

2019 **O.R.Ci** SALOON STOCK CAR SPECIFICATIONS

VIOLATIONS

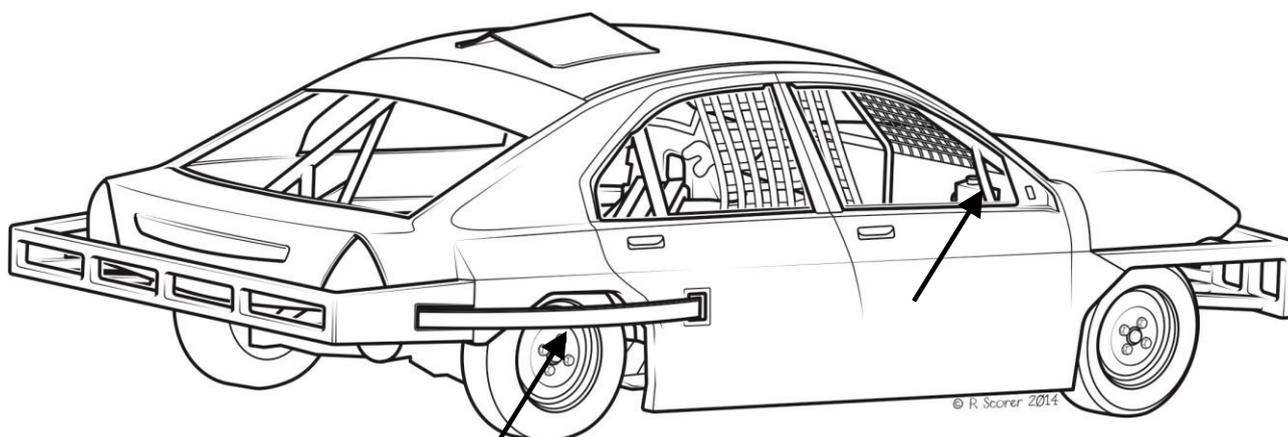
When referring to ANY OF THE SALOON STOCK SPECIFICATIONS NOTED HERIN the principle will always be: **Unless permission is specifically granted to make modifications or any variation, NOTHING MAY BE DONE TO ALTER OR CHANGE IN ANY WAY THE STANDARD PARTS. Unless these rules state you CAN do it, you CANNOT do it.**

All specifications, where applicable, will be taken from Auto Data. Technical queries can be addressed to, SSCA, c/o ORCi, PO Box 9889, Birmingham B43 6WA and drivers are encouraged to submit queries in writing on any aspect of technical information for which they require clarification. Any written queries will require 21 days to receive an answer.

Drivers are reminded that technical checks can be carried out at any time. If parts are suspected of being illegal you must leave them with the promotion. If you refuse, this will automatically deem the parts illegal. It is the responsibility of the driver to prove to the SSCA 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 & BODY SHELLS

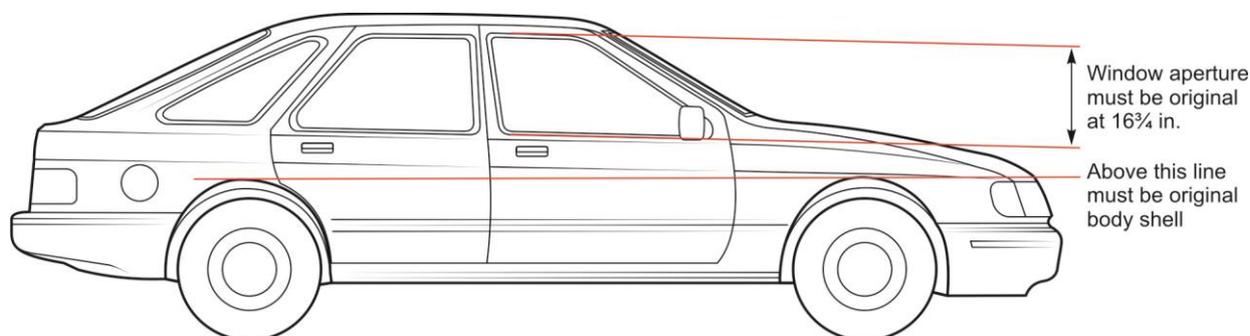
- Cars must be built to Ford Sierra running gear specification. All cars/components must be UK specification only, no sports or competition components permitted unless otherwise stated in these technical specifications.
- All bodysHELLS must be constructed using one from the following (estate versions not permitted):
 - Ford Sierra/Sapphire
 - Ford Mondeo (Mk1- 4, 4dr or 5dr)
 - Vauxhall Vectra (Mk1-2, 4dr or 5dr) - Vectra C (mk3) bodysHELL is not permitted on new cars after 2014.
 - Lexus IS200 (Mk1 4dr 1998-2005)
 - BMW E36/E46 3 series (4dr no compacts)
 - Audi A4 (Mk1-2), VW Passat (Mk 1-2)
- **The bodysHELL (i.e. roof, pillars, bonnet, boot, doors) to a minimum of 150mm from the bottom of the window apertures to waistline must be original – see diagram below.**



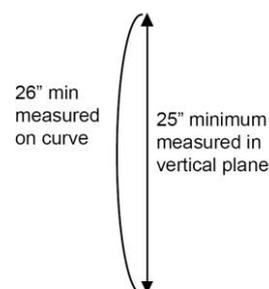
- **ALL PILLARS MUST REMAIN IN THEIR ORIGINAL POSITION** and must retain the original door mirror locating corner gusset. **It is ONLY permitted to move the bodysHELL B pillar (up to 100mm from original), if a support bar is fitted from the rollcage at the A pillar returning downwards to the driver's door top/chassis rail as noted by an arrow above.**
- BodysHELLS must not be tatty, and must be complete with no holes, unless standard to the panel.
- The bodysHELL must be symmetrical on both sides, with the required door/sill/window heights to be achieved on both sides of the car. Sills folded under the car to achieve correct bodysHELL heights are not permitted, and therefore the sill must be backed by steel tube or RHS at its lowest point.
- Race damage repairs and lower panel work may be formed from sheet steel if required.

- Doors must be welded closed.
- The only holes permitted in the bonnet are to accommodate the air filter (these must not be covered in anyway). Vents to force feed air are not permitted.
- All cars must be a maximum width of 1778mm (70") over the entire length of the car; this does not include the mandatory wheel arch spring as shown arrowed above, and the front bumper extension - see rule 4.
- The overall length of the car, including bumpers must be a minimum of 170" and a maximum of 172".

Sierra – Bodyshell measurements



- Mondeo – Bodyshell - Window aperture must be original at 17¾"
- Vectra Bodyshell - Window aperture must be original at 17"
- Door height from lower window aperture to bottom of sill must be a minimum of 26" on ANY bodyshell.
- This will be measured by taking a tape measure flat on the curved surface and this must be a minimum of 25" measured in a vertical plane as per diagram (right). Note one of the above measurements must achieve a minimum 26" regardless of how curved or straight the door is.



2. ENGINES – 2 LITRE PINTO

(for rules regarding the 2 Litre Zetec Engine – please refer to separate specification).

Note that from 1 March 2021 the Ford Pinto engine will not be permitted for use.

General

- The only engine permitted is the 2-litre Ford Pinto. It must remain as manufactured by Ford other than where specified.
- The "207" block is not permitted.
- A catch tank must be fitted within the engine compartment capable of catching any oil discharged from the engine.

Cylinder Block

- The cylinder block may be surfaced but pistons must not protrude above the block face.
- Overboring to a maximum of 0.060" is permitted.
- Grooves cut into the oilway of the journal on the crank are permitted.
- The crankshaft must weigh a MINIMUM of 12.7kg.
- ARP replacement con rod bolts are permitted for use.
- Pistons must be a standard type though from any manufacturer produced as a standard replacement part and must not be altered in any way.
- At least one piston must retain its original manufacturers I.D. markings on the piston crown.

Cylinder Head

- Surfacing of the cylinder head is permitted.
- Injection heads are permitted.
- Seat angles are free on cylinder head; no fettling is permitted to merge seat angles into porting.
- Any single valve spring is permitted. Valve spring seats maybe machined and shims may be fitted under springs to provide the correct fitted length of valve spring.
- Valve guides may be repaired by the use of a thinwall liner only, with valve and guide occupying their

original position. All valves must remain the original manufacturer's length.

- All valves must be standard 2-litre specification, though maybe from any manufacturer produced as a standard replacement part. (Karl Schmidt bronze type valves are not permitted).
- Oversize stems are permitted.
- Valve seats may be re-cut but the valve and valve seat, must retain the original 45o seat (as per manufacturer's specification).
- Three angle seats are not permitted on the valve.
- The back of the valve is to remain unworked.
- Full replacement guides are not permitted.
- Head Gaskets must be Ford part No. 85 HM 6501 or 92 HM 6501 or any non-competition gasket.
- Cylinder head studs may be cut or fitted with washers to prevent bottoming out of studs.

Camshaft

- Camshaft profile is free and an adjustable vernier type timing belt sprocket may be used.
- Cross drilled cams are not permitted.

Flywheel & Clutch

- These must be standard 2-litre or 1600cc components but flywheel may be machined to a total minimum weight of 12.31kg including clutch cover, driven plate and all mounting bolts.
- For balancing see below.

