



## 2020 Stock Rod

# Specifications, Rules & Regulations

### Contents

<input type="checkbox"/>	TYPE OF CAR	.....	2
<input type="checkbox"/>	ENGINES	.....	3
<input type="checkbox"/>	TRANSMISION	.....	8
<input type="checkbox"/>	WHEELS	.....	8
<input type="checkbox"/>	TYRES	.....	8
<input type="checkbox"/>	FRONT SUSPENSION	.....	8
<input type="checkbox"/>	REAR SUSPENSION	.....	9
<input type="checkbox"/>	STEERING	.....	9
<input type="checkbox"/>	BRAKES	.....	9
<input type="checkbox"/>	BODYWORK	.....	10
<input type="checkbox"/>	BUMPER & GRILLES	.....	11
<input type="checkbox"/>	ROLL CAGES	.....	11
<input type="checkbox"/>	SEATS	.....	11
<input type="checkbox"/>	SCREENS	.....	12
<input type="checkbox"/>	BATTERIES & ELECTRICAL	.....	12
<input type="checkbox"/>	STOP LIGHTS	.....	12
<input type="checkbox"/>	FUEL TANKS	.....	12
<input type="checkbox"/>	FUEL	.....	12
<input type="checkbox"/>	SILENCER / EXHAUST	.....	12
<input type="checkbox"/>	RADIATORS	.....	12
<input type="checkbox"/>	ROOF COLOURS	.....	13
<input type="checkbox"/>	NUMBERS	.....	13
<input type="checkbox"/>	TRANSPONDERS	.....	14
<input type="checkbox"/>	SIGN WRITING	.....	14
<input type="checkbox"/>	WEIGHT	.....	14
<input type="checkbox"/>	SAFETY EQUIPMENT	.....	14
<input type="checkbox"/>	RACEIVER	.....	15
<input type="checkbox"/>	GENERAL RULES OF RACING	.....	15
<input type="checkbox"/>	ALL OVAL RACING FORMULAE	.....	16

This formula is NON-CONTACT and cars should be prepared with a professional racing appearance. This standard is required to be kept up throughout the drivers racing season. Cars with tatty, dented and badly battered panels will not be passed by the scrutineer. (Metal panels only may be used the exception being front and rear bumpers, see separate item 10. Bodywork).

## **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.

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 either the manufacturers technical specification books or the technical service data books for cars, as published by Glass's Guide Service Limited. If there are any discrepancies occurring between books, the promotion will exercise its judgement, which will be final in any dispute.

N.B. Drivers are reminded that scrutineer checks can be carried out at any time, and most certainly at 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 seven 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.

## **1. CARS**

1300cc and 1400cc cars will race under the same banner. The only cars eligible for use are those set out within these specifications and they must be raced with mechanical and constructional specifications as produced when new with the original engine capacity not exceeding 1300cc or see separate listing for 1400cc. **Anyone wishing to race any car other than those listed may request permission from the Stock Rod Technical Committee via your Promoter.** All constructional rules will be the same for both the 1300cc and 1400cc. Any fuel injected 1400cc cars will have to use carburettor and manifold within their range, but not from a larger cc vehicle.



### **1300cc CARS**

### **VENTURI SIZES**

Fiat Uno 1299cc may be fitted into a Fiat 128 .....	19/23 Weber 30/32
Ford Fiesta 1300 MK1 – MK5 (OHV or CVH) .....	23/24
Nissan Micra .....	20/27
Toyota Starlet 1.3 1290cc – Must use standard 1300cc Carburettor .....	23/26 (throttle linkage may be altered)
Toyota Starlet 1.3 1290cc –Weber 32/36 DGV/DGVA Carburettor .....	26/27 (throttle linkage may be altered)

Vauxhall Corsa 1300cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Corsa C 1300cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Nova 1300cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Tigra (run as Nova 1300cc)..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 It should be noted that some venturi sizes may vary slightly from those specified by the manufacturer. In these cases drivers should use the above sizes.

***There must be a secondary fixing on the fuel line on all carburettors.***

### **1400cc CARS**

Citroen AX - 1360cc ..... Solex 32/34 Z2  
 Citroen Saxo ..... Run as AX spec  
 Citroen C2 ..... Run as AX spec  
 Fiat Uno - 1301cc , 1372cc  
 Ford Fiesta - 1392cc  
 Peugeot 106 - 1360cc ..... Solex 32/34 Z2  
 Peugeot 205 - 1360cc ..... Solex 32/34 Z2  
 Renault Clio - 1400cc  
 Vauxhall Corsa 1400cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Corsa C 1400cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Nova 1400cc ..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser  
 Vauxhall Tigra 1400cc..... Pierburg 2E3 Twin Choke 20mm/24mm + 8mm/7mm pre-atomiser

All carburettor/venturi sizes for the above, are to be the original standard part.

***There must be a secondary fixing on the fuel line on all carburettors.***

### ***NEW CARS NOW ELIGIBLE FOR THE FORMULA:***

***Citroen C2  
 Peugeot 207  
 Vauxhall Adam  
 Vauxhall Corsa D***

***In the case of NOVAS they must run the 8 valve engine.***

***If running an 8v Citroen C2 or Peugeot 207; the pistons may have valve cut outs to a maximum of 3.5mm deep to allow for the fitting of a larger camshaft.***

## **2. ENGINES - 1300CC**

Engines must be as produced by the manufacturer, two valves per cylinder, no twin carburettor set ups, where not originally specified. No fuel injection or turbo charging is permitted. Engine mountings are to remain standard, with the exception of Front Wheel Drive cars where the top engine mounting (by valve cover) may be solid.

**Cylinder Block.** Nominal overboring to a maximum of 0.060" (1.5mm) is permitted. Skimming of the block on the head gasket surface only is permitted. No other modifications to the block are permitted.

