



# HISTORIC SPORTS CAR CLUB

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## HSCC Historic Formula Ford 2000 Championship Regulations 2012

### Eligible Cars:

The HSCC Historic Formula Ford 2000 Championship is open to genuine Formula Ford 2000 racing cars originally built and raced between 1/1/75 and 31/12/81. There is also an invitation classes open to Air Cooled Formula Super Vee cars built prior to 1/1/78 All cars must have current FIA or HSCC Vehicle Identification Forms.

### Class Structure for HSCC Historic Formula Ford 2000 Championship

**Class A:** Formula Ford 2000 cars built between 1/1/79 and 31/12/81 but excluding the Van Diemen RF81 and RF82 and the Reynard 82SF.

**Class B:** Formula Ford 2000 cars built before 1/1/79, but excluding Reynard and Delta cars built in this period, which are eligible for Class A.

**Class C:** Invitation class for Air Cooled Formula Super Vee cars built before 1/1/1978  
Class C cars are not eligible for championship points.

### 1. SPORTING REGULATIONS – GENERAL

#### 1.1 Title and Jurisdiction:

The HSCC Historic Formula Ford 2000 Championship is organised and administered by The Historic Sports Car Club [HSCC] in accordance with the General Regulations of the Royal Automobile Club Motor Sports Association [MSA] (incorporating the provisions of the International Sporting Code of the FIA) and these Series Regulations.

MSA Championship Permit No. **CH2012/R082**

Race Status: National B

MSA Championship Grade: D

#### 1.2 Officials:

1.2.1 Co-ordinator: Mr. G.D. White, HSCC, Silverstone Circuit, Silverstone, Nr Towcester, Northants, NN12 8TN

Tel; 01327 858400

1.2.2 Eligibility Scrutineer: Matthew Lambkin-Smith

1.2.3 Series Stewards: Peter Hore, Mr Bob Birrell, Mr Mike Eagles

All c/o HSCC Silverstone Circuit, Silverstone, Nr. Towcester, Northamptonshire, NN12 8TN

#### 1.3 Competitor Eligibility:

1.3.1 Entrants must be fully paid up valid membership card holding members of the HSCC and in possession of a valid 2012 MSA Entrants Licence.

1.3.2 All championship competitors and entrants must be fully paid up valid membership card holding members of the HSCC, be registered for the Championship and be in possession of a valid 2012 MSA Competition (Racing) National B or above STATUS Licence.

1.3.3 All necessary documentation, including HSCC vehicle identity document must be presented for checking at all rounds when signing-on.

#### 1.4 Registration:

1.4.1 All drivers must register as competitors for the Championship by returning the Registration Form with the Registration Fee to the Co-ordinator prior to the Final Closing date for the first round being entered.

1.4.2 The registration fee is £150 to be paid direct to the HSCC and includes membership of the HSCC.

1.4.3 Registrations will be accepted from 1st January 2012.

1.4.4 Registration numbers will be the permanent Competition numbers for the Championship.

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1.5 Championship Rounds: The Championship will be contested over 8 race meetings if there are two races at a race meeting both will count for championship points.

<b>Date</b>	<b>Circuit</b>	<b>Status</b>	<b>Org. Club</b>
17-18 March 2012	Donington Park	Clubmans	HSCC
21-22 April 2012	Cadwell Park	Clubmans	HSCC
19-20 May 2012	Silverstone	Clubmans	HSCC
9-10 June 2012	Snetterton	Clubmans	HSCC
30 June – 1 July 2012	Brands Hatch	Clubmans	HSCC
4-5 August 2012	Croft	Clubmans	HSCC
25-27 August 2012	Oulton Park	Clubmans	HSCC
23 September 2012	Brands Hatch	Clubmans	HSCC

1.6.1 Points will be awarded, by class, to competitors listed as classified finishers in the Final Results as follows:-

<b>Position</b>	<b>10 or more in class</b>	<b>less than 10 in class</b>
1st	25	15
2nd	20	12
3rd	16	10
4th	14	9
5th	13	8
6th	12	7
7th	11	6
8th	10	5
9th	9	4
10th	8	3
11 <sup>th</sup>	7	
12 <sup>th</sup>	6	
13 <sup>th</sup>	5	
14 <sup>th</sup>	4	
15 <sup>th</sup>	3	

All other finishers will receive 2 points

One point will be awarded for the fastest lap in each class at each round and one point to each non-finisher.