Balancing

- Balancing is permitted by spot machining.
- Spot machining, means either, by hand grinding, drilling or machining.
- When balancing pistons or con-rods, at least one of each must retain its original markings, and one of each must remain untouched.
- Flywheel and clutch may be balanced.

Sump & Oil Pump

- The sump may be baffled with the pick-up pipe altered to pick up from within the sump.
- Scraper plates between the sump and the engine are not permitted.
- The baffle must be contained within the sump.
- The oil pump is free.

Manifolds

- Manifolds must remain unworked other than the water passageway on the inlet which is permitted to be blanked off.
- It is permitted to fit a strap to support the inlet manifold and it is permitted to make welding repairs to cracked manifolds but no machining is permitted.
- The angle of relationship between the carburettor and cylinder head face on the inlet manifold cannot be altered.

Ignition

- A standard Bosch or Motorcraft (injection or carburation) type distributor must be used with either points and condenser or electronic ignition pack. If Lumenition is used the module part No. PMA 50 and sensor FK 221 must be fitted. Motorcraft magnetic ignition must use module No. FK 9 PM A 50.
- The vacuum advance may be altered or removed and the mechanical advance may be altered.
- To achieve automatic advance in conjunction with the injection distributor, the Vauxhall Astra module, part No, Bosch 1227022008 / or 006 / or 016 may be used.
- Only a standard Ford (or exact replacement) 2 litre pinto ignition coil can be used.

Carburation, Fuel Pump & Pressure Regulator

- Only the standard Weber 32/36 DGV or DGVA carburettor may be used with a maximum of 26mm and a 27mm sized chokes.
- **The carburettor maybe fitted either way around.**
- No polishing or re-profiling is allowed. No modifications to the carburettor body or original design.
- The interchanging of the carburettor top from other Weber models is not allowed.
- All gaskets must remain standard and original.
- A single original specification phenolic insulator block must be fitted between



carburettor and inlet manifold. The centre cut out must match that pictured (right). The insulator block must be used with two gaskets (cross referencing with 76 HF-9447-AA and 76 XF-9447-AA). The total thickness of the gaskets and insulator block must not exceed 6 mm.

- 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 must not be enlarged or modified, and fuel may enter on either side. Floats must not be modified or weighted, and must control the fuel flow. Needle valves must 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 carburettor body.
- Top end enrichment devices may be blanked off or modified.
- No inlet port matching of the carburettor 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.
- The power valve must be fitted in the base of the fuel bowl but may be sealed off and the diaphragm may be removed. No induction trumpets are permitted. A grub screw or similar device may be used to fix the auxiliary venturi in the carb body.
- A single electric pump or the standard mechanical pump may be used in conjunction with a pressure regulator.
- Glass bowls are not permitted on the regulator.
- A secondary fixing is mandatory on the inlet pipes & outlet pipes to the carb, regulator and fuel pump to prevent pipes becoming detached under pressure.

Cooling

- The radiator must be mounted in front of the engine, between the chassis.
- Electric fans on the engine are permitted.

3. SUSPENSION

Wheelbase

- The wheelbase must be 2604mm (102.5"). The wheels must occupy their original position within the wheel arch. The driver's side wheelbase measurement must remain standard with a +/-25mm tolerance. ~~From 1 March 2019 this tolerance will +/- 5mm.~~ The passenger side is permitted a lead of 50mm max. Measurements will be taken from the centre of the rear wheel to the front spindle and without movement of the steering in between taking the two readings.
- Cars must achieve a minimum ground clearance at all times of 100mm under the entire car (the exhaust will be excluded from this).

General

- **No wheels/tyres are allowed to protrude beyond the outer most edge of the chassis/steelwork (this does not include the 75mm permitted bumper addition or rear wheel arch spring guard).**
- Spring rates are free and springs may be shortened to lower the car.
- The use of rose joints or other spherical type bearings are not permitted **(with the exception of the steering column).**
- All suspension components must remain standard with the following exceptions:

Front

- The maximum negative camber permitted on the passenger side front wheel is **12°** 40 degrees.
- No positive camber on the driver's side front wheel.
- Strut tops must be mounted in as near to original position as possible. A tolerance of 50mm is permitted on the passenger side strut top taken from the original centre point, forward or back. You are permitted to move the strut top in towards the engine to achieve camber. Strut top measurements maybe checked by taking a measurement from the front face of the pulley on the engine.
- Only standard Sierra sealed strut units are permitted (no P100 struts permitted). The only alterations are: platform height can be adjustable; spring platform size can be changed; and that the unit can be strengthened. Some downward movement must be retained. The retaining lug on front struts maybe removed. However the strut must be mounted in its original position on the hub carrier, and must not protrude through the mounting point any further than if the retaining lug was used.
- No adjustable shock absorbers or struts are permitted, except one extra shock absorber on the

passenger side front. This must be an adjustable platform/damping auxiliary shock absorber, no double adjustment permitted; you may adjust the bump or rebound but not both on one shock absorber. The maximum retail price for a shock absorber is £95+ VAT.

- Inboard suspension is NOT permitted.
- The secondary shock absorber mounting points must be rigid and must not pivot.
- One standard Sierra (front) anti-rollbar maybe used. This must be mounted in its original position and orientation. An anti-roll bar must not to be used in conjunction with a compression strut – see below.
- A single compression strut maybe used on each side of the car. These are free but no rose joints/spherical objects are permitted; however standard production track rod ends maybe used.
- Track control arms can be strengthened (both sides) and lengthened (passenger side only)
- Driver's side track control arm must be mounted in as near to original position as possible. Both the driver's side and passenger side must be mounted the same height from the ground when the car is level. However, you may locate the mountings closer to the wheel or engine accordingly. You may mount the passenger side arm up to 25mm further forward.
- The steering rack must remain standard (i.e. driver's side track rod end must be on the driver's side) and be mounted in its original position. This will be checked on the driver's side, by means of a measurement from the pivot bolt for the track control arm and mounting bolt for the steering rack (see diagram below).



- The steering rack can be lengthened on the passenger side (only) at the thread end and not the end which attaches to the main part of the steering rack.

Rear

- Rear wishbones maybe mounted without the original horseshoe support beam, **however they must be mounted symmetrically in the car, as if mounted using the original horseshoe. This ensures that the wishbones are the same height from the ground on both sides of the car, when the car is level, and that one wishbone cannot be mounted further forward than the other.**
- Rear wishbones MUST remain standard, no alterations to profile/angles/dimensions are permitted
- Rear wishbones maybe repaired, and strengthened but only by the means noted below.
 - The recommended process for repairing a rear wishbone is to cut from either the top of the casing and/or the bottom of the casing, but not through the entire arm i.e. not cutting through the original seam on either side. These repair cuts can be anywhere within 200mm from the centre of the bolt hole on the two front pick up points as shown in the diagram below.



- It is permitted to weld the rear wishbone. It is permitted to add additional steel to the wishbone to strengthen it but this must not go through the arm.
- Subsequent to any repair the wishbone must retain its original geometry, profiles and measurements, to include but not exclusively, the original casting seam lining up.
- The SSCA recognises that there are numerous arms that have been repaired by means of cutting entirely through the casing. To facilitate these arms being used up, for **2019** the recommended process for repair noted above will apply, with the following exception; you may cut an arm entirely through (within the first 200mm from the pick-up points), including the original seam.

- Any arm that requires repairing more than 200mm from the front pick-up points will be considered not fit for purpose. The SSCA may consider allowing the repair of such arms through an official supplier in the future.
- For the avoidance of doubt, the SSCA will have measuring jigs available, and drivers will be able to utilise the jigs to check repair work. The onus is on the driver to have a wishbone checked prior to racing, should they have doubts about it lining up to a standard wishbone in all respects. The scrutineer's decision is final.
- Multi-hole adjustment IS PERMITTED on rear wishbone mountings, but only to ensure that all pickup points are the same height from the ground on both sides of the car, when the car is level.
- NO OTHER FORM OF ADJUSTMENT IS PERMITTED ON THE WISHBONE MOUNTING POINTS.
- The rear wheels are permitted a maximum of $6^{\circ} 4^{\circ}$ negative camber, but no positive camber.
- All shock absorbers must be standard sealed unit type, not-adjustable. They must have a retail value of no more than £50 (inc VAT) each, and must be openly available to all customers (**no Bilstein products permitted**). The SSCA will independently check the availability and price of such an item.
- Adjustment on spring platforms is permitted by means of threaded bar, spacers or multi-hole.
- Anti-roll bars are not permitted.
- Sierra 4x4 rear suspension arms can be used.

