



2010 NEZ FORMULA OFFROAD CHAMPIONSHIP

Regulations:

- 1. General prescriptions**
- 2. Participants, entries**
- 3. Eligible vehicles**
- 4. Date and time of events, program**
- 5. Organization of event**
- 6. Penalties, protests and appeals**
- 7. Prize-giving**
- 8. Drivers personal safety equipment**
- 9. Competition regulations**
- 10. Technical regulations**
- 11. Information – Formula Offroad Working group**

Competitions held in accordance with the F.I.A. International Sporting Code (ISC) and the regulations of the organizers ASN.

If there is a discrepancy between ASN and the Championship regulations, the ASN regulations will be valid.

If there is a discrepancy between ASN and ISC regulations, the later will be valid.

1. General prescriptions:

1.1 Definition:

Formula Offroad is a form of motorsport where 4wd vehicles compete in precision driving through steep hills and extreme terrain. Each event must include a minimum of 6 tracks; the actual number to be listed in the supplementary regulations.

1.2 Championship:

These regulations prescribe the NEZ (**N**orth **E**uropean **Z**one) Formula Offroad Championship 2010 organization, procedure and order of judge, requests for participants and prescriptions for Championship classification.

Any questions not covered by these regulations are authorized to be decided by: - Stewards, if decision is made during the time of event; - NEZ Formula Offroad Working Group, from now called **FOWG**, if decision is made at another time.

Any supplementary regulations will be announced by dated and numbered bulletins and will be sent by post and e-mail to all the participating countries.

The official language for all briefings and information is **English**.

2. Participants, entries:

Drivers holding a driver's license and National or International competition license valid for Offroad racing from an ASN inside NEZ is eligible.

Participation is however limited; drivers that competed in last year's Championship will have priority in the first competition. Drivers with points in this Championship will have priority throughout the season.

Any open places will be filled after decision by the **FOWG** in collaboration with the national ASNs. Foreign participant will be prioritized.

Individual entries must be sent to the **FOWG** through own countries representative and to the organizer no later than 20 days before event.

Entries will be limited to a maximum of **36** participants in each event.

To be awarded with cup points in a class; no less than 5 participants must have entered this class in the actual event

Organizer is free to cancel if less than **20** drivers have entered within the time limit. Notice of cancellation must be sent to all that have entered, no later than 14 days before the event should have taken place.

Entry fee for each driver is **50 €** in each Championship event and should be paid in cash during administrative checking

All information concerning event participants must be on the official notice board. Only driver is eligible to apply to Championship officials for lodging announcements, protests etc.

3. Eligible vehicles:

The NEZ Formula Offroad Championship 2010 is open to vehicles in classes; **Modified** and **Unlimited**. A driver may only participate in one class with one vehicle in each event. Two drivers may participate with the same vehicle in an event, in the same class or different classes if the vehicle is technically approved for both classes.

All vehicles eligible to compete must be prepared in accordance with the Technical regulations, otherwise start will be refused.

Competition numbers are regulated by **FOWG** in accordance to the results from last year's NEZ Championship. New drivers will be given numbers by the **FOWG** after receiving the entry form.

During the Championship **between events**, competitor may freely replace the vehicle. If changing classes, driver may not combine points obtained in different classes.

Additional fee of **100 €** has to be paid by a competitor who refuses to carry the organizer's sponsor's advertising.

4. Date and time of events, program:

The NEZ Formula Offroad Championship will be held over 5 weekends, including a total of 10 events.

NEZ #1/2	Iceland	May 22 nd and 23 rd
NEZ #3/4	Denmark	June 12 th and 13 th
NEZ #5/6	Finland	August 7 th and 8 th
NEZ #7/8	Sweden	September 4 th and 5 th
NEZ #9/10	Norway	September 18 th and 19 th

Organizer must publish invitations on the internet and send a copy to all **FOWG** members no later than 30 days before the event.

The NEZ Championship can be held together with a national event, but this is not recommended if many participants are expected.

Entry list must be sent by mail to all participants and members of the **FOWG** no later than 10 days before the event.

Friday evening is recommended used for: Registration of participants, administrative checking and scrutinizing (technical inspection)

Suggested timetable for the race day:

08:00	Official stewards and drivers briefing
09:30	Practice – 30 minutes
10:45	Line up
11:00	Official opening
17:30	Prize giving ceremony

Entry list and results must be sent all participants and members of the **FOWG** no later than the day after the event.

