

1994 FORMULA ONE TECHNICAL REGULATIONS

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ARTICLE 1: DEFINITIONS

1. Formula One Car:
An automobile designed solely for speed races on circuits or closed courses.
2. Automobile:
A land vehicle running on at least four non-aligned complete wheels, of which at least two are used for steering and at least two for propulsion.
3. Land vehicle:
A locomotive device propelled by its own means, moving constantly taking real support on the earth's surface, of which the propulsion and steering are under the control of a driver aboard the vehicle.
4. Bodywork:
All entirely sprung parts of the car in contact with the external air stream, except the rollover structures and the parts definitely associated with the mechanical functioning of the engine, transmission and running gear. Airboxes and radiators are considered to be part of the bodywork.
5. Wheels:
Flange and rim. Complete wheel: Flange, rim and tyre.
6. Automobile Make:
In the case of Formula racing cars, an automobile make is a complete car. When the car manufacturer fits an engine which it does not manufacture, the car shall be considered a hybrid and the name of the engine manufacturer shall be associated with that of the car manufacturer. The name of the car manufacturer must always precede that of the engine manufacturer. Should a hybrid car win the Championship Title, Cup or Trophy, this will be awarded to the manufacturer of the

car.

7. Event:
An event shall consist of official practice and the race.
8. Weight:
Is the weight of the car without the driver at all times during the event.
9. Racing weight:
Is the weight of the car in running order with the driver aboard and all fuel tanks full.
10. Cubic capacity:
The volume swept in the cylinders of the engine by the movement of the pistons. This volume shall be expressed in cubic centimetres. In calculating engine cubic capacity, the number Pi shall be 3.1416.
11. Supercharging:
Increasing the weight of the charge of the fuel/air mixture in the combustion chamber (over the weight induced by normal atmospheric pressure, ram effect and dynamic effects in the intake and/or exhaust system) by any means whatsoever ever. The injection of fuel under pressure is not considered to be supercharging.
12. Cockpit:
The volume which accommodates the driver.
13. Sprung suspension:
The means whereby all complete wheels are suspended from the body/chassis unit by a sprung medium.
14. Survival cell:
A continuous closed structure containing all fuel tanks and the cockpit.
15. On board camera:
A television camera, including all wiring, power supply and live transmission unit, temporarily mounted on a car.
16. Ballast box:
A box measuring 38mm x 72mm x 160mm and weighing 5kg, temporarily mounted on a car in lieu of an on board camera.

ARTICLE 2: REGULATIONS

1. Role of the FIA:
The following technical regulations for Formula 1 cars are issued by the FIA.
2. Publication dates for amendments:
Each year in October, the FIA will publish all changes made to these regulations. All such changes will take effect on the third 1st January following their publication unless otherwise agreed between the FIA and all Formula One recognised constructors, in which case the changes will take effect on the date agreed.
3. Dangerous construction:
If an automobile is deemed to be dangerous, it may be excluded by the

Stewards of the Meeting.

4. Compliance with the regulations:
Automobiles must comply with these regulations in their entirety at all times during an event.
5. Measurements:
All measurements must be made while the car is stationary on a flat horizontal surface, or as provided in Article 89 of the F1 Sporting regulations.
6. Duty of competitor:
It is the duty of each competitor to satisfy the scrutineers and the Stewards of the Meeting that his automobile complies with these regulations in their entirety at all times during an event.

ARTICLE 3: BODYWORK AND DIMENSIONS

1. Width:
The overall width of the car including complete wheels shall not exceed 200cm, with the steering wheels in the straight ahead position.
2. Width ahead of the front wheel centre line:
The bodywork ahead of the front wheel centre line is limited to a maximum width of 140cm. Nevertheless, any part of the bodywork ahead of the front wheel centre line exceeding and overall width of 110cm must not extend above the height of the front wheel rims with the driver aboard seated normally and irrespective of the fuel load.
3. Width and shape between the front and rear wheels:
The maximum width of the bodywork behind the centre line of the front wheels and in front of the centre line of the rear wheels is 140cm.

Between the rear edge of the complete front wheels and the front edge of the complete rear wheels all sprung parts of the car visible from directly beneath the car must lie on one plane. All these parts must produce a uniform, solid, hard, rigid (no degree of freedom in relation to the body/chassis unit), impervious surface, under all circumstances. The periphery of the surface formed by these parts may be curved upwards with a maximum radius of 5cm.

