

5.1 INTRODUCTION

- 5.1.1 The following Technical Regulations are set out in accordance with the MSA specified format and it should be clearly understood that if the following texts do not clearly specify that you can do it you should work on the principle that you cannot
- 5.1.2 All MSA General Regulations & Technical Regulations MSA Safety and Technical Regulations Sections J, Q and K apply as per the 2010 MSA Year Book. The general principle for eligibility shall be that the cars are modified versions of series Production Saloons, Hatchbacks, front or mid engined sports car models, including any original manufacturer produced or approved options for the year and models which were/are available from recognised dealer networks for the manufacturer, year and model and recognised variant. Also front engined Silhouette cars which have body shells based on and recognisable as those of mass production saloon and sports cars.
- 5.1.3 The onus concerning eligibility and provision of original manufacturer documented proof of eligibility shall rest with competitors at all times, and competitors are advised to check with the Eligibility Scrutineer if they have any doubts or queries concerning the eligibility of their cars

5.2 GENERAL DESCRIPTION

- 5.2.1 The BARC Intermarque League is for Competitors participating in Production and Production based Saloon, Hatchback and Sports cars.
- 5.2.2 The class structure will be as follows:-
- 5.2.2.1 CLASS A:
- Unlimited c.c. and Four Wheel Drive Vehicles. Modifications only as per these Technical regulations.
 - Two-wheel drive manufactured race saloon cars & saloon cars built or fitted with transaxles, unless originally homologated for that model, cars fitted with non-standard engines [post production etc].
 - Any vehicle that has previously raced in any BTCC, Super Touring, DTM, ETCC or WTCC race, or be deemed by the coordinator to be of such a specification must enter class A
 - Production Sports and Kit Cars over 2001cc or forced induction.
 - Silhouette cars with multivalve engines other than those complying with regulations for class SR, or cars built to "T CAR" regulations or with forced induction or engines exceeding 6cylinders
 - Saloon cars over 4500cc dual valve
 - Saloon cars over 3200cc multi valve
 - Guest cars not fitting any other class, accepted only at organisers discretion
- 5.2.2.2 CLASS B:
- Saloon Cars up to 4500cc dual valve
 - Saloon cars up to 3200cc multi valve
 - Saloon cars over 1601 cc forced induction
 - Production Sports and Kit Cars from 1601cc up to 2000cc
 - Cars built to and complying with 'T car' regulations
- 5.2.2.3 CLASS C:
- Saloon Cars up to 2000cc: multi-valve
 - Saloon cars up to 3000cc dual valve
 - Production Sports and Kit Cars up to 1600cc
 - Saloon Cars up to 1600cc: forced induction

- Silhouette cars with dual valve engines up to 6 cylinders

5.2.2.4 CLASS D

- Saloon Cars up to 1600cc: dual valve

5.2.2.5 CLASS SR:

- Cars complying with class SR regulations

5.2.2.6 CLASS TA:

- Cars built to Tiger sports car regulations featuring modified Zetec engines and LSD

5.2.2.7 CLASS TB:

- Cars built to Tiger sports car regulations featuring, unmodified Zetec engines or modified "pinto" engines no LSD's

5.2.2.8 CLASS TC:

- Cars built to Tiger sports car regulations featuring Duratec engines

5.3 SAFETY:

5.3.1 All MSA Appendix Section K Safety Criteria Regulations apply as relevant.

5.4 General Technical Requirements & Exceptions:

5.4.1 The series is to cater for Hatchback, Sports and Saloon cars which have been derived from cars homologated in FIA Appendix 'J' Group A (N) or Appendix 'J' 1981 Group 1, or from any Car which the MSA has verified as having been produced in minimum homologation quantities

5.4.2 This series is open to any cars designed for road use with a minimum production run of 250 cars or cars derived from cars designed for road use with a minimum production run of 250 cars or a Vehicle originally available through normal commercial channels of the manufacturer in quantities of not less than 100 vehicles within 12 consecutive months.

5.4.3 This series shall include Silhouette cars based on production body shell shapes and recognisable as the make and model that the bodyshell is based on, or cars built to comply with 'T car' regulations

5.4.4 Any car not meeting any of these criteria may be accepted for the invitation (guest) class at the discretion of the organisers.

5.4.5 The class engine capacity may not be exceeded. Cars may only be entered for classes appropriate to the actual engine capacity, including equivalence for forced induction.

