

FISD Technical regulation

In case of dispute only the French version is valid.

I. CLASSIFICATION

The nine categories are approved at the championships. (The year of birth is decisive)

Cat	Description	Age Pilot/Co pilot	Weight	With/without driver
C1	Speed-car	6 to 9 years	130 kg	with driver
C2	Speed-car	10 to 13 years	150 kg	with driver
C3	Speed-car	14 to 17 years	170 kg	with driver
C4	Speed-car	18 to 99 years	200Kg	with driver
C5	Side-Car	16 to 99 years	100 Kg	empty vehicle
C6	Bob-Car	16 to 99 years	320 Kg	with crew
C7	Carrioli	16 to 99 years	80 Kg	empty vehicle
C8	Kart	16 to 99 years	175 Kg	with driver
C9	Junior Kart	6 to 15 years	150Kg (no ballast)	with driver

II. GENERAL REGULATIONS

The technical regulation is imposed in all categories:

Except for security aspects, no request will be treated before 2015.

A. Documents

An international license FISD

The car registration card for the European Championship.

Insurance for accidents, civil liability for damage to third parties.

B. Clothing pilots and co-pilots

Body suit or two pieces including pants and long sleeved jacket, an approved helmet, and closed sturdy shoes, gloves without holes (cycling gloves and wool prohibited). Full equipment needs to protect the entire body efficiently. A neck brace (karting type) is recommended. For specific equipment required, see block exemption regulation.

Full equipment is mandatory for all drivers during the descent and the lift up (in traction, deck truck, trailer or tray) of racing cars.



C. Ballast

Ballast weights are permitted within the maximum allowable total weight of each class. However, they must be attached by screws of a minimum M8 size to the chassis of the race car and in such a way that their loosening during the race is ruled out. If the permissible gross weight is exceeded, the driver is disqualified. The organizer must allow the driver to weigh his cart at any time during competition.

D. Energy driving

All devices capable of providing power to the race vehicle, like electric motor, springs, pedals, flywheels, cranks, etc. are prohibited in all categories. The only energy allowed is the gravitational energy. The use of dry batteries of more than 3.5V, wet cell, spray, gas, compressed air or other energy sources are strictly prohibited on all vehicles..

E. On board camera, speedometers, chronometer etc.

The on-board cameras, the battery powered speedometers (bicycle type), including racing-car models with computer data transfer are allowed. They are allowed if fixed before technical control.

F. Towing

Except for Class C7 (Carrioli) attachment points securely affixed to the front and back of each race vehicle are required. Each race vehicle will have its own rope or tow strap of at least 1.5 meters long, certified over 700 kg rupture limit and fitted with snap hooks of equal resistance at both ends. The use of metal cable is prohibited.

G. Geometry of the vehicle

Adjustment systems for:

- The geometry
- The ground clearance
- The suspension

can be used before the race, when the vehicle is stationed. Systems modifying the vehicle aerodynamic behaviour during the race are allowed. The energy necessary to operate them must be purely mechanical (see point D).

H. Cooling and lubrication

Systems for lubrication or cooling of the rotating elements are prohibited during the race (eg tanks, aerosol, etc.).

I. Race Numbers

Figures should be black on a white background with a minimum height of 100mm. Numbers must be positioned according to the rules of each class.



J. Disclaimer

The owner and the driver (or his legal representative) are responsible of what is built and installed on the race vehicle including the frame and wheels dimensions (the tyre pressure is under the responsibility of the driver or his parents), as well as the axles, the brakes the correct ballasts attachment etc.

K. Technical Inspection

Technical inspection (including weighing) can be made at any time of the competition, even after the end but before the results validation. This is especially true for possible changes to the racing vehicles during the competition and after the first technical inspection.

Vehicle weight should remain the same throughout the duration of the race. The pilot (and the co-pilot in categories C5 to C7) remains at disposal of the technical commissioner for eventual technical inspection or weighing. All decisions of the commissioners will be submitted to FISD committee and will be final and binding.

For technical checks each pilot and co-pilot, must submit their equipment (helmet, gloves, mandatory pads and clothing).

III. BUILDING REGULATIONS AND SAFETY

A. For all categories

1. Frame work

The frame must be constructed using only solid materials which guarantee the consistency of diameters and technical parameters provided by Regulation. All joints shall be made by solid welds, screws, rivets or adhesives of sufficient strength. The construction of the chassis is left to the manufacturer's freedom. The nuts should be secured with pins, castle-nuts, nylon shaft collars (Nyloc nut) or glues and pastes.

Definition of the chassis

Rigid frame made of wood or metal that holds or carries the wheel, suspension, braking and steering systems and body of the cart. Monohull construction is permitted.

