

overall plan periphery of the engine cover/luggage compartment lid. "A spoiler is a raised surface of opaque material integral with the rear deck with no gaps or openings in the surface, front or rear, and not exceeding in height half the vertical height of the original rear window fitted to the vehicle, measured at the centre of the original window".

(f). On rear engined cars the engine and cover ancillaries must not extend above the level of the bottom of the rear window of the original car at its centre point.

(g). On front engined cars the engine and engine cover and its ancillaries must not be more than 4in above the highest point of the original bonnet.

5. Engine

(a). Change of power unit is permitted.

6. Transmission

(a). Transaxles are permitted.

(b). Final drive and its position is free.

7. Miscellaneous

(a). Oil coolers or water radiators are not permitted outside the bodywork.

(b). All vehicles to be silenced in accordance with AA.6.

(c). Electrical generators may be disconnected and removed.

FORMULA ATLANTIC

1. Description

Single seater racing cars with open bodywork as defined for Formula 2 (App "J" Art. 253, 273, 275) except as specified in the following.

2. Safety

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

3. Chassis

Free.

4. Bodywork including Aerofoils

See table of dimensions.

5. Engine

(a). The engine capacity must be over 1100cc but not exceeding 1600cc.

(b). Engines must be derived from cars homologated by the FIA in Appendix "J" Group 1 and must conform to definitions and specifications shown on the FIA Form of Recognition for the homologated car except as specified (c).

Approved Engines:—

Alfa Romeo 1600 Twin Cam, BMW 1600 S.O.H.C., Datsun 1600 S.O.H.C., Fiat 124 D.O.H.C., Ford B.D.A., Ford 1500 1600 Push Rod, Ford-Lotus Twin Cam, Porsche 1582 Push Rod, Renault 1600 TS.

Any new four valve engine added to the approved list will have to comply with the following valve head diameters:—

Inlet Valve 30.98mm (1.22in)
Exhaust Valve 26.65mm (1.01in)

*Note. Although the Ford BDA is

homologated at 1601cc the unit is acceptable if reduced in capacity to under 1600cc and the valve head diameters comply with the above.

(c). The following are free:—

i. Carburettors.

ii. Inlet and Exhaust manifolds.

iii. Oil and sump including Dry Sump conversion.

iv. Oil and Fuel pumps.

v. Crankshaft providing stroke is unchanged. A vibration damper is permitted.

vi. Connecting Rods.

vii. Main Bearing Caps.

viii. All Springs.

ix. Valve Spring Retainers and Keepers.

x. Clutch and Flywheel.

xi. Pistons and Gudgeon Pins.

xii. Camshaft.

xiii. Cam covers or Valve Rocker covers may be substituted providing the replacement offers no additional function over the original.

xiv. Engines produced with a Cam carrier as a separate and distinct piece from the cylinder head or engine block, may replace that cam carrier by one of other manufacture, providing it affords no additional function over the original part and providing the type and number of camshaft bearings remains the same.

xv. Tappets, Cam Followers, Push Rods, Rocker Arms and supports.

xvi. Valves, Valve Guides, Valve Seats providing they are of the same type.

xvii. Replacement of any Jackshaft or Idler shaft with another of the same basic material, providing it performs no additional function over the original part.

xviii. Pulleys, except for Camshaft drive.

xix. Gaskets, seals, nuts, bolts, washers.

xx. Compression Ratio.

xi. Ignition System and Distributor.

xxii. Tachometer drive units may be fitted, providing they perform no other function.

(xxiii). Any external engine surface may be plated painted or anodised.

(d). It is permitted to lighten, balance, or modify in shape by machining or polishing the standard components of the engine providing it always remains possible to identify their origin. Ports may be reshaped by removal of metal.

Except where sanctioned in section (c) it is not permitted to extend or add any material or components except for dowels, bushings and cylinder liners.

(e). Forced induction is prohibited.

6. Wheels and Tyres

Minimum Wheel diameter allowed is 13 inches.

The only tyres permitted are those listed in the tyre regulations.

7. Transmission

The gearbox must include an operable

reverse gear, capable of being engaged by the driver whilst normally seated, and contain not more than five forward gears.

8. Weight

453.59kg (1000lb) minimum.

9. Engine Sealing

To make provision for scrutineers wire seal, every engine must have 1/16in (1.6mm) holes pre-drilled in readily accessible locations on installed engines.

i. Cam or Rocker Covers:— at least two retaining screw heads must be cross drilled.

10. Miscellaneous

(a). Generators/Alternators are optional.

(b). Starter Motors are free.