5.4.6 Hybrid or non-homologated cars based on non-standard chassis are deemed to be outside the definition of steel bodied saloon cars (as 5.1 above) and shall be classed at the discretion of the organising club

5.4.7 External identification of the model. All cars must be externally recognisable as the model as entered. Manufacturers' decals/badges can be removed but if they are retained they must relate to the model as entered, in particular badges relating to

engine capacity

5.5 CHASSIS:

- 5.5.1 All saloon cars except for Class A; the standard floor pan, sills, door surrounds, bulkheads and roof must remain exactly as produced by the manufacturer in construction, dimension and material.
- 5.5.2 All saloon cars except for Class A; it is prohibited to cut any holes or remove any fixed panels from the standard floor pan, front or rear inner or outer wheel arches, front or rear bulkheads (engine to cockpit and cockpit to boot) for the purpose of mounting or giving clearance to suspension components. Inner wheel arches may only be modified to allow the attachment of shock absorber mountings. Rear valence below rear wheel hub horizontal centerline may be modified or removed, provided rear floor pan remains intact and structurally sound.
- 5.5.3 All saloon cars except class A; front panels may be modified to allow fitting of or enlarged radiators, oil coolers or intercoolers. No added parts may intrude into the airflow or alter the silhouette above the front wheel hub centerline. It is only permitted to make holes for the passage of cables, fuel, water, oil, hydraulic, instrument or fire extinguisher line. All redundant holes must be covered with metal plates.
- 5.5.4 All saloon cars except for Class A; bulkheads and inner wings may only be modified to permit the clearance of the induction system. This shall be understood to include air induction ducting, manifolding, and trumpets, ram pipes for engine carburation or fuel injection system only. A maximum clearance dimension of 75mm will be allowed.
- 5.5.5 Random inspection by the Eligibility Scrutineer and series Coordinator to all entries will be undertaken to identify excessive weight removal jeopardising potential safety of the chassis, shell and bodywork.
- 5.5.6 Reinforcing of the chassis is allowed in all classes.
- 5.5.7 The removal of under body sealants is permitted.
- 5.5.8 Minimal modifications to floor pan to allow the fitting of an exhaust silencer to MSA requirements (No structural modifications permitted)
- 5.5.9 Minimal modifications to floor pan to allow the fitting of a fuel tank or safety cell. (No structural modifications permitted)
- 5.5.10 Silhouette cars must maintain the silhouette of the named saloon vehicle it is based on – and will be accepted at the discretion of the organising club.
- 5.5.11 Cars raced previously under specific regulations – i.e. VSR, Silhouette or T Cars etc must continue to be presented in that format except for any modifications expressly permitted by these regulations. No other modifications are permitted.

5.6 BODYWORK:

- 5.6.1 Silhouette cars are free in body shell and chassis construction subject to being externally recognisable as a production based saloon or sports car, and complying with MSA safety and construction regulations
- 5.6.2 With the exception of the following, no modifications are allowed to external or internal body panels, chassis, or unitary construction:

(a) Vehicles in Class A only:

Modification to the floor, bulkhead panel, and front inner wing panel is permitted to allow for Engine and Transmission. These modifications will be checked when the vehicle is presented for scrutineering.

(b) Vehicles in all classes:

Replacement of the front and rear wings (wheel arch panels) and front body panels by lightweight material panels is permitted providing they exactly retain the standard silhouette in side elevation. Boot lid and door panels may be replaced by lightweight material providing they exactly retain the original standard shape and outline. Bonnet side profile may be modified to a maximum of 120mm. Bumpers may be removed or modified provided the silhouette above the wheel hub centreline retains the original body profile

NOTE 1 (for the purpose of defining 'wheel arch panels'):

'Front' is defined as a point forward of the baseline of the windscreen.

'Rear wing' is defined as being in the area below the baseline of the windows and rearward of the line of the rear most side door opening.

(c) The removal of all exterior chrome/decorative parts is allowed with the exception of the complete radiator grill and headlamp trim.

(d) Standard wings (see (b) and Note 1 above), if retained, may be modified by working the original metal and/or fitting wing extensions

(e) It is permissible to cut holes in the rear wing extensions of 150sq.cm maximum to accommodate oil coolers. The holes must be parallel and vertical. Wheels and tyres must not be visible through the apertures. No part of the oil cooler may protrude outside the profile of the body panels

(f) Windscreens must be either laminated or of plastic. Plastic is permitted for side or rear windows. Any plastic material must be a minimum of 4mm thick.

