

# **SUPERCAR TECHNICAL REGULATIONS 2010**

## **20. INTRODUCTION**

The following Technical Regulations are set out in accordance with the specified format and it should be clearly understood that if the following text does not clearly specify that you can do it should work on the principal that you cannot.

## **21. DESCRIPTION**

The Supercar championship is for competitors participating in the vehicles as designed by SHP Motorsport limited and built expressly to comply with the championship regulations.

## **22 SAFETY REQUIREMENTS**

22.1 Safety Roll-over Structures will be supplied as a standard with the car kit.

22.2 Safety harness may be of four or a six point type with a quick release buckle. The minimum shoulder strap size is to be 2" for the drivers weighing less than 175 lbs. 3" wide belt are advised and are compulsory for driver weighing more than 175lbs.

22.3 All bolts and eyes used to fix harness to the floor must be a minimum of 10mm in diameter and fitted with a minimum of 10 gauge reinforcement plate which is to be welded to the chassis.

22.4 The fire extinguisher must be an approved plumbing in type. The reservoir must not be a mounted in front of the drivers seat. The mountings are to be strong enough to resist the rigors of Supercar racing and ideally bolted to the chassis. The pull cable or button must be placed beside the electrical cut-out switch, which is positioned just in front of the windscreen on the left hand side of the car, and be clearly marked. The cable / button inside the car must be within easy reach of the driver. The safety pin must be removed at all times when on the circuit.

## **23. GENERAL TECHNICAL REQUIREMENTS**

23.1 fuel tanks will be free. The tank must be fitted with a ventpipe or pipes with have non return valves fitted. The fuel tank must remain in it original position and may be fitted with removable brackets.

23.2 The only petrol permitted is that which is bought from a Roadside Service Station and can only be Unleaded. This is to be used as purchased with no additives what-so-ever. Random fuel testing will be carried out throughout the season either at race meetings or at Supercar test days, practices or races.

23.3 Batteries must be confined to within the wheel base of the vehicle and must be fitted with appropriate covers and retaining brackets. If the battery is fitted inside the vehicle it must be of the dry cell type. A battery master isolation switch or pull cable must be fitted and positioned externally just in front of the front windscreen, to the left hand side of the vehicle and clearly marked. There also must be a facility for the driver to operate the isolation switch from the driving position.

23.4 An alternator must be fitted to the engine and must be operational at all times. The pulleys may be changed to vary speeds and different belt configurations may be used.

23.5 LED / digital dashes and data logging systems are acceptable.

23.6 A facility to record lap times is permitted to be fitted to the car

23.7 The use of any two or one way radios to communicate between the pits and the car is expressly forbidden.

23.8 The car must be fitted with the two front headlights and indicator lamps as fitted to Ford Mondeo 2002 model. It must be fitted with two rear light clusters as fitted to Ford Mondeo 2002 model. The Front lights and rear lights must run on one switch, brake lights must be working. The rain light may be on the rear lamp cluster or inside the rear window.

23.9 A rearward facing high level brake light of the anti-crash type, working in conjunction with the original brake lights must be fitted to the centre of the rear screen minimum 21 watts. Width surface area, minimum 20mm<sup>2</sup> maximum 40mm<sup>2</sup>.

23.10 For the 2010 season the use of custom fitted air jacks is permitted.

23.11 At the start of each event practice or race, each car will be presented in a manner that represents the formula. The eligibility scrutineer reserves the right not to issue the relevant paperwork to allow the car to be scrutineered if it is felt not to be of an acceptable standard of preparation.