**Cylinder Head.** The skimming of the cylinder head on the head gasket surface only is permitted. Cylinder heads must remain standard and unworked. Up to a 3-angle cut, is permitted but there must be no machining or fettling either side of the valve seat. The valve length must remain within standard manufacturers tolerances (i.e the length as supplied to the industry, not a minimum service length). Eg. Vauxhall 104.25mm-105.35mm, Inlet Valve diameter 33mm and exhaust valve diameter 29mm. Valve springs are free. The following must not be machined, repositioned or modified in any way: valve caps, collets, valve guides, spring seats and valve stem oil seals, with the exception of Corsa/Nova lash caps which may be of competition type. Solid lifters may be fitted. Hydraulic lifters may be welded or modified to be solid and shimmed.  
 If the oil feed to the cylinder head becomes mis-aligned when head is surfaced it may be re-aligned.

- Head bolts may be shortened or washers may be used, but must remain the standard manufacturer's bolt to the engine being used.
- Bronze valve guides are NOT permitted unless fitted as standard, but it is permitted to use a thin wall bronze sleeve in existing guide.
- Inlet and exhaust valve seats may be lowered, (i.e. moved away from pistons) but the valve head must sit level with or below the combustion chamber roof.

**Pistons.** Manufacturer's pistons or original replacement pistons must be used and must not be altered in any way (Marks on pistons will be at Scrutineer's discretion. Cut-outs are illegal) other than for balancing as specified below.

**Camshaft.** The camshaft may be changed to that of a competition type but no other parts may be altered to accept the camshaft other than those permitted within these rules. The only exception to this is for the Vauxhall Nova/Corsa engine where the cambox to cylinder head surface of the cambox may be surfaced (level). Offset dowels, drilling or pinning is permitted. Vernier timing wheel is permitted.

**Carburation.** Must remain as standard and although jets and needles are free, they must remain fitted. (A list of venturi sizes and carburetors are detailed under item 29). Trumpets or stubs are not allowed on carburetors. Choke butterflies, cold start equipment and economy devices can be removed. The V.V. carb on C.V.H. engines may be replaced with a Weber 32 IBF. A 32 DHA carburetor is allowed on Kent Engine. A 32 DGA or 32 DGR carb is permitted on either the C.V.H. or Kent engine. Throttle butterflies may be modified to open together. Any hole may be blanked off but no re-drilling of any other parts is permitted.

**Carburation (for Toyota Starlet)**

Only the standard Weber 32/36 DGV or DGVA carburetor may be used with a maximum of 26mm and a 27mm sized chokes. No polishing or re-profiling is allowed. No modifications to the carburetor's body or original design. The interchanging of the carburetor top from other Weber models is not allowed. All gaskets must remain standard and original. A single original spec insulator block must be fitted between carburetor and inlet manifold, with two gaskets; approximate total thickness = 5mm. Main jets, primary and secondary jets, auxiliary venturi and emulsion tubes may be changed but must face downwards towards the butterflies. Accelerator pump jets may be changed but face downwards towards butterflies. Chokes may be modified to open together and replacement spindles may be fitted with standard screws. Cold starting devices may be removed with retaining lugs and subsequent holes blanked off. Air and fuel galleries may not be enlarged or modified, and fuel may enter on either side. Floats may not be modified or weighted, and must control the fuel flow. Needle valves may not be larger than 250, and not enlarged or modified. The power valve must be fitted in the base of the bowl, but may be sealed off, and the diaphragm may be removed. No trumpets are allowed. It is permitted to use a grub screw or similar device to fix the auxiliary venturi to the carburetor body. Top end enrichment devices may be blanked off or modified. A secondary fixing on the fuel inlet feed line is required. The Inlet manifold must be standard & not faced to alter the angle of the manifold to the carburetor. No inlet port matching of the carburetor to the manifold or the manifold to the head. No material may be added or removed from the gas flow area, it must be as standard. An adaptor plate of 15mm maximum thickness, must be bolted or welded to the inlet manifold to enable the manifold to accommodate the carburetor.

**Inlet & Exhaust Manifolds**

Manifolds to be of standard type, to that of the engine fitted, unless otherwise specified. Toyota Starlets may use an after-market four-branch exhaust manifold. Exhausts with a hot spot may be blanked off. Water circulation holes may be blanked off. Adaptor spacers from the inlet manifold to the cylinder head can be tapered to allow the carburetor to sit level. The plate is regarded as an extension of the manifold to allow it to fit, so the port holes on plate must be within 4mm of the size of the holes on the manifold. There must be no tapering from the manifold size to the head size.

**Distributor.** Must be the standard type. The mechanical and vacuum advance may be altered. The vacuum advance may also be removed. No electronic ignition is permitted unless fitted as standard. No interchange between models is permitted. The BOSCH distributor is allowed on Ford Kent, and BOBCAT engine. Rev limiters are allowed.

**Balancing.** Balancing is permitted by spot machining only. Spot machining means either hand grind, drill or machine. When balancing pistons and con rods, at least one of each must be as original. The flywheel and clutch assembly may be balanced.

**Con Rods** Any big end bolts may be used, [ **but con rods must not be machined to accommodate them**]. The con rods may however be numbered for identification purposes.

### ***Crankshaft/Cylinder Head/Cam Carrier - Oil holes may be relieved***

**Flywheel.** Lightening of the flywheel is permitted.

**Sundry.** Oil coolers are permitted, but must be within the confines of the engine compartment. Either electric or water pump fan is permitted but not both. Standard sumps must be used and can be baffled. Pick-up pipes can be modified within the confines of the sump. No outside alteration is permitted. The engine must be fitted with a catch tank of 1 litre minimum capacity connected to the engine breather system, fitted in the engine compartment. Bottom Crankshaft pulleys are optional. Competition air filters are permitted (NO TRUMPET, CONE OR GUIDED AIRFLOW TYPES).

**Transplants.** Ford Escort and Fiesta may use the 1300 x- flow engine to replace the C.V.H., and the 1300 Nova engine may be used in the Corsa. No other engine transplants are allowed.

## **2A. ENGINES - 1400CC**

Engines must be as produced by the manufacturer, two valves per cylinder, i.e. no twin carburettor set ups, where not originally specified. No fuel injection or turbo charging is permitted. It is permitted to use an engine or block assembly from another model of the same manufacturer if all technical specifications are the same. Fuel injected engines may be used – see Inlet and Exhaust Manifold below. Engine mountings to remain standard, with the exception of Front Wheel Drive cars where the top engine mounting (by valve cover) may be solid. Please note : Corsa C and Citroen C2 may modify engine mounts to fit Ider engine, but engine must stay in central position – i.e. not to gain an advantage.

