

2010 INCARODS

CAR CONSTRUCTION RULES AND REGULATIONS

INTRODUCTION

This formula is designed primarily for those drivers who wish to compete in Oval Racing without the substantial financial investment or high level of commitment of our other present formulas. **Drivers who have raced in any other senior formula may compete but generally must not have reached higher than Yellow grade. All licence applications will be reviewed by the Promoter and it must be understood that applications may be refused if it is considered that the prospective driver is too experienced for this entry level formula.**

INCARODS feature low cost, well turned out cars competing on a STRICTLY NON-CONTACT basis.

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.

Cars, Engines and Fuel will be checked on a random basis and all drivers must be prepared to have their engine stripped for examination at any time. If the driver does not have the expertise to do it, then he/she must provide someone to do it for them. Refusal to allow the engine strip may result in a ban of up to one year from all formulas.

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

All car and engine specifications will be taken from the Technical Service Data book for cars as published by Glass's Guide Service Limited.

It is the driver's responsibility to check the legality of his or her own car prior to competing.

NB: Drivers are reminded that scrutineering checks can be carried out at any time and most certainly on all official Championships. If parts are suspected of being illegal, make sure you leave them with the promotion if you do not agree. If you refuse it will automatically make the parts illegal. It is the responsibility of the driver to prove to the promotion that the part is legal by the way of written proof of where the part originated. This must be done within 7 days, otherwise the part(s) in question will be deemed to be illegal and will result in immediate suspension from racing and referral for disciplinary action.

SCRUTINEERING

Arrival at the Raceway is required minimum 1 hour before the advertised start time to allow scrutineering to be carried out. You need to present your car to the scrutineering area to be checked, as soon as possible after arriving at the raceway. The driver must accompany the car, complete with racing overalls, crash helmet, race suit and race licence.

1. CARS ELIGIBLE

Any single carburettor, or single point injection, maximum 4 cylinder, NON-FORD saloon, hatchback or coupe car with a steel body, not exceeding **1600cc** are allowed. No Toyota Starlets allowed. **Multi-point injected cars may be converted to conventional carburation if available in that manufacturers model range. No Turbos or Superchargers allowed.** Please note, in all cases, Estate cars or Vans are not allowed. Cars with competition type engines are not allowed, i.e. Mini Coopers, Lotus Sunbeam. – if in doubt, please ring the Incarace office to check.

2. PREPARATION

- ◆ Remove all exterior mouldings/headlamps/door handles.
- ◆ Remove all glass, interior trim, dashboard, head linings, door linings, floor coverings, passenger seats.
- ◆ All window mechanisms must be removed.
- ◆ It is recommended that all obsolete wiring be removed.
- ◆ Remove spare wheel carriers and tow bars if fitted.
- ◆ Grilles must not be removed. No replacement, "home-made" grilles allowed.

3. BODYWORK

- ◆ **All panels including wheel arches that have been removed or modified must be put back to standard for the start of 2011 season.**
- ◆ All panels must remain as standard (or steel pattern types) no home made panels, i.e. fibreglass, plastic or similar replicas. Door inners may be removed. Removal of structural stiffeners is not permitted, with the exception of boot and bonnet.
- ◆ All doors and tailgate must be secured shut. They may be tack welded (1" in 4") or bolted shut not by tying, chaining or taping etc.

