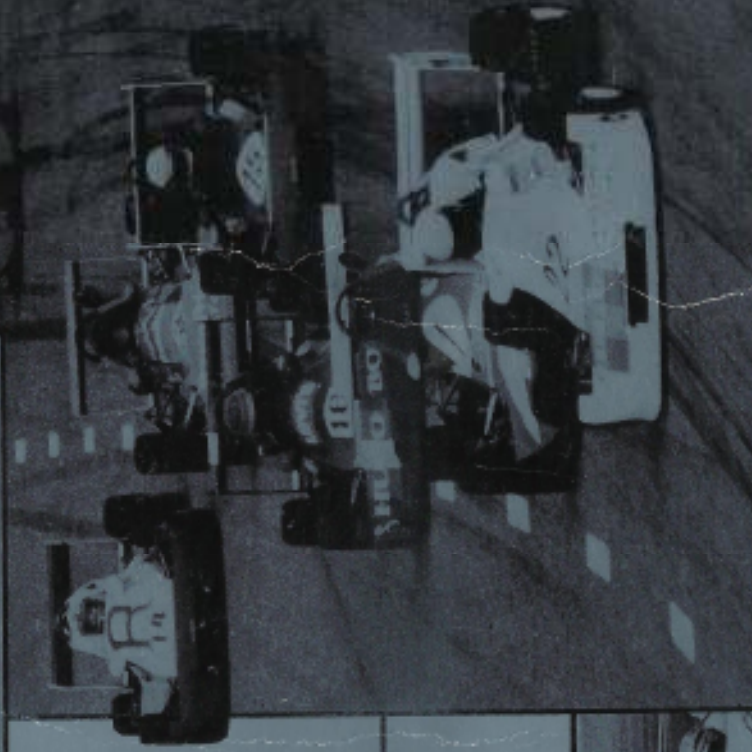
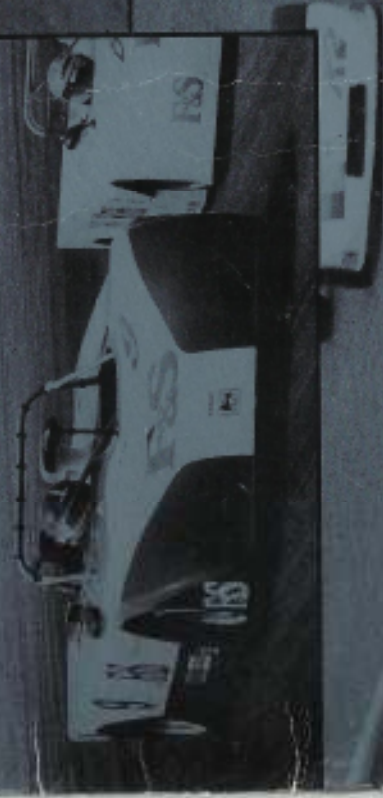


DUTCH
FF CLUB
BOOK

1980



FORMULA FORD 1600 & FORMULA FORD 2000

- Description**

Single center racing cars as defined for Formula 3 (Appendix J, Art 273, 276) and these regulations.

(a). Formula Ford 1600 fitted with standard Ford 1600cc GT "Kent" engine.
(b). Formula Ford 2000 fitted with standard Ford 2000cc SOHC NEA engine.
(c). Unless otherwise stated, all the following regulations apply to both 1600 and 2000.

2. Safety

See safety requirements nos. 1(a), 1(b), 1(f), 1(h), 1(i), 2(c), 3(a)(iii), 3b, 4, 5, 6, 7(d), 8, 9, 10, 11, 13.

3. Chassis

The chassis must be of tubular construction with no stress bearing panels, except bulkhead and undertray, curvature of the undertray must not exceed 2.54cm (1in.) Monocoque chassis construction is prohibited. Stress bearing panels are defined as sheet metal attached to the frame by welding, bonding or latching, or bolts or screws which have centres closer than 15.24cm (6in.).