(g) Saloon cars only:

Competitors may modify the front inner wings forward of the front bulkhead for purposes of additional cooling to brakes and engine, provided any front sub frame fitted is fitted with substantial additional bracing to ensure it is located in a rigid and structurally sound manner, acceptable to the event Scrutineers. In the case of any doubt as to the legality of any such modification, reference shall be made to any applicable single make racing technical regulations for that type of car. The Scrutineers decision is final and all competitors entering vehicles with modified front inner wings are advised to produce a set of such regulations at scrutineering if required.

5.6.3 Class SR only:

- Based on any recognised manufacturers production body shape of 2 or 3-door configuration.
- Maximum width 75" (1905mm)
- The bodywork between the centrelines of the front and rear axles may be no more than 2" (51mm) narrower than a line drawn between the widest point of the front and rear wheel arches.
- Spoilers are free but must fall within the following parameters:
 - a. Maximum overall width including end plate 75" (1905mm)
 - b. Maximum chord of 14" (355.6mm)
 - c. Maximum end plate size 14" (355.6mm) square.
 - d. No part of the spoiler including endplate must extend beyond the rear bumper line and must be no more than 5" (127mm) above the roof line
 - e. No part of the spoiler may extend beyond the plan view of the bodywork.

- Front splitters may be fitted but must not protrude forwards past the bumper by more than 4" (101.6mm) and must not be wider than the extreme body width of the car in plan view.
- Cooling ducts are permitted in the front panels. Any ducts must only feed air to the radiator and/or oil cooler and/or front brakes. Ducts must not extend rearwards beyond the front of the radiator with the exception of brake ducts. Wheels and tyres may not be visible through the ducts.
- Bonnets may have up to three ventilation apertures up to a maximum of 54sq in (35000sq mm) each. These apertures must not feed air to any mechanical component and must have a grille fitted.
- Louvre vents up to a maximum size of 5" X 8" (127mm X 203mm) in each location may be added to the top and/or rear of the wheel arches. They must blend in with the surrounding bodywork. No part of the wheel/tyre or mechanical components may be visible through the louver.
- No other non standard ducts, apertures or holes are permitted in any other panels, only those detailed above.
- The appearance of Head, Tail and Indicator lamps must be defined by graphics.
- The doors must be either hinged or retained by 4 pins/"R" clips both sides. If the doors are retained by pins the "R" clips must be linked together and defined as a releasing system (and capable of working as such; this may be tested at scrutineering). A clear notice must be applied to the outside of the door panel clearly defining the method of opening.

5.6.4 INTERIOR:

- 5.6.4.1 The drivers seat is unrestricted subject to complying with MSA safety regulations
- 5.6.4.2 It is permitted to remove the floor carpets, underfelt, sound insulation, head lining, the rear seats, and the front passenger seats.
- 5.6.4.3 It is permitted to carry out modifications on the window winders, instrument panel and all the driving controls.
- 5.6.4.4 The driver must sit on the same side as in the original car and be located completely to one side of the centre line of the car.
- 5.6.5 Ground clearance;
The car may be lowered. The minimum ground clearance is as defined by MSA regulation J5.20.11., as 40mm.
- 5.6.6 Wheelbase;
The wheelbase must remain as per the original car within a tolerance of 5mm.

5.7 ENGINE:

This Series is established for front and mid engined vehicles only. Amendments and alterations to engine arrangements within these regulations do not permit the relocation of the engine to the rear of the chassis/shell. Only front and mid engined vehicles are eligible for this Series.

- 5.7.1 All cars except class SR and 'T cars' in class B:
Engine and all internal modifications are free provided it is a mass production unit

produced by a major car manufacturer.

