



Annexe "J"

au Code Sportif International, 1986 (classification, définition et spécifications des voitures)

En cas de divergence d'interprétation entre les termes des diverses traductions des règlements officiels de la FISA, le texte français fera seul foi. Toute modification paraîtra dans le Bulletin Sportif mensuel de la FISA.

Appendix "J"

to the International Sporting Code, 1986 (classification, definition and specifications of cars)

In the case of differences of interpretation as regards the terms used in the various translations of official FISA regulations, only the French text will be considered authentic. Any amendments will be published in the monthly FISA Motor Sport Bulletin.

Appendix "J" to the International Sporting Code

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Art. 251 - Classification and definitions

1) CLASSIFICATION

1.1) CATEGORIES AND GROUPS

The cars used in competition shall be divided up into the following categories and groups:

Category I : Production Cars (Gr. N)

 Touring Cars (Gr. A)

 Sports Cars (Gr. B)

Category II: Sports Prototype Cars (Gr. C)

 Group D : International Formula racing cars.

 Group E : Formula libre racing cars.

1.2) CUBIC CAPACITY CLASSES

The cars will be divided up into following 15 classes according to their cubic capacity.

- | | |
|--|--------|
| 1. Cylinder-capacity lower than or equal to 500 cc | |
| 2. Cylinder-capacity exceed. 500 cc and lower than/equal to | 600 cc |
| 3. " " " " | 700 cc |
| | 600 cc |

4.	"	"	"	700 cc	"	"	"	850 cc
5.	"	"	"	850 cc	"	"	"	1,000 cc
6.	"	"	"	1,000 cc	"	"	"	1,150 cc
7.	"	"	"	1,150 cc	"	"	"	1,300 cc
8.	"	"	"	1,300 cc	"	"	"	1,600 cc
9.	"	"	"	1,600 cc	"	"	"	2,000 cc
10.	"	"	"	2,000 cc	"	"	"	2,500 cc
11.	"	"	"	2,500 cc	"	"	"	3,000 cc
12.	"	"	"	3,000 cc	"	"	"	4,000 cc
13.	"	"	"	4,000 cc	"	"	"	5,000 cc
14.	"	"	"	5,000 cc	"	"	"	6,000 cc
15.	"	"	over	6,000 cc				

Unless otherwise specified in special provisions imposed by the FIA for a certain category of events, the organisers are not bound to include all the above-mentioned classes in the Supplementary Regulations and, furthermore, they are free to group two or more consecutive classes, according to the particular circumstances of their events.

No class be subdivided.

2) DEFINITIONS

2.1) GENERAL CONDITIONS

2.1.1) **Series Production cars (Category I):**

Cars of which the production of a certain number of identical examples (see definition of this word hereinafter) within a certain period of time has been verified at the request of the manufacturer, and which are destined for normal sale to the public (see this expression).

Cars must be sold in accordance with the homologation form.

2.1.2) **Competitions cars (Category II):**

Cars built as single examples and destined solely for competition.

2.1.3) **Identical cars:**

Cars belonging to the same production series and which have the same bodywork (outside and inside), same mechanical components and same chassis (even though this chassis may be an integral part of the bodywork in case of a monocoque construction).

2.1.4) **Model of car:**

Car belonging to a production-series distinguishable by specific conception and external general lines of the bodywork and by an identical mechanical construction of the engine and the transmission to the wheels.

2.1.5) **Normal sale:**

Means the distribution of cars to individual purchasers through the normal commercial channels of the manufacturer.

2.1.6) **Homologation:**

Is the official certification made by the FIA/FISA that a minimum numbers of cars a specific model has been made on series-production terms to justify classification in Production Cars (Gr. N), Touring Cars (Gr. A), or Sports Cars (Gr. B) of these regulations. Application for homologation shall be submitted to the FIA/FISA by the ASN of the country in which the vehicle is manufactured and shall entail the drawing up of a homologation form (see below). It must be established in accordance with the special regulations called "Regulations for homologation", laid down by the FIA/FISA. Homologation of a series-produced car will become null and void 5 years after the date

which the series-production of the said model has been stopped (series-production under 10 % of the minimum production of the group considered).

The Homologation of a model can only be valid in one group, Production Cars/Touring Cars, or Sports Cars. If a model already homologated in Group Sports Cars (Gr. B) passes into Group Production Cars (Gr. N)/Touring Cars (Gr. A), the first homologation is cancelled.

2.1.7) Homologation forms:

All cars recognised by the FIA/FISA shall be the subject of descriptive form called homologation form on which shall be entered all data enabling identification of the said model.

This homologation form defines the series as indicated by the manufacturer. According to the group in which the competitors race, the modification limits allowed in international competition for the series are stated in Appendix J.