No engine oil or water tubes are permitted within the cockpit.

4. Bodywork and Aeroballs

See table of single seater dimensions. Aeroballs, nose fins or spoilers of any type are prohibited on FF 1600.

Seats are installed on FF 1600.

5. Engines

All ENGINES

(a). Engines shall be mounted upright and aligned fore and aft in the chassis.

(b). A single carburettor only will be used on a standard inlet manifold. The carburettor will be a Mazar 32-36 DGV 26.27mm venturi jetting family from a 1600 GT Kent or 2000 SOHC NEA engine. The air cleaner may be removed and a trumpet bell jet may be changed. Each choke may left together, right start devices and injector bar may be removed. Intake and exhaust ports may be fitted with a limited anti-surge device which may be fitted seats on piston control carburetors may be removed. No other modifications are permitted. Chokes must remain standard and no polishing or profiling is permitted.

(c). The addition of material to any engine to any component is prohibited.

(d). It is permitted as means of repair to replace damaged valve guides, valve seats and cylinder bores by replacement Cast Iron valve guides, valve seat inserts and Cast Iron cylinder liners, all to standard dimensions.

(e). Balancing of re-manufacturing and rotating parts is permitted only by removal of metal from locations as provided by the manufacturer.

(f). Non-standard Rocket coverts are permitted providing they fit, no way improve the performance of the engine.

(g). Standard valve spring retainers must be used and single valve springs only are permitted. Shims are permitted and valve springs are otherwise free.

(h). Exhaust system and manifold are unrestrictd, within Vehicle regulations.

(i). Lubrication system is free. Dry sump is permitted. Localised machining of the cylinder block is permitted to allow fitting of the oil pump.

(j). Oil coolers are unrestricted, but radiator and water pump are unrestricted. The radiator if housed in or incorporating a cowel air-scoop or deflector must comply with livery regulations.

(k). Only the standard mechanical fuel pump for the engine is permitted.

(l). Distributors are unrestricted providing they retain the original drive and location.

(m). Only the standard inlet manifold may be used. No modifications will be permitted and the bore of the castings must remain unaltered and in its original condition. The carburettor seat face may be machined to horizontal in the form to all plane.

(n). Gaskets and seals are free except for cylinder head and carburettor to inlet manifold gaskets which must be standard Ford manufacture for the engine. The fitting of valve stem seals is optional. Inlet and exhaust manifold gaskets must be of approximately standard production thickness. For FF 2000 Ford head gasket Part No 70HM/6051B3B is permitted.

(o). Pump fan and generator drive pulleys are unrestricted.

(p). The crankcase breather may be altered or removed, but air breathers must discharge into a catch tank.

(q). Mechanical tachometer drives may be fitted.

(r). Generators are optional.

(s). Standard oversize and undersize bearings are permitted.

(t). 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 compulsory retained accessories is permitted.

(v). Only modifications or additions specifically covered by these regulations are permitted. All engine components not covered by these regulations must remain completely standard and unmodified.

FF 1600

The only permitted engine is the Ford 1600cc GT "Kent" with nominal bore 81mm and stroke 77.62mm. Production tolerances are permitted providing the total swept volume does not exceed 1603cc.

(a). Pistons, rockers, tappets, pedestals and shaft remain standard.

(b). Recontouring of valve stem contact pad on rocker arm is permitted providing the maximum lift at the spring cap does not exceed— inlet 9.04mm (3.56in) exhaust 9.09mm (3.58in).

(c). The camshaft must remain entirely unmodified, it must be fully manufactured and ground by the Ford Motor Co. It is prohibited to grind from blanks, regrind or reprofile. Tufftriding or Parkensing is permitted.

Shot peening, grit blasting or polishing are prohibited. Oil-set drive dowels are permitted.

Lobes heel to toe— inlet 33.30mm (1.311in), exhaust 33.32mm (1.312in).