- 5.7.2 The engine crankshaft must remain the standard manufacturers crankshaft, the only machining permissible is localised to enable balancing, or regrinding to repair worn crankpins. Offset grinding the crankshaft to alter stroke length is prohibited
- 5.7.3 Engines maybe rebored to a maximum cylinder size of 1.5mm oversize irrespective of the effect this has on engine capacity. Other than reboring, no modifications are permissible to cylinder block.
- 5.7.4 Dual-valve engines are defined as having one inlet valve and one exhaust valve per cylinder. Multi-valve engines are defined as having more than one inlet or exhaust valve per cylinder.
- 5.7.5 Connecting rods are free
- 5.7.6 Alloy flywheels are prohibited
- 5.7.7 Cylinderhead must be the original type for the cylinder block. Cylinderhead may be modified subject to the following restrictions:
- No material may be added
 - Valve guides must remain in the originally manufactured positions.
 - Valves are free however valve head diameters must not exceed the manufactures original size for the engine
- 5.7.8 Engine location (Class SR only):
The measurement will be taken from the rear face of the bare cylinder block to the centreline of the rear axle. The minimum measurement will be half the wheelbase of the car plus 30" (762mm).
- 5.7.9 Oil coolers and additional water radiators are permitted providing they are located within the periphery of the bodywork.
- 5.7.10 Forced induction is allowed.
- 5.7.11 Forced induction systems can be removed and replaced with carburettors or fuel injection systems and the model reclassified (provided the original vehicle on which the car is based was available in that induction format).
- 5.7.12 Turbo charged cars: cars with 2 injectors per cylinder to run in class A. Cars with 1 injector per cylinder eligible for all other appropriate classes. This is only applicable to injectors supplying fuel NOT injectors used to control boost pressure.
- 5.7.13 Electrical generators must be fitted and in working order
- 5.7.14 Class SR only:
The engine must be mass production 4 cylinder 2 litre, maximum 4 valves per cylinder normally aspirated

5.8 SUSPENSION:

- 5.8.1 Class A unrestricted
- 5.8.2 Class B-E:
Unrestricted but standard pick-up points must be retained although not necessarily used. Additions or modifications of springs, shock absorbers, and suspension heights are permitted. The fitting of adjustable suspension components and Watts linkage is

permitted. Rear sub-frames, used for suspension and brake components only, may be removed. (Regulation 5.5.2 above applies)

- 5.8.3 For live axle RWD steel monocoque bodied saloon cars is permissible to adapt the floor pan to accommodate additional axle location link, but the standard pick up points must be retained. (Regulation 5.5.2 above applies)

5.9 BRAKES:

- 5.9.1 Brakes are unrestricted with the exception of brake disc material, only steel or cast iron are permitted.

5.10 WHEELS and TYRES:

- 5.10.1 Maximum wheel width limits apply to capacities (Except class SR):

Up to 1300cc	1301 to 1600cc	1601 to 2000cc	2001cc and above
10.0in	10.5in	11.5in	13.0in

- 5.10.2 For Classes A - E: Wheel diameters are free.

- 5.10.3 CLASS SR only:

Wheels must be 10x 13" non centre lock type. Tyres are free subject to them being suitably sized for the wheels

- 5.10.4 Irrespective of the maximum size allowed, the wheel/tyre combination must fit within the confines of the allowable wheel arch/bodywork modifications outlined in Section 5.6 above.

- 5.10.5 Tyre Specifications:

Maximum size must be within tyre manufacturers' recommended specifications to suit the wheel rim width. The type of tyre is free.

- 5.10.6 The use of tyre heating/heat retention devices, tyre treatments and compounds is prohibited

5.11 TRANSMISSIONS:

- 5.11.1 Class B-E (Class A is free):

Differential and gearbox are unrestricted providing that they remain in the original location within 5cm. Except in Class A, transaxles and carbon fibre propshaft/driveshafts are prohibited unless fitted to the original homologated model.

- 5.11.2 All classes except class SR and class B "T cars": Sequential gearboxes are permitted

- 5.11.2.1 Cars fitted with sequential gearboxes shall have a 50% multiplication factor applied to the engine capacity, i.e a 2000cc car fitted with a sequential gearbox shall be reclassified as having a 3000cc engine

- 5.11.2.2 For the purposes of the series, any gearbox which is operated other than by a conventional gear lever working in a normal "H" pattern will be classified as a sequential gearbox

- 5.11.3 Class SR:

- 5.11.3.1 Gearbox is free other than being limited to a maximum of five forward gears and must be fitted with an operable reverse.