To help overcome any possible manufacturing problems, a tolerance of +/- 5mm is permissible across this surface.

No part of the bodywork in front of the rear wheel centre line and extending above the height of the rear complete wheels may project beyond 50cm each side of the longitudinal axis of the car.

4. Width behind the rear wheel centre line:
Bodywork behind the centre line of the rear wheels must not exceed 100cm in width.
5. Overhangs:
No part of the car shall be more than 50cm behind the centre line of the rear wheels or more than 120cm in front of the centre line of the front wheels.
Furthermore, no part of the bodywork more than 20cm from the longitudinal centre line of the car may be more than 90cm in front of the front wheel centre line.

The centre line of any wheel shall be deemed to half way between two straight edges, perpendicular to the surface on which the car is standing, placed against opposite sides of the complete wheel at the centre of the tyre tread.

6. Height:

Except for the rollover structures, no part of the car can be higher than 100cm from the ground. However, any part of the rollover structures more than 100cm from the ground must not be shaped to have a significant aerodynamic influence on the performance of the car. Furthermore, any part of the car behind the centre line of the rear wheels must not be more than 95cm from the ground.

All height measurements will be taken with the car in normal racing trim with the driver aboard seated normally.

7. Aerodynamic influence:

Any specific part of the car influencing its aerodynamic performance:

- Must comply with the rules relating to its bodywork
- Must be rigidly secured to the entirely sprung part of the car (rigidly secured means not having any degree of freedom).
- Must remain immobile in relation to the sprung part of the car.

Any device or construction that is designed to bridge the gap between the sprung part of the car and the ground is prohibited under all circumstances.

No part having an aerodynamic influence and no part of the bodywork may under any circumstances be located below the geometrical plane generated by the flat surface described in Article 3.3.

No part of the bodywork in front of the rear edge of the complete front wheels and more than 25cm from the longitudinal centre line of the car may be closer than 40mm to the geometrical plane referred to in Article 3.3.

8. Roll hoop access:

The second rollover structure must be designed to provide a clearly visible unobstructed opening in order that a strap whose section measures 6cm x 3cm can pass through it to lift the car.

ARTICLE 4: WEIGHT

1. Minimum weight:

The weight of the car must not be less than 505kg.

2. Ballast:

Ballast can be used provided it is secured in such a way that tools are required for its removal. It must be possible to fix seals if deemed necessary by the scrutineers.

3. Adding during the race:

The adding to the car during the race of any liquid, with the exception of fuel, or other material whatsoever or the replacement during the race of any part of the car with another which is materially heavier is forbidden.

ARTICLE 5: ENGINE

1. Types of engine permitted:
Only 4-stroke engines with reciprocating pistons are permitted.
2. Maximum capacity:
Engine capacity must not exceed 3500cc.
3. Supercharging:
Supercharging is forbidden.
4. Number and type of cylinders:
The maximum number of cylinders is 12 and the normal section of each cylinder must be circular.
5. Temperature of the charge:
 - 5.1. Any device, system, procedure, construction or design the purpose and/or effect of which is any decrease whatsoever of the temperature of the intake air and/or of the charge (air and/or fuel) of the engine is forbidden.
 - 5.2. Internal and/or external spraying of water or any substance whatsoever is forbidden (other than fuel for the normal purpose of combustion in the engine).

ARTICLE 6: PIPING AND FUEL TANKS

1. Fuel tanks:
 - 1.1. All fuel tanks must be rubber bladders conforming to or exceeding the specifications of FIA/FT5.
 - 1.2. All the fuel stored on board the car must be situated between the front face of the engine and the drivers back when viewed in lateral projection.

Furthermore, no fuel can be stored more than 30cm forward of the highest point at which the driver's back makes contact with his seat. However, a maximum of 2 litres of fuel may be kept outside the survival cell, but only that which is necessary for the normal running of the engine.

- 1.3. Fuel must not be stored more than 40cm from the longitudinal axis of the car.
 - 1.4. All rubber bladders must be made by manufacturers recognised by the FIA.

In order to obtain the agreement of the FIA, the manufacturer must prove the compliance of his product with the specifications approved by the FIA. These manufacturers must undertake to deliver to their customers exclusively tanks complying to the approved standards.

A list of approved manufacturers is available for the FIA.

- 1.5. All rubber bladders shall have a printed code indicating the name of the manufacturer, the specifications to which the tank has been manufactured and the date of manufacture.