The following of program for the event, depending on number of drivers, weather conditions and other reasons is prescribed by Clerk of Course and announced in drivers briefing and posted on official notice board on the day of the event.

5. Organization of event:

5.1 Facilities:

The Championship must be held in a gravel pit well suited for Formula Offroad and with sufficient depot and accommodations for drivers and spectators.

5.2 Officials:

Events will be organized in accordance with competition and technical rules included in these regulations and with the common regulations of the national ASN.

The organizer's committee includes at least three members; these members are not allowed to participate in the event. The committee is responsible for making the supplementary regulations of the event.

The event will be refereed by a panel of three Stewards. The Chairman of Stewards is appointed by the organizers ASN. The **FOWG** designates the two other members; one of these must have a nationality different from the Chairman.

The cost for the Stewards must be paid by the organizer. Chairman of the Stewards sends observer's rapport to **FOWG** and the national ASN within 7 days from event.

The supplementary regulations of each event must include a list of officials, consisting of at least:

- Chief of Stewards
- Clerk of the course
- Chief scrutineer
- Secretary of the event
- Track master
- Chief of point referees
- Chief of the depot

It is highly recommended that point referees are from at least two different countries.

Secretary of the event keeps the following documents and gives copies to the Chairman of Stewards:

- Organizing approval from own ASN
- Proof of insurance
- Approval from owner of the race area.
- Approval from local Police authority.

5.3 **Safety:**

At least one ambulance with medical crew must be present at all times. Officials with minimum one 6kg powder fire extinguishers must be present at the start and finish gates. Also a CO² fire extinguisher should be present at the start.

Two manned rescue vehicles with winch and/or lifting equipment must be present at the race. Hydraulic cutting equipment, crowbar and a knife for cutting safety belts must be in a manned unit by the course. Necessary restrictions must be put up to protect the spectators.

5.4 **Depot:**

A depot area with sufficient room for all participants must be organized. Maximum speed limit in the depot area is 5 km/hour (walking speed).

At least two fire extinguishers, minimum 6kg powder, must be easily available at a marked place.

A fuel depot should also be organized for secure refuelling.

5.5 **Test track:**

An area for testing of vehicles should be available. This area must have a length of at least 25 meters; all driving should be in one direction.

This area should be available to the drivers throughout the competition.

5.6 **Drivers briefing:**

A drivers briefing must be held a minimum of one hour before the start. Drivers not attending may be banned from the event.

5.7 **Passengers:**

No passengers are allowed in race vehicles at any time during the event.

5.8 **Technical Scrutineering:**

Any vehicle taking part in the event must be presented to scrutineering which will be held at organizer's indicated place in accordance with the time schedule for the actual event.

Driver must be present and bring licences and personal safety equipment. A rolling brake test must be passed, all four wheels to be locked.

If a competitor arrives after the closing of scrutineering, he may pass it within the next hour, being applied with a financial penalty of **50 €**. No car will be allowed to start unless it has passed scrutineering.

Organizer must provide suitable, covered working place for scrutineering. Additional scrutineering may be carried out at any time during the event after Chief Scrutineer's or Chief of Stewards decision.

5.9 **Practice/testing:**

One hour before the start, a test track will be opened for 30 minutes. Administrative control and technical scrutineering must have been completed before practice.

6. Penalties, protests and appeals:

All protests must be lodged in accordance to national rules, published in the Supplementary regulations of the event.

All protests must be made in written form in English and handed to the Clerk of course including a registration fee.

Competitors have the rights to appeal the decision of stewards to the organizing ASN in accordance to national rules. Appeal must be made in written form in English and handed to the Chairman of Stewards included a registration fee. Copy of the appeal must be addressed to Chairman of **FOWG** together with stewards' report.

7. Prize-giving:

First 3 drivers in each class will be awarded with trophies in each event. A "Best in Show" trophy *can* also be given after organizers decision; this should reward a spectacular attempt or a good save – **not a rollover**.

The prize-giving in the event will take place at organizer's appointed place not later than 1 hour after finish of the race, if no protests that can change prized places are lodged during this time, or after the protests are considered and the decision is made.

