

# 2017

## 1:12th F1 Stock cars

### F1 Stock Car Construction Rules

- 1) Models to be a reasonable representation of a full size open wheel Formula 1 only
- 2) No car shall be constructed so as to be dangerous to persons or cause damage to competitor's cars or to the track surface. No sharp or protruding objects are allowed on the cars.
- 3) Overall chassis length to be between 285mm and 310mm. Overall chassis width to be a maximum of 160mm.
- 4) Front and rear bumpers must be fitted, and have a contact surface between 9mm and 16mm. The distance between the bumper centreline and the ground must be between 32mm and 41mm. All bumpers must be plugged and have no sharp edges and must be constructed from a non-metallic material.
- 5) Over riders must be bolted to front and rear bumpers. The height from the top of the bumper to the top of the overrides must be between 19mm and 32mm at the front and must have a maximum of 19mm at the rear.
- 6) Nerf bars must be fitted on the same level as the bumpers and attached to the chassis rails with a maximum contact surface of 12mm.
- 7) Body and chassis must be securely joined at the start of race and must remain on car during the race. When initially entered at a meeting the body shell must be neatly finished and complete.
- 8) Bodies and aerofoils must be made from ABS or polycarbonate, metal bodies or aerofoils are not allowed. All windows must be cut out on both Lexan and ABS Shells. The height of the body roof from the floor to be between 88mm and 126mm. Aerofoils if fitted must have no sharp edges and be mounted in a safe manner. The maximum size of the centre panel to be no more than 126mm-126mm, and the side panels 126mm-70mm. The roofs must be painted down to the waistline of the body with the drivers classification colour, if an aerofoil is fitted, this alone may be painted with the drivers classification colour, if the driver wishes. A driver must run their current highest club roof grade. Failure to do so will incur a 25 lap penalty.
- 9) Driver's national race number must be displayed on the exterior of the car, with a minimum height of 10mm. Any colour may be used but it must be legible. Only one racing number allowed per membership. The drivers name must be on the outside of the body.
- 10) The cost of the complete car excluding radio equipment and cells must not exceed £210.00. In the case of scratch built cars the entrant must be prepared to produce replicas of the car if so required for a price of £210 or less. Including wheels, tyre, wing and shell..
- 11) Aerial tubes to be a maximum height of 200mm from track surface. Steel whip aerials and rollover masts are not allowed.
- 12) Tyres must be foam or rubber , you can change them from kit supplied and use sleeves, Tyre additives are not allowed.
- 13) Tyres must have a minimum 12mm and maximum 26mm width, and maximum 60mm diameter.
- 14) Ball races are allowed on the front and rear axle. Limited slip devices and differentials of any kind are not allowed, solid rear axle only.
- 15) Base plate to be made from GRP only, top chassis to be nylon or polypropylene only.
- 16) Front suspension can be used with no damping allowed.
- 17) Radio control receivers carried in the car can have either two devices connected, (normally the steering servo and the speed controller) or 3 channel (can be used for flashing lights for club level or superstars for national level). Receiver battery packs are allowed.
- 18) The use of multiple speed transmissions (gearboxes) is not allowed, any 32dp pitch gears and holders are allowed. Pinion gears; size (number of teeth) is free.
- 19) There is a minimum ground clearance of 3mm, this includes any protruding screws, 1mm clearance for spur gear.
- 20) Servo savers, track rods and track rod ends can all be up-rated from kit supplied.
- 21) All cars must have reverse fitted and working at the start of the race.
- 22) Cars are to be powered by either a brushed or a brushless system as defined below.

### Brushed System

G2 2010 Brushed motors (only) These must remain unopened, and unmodified - External motor bearings are NOT allowed.

Motor cleaning fluids / additives are allowed.

Cars will be powered by a maximum of 6 sub C sized batteries with 1.2v nominal voltage, conforming to the current Electric Board battery list.

Brushed Speed controllers are without restriction providing that they include an operating reverse function and are commercially available with a recommended retail price not exceeding £65

### **Brushless system**

10.5 brushless - . Speed Passion v3 10.5t motor only with standard 10 degree sensor plate and factory pink/purple rotor as per factory issue.

All cells used in any competitions MUST be hard-cased. Soft cases or no cases are not allowed.

Cars to be powered by a 1S Lipo with a maximum nominal voltage of 3.7v. conforming to the current Electric Board battery list.

One of the following Brushless speed controllers the Pace 45R or Pace 60R speed control must be used.

ESC must run in Blinky Mode i.e. the "ROAR blinking LEDs mode."

23) For drivers wishing to develop or modify cars, this should be done and tested at club level. The next stage maybe to test at National level, with the consent of the committee. Any testing at Nationals, will lead to the driver going to the last position after qualifying ie if there are 20 drivers competing, after qualifying the testing driver will be deemed to be 20th. No testing driver will pick up any points for the series or receive any trophies.

24) If you intend to alter your car in any way that is not covered by the rules, you must check with the class scrutineer, for approval. We expect all drivers to use common sense when modifying cars and to enter into the spirit of the sport.

**The Section reserves the right to retain a speed controller and motor after the conclusion of a meeting to measure its performance against the above criteria in a controlled environment. The equipment, or identical new replacements, will be returned to the competitor within 5 working days. Sanctions may be taken against a competitor and/or manufacturer if a controller is found to be non-compliant.**