

MONOPOSTO RACING

Class Specification

Formula B / Formula 2

REVISED May 2014

CLASS FB/F2

I. DEFINITION

A Formula FB/F2 car is a single seat, open-wheel racing car with firewall, floor, and safety equipment, which was built between January 1, 1966 and before January 1, 1970, conforming to SCCA/FIA regulations of that period and to the current Monoposto Racing Regulations.

II. GENERAL

- A. Wheelbase: Free.
- B. Track width: Free.
- C. Maximum body width: 110 cm. 130 cm. between the wheels including lateral fuel tanks.
- D. Maximum body height: 90 cm. not including safety roll bar or engine airbox.
- E. Minimum weight: 930 lbs. measured as qualified or raced, less driver.
- F. Body panel modifications restricted to replacement panels of alternative materials. Magnesium, titanium and composites prohibited.
- G. Chassis must remain as originally designed, but with local stiffening permitted.
- H. Suspension may not be adjustable unless originally manufactured in that form.
- I. Shock absorbers may not be more than two-way adjustable and may not have remote reservoirs.
- J. All heim type joints must be captured or have captive washers.
- K. Aerodynamic devices of any type are not permitted [i.e., wings, canards, sidepods, sports car nose, etc.].
- L. Brakes must be original as specified by the constructor for that model, or an acceptable equivalent. Brakes must be in perfect working order.
- M. Cars must have an onboard electric starter.
- N. Wheels should be of original type and size. Minimum wheel diameter 13 inches. Maximum wheel width: front - 10 inches; rear - 12 inches.

O. Treaded tires manufactured for racing purposes only will be allowed [see pages 5 through 9].

III. TRANSMISSION

- A. No more than five forward speeds.
- B. An operational reverse gear is required.
- C. Differential type is free.
- D. Power may only be applied to the two rear wheels.

IV. ENGINE

- A. Displacement: Over 1100cc and up to 1600cc inclusive.
- B. Superchargers, turbo chargers, and nitrous oxide systems not permitted.
- C. Engines shall be derived from automobiles recognized by the FIA in Group 1, Group 2, or Group 3, from January 1, 1966 to December 31, 1970. The following engines are eligible: Lotus Ford 1600 Twin-Cam, Alfa-Romeo 1600 Twin-Cam [incl. GTA], Porsche Pushrod 1582, Datsun 1600 SOHC, BMW 1600 SOHC, Ford 1500 Pushrod, Ford 1600 Pushrod, Fiat 124 DOHC 1438, Renault Gordini 1600, Toyota 1600 Pushrod, and Fiat 1592 DOHC. Other engines from this period may be submitted for approval.

THE FOLLOWING MODIFICATIONS ARE PERMITTED:

- D. The use of any carburetor[s] and intake manifold[s].
- E. The use of any exhaust manifold[s].
- F. The use of any oil sump.
- G. The use of any oil pump[s].
- H. The use of a dry sump lubrication system.
- I. The use of any crankshaft with the stroke specified in the homologation forms for the engine. The stroke of the crankshaft cannot be shortened or lengthened from this specified stroke.
- J. Main bearing caps may be reinforced or substituted.
- K. The make and location of the ignition coil and condenser may be changed.
- L. Any distributor and/or transistor ignition may be used provided its installation does not require modification of the

engine. The ignition triggering mechanism must be contained in the distributor.

M. Any make or type of sparkplug may be used.

N. Substitution of the clutch and flywheel is allowed provided there is no increase in clutch diameter. The use of dowel pins is permitted.

O. Any pistons and piston pins may be used.

P. Any camshaft[s] may be used.

Q. Cam followers may be altered or substituted.

R. It is permitted to lighten, balance or modify in shape by tooling, the standard or optional components of the engine, provided it is always possible to identify them positively as such. It is not permitted to add material to these components unless specifically authorized.

S. Engines may be re-bored a maximum of 1.2 mm [.047 inches] over the standard size provided the resulting increase in total displacement does not exceed 1600 cc.

T. The use of any alternate engine components considered replacement parts such as seals, bearings, valve guides, nuts, bolts, studs, washers, and gaskets is allowed provided they are of the same type and dimension. Bushings may be added where none were fitted as standard provided that they are concentric and that the centerline of the bushed part is not changed.

U. Water and oil passages may be restricted or plugged.

V. The substitution of valve springs, valve spring retainers, and keepers is permitted. Any pushrods may be used.

W. Pulleys may be altered or replaced with others of unrestricted origin. The use of any crankshaft vibration dampener is permitted.

X. The compression ratio may be increased by machining, using any head gasket[s] or elimination of head gasket[s].

Y. The installation of any vent or breather is permitted.

Z. The generator or alternator is free, and optional.

AA. The use of any rocker arms or rocker arm supports.

BB. Use of any connecting rod of the same basic material.

CC. Valves are free in both size and material, provided the valve centerline is not altered. Four valve heads are not permitted on FB cars. Genuine F2 cars may use four valve heads if the car in question used them during the pre-1970 period.

DD. The use of any fuel pump[s] is permitted.