1.6. No rubber bladders shall be used more than 5 years after the date of manufacture.

2. Fittings and piping:

2.1. All fuel fittings (including air vents, inlets, outlets, tank fillers, inter tank connectors and access openings) must be metal fittings bonded into the fuel tank.

2.2. All fuel lines between any fuel tank and the engine must have a self sealing breakaway valve. This valve must separate at less than 50% of the load required to break the fuel line fitting or to pull it out of the fuel tank.

2.3. No line containing fuel, cooling water or lubricating oil may pass through the cockpit.

2.4. All lines must be fitted in such a way that any leakage cannot result in the accumulation of fluid in the cockpit.

2.5. All fuel and lubricating oil lines must have a minimum burst pressure of 41bar (600 psi) and a minimum operating temperature of 135 degrees C (250 degrees F).

When flexible, these lines must have threaded connectors and an outer braid resistant to abrasion and flame (will not sustain combustion).

2.6. All lines containing hydraulic fluid, with the exception of lines under gravity head, must have a minimum burst pressure of 70bar (1000 psi) or higher according to operating pressure, and a minimum operating temperature of 232 degrees C (450 degrees F).

When flexible, these lines must have threaded connectors and an outer braid resistant to abrasion and flame (will not sustain combustion). Hydraulic fluid lines must have no connections inside the cockpit which are capable of being removed.

3. Crushable structure:

The fuel tank must be completely surrounded by a crushable structure, which is an integral part of the survival cell and must be able to withstand the loads required by the tests in Articles 15.4.6 and 15.4.8.

4. Fuel tank filters:

Tank fillers must not protrude beyond the bodywork. Any breather pipe connecting the fuel tank to the atmosphere must be designed to avoid liquid leakage when the car is running and its outlet must not be less than 25cm from the cockpit opening. All tank fillers must be designed to ensure an efficient locking action which reduces the risk of an accidental opening following a crash impact or incomplete locking after refuelling.

5. Refuelling:

5.1. All refuelling during the race must be carried out using equipment supplied by the FIA. This equipment must not be modified in any way whatsoever.

5.2. Before refuelling commences, the car connector must be connected electrically to earth.

All metal parts of the refuelling system from the coupling to the supply tank must also be connected to earth.

5.3. Refuelling the car on the grid by any other means than by gravity from a maximum head of 2 metres above the ground is forbidden.

5.4. Any storage of fuel on board the car at a temperature more than ten degrees centigrade below ambient temperature is forbidden.

5.5. The use of any specific device, whether on board or not, to decrease the temperature of the fuel below the ambient temperature is forbidden.

6. Fuel Capacity:

The fuel capacity of the car, for 1994 only, must not be less than 200 litres.

ARTICLE 7: OIL SYSTEM

1. Location of oil tanks

All oil storage tanks must be situated between the front wheel axis and the rearmost gearbox casing longitudinally, and must be no further than the lateral extremities of the survival cell are from the longitudinal axis of the car.

2. Longitudinal location of oil system:

No other part of the car containing oil may be situated behind the complete rear wheels.

3. Catch tank:

When a car's lubrication system includes an open type sump breather, it must vent into a catch tank of at least 3 litres capacity.

4. Transversal location of oil system:

No part of the car containing oil may be more than 70cm from the longitudinal centre line of the car.

5. Oil replenishment:

No oil replenishment is allowed during a race.

ARTICLE 8: STARTING

1. Starting the engine:

A supplementary device temporarily connected to the car may be used to start the engine both on the grid and in the pits.

ARTICLE 9: TRANSMISSION TO THE WHEELS

1. Four wheel drive:

Four wheel drive cars are forbidden.

2. Gear changing:

Notwithstanding Article 1.3, semi-automatic gearboxes driven by automatic control are permitted and may, for the purpose of changing a gear ratio only, momentarily take control of the propulsion system away from the driver.

3. Gear ratios:

3.1. The minimum number of forward gear ratios is 4.

3.2. The maximum number of forward gear ratios is 7.

4. Reverse gear:

All cars must have a reverse gear which, at any time during the event, can be selected while the engine is running and used by the driver when seated normally.

5. Propulsion:

Traction control is forbidden.

ARTICLE 10: SUSPENSION AND STEERING

1. Sprung suspension:

Cars must be fitted with sprung suspension.

The springing mechanism must not consist solely of bolts located through flexible bushes or mountings.

