



## **REGULATIONS AND SPECIFICATIONS FOR THE 2018 NORTHERN REGIONS MOTORSPORT FORMULA FORD CHAMPIONSHIP**

### **MSA NORTHERN REGIONS MOTORSPORT CIRCULAR NR 13/2018 (161386/144)**

#### **1. VALIDITY OF THESE REGULATIONS**

These regulations will apply for the calendar year of 2018.

#### **2. CONTROLLERS**

- 2.1 The Controllers of the Championship are Motorsport South Africa (Pty) Ltd (hereafter referred to as MSA) which has delegated control to the MSA Northern Regions Motorsport Committee and Single Seater Association.
- 2.2 The Controllers reserve the right to amend, alter or introduce additional rules and regulations and issue interpretation of these regulations as deemed necessary.

#### **3. ELIGIBILITY OF COMPETITORS**

- 3.1 The Championship is open to all competitors holding a valid Competition licences issued by Motorsport South Africa.
- 3.2 The domicile is un-restricted, however, competitors must conform to the rules and regulations of the Single Seater Northern Regions Association office.

#### **4. ELIGIBILITY OF VEHICLES**

- 4.1 The Championship is open to all Formula Ford cars complying with the regulations and specifications tabulated in Article 14 below, but limited to Kent engine cars only which have already been used in Formula Ford racing in South Africa prior to 1<sup>st</sup> January 2007.
- 4.2 New cars will be permitted only if approved by Single Seater Association appointed technical representative.

#### **5. CHAMPIONSHIP SERIES AND EVENTS TO COUNT**

- 5.1 The Championship series will be as per the 2018 MSA Calendar and number of events.
- 5.2 Points scored towards the Championship will be scored for each competitor for all events held.
- 5.3 Should less than 50% events plus one, with a minimum of six events of the scheduled championship rounds be held or scored the MSA Northern Regions Motorsport Committee reserves the right to withhold the declaration of Champions.

#### **6. POINTS SCORING**

- 6.1 Points scoring per race for regional championship events will be as follows:

1 <sup>st</sup>	- 10 Points
2 <sup>nd</sup>	- 8 Points
3 <sup>rd</sup>	- 6 Points
4 <sup>th</sup>	- 5 Points
5 <sup>th</sup>	- 4 Points
6 <sup>th</sup>	- 3 Points
7 <sup>th</sup>	- 2 Points
8 <sup>th</sup>	- 1 Point

- 6.2 There shall be a minimum number of ten starters for an event to be scored towards the Championship.
- 6.3 In addition, one Championship point will be scored for Pole position (Competitor that records the Fastest lap in Official Timed Qualifying) and Pole Position for Race 1 only, and one point will be scored by the competitor that records fastest official timed race lap of each race event. (Competitor that Records the Fastest Timed Race lap of event in Race 1 or Race 2)
- 6.4 Starting position for race 1 will be determined by practice times recorded during official qualifying practice. (SSR 27). The starting positions for race 2 will be the finishing order of race 1.

#### **7. RACE DISTANCE**

- 7.1 A minimum of eight laps per Race, which may be run in two separate races at each event. When a single race of longer duration is run, double the points listed in clause 6 will be scored.

**8. SPONSORS EXPOSURE AND NUMBERS**

- 8.1 Single Seater Association will issue each competitor with a competition number. Numbers complying with SSR 4 are to be displayed on the front and both sides of the car in an area that is visible from all angles.
- 8.2 Formula Ford Association will issue competitors with a decal chart and decals, which must be strictly adhered to, failing which a competitor may not be permitted to start an event, or may be excluded from the results of an event (see also GCR's 246 and 247).

**9. LEGALITY/STRIPPING PROCEDURE**

- 9.1 The pole position car, the race winner and the lap record scorer may be impounded after each race or heat for legality checks.
- 9.2 The engines of at least the six fastest cars may be sealed after Official timed practice, or should Official Timed Qualifying takes place on any day other than on race day. Engines may also be sealed after Race 1 or Race 2 , At the Discretion of Technical Consultant. The Strip will either take place at the circuit in Parc Ferme or will then be arranged for a later Date and Venue with Consent from Clerk of the Course and MSA.
- 9.3 Any Formula Ford at any race, setting a lap record may be impounded and checked for legality. (Refer GCR 252 for Parc Fermé Regulations).