Invitation Class Points will be awarded, to Formula Super Vee competitors listed as classified finishers in the Final Results as follows:-

<b>Position</b>	<b>6 or more in class</b>	<b>5 or less in class</b>	<b>3 or less in class</b>
1st	15	10	5
2nd	12	8	3
3rd	10	6	
4th	9	4	
5th	8	3	
6th	7		
7th	6		
8th	5		
9th	4		
10th	3		

1.6.2 The totals from all qualifying rounds less 1 will determine final championship points and positions.

1.6.3 Ties shall be resolved using the formula in Section **W1.3.4.** of the 2012 MSA Yearbook.

### **1.7 Awards:**

1.7.1 All awards are to be provided by the race organisers.

1.7.2 Per race: A trophy to the overall winner, second and third overall and to first, second and 3<sup>rd</sup> in class subject to three, five and 6+ starters in each class the overall winners trophy also counts as a class award for these purposes. In addition the Formula Ford 2000 Association will provide awards for 4<sup>th</sup>, 5<sup>th</sup>, and 6<sup>th</sup> overall where fifteen or more cars start the race.

1.7.3 Championship: Championship winner 2<sup>nd</sup> overall - 6<sup>th</sup> overall will receive a trophy and to each 1st 2nd and 3rd in class a trophy, subject to 4, 6 and over 6 in class. To qualify for a position in the final championship results a competitor must have competed in at least 4 rounds. Other awards may be given at the Championship Organisers Discretion

1.7.4 Bonuses: Not applicable

1.7.5 Presentations: Winners trophies to each class winner will be presented at the end of each race. Class trophies will be available from the paddock office 1 hour after the official results have been published.

1.7.6. Entertainment Tax Liability: In accordance with current government legislation, the HSCC is legally obliged to withhold tax at the basic rate on all payments to non-UK resident sportsmen/women.

That is those persons who do not have a normal permanent residence in the UK. The UK does not include the Isle of Man, Channel Isles or Eire. This means that, as the organiser, the HSCC is required to deduct tax at the current rate applicable from any such payments they may make to non-UK residents.

Under certain circumstances, it may be possible for competitors to enter into an agreement with the Inland Revenue to limit the tax withheld. Any application for such an arrangement must be made in writing and not later than 30 days before the payment is due. For further information contact:- The Inland Revenue, Foreign Entertainers Unit, Centre for Non Residents, St John's House, Merton Road, Merseyside. L69 9BB.

1.7.7 Title to all Trophies: In the event of any Provisional Results or Series Tables being revised after any provisional presentations and such revisions affect the distribution of any awards the Competitors concerned must return such awards to the HSCC in good condition within 7 days.

## **2. SPORTING REGULATIONS - JUDICIAL PROCEDURES**

All competitors are reminded that they are racing Historic Cars, which by their nature are expensive and difficult to repair, they are part of our sporting heritage. Often parts have to be manufactured and are not available 'off the shelf'. These cars require respect as do your fellow competitors. Competitors will be expected to race within those parameters. If involved in an incident they will be required to report their actions to the Clerk of the Course if called

2.1 Races: In accordance with Section C of the 2012 MSA Yearbook.

2.2 Series: In accordance with Section C of the 2012 MSA Yearbook.

## **3. SPORTING REGULATIONS - CHAMPIONSHIP RACE MEETINGS & RACE PROCEDURES**

### **3.1 Entries:**

3.1.1 Competitors are responsible for sending in correct and complete entries with the correct entry fees prior to the entry closing dates which shall be at least 18 days before each round.

3.1.2 Incorrect or incomplete entries (including Driver to be Nominated Entries) are to be held in abeyance until they are complete and correct and the date of receipt for acceptance of entry purposes shall be the date on which the Secretary of the Meeting receives the missing or corrected information or fee.

3.1.3 Any withdrawal of Entry or Driver/Car changes made after acceptance of any entry must be notified to the Secretary of the Meeting in writing. If Driver/Vehicle changes are made after publication of Entry Lists with Final Instructions the competitor concerned must apply for approval of acceptance by the Stewards of the Meeting

BEFORE Signing-On.

3.1.4 The Maximum Entry Fee for each race shall be: £500

Late entries - any entry received after the closing date will be subject to an additional fee of £25.

3.1.5 In the event of any rounds being oversubscribed the Organising Clubs, in liaison with the HSCC may at their discretion run Qualification Races. For Qualification Race Procedures see 3.13 of these regulations.

3.1.6 Reserves are to be nominated on the Final List of Entries published with Final Instructions or Amendment Sheet Bulletins. All Reserves will practice and replace withdrawn or retired entries in Reserve Number order irrespective of class. If Reserves are given Grid Places prior to issue of the first Grid Sheets for any round the times set in Practice shall determine their grid positions. If reserves are given places after publication of the grid sheet and prior to cars being collected in the Official "Assembly Areas" they will be placed at the rear of the Grid and be started without any time delay. Otherwise, they will be held in the Pitlane and be released to start the race after the last car to start the GREEN FLAG LAP or last car to take the start has passed the startline or pitlane exit, whichever is the later. Such approval to start MUST be obtained from the Clerk of the Course.