4. STEELWORK

Chassis

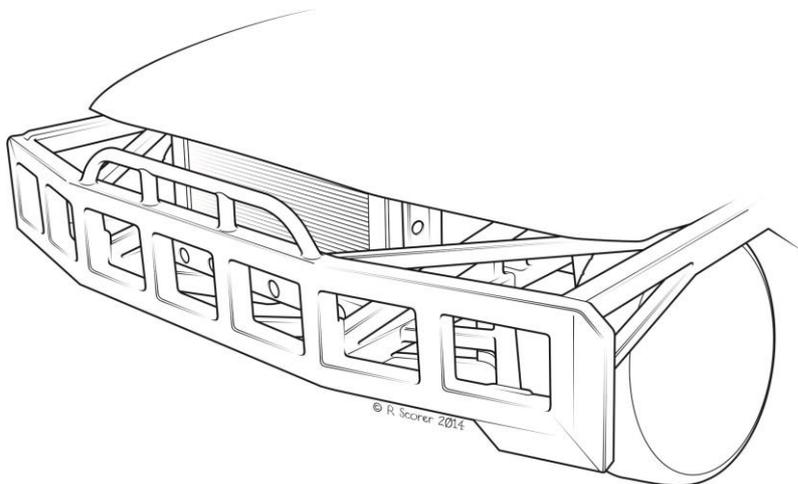
- The chassis must be constructed from steel RHS no larger than 70mm x 70mm. At least four through bars of 40mm x 40mm x 3mm minimum, must be used in the construction of the car. These must run through the cab area from the bulkhead to the rear in continuous lengths.
- Chassis tilt or stagger from passenger side to driver's side is not permitted. This requires that the distance (in a vertical plane) between the steelwork, must be the same on the passenger side as it is on the driver's side and all points in between. This includes undercarriage etc.
- **The top chassis rail (on both sides of the car) must achieve a minimum height at all times of 545mm from the ground – this will be unchanged for 2019/2020 seasons. This will be measured from the ground to the TOP of the top rail, at any point from the rear of the rear wheel/tyre to the front of the front wheel. There will be a no tolerance on this measurement.**
- This assumes everything is measured with the car sat flat on the floor (i.e. with no wheels on), and when in this position, all points must remain level/same height from the ground, from passenger side to driver's side of the car.
- To prevent the loss of wheels, a steel truck spring must cover the rear wheels. Springs must be secured at the front by a minimum 13mm diameter pin and slotted into steelwork at rear or on a 19mm diameter pin locating the rear. The heads of those pins/bolts must be protected. These wheel guards must be in place at all times and must cover the top of the tyre to wheel level. Where possible, these guards should be covered by bodywork.

Bumpers

- Bumpers must be within the 1778mm permitted width of the car.

Front

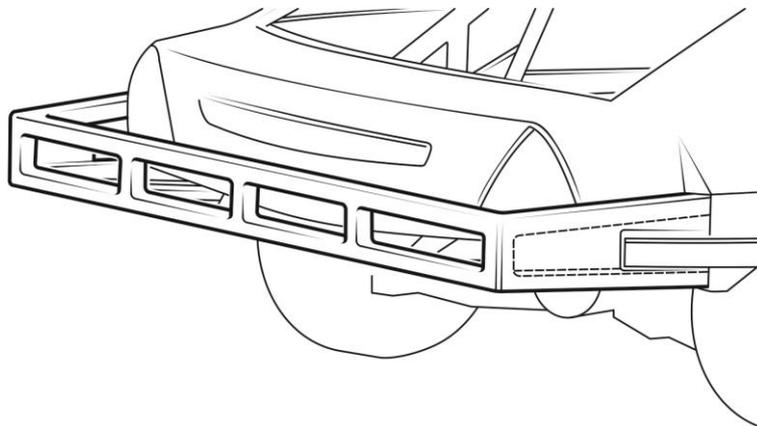
- An extension to the front bumper, up to a maximum of 75mm wide is COMPULSORY on the nearside – this must be a minimum of 380mm in height and must be mounted as per drawing. This must not be mounted higher than the rest of the bumper. The extension MUST be braced/strengthened back to the main bumper (i.e. creating a triangle).
- All SHS or RHS or equivalent, must remain hollow.
- The front bumper must not exceed the height of the bonnet.



- All bumpers MUST have smooth and rounded comers and edges. All bumper faces must be vertical.
- SHS or RHS must not be placed back to back in a horizontal plane. There must be a minimum gap of 30mm before another length of SHS or RHS is placed behind the bumper, for example between the chassis.
- A centre hoop on the front bumper to protect the engine is permitted, and must be no wider than the radiator and its fixing points.

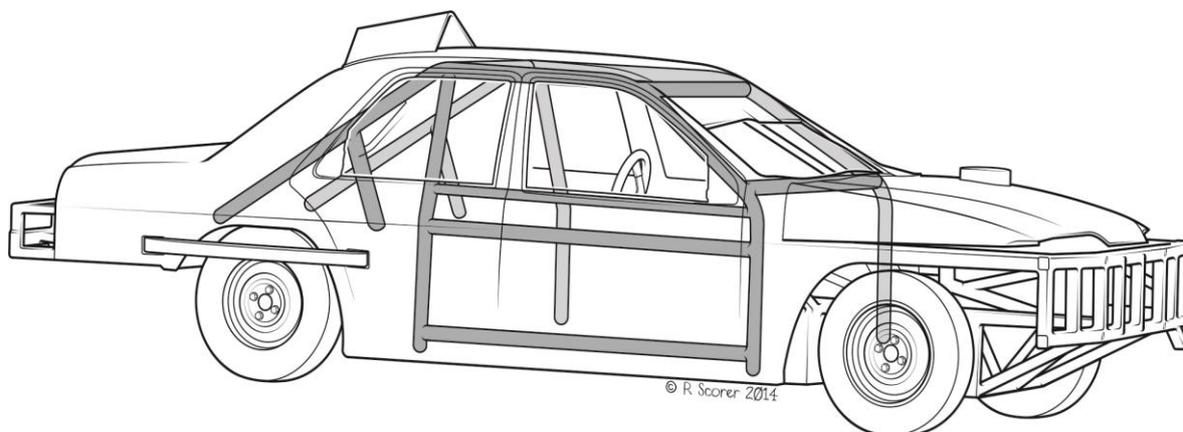
Rear

- The rear bumper must NOT be higher from the ground than 600mm, nor lower than 375mm to the centre of the lower bar from any point on the bar.
- The distance between horizontal rails shown in the rear bumper sketch should be 70mm with the overall depth of bumper being 150mm.
- The bumper must remain continuous side to side.
- The rear bumper must be constructed from two continuous horizontal bars (with no dog legs) of a minimum 40mmx40mm x3mm RHS (these must be the same thickness steel over the whole width of the bumper) with five vertical uprights as per sketch.
- The top rail must be connected to the steelwork within the car, by equivalent steel.



Rollcage

- **Rollcages are mandatory and must consist of a minimum: hoop protecting the A pillar, hoop behind the driver, two outer connecting bars between the two hoops, centre connecting bar, two rearward supports with brace underneath.** From 1 March 2019 a support bar is required to connect the centre of the rollcage to the chassis in the front passenger area. Due consideration needs to be given to the proximity of this vertical bar to the driver.
- **The above must be constructed from a minimum 40mm x 40mm x 3mm RHS or tube equivalent.**
- All other rollcage supports, braces, gussets are free.
- The roll cage must be securely welded to the through bars and chassis/floor plates.
- The rollcage must sit centrally between the extreme outside edges of the car.
- The rollcage must be the full width between the front pillars and continue rearward till a minimum of 300mm past the back of the driver's head. A 3mm steel plate must be fitted to cover the driver's side roll cage area and this must be one continuous plate i.e. no holes.
- This must be welded to the roll cage on all four sides including to a support bar joining the front and rear roll cage hoops along the centerline of the car.



- It is required to have a minimum of two rearward supports going back from the top of the rollcage hoop down to the chassis – one on each side of the car (see diagram). You may run the rearward supports in a criss-cross fashion, running diagonally from the top of the rollcage hoop at the driver's side to the chassis on the passenger side and vice-versa.

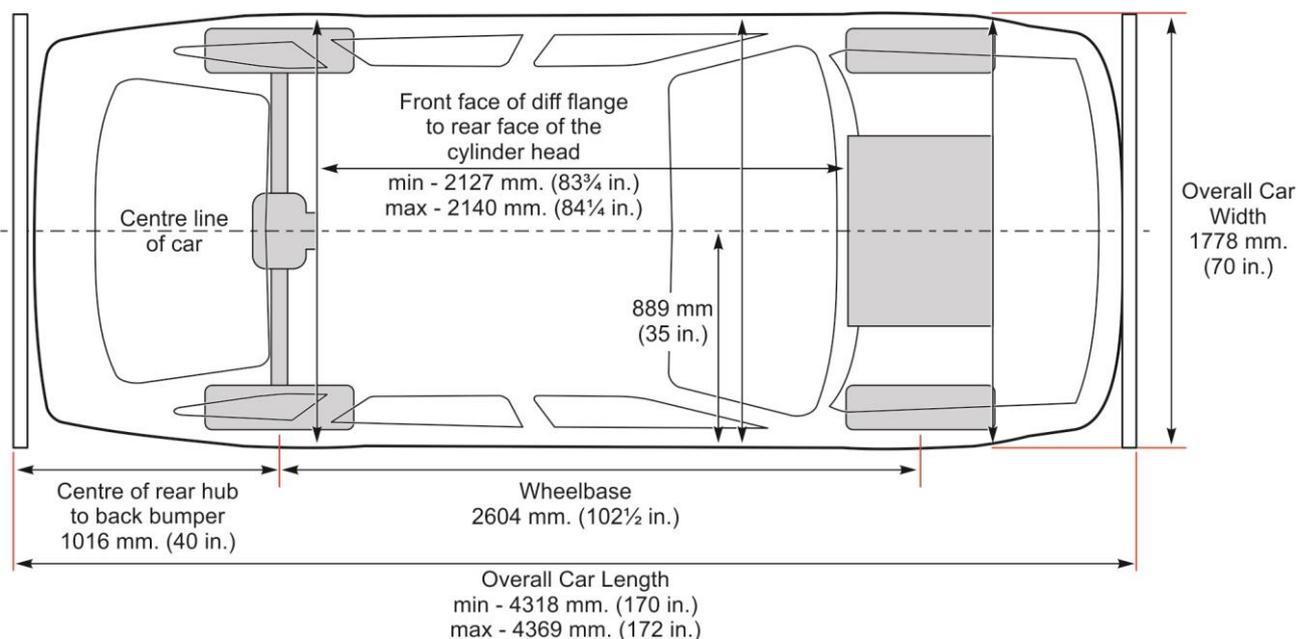
- The rearward rollcage supports must return to the main inner chassis and not to any other point, i.e. wheel arch.
- Rearward roll cage supports must also be braced underneath as per the diagram. The rearward supports must be made of the same specification steel as the rollcage.
- Two horizontal bars of 40mm x 40mm x 3mm minimum, one at knee height, the other at sill level must be fitted to both sides of the car in the door area; a minimum 3mm plate must be welded between those bars on the driver's side to protect the driver if struck in the side by another car. This protection must continue from bulkhead to behind the driver's seat position and be fully welded/braced and padded to avoid injury to the driver.
- Where the driver's side doors (front and rear) meet the lower window aperture, this must be backed by RHS or equivalent tube, a minimum of 25mm x 25mm, 3mm thick. This should be supported from either/both the roll cage or top rail. Additionally, if the roll cage is not supporting the B pillar (and is located more towards the rear door) you must fit some protection for the B pillar on the driver's side, (as a minimum) up to shoulder height, by means of a hoop running from the rollcage to either the door tops or the top rail. This must also be as a minimum the same specification steel as above.
- It is strongly advised to add corner gussets to roll cage joints, and this is mandatory where no more than 75% of the joint is welded.