**10. CONTROL FUEL**

The following procedure will be used to apply control fuel:

- 10.1 A Single Seater Association appointed technical representative will designate which cars are to run on a control fuel at any time before qualifying or a race.
- 10.2 The competitors concerned will gather at a place designated by the Single Seater Association appointed technical representative no later than half an hour before the event.
- 10.3 Competitors will then be required to drain all the fuel from their race cars. Competitors are required to provide all the necessary equipment to facilitate draining of fuel. The volume of fuel to be drained must exceed fifteen litres. Competitors must provide containers to drain the fuel into. In addition, each competitor must provide a clear see-through plastic container of at least 25 litres in volume to receive control fuel. Control fuel will then be added to each car under supervision and the fuel filler cap and any pipes to or from the fuel tank will then be sealed.
- 10.4 The onus is on the competitors to ensure that they obtain control fuel on time.
- 10.5 Competitors should apply all the necessary safety procedures to ensure that the draining of fuel is undertaken in a safe manner.
- 10.6 A fully charged and operable fire extinguisher of at least 2kg capacity is to be made available by each competitor during fuel draining and refilling at his/her vehicle.

**11. SEPARATION OF TIES**

- 11.1 In the event of a tie at the end of the season the competitor with the greater number of firsts will be declared the champion. If this does not resolve the tie, the greater number of seconds will count, failing this, thirds and so on. If the tie still remains, performance in all championship events will be taken into consideration and if this is still ineffective the MSA Northern Regions Motorsport Committee reserves the right to declare the winner on such basis as it deems fit.

**12. DECLARATION OF CHAMPION**

- 12.1 The MSA Northern Regions Motorsport Committee, at its sole discretion shall be responsible for declaring the winner of the Championship.

**13. AIM OF THE CHAMPIONSHIP**

- 13.1 To declare a 2018 Northern Regions Motorsport Formula Ford Champion.

**14. STANDING REGULATIONS AND SPECIFICATIONS**

- 14.1 The following as contained in Articles 15 through to 30 are the Standing Regulations and Specifications for Kent-engine Formula Ford vehicles.

**15. DESCRIPTION**

- 15.1 Four wheel, single seater racing car with open coachwork and complying with these regulations, and table of dimensions Appendix B fitted with a Ford 1600cc GT "Kent" engine.

**16. SAFETY REQUIREMENTS**

- 16.1 Fire extinguisher – min. 1 kg hand held, within reach of driver when strapped into the seat or 2.5kg remote controlled. Evidence must be available of purchase or service within the previous six months.

- 16.2 Roll over bars and head rests are to comply strictly with the FIA Year Book for the year of manufacturer of the vehicle concerned.
- 16.3 Safety harness – a full 6-point harness is compulsory.
- 16.4 Rain light – a rear facing red warning light of minimum 21 watts with surface area min. 20 sq. cm. Max 40 sq. cm. must be located within 100mm of the centreline of the vehicle and be clearly visible from behind the vehicle.
- 16.5 The warning light must be switched on when visibility conditions are reduced or when instructed by the Clerk of the Course.
- 16.6 The use of Hans Device is Recommended

## **17. CHASSIS**

- 17.1 The chassis must be of tubular steel construction with no stress bearing panels except bulkheads and undertray. Undertray curvature must not exceed 25mm. The undertray / floor extends from the bulkhead forward of the pedals to the bulkhead between the fuel tank and the engine. Monocoque chassis construction is prohibited. Stress bearing panels are defined as sheet metal affixed to the frame by welding or bonding or by rivets, bolts or screws which have centres closer than 150mm. Bodywork must not be used as stress bearing panels. The use of stabilised materials, composite materials using carbon and/or Kevlar reinforcement is prohibited.

### **17.2 Cars built after 1.1.1987**

The internal cross section of the cockpit from the driver's feet to behind his seat, shall nowhere be less than 700cm<sup>2</sup> and minimum width must be 25cm over the whole length of the cockpit. The only intrusion permitted into the cross sectional area being the steering column.

Cars built after 1.95

The chassis must include an impact-absorbing structure fitted ahead of the front bulkhead of the tubular steel frame. This structure must be independent of the bodywork and must solidly fixed to the extremities of the bulkhead (i.e. with bolts requiring tools for removal).

It must constitute a box of 30cm minimum length, 15cm height in any vertical section and 400 cm<sup>2</sup> minimum total cross section. It must be metallic using honeycomb sandwich construction with a panel thickness of 15mm minimum. It is recommended, but not mandatory, that this safety feature is fitted to older cars. Cars manufactured prior to 1<sup>st</sup> January 1987.

## **18. BODYWORK**

See tables of single seater dimensions. (Appendix "B"). Bodywork is not required behind the vertical plane taken through the front of the topmost portion of the roll over structure. If bodywork is used it must conform to the following regulations:

All bodywork must comply with either these regulations applicable for the year of manufacture of the car in their entirety.

