

2019 INTERMARQUE RACE SERIES

SPORTING & TECHNICAL REGULATIONS

2019 - Classic & Modern Motorsport Club (Southern) - Intermarque Series

1. SPORTING REGULATIONS - GENERAL

1.1 TITLE & JURISDICTION:

The Classic & Modern Motorsport Club (Southern) Intermarque Series is organised and administered by the Classic & Modern Motorsport Club (Southern) in accordance with the General Regulations of the Royal Automobile Club Motor Sports Association (incorporating the provisions of the International Sporting Code of the FIA), and these Series Regulations.

1.2 OFFICIALS:

1.2.1 Co-ordinator: Krissy Taylor, email: krissytaylor4107@hotmail.com Tel: 07976 929667 (no calls after 9 PM)

1.3 COMPETITOR ELIGIBILITY:

1.3.1 Drivers and Entrants must:

- (a) be fully paid up members of the Classic & Modern Motorsport Club (Southern) and
- (b) be Registered for the Series and
- (c) be in possession of valid Competition (Racing) B status Licence, as a minimum
- (d) *A professional driver, in possession of a valid Licence (featuring an E.U. flag) and medical, issued by the ASN of a member country of the European Union, or comparable country. ((H)26.2.1. applies)
- (e) *If participation in the Series requires absence from education a driver, in full time school education is required to have the approval of their head teacher and a letter stating such approval from their school in order to fulfil registration for the Series. A driver shall not take time out of their education to participate in motor sport without the prior written approval of their education establishment.

1.3.2 All necessary documentation must be presented for checking at all rounds when signing-on.

1.4 REGISTRATION:

- 1.4.1 All competitors must register for the Series by returning the Club Membership & Registration Form with the appropriate fee to the address contained within the registration document prior to the Final Closing date for the first round being entered, the initial closing date for the second to last scheduled meeting.
- 1.4.2 The Club Membership & Registration Fee is £99 made payable to Classic & Modern Motorsport Club
- 1.4.3. Registration numbers will be the permanent Competition numbers for the Series.
- 1.4.4 The Classic & Modern Motorsport Club (Southern) committee/co-ordinators have the right to refuse, suspend or withdraw any registration.

1.5 SERIES EVENTS:

- 1.5.1 The Series will be contested as follows:

Date:	Circuit:
6 th April	Silverstone National
27.28 th April	Brands Hatch (one day only)
25/26 th May	Snetterton 300
16 th June	Mallory Park
7 th July	Castle Coombe
4 th August	Brands Hatch *
28/29 th September	Brands Hatch (one day only)
12 th October	Lydden Hill

* entry to this event will only be accepted if at least 3 or 4 previous races have been entered

- 1.5.2 In accordance with MSA regulation D11.1 the organisers reserve the right to amend the published list of dates and rounds, in which case, all registered competitors will be informed of the amendments by Official Bulletins posted to the address specified on the Official Registration Form.

1.6 SCORING:

- 1.6.1 Competitors not registered for the Series may be permitted on an individual round basis and will:
- be deemed "Guest Competitors"
 - not qualify for Event awards
 - comply with the eligibility criteria as prescribed in Article 1.3 above, with the exception of 1.3.1. (b), as appropriate.

Admittance to the guest class is subject to approval by the Classic & Modern Motorsport Club Southern

1.7 **AWARDS:**

1.7.1 Presentations

Winners Caps or Garland and Trophies are to be provided for presentation at the end of each race or at the end of the meeting presentation ceremony. Prize money and bonuses, if any, shall be posted to the Entrants within 10 days of the results of each round being declared final.

1.7.2 Entertainment Tax Liability.

Prize money and Bonuses shall be posted to the Entrants within 10 days of the results being declared final after each round.

In accordance with current government legislation, the organisers are legally obliged to withhold tax at the basic rate on all payments to non-UK resident sportsmen/women and account to HMRC using form FEU1, the quarterly return of payments made to non-resident entertainers and sportsmen/women. That is, those persons who do not have a normal permanent residence in the UK. The UK does not include the Isle of Man, Channel Islands, or Eire. This means that, as the organiser, Classic & Modern Motorsport Club (Southern) is required to deduct tax at the current rate applicable from any such payments they may make to non-UK residents.