5. WEIGHT

- The car (excluding driver) will be required AT ANY TIME/RACE READY to record a minimum race weight of 1170Kg and a maximum weight of 1300kg, with a maximum inside weight of 54.0%
 - If the car is checked and found to be under the total permitted weight (not inside weight) this is an automatic ORCi suspension. Up to 1.0kg under = one month suspension, up to 2.0kg under = 2 months suspension. In excess of 2.0kg under = 6 month suspension.
 - The right hand driver's side weight must be a maximum of 54.0%, at any time – this will be weighed without the driver in the car.
 - If the car is over the 54.0%, but under 54.5% on the first offence the driver will lose all points/places gained on the day.
 - If the car is found to be over 54.0% but under 54.5% on a second occasion (during a calendar year) the driver will receive a one month suspension, and loaded immediately with loss of any points gained.
 - Any car found over 54.5% on its first check will receive an automatic one month ban, and loaded immediately with loss of any points gained on the day.
 - If a car is found over 54.5% on a second occasion (during a calendar year) the penalty will as a minimum be doubled, or possibly carry a longer suspension.

6. ENGINE/DIFF POSITION

- The SSCA will be using a jig to ensure the following is adhered to. In particular ensuring all elements are central, including rear axle and positioning of pedal box.
- The centre line of the car will be measured from any point (or combination of points) from the diff,



propshaft, gearbox or engine - to the outer extreme of the car.

- **Please pay attention to the drawing on the previous page to note that the wheels front to back must be parallel on the driver's side.**
- The maximum width of the car is 1778mm (70"). Therefore any measurement taken from the centre line as noted above must be 889mm (35"), with the exception of the engine and diff which are permitted a maximum 25mm tolerance.
- The engine must be located centrally along the line of the crankshaft, within the car and in a vertical position. Maximum offset is 25mm.
- The propshaft must be at 90° to the diff/drive shafts. The diff must also be located centrally in the car, and centrally within the chassis rails, with a tolerance of 25mm.
- Original position, of 83¾" minimum, to a maximum of 84¼" will be taken from the diff flange to the front face of the bell housing. See illustration below.

7. BRAKES

- Brakes must be fitted and effective on all FOUR wheels.
- Disc brakes may be fitted to replace drum brakes on the rear. For this purpose standard Ford Fiesta disc brakes are the only type permitted. Machining down the caliper/**disc** to allow the fitment of a 13" wheel is permitted.
- No bias brake systems. ABS is not permitted.
- Only standard Sierra type discs are permitted on the front – these are solid Mk1 discs or vented Mk2 discs (no Cosworth, etc parts permitted). Grooved or drilled discs are not permitted.
- Braided brake hoses and competition brake pads are permitted.
- Master cylinder and brake servo must be from any readily available mass produced road car.
- Alternatively, ONE F2 type tilting master cylinder maybe used.

8. GEARBOX

- Any standard production gearbox, which is available from a Ford model, may be used provided it fits a standard 2-litre engine without modification. The standard Transit spacer plate is permitted, with modification, if required to fit the starter/engine mounting brackets.
- All gears must be fitted and in working order with ratios to match the casing used.
- Straight cut gears and/or competition boxes are not permitted.
- The propshaft and gearbox mounting may be modified to accommodate the gearbox used.
- No aluminium bell housings permitted.
- Gearbox lids and selector forks maybe interchanged between the 5 speed and 4 speed Sierra gearboxes.
- As a trial the SSCA is permitting a maximum of 20mm to be removed from the end of the input shaft/shoulder on a diesel P100 gearbox to enable this gearbox to be used.
- The SSCA will be monitoring the use on non-standard gear levers and attachments, as well as a view to considering set tolerances for seat position and pedal box.

9. DIFFERENTIAL

- Crown Wheel & Pinion sets on all cars must match standard manufacturer's ratios.
- No competition ratios are permitted.
- Differentials may be locked but limited slip differentials are not permitted.
- No Cosworth or 4x4 parts permitted.
- The only Crown wheel and Pinion sets permitted are those the SSCA have confirmed as a ratio manufactured by Ford as standard Sierra parts, i.e. 3.14, 3.36, 3.38, 3.62, 3.64, 3.77, 3.91, 3.92. Alternatively, the 7" and 7½" Granada diff casing is permitted using 3.36, 3.64, 3.91, 4.09, 4.27 diff ratios. Alteration to the diff mounting is permitted.
- The drive shafts must enter the diff in an original manner and the prop shaft must be at 90° to the diff.
- **The drive shaft (including flange) must remain unmodified from standard.**
- The diff must sit level (front to back).
- One long and one short drive shaft as originally fitted must be used; these must be fitted in standard position (short N/S, long O/S) and cannot exceed the original width of the axle.

10. WHEELS

- Any 13" steel wheel may be used, to a maximum of 150mm width. It is permitted to alter the offset on a 13" rim.
- To accommodate the 14" Yokohama A Drive/Blue Earth tyre only standard Ford or Peugeot steel rims are permitted.

- Modification of the 14" wheel is not permitted in anyway.
- Centre plates must not be re-drilled but plates cut from the same wheel as those being used may be fitted over the existing wheels to add strength.
- A plate may also be welded to the inside of the wheel centre to help prevent loss of wheels.
- Wheel studs must have sufficient thread to accommodate a full nut. **This means the thread must protrude through the nut.** No dome nuts.
- No wheel spacers permitted.
- No alloy wheels permitted.

11.TYRES

- The only permitted tyres are as follows:
 - SHALE surfaces the only tyre permitted is the Yokohama A Drive/Blue Earth 185/65/14 (T rated).
 - TARMAC surfaces the only tyre permitted is the Yokohama A Drive/Blue Earth 185/65/14 (T rated only) tyres or Yokohama A021R or any combination.
 - Tyre softener is not permitted for use.
 - Tyres may be re-grooved but no tyre cut across the tread may be used on shale tracks.

12.SCREENS

- No glass is allowed in the window apertures or screen.
- A metal upright of min 19mm SHS must be welded or bolted into the windscreen aperture, approximately one third of the way along the driver's side.
- It is compulsory to fit a sturdy wire mesh panel of max 50x50mm matrix, securely fixed to the windscreen aperture and upright covering the driver's side of the screen.
- Mirrors may be fitted inside the car only.

13.DRIVER'S SEAT & CAB AREA

- Aluminium, fibreglass or other specialist competition seats are **compulsory** recommended, and must be securely fitted and be adequately supported.
- Driver's seat must occupy the original position as best as it can.
- The use of dense foam padding around any protruding objects, which will protect the driver within the cab area, is highly recommended.
- 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.
- Shoulder straps maybe fitted to an extra bar on the roll cage behind the seat, approximately 100mm below shoulder height (this bar is to be made of roll cage specification material), **OR TO THE CHASSIS BEHIND THE SEAT BUT NO FURTHER BACK THAN THE FRONT FACE OF THE REAR WHEELS.**

14.SAFETY EQUIPMENT

- Refer to separate ORCi Safety Specification Sheet

15.FUEL

- All cars must use fuel that is freely available from at least 200 roadside service stations in the UK.
- These fuels will conform to either to a British Standard, either BSEN228 (premium unleaded) or BS7800 (super unleaded)
- The only additive permitted is Millers Oils CVL (lead replacement) the approved valve lubricant.
- The maximum treatment rate is 1 bottle (250ml) to 20 litres of fuel.
- Regular fuel testing will be carried out with the test for manganese having an upper limit of 100 mgms/litre (100ppm)

Fuel Testing

- Basing the regulations on a pump fuel (which conforms with a British Standard) will facilitate testing for conformity.
- Random fuel testing will take place at a number of events during the season.
- Samples will be taken directly from the car at the end of a race (i.e., as it leaves the track and before it returns to the pits)
- 3 samples (approx 100ml each) will be taken and stored in tamperproof and glass containers, sealed and the seal numbered.
- 1 sample is left with the driver

- 1 sample is left with the organisers (as a control sample)
- 1 sample will be sent to Millers Oils for testing.
- Drivers and organisers will sign the fuel testing form which details the seal number.
- The results will be available to the organisers within 2 weeks of receiving the sample.
- The testing will confirm that the base fuel complies with one of the British Standard and that the level of manganese introduced by the addition of CVL does not exceed 100ppm.