3.1.7 Entry Fee Refunds will be as per the policies of the Clubs organising each round - as published in their Supplementary Regulations for each round.

3.1.8 Each Race Meeting Organiser may accept up to 20% more entries than specified on the Track Licence for each Circuit and all accepted Competitors may practice.

### **3.2 Briefings:**

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

### 3.3 Practice:

The minimum period of practice to be provided is to be as specified in the MSA Regulations in respect of circuit lengths. Should any practice session be disrupted the Clerk of the Course shall not be obliged to resume the session or re-run sessions to achieve the series criteria and the decision of the Clerk of the Course shall be final.

### 3.4 Qualification:

Each driver should complete a minimum of three laps practice in the car to be raced and in the correct session in order to qualify for selection and order of precedence as set out in the MSA regulations Q 4.5 and the Clerk of the Course and/or Stewards of the Meeting shall have the right to exclude any driver whose practice times or driving are considered to be unsatisfactory - as per MSA Regulation Q4.5

### 3.5 Races:

The standard minimum scheduled distance shall be 15 miles whenever practicable but any race distance may be reduced at the discretion of the Clerk of the Course or Stewards of the Meeting.

The Procedure for qualification races is specified in 3.13.

### 3.6 Starts:

3.6.1 All race start countdowns are to have a minimum elapsed period of three minutes from the time all cars are released to form up on the grid to the start of the Green flag Lap(s) in the formation as specified on the Track Licence for each circuit.

3.6.2 The countdown procedures/audible warnings sequence shall be:-

All races will be Standing Starts unless otherwise advised in the Competitors Final Instructions.

One minute to start of Green Flag Lap - Start engines/Clear Grid.

Thirty seconds - Visible and audible warning for start of Green Flag/Pace Lap.

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

3.6.4 Any cars removed from the grid after the one minute stage or driven into pits on Green Flag Lap shall be held in the pitlane and may start the race after the last car to take the start from the grid has passed the startline or pitlane exit, whichever is the later.

3.6.5 Any drivers unable to start the Green Flag/Pace Lap or start are required to indicate their situation as per MSA Regulation Q12.13.2. Drivers may make up any lost grid position on this green flag lap, BUT any drivers unable to maintain grid position at any

point of the green flag lap to the extent that ALL other cars are ahead of them, may complete the green flag lap but MUST remain at the rear of the last row of the grid but ahead of any cars to be started with a time delay.

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

3.6.7 A five second board will be used to indicate that the grid is complete. The red lights will be switched on five seconds after the board is withdrawn.

In the event of any starting lights failure the Starter will revert to use of the National Flag.

3.6.8 Start procedures at some meetings may differ from the above and if so this will be notified to all competitors in the final instructions of the meeting.

### 3.7 Race Stops

3.7.1 Should the need arise to stop any race or practice, RED LIGHTS will be switched on at the Startline and RED FLAGS will be displayed at the startline and at all Marshals Signalling Points around the circuit.

This is the signal for all drivers to cease circulating at racing speeds, to slow to a safe and reasonable pace and to return to the starting grid area which will automatically become a Parc Ferme area.

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

#### 3.7.2 Case A – Less than two laps completed by Race leader.

The race will be null and void. The race will restart from the original grid positions. Competitors unable to take the restart may be replaced by reserves who will start from the back of the grid in reserve order. Gaps on the grid should not be closed up. The length of the restarted race will be determined by the Clerk of the Course.

#### 3.7.3 Case B - More than two laps completed by Race Leader but less than 75%.

The Race will restart from a grid set out by the finishing order of part one, (as per Q5.4.3.). The result of the race will be the finishing order at the end of part two. The length of the restarted race will be determined by the Clerk of the Course.

3.7.4 If the leader has completed more than 75% of the race distance or duration it shall not be restarted and the results will be declared in accordance with MSA Regulation Q5.4.3., **unless the Clerk of the Course in consultation with the Stewards of The Meeting, deems it appropriate to restart the race.**

### 3.8 Re-scrutiny:

All vehicles reported involved in contact incidents during races or practice must be re-presented to the Scrutineers before continuing in the races or practice.

### 3.9 Pits & Pitlane Safety:

3.9.1 Pits: Entrants must ensure that the MSA, Circuit Management and Organising Club Safety Regulations are complied with at all times.

3.9.2 Pitlane: The outer lane or lanes are to be kept unobstructed to allow safe passage of cars at all times. The onus shall be on all drivers to take all due care and drive at minimum speeds in the pitlane.

3.9.3 Refueling: May only be carried out in accordance with the MSA Q13 Regulations, Circuit Management Regulations and the Supplementary Regulations or Final Instructions issued for each circuit/meeting.