Maximum lift at all points on the camshaft must not be exceeded.

Maximum lift at top of path rod—inlet 39.17mm, exhaust 39.33mm.

Maximum lift at spring cap with zero tappet clearance— inlet 5.042mm exhaust 5.093mm.

Cam timing at maximum valve lift— inlet cam relative to exhaust cam 109 deg

Maximum base radius— 13.77mm.

(d). A standard crankshaft must be used. Spot machining to achieve balance is permitted. Tufftriding, shot peening and shot blasting is permitted.

Polishing the crankshaft is prohibited. Crankshaft pulley is free as is loath belt drive.

(e). The flywheel and clutch assembly must be standard components. Sash balance is permitted. Friction material is free.

Racing clutches are prohibited. Flywheel bolts are free and locating dowels are permitted. Flywheels and clutch assembly minimum weight 13.6kg (30lb).

(f). Maximum compression ratio controlled as follows—

(1). Minimum combustion volume in piston at TDC into account taken of volume down to top compression ring.

(2). Standard Ford gasket: minimum thickness 0.85mm, minimum diameter of cylinder aperture 82.50mm.

(3). Pistons must not protrude above cylinder block surface at TDC. The cylinder block surface may be machined.

(4). No account is taken of valve protrusion into chamber.

(g). 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 diameter at manifold head face— inlet 36.12mm exhaust 36.41mm.

(h). On standard inlet manifolds the outlet ports sometimes exceed the maximum of 37.49mm at the head face in the vertical measurement this will be accepted if the casting is in its original state and untouched.

(i). The carburettor manifold flange aperture must have—

Maximum length 96.52mm. Maximum primary choke ends radius 18mm.

Maximum secondary choke ends radius 20mm.

(j). Pistons must be standard Ford 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 pattern.

Replacements i.e. the compression rings must be one piece, single homogeneous material type with conventional plain caps, 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 expander). Localised machining of the bowl and gudgeon pin bosses to achieve volumetric and weight balance and minimum weight is permitted. Minimum weight complete with piston rings and gudgeon pin 115.555gms. Weight of gudgeon pin 115.2gms.

(k). Valves must remain standard in reprofiling is permitted. The original 45 deg seat angle must be maintained.

Distance seat at centres 39.12

Maximum face diameter inlet 39.69mm

Maximum face diameter exhaust 38mm

Overall length inlet 110.92

Overall length exhaust 110.67

(l). Connecting Rods must be standard.

Machining is permitted to remove metal from the balancing bosses on the big-end cap and at the little end to achieve balance only. Polishing is prohibited. Minimum weight 640gms.

FF 2000

The only permitted engine is the Ford 2 litre single overhead camshaft NEA seven litre engine with nominal bore 90.84mm and stroke 76.95mm. Production tolerances are permitted providing the total swept volume does not exceed 2000lit.

(a). 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 from blanks, regrind or reprofile. Tufftriding or Parkensing is permitted. Maximum valve lift, at determined points by camshaft rotation will be established by using a low rate substitute valve spring. Load characteristics of special checking spring—

12lbs at 1.17in

30lbs at 1.00in

(b). A standard crankshaft must be used. Spot machining to achieve balance is permitted. Tufftriding, Parkensing, shot peening, shot blasting and polishing are permitted. Minimum weight 281lbs.

(c). The flywheel must be a standard component. The clutch may be a standard unit or AP Cover plate assembly CP 2311-1 with driven plate CP 2324 or 2374-1 Spot machining to achieve balance is permitted. Flywheel bolts are free and locating dowels are permitted. Flywheels and clutch assembly minimum weight 293bs (13.16kg). A 1600 GT starter ring gear may be fitted.

(d). Maximum compression ratio will be controlled as follows—

(1). Minimum combustion chamber volume 50cc.

(2). Standard Ford gasket: minimum thickness 0.8mm, minimum diameter of cylinder aperture 92mm.