- 18.1 Any device designed to augment aerodynamically the downthrust on the vehicle is prohibited, as are aerofoil, nose fins or spoilers of any type.
- 18.2 **For cars built after 1.1.1987**  
The engine cover must not extend rearwards past the rearmost point of the gearbox housing (no gearbox extensions permitted). The shape of the cover must not include any reflex curves and no flat surfaces are permitted within 15° of the horizontal.
- 18.3 **For cars built after 1.1.87**  
The lower rear bodywork (located below the wheel centre line) is only permitted alongside and beneath the engine and can only extend from behind the cockpit to a line drawn through the rear wheel axis. The incorporation of suspension or other fairings in this bodywork or separately is prohibited.
- 18.4 It is not permitted to construct any suspension member in the form of an aerofoil or to incorporate a spoiler in the construction of any suspension member.
- 18.5 All cars must have at least two mirrors mounted so that the driver has visibility on both sides of the car.
- 18.6 For cars built after 1.1.95 cockpit opening: The opening giving access to the cockpit must allow a designated horizontal template to be inserted vertically into the cockpit (not considering the steering wheel) down to 25mm lower than the lowest point of the cockpit opening. This template is defined by dimensions J,K,L in Appendix B
- 18.7 See also Lateral Protection Structures.
- 18.8 All competitors must run with complete (all) bodywork during all practice sessions which shall normally commence on the Friday of the race meeting, this includes both race heats. Unless the bodywork is damaged in such a way that it cannot be fitted and fastened to the vehicle to prevent it from coming loose and endangering other competitors.
- 18.9 Cars manufactured after 1.1.1998 must retain the original type sidepods as per manufacture and may fit larger radiators and sidepods, but not smaller as the sidepods are part of the crash safety structure.
- 18.10 These cars were designed with safety structures, sidepods are part of the safety structure. 1998 onwards.
- 18.11 Cars built prior to 1.1.1998 cars sidepods are free of restriction.
- 18.12

## 19. **ENGINE**

### 19.1 **General**

- a) Engines will be mounted upright, and aligned fore and aft in the chassis.
- b) The addition of any material be it metal, plastic or composite, etc. by means be it welding, bonding, encapsulation or encasement to any component, is prohibited. However, specific repair of the mounting points of the cylinder block to the transmission are allowed, whilst other casting repairs may be allowed with prior written approval of the Formula Ford Association appointed technical representative.
- c) Balancing of reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer.
- d) Pump, fan and generator drive pulleys and their retention bolts are free.
- e) Mechanical tachometer drives may be fitted.
- f) 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. For components that are granted the freedom for the fitment of a key or dowel, then material may be removed to allow the fitting of the key or bowl. Only one hole or keyway per component is allowed.
- g) The use of thread locking compounds is permitted.
- h) Gaskets are free except as follows:
  - i) the inlet manifold gasket and carburettor base gasket must be of standard Ford manufacture for the Ford Kent 1600cm<sup>3</sup> GT uprated engine. The inlet manifold gasket compressed thickness may not exceed 1mm. The carburettor base gasket thickness may not exceed 5,7mm ( $\pm 0,35$ mm).  
Note: Ford V6 bridge plate base gaskets, flexible carburettor mountings and rubber base gaskets or any other gaskets not specifically allowed in these regulations are prohibited.
  - ii) the cylinder head gasket may be of standard Ford manufacture or any equivalent gasket having a minimum compressed thickness of 0,85mm providing no performance advantage is gained.
- i) Any process of cleaning may be used on any component providing the surface finish, which must remain standard, is not affected.
- j) Forced induction is prohibited. Ram Air generated by the forward motion of the car is not considered as forced induction.
- k) The exterior surface only (of the complete engine assembly) of ferrous parts and the exterior surface of the aluminium cam cover may be protected by paint or similar means. No internal component or surface may be coated by any protective finish. Other Ford produced aluminium components may be protected only on their external surfaces by transparent clear varnish, or similar.

### 19.2 **Permitted engine**

The only permitted engine is the FORD 1600 GT "Kent" with a Maximum nominal bore 81.007mm and a Maximum stroke 77.62mm +/- 0.10mm. Production Tolerances are permitted providing the Total Swept Volume does not exceed 1600cc

### 19.3 **Induction**

- a) The air cleaner may be removed or replaced and a trumpet fitted.
- b) Carburettor Type: Weber 32/36 DGV and DGAV (from 1600 GT "Kent" or 2000 SAHC NE engine).