### **3.10 Race finishes:**

After taking the chequered flag drivers are required to: progressively and safely slow down, remain behind any competitors ahead of them, return to the Pit Lane Entrance/Paddock Entrance as instructed, comply with any directions given by marshals or officials and to keep the helmets on and harnesses done up while on the circuit or in the pitlane.

### **3.11 Results:**

All practice timesheets, grids, race results are to be deemed PROVISIONAL until all vehicles are released by scrutineers after post practice/race scrutineering and/or after completion of any judicial or technical procedures.

**3.12 Timing Modules:** All cars must be fitted with a working HSCC approved transponder. Failure may result in competitors not being timed or excluded from the results

**3.13 Qualification Races:** If applicable, this procedure will be set out in the Competitors Final Instructions

**3.14 Operation of Safety Car:** As per MSA Regulations Section Q Appendix 2.

## **4. CHAMPIONSHIP RACE PENALTIES:**

### **4.1 Infringements of Technical Regulations:**

4.1.1 Arising from post practice Scrutineering or Judicial Action: Minimum penalty: The provisions of MSA regulations: (C3.3.).

4.1.2 Arising from post race Scrutineering or judicial action: Minimum penalty: The provisions of MSA regulations: C3.5.1. (a) & (b) and more serious penalty C3.5.1(c).

4.1.3 Additional specific championship penalties: According to Supplementary Regulations

### **4.2 Infringements of non-technical MSA Regulations and the Sporting Regulations issued for the Championship:**

4.2.1 The Clerk of the Course has the right to impose a Stop Go penalty, in accordance with MSA Regulation Q12.6

4.2.2 Alternatively, the Clerk of the Course or Stewards may issue a grid place penalty of up to ten grid places, or a Final race position drop of up to ten race positions, for contravention of regulations during qualifying or racing. In the event of a grid place drop this penalty may be extended to the next Championship race in which the competitor takes part

As per **2012 MSA** Judicial Procedure Regulations.

4.3 Any competitor who is penalised under the MSA Sporting Regulations at any stage of an event may at the Clerk of the Course Instruction incur the following Championship penalty: -

The event will be counted as one of the events contributing to their Championship score and they will be excluded from the event. Additionally the competitor will forfeit a total of points equal to those obtained for a class win even if this results in a minus total of points.

## **5. TECHNICAL REGULATIONS**

### **5.1 INTRODUCTION:**

The following Technical Regulations are set out in accordance with the MSA specified format and it should be clearly understood that if the following texts do not clearly specify that you can do it you should work on the principle that you cannot. **Competitors are advised to read section J** of the 2012 MSA Yearbook. . N.B. Specific regulations for Formula Ford 2000 cars and Air-Cooled Formula Super Vee cars are headed FF2000 and FSV respectively. If no such heading is present, the regulation covers ALL competing cars.

5.1.1 Competitors must always make prior application to the FF2000 registrar in writing with reference to the unavailability of original pattern parts, panels etc. Each such case and application will be considered by the Series Organisers and the Eligibility Scrutineer and ruled thereon. Failure to comply may result in rejection of the car and imposition of penalties at the discretion of the registrar.

### **5.2 GENERAL DESCRIPTION:**

The 2012 Historic Formula Ford 2000 races for competitors participating in Formula Ford 2000 Single Seat Racing Cars built prior to 31/12/81 (excluding the Van Diemen RF81 and Reynard 82 series cars), and the onus is on the entrant/competitor to establish this. There is also an invitation class for Formula Super Vee cars with air-cooled engines built prior to 31/12/77. All cars, prior to being accepted and registered by the Association, must comply with these regulations and the provisions of the regulations. Anything outside this must be approved by the eligibility scrutineer.

### 5.3 SAFETY REQUIREMENTS:

The following Articles of MSA Section K Safety Criteria Regulations will apply:-

**(K1) (K2.1.4. Six Point) (K3) Section K , K3.1.1. & K3.1.2.(a), (K4), (K4&5)(K6-13) (K14).**

### 5.4 GENERAL TECHNICAL REQUIREMENTS AND EXCEPTIONS:

All vehicles must comply with their HSCC or FIA Identity Documents. Subject to their Identity Documents indicating otherwise, vehicles must comply with Technical Regulations for competitors (J5).

### 5.5 CHASSIS:

5.5.1 FF2000: Any chassis manufactured before 31.12.81, and of a type raced in contemporary FF2000 will be eligible. In addition, Formula Ford 1600 cars, modified to FF2000 regulations will also be accepted, providing that an equivalent car ran in period. (ie, a Royale RP24 may be modified and raced to RP25 specification. The exception to these rules is the Van Diemen RF81 series, in both FF2000 and FF1600 forms, which are specifically excluded, as are the Reynard 81FF and 82SF. A list of eligible cars is available on request.