There must be movement of the wheels to give suspension travel in excess of any flexibility in the attachments.

2. Chromium plating:

Chromium plating of any steel suspension components over 45 tons/in² (725N/mm²) tensile strength is forbidden.

3. Suspension geometry:

Suspension geometry must remain fixed at all times.

4. Steering:

4.1. Four wheel steering is not permitted.

4.2. Power steering systems which do anything other than reduce the physical effort required to steer the car are not permitted.

ARTICLE 11: BRAKES

1. Separate circuits:

All cars must have a brake system which has at least two separate circuits operated by the same pedal. This system must be designed so that if the leakage or failure occurs in one circuit, the pedal shall still operate the brakes on at least two wheels.

2. Air ducts:

Air ducts for the purpose of cooling the front brakes shall not protrude beyond:

- A plane parallel to the ground situated at a distance of 140mm above the horizontal centre line of the wheel.

- A plane parallel to the ground situated at a distance of 140mm below the horizontal centre line of the wheel.

- A vertical plane parallel to the inner face of the front rim and displaced from it by 120mm toward the centre line of the car.

Furthermore, when viewed from the side the ducts must not protrude

forwards beyond the periphery of the tyre or backwards beyond the wheel rim.

3. Brake pressure modulation:

Anti lock brakes and power steering are forbidden.

ARTICLE 12: WHEELS AND TYRES 1. Location: Wheels must be external to the bodywork in plan view, with the rear aerodynamic device removed. 2. Dimensions: 2.1. Maximum complete wheel width: 15 inches. Maximum complete wheel diameter: 26 inches. 2.2. These measurements are to be taken horizontally at axle height. 3. Number of wheels: The number of wheels is fixed at four. 4. Wheel material: All wheels must be made from a homogeneous metallic material.

ARTICLE 13: COCKPIT

1. Cockpit opening:

The opening giving access to the cockpit must allow the horizontal template shown in the drawing number 5 to be inserted vertically, from above the car into the survival cell and bodywork, with the steering wheel removed. It must be possible to lower the template 25mm below the lowest point of the cockpit opening.

The driver must be able to enter and get out of his seat without it being necessary to open a door or move any part of the car. Sitting at his steering wheel, the driver must be facing forward.

The cockpit must be so conceived that the maximum time necessary for the driver to get out from his normal driving position does not exceed 5 seconds with all his equipment being worn, the safety belts fastened and the steering wheel in place in the most inconvenient position.

2. Steering wheel:

The steering wheel must be fitted with a quick release mechanism. Its method of release must be by pulling a concentric flange installed on the steering column behind the wheel.

3. Internal cross section:

The internal cross section of the cockpit from the soles of the driver's feet to behind his seat shall at no point be less than 700cm². The only things that can encroach on this area are the steering column and padding for driver comfort.

A free vertical cross section, having a minimum width of 25cm maintained over a minimum height of 25cm and with maximum corner radii of 5cm, must be maintained along the whole length of the cockpit, with the steering wheel removed.

The driver, seated normally with his seat belts fastened and with the steering wheel removed must be able to raise both legs together so that his knees are past the plane of the steering wheel in a rearward direction. This action must not be obstructed by any part of the car.

ARTICLE 14: SAFETY EQUIPMENT

1. Fire extinguishers:

1.1. All cars must be fitted with two fire extinguishers, one which will discharge into the cockpit and one into the engine compartment.

1.2. Permitted extinguishants:

- a. BCF (CF2C1Br)
- b. FM100 (CHF2Br)
- c. ZERO 2000

1.3. Minimum extinguisher capacity:

Cockpit : 1.70 litres
Engine : 3.40 litres

1.4. Minimum quantity of extinguishant:

- a. BCF : Cockpit 2.5 kg
: Engine 5.0 kg
- b. FM100 : Cockpit 2.5 kg
: Engine 4.0 kg
- c. ZERO 2000 : Cockpit 1.12 litres
: Engine 2.25 litres

1.5. Discharge time:

Engine : 30 seconds min / 80 seconds max.
Cockpit : 10 seconds min / 40 seconds max.

Both extinguishers must be released simultaneously.

1.6. All extinguishers must be pressurised according to the contents:

- a. BCF : 7.0 bar
- b. FM100 : 7.0 bar
- c. ZERO 2000 : 12.0 bar

Furthermore, each extinguisher must be equipped with a means of checking the pressure of the contents.