(3). Pistons must not protrude above cylinder block surface at TDC.

(4). It is permissible to reshape inlet and exhaust ports by removal of metal within limits. Addition of material in any form is prohibited. Maximum diameter of inlet port at manifold head face 39.3mm. Maximum dimensions of exhaust port at manifold face 35.6mm x 27mm. The distance between the valve centres and the angles of the valves must not be altered.

(5). Pistons must be standard Ford production pistons, unmodified in any way except for balancing and as specified. Localised machining of the gudgeon pin bosses to achieve balance and weight and suitable crown within limits is permitted. Minimum weight of piston complete with rings and gudgeon pin and connecting rod less big-end bearings 21b 15ozs.

All three piston rings must be fitted. Piston rings must be standard production or similar pattern. Replacements i.e. the compression rings must be one piece single homogeneous material type with conventional plain caps, 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 expander).

(6). Valves must remain standard, no reprofiling is permitted. The original 45 deg seat angle must be maintained.

Maximum face diameter inlet 42.2mm.

Maximum face diameter exhaust 36.2mm.

Overall length inlet 111.15

Overall length exhaust 110.55

(7). Minimum valve stem diameter 8.4mm.

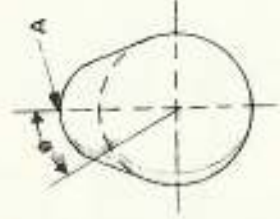
(8). Connecting rods must be standard. Machining is permitted to remove metal from the balancing bosses to achieve balance only. Tufftriding, Parkensing, shot peening, shot blasting, polishing, etc. are permitted. It is permitted to radius the area around the big-end cap retaining bolts.

(9). Flexible mounts for the carburettor may be incorporated providing they do not exceed a maximum of 25.4mm (1in) flange to flange.

(10). Maximum Valve lift against cam angle with zero tappet clearance—

All angles measured from point A.

REGLEMENTEN 1980



6. **Suspension**
All parts must be of steel or ferrous material, with the exception of springs, hubs, hub adaptors, rear hub carriers, bearings and bushes.

7. **Brakes**
Aluminium Alloy brake calipers are permitted, otherwise unrestricted.

8. **Shock Absorbers**
Free.

9. **Sliding**
Free.

10. **Wheels and Tyres**

(a). FF 1600.
13mm diameter steel wheels with a maximum rim width of 5.1m are the only wheels permitted. They must be of standard manufacturer but the offset may be altered.

If it is recommended that weekly checks for cracks be carried out and that wheels be renewed twice a year.
The only tyres permitted are those listed in tyre regulations.

(b). FF 2000.
13m diameter wheels with maximum front rim width 6m and rear rim are the only wheel sizes permitted. Material is unrestricted providing it is metal.

The only tyres permitted are those listed in tyre regulations.

11. **Transmission**
(a). The gearbox must include an operable reverse gear, capable of being engaged by the driver, whilst normally seated, and contain not more than four forward gears. The ratios are free.

(b). Rear wheel drive only is permitted.

(c). Final drive ratio is free.

(d). Torque biasing, limited slip and locked differentials are prohibited.

12. **Fuel System**

Fuel tanks outside the chassis frame must comply with FIA Spec/FT3. Inboard fuel tanks, covered externally with a fireproof coating, are acceptable for events less than 70kms (44 miles).

13. **Fuel Capacity**
Maximum capacity 41 lit (9 gal) unless carried in FIA Spec/FT3 tank.

14. **Weight**

(a). FF 1600 400kgs (880lbs) minimum

FF 1600 420kgs (925lbs) w.e.f 1.80.

(b). FF 2000 440kgs (970lbs) minimum.

15. **Engine Sealing**

All engines must have provision for scrutineers wire seals 1.16m holes pre-drilled in readily accessible locations on installed engines are mandatory.