5.11.3.2 Only a live axle is permitted

5.11.4 Prohibited Modifications:
Any form of traction control device other than limited slip or locked differentials.

5.12 EXHAUST:

5.12.1 Class A – E:
Exhaust systems are free provided MSA maximum decibel requirements are not exceeded.

5.12.2 Number not used

5.12.3 Noise levels:
A limit of 105db applies to all classes

5.13 IGNITION SYSTEMS:

5.13.1 Class SR only:
Ignition system is free but must incorporate a MBE 956 or 967 electronic control module and harness incorporating a checkable rev limit of 8000rpm. This rev limit must be checkable at the event by the championship Scrutineer. The module will be sealed and must not be altered in any way. The module, harness and download port must be clearly visible to the Scrutineer at all times. Ignition module boxes may be checked by the Scrutineer at any time.

5.14 FUEL SYSTEMS:

5.14.1 All fuel pumps and filters are free.

5.14.2 Class SR only:

5.14.2.1 Fuel injection and/or forced induction is not allowed.

5.14.2.1 Carburettor/s are free subject to a maximum choke size of 42mm.

5.14.2.1 An air filter must be fitted

5.14.3 Fuel Tank:

Any approved type of fuel tank or safety cell may be fitted provided it conforms to MSA safety requirements.

5.14.4 Tank Location:

Tank can be relocated in the boot area of the car with reasonable modifications to the boot floor to accept it. This does not mean removal of entire boot floor. Either a fireproof bulkhead (between the tank and the cockpit) or a sealed housing for the tank must be provided.

5.14.5 FUEL: All fuels listed in MSA competitors' yearbook 2010 as pump fuel.

5.15 STEERING:

5.15.1 Steering systems are free in all classes.

5.16 WEIGHTS:

5.16.1 **Class SR only:**

The weight of the car shall be a minimum of 830Kg with the driver on board.

5.19 MISCELLANEOUS:

- 5.17.1 The Car Specification elements of the Championship Registration documents must be fully completed and will form part of a declaration of the cars suitability to align with this series. This document should be with the car when presented for scrutineering.
- 5.17.2 If a workshop manual or manufacturers specification sheet specifically for the model being raced is not available, then a manual for the standard version of the vehicle with any other relevant supplementary information to prove the authenticity of the updated model would be acceptable. The onus is on the entrant to prove eligibility of the model.
- 5.17.3 All homologation papers, roll bar certificate (or confirmation of the ROPS specification and MSA approval if applicable) and evidence that the vehicle meets the definition of a 'production car' as per 5.4.1 & 5.4.2 above.

5.18 EXAMINATION OF VEHICLES:

- 5.18.1 The organisers (in addition to any other powers they may have under these Regulations) reserve the right before or after any race in the series to designate any one or more of the competing cars for special eligibility scrutineering. Upon such election being made the competitor shall immediately place the car under the control of the organisers and be deemed to have permitted all such scrutineering, examination and testing as the organisers may responsibly require to be undertaken.

The organisers have the right to:

- 5.18.2 Examine the car at the circuit for such period as they may reasonably require and take fuel samples and/or
- 5.18.3 Seal any part of the car for detailed examination at a post event location. If the organisers elect to conduct post-event eligibility checks on the car, the organisers shall endeavour to complete such checks prior to the next race in the series. If this is not possible, the results from the previous race remain provisional and the entrant must declare the sealed state of the car at future race meetings to the Clerk of the Course and Chief Scrutineer.
- 5.18.4 The sealed car and its components shall be presented by the competitor at their own expense at an agreed time/location for detailed examination within a specified period. The competitor will be advised in writing of the time, date and location of the subsequent testing or eligibility examination. Seals may only be broken under the supervision of an MSA official.
- 5.18.5 The overseen stripping of the engine or any other required component will be undertaken by the competitor and/or mechanic/technician nominated by the competitor.
- 5.18.6 The organisers reserve the right to re-inspect vehicles at any time during the course of the season, should there have been a regulation infringement or circuit incident
- 5.18.7 Competitors will be personally and solely responsible for ensuring that their cars

comply with their registration details and with these regulations for each event at which they are entered. Failure to comply in either respect will be a breach of these regulations. Queries concerning eligibility should be referred in writing to the organisers / coordinator/ series Eligibility Scrutineer at least seven days prior to an event entered, to permit a ruling in advance of any meeting at which it is intended to compete.

- 5.18.8 It is the competitors responsibility to ensure components are in a condition which permits sealing, i.e clean for paint seals or drilled fasteners for wire or plastic MSA seals.

PROVISIONAL