The presentation of the forms at scrutineering and/or at the start may be required by the organisers who will be entitled to refuse the participation of the entrant in the event in case of non-presentation.

With regard to Group Production Cars (Gr. N), apart from the specific form for this group, the Group Touring Cars (Gr. A) form must also be submitted (or the FISA transfer to Group A).

In case of any doubt remaining after the checking of a model of car against its homologation form, the scrutineers should refer either to the maintenance booklet published for the use of the make's distributors or to the general catalogue in which are listed all spare parts.

In case of lack of enough accurate documentation, scrutineers may carry out direct scrutineering by comparison with an identical part available from a concessionaire. It will be up to the competitor to obtain the homologation concerning his car from the ASN of the manufacturing country of the vehicle, or from the FIA/FISA.

Description. A form breaks down in the following way:

- 1) A basic form giving a description of the basic model.
- 2) At a later stage, a certain number of additional sheets describing "homologation extensions", which can be "variants", or "errata" or "evolutions".

a) Variants (VF, VO)

These are either supply variants (VF) (two suppliers providing the same part for the manufacturer and the client does not have the possibility of choice), or options (VO) (supplied on request and available at the concessionaires).

b) Erratum (ER)

Replaces and cancels an incorrect piece of information previously supplied by the constructor on a form.

c) Evolution (ET-ES)

Characterises modifications made on a permanent basis to the basic model (complete cessation of the production of the car in its original form in the case of the evolution of the type ET), or sporting evolution (ES) intended to render a model more competitive.

Use

1) Variants (VF, VO)

The competitor may use any variant as he wishes, only on condition that

all the technical data of the vehicle, so designed, conforms to that described on the homologation form applicable to the car, or expressly allowed by Appendix J.

For example, the fitting of a brake calliper as defined on a variant form is only possible if the braking surface, the dimensions of the brake linings, etc. obtained in this way, are indicated on a form applicable to the car in question. (For Group Production Cars (Gr. N), see also Art. 254.2).

2) Evolution of the type (ET) (For Group Production Cars (Gr. N), see also Art. 254.2).

The car must comply with a given stage of evolution (independent of the date when it left the factory), and thus an evolution must be wholly applicable or not at all.

Besides, from the moment a competitor has chosen a particular evolution, all the previous evolutions should be applied, except where they are incompatible : for example, if two brake evolutions happen one after another, only that corresponding to the date of the stage of evolution of the car will be used.

This homologation form defines the series as indicated by the manufacturer. According to the group, in which the competitors race, the modification limits allowed in international competition for this series are stated in Appendix J.

3) Sporting evolution ES

Since the ES form refers to a previous extension, or to the basic form, the car must correspond to the stage of evolution corresponding to this reference ; moreover, the Sporting Evolution must be applied in full.

2.1.8) Mechanical components

All those necessary for the propulsion, suspension, steering and braking as well as all accessories whether moving or not which are necessary for their normal working.

2.2) DIMENSIONS

Perimeter of the car seen from above:

The car as presented on the starting grid for the event in question.

2.3) ENGINE

2.3.1) Cylinder capacity: Volume generated in cylinder (or cylinders) by the upward or downward of the pistons. For all calculations relating to cylinder capacity the symbol π will be regarded as equivalent to 3.1416.

2.3.2) 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 systems) by any means whatsoever.

The injection of fuel under pressure is not considered to be supercharging (See Article 3.1 of the General Prescriptions for Groups N, A, B).

2.3.3) Cylinder block:

The crankcase and the cylinders.

2.3.4) Intake manifold:

— Part collecting the air-fuel mixture from the carburettor(s), and extending

to the entrance ports of the cylinder head, in the case of the carburettor induction system.

— Part situated between the valve of the device regulating the air intake and extending to the ports on the cylinder head, in the case of an injection intake system.

— Part collecting the air at the air filter outlet and extending to the cylinder head entrance ports in the case of a diesel engine.

2.3.5) Exhaust manifold :

Part collecting together the gases from the cylinder head and extending to the first gasket separating it from the rest of the exhaust system.

2.4) RUNNING GEAR

2.4.1) Wheel:

Flange and rim: by complete wheel is meant flange, rim and tyre.

2.4.2) Friction surface of the brakes:

Surface swept by the linings on the drum, or the pads on both side of the disc when the wheel achieves a complete revolution.

2.4.3) Mac Pherson suspension:

Any suspension system in which a telescopic strut, not necessarily providing the springing and/or damping action, but incorporating the stub axle, is anchored on the body or chassis through single attachment point at its top end, and is pivoted at its bottom and either on a transversal link located longitudinally by an anti-roll bar, or by a tie rod.

2.5) CHASSIS-BODYWORK

2.5.1) Chassis:

The overall structure of the car around which are assembled the mechanical components and the bodywork including any structural part of the said structure.