Pin	Closing	Opening	Exhaust	Closing
	10.442	10.442		10.442
	10.36	10.36		10.36
	10.11	10.11		10.11
	9.69	9.69		9.69
	9.11	9.11		9.11
	8.37	8.37		8.37
	7.45	7.45		7.45
	6.38	6.38		6.38
	5.17	5.17		5.17
	3.86	3.86		3.86
	2.58	2.58		2.58
	1.47	1.47		1.50
	0.81	0.91		0.86
	0.56	0.56		0.65
	0.43	0.43		0.54
	0.33	0.33		0.46
	0.19	0.19		0.37
	0.08	0.08		0.26
	0.01	0.01		0.20

(a). Sump—two holes through the cylinder block/sump joint flange, one on either side of the engine.

(b). Timing Cover—at least two retaining screw heads must be cross drilled (FF 1600).

(c). Rocker Cover—at least two retaining screw heads must be cross drilled (FF 1600).

(d). Cam Cover—at least two retaining screw heads must be cross drilled (FF 2000).

Failure to comply with these requirements renders the engine ineligibile.

16. **Miscellaneous**

(a). All cars to be silenced in accordance with AA.6.

(b). Front hub carriers to comply with same regulations as rear hub carriers w.e.f. 1.80.

SPORTS 2000

1. **Description**

Open two seater sports racing car fitted with a Standard Ford 2 litre Single Overhead Camshaft "MEA" series engine. Tuning and design are restricted for economy purposes.

2. **Safety**

See safety requirements nos. 1(a), 1(b), 1(c), 1(d), 1(e), 1(f), 1(g), 1(h), 2(c), 3(a), 3(b), 4, 5, 6, 8, 9, 10, 11, 13.

3. **Chassis**

There are no restrictions on the type of construction but no stressed part of the structure may exceed in height 30cm 11.8in above its lowest point.

No engine oil or water tubes are permitted without the cockpit.

4. **Bodywork including Aerofils**

(a). The body must provide a cockpit for two seats and cover all mechanical components including wheels and suspension members except for the exhaust pipe, induction system and camshaft cover which may protrude through the engine cover.

(b). Between the front and rear axle lines the body must—

i. Maintain over a minimum of 70% of the length of the wheelbase and over a depth of 20cm (7.9in) a minimum body width, exceeding the greatest overall width across the tyres, less 32cm (5.9in).

ii. Except in height the top of the tyres over a width of 50cm (19.7in) extending only cockpit and engine openings. There must be no gap between the main body and the midrails, which must comply with Vehicle Regulations.

(c). The body, above engine level in the region of the cockpit must not be reinforced in any way which would complicate or hinder the rescue of the driver.

(d). The cockpit opening seen in plan view must be symmetrical about the longitudinal axis of the car and must be large enough for a horizontal rectangle of 80cm (31.5in) by 40cm (15.75in) to be passed through with its minor axis aligned with the vehicle longitudinal axis.

(e). Space for two seats must be provided each of at least 40cm (15.75in) width and be positioned symmetrically about the vehicle longitudinal axis. There must be at least 25cm (9.9in) wide footspace for both driver and passenger measured at the pedals. The passenger space should provide as much seat space, elbow room, foot and leg room in terms of length width and height as that of the driver.

(f). Maximum height with driver aboard, excluding safety roll-over bar, must not exceed at any time 90cm (35.4in) measured from the ground.

(g). Aerofils, and/or spoilers which are capable of adjustment are only permitted if they are in the form of a flat surface mounted horizontally at the front of the vehicle and vertically at the rear. There must be no gap between these surfaces or any other aerofils and the main bodywork.

(h). Skirts are prohibited.

5. **Engine**

As per formula Ford 2000 regulations.

6. **Suspension**

As per formula Ford 1600 regulations.

7. **Steering**

Free.

8. **Brakes**

As per formula Ford 1600 regulations.

9. **Shock Absorbers**

Any casings prohibited, otherwise free.

10. **Wheels and Tyres**

As per formula Ford 2000 regulations.