Under certain circumstances, it may be possible for competitors to enter into an agreement with the Inland Revenue to limit the tax withheld. Any application for such an arrangement must be made in writing and not later than 30 days before the payment is due.

For further information contact: - HMRC Personal Tax International, Foreign Entertainers Unit, St John's House, Merton Road, Liverpool L75 1BB. Tel: 0151 472 6488 Fax: 0151 472 6483.

2. **SERIES EVENT MEETINGS & RACE PROCEDURES**

2.1 **ENTRIES:**

- 2.1.1 Competitors are responsible for sending in correct and complete entries with the correct entry fee prior to the closing date for entries before each event.
- 2.1.2 Incorrect or incomplete entries (Including Driver to be Nominated Entries) are to be held in abeyance until they are complete and correct and the date of receipt for acceptance of entry purposes shall be the date on which the Meeting Organiser receives the missing or corrected information or fee.
- 2.1.3 Any withdrawal of Entry or Driver/Car changes made after acceptance of any entry must be notified to the Meeting Organisers in writing. D25.1.12. applies.
- 2.1.4 The Entry Fee for each event shall be specified on the entry form.

2.1.5 Reserves will be listed in the Final List of Entries published with Final Instructions or in a Bulletin.

2.1.6 The Classic & Modern Motorsport Club (Southern) committee/co-ordinators have the right to refuse any entries in accordance with MSA regulations H30.1.2 and H30.1.3.

2.2 **BRIEFINGS:**

Organisers should notify Competitors of the times and locations for all briefings in the Final Instructions for the meetings. Competitors must attend all briefings.

2.3 **QUALIFICATION PRACTICE:**

2.3.1 Should any Practice session be disrupted the Clerk of the Course shall not be obliged to resume or re-run the session; the decision of the Clerk of the Course shall be final.

2.3.2 Each driver shall complete a minimum of 3 laps in the car to be raced, and in the correct session, in order to qualify (MSA Regulations Q4.5).

2.4 **RACES:**

Should any race be disrupted the Clerk of the Course shall not be obliged to resume or rerun the race ((Q)5.4.)

2.4.1 All rounds shall take the following format. The minimum period of practice to be provided is to be as specified in MSA regulations in respect of circuit lengths. Race 1 (up to 15 minutes) - grid based on practice times; Race 2 (up to 15 minutes) - grid based on finishing order of Race 1. The organising club reserve the right to employ regulation Q12.9.1 (f) to determine the grid positions for race 2. Cars which retire from the first race but are able to race in the second race will be placed on the back of the grid in the reverse order of retirement. The standard minimum scheduled distance shall be 12 miles whenever practicable but should any race distance be reduced at the discretion of the Clerk of the Course or Stewards of the Meeting.

2.4.2 All rounds are multiple race rounds.

2.4.3 The procedure for qualification races is specified above.

2.4.4 A last lap board will be shown to all drivers indicating they are starting the last lap.

2.5 **STARTS:**

All races will be from a rolling start.

2.5.1 All race start countdowns are to have a minimum elapsed period of three minutes from the time all cars are released to form up on the grid to the start of

the Green flag Lap(s) in the formation as specified on the Track Licence for each circuit.

2.5.2 The minimum Countdown procedures/Audible warning sequence shall be:-

1 minute to start of Green Flag laps - Start Engines/Clear Grid.
30 Seconds - Visible/audible warning of the start of Green Flag lap(s).

2.5.3 The use of tyre heating/heat retention devices, tyre treatments and compounds is prohibited.

2.5.4 Any cars removed from the grid after the one-minute stage or driven into the pits on Green Flag lap shall be held in the pit lane and may start the race after the last car to take the start from the grid has passed the start line or pit lane exit whichever is the later.

2.5.5 Any drivers unable to start the Green Flag lap or start are required to indicate their situation as per MSA Regulation Q12.13.2 and any drivers unable to maintain grid positions on the Green Flag Lap to the extent that ALL other cars are ahead of them, may complete the Green Flag lap but MUST remain at the rear of the last row of the grid but ahead of any cars to be started with a time delay.

2.5.6 Excessive weaving to warm-up tyres - using more than 50% of the track width and falling back in order to accelerate and practice starts, is prohibited.