16.FUEL SYSTEM

- Only tanks with a maximum capacity of 2 gallons are permitted
- The fuel tank must be positioned as described below:
 - **along the centre line of the car (front to back)**
 - **behind the driver in the rear axle area**
 - **on top of the chassis/steelwork (i.e. may not sit lower than any part of the diff).**
 - **be protected by the roll cage or additional RHS, SHS or tube equivalent**
- All tank filler caps must be metal and screw type fixing.
- Minimum wall thickness for steel tanks to be 3mm and 4mm if aluminium.
- If the fuel tank is not protected by the rear rollcage supports, it **MUST** also have some form of steel protection to the rear of it, constructed from RHS/Tube and/or steel plate, to prevent damage from a rear impact. The tailgate/boot does not count as sufficient protection.
- All aluminium fuel tanks that are secured using a bracket(s) bolted down to the steel work, must also be secured with two 50mm wide metal straps over the tank in the opposite direction to the original fixing i.e. if the original bracket is bolted side to side, the secondary brackets need to go from front to back or vice versa. Must be rubber matting between the base and the floor/steel work.
- Petrol pipes must be metal, metal covered or specific rubber braided fuel hose and have a shut off tap within easy reach of the driver. Reminder that rubber connecting hoses on fuel lines are not permitted
- 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. A non-return valve is compulsory in the breather pipe.
- Fuel lines must be clipped securely, and routed away from electrics i.e. if a fuel line runs along the inside edge of the chassis rail, you may run the electrics along with outside edge of the rail, as a minimum.
- Electronic fuel pumps must be mounted either behind the main firewall or under the bonnet.

17.FLOOR/FIREWALL

- **All cab floors must be complete and extend beyond the rear of the driver's seat, at least to the front edge of the rear suspension arms.**
- A firewall is compulsory and maybe achieved as follows:
 - Option 1: Saloon Type Bodyshells Only: The cab floor must extend upwards to the foot of the rear screen aperture
 - Option 2: By placing a steel box over the fuel tank. The box must be open to the rear and/or passenger side, and must allow enough room for clear inspection of all pipes and fittings. The floor of the cab must also be extended upwards to the box covering the tank.
 - Option 3: By fixing a fire shield the full width of the car which must deflect rearwards to at least 200mm above the tank.
- Original boot floor may be removed.
- Fabricated tunnels and front bulkheads must be made from steel and welded to the floor. No holes are permitted for access, except for a hole in the bulkhead to allow measurement from engine to diff.
- To protect the driver in the event of a front U/J failure, a hoop of 25mm x 6mm steel must be fitted to surround the prop within 300mm of the front U/J. This hoop is not required if steelwork surrounds the prop in this area.
- Rear wheels must be protected by trailer arches fitted to each side to prevent debris striking driver.

18.BATTERIES & ELECTRICAL

- Batteries must be securely clamped in place and covered with a leak proof material to prevent spillage.
- An electrical cut off switch must be fitted to the Rear N/S corner of the car and be clearly marked On/Off. If the car is fitted with an electric 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.
- Electric wires must be clipped securely, and routed away from fuel lines i.e. if a fuel line runs along the

inside edge of the chassis rail, you may run the electrics along the outside edge of the rail, as a minimum.

19. NUMBERING

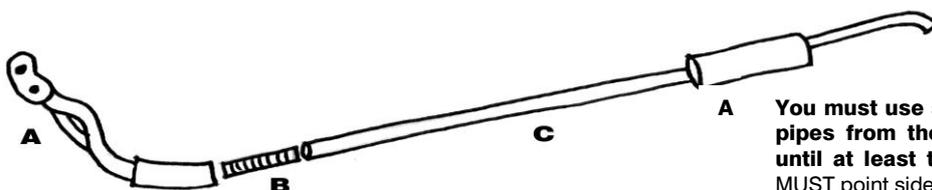
- Your SSCA registered number must be displayed on both sides of the car and also on a roof fin plate.
- Regulation side numbers must be 450mm high in 75mm strokes.
- Regulation roof fin numbers must be 225mm high in 25mm strokes. The whole of the number must be visible above the roof line.
- All numbers must be of professional appearance, **PAINTED BLACK ON A WHITE BACKGROUND.**

20. SIGN WRITING

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

21. SILENCERS & EXHAUSTS

- The only silencer permitted is latest specification BriSCA F2 silencer available from race suppliers.
- To accommodate the BriSCA F2 type silencer it is permitted to use larger than 50mm inside diameter pipe for the last 150mm BEFORE the silencer.
- This is due to the fact that the silencer has slightly oversized inlet and outlet pipes.
- If the exhaust is routed through the car, this must be boxed in completely (except underneath) throughout the car, to where the floor terminates.
- All systems must terminate in front of the rear axle.
- The silencer must remain unaltered within 25mm either side of the box. **NO COMPETITION STYLE EXHAUSTS ARE PERMITTED.**



- A** You must use standard 2-litre pinto Sierra down pipes from the manifold, which must continue until at least the single pipe section. Tail pipes MUST point sideways or downwards.
- B** 50mm flexible joining section if required
- C** Rear exhaust section fitted with BriSCA silencer

- Only standard Ford 2-litre pinto Sierra exhaust down pipes are permitted. If using the 2-litre Zetec engine, please refer to specific rules regarding down pipes.
- You may use up to a maximum of 50mm inside diameter pipe to connect from the downpipes to the silencer.
- Due to the height of engines and positioning of steelwork, you may shorten the down pipes at the manifold end only. Where the twin down pipes gather into one, this must remain standard, i.e. you must only fit the 50mm internal diameter pipe to the end of the standard SINGLE pipe - you must not use 50mm pipe to create a new 2 into 1 section. Furthermore you are not permitted to remove the internal spine from the original 2 into 1 section.

22. GENERAL RULES OF RACING

- Each driver is only permitted one car per meeting, and each car is only permitted one driver per meeting.
- The grading system will be the same throughout the UK in that there will be no superstars but any driver winning a race must start at the back of their grade for the remainder of the meeting. The onus is on the driver to take up this grid position and two places will be docked by the steward for each position out of place taken at the start.
- Whilst Saloon Stock Cars are very much a contact formula, the aim is for drivers to race to win. The following points however will be deemed illegal moves, which will see the offending driver receive disciplinary action:
 - Attacking stationary cars.
 - Deliberate contact on another driver's door area where avoidable action could have been taken.
 - Attacking another car on the infield or safe area.
 - Attacking another car by driving off the infield or safe area, into another car.

23. ROOF COLOURS

- When notified of their grading, drivers will paint the roof of their car in their appropriate colour.
- White, yellow, blue or red down to the tops of their doors. Any driver winning an official ORC Championship will be required to paint his roof the said colour for that championship:

World	Gold	British	Black/White Chequered
European	Red/Yellow Chequered	National	Gold Stripe
National Points	Silver	ORC	Orange/White Chequered
English	St. George's Cross	Scottish	St. Andrew's Cross
UK	Union Jack	World of Shale	Gold stripe x2
National Series Rounds	All NS contenders must fit at least one flashing amber light		

- All roof grades/champions noted above, must start at the back of the grid.

24. TRANSPONDERS

- All cars **MUST** be fitted with a working transponder for electronic lap-scoring.
 - The permitted transponders are:
 - MyLaps/AMB – Tran-X 260 DP (Direct-Powered)
 - MyLaps/AMB – Tran-X 260 (Rechargeable)
 - MyLaps/AMB – Tran-X 160 (Rechargeable)
 - MyLaps - X2 Car Transponder (Rechargeable)
 - MyLaps - X2 Car Transponder (Direct-Powered)
 - *Note: The subscription for the latest X2 range of transponders **MUST** be activated and the transponder enabled before it can be used on track.*
 - The transponder **MUST** be securely fitted, and working, at all times when the car is on the track or being scrutineered. Care should be taken with rechargeable units to ensure they are securely fitted to the car and will not come loose in an impact; It is recommended that such units are bolted to the car, and backed-up with additional cable-ties, rather than using the plastic mount with an R-clip.
 - The transponder **MUST** be fitted 1.8 metres back from the front most position of the car and in the passenger side area and visible inside the car.
 - A hole of at least 150mm square (or in diameter) is required in the floor, with the transponder fitted vertically, at floor level. Care should be taken to ensure a clear line of signal from the transponder to the ground.
 - In the event of a dispute with the transponder result, the Steward of the meeting will make the final decision, however, if the driver is found to have fitted the transponder further forward than the required 1.8 metres, then the driver will be excluded from the meeting.
 - Results will **NOT** be credited to a driver if their transponder fails to operate from the start of the meeting.
 - Transponders are available from MYLAPS Sports Timing (www.mylaps.com) and HS Sports (www.hssports.co.uk).