11. **Transmission**

As per formula Ford 1600 regulations.

12. **Fuel System**

Metal tanks may be used providing they are covered externally with a fireproof protective coating and are mounted within the main chassis structure.

There must be a liquid light and fire proof bulkhead separating the fuel tanks from the cockpit.

13. **Fuel capacity**

11.8 lit. 17 gal.) maximum.

14. **Electrical**

A self starter is mandatory.

Two stop lights and two tail lights each of at least 15 watts rating must be operative.

Auxiliary batteries may be used for starting before a race, and in the pits impacting approved couplings are used.

15. **Weight**

450 kgs. Minimum

16. **Engine Sealing**

As per formula Ford 2000 requirements.

17. **Miscellaneous**

(a). Doors and transparent windscreens are optional.

(b). Fire Extinguisher equipment may be located in the passenger space.

(c). All cars to be silenced in accordance with AA.6.

VARIATIONS TO RAC REGULATIONS FOR 1980

Formula Ford 1600 & Formula Ford 2000

Para 3 Chassis

Line 8

Para FF 1600 (J)

line 5/6

Para 5 Engines (n)

Line 6

Para FF 2000 (f)

Line 13

Para 6 Suspension

Line 3

Para 8 Shock Absorbers

Line 1

Para 4 Bodywork etc.

Delete word rivetting

insert word rivets

At end of line after 'pattern' delete full stop start replacements with small 'r'

At end of para

Add new sentence

"The water passage in the inlet manifold may be blanked off or plugged"

Delete full stop and insert small 'r' as for FF 1600

Deletes 'rear'

Add 'from 1.1.81 Alloy Casings Prohibited'

Para 8 Shock Absorbers

Line 1

Para 4 Bodywork etc.

Line 4

Delete Skirts are prohibited on FF 1600
Add 'For 1600, any device designed to aerodynamically augment the downthrust on the vehicle is prohibited'

Formula Ford 1600 & Formula Ford 2000

VARIATIONS TO RAC REGULATIONS FOR 1980

Sports 2000

Para 3 Chassis
Line 2

Delete of the structure

Insert 'in the longitudinal section of the chassis structure between the steering wheel and the seat back'

Para 3 Chassis
Line 6

At end of paragraph add sentence

'Within the total plan form of the vehicle, the lower surface (surface licked by the air stream) shall not exceed 2.53cm (1 inch) deviation in any section through that surface(s)'

Para 4 Bodywork etc.(g)
Line 5

After vertically insert $\pm 20^\circ$

Para 13 Fuel Capacity
Line 1

Add an FT3 Spec fuel cell of 12 gals capacity is permitted

Aanvulling op het R.A.C. reglement.

FF 1600

Zoals verleden jaar zal ook nu weer op Kléber banden gereden worden. Het type en het compound zullen dezelfde blijven.

FF 2000

Deze klasse zal dit jaar op de banden uit de Super VW gaan rijden. Het type is mark 3, dat waarschijnlijk speciaal voor de FF 2000 de aanduiding, Euroserie, krijgt.

Sports 2000

Deze klasse blijft op de door de R.A.C. voor geschreven banden rijden.

De banden voorgeschreven in de twee formule klassen, gelden alleen voor de volgende klasse: Euroserie - Benelux en Nederlands Kampioenschap. Buiten deze kampioenschappen dient men zich aan het R.A.C. reglement te houden.

Nederlandse Kampioenen.

	FF 1600	FF 2000	Sports 2000
1970	Huib Vermeulen		
1971	Huib Vermeulen		
1972	Roelof Wunderink		
1973	Roelof Wunderink		
1974	Boy Haye		
1975	Jim Vermeulen		
1976	Michael Bleekemolen		
1977	Maarten Henneman	Ros de Giaxa de Salvi	
1978	Ed Brouwer	'Robb Leeuwenburg	
1979	Hans Volker	Maarten Henneman	Ros de Giaxa de Salvi