**Cylinder Block.** Nominal overboring to a maximum of 0.060" (1.5mm) is permitted. Skimming of the block on the head gasket surface only is permitted. No other modifications to the block are permitted.

**Cylinder Head.** The skimming of cylinder head is permitted on head gasket surface. Cylinder heads must remain standard and unworked. Up to a 3-angle cut is permitted on the head only & not the back of the valve, but there must be no machining or fettling either side of the valve seat. The measurements of the angle valve seats must be as manufacturers specifications with valve seat width free. The valve length must remain within standard manufacturers tolerances (i.e. the length as supplied to the industry, not a minimum service length). Eg. Vauxhall 104.25mm-105.35mm, Inlet Valve diameter 38mm and exhaust valve diameter 31mm. Valve springs must remain as standard, and must be the original manufacturer's part. The following must not be machined, repositioned or modified in any way: valve caps, collets, valve guides, spring seats and valve stem oil seals, with the exception of Corsa/Nova lash caps which may be of competition type. Solid lifters may be fitted. Hydraulic lifters may be welded or modified to be solid and shimmed. Fuel injected engines may be used, but injection inlet manifold must be replaced with a conventional carburettor version within the manufacturer's range. Only locating holes and gasket may be altered to allow manifold to fit. (Manifolds and carburettors from larger cc version cannot be used.) Peugeot 106 Cylinder heads and rocker gear are not interchangeable.

- If the oil feed to the cylinder head becomes mis-aligned when head is surfaced it may be re-aligned.
- Head bolts may be shortened or washers may be used.
- Bronze valve guides are NOT permitted unless fitted as standard, but it is permitted to use a thin wall bronze sleeve in existing guide.
- Inlet and exhaust valve seats may be lowered, (i.e. moved away from pistons) but the valve head must sit level with or below the combustion chamber roof.
- Only the 1.4 valve spring part no below can be used.**



**Valve spring seats must not be lowered or altered.**

- Pistons.** Manufacturers pistons or original replacement pistons must be used and must not be altered in any way (This includes all 4 pistons with valve indents) other than for balancing as specified below. Nova/Corsa if a small valve cylinder head is used, it must be with original compression ratio pistons (i.e. 9.4..1), the big valve cylinder head may use 9.4..1, 9.8..1 or 10.0..1.
- Camshafts.** The camshaft may be changed to that of a competition type but no other parts may be altered to accept the camshaft other than those permitted within these rules. The only exception to this is for the Vauxhall Nova/Corsa engine where the cambox to cylinder head surface of the cambox may be surfaced (level). Offset dowels, drilling or pinning is permitted. Vernier timing wheel is permitted.
- Carburation.** Must remain as standard and although jets and needles are free, they must remain fitted. Trumpets or stubs are not allowed on carburettors. Choke butterflies, cold start equipment and economy devices can be removed. The VV carburettor on CVH engines may be replaced with a Weber 32 IBF. A 32 DHA carburettor is allowed on Kent engine. A 32 DGA or 32 DGR carburettor is permitted on either the CVH or Kent engine. Throttle butterflies may be modified to open together. Any hole may be blanked off but no re-drilling of any other parts is permitted.
- Inlet Manifold** Must be the original manufacturer's parts if available from the manufacturers range. Water circulation holes may be blanked off. Adaptor spacers from the inlet manifold to the cylinder head can be tapered to allow the carburettor to sit level. The plate is regarded as an extension of the manifold to allow it to fit, so the port holes on plate must be within 4mm of the size of the holes on the manifold. There must be no tapering from the manifold size to the head size.
- Distributor.** Must be the standard type. The mechanical and vacuum advance may be altered. The vacuum advance may also be removed. No electronic ignition is permitted unless fitted as standard. Where the engine is not fitted with a distributor as standard and it is not possible to fit a distributor from the same vehicle manufacturer, certain types of Lumination will be allowed to be fitted. (The Renault Clio 1.4 may fit Lumination Kit No C410 ECU. Top line mapped only. Max advance by 3750-RPM ignition may be advanced only; no retarding. Whatever advance figure appears at 3750-RPM must be continued to end of rev range). Rev limiters are allowed. On Vauxhall engines, due to the ball bearing supplied with camshafts being larger than the hole in the rear of the camshaft, the distributor shaft may be shortened to allow it to fit.
- Balancing.** Balancing is permitted by spot machining only. Spot machining means either hand grind, drill or machine. When balancing pistons and con rods, at least one of each must be as original. The flywheel and clutch assembly may be balanced.
- Con Rods** Any big end bolts may be used, [ **but con rods must not be machined to accommodate them**]. The con rods may however be numbered for identification purposes.
- Crankshaft/Cylinder Head/Cam Carrier - Oil holes may be relieved**
- Flywheel.** Lightening of the flywheel is permitted.
- Sundry.** The engine must be fitted with a catch tank of 1 litre minimum capacity connected to the engine breather system, fitted in the engine compartment. Bottom Crankshaft pulleys are

optional. **Competition air filters are permitted (NO TRUMPET, CONE OR GUIDED AIRFLOW TYPES).**

**Sump.** Standard sumps must be used and can be baffled. Pick-up pipes can be modified within the confines of the sump. No outside alterations are permitted.

For Citroen and Peugeot TU3 engine may use the multipoint injection engines and manufacture an inlet manifold. This manifold rule will be reviewed in the future with the intention of proposing one specific manifold. The carburettor must still be a 32/34 Z2 Solex.