**23.12 *The engine shall be a control unit supplied by either Scholar Engines or Merlin Developments (Burton) Ltd to the following technical specification.***

***Base engine Ford Zetec 2 litre NGA Cylinder head relevant to the NGA engine casting No's 958M6090-CC 958M6090-CG Standard Ford valves or pattern part equivalent only permitted. Single and triple groove collets valves allowed.***

***Inlet valve size 32.1 max***

***Exhaust valve size 28.1 max***

***Stem diameter 6mm max.***

***Cam follower bore must remain at 28mm diameter. Hydraulic followers may be modified to solid to a max diameter of 28mm.***

***Uprated valve springs are allowed but only single springs are permitted. Standard spring retainers must be used .Length 1.695in. Standard Retainers and cotters***

***Standard Ford Zetec cast iron valve guides are only allowed I.D of 6.05mm max.***

***Standard Ford type or pattern part valve stem seals are only allowed.***

***Standard cast iron valve seats are only allowed.***

***Uprated head bolts allowed.***

***Inlet camshaft Piper1323. Exhaust camshaft Piper 1324.***

***Cam Inlet lift 0.460 and exhaust lift 0.422.***

***Only standard camshaft pulleys are allowed. No doweling of pulleys is allowed.***

***Head porting is allowed within the restrictions of valve sizes.***

***Combustion chambers are allowed to be modified to a max of 49cc.***

**Compression ratio 12:1 max.**

**Standard Ford crankshaft only allowed, stroke of 88mm. Regrinding of crankshaft to first oversize is allowed. Balancing is allowed, this may be achieved by spot machining, either hand grind, drill or machine. Minimum weight 1360gms.**

**Uprated rods are allowed but to standard rod specifications only. Approved steel conrods are permitted but must be replicas of the original in dimension. Only steel material is allowed**

**Standard specification rod centres of 136.1mm**

**Small end diameter of 13/16 inch (0.8125in), 20.6375mm.**

**Big end diameter of 1.9650 in, 49.910 mm**

**Piston with 3 rings maximum 86mm diameter. Minimum weight for piston rod assembly 975 grams. Dry sump allowed. Pace Products Zetec mode 2 system. Internal oil pump must be used. It is permissible to adjust pressure. Standard Ford Zetec flywheel only permitted. Lightening is allowed to a min. weight of 5.75 kg. Standard flywheel bolts are only permitted. Clutch: Single plate 215mm dia. Plate and cover otherwise free. Standard water pump only permitted. Must be fully functional at all times. No electrical pumps allowed. Zetec 1.8ltr water pump part no 1317021. Throttle bodies: Jenvey 118mm DCOE part no TPS45i. 45mm dia and 118mm long only permitted.**

**Inlet manifold: Any DCOE pattern Dunnell and or Merlin type. Porting is permitted.**

**Dowling of manifold to cylinder head is not allowed. Injectors: Bosch 440cc injectors only permitted. Part no. 0280155830**

**Trumpets of length of 40mm and diameter of 45mm are only permitted.**

**ECU must be EFI euro and mapped by either or Scholar engines or Merlin Developments (Burton) Ltd. Maximum rev limit 7,700 It is permitted to externally paint the engine and all components. No other coatings are permitted on the engine unless specified. Anything that is not mentioned is not permissible unless approved by the series scrutineer. All machined dimensions are subject to the relevant manufacturing tolerances.**

23.13 Competitors and teams have to submit components and specification changes prior to them being used in writing to the eligibility scrutineer. They will or will not give authorisation as they see fit. The Irish touring association reserve the right to exclude any component or development changes if it is felt that these changes are not in the spirit of the sport or will adversely affect the formula in any way what-so-ever. The class scrutineer has the right at any time to exchange any part of item on the car that is a controlled unit with a new replacement. This will be done to check the authenticity or specification of the original item concerned. The parts or item may not be returned.

## **24. CHASSIS**

24.1 the only chassis permitted to be used is that supplied under license from SHP motorsports Ltd. The vehicle concept and design must not be changed in any way or form. No material may be added or removed. All relevant brackets must be retained in their original positions with no extension or adaptors to allow for different applications. The brackets are to be used as originally intended.

24.2 A sump guard may be fitted under the sump only. It must be fitted tightly to the chassis rails and have no gaps. No aerodynamic devices may be fitted to the vehicle whatsoever. This includes any areas under the line of the chassis rails.