25. PERFORMANCE MONITORING/ALTERATION

- **The installation and/or use of any kind of system(s) or components to facilitate the logging, and/or transmission of engine or chassis data/information/operating-parameters is NOT permitted unless explicitly stated elsewhere in these regulations. This includes, but is not limited to, fittings, wiring, outlets, data loggers, or any other kind of hardware/software.**
- **The installation and/or use of any kind of system(s) to automatically alter the engine, or car performance, e.g. lambda sensors, is NOT permitted unless explicitly stated elsewhere in these regulations.**
- **The use of telemetry devices to wirelessly transmit information is NOT permitted.**
- **Gauges used to display/monitor engine operating parameters, such as oil pressure, water temperature, and engine speed, are permitted, subject to the following:**
 - **Tachometers that record the single peak engine speed (so-called “tell-tale” devices) are permitted.**
 - **Devices that can record and play back parameters/performance recorded over a period of time are NOT permitted.**

SALOON STOCK CAR ZETEC ENGINE SPECIFICATIONS

The overriding principle of these regulations is that unless it is stated that you can do it, you must work on the principle that you CANNOT. The whole emphasis of these rules is that this is an engine which MUST remain in its standard form.

Those that choose to use this engine must be aware that it will come in for stringent checks on a regular basis, for example camshaft profiles and spring tension will be checked.

The performance of the engine will be closely monitored in relation to existing engines within Saloon Stock Car racing. THIS WILL BE AN ONGOING EVALUATION BY ALL PARTIES – PROMOTERS/DRIVERS/SCRUTINEERS ETC. Should the need arise the SSCA reserve the right to restrict the engine described in these rules. This would most likely be done by the use of exhaust and/or carburettor restrictor.

Permission for any proposed change currently not permitted by the SSCA must be applied for in writing to the Saloon Stock Car Association or by email to info@SaloonStockCars.com. Where upon the Technical Committee will consider the request and duly respond within 28 days. Notification of any decision made will be in the first instance through publication on the official website www.SaloonStockCars.com

If parts are suspected of being illegal you must 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 SSCA 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. PERMITTED ENGINE

- The only engine permitted for use is
 - UK/European specification Ford Zetec 1988cc 16v petrol (commonly known as a “black top” due to black plastic cam cover)
 - often referred to as the phase/series 3 engine.
 - in its 136PS **or lower** form with nominal bore 84.80mm and stroke 88.00mm
 - or a new standard uncoded Ford replacement complete engine as per above.
 - THE ENGINE MUST IN BOTH CASES REMAIN IN ITS STANDARD FORM.
- The engine block must have one of the following codes stamped on it (engine code is located on the exhaust side of the block i.e. right hand side when viewed from the front):
 - **NGB, NGC, NGD (from Ford Mondeo Mk2 16v 1996-2000)**
 - **EDDB, EDDC, EDDD, EDDF (from Ford Focus Mk1 16v 1998-2004)**
 - **EBBC, EBBD, EDDB, EDBB (from Ford Cougar 1998-2001)**
- Production tolerances are permitted providing the total swept volume does not exceed 1989cc.
- All codes or ID numbers must be visible and untouched.

2. ENGINE - GENERAL

- The engine must be mounted in exactly the same position as noted in current technical specifications for the 2-litre pinto engine.
- **All engine components must be standard replacement not an upgrade, unless permission has been granted.**
- The stated oil catch tank ruling in the current technical specifications also applies.
- The addition of any material such as (but not exclusively), metal, plastic, or composite, by any means such as (but not exclusively) welding, bonding, encapsulation or encasement to any component is prohibited.
- However, specific repair of the mounting points of the cylinder block to the transmission or chassis is allowed, whilst other casting repairs may be allowed with prior written approval of the SSCA. The use of non-standard replacement fasteners, nuts, bolts, screws, studs and washers which are not connected with, or which do not support, any moving parts of the engine or its compulsorily retained accessories is permitted. Freedom granted to any fastener does not allow for freedom to move items relative to each other.
- The use of thread locking compounds is permitted.

- Gaskets are free except (no competition gaskets) for inlet manifold gasket – please refer to *Rule 17 Inlet Manifold* for precise details.
- Any process of cleaning may be used on any component providing the surface finish, which must remain standard, is not affected. The expression 'Standard', 'Standard production', or similar expression is deemed to imply that the part has been manufactured by Ford, or a Ford Motor Company Ltd authorised sub-contractor, for specific use on a specific model of the engine.
- Only machining and component preparation carried out by Ford Motor Company Ltd, or by a Ford Motor Company Ltd authorised sub-contractor is allowed unless otherwise specified.
- Any production deburring or imperfection removal during initial manufacture may not be modified or extended. The SSCA's decision will be final if a dispute arises regarding the amount of tool, or other marks that are evident in any particular component.
- The exterior surfaces only (of the complete engine assembly) of ferrous parts may be protected by paint or similar means. No internal component or surface may be coated by any protective finish. No ~~aluminium~~ **non-ferrous** components may be protected. This paragraph confirms previous and future statements that no rework may be carried out on any component unless specifically authorised by the SSCA. The engine and associated parts must remain exactly as produced by the Ford Motor Company unless expressly detailed in these regulations. However any statement defining minimum weight or dimensions does not grant permission for rework to obtain these minimum values, unless carried out in accordance with these regulations. Only Ford standard parts (Parts manufactured by Ford or a Ford Motor Company authorised sub contractor) specifically for the engine noted in *Rule 1 Permitted Engines* can be used.
- No treatment that alters in any way the surface finish, hardness, or other property of the original production component is allowed. The only exception to this is any deposit derived from the lubrication and combustion processes naturally occurring during the running of the engine.
- The SSCA reserve the right to prohibit the use of specific components introduced as production changes, if in their opinion, they are deemed to have a performance advantage.
- It is not permitted to interchange parts from engines NOT noted in Rule 1 Permitted Engines.
- The SSCA reserve the right to buy any Zetec engine from a driver (for the purposes of this paragraph the term "the engine" relates to the complete cylinder head/engine block from a driver - this does not include, inlet manifold, flywheel, sump, carburetor, clutch, starter motor, exhaust manifold, ECU, wiring loom, HT leads, fan, additional brackets for water pump, water pipe and additional pulleys).
- This must be bought on the day that the engine was used at an official SSCA race meeting, and within 30 minutes of the completion of the race meeting. The amount payable will be fixed at ~~£950 (including VAT)~~ **£1,300 +VAT in the UK, and €1,500 + VAT in Mainland Europe**. Furthermore, a fully registered driver may purchase an engine for this amount from another driver, as long as they were BOTH using a Zetec engine, racing at the same meeting together and adopting the above procedure. This must be done through the staging promotion ONLY, completing an engine purchase form, paying the purchase price noted above, and a £150 protest fee, before the other party is approached. The SSCA reserves the right to reject a drivers request to purchase, if that request is deemed to not have sound foundation.
- With the exception of Championship post-race scrutineering, the SSCA reserve the right to strip and inspect ANY Zetec engine they see fit. For 2016 a fee of £150 will be payable to the driver who has their engine stripped and it is found to comply fully with the current technical specifications.

3. CYLINDER BLOCK

- Damaged cylinder bores are not permitted to be repaired with cylinder liners.
- No machining of the cylinder block is permitted, this includes no decking etc. However honing/glaze busting of the cylinder bores is permitted.
- **The block height, measured from the lower mating face of the main bearing caps (on the block) to the top face of the cylinder block, MUST meet the Ford specification of a MINIMUM of 212.8mm (8.378in) in height.**
- **The use of standard pistons and con-rods, as per these regulations, in conjunction with the above cylinder block measurement, will result in a MINIMUM clearance from the top of the piston to the top face of the cylinder block of 0.46mm (0.018in) with the piston at TDC.**
 - **Any engine where the clearance measures at least a minimum of 0.018in (0.46mm), the Ford specification, will be deemed to be within specification.**
 - **Any engine where the clearance measures less than the minimum 0.018in (0.46mm), as per the Ford specification, will be required to be removed from the car for additional inspection in order to accurately check that it conforms to the original Ford specification above.**

- **Line-boring of the crankshaft housings is NOT permitted.**
- The standard crankcase breather tank may be modified, including removal, as long as no air and/or oil escape from this area other than through pipework to a catch tank.
- The standard oil dipstick tube **is free** and dipstick must be fitted; they may be modified to fit.
- It is not permitted to remove or modify the four standard oil spray jets.
- The standard oil filter may be replaced.
- The standard oil filter may be replaced with a shorter filter. However this must fit and be located identically to the standard filter and be a commonly available non-competition item.
- The flywheel sensor and associated housing must remain completely unmodified.
- It is permitted to reduce the depth of the longer bolt fixing points on the exhaust manifold side of the engine, to allow one continuous plate/engine mount to be attached.