- ◆ Standard external door mirrors are permitted on either/both sides. For safety, the glass must be taped to the housing.
- ◆ Mirrors may be fitted inside.
- ◆ A hole may be cut in the bonnet near to the carburettor, maximum size 6" square.
- ◆ Bonnets may be secured with up to 4 bonnet pins, (2 front, 2 back). The pins shall be ½" (12mm) maximum diameter and 1½" long maximum above the bonnet. These bolts must not pass through the chassis or attached to the suspension bed. Front bolts must go through the slam panel or the inner wings. Front bolts must be no further forward than the slam panel. Maximum size of washer is 1½" x 1½" x ¼".
- ◆ Triangular corner plates may be fitted between the wing top and scuttle maximum size 120mm x 1mm thick.
- ◆ Where bonnet slam panels are replaced, lightweight tube or box (2" x 1" or 1" x 1" with 1mm or 1.5mm wall) must be used. Cross ties must be 16- 18 gauge, 1mm wall box section. Panels must not be doubled. Where headlamp apertures are filled, they must not have more than a 1" overlap.
- ◆ Additional gussets must not be added to provide strength to chassis legs etc. Existing apertures, (headlamps etc.) may not be strengthened by any means other than you may pop-rivet a maximum of 18 SWG alloy plate as a blanking cover. **NO STAINLESS STEEL OR FOAM FILLED PANELS ARE PERMITTED.** Tail light apertures must be filled in with aluminium, maximum 1 mm thick and maximum overlap of 1" and must be pop riveted or self tapping screws may be used, but cannot be tack welded.
- ◆ Sun roof apertures must be plated over (riveted or welded)
- ◆ No roof spoilers or aerofoils allowed.
- ◆ Boot spoilers may be fitted if standard to the car.
- ◆ Standard bumpers as fitted to the model only. No home-made bumpers of box section, angle iron etc. In view of this being a NON-CONTACT formula, bumpers may be removed altogether provided that the Scrutineer is satisfied that the car looks neat and tidy. On later cars where the larger bumper mouldings dominate the overall appearance, e.g. Mk2 Astra, bumpers should be left on to avoid Banger like appearance.
- ◆ All holes in the front bulkhead must be filled to provide a firewall between the engine and driver.
- ◆ No welding for strength.
- ◆ No armouring.
- ◆ Bright colours for bodywork is requested and a good overall appearance is a MUST but no team colours permitted. Cars may be sign-written.
- ◆ The drivers name must appear on the sun visor and be of professional appearance. The sun visor must be made of aluminium with a maximum depth of 4".
- ◆ A metal upright ¾" x ¾" must be welded or bolted into the windscreen aperture, one third of the way along the driver's side.
- ◆ The word "INCAROD" must appear on the rear nearside corner of the car.
- ◆ The roof shall be painted according to the driver grading and at least one flashing amber light fitted for Superstars.

SCRUTINEERS WILL FAIL CARS THAT ARE NOT IN A CLEAN & TIDY CONDITION

4. SUSPENSION

- ◆ Any standard spring (or non-competition after-market eg Monroe).
- ◆ These may be cut or heated to lower.
- ◆ No ADJUSTABLE springs or shock absorbers permitted.
- ◆ No after-market competition type springs or shock absorbers (eg Koni, Spax, etc)
- ◆ Coil springs must retain the original overall diameter.
- ◆ Coil springs may be retained by either wiring, tie wraps or clips, but not welding
- ◆ ***You must run bump stops, but these must be run on both sides and must be symmetrical and the same size.***

5. ROLL CAGE

- ◆ 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, two roof connecting bars, one dash cross bar, two N/S chicken bars and two O/S chicken bars.
- ◆ 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.
- ◆ All joints must be welded over 90% of the joint unless professional clamps are used.
- ◆ The cage must not protrude through the bulkhead.
- ◆ Rear cage bars must terminate at least 4" from the rear panel.
- ◆ All bars connected to the cage must be steel.
- ◆ The minimum thickness of the roll cage are 1¼" OD 10swg (3mm) tube 1½" OD 12swg (2.5mm) tube 1½" x 1½" 10swg (3mm) box iron.

6. ENGINES

- ◆ Only 2 valves per cylinder allowed.
- ◆ A 1.5mm overbore is allowed.

- ◆ The engine must be fitted with a metal catch tank of 1 litre minimum capacity connected to the engine breather system.
- ◆ Air filters are free.
- ◆ All parts must be remain as manufactured within the engine type used such that the compression ratio remains standard to that engine type – i.e. the cylinder head and block must originate from the same cc of engine.
- ◆ **The engine type must remain standard to the make of car used, e.g. Vauxhall must be Vauxhall.**
- ◆ Pistons must be standard – no modifications. Pistons and rings may be size matched with the appropriate overbore as specified above.
- ◆ Fly wheels must be standard – no lightening allowed.
- ◆ Alternators may be removed.
- ◆ Only a standard camshaft to the engine is allowed, or a replacement item with the same geometry (lift, duration etc)
- ◆ The inlet and exhaust manifolds must be standard to the engine. These may be de-carbonised but not highly polished or ported i.e. No removal of casting marks etc.
- ◆ Sumps may be baffled to prevent oil wash away from oil pick up point.