2.5.7 Towards the end of the Rolling Lap(s) the pace car will extinguish its roof lights indicating a start is imminent. The race will not start until the pace car pulls off the circuit at which point the two leading vehicles will continue at a similar speed and position on the approach to the start line. All cars will start racing when the signal lights or starting flag is shown as advised in the Supplementary Regulations/Final Instructions.

2.5.8 Aborted Start:

If the start is aborted prior to the pace car pulling off, the pace car will lead the field around the circuit for an additional lap and a new start will be attempted. The race will not start until the pace car pulls off the circuit, at which point the two leading vehicles maintain speed and position approaching the start line (3.6.8). If the start signal is not given, the grid will proceed around the circuit maintaining speed, and position to attempt another start At the discretion of the Clerk of the Course, the race distance may be reduced accordingly following aborted starts

2.6 **SESSION RED FLAG**

Should the need arise to stop any race or practice, RED LIGHTS will be switched on at the start line and RED FLAGS will be displayed at the start line and at all Marshals Signalling Points around the Circuit.

This is the signal for all drivers to cease circulating at racing speeds, to slow to a safe

and reasonable pace and to return to the pit lane, during practice, and to the starting grid area, during a race, unless otherwise directed by officials.

Cars may not enter the Pits unless directed to do so. Work on cars already in the Pits must cease when a race is stopped.

2.7 PITS, PADDOCK & PIT LANE SAFETY:

2.7.1. Pits & Paddock: Competitors must ensure that the MSA, Circuit Management and Organising Club Safety Regulations are complied with at all times.

2.7.2. Assembly Area/Pit lane: The other lane or lanes are to be kept unobstructed to allow safe passage of cars at all times. The onus shall be on all Drivers to take all due care and drive at minimum speeds in pit lanes and paddock areas

2.7.3. Refuelling: May only be carried out in accordance with the MSA General Regulations, the Organising Club Regulations, Circuit Management Regulations and the SRs or Final Instructions issued for each Circuit/Meeting.

2.7.4 Speed Limit: Pit Lane Speed Limit will be advised in the supplementary regulations or the final instructions.

2.8 RACE FINISHES:

After taking the Chequered Flag drivers are required to:

- i) progressively and safely slow down
- ii) remain behind any competitors ahead of them,
- iii) return to the Pit Lane Entrance/Paddock Entrance as instructed,
- iv) comply with any directions given by Marshals or Officials
- v) keep their helmets on and harnesses done up while on the circuit or in the pit lane.

2.9 RESULTS:

All Practice Timesheets, Grids, Race Results are to be deemed Provisional until all vehicles are released by Scrutineers after Post Practice/Race Scrutineering and/or after completion of any Judicial or Technical Procedures. (MSA regulation (D)26.3.)

2.10 TIMING MODULES:

2.10.1 All competitors will be required to fit Electronic Self Identification Modules to their cars for the purposes of accurate timing. Holders for these and detailed fitting instructions will be issued with the Modules and it will be the responsibility of the competitor to fit these in the car in the position and manner specified. The Modules must be in place and functioning correctly for all Series qualifying practice sessions and races. The setting and servicing of these items must only be carried out by properly authorised MSA Licensed Timekeepers. In the event of no official timekeepers being in attendance the grid positions for the first race will be based on current Series positions, or ballot if it is the first race of the year

2.10.2 Competitors may not place electronic timing equipment within five metres of the official Start, Finish, or any other official timing lines at any event or test session/day. Any such equipment placed within these zones will be removed.

2.11 **QUALIFICATION RACES:**

If any event is oversubscribed the Organising Club may at their discretion run Qualification Races.

2.12 **OPERATION OF SAFETY CAR:**

The Safety Car will be brought into operation and run in accordance with Section Q, Appendix 2 of the MSA General Regulations.

2.13 **ONBOARD CAMERAS:**

Will be mandatory in 2019. A forward facing video camera must be fitted for the purpose of improving safety.