It is not permitted to drill or cut any type of holes into any parts or the chassis or bracketing systems nor any components that are supplied under contract by the licensed supplier for any reason especially lightening, acid dipping, bead and sand blasting of any component is not allowed.

### **24.3 Deleted**

24.4 It is permitted to weld a support bracket onto the rear bumper to support the new boot lid and spoiler assembly.

24.5 The rear bumper bar may be extended to allow for the current bodywork. The extension may be no more than 170mm from the existing bumper frames. The tubing must be 25mm thick or less with a wall thickness of no more than 2mm.

## **25. BODYWORK**

25.1 The only body kit allowed for the **2010** championship is that approved by the Irish touring car association. ***The body kit carries authorisation of copy rights and must not be modified in any way or form. Panels are not permitted to be thickened or lightened or to be reproduced by any other company or persons other than approved by the ITCA.*** No panels may be bonded together to form one piece either at the front or rear. Stringent checks will be carried out to prove the authenticity of the panels and their thinness or thickness. It is permitted to repair damaged bodywork. ***The rear bumpers may be modified in 2010 subject to the ITCC committee's approval.***

25.2 The body panels may not be bonded or modified in any way.

25.3 Cooling ducts are fitted into the front panels. Radiator airduct part no. CR27. These are the only ones allowed. No other ducts, apertures or holes are permitted in any other panels. It is permitted to fit openings in the windows for cooling and releasing the air pressure within the car.

25.4 The door panels must be fitted as original specification.

25.5 the bonnet must be fitted with at least 5 bonnet pins, two at the rear and two at the front and one at the centre of the front grill where it meets the bumper. The rear cover must be fitted with at least four retainers and must be in the shut position at all times.

25.6 The rear wing and brackets must be fitted as supplied but additional holes may be drilled to facilitate adjustment.

25.7 At all times the presentation of the car must be in keeping with the image and profile to which this formula has been marketed.

25.8 The windscreen must be fitted at all time. It must be in a condition where vision is not impaired by scratches, cracking, chips etc. and is suitably clear at all times when racing. It must be laminated and it is permissible for an electrically heated type to be used.

25.9 The vehicle must be fitted with a windscreen wiper system which clears the required area to the front of the driver. It must be operational at all times.

25.10 The fitting of rear view mirrors one interior and one on each side externally is compulsory. These should be in keeping with the presentation of the formula.

25.11 All cars must be fitted with towing eyes on the front and the rear of the car which must not protrude outside the lines of the body panels. The towing eyes **MUST** be bright in colour and clearly defined. They must be connected to the main chassis and be of suitable strength to stand the full weight tow of the vehicle.

25.12 Only competition seats are permitted. They must be fitted with approved mounting brackets. The seat must be firmly attached to the chassis. Head restraints are compulsory and must be built into the seat. The minimum height of the rest is to be the centre of the driver's eye level. **For 2010 season Hands devices are recommended.**

25.13 Wheel liners are permitted to prevent condensation within the cars.

## **26. ENGINE / GEARBOX MOUNTINGS**

26.1 The engine and gearbox mountings are fitted by licensed chassis instructor. No modifications to the mountings themselves or the mounting points are allowed. These positions must be maintained as per SHP.

26.2 Oil / water cooling:

All radiators or cooling fluid retainers must be forward of the front blockhead. The radiator may be made of steel or aluminium but must be mounted on the original production brackets welded into the chassis. This must be done without the use of adaptors. The radiator must be fitted to the cooling system or associated devices must be within the eternals of the engine bay.

26.3 Induction system:

Air filters foam type must be used at all times.

## **27. EXHAUST SYSTEMS**

The only permitted exhaust manifold and front pipe is the one approved by the ITCA. The exhaust must have one large silencer fitted and it must exit through the rear bodywork provided and as supplied by SHP Motorsport.