4. **SUMP**

- The only sumps permitted for use are as follows:
 1. **Official SSCA steel sump** (stamped with SSCA logo and serial number)
 2. **1.8 litre Ford Sierra CVH sump**
 - This may be modified to fit, however the overall size/shape of the sump must not be altered in any way. **It is permitted to extend the length by a maximum of 5mm.**
 3. **Two piece Ford sump as fitted as standard to the “Black Top” engine noted in Rule 1 Permitted Engines**
 - The original cast aluminum section may be modified and have webs removed to allow for starter motor fitment only.
 - The pressed tin lower component may be replaced with a fabricated part or modified to increase oil capacity up to a maximum of 5 litres.
 - The sumps overall height must be a minimum of 190mm over at least 50% of its length.
 4. **One piece Ford sump as fitted as standard to the “Silver Top” Zetec Engine.**
 - The lower part of the original cast aluminum section may be modified/removed, however at least the first 90mm must remain as original (see picture below):



- The cast aluminium lower section may be replaced with a fabricated part or modified to increase oil capacity up to a maximum of 5 litres. The sumps overall height must be a minimum of 190mm over at least 30% of its length.
- Exterior webbing on the cast aluminium may only be removed to allow for starter motor fitment.
- The original Silver Top steel baffle plate may be fitted directly onto the cylinder block by using either Silver Top Zetec main bearing bolts with spacers or welding bolts/studs onto the existing main bearing bolts.
- An aluminium baffle plate may be added, but this must be located inside the sump.
- On all Ford sumps it is permitted to modify the oil pick up pipe. The oil pick up pipe mounting bracket may also be modified to fit and a single bearing cap bolt may be used to allow for support and relocation of the oil pick up pipe. No machining of main bearing bolts is permitted.
- THE FOLLOWING ARE ACCEPTABLE MEANS OF SUPPORTING THE PICK UP PIPE
 - Using original “silver top” main bearing cap bolts with tube spacers

- Welding 8mm bolts onto the existing blacktop main bearing cap bolts is permitted to support the oil pickup pipe only
- Replacing ONE main bearing cap with a manufactured bolt (the equivalent tensile as standard bolts)
- Modification of a single bearing cap bolt to allow support and relocation
- The welding of a stud or bolt
- Machining or replacing of the remaining main bearing bolts is not permitted (only ONE for pickup pipe support)
- Modification of the oil pickup pipe is permitted

5. OIL PUMP

- It is not permitted to modify the standard Ford oil pump and/or front cover in any way, to include but not exclusively, plunger, pressure valve, spring.

6. CYLINDER HEAD (INCLUDING VALVES AND VALVE GEAR)

- It is not permitted to replace valve guides and valve seat inserts.
- No work that removes, adds, replaces, or transfers material is allowed on the cylinder head with the following exceptions:
 - (a) Simple cleaning which does not alter in any way the shape of the component.
 - (b) Minimal material removal from the head face to correct combustion chamber volume and/or reclaim head flatness. The cylinder head must achieve a minimum thickness of 132.6mm. To be measured with a 125.00mm – 150.00mm micrometre or digital Vernier calliper. This measurement must be achieved at any point on the cylinder head. The measurement is to be taken from the extreme top and bottom face of the cylinder head, as shown in the photo and excludes gasket).



- **Line-boring of the camshaft housings is NOT permitted.**
- No internal rework of any combustion chamber is permitted.
- The cam cover assembly cannot be modified or replaced, with the exception of blanking off the original cam cover breather outlet and moving it to any point on the opposite side.
- The oil filler cap must be retained by spring/lock wire or similar. The oil filler cap maybe blanked off.

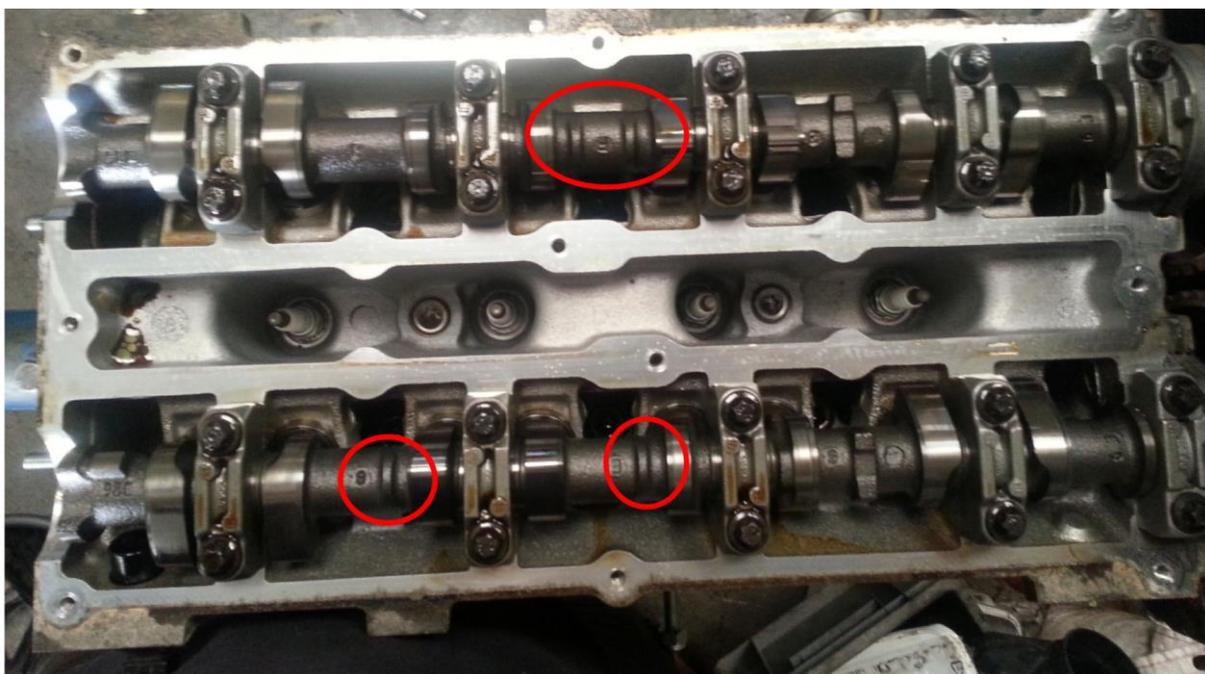
- All valve train components must not be modified or replaced with non-standard parts. The only permitted modification is to alter the thickness of the tappet shim/follower on top of the cam bucket to achieve the correct valve clearance. Valve springs are not permitted to be shimmed or packed.
- Valves **and valve springs** must remain standard Ford supplied items, no re-profiling or polishing is permitted. The original 45 degree seat angle (with 90 degree included) must be maintained.
- Standard valve stem seals must be retained.
- Head gaskets are free, however no competition gaskets are permitted.

Notes for 2020:

- **From 1st January 2020, the SSCA will mandate a list of approved cylinder head gaskets for the Zetec engine.**
 - **A list of approved part numbers, to the original UK specification, from the following six manufacturers will be published: Ford, Victor Reinz, Elring, Goetze, Glaser, Payen.**
 - **No other cylinder head gasket will be permitted.**
 - **Cylinder head gaskets must retain their original part number. Removal of the part number will NOT be permitted.**
 - **In the event of more than half of the approved components becoming unavailable, the SSCA will approve appropriate alternatives.**

7. CAMSHAFTS AND PULLEYS

- The only camshafts permitted are those fitted as standard production to a Ford Zetec 1988cc “black top” as per picture on following page. Ford 1.8 litre “black top” camshafts are not permitted.
- Each cam is identified with two small casting rings as shown with the red circles.



- The exhaust cam (top of picture) and inlet cam (bottom of picture) have the rings in different places. The exhaust ID ring is located centrally in the cam between cylinders two and three, with two rings right next to each other. The inlet cam has the rings situated apart from each other – one at the end of inlet valve four and the other at inlet valve six.
- The camshafts must remain entirely unmodified, **unless explicitly detailed in these regulations**. They must be fully manufactured and ground by the Ford Motor Company. It is prohibited to grind from blanks, regrind or re-profile. Only the production surface finish is permitted. Shot peening, shot blasting, surface treatments and/or polishing are prohibited. Exhaust and inlet camshafts must not be interchanged.
- Cams with damaged timing faces are not allowed.
- The SSCA will be using a profile checker to ensure cams are standard.

- The only permitted camshaft drive pulleys are the standard Ford items as pictured below.



- The spring loaded cam belt tensioner may be locked or replaced with a fixed item.
- **Any replacement fixed cam-belt tensioner MUST be the same size as the original Ford spring-loaded item.**
- **Cam-belt tensioners must be mounted as per the original Ford installation. The use of studs is NOT permitted.**
- The timing of the cams must remain in the standard Ford position with a tolerance of 10 thou (0.254mm) advance or retard measured on the pistons position from top dead center (TDC).
- The timing of the two cams must not be altered independently of each other. A standard Ford locking bar or flat steel bar **MUST** pass between the slots in the back of the cams when in TDC position. Failure to comply with this will result in immediate disciplinary action. An engine at TDC is shown below.