The first 8 drivers in each class will be awarded with cup points as follows:

1st - 10 points, 2nd - 8 points, 3rd - 6 points, 4th - 5 points,
5th - 4 points, 6th - 3 points, 7th - 2 points, 8th - 1 point

When counting total points in the cup, only the 8 best results for a driver will be counted. If the number of races is reduced due to cancellations, all races will be counted in if 8 or fewer races are completed.

If two or more participants end the cup with equal points, the one that have most 1st places, 2nd places and so on wins. If they are still equal, the one with best result in the last race, 2nd last and so on comes first.

Official NEZ medals are given to the best 3 drivers in each class in the NEZ Championship. These medals will be given in a ceremony in driver's country or a common NEZ prize giving ceremony.

8. Drivers personal safety equipment:

- Driving suit approved by FIA or SFI
- Fire proof balaclava
- Fire proof gloves
- Fire proof shoes
- Full face helmet approved by FIA 8860-2004, Snell SA2000, Snell SA2005, SFI 31.1A, SFI 31.2A or BS6658-85 type A/FR certified for automotive racing use. (date limitations not applicable). Through-and-back type lock chin strap highly recommended.
- Splinter safe helmet-visor or goggles.
- Full circle neck brace. Thickness of brace must be fitted to the distance between helmet and shoulders to give adequate support and minimal movement of the head. (HANS safety system also approved.)

9. COMPETITION REGULATIONS:

Communication between the driver and a person outside the vehicle is not allowed while driving the tracks.

9.1 Competition:

Each event must include at least 6 different tracks; one or more can be timed tracks. Each track must be clearly defined with gate markers – white on the left side for the Unlimited class and yellow for the Modified class. Right side markers are red or black for both classes.

If both classes are using the same track, completely or partly, either yellow or white markers can be used for both classes. This must be clarified at the driver's briefing and indicated in the photo of the track. All gate markers must be placed in a way that they do not pose any risk for the drivers, officials or the spectators. If the tracks are close together, any active gate should have additional markers on the left hand side. A photo of each track must be given to all drivers at latest at the driver's briefing. This photo must include all gate markers, lines that show the point zones and all absolute outer lines.

9.2 Tracks:

The length of each track should be between 30 and 700 meters.

Each track has a minimum of two gates, the start and the finishing gate (300 points). Gates can be added, dividing the track into driving zones. All gates must be at least 4 meters wide.

Each driving zone is limited by the absolute outer lines drawn into the photo and the lines stretched through the gate markers. These gate lines end at the absolute outer line.

No outer line can be set closer than 1 meter from the gate markers. In critical situations, close to gates or in sharp turns, the absolute outer lines must be set directly into the track.

Each track is divided into 5 point zones: 100 – 200 – 250 – 300 - 350. The 250 line should be marked maximum 3 meters before the finishing gate (300 points). The 350 line only identifies a clean drive-away from the track and should be placed no more than 5 meters from the 300 gate. (No point deduction for reversing after the 300 gate)

The referees may give any 10 points in the first three zones, but the last zones are not divided in. (In example; you can get 240 points, not 260).

9.3 Timed track:

A timed track should be passable for all drivers.

Timing starts from the point where the vehicle crosses the starting line and ends when it crosses the finishing line. Flying start and finish is used, electronic timing equipment is preferred. If manual timing is used, there must be three stopwatches and the meantime between the three will be used.

The fastest driver is awarded 350 points.

Other drivers are deducted 1 point for every 1/10th of a second slower than the fastest time.

Maximum time available for the track is three minutes.

Minimum points awarded for a track completed within 3 minutes is 150.

The track is divided into four zones. Any driver not completing the full length is awarded 25 points for each zone entered.

If the maximum time is exceeded, the timing stops and the driver will be awarded according to the number of zones entered.

All gates must be passed in the right direction and sequence.

Touching a gate marker is penalized by -10 points.

Minimum one wheel must touch or be within the gates markers.

Backing up and turning around is allowed without any penalty.

9.4 Start:

The starting sequence is drawn out of a hat/bowl at the drivers briefing. If two drivers compete with the same vehicle, only one will draw and the other placed so that half of the starting field will separate them.

After each driven track, the first drivers are moved to the back before the next track. The number of drivers moved for each track should be equal to the total number of drivers divided by the number of tracks.

This enrolment must be clarified before the starting sequence is drawn.

The driver must be at the starting gate within one minute after the starter has given his signal to come. If a driver does not appear within this minute, the track will be closed for him.

The track will also be closed for any driver that does not start within one minute after the starter has given the signal to go.