EE. Valve or cam covers may be substituted, provided the replacement cover affords no additional function than that of the original stock cover.

FF. Any external surface of the engine may be plated, painted, or anodized.

GG. Engines produced with a cam carrier as a separate and distinct piece from the cylinder head engine block may replace that cam carrier with a cam carrier of other manufacture, provided the replacement cam carrier affords no additional function other than the original cam carrier and provided the type and number of camshaft bearings remains the same.

HH. The replacement of any jack shaft or idler shaft with another of the same basic material as then standard shaft is permitted, provided it performs no additional function over the original shaft.

II. It is permitted to strengthen the chassis as required to support roll bars, seat belt anchors, fire extinguishers, fuel cells, or any other safety equipment added to the car.

JJ. Cast iron engine blocks are required. It is specifically NOT permitted to use an aluminum block.

THE FOLLOWING MODIFICATIONS ARE NOT PERMITTED [except as specifically authorized by Monoposto Racing]:

KK. To change the type or make of engine originally fitted. Furthermore, placing F2 derived engines in FB cars renders the car ineligible for Monoposto Racing events.

V. TIRES

BACKGROUND INFORMATION

In 1969 both the SCCA GCR, and the FIA Rules addressed wheels and tires on Formula B and Formula 2 cars as open...no limitations or restrictions.

As a practical matter the size of the tire was determined by market availability of suitable tires. In the U.S., Formula B cars ran almost exclusively on Firestones and Goodyears.

Neither Goodyear nor Firestone manufactures tires today that would match 1969 tires. This essentially leaves Dunlop and Avon as suppliers.

The tread width aspect ratio is important for at least four reasons: (Tread width aspect ratio is the ratio of the section height to the tread width.)

1. To preserve the vintage look of the cars in our series. Low, wide tires look contemporary.
2. In 1969, the English and European designers tended to run tall tires on wide wheels with narrow treads in search of tread stability.
3. Modern tires tend to have more perpendicular sidewalls; the difference between the sidewall, or section width, and the tread width, is not as great.
4. Tread width is the major factor affecting relative performance in a racing tire. The section width aspect ratio used in the passenger car tire industry generally describes the width of the body of the tire, which is important when you are dealing with body work clearance and ride height.

Tire height: the cars we are concerned with are pre-1970, or cars up to 1972, which are prepared to 1969 standards. If the suspension pickup points and geometry are original, most of them will require tires of 22" to 23" in order to maintain reasonable ride heights and roll centers. If a 1969 car works well with 19.5" front tires, it is likely the suspension has been seriously redesigned.

Occasionally grooved Avons have appeared with a very aggressive tread pattern with fewer grooves around the circumference of the tire than anything seen in the late 60's. After much consideration the following tire specifications have been adopted:

The tires listed should be the proper width to fit the wheels being used. Fitting too wide a tire will cause the tread surface to be concave, which will not be productive. Avon tires listed must be A-11 compound or harder.

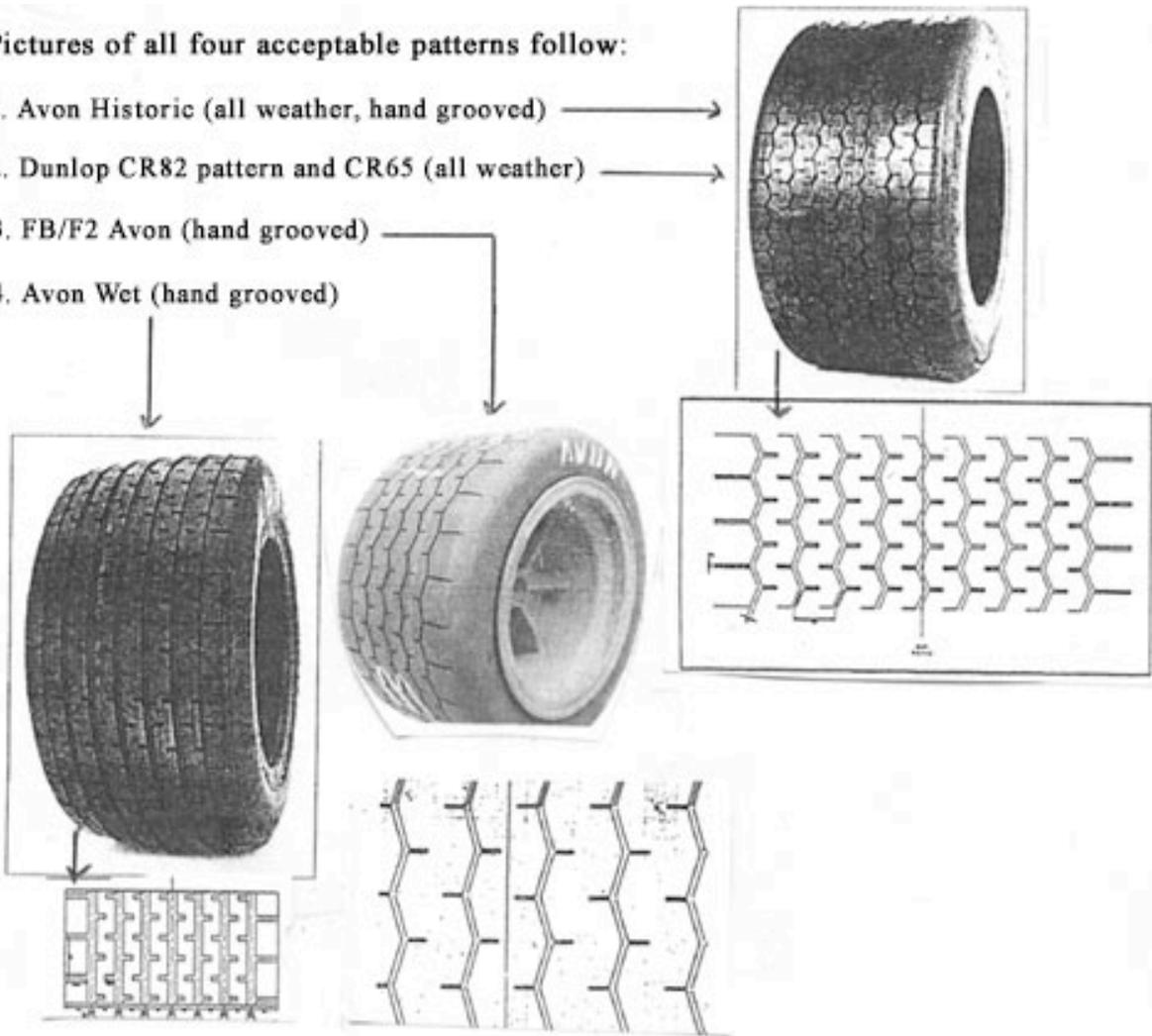
FB and F2 cars must have front tires with a minimum diameter of 21 inches and a minimum rear tire diameter of 22.6 inches, except for earlier cars with 8" and 9" rear wheel widths. FB cars with 8" and 9" wide rear rims may use rear tires with a 22" diameter.