FORMULA FORD 1600 & FORMULA FORD 2000

1. Description

Single seater 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)(iv), 1(i), 2(c), 3(a)(ii), 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 affixed to the frame by welding bonding or rivetting; 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 Aerofoils

See table of single seater dimensions.

Aerofoils, nose fins or spoilers of any type are prohibited on FF 1600.

Skirts are prohibited on FF 1600.

5. Engines

ALL ENGINES:—

(a). Engines will 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 Weber 32/36 DGV 26/27mm venturi, its origin being from a 1600 GT "Kent" or 2000 SOHC NEA engine. The air cleaner may be removed and a trumpet fitted, jets may be changed, both chokes may open together, cold start devices and diffused bar may be removed, internal and external anti-surge pipes may be fitted,

seals on emission control carburettors may be removed. No other modifications are permitted, chokes must remain standard and no polishing or profiling is permitted.

(c). The addition of material by any means 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 reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer.

(f). Non-standard Rocker covers are permitted providing they in 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 unrestricted, 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.

(k). A liquid cooling system is mandatory but radiator and water pump are unrestricted. The radiator, if housed in or incorporating a cowl air-scoop or deflector must comply with body regulations.

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

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

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

(o). 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. 70HM6051B3B is permitted.

(p). Pump, fan and generator drive pulleys are unrestricted.

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

(r). Mechanical tachometer drives may be fitted.

(s). Generators are optional.

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

(u). 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 1601cc.

(a). Pushrods, 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 (.356in) exhaust 9.09mm (.358in).

(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. Tuftriding or Parkerising is permitted.

Shot peening, shot blasting or polishing are prohibited. Off-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 push rod:— Inlet 5.917mm, exhaust 5.943mm.

Maximum lift at spring cap with zero tappet clearance:— Inlet 9.042mm exhaust 9.093mm.

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. Tuftriding, shot peening and shot blasting is permitted.

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

(e). The flywheel and clutch assembly must be standard components. Spot balancing is permitted. Friction material is free. Racing clutches are prohibited. Flywheel bolts are free and locating dowels are permitted. Flywheel and clutch assembly minimum weight 13.6kg (30lb).

(f). Maximum compression ratio controlled as follows:—

i. Minimum combustion volume in piston 41cc (no account taken of volume down to top compression ring).

ii. Standard Ford gasket; minimum thickness .85mm, minimum diameter of cylinder aperture 82.50mm.

iii. Pistons must not protrude above cylinder block surface at TDC. The cylinder block surface may be machined.

iv. 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 29.41mm.

(h). On standard inlet manifolds the outer ports sometimes exceed the maximum of 31.49mm 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 555grms. Weight of gudgeon pin 115 ± 2grms.

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

Distance apart at centres 39.12 ± .5mm.

Maximum face diameter inlet 39.62mm.

Maximum face diameter exhaust 34mm.

Overall length inlet 110.92 ± .5mm.

Overall length exhaust 110.61 ± .5mm.

(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 640grms.

FF 2000

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

(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. Tuftriding or Parkerising 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 1.417in

30lbs at 1.000in

(b). A standard crankshaft must be used. Spot machining to achieve balance is permitted. Tuftriding, Parkerising, shot peening, shot blasting and polishing are permitted. Minimum weight 28lbs.

(c). The flywheel must be a standard component. The clutch may be a standard unit or AP Cover plate assembly CP 2511-1 with driven plate CP 2374 or 2374-1. Spot machining to achieve balance is permitted. Flywheel bolts are free and locating dowels are permitted. Flywheel and clutch assembly minimum weight 29lbs (13.16kg). A 1600 GT starter ring gear may be fitted.

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

i. Minimum combustion chamber volume 50cc.

ii. Standard Ford gasket; minimum thickness .9mm, minimum diameter of cylinder aperture 92mm.

iii. Pistons must not protrude above cylinder block surface at TDC.

(e). 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 39.5mm. Maximum dimensions of exhaust port at manifold face 35.5mm x 27mm. The distance between the valve centres and the angles of the valves must not be altered.

(f). 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 simple machining of the top surface of the piston 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 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 expander).

(g). 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 ± .5mm.

Overall length exhaust 110.55 ± .5mm.

Maximum valve stem diameter 8.4mm.

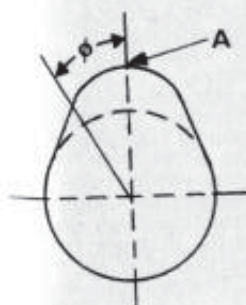
(h). Connecting rods must be standard. Machining is permitted to remove metal from the balancing bosses to achieve balance only. Tuftriding, parkerising, shot peening, shot blasting polishing etc., are permitted. It is permitted to radius the area around the big-end cap retaining bolts.