1.7. The following information must visible on each extinguisher:

- a. Capacity
- b. Type of extinguishant
- c. Weight or volume of the extinguishant
- d. Date the extinguisher must be checked which must be no more than two years after the date of filling.

1.8. All extinguishers must be adequately protected and must be situated within the survival cell. In all cases their mountings must be able to withstand a deceleration of 25g.

All extinguishing equipment must withstand fire.

1.9. Any triggering system having its own source of energy is permitted, provided it is possible to operate all extinguishers should the main electrical circuits of the car fail.

The driver must be able to trigger all extinguishers manually when seated normally with his safety belts fastened and the steering wheel in place.

Furthermore, a means of triggering from the outside must be combined with the circuit breaker switch described in Article 14.2.2. It must be marked with a letter "E" in red inside a white circle of at least 10cm diameter with a red edge.

- 1.10. The system must work in any position, even when the car is inverted.
- 1.11. Both extinguisher nozzles must be suitable for the extinguishant and be installed in such a way that they are not directly pointed at the driver.

2. Master switch

- 2.1. The driver, when seated normally with the safety belts fastened and the steering wheel in place, must be able to cut off the electrical circuits to the ignition, all fuel pumps and the rear light by means of a spark proof circuit breaker switch. This switch must be located on the dashboard and must be clearly marked by a symbol showing a red spark in a white edged blue triangle.
- 2.2. There must also be an exterior switch, with a horizontal handle, which is capable of being operated from a distance by a hook. This switch must be situated at the base of the main roll over structure on the right hand side.

3. Rear view mirrors:

All cars must have at least two mirrors mounted so that the driver has visibility to the rear and both sides of the car. The reflective surface of each mirror must be at least 10cm wide and at least 5cm high, with a maximum corner radius of 1cm.

The scrutineers must be satisfied by a practical demonstration that the driver, when seated normally, can clearly define following vehicles.

For this purpose, the driver shall be required to identify any letter or number, 15cm high and 10cm wide, placed anywhere on boards behind the car, the positions of which are detailed below:

Height : From 40cm to 100cm from the ground.

Width : 200cm either side of the centre line of the car.

Position : 10m behind the rear axle line of the car.

4. Safety belts:

The wearing of two shoulder straps, one abdominal strap and two straps between the legs is mandatory. These straps must be securely fixed to the car and must comply with FIA standard 8853-1985.

5. Rear light:

All cars must have a rear light in working order throughout the event which:

- is the model specified by the FIA
- Faces rearward at 90 degrees to the car centre line.
- Is clearly visible from the rear.

- Is not mounted more than 10cm from the car centre line.
- Can be switched on by the driver when seated normally in the car.

The two measurements being taken to the centre of area of the lens.

6. Headrest:

All cars must be equipped with a headrest which cannot deflect more than 5cm when a rearward force of 86daN is applied over its whole area.

The headrest surface must not be less than 400cm² and must be continuous and without protruding parts.

It must be positioned so that it is the first point of contact for the driver's helmet in the event of an impact projecting his head backwards when he is seated normally.

ARTICLE 15: SAFETY STRUCTURES

1. Magnesium sheet:

The use of magnesium sheet less than 3mm thick is forbidden.

2. Rollover structures:

2.1. The basic purpose of these structures is to protect the driver.

This purpose is the primary design consideration.

2.2. All cars must have at least two rollover structures.

The first structure must be in front of the steering wheel, not more than 25cm forward of, and at least as high as the top of the steering wheel rim.

The second structure must be not less than 50cm behind the first and high enough so that a line extended from the top of the first structure to the top of the second structure to pass 5cm over the driver's helmet when he is seated normally in the car with his helmet on and seat belts fastened.

If the second structure is not located behind the driver, there must be a structure behind him which is high enough so that a line extended from its top to the top of either structure in front of him will pass over the top of his helmet by 5cm when he is seated normally with his helmet on and seat belts fastened.

2.3. Both rollover structures required by Article 15.2.2 must, when attached to the car, be capable of withstanding three loads applied simultaneously to the top of the structure which are 1.5w laterally, 5.5w longitudinally and 7.5w vertically, w being 780 kg.

2.4. The second rollover structure shall be subjected to a static load test by applying the combined loads described in 2.3 on top of the structure through a rigid flat pad perpendicular to the loading axis. During the test, the rollover structure must be attached to the survival cell which is supported on its underside on a flat plate, fixed to it through its engine mounting points and wedged laterally by the static load test pads described in Article 15.4.6.