All racing tires, including FB and F2 tires, must have a minimum of 2/32" tread depth to start a race.

Rain tires may be used for FB/F2. Avons must be grooved to the approved Avon Pattern, and the Dunlop radials with the S2W construction, must be grooved to the approved Dunlop rain pattern.

Pictures of all four acceptable patterns follow:

1. Avon Historic (all weather, hand grooved) →
2. Dunlop CR82 pattern and CR65 (all weather) →
3. FB/F2 Avon (hand grooved)
4. Avon Wet (hand grooved)



APPROVED FB/F2 TIRES

Avon Bias Ply	
Size	Minimum Number of Groves with FB Pattern
7.0/22.0-13	4
8.2/22.0-13	5
8.6/22.0-13	5
9.0/21.0-13	5
10.5/23.0-13	6
12.0/23.0-13	6
13.0/24.5-13	6

Dunlop Radial	
Size	Minimum Number of Groves with FB Pattern
190/535R13	5
230/570R13	6

Dunlop Bias Ply	
Size	Approved Pattern
175/550-13	CR 65
475/1000-13	CR 65
475/1150-13	CR 65
600/1200-13	CR 65
600/1350-13	CR 65

Tires not on this list may be accepted upon approval of the Monoposto Board. Tread patterns must be supplied by the manufacturer and suitable for all-weather use. The Monoposto Board may disapprove new tread patterns if they do not meet the spirit of historic rules.

Recapped tires may not be used.

Avon bias ply and Dunlop radial tires are manufactured as slicks and must be hand-cut to the approved Monoposto FB pattern with the minimum number of circumferential grooves as specified above.

Alternatively, they may be cut with more grooves to match the traditional historic Avon all-weather pattern, which is similar to the Dunlop CR82 pattern. The Dunlop Formula Ford tire uses the CR82 pattern. Additional grooving is not allowed.

VI. CAR ELIGIBILITY

A. Cars built up to December 31, 1965 may be eligible to participate in Class B at the discretion of Monoposto Racing, provided they adhere to all regulations.

B. Cars built between January 1, 1970 and December 31, 1972 may be eligible to participate at the discretion of Monoposto Racing, provided they adhere to all regulations. Monocoque chassis are not permitted. Cars must be prepared to 1969 preparation standards; i.e. if permission is given for a 1972 space-frame car to enter the series; it should not be prepared as raced in 1972.

C. Any member requesting approval for competition of a car built between January 1, 1970 and December 31, 1972 must do so in writing to the Monoposto Racing FB Class Director.

D. Formula B cars that are approved as of the publication of this specification are:

Alexis	Mk 14, Mk 15
Beach	Type 11
Brabham	BT-18, BT-21, BT-23, BT-29, BT-35
Chevron	B15b, B17b
Chinook	FB
Crossle	12F
Forsgrini	Mk 10
Hawke	DL6B
LeGrand	Mk6
Lotus	32, 35, 41, 59, 69
McLaren	M4
Stebro	Mk IV
Titan	Mk3
Winkelmann	WDB1