## **28. SUPENSIONS**

28.1 All suspension has to be used as supplied by the licence chassis constructor. The suspension components, including the axel configuration, pick up points, mounting brackets and the design of parts, can not be modified in any way or form except for rose joints which may be substituted for an exact copy in a different material specification. Reproduction parts must not be used. Lock nuts and suspension rubber bushes must remain a standard size, rear suspension arm bushes, part no. powerflex PFR 19-111 must be used. No rose joint or metal bushes allowed. Rear sub frame camber and track eccentric bolts are permitted.

28.2 Springs must be a single piece unit 2.25" ID type 9" length. Rates are as supplied by ITCA 550lbs front, 200lbs rear. No modifications what-so-ever are allowed.

28.3 Anti roll bars must be mounted on the same chassis brackets using the same alloy blocks and same adjusting system not adjustments or modifications are allowed. No roll bars or shock absorbers may be adjustable from the drivers seat. The only roll bars

permitted to be used are those supplied by SHP Motorsport front roll bar no.6 or 4, rear bar no.2 only.

28.4 The only permitted shock absorbers are those supplied under license from **Leda suspension Harvey Daily Engineering and or Gas**, a controlled unit built to Supercar specification. These must not be revalved, restroked, have the oil changed or be modified in any way or form.

28.5 The only bump stops allowed are those supplied by Harvey Daily and are 50mm in length. It is not permitted to modify or to cut the bump stops in any shape or form.

28.6 The front track width is 1760mm  
The rear track width 1725mm  
The total wheel base, centre to centre is 2413mm. This measurement is read from the side wall of the tyre at the point of contact to the ground

#### 28.7 Ride height

There must a minimum clearance of 75mm under the car within the wheel base

### 29. TRANSMISSION

29.1 **The only gearbox permitted is the quaife 6 speed / sierra sequential gearbox.** The casing can be made of either aluminium or cast iron. The only ratios allowed are as follows

1<sup>st</sup> 2.647

2<sup>nd</sup> 2.12

3<sup>rd</sup> 1.618

4<sup>th</sup> 1.337

5<sup>th</sup> 1.151

6<sup>th</sup> 1.0

The prop shaft must be one piece, steel type with a minimum size of 2.5" diameter and appropriate universal joints to suit.

**The fly wheel is part of the engine as supplied by the engine provider** and must not be changed or modified in any way. The starter motor must be mounted in the stand up position forward of the bell housing and operational at all times.

29.2 The aluminium parts permitted in the transmission unless fitted as standard, is a thick gearbox covered top and casing to give additional strength to the gearbox.

29.3 The clutch unit will come fitted to the control engine. This can be replaced with an uprated unit once it remains a single plate type and conforms to the dimensions of the original.

29.4 No other additional electronics may be fitted within the engine management system, which would facilitate the engine to operate traction control.

### 30. DRIVE

30.1 The only rear differential permitted is a 7" as fitted to a ford sierra. The differential must be located by the original links and pick ups. It is permitted to insert a removal section in the rear axel beam to facilitate prop shaft removal. LSD's are allowed ZF,

gripper or tranx, but no drop gear type differentials are permitted the only permitted final drive ratio is 3.92:1

The material content and the sizes of the differential splines of the half shafts are free but must be a direct replacement not changing the original design or characteristics of its operations.

### **31. BRAKES**

31.1 The only permitted brakes are as approved by the ITCA part no. 2:

Front brake calliper is willwood four pod superlite part no. 120-3194 (1.38) RLH. **Cooling of the front brakes by means of simple ducting from the front bumper hole is allowed or deflection of air from the front wishbones.**

Rear brake calliper is willwood dynalite part no. 120-8724.

It is permitted to fit 10mm thick support brackets to the rear callipers.

Rear brake disk- Lockheed part no. bg2376-8pex DSK 123. Solid disk, no grooves or lightening of disk allowed.

