

# Technical regulations Formula Offroad 2008

## MODIFIED CLASS

### APPROVED VEHICLES

All vehicles must have two axles and four wheel drive.

All vehicles must have a bodyshape that resembles a mass produced vehicle.

All vehicles licensed after 01.01.2006 must have two seats installed side by side.

**After 01.01.2010 ALL vehicles competing in the Modified class must have two seats installed side by side.**

### 1. Chassis

#### 1.1 Frame and chassis structure.

The main frame structure must be constructed of: **(applies only to vehicles licensed after 01.01.2006)**

- Original frame from a mass produced 4x4 vehicle,  
or
- Seamless steel tubing of minimum size 45x2,5mm or 50x2mm (350 N/mm<sup>2</sup>),  
or
- Square tubing of minimum size 40x60x3mm (350 N/mm<sup>2</sup>)

Aluminum or Chromemoly steel is not allowed.

### 2. Wheels and suspension

#### 2.1 Tires

Only paddle tires type "Multipaddle" or "Padla Trak" are allowed.

All types of tires approved for street use is allowed. It is not allowed to custom groove resurfaced tires.

Snow chains or any kind of attachments to improve traction is not allowed.

#### 2.2 Wheels

Free of choice.

#### 2.3 Suspension

Free of choice.

Active, adjustable suspension is not allowed in competition.

**For vehicles licensed after 01.01.06 properly mounted bumpstops/Airshox of gas charged hydraulic design is mandatory.**

**This is also *highly* recommended for older vehicles.**

**All vehicles must have this installed after 01.01.2010**

#### 2.4 Shock absorbers

Free of choice

### **3. Drivetrain**

#### **3.1 Engine**

Free of choice.

Supercharger(s), Turbocharger(s) and Nitrous Oxide are allowed.

For roots type superchargers a shield made of 1,5mm steel or 2,5mm aluminium must cover the drive belt. The shield must be securely mounted to the engine or chassis.

Any fuel, nitrous or oil hoses nearby the drive belt must be enclosed in steel pipe or be of a steel reinforced type. SFI approved limiting straps must be installed in case of a supercharger blowing off the manifold. All fuel hoses must be long enough as to not break in such a case.

Harmonic balancer (if so equipped) and flexplate/flywheel must be of racing type.

Dual, correctly working return springs must be installed on the carburettor/throttle body.

**Ventilation from the crankcase must be designed in such a way that it will not leak oil in case of a rollover.**

#### **3.2 Fuel system**

Fuel tank must be designed for racing and securely fastened. It must not be installed in the driver compartment. There must be a wall to prevent fuel leaking into the driver compartment in case of a rollover. The fuel cap must be leak proof and a check valve must be installed in the vent hose.

All fuel lines must be one-piece and securely fastened. Any fuel lines passing through the driver compartment must pass through a steel tube of 1mm thickness with a diameter of 2 times the diameter for the fuel line.

Diesel, Bio Diesel, **E85**, Gasoline and Racing gasoline is allowed.

Lead substitute and Octane booster is allowed. All other fuel additives are banned.

Water injection is allowed. Propane (LPG) injection is not allowed.

Nitrous oxide is allowed if installed according to appendix A.

Methanol fuel is not allowed.

#### **3.3 Cooling system**

Radiator and overflow tank is not allowed the driver compartment. All hoses must be undamaged and of high quality.

Any hoses or tubes passing through the driver compartment must be covered and without splices.

#### **3.4 Exhaust system**

Free of choice. Noise level can not exceed 110dB according to FIA measurement rules.

#### **3.5 Electrical system**

Battery must be of dry cell design and securely mounted with upper and lower brackets. The positive battery post must be securely covered with a non conductive material.

All cables must be securely fastened.

An electrical master switch must be installed in reach of the driver when sitting with the seatbelts tightened. A second switch or a wire actuating the primary switch must be installed in the rear of the vehicle. The rear switch or release handle must be clearly marked with a blue triangle and a red lightning inside the triangle.

### **3.6 Transmission and drive shafts**

Free of choice. Automatic transmissions must have a properly working neutral safety switch and a flexplate/transmission shield made from 6mm thick steel plate or SFI approved.

Transmissions with a SFI approved bellhousing do not need these shields.

**Vehicles with manual transmissions must have the starting current wired through a switch mounted on the brake pedal or clutch pedal in such a way that the vehicle will only start with the pedal depressed.**

Front and rear driveshafts must have a safety loop made of 5x50mm steel or 21x1,5mm steel tube bolted to the chassis or transfer case with minimum two grade 8.8 M10 bolts. The safety loops must be on the transfer case end of the drive shafts.

## **4. Brake system**

### **4.1 Regular brakes**

Free of choice, but must be operated by foot, positively work on all four wheels and capable of locking up all four wheels simultaneously.