- i) It is the competitors' responsibility alone to ensure the safe installation and effective operation of the camera equipment.
- ii) The camera must be mounted on the roll cage in accordance with GR J5.21.3 and in a "central to left" position where the field of view should not be obscured by the rear view mirror
- iii) The camera must be fitted in accordance with GR5.21.5 and Scrutineer may insist on additional tethers being fitted
- iv) The camera must be switched on and recording at all times that the competitor is on track and a "clean" memory card must be used at each meeting. It must be possible to play the footage on a laptop computer so "windows" format is preferable.
- v) Footage from the camera must be made available to the Clerk of the Course, Stewards and/or the club driving standards team upon request. It is their sole discretion to view camera footage or not.
- vi) The club has the right to ask for the video footage to be made available to them for up to two weeks after any meeting
- vii) In the event that no footage is available (other than due to a proven defect with the equipment, where the burden of proof will lie with the competitor) the following penalties will apply:
 - 1st offence - a written warning from the club
 - 2nd offence - a fine of £50 payable to the Marshals Fund
 - 3rd offence - referral to the Series Stewards for additional sanctions which will include a meeting ban.

If video footage is deliberately withheld this will result in a Series ban.

2.14 **DRIVING STANDARDS:**

2.14.1 Any competitor who is reported to be involved in cases of contact, which in the opinion of Officials is avoidable, may be subject to the following immediate penalties:

- 2.14.2 During practice and/or qualifying: The competitor concerned may be Black Flagged and may be prevented from taking any further part in that session
- 2.14.3 During race: The competitor concerned may be penalised by way of a drive through penalty in accordance with MSA Regulation Q.12.6.
- 2.14.4 Any competitor's car which is competing with an onboard camera, must make the footage available to the clerk of the course if requested.
- 2.14.5 Any Competitor may be called before the Series Stewards who at their discretion may take further action against the Competitor. This may include, but is not limited to, a fine to a maximum of £10,000 or exclusion from part or all of the Series.
- 2.14.6 If any driver is involved in contact/bad driving (MSA regulation C1.1.5) or abusive behaviour (MSA regulation C1.1.9) they may receive additional penalties on top of any issued by the clerk of the course. This could result in exclusion from the Series or refusal of registration the following year.

3. SPECIFIC SERIES REGULATIONS

Please refer to Section 2 above.

4. SPECIFIC SERIES PENALTIES:

In accordance with Section C of the current MSA Yearbook and the Classic & Modern Motorsport Club (Southern) Series regulations

4.1 INFRINGEMENTS OF TECHNICAL REGULATIONS:

- 4.1.1 Arising from post practice Scrutineering or Judicial Action: Minimum Penalty: The provisions of MSA Regulations: C3.3.
- 4.1.2 Arising from post race Scrutineering or Judicial Action: Minimum Penalty: The provisions of MSA Regulations: C3.5.1 (a) and (b).

For infringements deemed to be of a more serious nature the Clerk of the Course will invoke the provisions of Regulation C3.5.1 (c). Any competitor whose vehicle is excluded from the results in accordance with 4.1.1 or 4.1.2 will be subject to the following Series penalties;

- a) The event will be counted as one of the events contributing to their Series score and
- b) The competitor will be excluded from the event

4.2 ADDITIONAL SPECIFIC SERIES PENALTIES:

Infringements of non-technical MSA Regulations & the Sporting Regulations issued for the Series as per current MSA Judicial Procedure Regulations plus:

At any meeting, event, official qualifying or race, where any competitor shall be found guilty of any of the following offences. The offences are;

- a) Driving in a manner incompatible with general safety and/or departing from the standard of a reasonably competent driver (MSA regulation C 1.1.5)
- b) Any contravention of Flag or Light signals (MSA regulation C 1.1.6)

In order to maintain standards of conduct, the Series Coordinator will monitor all Officials/Observers reports of adverse behaviour at race meetings. If any individual is included on two such reports during one racing season he will receive written warning from the Series Coordinator that his driving/behaviour is to be specifically observed at future race meetings. Any adverse reports during this period of observation could result in official MSA action and will result in a Series Stewards' enquiry and refusal of further race entries.

Anyone posting anything derogatory, defamatory, insulting, unfavourable or disrespectful in relation to the Series or Series – including any of its participants, officials, partners or supporters – in any form of Social Media, would be dealt with in the same manner as if the comments had been published in the traditional print/broadcast media. In the worst instance this could mean exclusion from the Series or championship.