Any driver dropping out of the race must immediately inform the Secretary of the event.

9.5 **Flags:**

A total of three different flags are used: red, green and a starting flag. The red flag is used when the track is closed and for signalling the driver of danger or disqualifying from the track.

The green flag is used to signal that the track is ready and should be lowered as soon as the driver enters the track.

Starting flag (national flag) is used to start the vehicle. This flag may be substituted by a light signal.

9.6 **Points, penalties:**

A correctly driven course will be awarded with 350 points.

Each point zone is considered completed when the centre of both rear wheels has passed the points line.

All gates must be passed in the right direction and sequence. Passing a gate can only be done once; and at least one wheel must be on the far side of a line stretched through an already passed gate.

The driver is allowed to reverse only once in each driving zone (between two gates).

Point penalties are given as follows:

- | | |
|-----------------------------------------------------------|-------------|
| ➤ Stops in the track and continues | -10 points |
| ➤ Touches a gate marker with one wheel | -20 points |
| ➤ Touches a gate marker with two wheels | -40 points |
| ➤ Touches a gate marker with three wheels | -60 points |
| ➤ Drives with only one wheel within/on the gate marking | -100 points |
| ➤ Reverses (penalized when attempting to continue) | -40 points |
| ➤ Destroys the track unnecessary (non sporting behaviour) | -50 points |

The referee stops counting points when the driver:

- Starts before the sign is given
- Rolls over
- Passes a gate incorrect
- Reverses more than one time inside a driving zone
- Goes back past the line of an already correctly passed gate
- Gets stuck or stops for more than one minute
- Touches the line of an absolute outer marker
- Releases helmet or seatbelt
- Signals the officials, giving up the attempt

Maximum penalty in one single gate is -100 points.

Point deduction for the 300 gate is 50% of regular penalty.

If a gate is not passed to award points, no penalty should be given.

The minimum points given for any track is 0 –zero-.

9.7 **Results:**

Winner of the event is the driver that has the highest number of points in his class at the end of the race.

Results must be posted available to all drivers after each track throughout the competition.

If two or more participants finish the race with equal points, the one that have most tracks with the best score comes first. If they are still equal, the one with best score in the last track, 2nd last and so on comes first.

10. TECHNICAL REGULATIONS.

Regulations are common for Modified and Unlimited, unless noted.

10.1.1 Approved vehicles, MODIFIED:

All vehicles must have two axles and four wheel drive.
Shape of the body must resemble a mass produced vehicle.
Two regular size seats must be installed side by side.

10.1.2 Approved vehicles, UNLIMITED:

All vehicles must have two axles and four wheel drive.
Overall design of vehicle is free of choice within these regulations.

10.2 Chassis:

Vehicles licensed after 01.01.2006 must have a main frame structure built from:

- Original frame from a mass produced 4x4 vehicle, or
- Seamless steel tubing of minimum size 45x2,5mm or 50x2mm, or
- Rectangular tubing of minimum size 40x60x3mm, or
- Square tubing of minimum size 45x45x3mm

Aluminum, Stainless steel or Chromemoly steel is not allowed.

Main frame structure is considered the part of the frame connecting the six main bars from the rollcage together.

10.3.1 Tires, MODIFIED:

Only paddle tires equal to "Multipaddle" and "Padla Trak" is allowed.
All DOT approved tires are allowed, these can be custom grooved unless they are resurfaced.
No snow chains or any kind of attachments to tires are allowed.

10.3.2 Tires, UNLIMITED:

Free of choice. Tires must be made of rubber and inflated with air.
Snow chains or any kind of attachments to improve traction is not allowed.

10.4 Wheels:

Free of choice.

10.5 Suspension:

Properly mounted bumpstops/airshox of gas charged hydraulic design is mandatory. Otherwise free of choice.

10.6 Shock absorbers:

Free of choice

10.7 **Engine:**

Engines are free of choice. 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 or throttle pedal if using a drive-by-wire system.

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 this drive belt must be enclosed in steel pipe or be of a steel reinforced type. SFI approved limiting straps must be installed if using this type of supercharger to prevent the supercharger from blowing off the manifold. All fuel hoses must have sufficient length not break in such a situation.

10.8 **Fuel system:**

Fuel tank must be designed for racing and securely fastened. It cannot be installed in the driver's compartment. The fuel cap must be leak proof and a check valve must be installed in the vent hose.