DRIVERS MUST BE REMINDED THAT ALL ENGINE PARTS MUST REMAIN STANDARD OR AFTER-MARKET

7. GEARBOX/DIFFERENTIAL

- ◆ Gearbox must be as manufactured to the same model of vehicle, i.e. you cannot exchange a four speed gearbox onto an engine manufactured only with a five speed gearbox, or vice-versa.
- ◆ Axle and ratio must be as manufactured.
- ◆ No locked differentials or limited slip differentials are allowed.

8. CARBURETTOR

- ◆ Must remain standard to the manufacturers model range.
- ◆ Cold Start devices may be removed.
- ◆ Re-jetting is permitted

9. INJECTION SYSTEM

- ◆ Single Point injection is allowed but must be used in conjunction with a competition type pump eg FACET.
- ◆ Multi-point injected cars may be converted to conventional carburation if available in that manufacturers model range.

10. FUEL SYSTEM

- ◆ Electric fuel pumps may be fitted.
- ◆ The original petrol tank must be removed.
- ◆ Flexible non-metallic fuel lines may be used to connect metal fuel pipes to carburettor and fuel tank. In all cases, fuel lines shall be securely clipped to prevent damage (or being tripped over etc).
- ◆ Only road-side fuel is permitted. (Unleaded, 4 star or LRP). No AVGAS (aviation fuel). No special mixes or Methanol blends, Nitrous Oxide or octane boosters are not permitted.
- ◆ Only tanks with a maximum capacity of 4 gallons or less are permitted. These must be fitted rear of the driver but in front of the rear axle centre line,. They **MUST NOT BE FITTED BELOW THE CHASSIS RAILS** of the car, and the floor must not be cut in any way to accept the tank. All tank filler caps must be of a secure leak proof metal or screw fitting. Petrol pipes must be of metal or metal covered and have a shut off tap within easy reach of the driver. All tanks must be fitted with a breather system which prevents spillage if a car is inverted. 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. A firewall between fuel tank including filler cap/pump and driver must be fitted.

11. COOLING SYSTEM

- ◆ Radiator must be fitted in original position.
- ◆ No steam tanks allowed.
- ◆ Thermostat may be removed.
- ◆ No heater matrix permitted inside the car. If retained, the original matrix must be relocated under the bonnet.
- ◆ No other oil or water coolers permitted.

12. EXHAUST SYSTEM

- ◆ No car will be allowed to race without an exhaust system, which must be fitted underneath the car.
- ◆ The down-pipe must be standard but the rest of the system is free and must be suitably silenced.
- ◆ The system must terminate behind the centre line of the rear axle.

- ◆ All drivers must be aware that if your car is above the required noise level you will not be allowed to race. The Stewards decision is final.

13. BATTERY AND ELECTRICAL

- ◆ Batteries must be securely clamped in place and covered with a leak proof material to prevent spillage of acid. They may be fitted under bonnet, in passenger footwell or behind the driver, but the floor cannot be cut to accommodate them. They must be fitted at least 6" from the fuel tank.
- ◆ An electrical cut/off switch must be fitted to the R/N/S 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.
- ◆ Self-starter motors must be fitted and in working order at all times.
- ◆ The use of a rev counter is permitted.
- ◆ A 24 volt starter system is permitted.
- ◆ Electrical wiring and petrol pipes must not be run side by side ie. When running parallel through the car interior. They should take separate routes as far away from each other as possible but as a minimum 12" apart.

14. STOP LIGHTS

- ◆ Two stop/brake lights must be fitted onto the rear parcel shelf or window aperture, a minimum of 30 inches apart facing rearwards.
- ◆ Lamps must be in working order and must be operated by the standard stop light switch as fitted to the particular model of car. No other switches or modifications to switches to be made. Bulbs to be of 21 watt intensity.
- ◆ For round type lamps: minimum 3", maximum diameter 4"
- ◆ For square type lamps: minimum 3" square maximum 4" square.

15. BRAKES

- ◆ Must remain as manufactured and working on all four wheels.
- ◆ The handbrake must be in working order.

16. WHEELS & TYRES

- ◆ **Any standard road wheel to a maximum diameter of 14" all wheels must be of the same offset and must fit completely under the bodywork.**
- ◆ Any size standard road wheel to the manufacturers range may be used, however the same size wheels and series of tyre must be used on the same axle.
- ◆ Hub caps and wheel trims must be removed.
- ◆ All balance weights must be removed.
- ◆ Only conventional road tyres are permitted.
- ◆ Tyres can have a maximum diameter of 185mm, minimum 60 series
- ◆ No competition tyres of any kind whatsoever.
- ◆ Any tyre with buffed markings will not be accepted.
- ◆ The only tyre allowed is the TOYO CF1.