Anyone discussing any of the race events in a derogatory manner on social media will be immediately excluded from the race and the Series.

NB: for the avoidance of doubt the MSA may of course take any action as it considers appropriate, in addition to any action taken by the Series Stewards.

5. TECHNICAL REGULATIONS:

5.1 INTRODUCTION:

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.

5.2 GENERAL DESCRIPTION:

The Classic & Modern Motorsport Club (Southern) Intermarque Series is for Competitors participating in front engine Silhouette saloon and sports coupe cars. Cars not complying with the technical regulations may be accepted in a guest class at the discretion of Classic & Modern Motorsport Club (Southern). All MSA General Regulations & Technical Regulations MSA Safety and Technical Regulations Sections J, Q, and K apply as per the 2019 MSA Year Book. The general principle for eligibility shall be that the cars are front engine Silhouette cars which have body shells based on and recognisable as those of mass produced saloon and coupe cars. 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 scrutineer if they have any doubts or queries concerning their cars.

Classes

Class HR 4speed Intermarque cars fully compliant with technical regulations

Class TR 5/6 speed Intermarque cars fully compliant with technical regulations

Guest class cars not complying with the technical regulations. Anyone wishing to race in the guest class must apply in writing for consideration of an entry to the Classic & Modern Motorsport Club (Southern) and include full technical details of car. For the avoidance of doubt only naturally aspirated 4 cylinder 2 wheel drive cars will be considered. Entry to the guest class will be considered on a meeting by meeting basis. All guest cars shall start from the back of the grid.

5.3 SAFETY REQUIREMENTS:

All articles MSA Appendix Section K Safety Criteria Regulations apply as relevant. For the avoidance of doubt, competitors' attention is drawn to the following specific MSA Year book references:

Roll Cages – diagonal (K1.3.4) and door bars (Drawing K11g) (see also Q19.14.3)

Door bars may be removable, subject to compliance with MSA Yearbook K1.3.7 Removable Members. Should removable members be used in the construction of a ROPS, the demountable joints used must comply with an approved type (see drawings K21 to K30). The screws and bolts must be of adequate diameter and of ISO Standard 8.8 or better. FIA homologated demountable joints are also permitted.

Seat Belts (K.2.1.3) the crotch strap must be mounted with a hook and eye type anchorage point welded to a reinforcing plate.

Fire extinguisher Minimum standard required see MSA yearbook reference K3.1.4 Large plumbed in extinguisher which must be inside its service date.

Seats must conform to MSA Regulation K2 in its entirety, the mountings as described in 2.2.1

Overalls: Clean Flame-Resistant overalls must be worn. Acceptable Standards FIA 8856-2000 MSA yearbook Reference K9.1.1

- (a) Effective means of ventilating the passenger compartment
- (b) Means of access on either side of the passenger compartment, operable from the inside and the outside and sufficient in size to remove the occupant without impedance by door locking devices. See MSA yearbook Q19.2.5 on page 281.

5.4 GENERAL TECHNICAL REQUIREMENTS & EXCEPTIONS:

The Series is to cater for front engine Silhouette saloon and coupe cars. Silhouette cars to be based on production body shell shapes and recognisable as the make and model that the body shell is based on. Cars to use a steel tubular chassis. The minimum height from the floor of the car to the roof is 106cms (41.75") External identification of the model: All cars must be externally recognisable as the model as entered.

Manufacturer's 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. Based on any recognised manufacturers production saloon car body shape of 2 or 3 door configuration. Any new marque, that has not been previously used, must be approved by the committee.

5.5 CHASSIS:

Tubular steel construction only.

Towing eyes. These must be clearly marked and be substantial. See MSA yearbook reference Q19.1.3

5.6 BODYWORK:

5.6.1 Modifications Permitted

1. General

Maximum width 75" (1905mm). 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 or be higher than the roof line.
- (e) No part of the spoiler may extend beyond the plan view of the bodywork.
- (f) Rear Spoiler may not exceed width of bodywork.
- (g) Rear diffuser may not extend beyond the rear bumper.
- (h) Rear spoiler mounting struts/pylons are allowed

Front splitters may be fitted but must not protrude forwards past the bumper line by more than 100mm, they may not be wider than the extreme body width of the car in plain view and may only incorporate one single upright corner or winglet each side of the car. 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 2500sq.mm 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 from above.