Driveshaft mounted brakes are not allowed.

### **4.2 Parking brake**

Properly working handbrake and/or park function in transmission must be installed.

### **4.3 Brake lines**

All brake lines must be undamaged and securely fastened.

### **4.4 Steering brake**

No form of steering brake system is allowed.

## **5. Steering system**

### **5.1 Steering parts**

The vehicle must be controlled by a conventional steering wheel mounted in front of the driver. Hydraulic steering and all types of conventional steering from vehicle manufacturer are allowed. All steering components must be well dimensioned for safe control of the vehicle at all times. All hydraulic hoses except for the drain hose must have pressed-on ends, be free of any damages and have sufficient length to allow full movement of the suspension.

All steering hoses must be protected from potential damage caused by engine or suspension components. All hoses connected to the orbitrol must be shielded from the driver.

Minimum diameter of the steering rod in hydraulic cylinder is 22mm.

Four wheel or mid-chassis steering is not allowed.

## **6. Body**

### **6.1 Bodyparts**

The bodyshape must resemble a mass produced vehicle. The length of the body must cover the wheelbase of the vehicle. Hood, side body panels, front and rear fenders must be installed and resemble the original vehicle.

Engine air intake protruding through the body must be designed to protect the driver from direct blowback from the carburettor/throttle body.

Any windows must be made of laminated glass or polycarbonate/lexan.

## **6.2 Driver compartment**

Walls separating the driver's compartment from the engine, oil coolers and radiator must be installed. The purpose is to prohibit fluids and/or flames spreading.

If the engine air intake is in the driver's compartment it must be baffled to protect the driver from any blowbacks.

Armstraps or window nets with maximum 50mm web size and minimum 2mm thread size must be used if the distance from the center of drivers seat to the outer edge of the rollcage is less than 50cm. If this distance is less than 40cm window nets must be used.

The distance from the top of the driver's helmet to the top of the rollcage must be at least 10cm.

**Armstraps must be attached below the elbow of the driver and must be released simultaneously with the seatbelt.**

## **6.3 Floor**

Floor of the vehicle must be made of 1mm steel or 2mm aluminium and completely cover the whole floor. If the front driveshaft passes under the driver seat, the material in this area must be at least 2mm steel or 3mm aluminium.

## **6.4 Drivers seat**

Seat must be of racing type and have holes for a 5 point seat belt.

Seat must be securely fastened and the back of the seat must rest against the rollcage or braced in a similar way. If the seat is mounted on a sliding bracket, there must be an extra safety pin installed to prevent sliding of the seat.

The back of the seat must be high enough to cover 2/3 of the drivers helmet.

Side supports for helmet must be installed on the seat or in the chassis behind the seat.

This must be fabricated of minimum 3mm thick aluminium or 3mm thick steel plate.

Must be minimum 10 cm wide and extend forward at least 20cm from the back of the seat at no less than 75 degrees and insulated such to not damage the helmet during normal use. Distance from side of helmet to support must be no more than 10 cm.

Side supports must be installed by welding or bolted with minimum 2 x M8 bolts on each side.

A seat manufactured and approved by FIA/SFI with helmet supports may be used instead.

## **6.5 Rollcage**

6-point rollcage according to appendix B mounted directly to the frame must be installed.

## **6.6 Seatbelts**

Only 3" wide FIA/SFI approved seat belt with 5 or more fasteners is approved.

Seatbelts with latch style locks are highly recommended.

Seat belt must be undamaged and must be within approved date markings.

Shoulder straps must be installed in line with the drivers shoulder or lower such that the angle between the back of the seat and shoulder straps is between 45 and 90 degrees.

If the seat belt is installed using bolts the bolts must be minimum M10 bolts with of at least 8.8 grade. If the bolts are installed in the bodywork, the area must be reinforced with a 2mm steel plate of at least 20cm<sup>2</sup>.

Drilling in the rollcage for mounting seatbelts is not allowed.

## **7. Miscellaneous**

### **7.1 Lights**

Any external lighting made of glass must be taped over during competition.

### **7.2 Gauges and switches**

Free of choice

### **7.3 Towing hooks**

Front and rear towing hooks or eyes with at least 35mm diameter hole must be in the front and rear of the vehicle.

There must also be a lifting point on the top of the vehicle for lifting – preferably in the balance point of the car. (May be through a suitable point in the rollcage).

Towing and lifting points must be marked in bright color to stand out.

### **7.4 Communication**

Communication between driver and a person outside the vehicle is not allowed while the vehicle is in a track.

### **7.5 Weight**

Minimum weight without driver is 600kg. Any extra weight must be securely fastened.

### **7.6 Extra equipment**

Any extra equipment (fire extinguishers, flags, aerodynamic wings, etc.) must be securely fastened and must not pose as a potential hazard to the driver or spectators/officials.