Number on engine	1
Number of Main Venturi	2
Maximum dia. of Main Venturi	26.0/27.0mm
Maximum dia. of carb outlet to inlet manifold	32.0/36.0mm
- c) It is permitted to change jets, open both throttles together, remove cold start devices and diffuser bar, fit internal and external anti-surge pipes, remove seals on emission control carburettors. No other modifications are permitted, choke must remain standard and no polishing or reprofiling is permitted. Any means of reducing intake air temperature is prohibited. Any form of water injection is prohibited.
- d) Inlet manifold: standard Ford production inlet manifold for 1600 GT "Kent" engine. The carburettor seat face may be machined to horizontal in the fore and aft plane. The water passage must remain intact but may be blanked off or plugged. The manifold may be machined externally to clear the throttle mechanism.
- e) Carburettor to inlet manifold gasket, including Spacer + 2 x Gaskets Thickness 5.70mm  $\pm 0.35$ mm  
Inlet manifold to cylinder head Thickness 1.00mm (max)  
3.5, 4.0, 4.5, full width cross tube auxiliary Venturi's are the only ones permitted, they may not be modified in any way whatsoever.

### 19.4 **Exhaust System**

- a) The exhaust system and manifold are free, within Vehicle Regulations.
- b) The exhaust system must comply with the noise test level as per GCR 245.

### 19.5 **Cylinder Head**

- a) Non-standard rocker covers are permitted providing they in no way improve the performance of the engine. Water passages are not permitted in rocker covers.

- b) Standard valve spring retainers must be used, only single valve springs are permitted. Shims are permitted, otherwise valve springs are free.
- c) Push-rods, rockers, tappets, pedestals and shafts must remain standard except that recontouring of the valve stem contact pad on the rocker arm is permitted providing the maximum specified lift at the spring cap is not exceeded. Rocker shaft springs are free.
- d) Maximum permitted lift at the spring cap with zero tappet clearance:

Inlet 10,00mm	Exhaust 10,10mm
Maximum permitted lift at the top of the push rod:	
Inlet 6,50mm	Exhaust 6,536mm
- e) Valves must remain standard, no reprofiling or polishing is permitted. The original 45° seat angle must be maintained.

Distance apart at centres		39,12 ± 0,5mm
Maximum face diameter,	inlet	39,62mm
	exhaust	34,00mm
Overall length	inlet	110,92 ± 0,5mm
Overall length	exhaust	110,61 ± 0,5mm

Valve stem seals are optional
- f) It is permissible to reshape inlet and exhaust ports by removal of metal only. Addition of material in any form is prohibited.
- g) It is permitted, as a means of repair, to replace damaged valve guides and valve seats by replacement valve guides and valve seat inserts, all standard dimensions.

#### 19.6 Cylinder Block

- a) Bores may be repaired by the fitment of cast iron liners up to a maximum diameter of 81,007mm.
- b) Localised machining of the block is permitted to allow fitment of a dry sump system.
- c) Crankcase breather may be removed or altered.
- d) The block may be machined to achieve correct deck height.
- e) The crankshaft horizontal axis (in the block looking from the front of the cylinder block) may not be offset in any way from the original location.

#### 19.7 Compression Ratio

The maximum compression ratio will be controlled as follows:

- a) Minimum combustion volume in piston, 41.00cc (with piston at TDC in cylinder and no account taken of volume down from the crown to the top piston ring). This measurement is achieved using Regular Paraffin only as the liquid.
- b) Standard Ford cylinder head gasket or equivalent only are permitted.  
The Only Cylinder Head gasket with Part No: 781M 6051 AA or 931 M 6051 AA are permitted.

minimum compressed thickness	0,85mm
minimum diameter of cylinder aperture	82,50mm
- c) Pistons must not protrude above the cylinder block face at TDC. The cylinder block may be machined.
- d) Maximum permitted protrusion of the valves into the combustion chamber: 1.20mm.

#### 19.8 Camshaft

- a) The only permitted camshaft is that supplied by the Formula Ford Association appointed technical representative. The 270 degree profile Camshaft that is Profiled and Heat Treated by the Association One and Only Approved Supplier may be used.
- b) Specifications and serial numbers for the camshafts will be kept by the Formula Ford Association appointed technical representative for the purpose of scrutineering checks.

#### 19.9 Pistons

- a) Pistons must be standard production pistons for the Ford 1600cc Kent engine, unmodified in any way except for balancing and as detailed.
- b) All three piston rings must be fitted, and must be standard production or similar replacements, ie. The compression rings must be one piece, with conventional plain gaps, chromium plating of the top ring is optional, the oil control rings must be either single piece twin land type or apex three piece (two rails and an expander). Molybdenum faced top compression rings are permitted.
- c) Localised machining of the bowl including valve relief and gudgeon pin and bosses of the piston to achieve volumetric and weight balance is permitted. Minimum weight complete with piston rings and gudgeon pin is 516gm.
- d) Teflon buttons as gudgeon pin retainers in place of circlips are permitted.
- e) Machining of the underside of three of the piston crowns to achieve mass balance is permitted.

