangs down level with the steering wheel. The window net MUST be flexible and easily removable, independent of any movement of the driver's-side door.



## **CLOTHING**

A flame-resistant race-suit/overall MUST be worn. Flame resistant race-suits/overalls MUST be manufactured from Proban, or material of a higher specification, e.g. Nomex. Flame resistant race-suits/overalls MUST be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection. Race-suits/overalls MUST be maintained in a clean and tidy condition.

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.

## **GLOVES**

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

## **BALACLAVAS**

A flame-resistant balaclava MUST be worn. Flame resistant balaclavas MUST be clearly marked with the relevant SFI, FIA or equivalent standard, or the manufacturer's statement of protection.

## **UNDERGARMENTS**

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

## **WET WEATHER PROTECTION**

Any wet-weather clothing must be worn in ADDITION to the required flame-resistant race-suit/overall specified above.

## **HEAD/NECK RESTRAINT**

The use of an FHR or neck-brace is recommended.

## **FIRE EXTINGUISHERS**

Requirements - A fire extinguisher, meeting the specifications below, MUST be carried in the competitor's tow-vehicle/transporter at all times. The fire extinguisher MUST be within easy reach of the competitor and team members at all times, especially when re-fuelling the race car.

Specification - The fire extinguisher capacity MUST be at least a MINIMUM of 2Kg. The fire extinguisher MUST be of a dry powder or gas type. Old type BCF (green) fire extinguishers are NOT permitted.

**22. Petrol** must only be brought to the racing in a metal type Jerry can.  
***Containers must be clearly marked "PETROLEUM SPIRIT HIGHLY INFLAMMABLE".***

**23. Parents and Mechanics** please note that smoking or drinking is not permitted in the Pits.

## **24. GENERAL RULES OF RACING**

Each driver is only permitted one car per meeting and each car is only permitted one driver per meeting- this will be strictly enforced.

Any driver spinning the wheels or driving up and down the pits will be banned for a minimum of 4 meetings and not allowed to take part in that night's racing. Cars must travel at 5mph in the pits. No passengers allowed in or on the car. Drivers must not push or work on their cars during a race. No outside assistance is allowed during racing.

There must be no deliberate fencing or driving at a driver's door or dangerous driving. A car pushed at (in the opinion of the Steward) unreasonable speed from the rear into a bend shall be deemed to have been deliberately 'fenced'. A driver who has deliberately fenced another driver will be black flagged and suspended for four meetings.

## **25. FLAG SIGNALS**

GREEN - GO, All Clear to Race RED - Stop Racing Chequered Flag - Race Winner

YELLOW (Stationary) - Take care as a driver is still in a stationary car but continue to Race.

YELLOW (Waved) - Race Suspension, All Cars must remain in single file and slow to 15mph, or in exceptional circumstances stop. No Overtaking is permitted.

Blue - Driver must hold their line as faster cars are trying to overtake.

Black - Driver disqualified for an infringement - driver must leave the track immediately.

White Flag with Red Cross - Technical Disqualification Flag. This is used to signal to a driver that they have a problem with their car and must immediately retire to the infield.

Black Cross - Driver under surveillance for a rules infringement, may be penalised after race conclusion.

White flag with Blue Centre - Drivers should exercise caution as oil or other debris may be on the track.

## **26. CARS ELIGIBLE FOR USE**

Citroen AX (1986-1998) 1124cc

Citroen C2 (2003-2009) 1124cc

Citroen Saxo (1996-2003) 1124cc

Ford Fiesta Mk1-Mk4 (1976-2002) 1118cc

Ford Fiesta Mk5 (2002-2008) 1118cc

Ford KA (1996-2003) 1118cc

Nissan Micra Mk1 (1982-1992) 1098cc or 1124cc

Nissan Micra Mk2 (1992-1997) 1098cc or 1124cc

Peugeot 106 (1991-2003) 1124cc

Peugeot 206 (1998-2003) 3 & 5 door 1124cc

Renault Clio Mk1 (1990-1997) 1149cc or 1171cc

Renault Clio Mk2 (1997-2005) 1149cc or 1171cc

Toyota Starlet Mk1 (1978-1984) 1166cc

Vauxhall Astra Mk2 - 3 & 5 door (1984-1991) 1196cc

Vauxhall Astra Mk3 - 3 & 5 door (1991-1997) 1196cc

Vauxhall Nova (1982-1993) 1196cc

Vauxhall Corsa B - 3 & 5 door (1992-2000) 1196cc

Vauxhall Corsa C - 3 door (2000-2006) 1196cc

Vauxhall Tigra Mk1 (1994-2000) 1196cc

Volkswagen Polo Mk2 (1981-1994) 1093cc

Volkswagen Polo Mk3 (1994-1999) 1093cc

All above cars up to 1200cc are allowed to race and must run a carburettor, manifold system within their range, but not from a larger cc vehicle.

Vauxhall Corsa B - 3 & 5 door (1992-2000) 1.0l (3 Cylinder 12v) 998cc

Vauxhall Corsa C - 3 & 5 door (2000-2006) 1.0l (3 Cylinder 12v) 998cc

Anyone wishing to race a car other than those listed above may request permission by contacting either the BMR or NCR Promotions.

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