5.5.3 FF2000: The chassis must be of tubular steel construction with no stress bearing panels except bulkhead and undertray. Curvature of the undertray must not exceed 2.54cm. Monocoque chassis construction is prohibited. Stress bearing panels are defined as:- Sheet metal affixed to the frame by welding, bonding or rivets or bolts or screws which have centres closer than 15.25cm. Bodywork must not be used as stress bearing panels. The use of stabilised materials, composite materials using carbon and/or Kevlar reinforcement is prohibited. The chassis specification must remain fundamentally unaltered from original manufacture. Wheelbase, track and pickup points must remain to manufacturer's specification. Ground Clearance as per **(J5.20.11.)** at all times, in practice & race, including in any post practice or post race scrutineering. No engine oil or water tubes are permitted within the cockpit.

5.5.4 FSV: Any chassis manufactured before 31/12/77 and of a type raced in Formula Super Vee.

### 5.6 BODYWORK:

5.6.1 Bodywork must be of a type with a proven competition history for that type of car.

5.6.2 Wings must be of a proven period design and must respect period dimensions for the chassis type in question. All other bodywork dimensions are as follows (to be read in conjunction with drawing number Q19.17 in the MSA Competitors and Officials Yearbook):-

- (A) 100cm on cars built before 31/12/77, otherwise 80cm
- (B) 100cm
- (C) 90cm. Cars built before 31/12/78 are permitted to run period "Periscope" airboxes.
- (D) 30-60cm
- (E) Front wheel rim height
- (F) 92cm
- (G) 5cm
- (H) 185
- (I) 95cm
- (J) 95cm
- (K) 135cm
- (L) 45cm
- (M) 30cm
- (N) 60cm
- (O) see 5.12.1
- (R) N/A
- (S) 100cm on cars built before 31/12/77, otherwise 80cm

5.6.3 Enclosure of the sides of the engine is prohibited. The use of an unstressed undertray beneath the engine bay is permitted, providing that the stipulations regarding the definition of stress bearing panels in 5.5.3 are adhered to. The undertray must not extend beyond the rear of the engine/gearbox adaptor plate.

5.6.4 No modifications are permitted without the specific approval of the Eligibility Scrutineer.

### 5.6.5 Modifications Permitted

It is permitted to make any modification of which the primary purpose is safety or driver comfort. Cars may be updated to the specification of the latest model built by the manufacturer which appears in the list of eligible vehicles.

### 5.6.6 Modifications Prohibited

The use of composite materials using carbon and/or kevlar reinforcement is prohibited.

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.

## 5.7 ENGINE:

5.7.1 FF2000: The only permitted engine is the Ford NE series 2 Litre SOHC with 2 venturi carburettors with nominal bore 90.84mm + 0.5mm rebore allowance and stroke 76.95mm. Production tolerances are permitted providing the total swept volume does not exceed 2025cc. Engines will be mounted upright and aligned fore and aft in the chassis.

The addition of any material be it metal, plastic or composite etc. by any means be it welding, bonding encapsulation or encasement to any component is prohibited. However, specific repair of castings may be allowed with the written approval of the eligibility scrutineer responsible for the Formula. Balancing of reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer. Pump, fan and generator drive pulleys and their retention bolts, washers and belts are free. Mechanical tachometer drives may be fitted. Generators are optional. 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. The use of thread locking compounds is permitted. Gaskets are free except for cylinder head and carburettor to inlet manifold gaskets which must be dimensionally identical to original Ford gaskets - see note under compression ratio. Any process of cleaning may be used on any component providing the surface finish, which must remain standard, is not affected. Forced induction prohibited. The air cleaner may be removed or replaced and a trumpet fitted.

Carburettor Type: Weber 32/36 DGV & DGAV. Number on engine 1 Number of Main Venturi 2.

Maximum diameter of carburettor outlet to inlet manifold 32.0/36.0mm. Maximum diameter of Main Venturi 26.0/27.0mm

It is permitted to change jets, open both throttles together, remove cold start devices and diffuser bar, fit internal and / or external anti-surge pipes, remove seals on emission control carburettors. No other modifications are permitted, chokes 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.

Flexible mounts for the carburettor may be incorporated providing they do not exceed a maximum of 25.4mm from flange to flange. The bore of the casting must remain untouched and in its original condition. The carburettor seat face may be machined to horizontal in the fore and aft plane. The water passage in the inlet manifold may be blanked off or plugged.

The manifold may be machined externally sufficiently to clear the throttle mechanism in the case of both throttles being opened together.

## EXHAUSTS

The exhaust system and manifold are free, within Vehicle Regulations.