2. Floor

The floor may consist of several parts. It must protect the entire length of the crew's bodies and must be assembled to the chassis. The interposition of rubber or plastic with a maximum thickness of 2 mm is allowed.



3. Body

If a body is permitted in the category, it must be of a solid construction. Building materials are open, as is the shape of the bodywork.

The body may be in one or more pieces, but easily removable in case of inspection. For the crew's safety, there must be no rough or sharp edges inside or outside. Provide for minimum radii of 5mm.

The bodywork must be securely attached to the chassis without the possibility of loosening during the race.

In the categories C1 to C4 a body with a minimum height of 200mm from the bottom edge of the chassis must cover the front and sides of the race vehicle.

If the body is closed, the opening part must be fixed securely to the main body or to the chassis and its opening must be possible from inside and outside the vehicle.

For a better accessibility to the start ramp, a minimum angle of 10 degrees is recommended. In case of insufficient rigidity of the front part of the body a roll cage reinforcement is required.

The pilot's legs must be protected by a roll cage in case of an overturn (see Figure 11). The construction of the body shall be absolutely safe for the pilot.

4. Windshield

The windshield must be made of a non-breakable material. If it is less than 4 mm thick, its edge must be protected by a plastic or rubber beading. If it is more than 4 mm thick, it is sufficient to round the edge - see Figure 1.



Figure 1

5. Axles

Except for Class C7 (Carricoli) axles must be made of steel, and secured to the chassis so that bending is minimised. By this we understand even the possibility of mounting the axles to the chassis using a sleeve with bearings in which it can rotate freely.

6. Steering

The steering system may have only a minimal play. For all categories except that of C7 (Carricoli) steering can be performed on all wheels.



7. Brakes

In C1, C2, C3, C4 and C6 a dual circuit system must operate on all four wheels, regardless of the schematic - see Figure 2.

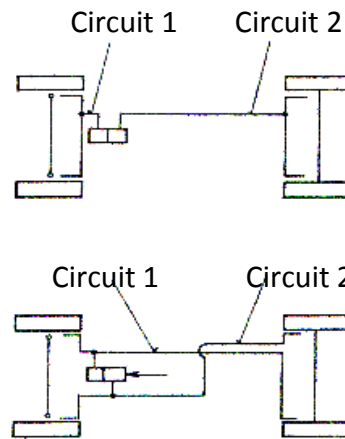


Figure 2

Warning: vehicle in C1, C2, C3, C4, C6, C8 whose system of mechanical or hydraulic brake (pulling, pulley, spreader), equipped with a single connection is prohibited; it must be mounted in duplicate (see Figure 4).

No single pulling rod

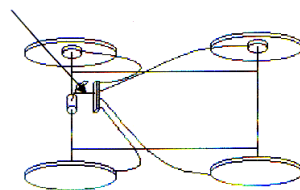


Figure 3

Two metal rods

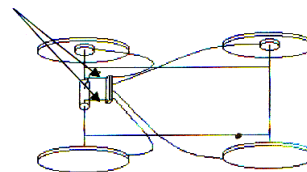


Figure 4



8. Harness

The harness is mandatory for all categories C1 to C4, 3-point system minimum, rally type. Belt retractors, even blocked are prohibited. The harness must be worn tight throughout the race (descent and ascent). The harness protection of the driver must pass over the hoop or over the seat if the latter is strong enough - see Figure 5.

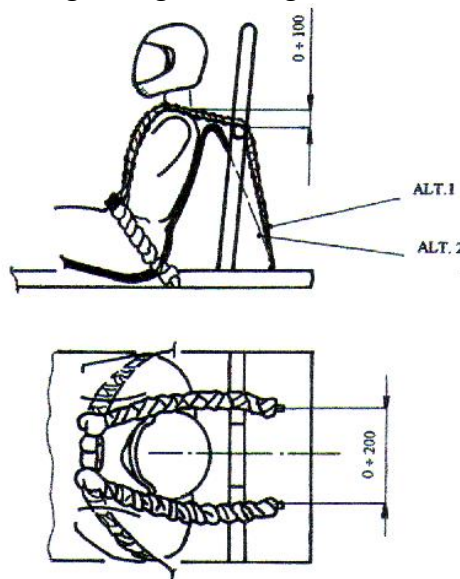


Figure 5

9. ROPS Roll Over Protection System

The ROPS is compulsory for classes C1 to C4. It must be securely fixed to the frame on each side and maintained by a support attached to the rear of the chassis - see Figure 6a, 6b. The tube used must be of minimum diameter 25 mm, minimum thickness 2mm. The geometrical line from the top of the roll bar to the highest point of the front part of the body must pass at least 100 mm above the driver's helmet in position ready to go - see Figure 6a and 6b.