#### 19.10 Connecting Rods

- a) Connecting rods must be standard Ford components for the 1600 Kent engine. Machining is permitted to remove metal from the balancing boss on the big end cap and around the small end to achieve balancing only. Polishing is prohibited. Minimum weight ( including bolts and small ends bearings ) is 640 grams.

- b) Standard 1600 Kent Big end bolts or Ford 3000 V6 Big end bolts or ARP big end bolts are permitted.

#### 19.11 Crankshaft

- a) A Standard crankshaft or a Steel equivalent Crankshaft specifically manufactured for the Ford 1600 Kent engine may be used.  
Spot Machining to achieve balance is permitted.  
Tuffriding, Shotpeening and shot blasting are permitted. Polishing is prohibited.  
Standard Cast Crankshaft                    minimum weight                    = 11.10 Kg  
Steel Crankshaft                                minimum weight                    = 11.50 Kg
- b) Crankshaft pulley is free as a tooth belt drive.
- c) It is not permitted to alter the number of bearings or fit bearings of less than standard production width.
- d) Standard, oversize and undersize bearings are permitted.
- e) The rear main journal may be fillet rolled in the radius.

#### 19.12 Flywheel and Clutch

- a) The flywheel and clutch assembly must be standard components. To achieve minimum weight and balance, material may be removed. For rectification, the clutch mating face may be resurfaced. It is permitted to use a similar pattern replacement clutch (i.e. conventional single diaphragm spring) driven plate with shock absorber springs. Organic friction material only is permitted. Racing clutches are prohibited.
- b) Flywheel bolts are free and locating dowels are permitted.
- c) It is permitted to secure the starter ring to the flywheel.
- d) Flywheel minimum permitted weight: 6.250 kg ( Flywheel ONLY including Ring Gear).

#### 19.13 Lubrication Systems

- a) The lubrication systems, external to the engine, are free. Existing standard production oilways, linings or oil grooves may be enlarged or reduced, but no additional ones are permitted. Friction surfaces must remain unchanged. Dry sump is permitted, oil coolers are free. Oil Pipes are Free.

#### 19.14 Cooling System

- a) A liquid cooling system is mandatory but radiator/s and water pump are free.
- b) The radiator/s, if housed in or incorporating a cool air scoop or deflector, must comply with bodywork regulations.

#### 19.15 Fuel Pump

- a) Only standard mechanical fuel pump for engine is permitted.
- b) Fuel pipes are free. Fuel cooling radiators are permitted, within safety regulations, but must be mounted within the main chassis frame.

#### 19.16 Distributor

- a) Distributors are free providing they retain the original drive and location.
- b) The distributor is defined as the component which triggers the LT current and distributes the HT ignition current. The ignition timing may only be varied by vacuum and/or mechanical means. It is prohibited to use any other method or component to trigger, distribute or time the ignition.
- c) It is permitted to mount a simple indicating pointer to the engine to facilitate the timing of the distributor with respect to the crankshaft/flywheel.
- d) Electronic ignition is permitted providing this is by means only to replace the current points and condenser in the distributor. Electronic programmable Distributors are not Permitted.
- e) Points and condenser may be retained

### 20. SUSPENSION

- 20.1 The following parts must be of alloy steel or other ferrous material: wishbones, rockers, push and/or pull rods. All other stress components must be metallic with no composite materials allowed. It is permitted to incorporate suspension mounting points on the engine and transmission assembly.
- 20.2 Active suspensions are prohibited, as is any system which allows control of the flexibility of the suspension springs, shock absorption and trim height when the car is moving.
- 20.3 Anti-roll bars from front and/or rear suspension may be capable of manual adjustment by the driver when seated in the car.
- 20.4 Simple ovalised tubes which have the same section top and bottom are not considered to be an aerofoil.

### 21. BRAKES

Only brake discs made predominantly from ferrous material are permitted. Callipers must be of ferrous material with a maximum of two working cylinders per calliper. Brake pad materials, including carbon metallic, are free.

### 22. SHOCK ABSORBERS

Light Alloy or Steel casings are Permitted . Each Dampers may only have a maximum of two way adjustable ie: ( 1 x Bump + 1 x Rebound Adjustment). Separate reservoirs/canisters for fluid/gas are prohibited. Otherwise free . Any form of active damping is prohibited. Any method of altering the damper performance by the driver whilst seated in

the car is prohibited. The shock absorber casing is defined as the item which contains the piston, fluid/gas, and the moving parts which control the damping action.