**EXPERIMENTAL ENGINES :** Only 1400cc/1600cc 16v Vauxhall engines, please take note that at any time a spedeworth has the right to fit a restriction plate if they feel it needs it. The Fuel injection must be removed and an inlet manifold manufactured to fit the carburetor which must be a Weber 32/34 DMTL This manifold rule will be reviewed in the future with the intention of proposing one specific manifold. – There will be a buying price for these engines of £850 which means **any driver racing on the day that is a fully registered may put a protest in to buy** another drivers engine or the Promoter may buy the engine at this price. The engine must be complete including clutch and flywheel, but excluding carburetor and inlet manifold. **Cannot be brought within 3 weeks of a championship.**

**Full specification for Vauxhall 1,6 16v**

**All parts to be 16v with below sizes.**

**Bore 79.00mm –80.00mm.**

**Stroke 81.50mm.**



**Only the crankshafts ticked green permitted twin web NO single web cranks.**

**Internal engine parts must be as x16xel y16xe z16xe and to the sizes given**

**Cam lift**

**inlet 8.50mm**

**exhaust 8.00mm**

**Intake lobe width 37.00mm.**

**Intake lobe Hight 45.50mm.**

**Exhaust lobe width 37.00mm.**

**Exhaust lobe Hight 45.00mm.**

**Inlet valve 103.10--31.00--6mm.**

**Exhaust valve 102.20--27.50--6mm.**

**Flywheel min Weight 5kg. You can use 8v flywheel skimmed only to this weight This cannot have any holes or slots machined into the flywheel.**

**Block Hight 198.00 min.measured from crankshaft cap seat to head gasket face.**

**Cylinder head thickness measured from head gasket face to centre of cam pulleys 134.90mm min.**

**Intake manifold supplied by Spedeworth only.**

**Ignition is only to be 2D TYPE .FOR THIS YEAR**

**ECU WILL BE MONITERED FOR FUTURE DECISIONS**

**All parts to be as standard No competition parts.**

**Pistons to be as standard and must Not protrude.**

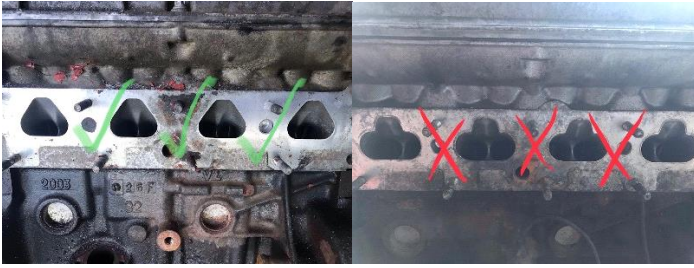
**Rocker cover breather can be modified.**

**Head gasket standard replacement no competition = composite or metal= Vauxhall / Elring/ victor reinz/ bga/ motive only.**

**Tin sump may be fitted .**

**Aftermarket parts permitted as long as to v/hall sizes and spec. no competition parts**

**The Only the head style permitted is the one ticked in green.**



## Engine Bolts

All external engine nuts & bolts can be changed except the head bolts.

## Painted Engines

External engine parts may be painted but nothing inside the engine.

The idea is to encourage the introduction of more up to date cars to the formula but the use of these vehicles/engines will be subject to Promoters decision at all major Championships.

### 3. TRANSMISSION

The gearbox, gearbox mountings and final drive must remain standard, but gears and ratios from the same manufacturer may be interchanged and the gearbox and final drive may be interchanged within manufacturer's range. The differential assembly may be locked by way of welding. Limited slip differentials are not permitted. All of the above exceptions must be achieved without machining or modification of the standard parts.

**Driveshafts** Must be the original fitted to make and model and must remain standard. The fitting of spacers is not permitted. Drive shafts from automatic versions are not permitted.

**Propshafts** May be modified or interchanged from manufacturers range.

**Gearbox Mounts** Original mounts may be strengthened but must be in the original position. Rear gearbox mounts can be filled with silicon to stop movement.

### 4. WHEELS

Wheels of any type may be fitted to the car and may be widened to a maximum of 6" by inserting a steel band, no wider types permitted. Manufactured steel wheels may be used e.g. Weller. Maximum wheel diameter is 13". Alloy wheels are permitted. No wheel spacers allowed, whether welded to the wheel or not, unless fitted as standard. The top of the wheel and tyre must be covered by the wheel arch. For users of the Citroen AX-1360cc—the 3 stud wheel fixing may be changed to 4 stud using Peugeot components or any other manufacturers standard hubs. Wheel studs are free. Damaged alloy wheels may be repaired. Any repairs will be checked by the scrutineer whose decision will be final on the quality.

### 5. TYRES

The only tyre permissible is the Yokohama, size 185/70 x 13 A021R Compound No T567 only. Gaiters on tyres are not allowed. Additional tread pattern may not be cut into tyres. Tyres can have the feathering removed.

***No nitrogen. The staging promoter may restrict the number of tyres that can be used at any event including championships.***

### 6. FRONT SUSPENSION

- To be fitted as original. Chassis pick-up points must remain in their original location. Bolts are free.
- Negative/Positive camber or caster on front wheels only is permitted. This may be achieved by modification of original standard parts only.
- Bottom arms may be extended and adjustable, locating holes on suspension components and top abutment plates may be elongated.
- Caster adjustment is permitted and may be achieved by modification of the original standard anti-roll bar / locating rods and bushes and may be adjustable. A tolerance of + or - 2" (50mm) on nearside, 1" (25mm) on offside from original wheelbase will be permitted. Shorten anti roll bar link on drivers side by cutting & welding the 2 parts together.
- No lightning of suspension parts ie ; Hub etc
- No competition joints or bushes are permitted.
- Rule Clarification; front hub steering arms must not be modified in any way, drive shafts may not be



extended or washers/spaces fitted between drive shaft & hub or drive shaft & gearbox.

- The style of hub used must be the same on nearside and offside.
- Camber is free on the passenger side front wheel & positive camber is allowed on the drivers side front wheel to a maximum of 5 degrees.
- A Strut reinforcement bar may be fitted to the front top mounting and may be secured by means of a separate bracket.
- A front strut brace may be fitted and may be triangular in shape – IT CAN BE BOLTED OR WELDED TO THE BULKHEAD OR WELDED TO THE ROLL CAGE.
- Cars fitted with torsion bar suspension may use any rate of torsion bars but their profile must remain as manufactured.