## CYLINDER BLOCKS

It is permitted, as means of repair, to replace damaged cylinder bores with cast iron cylinder liners, all to standard dimensions. Localised machining of the cylinder block is permitted to allow fitting of the dry sump system. The crankcase breather may be altered or removed, but all breathers must discharge into a catch tank, or back to the oil tank. Cylinder blocks may be machined to maintain deck height.

## CYLINDER HEADS

Non-standard camshaft covers are permitted providing they in no way improve the performance of the engine. Water passages are not permitted in cam covers. Standard valve spring retainers must be used, only single valve springs are permitted. Shims are permitted otherwise valve springs are free.

The only permitted camshafts are the standard Ford production camshafts for 2000SOHC NE engines, part number 1584660. The camshaft and rockers must remain entirely unmodified. They must be fully manufactured and ground by the Ford Motor Co. It is prohibited to grind camshafts from blanks or regrind or reprofile. Tuftriding or Parkerising is permitted.

The key/keyway in the camshaft pulley may be offset. Vernier adjustment of cam timing is permitted. Cylinder head face may be skimmed.

Maximum valve lift at determined points by camshaft rotation will be established by using a low rate substitute valve spring (load characteristics 12lb at 1.417in, 30lb at 1.000in), with zero tappet clearance.

Valves must remain standard, no reprofiling or polishing is permitted. The original 45deg. seat angle must be retained.

Maximum face diameter inlet 42.2mm Maximum face diameter exhaust 36.2mm  
Overall length inlet 111.15 - = 0.5mm. Overall length exhaust 110.55 - = 0.5mm  
Maximum valve stem diameter 8.4mm

It is permissible to reshape inlet and exhaust ports by removal of metal within limits. Addition of material in any form is prohibited. Maximum port dimension at manifold head face inlet diameter 39.5mm exhaust 35.5mm X27mm Sizes may only be exceeded if the castings are oversize, in such cases the castings must be seen to be original and untouched. An external oil drain pipe from the cylinder head is permitted. The fitting of a union by drilling and tapping is permitted. It is permitted, as means of repair, to replace damaged valve guides and valve seats by replacement cast iron valve guides and cast iron valve seat inserts all to standard dimensions. Inlet and exhaust port diameter may be exceeded if the original casting is visible and untouched at the gasket face.

Broken camshaft carriers may be repaired by means of machining the broken carrier(s) flat, and replacing with a ferrous block, screwed into the head casting. The block may then be line bored to accept the camshaft.

#### LUBRICATION SYSTEMS

The lubrication system, external to the engine, is free. Existing standard production oilways, linings or oil grooves may be enlarged or reduced, but no additional ones are permitted with the exception of an external drain from the head to the sump. Standard friction surfaces must remain unchanged. Dry sump is permitted, oil coolers are free

#### COOLING SYSTEM

A liquid cooling system is mandatory but radiator and water pump are free provided that the water pump is mechanically operated. (i.e. non electrical) The radiator if housed in or incorporating a cool air scoop or deflector, must comply with bodywork regulations.

#### FUEL PUMPS

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

#### DISTRIBUTORS

Distributors are free providing they retain the original drive and location. 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. 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.

#### COMPRESSION RATIO

The maximum compression ratio will be controlled as follows: Minimum combustion volume in cylinder head 50cc. Standard Ford cylinder head gaskets part nos 70HM6051 BiA, 70HM6051 B3B, 70HM6051 GiA: minimum compressed thickness 0.9mm minimum diameter of cylinder aperture 92.0mm or dimensionally identical aftermarket gasket. Pistons must not protrude above cylinder block surface at TDC. Cylinder block face may only be machined flat.

#### PISTONS

Pistons must be standard Ford or absolutely identical aftermarket production pistons, unmodified in any way except for balancing and as detailed.

All three piston rings must be fitted, piston rings must be standard production or similar approved pattern replacements, i.e. the compression rings must be one piece, single homogeneous material type 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. To achieve balance, material may be removed from the internal surfaces at any location below the lowest point of the gudgeon pin. All external surface, dimensions and profiles must remain standard with the exception of the top surface of the piston crown which may be subjected to simple machining to achieve balance and the objectives of the section entitled "Compression ratio" Minimum weight of pistons, plus rings, connection rod, connection rod bolts and nuts, less big end bearings 1255grms

#### CONNECTING RODS

Connecting rods must be standard Ford part. Machining is permitted to remove metal from the balancing bosses to achieve balance only. Tuffriding, Parkersing, shot-peening, shot-blasting and polishing are permitted. It is permitted to radius the area around the big-end retaining bolt heads and nuts. Big end bolts part no. 905500 are permitted as are similar aftermarket big end bolts.

## CRANKSHAFT

A standard crankshaft must be used. Spot machining to achieve balance is permitted. Tuftriding Parkerising, shot-peening, shot blasting and polishing are permitted. Crankshaft minimum weight 28lbs. It is not permitted to alter the number of bearings or fit bearings of less than standard production width. Standard oversize and undersize bearings are permitted.