**23. STEERING**

The steering must consist of a mechanical link between the driver and the wheels, rear wheel steering prohibited, otherwise free.

**24. WHEELS AND TYRES**

- a) 13 Inch diameter wheels with a maximum rim width of 6 inches and minimum mass of 5.0 kg (Including 4 x Retaining Wheel Nuts) are the only wheels permitted. They must be of standard manufacture but the off-set may be altered. Madin Alloy three piece rims are allowed providing they conform with the required mass and width.
- b) Tyres must be used as directed by the Single Seater Association appointed technical representative, from the official tyre supplier.
- c) The Single Seater Association appointed technical representative will determine which races will be new tyre races. The onus is on the competitor to ascertain which races are new tyre races.
- d) The Single Seater Association appointed technical representative reserves the right to introduce a new tyre and size of rim and tyre.

Tyre Restriction

- a) Competitors will only use the AVON ACB 10 tyres purchased from the Single Seater Association, unless otherwise notified in writing. Purchased tyres may be selected at Random from the stock.
- b) Competitors shall be limited to the use of two sets of new tyres (i.e. 4 front + 4 rear) for the entire season. Competitors may use tyres recorded from previous season during the course of the new season. Only 2 x Sets of Tyres, Old or New may be used for Official Timed Qualifying and Races 1 +2 for the event of the 2018 Championship ( Recorded Tyre Serial Numbers with TC )
- c) The championship tyres registration of the allocated tyres will officially begin at the official timed qualifying session for the first race of the championship season.
- d) The serial numbers of all tyres to be used, as specified above, will be recorded. The onus is on the competitor to ensure that these serial numbers are recorded timeously and correctly. The race scrutineers and/or Single Seater Association representative(s), TC will check the serial numbers at random at any time. The use of tyres with incorrect serial numbers, during any official practice or race, may result in exclusion from the race meeting concerned as well as the imposition of further penalties.

Tyre Size: Front : 6.0 x 21 x 13 inch

Rear : 7.0 x 22 x 13 inch

**25. TRANSMISSION**

- a) The gearbox must contain not more than four forward gears and include an operable reverse gear, capable of being engaged by the driver whilst normally seated. The gear ratios are free.
- b) Rear wheel drive only is permitted.
- c) Final drive ratio is free.
- d) Torque biasing, limited slip and lock differentials are prohibited. Non ferrous differential components are permitted provided that at any temperature they do not provide any form of torque biasing etc. The only differential permitted is the "SALISBURY TYPE FREE DIFFERENTIAL". The car stationary with one rear wheel lifted off the ground, must allow the lifted wheel to be rotated continuously by hand relative to each other in both directions."  
Note: This wording does not exclude other makes of differentials or "Diff carriers" as long as they do not produce limited slip or torque biasing.
- e) Gear change must be manual in operation. The gear change must use the conventional H-pattern gear change gate. Any gear change mechanism that allows sequential selection of gears is not permitted.
- f) The only position for the main gear cluster will be wholly behind the rear axle output shaft centre line, and in line with the crankshaft centre line. Transverse, vertical, or other non in-line configurations will not be allowed.

**26. FUEL SYSTEMS**

- a) Tanks outside the chassis frame must comply with FIA Spec FT3.
- b) Inboard tanks, covered externally with a fireproof coating, are acceptable for events less than 70km.

- c) Only PUMP FUEL with a Maximum Octane Rating is permitted, Unleaded or LRP. Fuels specified in the 2018 MSA Handbook (GCR 240) shall be used. The addition of any additive which improves the performance of the fuel is prohibited.
- d) Maximum capacity 40 litres unless carried in FIA Spec FT3 tank.
- e) The Single Seater Association appointed technical representative has the right to introduce a control fuel at any time at their discretion.
- f) Fuel from breather pipes must be routed in such a manner that irrespective of the angle of the vehicle no fuel spillage will occur.
- g)

**27. STARTING**

- a) Compulsory electric starter with electrical source of energy carried on board the car, and able to be controlled by the driver when normally in his seat.
- b) A supplementary external source of energy temporarily connected to the car may be used to start the engine whilst in the pit area or on the dummy grid.