Rear bumper or body work below bumper may have a maximum of 4 holes 75mm diameter drilled for the purpose of ventilation; tyres must not be visible through these holes.

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. All doors must be capable of being opened from the inside in accordance with Q19.2.5

2. Interior

The driver's seat is unrestricted subject to complying with MSA safety regulations. It is permitted to remove the floor carpets, underfelt, sound insulation, head lining, the rear seats, and the front passenger seats. It is permitted to carry out modifications on the window winders, instrument panel and all the driving controls.

3. Exterior

Front doors may be fitted with either plastic windows complying with MSA year book regulation, or window nets. All other window apertures must be glazed to at least 4mm minimum thickness. Subject to remaining structurally sound and rigid when driven at racing speeds. Rear windscreens may have ventilation holes.

4 Silhouette

5. Ground Clearance

Ground clearance: The car may be lowered. The minimum ground clearance is 40mm as defined by MSA regulation J5.20.11.

Wheelbase: The wheelbase must remain as per the original car within a tolerance of 50.8mm. Mazda RX8 specified wheelbase is 2451mm. Ginetta G40R specified wheelbase is 2438mm.

5.6.2 Modifications Prohibited

1. General

2. Interior

3. Exterior

It is prohibited to tape up panel gaps surrounding doors and bonnets, unless it is for accident damage and approved by the scrutineer on the

day.

The use of carbon fibre materials in the construction of floors and bulkheads and any body panels, except aerofoils and spoilers.

4. Silhouette
5. Ground Clearance

5.7 ENGINE:

Dual-valve engines are defined as having one inlet and one exhaust valve per cylinder. Multi-valve engines are defined as having more than one inlet or exhaust valve per cylinder.

1. Permitted Modifications

This series is established for front 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.

Unless stated in these rules all engine components must remain original to the manufacturer of the used engine. All engines should confirm to the manufacturers homologation specification. Table of Allowable Engines.

Bore/Stroke to be as produced as by the original manufacturer of that engine with a maximum overbore of 1.5mm. Sleeving is allowed with 1.5mm overbore above standard. Cylinder Block: the block may only be machined on the head gasket surface and to accommodate a dry sump system.

	Bore of	Stroke of
Vauxhall C20XE & C20XEV 2.0 Litre 16v	86mm	86mm
Ford Zetec NGA (NGB/NGC) 2.0 Litre 16v	84.8mm	88mm
Ford Duratec IS7G or 4MSG	87.5mm	83mm

Pistons: The standard pistons may be replaced with any forged type. Machining of valve pockets is allowed. Conrods: Ford Zetec has free use of conrods from Zetec NGA/NGB and NGC engines

Steel conrods are allowed providing they retain the exact dimensions of the engines original. On either steel or original conrods you may replace the big end bolts and machine to accommodate them. Gudgeon pins can be press fit or floating. Conrods must not be lightened. FOR THE AVOIDANCE OF DOUBT these regulations do not permit changes to the length of conrod when measured centre to centre. The gudgeon pin must only be 21mm in diameter.

Crankshaft: Is to remain the engines original part. Clutch and Flywheel: You may replace the flywheel with a lightweight steel version. Standard diameter ring gear must remain however. You may use any twin plate clutch. (Minimum diameter 184mm (7.25"))

Balancing: you may balance the pistons, conrods, crankshaft, flywheel and clutch through drilling or machining/spot machining or hand grinding. Note that you must not lighten the crankshaft or conrods. Cylinder Head: No altering or machining to any part of the cylinder head that is not expressly mentioned in these rules.

The area either side of the cam follower may be fettled if necessary to allow completion camshafts to rotate freely. No enlarging/reducing or drilling of extra waterways in either the head/gasket or block. The obsolete distributor housing on 16v heads may be reduced or blanked if applicable.

Engine head gaskets are free in material, manufacturer and construction.

Fasteners/headbolts/studs: All fasteners are free (both internal and external) the only exception is the cylinder head to block fixings which should remain original. Valves: You may use replacement valves providing they are stainless steel and to the following dimensions: (Shape may be changed).