## FLYWHEEL AND CLUTCH

The flywheel must be a standard component. To achieve minimum weight and balance, materials may be removed from the originally machined surfaces, rim/flange etc. For rectification, the clutch mating face may be resurfaced. Cast surfaces must remain in original condition. Friction material is free. The clutch must be a standard Ford road car unit or aftermarket replacement of identical diameter and type, or AP Racing models CP5351-1 or CP5351-2. Sintered clutches are forbidden. Flywheel bolts are free and locating dowels are permitted. It is permitted to secure the starter ring to the flywheel. Flywheel and clutch assembly minimum permitted weight 12.5kg (including all flywheel and crankshaft securing bolts).

## ENGINE SEALING

All engines must have provision for scrutineer's wire seals. 1/16in holes pre-drilled in readily accessible locations on installed engines must be available.

- a) Sump - two holes through the cylinder block/sump joint flange, one either side of the engine.
- b) Cam Cover - at least two retaining screw heads must be cross drilled
- c) Cam Timing Pulley - retaining bolt 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) Bell housing - 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.

5.7.2 FSV: The engine must consist of standard VW parts, and only components from engines of VW types 1 to 4 (excluding type 4 2000cc) are permitted. Compression ratio is unrestricted, and the cylinder heads may be machined by removal of metal. Piston rings, camshaft, cam followers, pushrods and rocker box covers are unrestricted. Roller camshafts and cam followers are prohibited. Two double choke, or four single choke carburettors of maximum 40mm at the throttle butterfly/slide are permitted. The make of carburettor is free.

Fuel injection is prohibited. Valve springs and valve caps are unrestricted in respect of design or number. The maximum permitted valve diameters are Inlet 41mm, Exhaust 34mm. The clutch unit must originate from VW types 1 to 4, although the method of operation, types of linings and springs are unrestricted. The flywheel may be lightened, and extra location dowels may be added. Cooling fans from VW types 1 2 3 and 4 only are permitted. Fans, fan housings and cooling ducts may be modified or removed. If a fan is used, it must be driven directly by the engine.

## 5.8 SUSPENSION:

5.8.1 Suspension as original. Remanufactured or replacement suspension components shall be dimensionally as original, but material thickness may be changed in the interests of safety. The suspension shall utilise only the original pick-up points unless these were modified and used on the chassis and raced in a Formula Ford 2000 race prior to 31/12/81, or Formula Super Vee race, prior to 31/12/78.

5.8.2 No modification permitted without consultation and ratification by the Eligibility Scrutineer.

5.8.3 The use of any additional anti squat/anti droop devices is strictly prohibited.

5.8.4 Dampers shall be of the same type in terms of appearance as originally fitted to the car and shall be mounted to the original mounting points. Remote reservoirs or any form of external control system are excluded. The use of more than one spring per corner is prohibited.

5.8.5 Minimum wheelbase: 2000mm  
Minimum track: 1200mm

5.8.6 FF2000: All parts must be of steel or ferrous material, with the exception of hubs, hub adapters, hub carriers, bearings and bushes, spring caps, abutment nuts, anti-roll bar links, shock absorber caps and nuts. Remote reservoir and / or light alloy dampers are prohibited.

5.8.7 FSV: The front suspension, although unrestricted, must include VW Type 3 stub axles (uprights) and wheel hubs. The rear suspension, although unrestricted, must include VW axle shafts and universal (CV) joints.

## 5.9 TRANSMISSION:

5.9.1 Gearbox and final drive must be of the type originally fitted to the car.

5.9.4 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 ratios are free. Rear wheel drive only is permitted. Final drive ratio is free. Torque biasing, limited slip and locked differentials are prohibited. Non-ferrous differential components prohibited.

5.9.5 FSV: The VW gearcase in its original orientation must be used. It is forbidden to turn the gearcase through 180° axially.

## **5.10 ELECTRICS:**

- 5.10.1 Batteries must be of a type which does not leak acid if inverted. The location is free.
- 5.10.2 The engine must be fitted with an operable electric starter motor (compressed air starters are prohibited).
- 5.10.3 The electrical system shall be fitted with a safety cut out switch as per **(K8.)**, (MSA Technical Regulations).
- 5.10.4 A rear fog light shall be fitted as MSA Regulations **Section (K5.)**.