- **Locking the timing pulleys to the camshafts through the use of grub screws tapped in to the pulleys and the ends of the camshafts is permitted, subject to the following conditions:**
 - **A maximum of 2 grub screws is permitted per camshaft.**
 - **The grub screw(s) MUST be concealed behind the head of the standard bolt used to secure the pulley to the camshaft. The standard flange-headed bolt to secure the pulley to the camshaft MUST be retained.**
 - **A MAXIMUM of 2 tapped holes in each timing pulley are permitted.**
 - **A MAXIMUM of 4 tapped holes in the end of each camshaft are permitted (to allow for the resetting of the timing to the correct position following any permitted skimming of the cylinder head).**



8. CONNECTING RODS

- Connecting rods must be standard.
- They must not be altered in anyway, for example (but not exclusively), machining, grinding or polishing.
- It is not permitted to remove metal from the connecting rod or cap.
- Connecting rod bolts must remain standard Ford production items. No aftermarket bolts permitted.
- The con rod must not be modified to fit bolts.
- **Con rod bearing size maybe resized only.**

9. PISTONS

- Pistons must be unmodified standard production pistons.
- All three piston rings must be fitted as intended; piston rings must be standard production items or replacement items to Ford Motor Co. dimensions.
- Aftermarket steel piston ring sets are strictly prohibited.

10. CRANKSHAFT

- A standard crankshaft must be used
- **Standard bearing shells must be used unless explicitly detailed below.**
- No balancing is permitted.
- Polishing other than the nine bearing surfaces is prohibited.
- Crankshaft journals must remain within Ford positional tolerances if a repair re-grind is carried out.
- Crankshaft pulley and damper must be retained and unmodified.
- Additional drive to the water pump may use this pulley, or an extra pulley mounted in front of the crankshaft damper.
- It is not permitted to alter the number of bearings or fit bearings of less than standard production width.
- The crank journals may be re-ground for reclaim, **up to a MAXIMUM of a 0.25mm grind.**
- Standard oversize and undersize bearings are permitted, **up to a MAXIMUM of 0.25mm.**

11. ENGINE COVERS

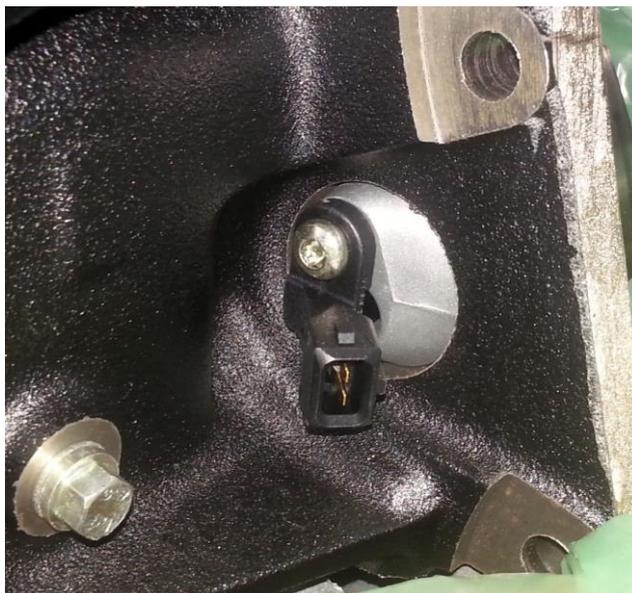
- The cam belt covers maybe modified and/or removed, however it is recommended that some form of cover over the cam belt is retained.
- It is permitted to modify the aluminium cambelt cover and adjoining aluminium plate on the block (as shown highlighted in the photo with a black circle) for the purposes of using wire rope to strap the engine in only.
- **Modification and/or replacement of the camshafts cover assembly is NOT permitted, unless stated below.**
- **Blanking-off the original camshafts cover breather outlet on the right (infield) side of the cover over the intake camshaft is permitted.**
- **Installing a single alternative breather outlet on the intake camshaft section of the camshafts cover is permitted, but only if the original outlet has been blanked off.**



- **Installing an additional or alternative single breather outlet on the exhaust camshaft section of the camshafts cover is permitted.**
- **Linking together the two permitted breather outlets on the camshafts cover is permitted.**

12. **FLYWHEEL & CLUTCH**

- The only permitted flywheel is that provided by the SSCA for this engine with a registered serial number.
- The flywheel, ring gear and mounting bolts must weigh a combined minimum of 6.2kg (this does not include clutch and clutch fixing bolts).
- No modifications to the flywheel are permitted.
- Flywheel bolts are free subject to them remaining in ferrous material.
- Clutch to be standard, unmodified, Ford Pinto based 8.5" item only.
- The only flywheel ring gear permitted is that for a standard Ford 2 litre Pinto engine, or the ring gear as fitted as standard to the engine specifically noted in Rule 1 Permitted Engines.
- Standard Ford Pinto based starter motor must be fitted or a hi-torque competition replacement.
- The flywheel sensor and associated housing must remain completely unmodified.



13. **OIL COOLERS**

- No oil cooler is permitted.

14. **COOLING SYSTEM**

- A water based liquid cooling system is mandatory.
- A water coolant additive is permitted.
- The standard production water pump and housing as fitted specifically to the engine noted in *Rule 1 Permitted Engines* must be retained, although drive to the pump, its rotational speed and direction may be changed as noted below.
 - Reverse water pump impellers are permitted but must retain six blades as per the original Ford water pump fitted to this engine. The reverse impeller must be fitted to the standard water pump.
 - Two additional pulleys (one in front of the crankshaft damper and one on the water pump) may be fitted to reverse the direction to the same as the crankshaft, when using a reverse impeller.
 - A single additional idler pulley may be used to reverse the direction of the unmodified water pump to the opposite direction to the crankshaft. This must be fitted using a bracket bolted to existing engine bolt holes only.
- The radiator and associated pipes are free.
- Fans are permitted for use but must be securely fitted to the water pump or crankshaft only - not on additional pulleys or brackets.
- Electric fans are permitted.
- No other pump may be used to circulate or assist circulation of the coolant liquid.
- Thermostat housing is free.

15. **ENGINE IGNITION CONTROL UNIT (ECU) AND ELECTRICAL**

- The only means of ignition timing will be by use of a Ford crankshaft speed sensor fitted to the standard manual sensor housing, and a genuine Ford or direct replacement aftermarket ignition coil for this engine as noted in *Rule 1 Permitted Engines* (this part must cross reference exactly to the original Ford item). No other sensors are permitted.
- The crankshaft speed sensor must have an air gap between 0.1mm to a maximum 0.8mm to the flywheel. This must be able to be inspected through a 25mm hole in the bell housing, located above the sensor and checked with feeler gauges.
- It is a mandatory requirement to use only the engine ignition control unit (ECU) and wiring loom supplied by the SSCA. The ECU will be assigned to a driver and electronically sealed and is set at

- 7800rpm. The ECU must not be altered by any party other than at the request of the SSCA, via the ECU manufacturer.
- The SSCA reserve the right to swap a driver's ECU for that being used by another or replacement item from stock. FAILURE TO COMPLY WILL INCUR AN IMMEDIATE 12 MONTH BAN.
 - The engine ignition control unit (ECU) and/or any other ignition components may be exchanged, or electronically interrogated at any time upon the request of the SSCA. SHOULD THE ECU BE TAMPERED WITH IN ANY WAY THIS WILL INCUR AN IMMEDIATE 12 MONTH BAN.
 - It is not permitted to alter, shorten or otherwise the wiring loom provided by the SSCA, **unless explicitly stated below.**
 - **It is permitted to shorten and add appropriate terminal connectors to the following five bare wires supplied in the original wiring loom only. Shortening wires and connecting terminals is only permitted from the bare end of each wire; it is NOT permitted to remove wires from the pre-wired plugs, or add additional wiring.**
 - **Two earth wires connected to the large plug**
 - **Live feed wire connected to the large plug, marked "Coil"**
 - **Live feed wire connected to the large plug, marked "ECU"**
 - **Wire connected to the large plug, marked "Tacho"**
 - It is prohibited to use any other method or component to trigger, distribute or time the ignition.
 - The coil unit may be repositioned; the HT leads to the sparking plugs are free, for example the longer leads as fitted to a Ford V6 Cougar are permitted.
 - Standard heat range sparking plugs only are permitted. **For 2020 a list of permitted plugs will be published.**
 - The ECU diagnostic connector must be positioned in an accessible position, allowing access to it at all times by the SSCA and registered scrutineers only.

16. EXHAUST MANIFOLD

- The only exhaust manifold permitted is the cast manifold which is fitted as standard to the engine, and is stamped 968F9430. This must retain the Ford manufacturers stamp and all other markings. See photo.
No tubular exhaust manifolds permitted.
- The standard single down pipe must also be retained to a minimum length of 500mm. It is permitted to cut, straighten or bend the original downpipe to avoid engine mountings etc.
- The single down pipe must then connect as detailed in *Rule 21 Saloon Stock Car Specifications*.



17. INLET MANIFOLD

- The only inlet manifold permitted is that provided by the SSCA which is stamped accordingly.
- The inlet manifold must not be modified internally, to include (but not exclusively) shotblasting.
- The inlet manifold must not be modified externally in any way.
- An aftermarket manifold to head casting gasket or silicone based sealer may be used to seal face to cylinder head only. The gasket must be no greater than 5mm in thickness.
- The angle of relationship between the carburettor and cylinder head face on the inlet manifold cannot be altered.

18. CARBURETTOR

- A fuel pressure regulator is permitted for use.
- For full carburettor rules refer to Rule 2 in the current SSCA Technical Specifications.

**REVISED RULES FOR 2019 IN BOLD/ITALIC/RED PRINT
ITEMS MARKED STRIKETHROUGH ARE NO LONGER ALLOWED**

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