#### Shock Absorbers - Front

- Uprated version of the original dampers may be used and may be strengthened but must not be adjustable with the exception of an adjustable version being permitted if the adjuster is removed or disabled. The lower abutment plate must remain in its original position and the unit must mount as the original and to the original mountings and must not be modified to achieve camber, with the exception of locating holes. Corsa C hubs may be altered at the bottom i.e. thinned to accept Nova or Corsa B struts.
- Strut casings and inner rods of unequal length may be used.
- All suspension components must mount to body shell in the original style – however strut top mounting holes maybe elongated to achieve camber.
- Front suspension spring seat can be modified to accept different width and length of springs. Aluminium/nylon & rubber packers can be used but must be a complete circle so they cant slide out or fall out.
- The original top must be used but can be modified to accept different spring diameters.
- Top and bottom strut mounting points must be used and fitted as standard apart from slotting holes.
- Bottom must retain original shape and holes must remain within original shape.
- The spring seat must be welded.

Unless stated above, no metal may be added to suspension parts.

## **7. REAR SUSPENSION**

Rear axle locating rods must remain standard length and bushes as original. For vehicles fitted with a rear beam axle, any repairs carried out to the rear axle beam should be done by simply resetting the beam with hydraulic equipment, always within the manufacturers' tolerances.

### **Springs**

Springs are free & must be retained by either wiring, tie wraps or clips or bolted or welded tube to secure. The use of packers (Nylon or Rubbers) on the between the spring platform & base of the spring is allowed to a maximum of 20mm.

#### Shock Absorbers – Rear

No competition shock absorbers are allowed on the rear. Gaz or Shock Tec type rear shock absorbers are allowed to a maximum price of £45 incl VAT(in the case of citroen or Peugeot £55 including vat)

## **8. STEERING**

The use of quick release steering wheel mechanisms is permitted. Steering rack arms may only be shortened or lengthened i.e; the nearside arm may be lengthened and the offside arm may be shortened. The steering rack must occupy its original position, but the steering column height may be adjusted to suit the driver. It is recommended that the upper retaining bracket of the column be strengthened on some cars for safety. No quick racks or devices that act as a quick rack are allowed. ***Polybush on rack mounting ONLY – rack mounting may be strengthened.***

## **9. BRAKES**

To be as original and to work on all wheels. ~~Handbrake is compulsory.~~ No biased braking. No modification to brake compensator(s). No hydraulic handbrakes except where standard. No competition parts with the exception of competition pads may be used. Brake components from the same manufacturer's range may be used, but must be done without modification of standard parts and may not be from a larger cc vehicle e.g. no parts from a 1600cc may be used. For front wheel drive cars fitted with load dependent brake pressure regulating valves, the valve must not be modified, but the connection from the suspension to the valve may be adapted or removed, and the regulator lever arm secured in any position. **(You may remove or change rear**

brake pressure valve but no adjustable type).

**In the case of the Corsa D and Adam, you may machine disc and caliper carrier to fit a 13 inch wheel – standard Vauxhall parts must be used.**

## **10. BODYWORK**

THERE MUST BE NO DRILLING OF HOLES ON ANY PART OF THE SHELL/SUBFRAME/AXLE/SUSPENSION AND NO REMOVING OF ANY PART OF THE CHASSIS LEG AT THE REAR.

To remain as production (see \*\* below) with removal of inner door panels and tops of doors and the inner rear quarter panels from the waistline down being permitted. Tops of tailgates must remain on. If Structural stiffeners have been removed then sill bars must be fitted made from roll cage material & connected to the A&B pillar of the roll cage & must include a minimum of 2 connecting bars each side.

Wheel arches may be cut away to accept a wider rim. If the body is cut then 2" (50mm) wheel spats of mild steel must be fitted. Seam welding is not permitted anywhere on the car with the exception of the doors AND WHEEL ARCHES. Tack welding is allowed - this is defined as being 2" (50mm) weld with a 6" (150mm) gap before next weld.

CORSA C & D inner roof skin from the roll cage rear hoop may be removed, this is going to be looked at whether it should be put back in for 2019.

This is a bracket which you may put on a Corsa C from the chassis out to the front bumper to support the end of the bumper. This is the maximum size allowed and must be bolted and not welded in place with a maximum of 2 bolts each end.

No strengthening may be added, but on cars where suspension mountings or subframe locate on a weak part of the body suitable strengthening may be added. All doors must be fixed when racing. No spoilers or aerofoils except where fitted as standard to the make and model of the car. Mild steel panels only may be used, door skirts may be fitted but these must tie into the lower edge of the wheel arch and must not be deeper than 2" (50mm). The width of the skirts must not be wider than the wheel arch. A single 2" (50mm) diameter inspection hole must be included in bumpers on the driver's side. **Side skirts must not exceed a thickness of 1.6mm.** Holes are permitted in side skirts but must be equal on both sides. Gusseting of the near side front and off side rear wheel arch IS ALLOWED. Gusseting is permitted between the centre line of the front and rear axles, where the side skirt joins the wheel arches. Cars fitted with integral rear panel and bumper may substitute them for a metal panel of original shape and size.

Any replacement panels must be of the original gauge with a single 2" (50mm) diameter hole drilled for inspection. Front panels **and rear panels must not exceed a thickness of 1.6mm.** FRONT CHASSIS MUST NOT BE EXTENDED, EXCEPT FOR A MAXIMUM OF TWO VERTICAL 18 GAUGE FLAT PLATES FROM CHASSIS TO FRONT PANEL. THIS MUST NOT BE BOXED IN ANY TYPE OF WAY. Holes are permitted in the front panel between the headlamp apertures for cooling purposes only. Where two sections are used to form a front panel, the overlap must not exceed ½" (13mm). Repairs to front wings and flitch panels must be carried out with material of original thickness, not 18 SWG. Support for corners of the wings to a maximum 12mm tube by 2mm wall thickness and supported by 2inch square plates with a maximum thickness of 2mm. Where front panels are non-original of 18 SWG, only the front section may be of that material; the "wrap-around" section to join it up to the wings and the inner flitches etc. must all be constructed with the original thickness of material which is usually 22 or 24 SWG. Where front panels are non-original, the shape reproduced must be the original silhouette of the car when the original bumper is removed. Front panels must not incorporate a front bumper in the shape produced. Likewise the flitches must follow approximately the original contour, not folded with angles to provide strength. Where bonnet slam panels are replaced, lightweight tube or box (2" (50mm) x 1" (25mm) or 1" (25mm) x 1" (25mm) 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" (25mm) 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. EXTRA HOLES OTHER THAN THOSE STATED ABOVE ARE NOT PERMITTED.