**28. ELECTRICAL SYSTEM**

- 28.1 To be equipped with an externally operated circuit breaker having positive ON-OFF positions clearly marked. An internal ignition switch must be operable by the driver when normally seated irrespective of whether a safety harness is worn or not.
- 28.2 External circuit breakers: the circuit breaker, when operated, must isolate all electrical circuits with the exception of those that operate fire extinguishers and other specifically specified components. On the cars, it should be situated on the lower main hoop of the rollbar. The location to be identified by a "red spark on a white-edged blue triangle", and the "ON" and "OFF" positions clearly marked, Note: When the cut-out is operated there must be no power source capable of keeping the engine running.

**29. MASS**

- a) **Cars Manufactured after 31/12/06**  
(Cars with Pushrod type suspension & LD 200 Gearbox)  
Minimum car mass at any time during a competition = 440kg  
Minimum mass, car plus driver, at any time during a competition = 540kg
  
- b) **Cars manufactured after 31/12/90**  
(i.e. cars with a pushrod type suspension & LD200 gearbox)  
Minimum car mass at any time during a competition = 430kg  
Minimum mass, car plus driver, at any time during a competition = 530kg
  
- c) **Cars manufactured after 31/12/86**  
(cars fitted with Hewland Mk9 or LD200 gearbox)  
Minimum car mass at any time during a competition = 420kg  
Minimum mass, car plus driver, at any time during a competition = 520kg
  
- d) **Cars manufactured before 31/12/86**  
(Cars fitted with Hewland Mk8/9 gearbox)  
Minimum car mass at any time during a competition = 400kg  
Minimum mass, car plus driver, at any time during a competition = 500kg

The Formula Ford Association may vary the minimum weight requirements for some cars/models in order to equalise performance between older and newer cars. Any variation in minimum weights will come into effect fourteen days after written notice of a variation is given by the Formula Ford Association.

**30. ENGINE SEALING**

All engines should have provision for scrutineers wire seals. 1,5mm dia. holes pre-drilled in readily accessible locations on installed engines, must be available. Failure to comply renders the entrant liable to a fine or exclusion.



- a) Sump – two holes through the cylinder block/sump joint flange, one either side of the engine.
- b) Timing cover – at least two retaining screw heads must be cross drilled.
- c) Rocker cover – at least two retaining screw heads must be cross drilled.
- d) Inlet manifold – at least two retaining bolt heads to the cylinder head must be cross drilled.
- e) Carburettor – at least two retaining nuts to the cylinder head must be cross drilled.
- f) Bellhousing – at least two retaining bolts to the engine must be cross drilled to enable clutch and flywheel to be adequately sealed, OR competitors must be prepared to remove either engine or transmission to enable sealing of clutch and flywheel in which case at least two clutch cover retaining bolts must be cross drilled. Failure to comply renders the engine ineligible.

**31. MISCELLANEOUS**

- a) Use of titanium, high strength composites and similar materials is prohibited.
- b) No data logging is permitted. All instrumentation is subject to the approval of the Formula Ford Association.
- c) Competitors are reminded that only modifications or additions specifically covered by these regulations are permitted. Engine components not covered by these regulations must remain completely standard and unmodified. In case of dispute on engines, reference will be made to Ford Motor Company Limited drawings.
- d) Vehicles defined in these regulations are required to comply with the requirements of the 2018 MSA Handbook.
- e) Ground clearance is defined as the clearance between the ground and the lowest part of the bodywork, and or of the suspended part of the car in normal race trim with driver on board the car.
- f)

**SPECIFIC REGULATIONS FOR CARS MANUFACTURED BEFORE 01/01/87**

**1. Description**

Single seater racing cars complying with current Formula Ford 1600 Kent regulations, and these regulations, manufactured prior to 1<sup>st</sup> January 1987.

**2. Chassis**

The chassis specification must remain fundamentally unaltered from original manufacture. Wheelbase, track and pick-up points must remain to manufacturer's specifications.

**3. Permitted Modifications**

To current FF-1600 Kent regulations.

3.1 Any modifications of which the primary purpose is safety or driver comfort.

3.2 Bodywork is free within FF-1600 dimensions but must remain the same as that fitted to the vehicle in its year of manufacture.( As per car was manufactured) This regulation applies to sidepods. Specifically for cars manufactured after 01 January 1998 must retain original sidepods.

3.3 Coil springs, shock absorbers, anti-roll bars and steering racks are free providing they fit the same original locations and comply with regulations.

3.4 Wheel off-sets may be varied to alter track dimensions.

3.5 All transmissions in production before 1<sup>st</sup> January 1987 in FF are permitted.

3.6 Make and type of drive shaft is free.

3.7 The number, type and location of radiators is free.

**4. Miscellaneous**

Cars may be upgraded to the specification of the latest model built by the manufacturer and supplied in South Africa before 1<sup>st</sup> January 1987.