Note: The promotion reserve the right to review the regulation relating to wheels and tyres at any time.

17. DRIVER'S SEAT

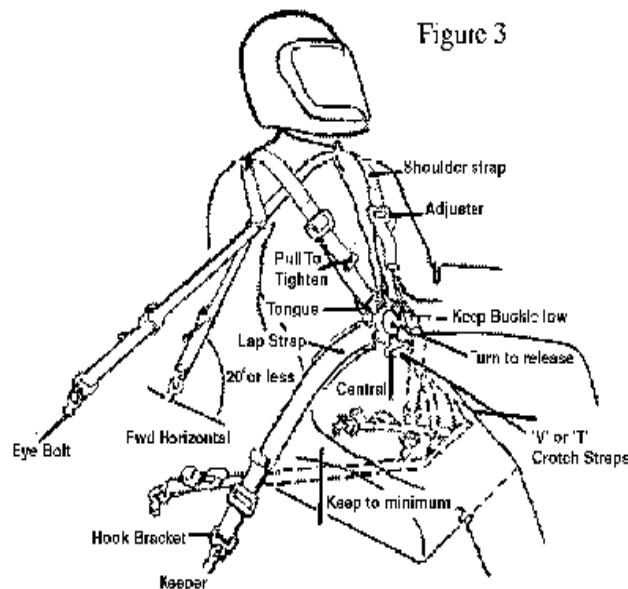
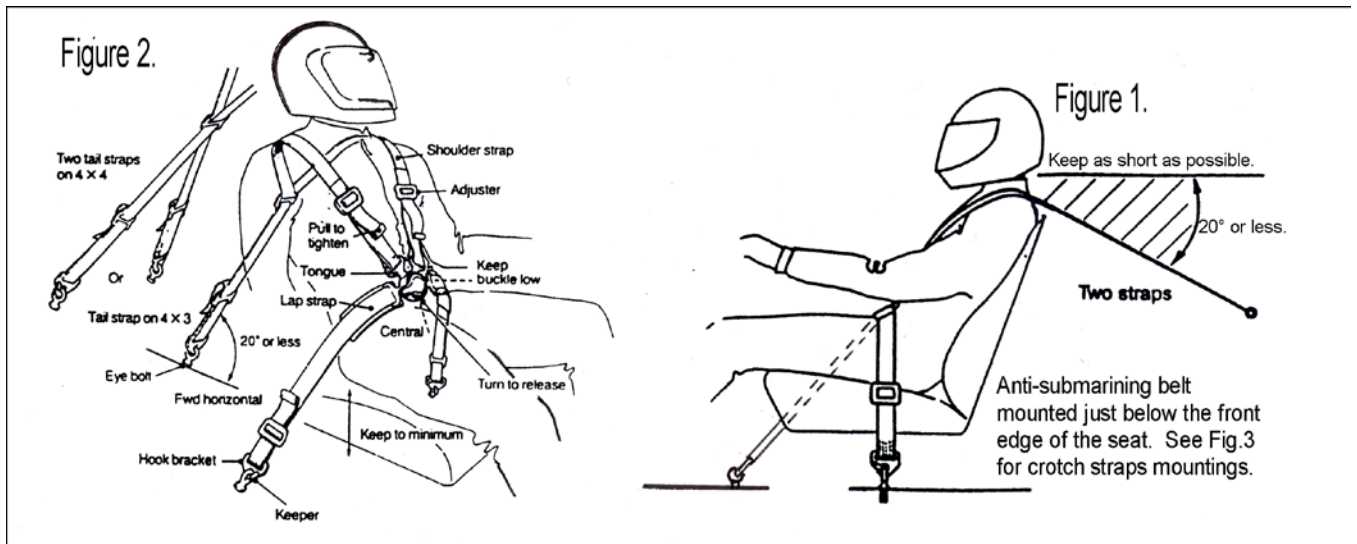
- ◆ A seat with a head restraint must be fitted. The seat must be securely mounted at shoulder height to the cross bar or to the rollover bar and bolted securely to floor.