The rear window aperture of a Vauxhall Tigra (which is viewed from the side elevation only) may be filled with metal **or Fibreglass.**

\*\* Where replacement panels are unobtainable, similar panels from other makes of vehicle may be used. Cutting hole in chassis max 50mm x 50mm to access captive nuts etc.

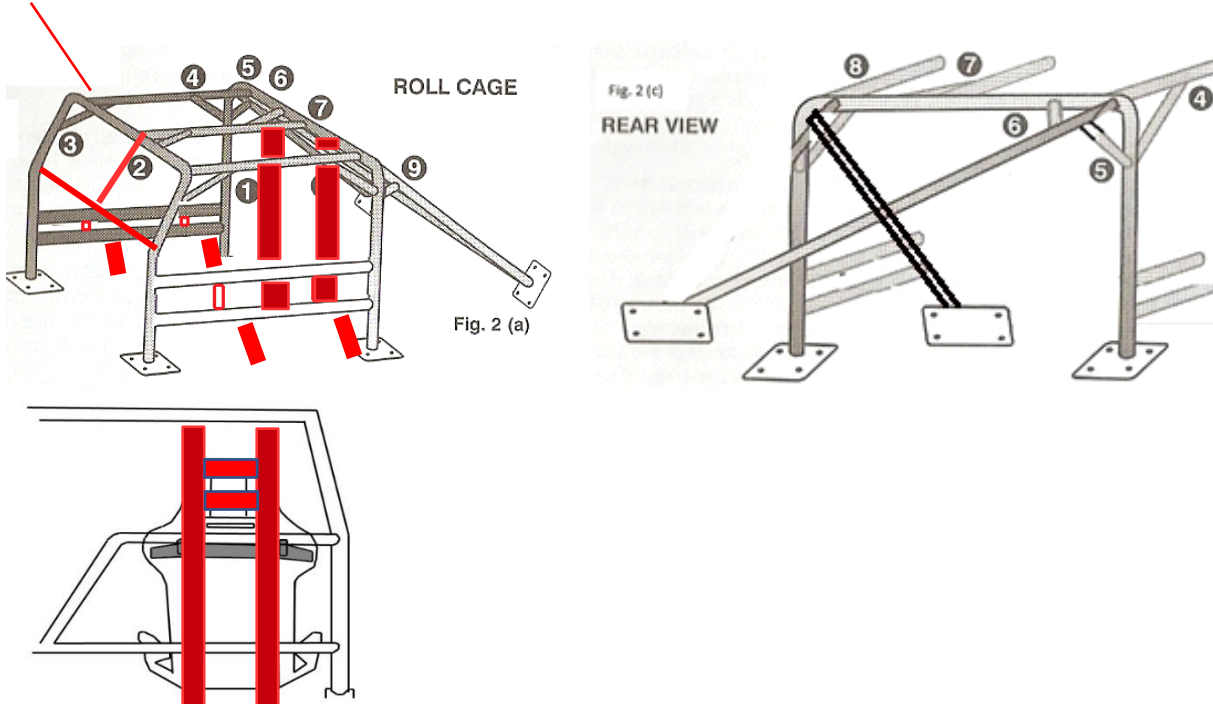
## 11. BUMPER & GRILLES

A rear bumper may remain on the car occupying its original position. You may replace this with a panel as set out under bodywork rule 10. For STEEL bumpers, there must be one 2" (50mm) inspection hole on the driver's side. Grilles must be original or plastic replacements and must remain in their original position. Fibreglass grilles are allowed and may include headlamp apertures. Cars must run a grille if originally fitted. **On older cars (Nova, Corsa B etc; you may fabricate a front and rear bumper support bar with a maximum thickness of 1.6mm, you may also use fibreglass bumpers supplied by Spedeworth ONLY.**

## 12. ROLL CAGES

No Alloy roll cage or part cages are allowed. The minimum steel roll cage protection you must have is one front hoop, one rear hoop, one rear hoop cross bar at shoulder height to mount seat support or a seat brace hoop as a seat support, three roof connecting bars, one dash cross bar **going across the bottom of the window aperture to a maximum of 5 inches down. Also 1 25mm od or 2 10mm od tube bars from top to bottom bar on roll cage front window.** two D/S chicken bars plus two connecting bars, & two P/S chicken bars **plus two connecting bars**, & minimum 2 rear stay bars to the rear shock towers or floor but must terminate at least 4" from the rear panel (**must be either Fig 2(b) or 2(c)**). The lower bar on the drivers side (if horizontal) should be a minimum of 3" (76mm) above the sill. The roll cage hoop feet must be on four welded 23cm square plate 3mm (min.) thick, or a piece of 38 x 38 mm box section, 2.5mm minimum thickness, connecting front and rear hoop feet welded to sill or floor. This bar will not be classed as a chicken bar. All joints must be welded over 90% of the joint unless as approved RACMSA cage is used. The cage must not protrude through the bulkhead with the following exception. It is permitted to support both turrets from the roll cage with the maximum material and gauge as the roll cage, but the shock absorber must not connect to it. All bars connected to the cage must be steel. The minimum thickness of the roll cage are 1¼" OD 10swg (3mm) tube 1½" OD 12swg (2.5mm) tube 1½" x 1½" 10swg (3mm) box iron.

**Front Windscreen bars no more than 5" from window surround.**



Corner gusset bars are included in the diagrams to be added as a means to add weight to the car if necessary.

## 13. SEATS

You must have a Competition type Driving Seat with a head restraint.

The seat should occupy its original position where possible and be suitably supported at shoulder height and on both of the sides and back, with a suitable framework or seat stiffener's.