There must be a wall to prevent fuel leaking into the driver compartment in case of a rollover.

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.

10.9.1 **Nitrous Oxide:**

Nitrous oxide is allowed if installed according to these regulations:

- Only complete systems from reputable manufacturers installed according to instructions are allowed.
- Nitrous bottle must be securely mounted with two steel bands of at least 2,5x25mm completely circling the bottle.
- Nitrous bottle cannot be installed in the engine compartment.
- Nitrous bottle must be installed with the valve end pointing away from the driver or have a shield protecting the driver from a valve blow off made of 2mm steel or 4mm aluminium plate.
- Nitrous bottle must be installed in such a way that it is protected from outside impact in case of a rollover.
- All nitrous hoses must be able to handle at least 3000psi.
- All nitrous hoses must be securely fastened.

10.9.1 Nitrous Oxide - continued:

- Circuits cannot be negative switched.
- It should not be possible to switch system on unless ignition is on.
- The system must have a separate arming switch for the driver clearly marked NOS On/Off.
- System should only be possible to activate at Wide Open Throttle.
- System should only be possible to activate above 2000 engine rpm.
- A fuel pressure safety switch must be installed to disable the system if fuel pressure to system drops below 5psi for carburetor systems and 30 psi for fuel injected systems.
- Enclosed vehicles must have a FIA/SFI approved fire extinguishing system installed with at least one nozzle aimed at the driver and one aimed at the engine.
- FIA/SFI warning sign for NOS must be fitted to the rear of vehicle.
- Bottle warming system must be from a reputable manufacturer and installed according to instructions. No open flames allowed!
- Nitrous pressure gauge must be installed if bottle warming system is used.

10.9.2 **Methanol fuel, UNLIMITED only:**

Methanol fuel is allowed in Unlimited if the vehicle is clearly marked front and rear "METHANOL FUELED" in a yellow square 15x30cm.
If using Methanol, a FIA/SFI approved fire extinguishing system must be installed in the vehicle with at least 3 nozzles towards the engine and 2 nozzles in the driver compartment.

10.10 **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.

10.11 **Exhaust system:**

Noise level cannot exceed 110dB according to FIA measurement rules.
Otherwise free of choice.

10.12 **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.

10.13 **Transmission and drive shafts:**

Automatic transmissions must have a properly working neutral safety switch and a flexplate/transmission shield, FIA/SFI approved or made from 6mm thick steel plate. Transmissions with a FIA/SFI approved bellhousing do not need the flexplate shield. A transmission with a FIA/SFI approved casing does not need the transmission shield. Vehicles with manual transmissions must have the starting current wired through a switch mounted on the **clutch pedal** in such a way that the vehicle will only start with the pedal fully depressed. Front and rear driveshafts must have a safety loop made of 5x50mm steel or 20x1,5mm 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.

10.14 **Brake system:**

- Main 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.
- Properly working handbrake and/or park function in transmission must be installed.
- All brake lines must be securely fastened and without damage.
- No steering brake system is allowed.

10.15 **Steering system:**

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 steering valve must be shielded from the driver.

Minimum diameter of the steering rod in a hydraulic cylinder is 22mm. Mid-chassis steering is not allowed.

10.16.1 **Body, MODIFIED:**

Shape of the body must resemble a mass produced vehicle.

Length of body must at least 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.

10.16.2 **Body, UNLIMITED:**

Length of body must at least cover the wheelbase of the vehicle. Hood and side body panels must be installed.

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.

10.17 **Driver's compartment:**

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

Any engine air intake in the driver's compartment 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 driver's seat to the outer edge of the rollcage is less than 50cm. If this distance is less than 40cm window nets must be used.

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

10.17.1 **Driver's compartment MODIFIED:**

A passenger seat must be installed side by side with the driver's seat.

Passenger seat is free of choice, but must be of regular size.

10.18 **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.

10.19 **Driver's seat:**

Driver's seat must be of racing type and have cut 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 driver's helmet.

Side supports for the driver's helmet must be installed to the seat or in the chassis behind the seat. This support must be FIA/SFI approved or made of minimum 10cm wide and 3mm thick aluminium or steel plate. Side support must extend forward at least 20cm from the back of the seat in no less than 75 degrees and insulated, not to damage the helmet during normal use.

10.19 Driver's seat - continued:

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 2x M8 bolts each side.