18. SAFETY EQUIPMENT

- **Helmets must be of a minimum standard as directed by British Oval Racing Safety Executive (B.O.R.S.E). These are ~~BS6658/85 Type A~~, BS6658 Type A/FR, FIA8860-2004, ~~Snell SA2000~~, Snell SA2005, SFI Foundation 31.1A, SFI Foundation 31.2A. The E2205 European standard helmet may be used in Fibreglass or Tri-Composite form only. 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 (ORC09) sticker.**
- ◆ Neck braces are recommended.
- ◆ Fireproof balaclavas are **MANDATORY** and must be marked appropriately.
- ◆ Fire retardant gloves are **MANDATORY** and must be marked appropriately.
- ◆ A minimum of 3" (75mm) wide safety belts (1.75" (40mm) sub-strap) are mandatory. This must be a full five point buckle release harness (including NASCAR type) with sub-strap and must be fitted and bolted to the floor and/or the roll cage. Shoulder belts with a sternum protection latch are highly recommended. The sub-strap must be used at all times and all belts must connect to the quick release buckle. In the case of NASCAR lever latch buckles it is advisable to fit a secondary means of detent to prevent overall sleeves accidentally

unhooking buckles during racing. A small section of Tubegrip elasticated bandage slid over the hooked buckle serves this purpose. Special attention must be paid to the condition of seat belts and fixings once fitted. An extra bar is to be fitted to roll cage behind drivers seat approx 4" below shoulder height of driver. Your seat belts may be fixed to this bar. The bar is to be of roll cage material specification

Following recent research made by leading safety harness manufacturers, new information has been made available with regard to the best way to fit your safety harness, which will further ensure your safety. Please study the diagrams below to ensure your safety harness is fitted correctly.



- ◆ Drivers must wear bright coloured racing overall type clothing of flame retardant Proban or a high specification material and this must be maintained in a clean and tidy condition in view of the public. N.B. If wet weather clothing is used this must be worn IN ADDITION TO and NOT INSTEAD OF the regulation flame retardant overall type of clothing described above.
- ◆ A quick release cloth window net must be fitted to the driver's door window aperture. The netting should have holes not larger than 7.5cm or 3" wide. It should come down level with the steering wheel, and should be flexible and easily removable separate to the movement of the door.
- ◆ A 1Kg Dry Powder Gauge Fire Extinguisher is highly recommended and if 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 refueling.**

19. RACING NUMBERS

- ◆ Both front doors **MUST** be painted white.
- ◆ Your racing numbers must be displayed on the bonnet facing the control tower and on both front doors in black.
- ◆ Minimum height of 16" high x 2" wide brush strokes. .
- ◆ A fin plate may be fitted. The fin numbers must be Black 9" high in 1½" strokes minimum. The fin plate must be white fitted on or above the roof line but be no higher than 12" in total from the roof

20. DRIVERS ELIGIBLE

- ◆ Each driver is only permitted one car per meeting in Incarods and each car is only permitted one driver per meeting.

FLAGS/SIGNALS

As some of you will be racing for the first time, a reminder of the various Track Signals is detailed below. It is most important that you obey these signals at all times. These will be explained at the drivers briefing, however, if you are still not sure of the meaning of any of these signals, please ask Race Control to review them with you.

Red flags/lights - "Stop Racing"

Green Flags/lights - "All clear to race"

White Flag with Blue Dot (Starting Marshal) - "Warning! Oil or debris on Track".

Yellow Flags/lights - "Slow down to not more than 15mph - there is a problem on track somewhere. You must not overtake the car in front, keep line astern, continue like this until either Green or Red Flag is shown. If at any time the Pace Car is on the track drivers must not overtake that Pace Car unless instructed to do so the by the Pace Car Driver.

Black and White Chequered Flag (Starting Marshal) - "Race Winner", but keep racing until the red flags are shown to end the race.

White Board with Black Cross, shown in conjunction with Black Board with driver's number - "Driver has possibly committed an offence - shown by STARTING MARSHAL. Driver should continue racing.

Black Flag, shown in conjunction with the Black Board and driver's number - Leave Track". Shown by STARTING MARSHAL.

White Flag with Red Cross, shown in conjunction with the Black Board and driver's number – Mechanical Failure - Leave Track". Shown by STARTING MARSHAL.

Please note that all of the above rules are subject to change in respect of Health & Safety requirements.

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REVISED RULES FOR 2010 IN BOLD/ITALIC PRINT

ITEMS MARKED ~~STRIKETHROUGH~~ ARE NO LONGER ALLOWED

2010 Incarod Technical Specifications, Issue 1, Dated 28th January 2010