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

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

All angles measured from point A.

Lift measured in mm.



Angle	Opening	Inlet		Exhaust	
		Closing	Opening	Closing	Opening
0	10.442	10.442	10.442	10.442	10.442
5	10.36	10.36	10.36	10.36	10.36
10	10.11	10.11	10.11	10.11	10.11
15	9.69	9.69	9.69	9.69	9.69
20	9.11	9.11	9.11	9.11	9.11
25	8.37	8.37	8.37	8.37	8.37
30	7.45	7.45	7.45	7.45	7.45
35	6.38	6.38	6.38	6.38	6.38
40	5.17	5.17	5.17	5.17	5.17
45	3.86	3.86	3.86	3.86	3.86
50	2.59	2.58	2.58	2.58	2.59
55	1.50	1.47	1.47	1.47	1.50
60	0.86	0.81	0.81	0.81	0.86
65	0.65	0.56	0.56	0.56	0.65
70	0.54	0.43	0.43	0.43	0.54
75	0.46	0.33	0.33	0.33	0.46
80	0.37	0.19	0.19	0.19	0.37
85	0.26	0.08	0.08	0.08	0.26
90	0.20	0.01	0.01	0.01	0.20

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 prohibited, otherwise unrestricted.

8. Shock Absorbers

Free.

9. Steering

Free.

10. Wheels and Tyres

(a). FF. 1600.

13in diameter steel wheels with a maximum rim width of 5 1/2in are the only wheels permitted. They must be of standard manufacturer but the off-set may be altered.

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.

13in diameter wheels with maximum front rim width 6in and rear 8in 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 400kgms (882lbs) minimum.

FF. 1600 420kgs (926lbs) w.e.f. 1.1.80.

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

15. Engine Sealing

All engines must have provision for scrutineers wire seals 1/16in holes pre-drilled in readily accessible locations on installed engines are mandatory.

(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 ineligible.

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 "NEA" series engine. Tuning and design are restricted for economy purposes.

2. Safety

See safety requirements nos. 1(a), 1(b), 1(e), 1(h)(iv), 1(i), 1(j), 2(c), 3(a)(iii), 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 within the cockpit.

4. Bodywork including Aerofoils

(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 15cm (5.9in).

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

(c). The body above chassis 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 cars 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 vehicles longitudinal axis.

(e). Space for two seats must be provided each of at least 40cm (15.75in) width and be positioned symmetrically about the vehicles

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). Aerofoils 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 aerofoil, 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

Alloy 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 tank(s) 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 tight and fireproof bulkhead separating the fuel tank(s) from the cockpit.

13. Fuel capacity

31.8 lit. (7 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 operable.

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

15. Weight

480 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.

FORMULA SUPER VEE

1. Description

(a). Formula Super Vee is for single seater racing cars based on original Volkswagen components. Two versions of vehicle will be eligible to compete, one with an air cooled engine and one with a water cooled engine, capacities not exceeding 1600cc.

(b). Volkswagen components are defined as those parts which are shown in the VW-Audi manufacturing company's parts lists and/or bearing a clear identification as original VW-Audi components having undergone all the working processes prescribed by the manufacturer for series production. Components may be reworked or machined but addition of material is prohibited. These components must be capable of identification as VW standard components at all times.

2. Safety

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

3. Chassis

Unrestricted, but must not have more than four wheels.

4. Bodywork and Aerofoil Requirements

a. The bodywork is unrestricted in regard of material or number of sections.

(b). The bodywork must cover the whole length of the engine and not project beyond the rearmost point of the rear wing.

(c). Front aerofoils are permitted within body dimensions shown in tables of single seater dimensions.

(d). For all dimensions see table, page 151.

5. Engines

(a). The AIR COOLED engine must consist of standard VW parts and only components from engines of VW types 1 to 4 (excluding type 4 2000cc) are permitted.

i. The cylinder heads may be machined by removal of metal.

ii. Compression Ratio is unrestricted.

iii. Piston rings and rockerbox covers are unrestricted.

iv. Camshaft, Cam followers and push rods are unrestricted.

v. Roller camshafts and cam followers are prohibited.

vi. Two double choke or four single choke carburetors of maximum 40mm diameter at the throttle butterfly/slide are permitted. The make of carburetor is free.

vii. Fuel Injection is prohibited.

viii. Valve springs and spring caps are unrestricted in respect of design or number.

ix. Maximum permitted valve diameters:— Inlet 41mm, Exhaust 34mm.

x. Clutch unit method of operation type of linings and springs are unrestricted.

xi. The flywheel may be lightened and extra location dowels may be added.