**Seat should be in front of b/pillar hoop [if not] a twin drag car type bars must be fitted off roll cage hoop to either the back bars or the roll cage or if it goes to the floor it must be sat on 23cm square plate 3mm (min.) thick.**

**These two bars must be connected around the head height with at least two connecting bars.**

**This new section must not be constructed in a way that a drivers helmet can make contact with it.**

**Material od and thickness as rest of roll cage.**

#### **14. SCREENS**

All glass must be removed. Front screen must have a central bar of 19mm x19mm or ¾" x ¾" SHS welded in place. An interior mirror must be fitted. A drivers door mirror must be fitted, mounted in such a position that it does not project further out than the body. (Must not be able to get knocked off whist in racing traffic).

#### **15. BATTERIES & 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. If two batteries are fitted, then the car must have a 24 volt system. You may not use two batteries as ballast. Plastic battery boxes are not permitted. **Master cut of switch must cut all power to car**

#### **16. STOP LIGHTS**

Either two stop/brake lights or one single stop/brake strip-light must be fitted onto the rear parcel shelf or hung from the roof. If two lights, they must be a minimum of 30 inches (762 mm) apart facing rearward. Lamp(s) 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 diameter 3" (76mm), maximum diameter 5" (127mm).
- For square/rectangular type lamps: minimum 3" (76mm) square, maximum 5" (127mm) square.
- For strip type lamps 16" (406mm) maximum width.
- All brake lights must be Red.

#### **17. FUEL TANKS**

Fuel tanks must be metal or FIA approved 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, and must be at least 6" from the battery, i.e. they are no longer allowed to be fitted in the spare wheel area. They **MUST NOT BE FITTED BELOW THE REAR CHASSIS RAILS AND MUST BE FITTED ABOVE THE FLOOR INSIDE 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 with a 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. Fuel regulators may be used. The fuel pump must be fitted in the rear behind the driver.

A one way valve must be fitted to the breather pipe.

#### **18. FUEL**

For the full fuel specification please see back page.

#### **19. SILENCER/EXHAUST**

The only silencers allowed are the AX891,Laws or Simpson ORC225 & Edwards Exhaust. A minimum of 2" (50mm) and a maximum of 10" (254mm) section of tail pipe must be fitted to the silencer facing rearwards or down - THIS WILL BE MEASURED FROM THE REAR OF THE BOX (NOT THE PIPE). **Downpipes are free. but must not enter the main body of the silencer they can only be fitted into pipe on outside of main silencer body.** The Vauxhall Corsa/Tigra may use the Nova twin outlet exhaust manifold. (See cylinder head.)

#### **20. RADIATORS**

Radiators are free but must occupy their original position. A heater matrix may be used as a secondary radiator but must be fitted under the bonnet. **Twin fans can be fitted.**

## **21. ROOF COLOURS**

As from 2018 stock rods will be asked to run their grades via there Roof fins.

The fins must be as follows:-

- White Grade – Black numbers on White background
- Yellow Grade – Black numbers on Yellow background
- Blue Grade – White numbers on Dark Blue background
- Red Grade – White numbers on Red background
- Points Champion – Black numbers on silver background
- World Champion – Black numbers on Gold background

The rear of the fin must be plain & white in colour, the roof of a car cannot have a championship status unless the driver is the reigning champion & a roof colour has been designated to that championship E.G. Gold Roof denotes World Champion. No sign writing is permitted on the roof of the car displaying previous championship history which no longer current E.G. the 2015 National Champion cannot display the fact of this in 2017.

***The British Championship, European Championship & National Championship will be classed as an open championship.***

***Certain promotions have started a new lining up system with in the Red/Blue grade, were the drivers in this grade will pick out of the hat at the drivers briefing for a reverse grid format amongst there grade.***

<b>World</b>	<b>Gold</b>
<b>Points Champion</b>	<b>Silver Roof</b>
<b>European</b>	<b>Red/Yellow Chequered</b>
<b>British</b>	<b>Black/White Chequered</b>
<b>National</b>	<b>Gold Stripe with red roof.</b>
<b><i>Best In Britain</i></b>	<b><i>Union Flag</i></b>
<b>English</b>	<b>St. George's Cross</b>
<b>Scottish</b>	<b>St. Andrew's Cross</b>
<b>Northern Irish Champion</b>	<b>Union flag incorporating the Ulster banner</b>
<b>Southern Irish Champion</b>	<b>Republic of Ireland (Irish Tricolour)</b>
<b>Red, Blue, Yellow, white.</b>	

When signing in you will be issued with a grid which shows your starting position for your races, unless you are instructed differently by a race official or it is a championship event i.e Reverse grid format. Drivers are reminded that it is your responsibility to line up in the correct position on the grid this includes leaving gaps if certain cars are absent. If spotted starting in the wrong grid position before the initial green flag you will be penalized to the back of the grid. If it is brought to the steward of the meetings attention after the initial green flag you will be excluded from the result. This is subject to change depending on the promotion, drivers should confirm with the steward of the meeting beforehand which race format is being used.

If you win a race at a meeting; you will start the remaining races from the rear of your grade. Should you win another race at the same meeting – you will be automatically upgraded.

## **22. NUMBERS**

Numbers must be displayed on both sides of the car in contrasting colours with a minimum of 12" high in 2" strokes. Regulation fin numbers must be Black 9" high in 1½" strokes minimum.

All numbers must be of professional appearance and can be painted on the roof itself in addition to the fin plate.

## **23. TRANSPONDERS**

Transponders are mandatory and should be working at all times. They should be fitted 1.8 metres back from the front most position of the car. A hole of at least 6" (150mm) is required in the floor, with the transponder fitted vertically, just below the hole. In the event of a dispute with the transponder result, the Steward of the meeting will make the final decision. Any driver found to have fitted the transponder further forward than the required 1.8 metres will be excluded from the meeting.

## **24. SIGN WRITING**

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

## **25. WEIGHT**

Warning: Cars can be weighed at any time before, during or after a meeting, without driver. They must always achieve the minimum weight; the adding of fuel or any other liquids is not allowed to achieve this minimum weight. The minimum car weight for rear wheel drive cars is 650Kg and front wheel drive cars is 720Kg.

The use of ballast to achieve this weight must be steel plate bolted to the full width & length of the floor, with equal amounts in all four footwells & in the same position in each footwell on a Vauxhall nova only.