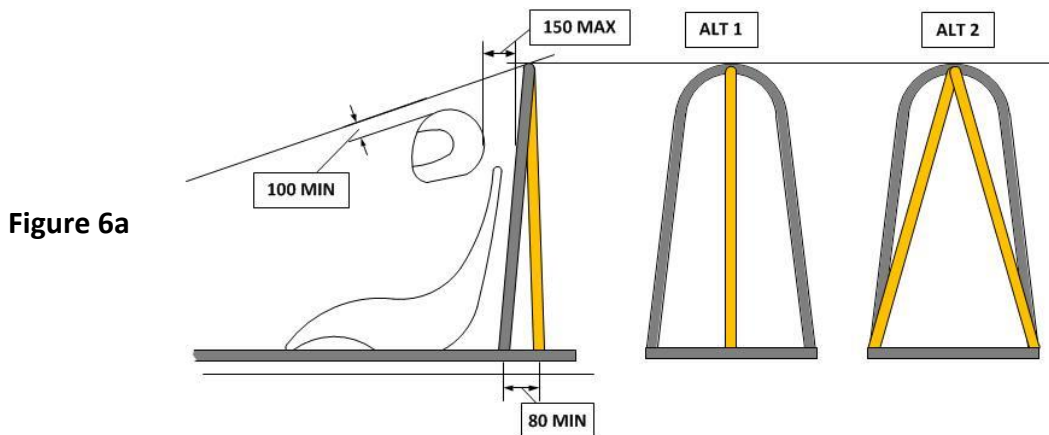


Figure 6a

(150mm is a horizontal distance, the arch must prevent the passage of the helmet -> headrest)

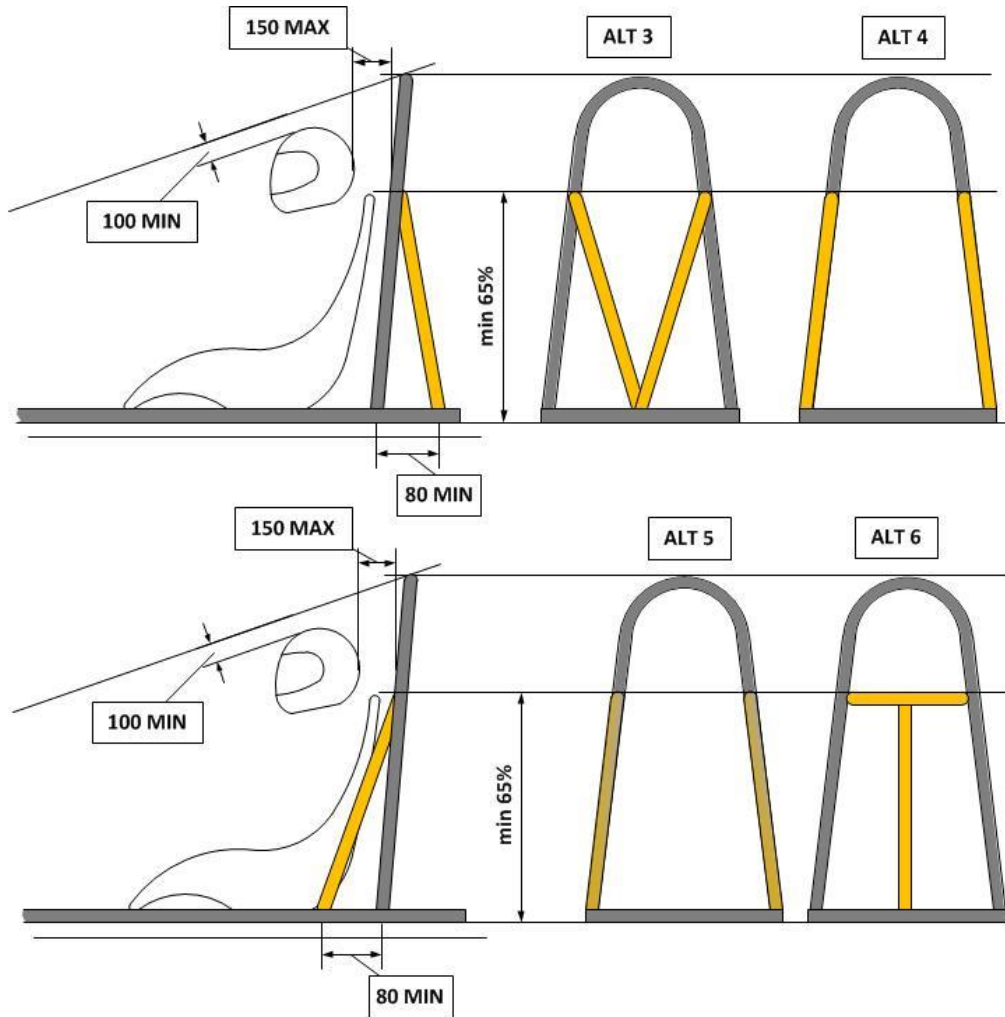


Figure 6b

Enhancement (a max extension) of the bow is allowed, provided it is welded to the hoop and the existing parameters of the bow ($\varnothing 25\text{mm}$ tube thickness 2mm) are met and that internal measures are within than 200 mm high and 100 mm wide - see Figure 7. Respecting the rule of 65% mini with side supports.