**JUDICIAL CAMERA OPERATION PROCEDURES**

**Formula Ford 1600 Kent**

All cars must be fitted with a SSA supplied Go – Pro issued camera at each race event. All cameras, mountings and memory cards remain the property of the SASSA. Any cameras or mountings damaged or broken will be replaced by the competitors, at their cost. The onus is on the SASS to ensure this Judicial Camera is switched on and recording during Race heats.

It is the responsibility of the SASSA to ensure the camera is fully charged prior to the required use.

FOOTAGE:

The footage is the property of the SASSA, legally held in trust of each competitor. It is intended for use only in formal incident inquiries (such as disciplinary hearings etc.) and to enhance the Sponsor's TV production.

Should there be a formal protest / incident at a race meeting the driver's in question footage may be viewed as well as the footage of the closest competitor's car behind or as deemed necessary by the SASSA and / or requested by the Clerk of the Course.

Teams / Entrants / Competitors are reminded that all footage obtained from the SASS championship meetings remains the property of the SASSA and the nominated film production company, and for the avoidance of doubt, without prior permission from the SASSA, the footage will not be made available to any competitor or TV producers until after the Thirty minute protest period, after the last heat of the day.

SASS allows each member to obtain a copy of their own footage only as a courtesy after the days races are completed. The SASSA would be in breach of its position of trust if it were to give out other competitor's footage for anything other than its intended use.

The footage is not available for competitor's personal / informal protests.

The championship clerk of the course reserves the right to impose an appropriate penalty on either entrant and / or driver should the camera:

- i. Not be switched on.
- ii. Memory card be tampered with, swapped or taken out by any competitor.
- iii. Be deliberately damaged.

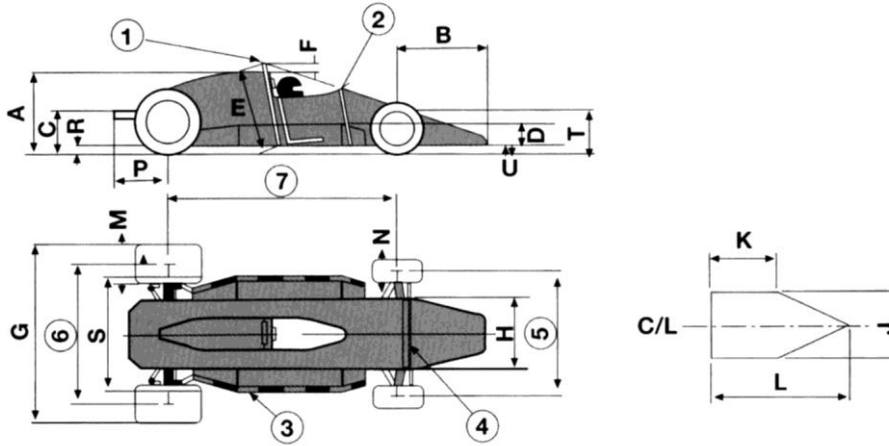
In the event that no data is available on request, sanctions may be applied.

**APPENDIX "B" (KENT)**

Table of single seater dimensions

**FORMULA FORD**

**APPENDIX "B" (KENT)**  
Table of single seater dimensions



- |                                 |                                  |
|---------------------------------|----------------------------------|
| 1. Safety roll over bar         | 2. Substantial support structure |
| 3. Lateral Protection structure | 4. Substantial structure         |
| 5. Front track                  | 6. Rear track                    |
| 7. Wheelbase                    |                                  |

**NOTES:**

Maximum height is measured with the driver aboard.  
Maximum height excludes safety roll-over bar on which there is no maximum height.

**SINGLE SEATER DIMENSIONS (KENT) – REFER TO DRAWING**

A) Maximum body height measured from ground	90
B) Maximum front overhang from front wheel axis	100
C) Exhaust height measured from the ground	60 max.
D) Minimum height of Lateral Protection Structure	15
E) Minimum safety roll-over bar length in line with drivers spine	92
F) Minimum allowed helmet clearance	5
G) Maximum width	185
H) Maximum body width behind front wheels	95
J) Minimum cockpit opening	45
K) Minimum cockpit parallel opening length	30
L) Minimum cockpit overall opening length	60
M) Maximum rear wheel width	6.0 inches
N) Maximum front wheel width	6.0 inches
P) Maximum exhaust length from rear wheel axle	60
R) Minimum ground clearance	4
S) Maximum width including lateral protection structure	130
T) Maximum height of any part wider than 110cm ahead of the front wheels is not to exceed the front rim height	
Minimum wheel base	200
Minimum track	120
Wheel diameter	13 inch

Note: All dimensions in cm unless otherwise stated