Seats approved by FIA/SFI with integral helmet supports needs no additional support.

There must be a free distance of 10 cm between the top of the driver's helmet and the roll cage/roof plate.

10.20.1 **Rollcage:**

All vehicles must have a six point rollcage mounted directly to the frame or chassis structure that connects all six points.

Rollcage must be designed to protect the driver from all sides.

Seamless Steel tubes of at least 350 N/mm² must be used.

Aluminum, Stainless steel or Chromemoly Steel is not allowed.

Tube size must be minimum 2.5x45mm, alternatively 2x50mm.

No tube bends may be smaller than 3x the tube diameter.

All welds must be of high quality. No grinding of welds is allowed.

Minimum requirements of cage design (refer to schematic drawing):

- One-piece main rollbar installed from side to side of vehicle.
- Main rollbar must be installed within 75-105 degrees. (+/- 15 degrees from vertical)
- One-piece front bar installed from side to side or one piece side bars with front bar connecting the two.
- Rear braces from rear top corners to back of vehicle in minimum 30 degree angle.
- Diagonal cross braces in main rollbar or in rear braces.
(For vehicles licensed after 01.01.2006 this cross must be installed in the main rollbar)
- If the width of rollbar is more than 100cm, a vertical bar must be fitted from the top centre of rear rollbar to meeting point of cross braces.
- "V" or "X" bars in top of rollcage.
- Tube connecting left and right side of main rollbar mounted as low as possible in the chassis.
- Tubes connecting front and rear rollbar. Preferred location is as low as possible in front bar and mid height in the main rollbar.

For vehicles licensed after 01.01.2006:

- Minimum width of rollcage is 100cm.
- Minimum distance from the centre of driver seat to the outer edge of rollcage is 40cm (measured at shoulder height).

These are the preferred construction schematics for the roll cage.



10.20.2 **Roof plate:**

All vehicles must have a roof plate mounted on top of rollcage:

- 1mm steel plate securely welded in, or
- 2mm steel plate bolted in with M8 bolts of 8.8 grade no more than 50cm apart, or
- 3mm aluminium plate bolted in with M8 bolts of 8.8 grade, no more than 50cm apart.

If plate is bolted, mounting brackets must be welded to rollcage, no drilling of holes allowed in the rollcage.



For vehicles licensed after 01.01.2006:

Minimum size of roofplate is 0,75 m²

10.21 **Seatbelts:**

Only 3" wide FIA/SFI approved seatbelt of 5- or 6-point design is approved. Seatbelts with latch style locks are highly recommended. Seat belt must be without any damage and must be within approved date limitations.

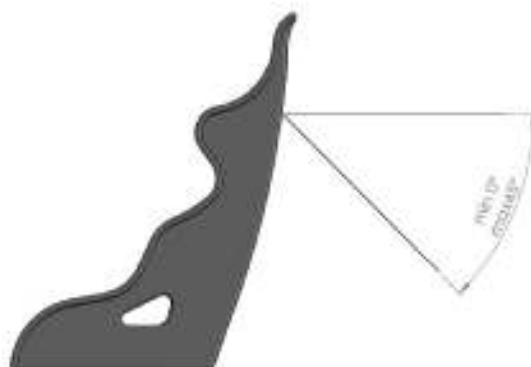
Shoulder straps must be installed in line with the drivers shoulder or lower such that the angle between the back of the seat and shoulder straps is between 45 and 90 degrees.

If the seatbelt is installed using bolts the bolts must be 7/16 UNF.

If the bolts are installed in the bodywork, the area must be reinforced with a 2mm steel plate of at least 20cm².

Drilling in the rollcage for mounting seatbelts is not allowed.

10.21 Seatbelts - continued:



10.22 **Lights:**

Any external lighting made of glass must be taped.

10.23 **Gauges and switches:**

Free of choice.

10.24 **Tow hooks:**

Front and rear tow 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, preferably in the balance point of the vehicle. (May be through a suitable point in the rollcage). Towing and lifting points must be marked in bright color.

10.25 **Communication:**

Any wireless communication must be shut down while driving the tracks.

10.26 **Weight:**

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

10.27 **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.

10.28 **Ventilation:**

All vent hoses from fuel tank, transmission, hydraulic system, transfer case, engine and axles must be routed in such a way that it will not leak in case of a rollover – or connected to a catch tank.

11. Information:

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