		C20XE Vauxhall	C20XE Vauxhall	Ford	Ford Duratec
Valve head diameter	Int	33.0mm	33.0mm	33.0mm	35.0mm
	Ext	29.0mm	29.0mm	29.0mm	30.0mm
Total valve length	Int	102.1mm +0.1	104.8mm	96.5mm	103.4mm
	Ext	92.55mm +0.1	105.0mm	95.5mm	104.6mm
Valve stem diameter	Int	59.55mm to 5.97mm	6.955mm to 9.970mm	6.0mm	5.5mm
	Ext	53.945mm to 5.96mm	6.945mm to 6.960mm	6.0mm	5.5mm

Valve guides: May be replaced but must remain in the original position. Bronze guides of thin wall bronze guide inserts are allowed.

Valve Springs/Top Caps and Collets: All free (spring seat may also be machined) Camshafts and Followers: Camshafts are free. Cam followers to be standard, hydraulic or solid. (Vauxhall XE solid lifters may be used in the Ford Zetec) you may machine to accommodate the lifters. The use of vernier pulleys is allowed.

Gas Flowing: Metal must not be added or removed from the combustion chamber or ports, with the exception of the valve seat area which may be fettled but no further than the valve guide.

Spark Plugs: You may counter-sink the spark plug thread in the Ford Zetec cylinder head to enable usage of conventional spark plugs.

Vauxhall engine timing wheel, you may use an aftermarket steel type provided it is an exact replica (in size and dimension) of the original type.

2. Prohibited Modifications.

Fuel injection and/or forced induction is not allowed.

Heat treatment and shot peening of standard components is not allowed. In no way does the interchange ability of engines allow other parts such as gearboxes to be interchanged other than allowed in these regulations.

Bottom End:

Only the minimum amount of material required to balance components is allowed to be removed.

Lightening of the components other than to balance is not allowed.

Cylinder Head:

Engines of more than 1600cc original capacity Valve head diameter must remain as standard. No material may be added to the cylinder head assembly, including manifolds except for reasons of repair.

3. Location

Engines must be a minimum of 76.2cm (30") forward of the centre-line between front and rear axles, measured from the rear face of the engine block when viewed vertically.

4. Oil/Water Cooling

Oil coolers and additional water radiators are permitted providing they are located with the periphery of the bodywork. Waterpumps, no modifications to pump impeller, water pumps must be belt driven, however pump drive pulley size may be changed.

5. Induction Systems

All fuel pumps and filters and inlet manifolds are free.

Carburettor/s:

Engines to be fitted with a pair of DCOE/SP Weber (or corresponding Dellorto) throttles may not exceed 48mm. The maximum venture size to be not more than 38mm when measured at the smallest point. Carburettors may not be fitted with throttle position or other electric sensors. FOR THE AVOIDANCE OF DOUBT these regulations do not permit modifications to carburettors, which would include but not limited to, thinning of throttle shafts, knife edging of butterflies, shortening butterfly/spindle screws, any removal of material from auxiliary venturis (casting marks included) or the use of dellorto venturis in weber carburettors.

An air filter must be fitted.

6. Exhaust Systems

Exhaust systems are free provided MSA maximum decibel requirements are not exceeded.

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

7. Ignition Systems

Ignition system must be supplied by MBE Systems Ltd (tel: 01285 883030). The unit must have a fixed advance curve and limiter set at 8000rpm. The system must have the original MBE seal AND an SSHR seal. The eligibility scrutineer or his deputy have the right to require a driver to exchange their registered MBE box for a similar control box provided by the organisers or swap MBE boxes between competitors cars (only of the same engine make). This may be done without notice and at any time during, before or after an event.

8. Fuel delivery systems

5.8 **SUSPENSIONS:**

1. Permitted Modifications

Any single or double adjustable shock absorber permitted, meaning a single adjustable bump and single adjustable rebound only.