## **5.11 BRAKES:**

- 5.11.1 The braking system must be as that originally fitted to the car.
- 5.11.2 No modifications are permitted without the specific approval of the Eligibility Scrutineer.
- 5.11.3 FF2000: Light alloy brake calipers prohibited, otherwise free.
- 5.11.4 FSV: VW Type 3 front brake calipers and discs must be used. VW rear brake caliper and disc (or drum) from VW Type 3 or VW Porsche 914/4 (rear) must be used

## **5.12 WHEELS:**

- 5.12.1 Rim dimensions:  
Front 13" dia x 6" wide maximum: Rear 13" dia x 8" wide maximum.
- 5.12.2 Rear wheel steering prohibited, otherwise free. Material is free providing it is metal.
- 5.12.3. Wheels may be constructed from aluminium alloys or magnesium alloys.  
Note: Competitors are reminded that alloy/mag wheels can have a tendency to crack, especially the older ones. For safety reasons, please keep a check on your wheels.
- 5.12.4. Centre lock wheel retaining nuts must be fitted with safety ('R') clips and painted in a bright colour. Aircraft type self-locking nuts are not acceptable as an alternative.
- 5.12.5 Rear wheel steering prohibited, otherwise free. Material is free providing it is metal.

## **5.13 TYRES:**

- 5.13.1 Only tyres as specified in 5.13.2 and 5.13.3 are permitted.
- 5.13.4 The only permitted tyres are:  
AVON  
Dry Front: 6.5 /21.0 X 13 Spec no. 8814  
Wet Front 6.5 /21.0 X 13 Spec no. 8829  
  
AVON  
Dry Rear 8.2 /22.0 X 13 Spec no. 8815  
Wet Rear 8.2 /22.0 X 13 Spec no. 8831
- 5.13.5 One set of new slicks per car per meeting ONLY is permitted. Eligibility Scrutineers reserve the right to mark tyres should they so wish. Competitors are reminded that should they wish to fit additional new tyres it must be with the express permission of the Eligibility Scrutineer, who will first inspect the tyre to be changed.

## **5.14 WEIGHTS:**

- 5.14.1 Weight is the weight of the vehicle as it finishes the race, but excludes the driver.
- 5.14.2 FF2000: The weight of the car shall not be less than 440kg
- 5.14.3 FSV: The weight of the car shall not be less than 375kg

## **5.15 FUEL TANK / FUEL:**

- 5.15.1 The fuel tank should be located in the same position as that originally fitted to the car. On safety grounds, it may be relocated subject to approval by the Eligibility Scrutineer. Competitors should be aware that bag tanks are lifed for 5 years from date of manufacture for FIA events only.
- 5.15.2 Fuel tank capacity is free.
- 5.15.3 Only "pump fuel", as defined in MSA Technical Regulations - See Section B Definition.
- 5.15.4 Tanks outside the chassis frame must comply with FIA Spec/FT3. Inboard tanks, covered externally with fireproof coating, are acceptable for events of less than 70km. A metal tank coated with GRP does not comply. Maximum capacity 41 litres unless carried in FIA Spec/FT3 tank.

## **5.16 SILENCING:**

All vehicles must comply with **MSA Regulation J5.17**, and are also subject to individual circuit requirements if specified in Supplementary Regulations.

5.16.1 On FF2000 engines a mandatory silencer, Ford part no: 9095317 must be fitted and must comply with **MSA Regulation J5.17**.

## **5.17 NUMBERS AND SERIES DECALS:**

As per MSA Blue Book. Individual sponsors decals are limited to two per vehicle, each with a maximum size of 12" by 4". All competing cars must display at least two HSCC badges, one on each side of the car and one Historic FF2000 Association badge, together with series sponsor stickers as required.

## **MISCELLANEOUS:**

In case of official protest all engines shall have provision for sealing as listed:

Sump: Two holes through block/sump joint flange on both sides of the engine.

Cambox: Two retaining bolts cross drilled.

Any competitor failing to comply with either the letter or the spirit of the formula will be reported to the Clerk of the Course by the eligibility scrutineer/registrar of the Historic FF2000 Association for any further action.

Historic FF2000 is, as its name implies, a category for historic cars, being raced in a specification very close to that in which they originally competed. The organisers therefore reserve the right to disallow any developments they feel not to be in keeping with the spirit of the formula regulations, or any actions by competitors which would result in an unacceptable increase in costs for the category.

## **6. APPENDICES**

The following Commercial Undertakings are not subject to the Judicial procedures of either the Series Stewards and/or the MSA/MSC

### **6.1 Race Organising Clubs and Contacts**

**HISTORIC SPORTS CAR CLUB** – Silverstone Circuit, Silverstone, Towcester, Northants, NN12 8TN

(T) 01327 858400 (F) 01327 858500 email: [office@hsc.org.uk](mailto:office@hsc.org.uk)

website: [www.hsc.org.uk](http://www.hsc.org.uk)

**CHAMPIONSHIP COMMITTEE** – **Please direct all communication through the HSCC office.**

Chairman: Alan Morgan

Eligibility Registrar Alan Morgan

Drivers Representative