All other permitted race cars can run a maximum of 20kg of bolt in ballast (this must be steel plate (No Dumbbells) anywhere in the footwells bolted in with minimum of 4 12mm bolts) including the Vauxhall nova. Any other weight needed must be added to the rollcage but not as ballast.

The right hand driver's side weight must be a maximum 54%, at any time – this will be weighed without the driver in the car.

No more than 20kg of ballast allowed to be added if you need more weight you must add this to strength in the roll cage.

If you are checked and over the 54% but under 54.5% on your first offence you will lose all points/monies due on the day and receive a final warning & loaded for the day. You must have this written in your log book.

If you are found on a second occasion to be over 54% but under 54.5% you will receive a one meeting suspension from your registered promotion & will not race anywhere else until this has been served, & lose all points/monies due on the day.

Anyone over 54.5% on their first check will receive an automatic one meeting ban, and loaded immediately with loss of any points or monies due (if applicable).

If a driver is found over 54.5% on a second occasion the penalty will automatically be doubled, or possibly carry a longer suspension. Checks will be carried out at any time.

<b>Underweight Vehicle Bans</b>	
<b>Car Underweight by:</b>	<b>Banned From Racing For:</b>
0.001kg – 1.0kg	1 month
1.001kg – 2.0kg	2 months
2.001kg – 3.0kg	3 months
3.001kg & over	6 months

## **26. SAFETY EQUIPMENT**

Helmets must be of a minimum standard as directed by British Oval Racing Safety Executive (B.O.R.S.E). These are FIA8860-2004, FIA8860-2010, Snell SA2005, Snell SA2010, Snell SA2015, SFI Foundation 31.1A, SFI Foundation 31.2A. The E2205 European standard helmet may be used in Fibreglass, Carbon or Tri-Composite form only i.e. NO POLYCARBONATE helmets are allowed. 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 (ORC15) 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.

## **27. RACEIVER**

***All drivers MUST use an official Raceiver.***

***Any driver whose Raceiver is not working when forming the grid prior to a race will not be allowed to race, unless it can be repaired before the race start.***

***It is strongly recommended that you carry a spare battery either in your overall pocket or taped inside your car.***

## **28. GENERAL RULES OF RACING**

Each driver is only permitted one car per meeting and each car is only permitted one driver per meeting.

The Malcom Girling Rule may only be used on championship races which cover a roof grade e.g. World Championship. This is when a car has deliberately been taken out by breaking the rules of racing within the last 3 laps of the race e.g. a car coming off the infield to stop the leader.

If the Steward Of The Meeting decides that the Malcolm Girling has come into effect the result shall go back to when the offence occurred and the leader of the race at that point will become the winner. The Malcolm Girling rule only applies to the driver leading the race.

***Drivers and teams are reminded that a secondary means of supporting a vehicle must be used when working underneath a car that has been jacked up (i.e. axle stands).***

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

***REVISED RULES FOR 2020 HIGHLIGHTED IN BOLD/ITALIC RED PRINT***

***ITEMS MARKED STRIKETHROUGH ARE NO LONGER ALLOWED***

***2020 Stock Rod Technical Specifications Issue 2, Dated 30<sup>th</sup> January 2020.***

## All Oval Racing Formulae

Permitted fuel specification from 1<sup>st</sup> January 2008 (this specification supersedes all previous specs).

- All cars must only use fuel from roadside pumps as defined below.  
Petrol (Motor Gasoline of the type on sale to the general public from roadside filling stations) BS 4040 (Leaded) Subject to a valid permit for use. LRG (Unleaded), BS EN 228 (Unleaded), BS7800 (Super Unleaded).
  
- Petrol is a product refined from crude oil that contains a large number of identifiable compounds that can typically be 250 in number. These compounds can be identified and compared to the available petrol from major oil companies and suppliers.
  
- Unless otherwise stated, or the distinction is made between leaded and unleaded petrol, major gasoline fuel shall meet the following; Acceptance levels for Octane numbers will be determined at 95% confidence level. Only additives to this motor gasoline fuel solely for the purpose of lead replacement are allowed.
  
- Lead Replacement Gasoline, LRG, also known as LRP. Only additives from Sodium, Phosphorous, Potassium, or Manganese according to manufacturers recommendations are allowed. Note; Manganese can enhance octane values in any petrol. Under no circumstances will values in excess of 0.005 grams/litre be permitted.  
Lead in excess of EU directive 98/70EC requirements is illegal.
  
- We reserve the right to amend the detail of the above specification to reflect any change occurring in the quality of the fuel on sale to the general public at any time.

### Roadside fuel consistency when testing fuel samples.

	<b>BS EN 228</b>	<b>BS 7800</b>	<b>BS 4040</b>	<b>LRG/LRP</b>	Test Standard
Motor Oct No (max)	89.0	89.0	89.0	89.0	ASTM D2700/86
Mon (min)	85.0	86.0	86.0	86.0	ASTM D2700/86
Research Oct No (max)	100.0	100.0	100.0	100.0	ASTM D2699/86
Ron (min)	95.0	97.0	97.0	97.0	ASTM D2699/86
Lead (max)	0.005	0.005	0.15		ASTM D3341 / IP362
Lead (min)	ASTM D3237	ASTM D3237		0.005	ASTM D3237 / D3341 / IP362
Density @ 15°	0.720 - 0.775	0.720 - 0.775	0.720 - 0.775	0.720 - 0.775	ASTM D1298/ D4052
Oxygen % max	2.7% w/w	2.7% w/w	2.7% w/w	2.7% w/w	Elemental
Nitrogen % max	0.1% w/w	0.1% w/w	0.1% w/w	0.1% w/w	ASTM D4629/ IP379
Benzene % max	1.0% v/v	1.0% v/v	1.0% v/v	1.0% v/v	EN238
Sulphur	150mg/kg	150mg/kg	150mg/kg	150mg/kg	EN ISO 14596 / ASTM D2622
Olefins*	18% v/v	18% v/v	18% v/v	18% v/v	ASTM D1319
Aromatics*	42% v/v	42% v/v	42% v/v	42% v/v	ASTM D1319

\* Olefins and Aromatics values are expressed as a percentage of total fuel.