31.2 The brake pad and its material content are free.

31.3 No form of handbrake is permitted on the vehicle

### **34. WHEELS / TRACK**

34.1 The only permitted wheels are those manufactured by compomotive wheels and specifically designed for the supercars. Wheels are available through the approved ITCA supplier or direct from the manufacturer. The part no. is MO1570-D / MO1571 / D

34.2 The dimensions of the wheels are 7" by 15" and may not be modified by any way of form.

34.3 It is permitted to fit a wheel spacer to the rear wheels up to 10mm in size.

34.4 Track

The minimum track permitted is 1760 mm on the front and 1725mm on the rear.

### **35. STEERING**

35.1 The only steering system permitted is that supplied as original equipment, there may not be any additions made to it or any modification other than shim spacers between the jack mounting blocks and the chassis mounting. The type of quick release steering wheel assembly is free and collapsible column spacers are acceptable.

The fitting of steering wheels of different types / sizes / of sets is allowed as is collapsible columns adaptation.

### **36. TYRES**

36.1 The only tyres permitted are from Dunlop as specified.

36.2 These may not be cut or altered in any way from that supplied by the manufacturer. No tyre may be buffed, trimmed, faced or by any mechanical or hand held device whatsoever. Tyre warmers, space heaters or any similar devices for heating or softening the car compound are not permitted at any time. The use of any chemical mixture that is placed in the vicinity of, or applied to the tyre that would restructure the compound of the tyre, is also prohibited.

36.3 Test tyres are limited to **4** tyres per season.

36.4 Each **car** is allowed to nominate 4 new tyres for each 2 consecutive championship counting events. If a **car** does not participate in a championship event the tyre allocation for that event is lost. Any log tyres are free to be used when chosen. Please refer to article 36.6 regarding the use of replacement of tyres. A used tyre is defined as a tyre which has been previously nominated on a tyre form at a previous round. For the first round this will be under the discretion of the championship co-ordinator or scrutineer. All other tyres are deemed to be new tyres.

36.5 Each **car** must nominate, on the form provided by the ITCA the manufactures no. of the tyres for the use of that event. This form must be handed to the scrutineers prior to the start of the first qualifying session. The nomination of tyres is specific to the **car**.  
**Remainder deleted.**

36.6 The replacement of tyres is subject to the prior agreement of the series illegibility / safety scrutineer

### **37. WEIGHTS**

37.1 The weight of the car with the driver must be a minimum of 965 kg.

37.2 The weight of a car can be checked at any time during a race meeting, practice or post race scrutineering at which time no fluids or materials may be added or taken away. Where ballast has to be added to bring the car to a regulation weight, **this may only be positioned in the bracket provided by ITCA in the passenger footwell.**

37.3 A weight penalty will apply as follows:

15 kg per race win

10 kg per second place

5 kg per third place

**A maximum weight penalty of 30 kgs will apply to any one car at any one time. If a car has a minimum weight of 995Kgs with driver then that car does not need to add ballast as per rule 37.3.**

The weight is applied for one event and is lost in the reverse order after the next event. Therefore if you receive a penalty weight in one event you keep same for the next event and then lose same for next event in reverse order. Therefore 30kg penalty weight received in event 2 is kept in place till after event 3 and so on.

### **38. NUMBERS AND SERIES DECALS**

38.1 Competition numbers must be fitted in accordance with MI regulations in conjunction with the super car ITCA requirements. The drivers name must appear on the rear side windows and the sponsors name will appear on the top front windscreen.

38.2 No advertising, colouring or obstructions may be added to any clear areas or glass other than those specified.

### **39 ELIGIBILITY**

39.1 Application of the Technical Regulations shall be made in accordance with the MI Technical and General Regulations and the instructions and directions of the scrutineers responsible for the championship. The onus is always on the competitor to ensure that his or her car complies with the technical regulations.



Any competitor whose car is found to be ineligible at any event will forfeit championship points Appendix "A".

**41 CONTACTS**

41.1 Class coordinator: Richard O'Mahony Tel 0872 580290  
Email [omeltd@eircom.net](mailto:omeltd@eircom.net)

41.2 Class scrutineer: TBA