Under the load, the deformation must be less than 50mm, measured along the loading axis and any structural failure limited to 100mm below the top of the rollover structure, measured vertically.

- 2.5. The design concept of the rollover structures required by Article 15.2.2 shall be free. However, the second rollover structure must have a minimum structural cross section, in vertical projection, of 100cm², across a horizontal plane passing 5cm lower than the highest point of the second rollover structure.

3. Structure behind the driver:

All cars must have a structure immediately behind the driver's seat which is wider than and extends above his shoulders when he is seated normally with his seat belts fastened. This structure must be capable of sustaining a lateral load of 1.5w applied to its top, w being 780kg.

4. Survival cell and frontal protection:

- 4.1. The survival cell must extend from behind the fuel tank in a rearward direction to a point at least 15 cm in front of the driver's feet, with his feet resting on the pedals and the pedals in the inoperative position.

The survival cell must have an opening for the driver, the minimum dimensions of which are given in Article 13.1.

Any other openings in the survival cell must be of the minimum size to allow access to mechanical components.

The safety structures described in Articles 15.2.2 and 15.3 must be a part of the survival cell or solidly attached to it.

- 4.2. When he is seated normally, the soles of the driver's feet, resting on the pedals in the inoperative position, shall not be situated to the fore of the vertical plane passing through the centre line of the front wheels. Should the car not be fitted with pedals, the driver's feet at their maximum forward extension shall not be situated to the fore of the above mentioned vertical plane.
- 4.3. In front of the survival cell an impact absorbing structure must be fitted. This structure need not be an integral part of the survival cell but must be solidly attached to it.
- 4.4. The minimum external width of the survival cell is 30cm. This width must be maintained for a minimum height of 25cm along the whole length of the survival cell. The minimum height of the survival cell between the two rollover structures is 40cm.
- 4.5. The survival cell and frontal absorbing structure shall be subject to an impact test against a solid vertical barrier placed at right angles to the longitudinal axis of the car. The entire crash structure must be solidly fixed to the trolley through its engine mounting points but not in a way as to increase its impact resistance.

The fuel tank must be fitted and must be full of water.

A dummy weighing at least 75kg must be fitted with safety belts described in Article 14.4 fastened. However, with the safety belts

unfastened, the dummy must be able to move forwards freely in the cockpit.

The extinguishers, as described in Article 14.1 must also be fitted.

For the purposes of this test, the total weight of the trolley and test structure shall be 780kg and the velocity of impact 11 metres/sec.

The resistance of the test structure must be such that during the impact the average deceleration of the trolley does not exceed 25g and the peak deceleration in the chest of the dummy does not exceed 60g for more than 3ms.

Furthermore, all structural damage must be contained in the zone ahead of the driver's feet and there must be no damage to the mountings of the safety belts or fire extinguishers.

This test must be carried out on the survival cell subjected to the higher loads in the tests described in Articles 15.4.6 and 8, and on a frontal impact absorbing structure subjected to the test described in Article 15.4.7.

This test must be carried out in the presence of a FIA technical delegate in an approved testing centre.

4.6. In addition, the survival cell must be subjected to three separate static lateral load tests:

1. In the cockpit area on a vertical plane passing through the centre of the seat belt lap strap fixing.
2. In the fuel tank area on a vertical plane passing through the centre of area of the fuel tank in side elevation.
3. On a vertical plane passing half way between the front wheel axis and the top of the first rollover structure.

For the tests described above, a pad 10cm long and 30cm high, with a maximum radius on all edges of 3mm and conforming to the shape of the survival cell, shall be placed against the outermost sides of the survival cell with the lower edge of the pad at the lowest part of the survival cell at that section. Rubber 3mm thick may be used between the pads and the survival cell.

A constant transverse horizontal load of 2500daN shall be applied, in less than 3 minutes, to the pads at their centre of area through a ball jointed junction, and maintained for a minimum of 30 seconds.

Under these load conditions, there shall be no structural failure of the inner or outer surfaces of the survival cell and permanent deformation must be less than 1.0mm after the load has been released for 1 minute. The deformation will be measured at the top of the pads across the inner surfaces.

In test 1, deflection across the inner surfaces of the survival cell must not exceed 2cm.

These three tests must be carried out on the survival cell subjected to the impact test described in Article 15.4.5.