2. Prohibited Modifications

Active ride height or damping control. Shock absorbers fitted with separate reservoirs. Twin cylinder "piggy back" shock absorbers. The use of more than one shock absorber per wheel. Remote adjustment of any suspension component from drivers' cockpit, any other suspension components. The use of any material other than steel in suspension arms and links No suspension and other listed components in the cockpit area see MSA yearbook J5.2.1

3. Wheelbase/Track

Track may not exceed 73.5" 1,865mm measured between outer extremities of wheel rims

5.9 **TRANSMISSIONS:**

Class HR

only a "H" pattern 4 speed gearbox with a 1:1 top gear ratio may be used. Any final drive axle ratio is permitted. Only gearbox casings manufactured by Ford, Quaife or Elite may be used.

Class TR

5 or 6 Speed H Pattern gearboxes permitted, Or A Quaife QBE60G sequential 6 speed Gearbox fitted with the following ratios. 1st 2.400 2nd 1.840 3rd 1.333 4th 1.150 5th 1.000 6th 0.889. Class TR can only use 3.9 diff ratio.

1. Permitted Modifications
2. Prohibited Modifications

Steering wheel "paddle shift" gear change
Any form of traction control device other than limited slip or locked differentials.

3. Transmission & Drive Ratios

5.10 **ELECTRICS:**

Dash Instruments and switches are free.
The use of data logging equipment is prohibited with the exception of RPM (engine speed), lap timing and on board camera; subject to MSA fittings requirements.

1. Exterior Lighting

2. Rear Fog Light

Required as per MSA blue book. Cars must be fitted with TWO operational brake lights.

3. Batteries

Vehicle must be fitted with an on-board battery capable of restarting at all times when on circuit.

4. Generators

Electrical generators and self-starts must be fitted and in working order. The self-starter must be capable of starting the car at any time as per MSA yearbook J5.14.3 and J5.14.6

5.11 **BRAKES:**

1. Permitted Modifications

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

2. Prohibited modifications

5.12 **WHEELS/STEERING:**

1. Permitted options

Steering systems are free in all classes. Wheels must be 10" x 13" non-centre lock type. 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.

2. Prohibited options

No ceramic wheel bearings.

3. Construction & Materials

4. Dimensions

Dimensions See 5.12.1

5.13 **TYRES:**

1. Specifications

Maximum size must be within tyre manufacturers' recommended specifications to suit the wheel rim width. The use of tyre heating/heat retention device, tyre treatments and compounds is prohibited.

2. Nominated Manufacturers

Only slick tyres manufactured by Avon are permitted, the slick tyre must be marked 14975 and compound A37.

3. It is prohibited to cut of groove slick tyres **intermediate tyres:** There is no intermediate tyre option; cars may only use slicks or wets. **Wet tyres,** Avon specification number 7168 compound A10 are the only allowable wet tyre, No additional cutting or modification to grooves in wet tyres

4. Anyone attempting to use a tyre which does not conform to the regulations may be prevented from taking part in either qualifying or the race until the correct tyre (or tyres) are fitted.

5.14 **WEIGHTS:**

In class HR it will be 850kgs including driver, in class TR it will be 870kgs including driver. The weight for class TR may be increased or decreased dependent upon performance. The organisers reserve the right to change minimum weights during the season should that be deemed necessary MSA Regulation (D11.1.3) Applies.

5.15 **FUEL TANK/FUEL:**

1. Types

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

2. Locations

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. Purpose made fuel tanks made be housed in the cockpit area provided they are totally enclosed in a sealed housing. Also the use of metal braided fuel hose is mandatory. Fuel pumps are NOT permitted in the cockpit area.

3. Fuel

All fuels listed in MSA competitor's yearbook 2019 as pump fuel 100 RON Octane maximum.

It is the driver's responsibility to provide a hose with suitable coupling so that fuel samples can be taken safely from a point near the engine, either the fuel rail or the carburettor.

All cars must be fitted with a dry break fuel coupling within a 30cm distance of the carburettors to allow fuel samples to be taken without any dismantling of fuel lines, Drivers must have a suitable coupling hose available in parc ferme.

5.16 **SILENCING:**

1. Specification

As per MSA Regulation J5.16.5 and J5.17

5.17 **NUMBERS AND SERIES DECALS:**

1. Positions - Decals to be displayed without modifications in suitable locations on vehicle bodywork, including windscreen visor on closed roof cars. Avon Tyres and any new sponsors will supply stickers for display on both sides of the car.