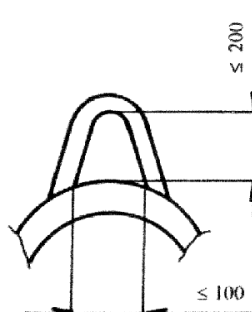


Figure 7



The rod connecting the support hoop must be welded or bolted to it, without drilling - see Figure 8.

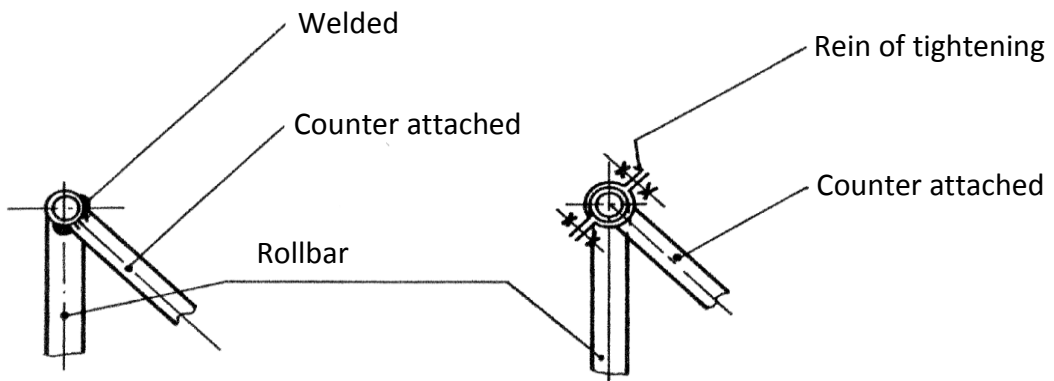


Figure 8

The attachment of the arch on the frame should not decrease the resistance of the protection. Consequently, the type of attachment as described below must not be used - see Figure 9.



Figure 9

Recommended attachment of the arch to the frame - see Figure 10 below.

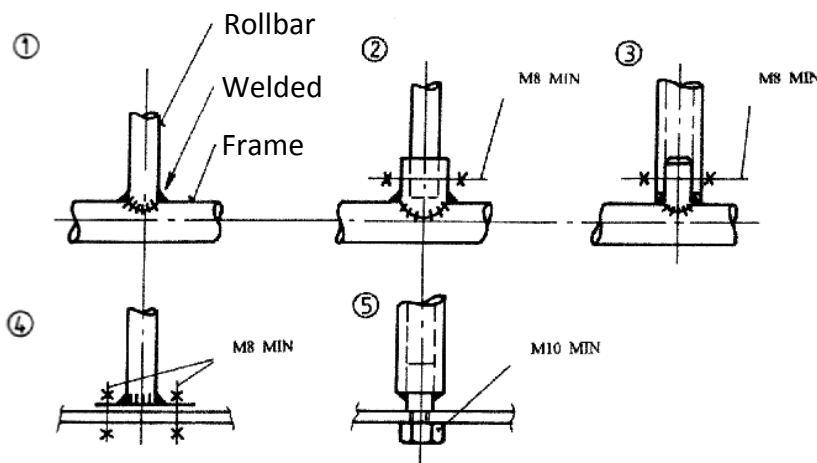


Figure 10

If the vehicle consists of a self-supporting (monohull), the roll bar should be attached at the lower part of the racing car.



10. Tyre pressure

The maximum tyre pressure for C1 to C6 is limited to 4.9 Bar respectively to 3.5 Bar for C8 and C9.

No tolerance will be permitted. If the measured pressure of a racing vehicle exceeds these values, the driver will be immediately disqualified from that race.

Each driver not complying with the standard pressures indicated above or with those indicated on the tyre (possibly less than 4.9 bars), will assume full responsibility in case of an accident. (See Section **J responsibility**)

Checking tyre pressure: For C1 to C6 and C8/C9, the inflation valve must be accessible at all times, both front and rear.

Pressure gauges will be provided by the race organiser for consistency.

11. Track

All marks or signs to assist trajectories and / or braking are not allowed on the track. (Roads, pads, etc.)

12. Penalties

The non-compliance with these regulations shall result in exclusion from the competition without any exception in the case of a race FISD.