On every survival cell tested after that one, the same tests must be carried out but with a load of only 2000daN. During the tests the deflection across the inner surfaces must not exceed 120% of the deflection obtained at 2000daN load during the first test.

- 4.7. To test the attachments of the frontal impact absorbing structure to the survival cell, a static side load test shall be performed on a vertical plane passing 40cm in front of the front wheel axis.

A constant transversal horizontal load of 3000daN must be applied to one side of the impact absorbing structure using a pad identical to the ones used in the lateral tests in Article 15.4.6.

The centre of area of the pad must pass through the plane mentioned above and the mid point of the height of the structure at that section. After 30 seconds of application, there must be no failure of the structure or of any attachment between the structure and the survival cell.

During the test the survival cell must be resting on a flat plate and secured to it solidly but not in a way that could increase the strength of the attachments being tested.

- 4.8. A further static load test must be carried out on the survival cell from beneath the fuel tank. A pad of 20cm diameter must be placed in the centre of area of the fuel tank and a vertical upwards load of 1250daN applied in less than 3 minutes through a ball jointed junction. The load must be maintained for a minimum of 30 seconds.

Under these load conditions, there must be no structural failure of the inner or outer surfaces of the survival cell and permanent deformation must be less than 0.5mm after the load has been released for 1 minute, the measurement being taken at the centre of area of the pad.

This test must be carried out on the survival cell subjected to the impact test described in Article 15.4.5. On every survival cell tested after that one, the same test must be carried out but with a load of only 1000daN.

During the test the deflection across the inner surfaces must not exceed 120% of the deflection obtained at 1000daN during the first test.

- 4.9. The static load tests in Articles 15.2.4; 15.4.6; 15.4.7 and 15.4.8 must be carried out in the presence of an FIA technical delegate and using measuring equipment verified by the FIA. For the tests described in Articles 15.4.6 and 15.4.8, the survival cells must always be produced in an identical condition in order that their weights can be compared and if the weight differs by more than 5% from the one submitted to the test described in Article 15.4.5, a further impact test and roll structure test must be carried out.

When these tests have been completed, the FIA technical delegate will mark the survival cell.

Any significant modification introduced into any of the structures tested shall require that part to undergo a further test.

ARTICLE 16: FUEL

1. The only fuel permitted is petrol having the following characteristics:

- A minimum of 92 RON and a maximum of 102 RON, measured according to ASTM D 2699-86 and a minimum of 85.0 MON measured according to ASTM D 2700-86. The fuel will be accepted or rejected according to ASTM D 3244 with a confidence limit of 95%.
- A maximum of 3.7% oxygen and 0.2% nitrogen by weight, measured by elemental analysis and to ASTM D 3228 respectively.
- A maximum of: 5% benzene vol (ASTM D 3606)
700 hPa RVP (ASTM D 323)
0.005 g/L lead (ASTM D 3237)
215 degrees centigrade FBP

A density between 725 and 780 kg/m³ at 15 degrees centigrade (ASTM D 4052).

And containing no substance capable of exothermic reaction in the absence of external oxygen.

2. Only ambient air may be mixed with the fuel as an oxidant.

3. Petrol within the meaning of this Article is one of the following:

- 3.1. Petrol of a kind recognised by the FIA as being on general and genuine sale to the public in a country with at least twelve events entered on the International Calendar.
- 3.2. Petrol consisting solely of substances which can be found in at least one of the various petrols which satisfy (1) above, none of which is present in a greater proportion than in at least one such petrol, and whose proportions of saturates, unsaturates and aromatics do not exceed those found separately or together in at least one such petrol.
- 3.3. Petrol which does not satisfy 3.1 or 3.2 above. In this case, the petrol in question and each of its components (having regard to the proportions in which such components are present) must be capable of being produced in the quantities and at a cost necessary for bona fide competitive large scale commercial sale to the general public using only known refining, production and storage technology. Such petrol must also satisfy all EEC health and safety regulations and possess no characteristic which would render it unsuitable for sale to the general public.

ARTICLE 17: TELEVISION CAMERAS

1. Presence of camera or ballast:

All cars must carry an on board camera or a ballast box at all times throughout the event.

2. Location of ballast:

The location and position of the ballast box is free.

3. Location of camera and equipment:

The position of the on board camera will be determined by the FOCA appointed engineer and approved by the scrutineers.

ARTICLE 18: FINAL TEXT

The final text for these regulations shall be the English version should any dispute arise over their interpretation.