2.5.2) Bodywork:

— **externally :** all the entirely suspended parts of the car licked by the airstream.

— **internally :** cockpit and boot.

Bodywork is differentiated as follows;

- 1) completely closed bodywork
- 2) completely open bodywork
- 3) convertible bodywork with a hood in either supple (drop-head) or rigid (hard-top) material.

2.5.3) Seat:

The two surfaces making up the seat cushion and seatback or backrest.

Seatback or backrest:

Surface measured upwards from the bottom of a normally seated person's spine.

Seat cushion:

Surface measured from the bottom of the same person's spine towards the front.

2.5.4) Luggage compartment(s):

All volume(s) distinct from the cockpit and the engine compartment inside the vehicle.

This (these) volume(s) is (are) limited in length by the fixed structure(s) provided for by the manufacturer and/or by the rear of the seats and/or, if this is possible reclined at a maximum angle of 15°.

This (these) volume(s) is (are) limited in height by the fixed structure(s) and/or by the detachable partition(s) provided for by the manufacturer, or in the absence of these by the horizontal plane passing through the lowest point of the windscreen.

2.5.5) Cockpit:

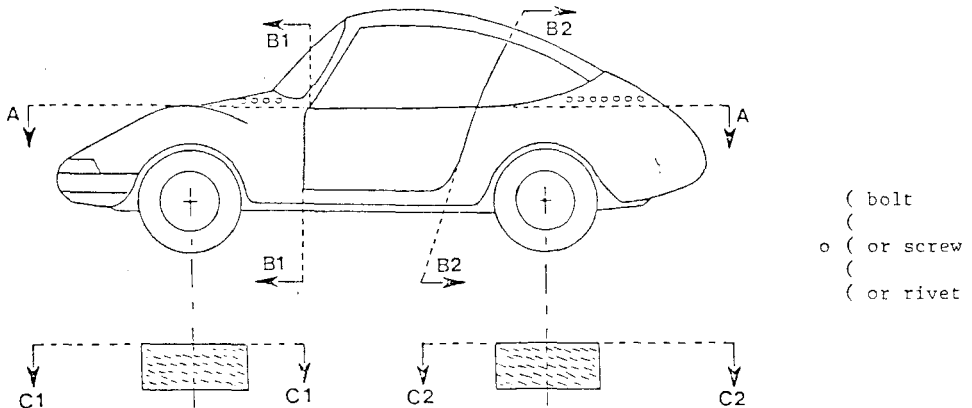
Inner volume which accommodates the driver and the passenger(s).

2.5.6) Bonnet:

Outer part of the bodywork which opens to give access to the engine.

2.5.7) Mudguard:

A mudguard will be considered to be the area defined as follows, provided that it is riveted, screwed or bolted on to the bodywork:



Front mudguard: the area defined by the inner of the complete wheel of the standard car C1/C1 and the lower edge of the side window(s) A/A and the front edge of the front door (B1/B1).

Rear mudguard: the area defined by the inner face of the complete wheel of the standard car (C2/C2) and the lower edge of the side window(s) (A/A) and the rear edge of the rear door (B2/B2).

In the case of two-door cars (B1/B1) and (B2/B2) will be defined by the front and rear of the same door.

2.6) ELECTRICAL SYSTEM

Headlight: any signal the focus of which creates an in-depth luminous beam directed towards the front.

2.7) FUEL

Fuel tank: any container holding fuel likely to flow by any means whatsoever towards the main tank or the engine.

Art. 252 - General prescriptions for Production Cars (Gr. N), Touring Cars (Gr. A), Sports Cars (Gr. B)

1) GENERAL REMARKS

1.1) All modifications are forbidden unless expressly authorised by the regulations specific to the group in which the car is entered or by the general prescriptions below or imposed under the chapter "safety equipment".

1.2) Application of the general prescriptions

The general prescriptions must be observed in the event that the specifications of Production Cars (Gr. N), Touring Cars (Gr. A), or Sports Cars (Gr. B) do not lay down a more strict prescription.

1.3) Conditions for changes of groups and authorized regroupings

Cars originally belonging to Production Cars (Gr. N) but having been subject to modifications or additions duly declared and which exceed the limits provided for this group may pass into Touring Cars (Gr. A) if it is laid down in the event's supplementary regulations and if they conform to the prescriptions of this group.

2) DIMENSIONS AND WEIGHT

2.1) **Ground clearance:** no part of the car must touch the ground when all the tyres on one side are deflated.

2.2) **Ballast:** it is permitted to complete the weight of the car by one or several ballasts provided that they are strong and unitary blocks, fixed by means of tools with the possibility to fix seals, placed on the floor of the cockpit, visible and sealed by the scrutineers.

Application : Touring Cars (Gr. A) Sports Cars (Gr. B) ; no kind of ballast is authorised on Production Cars (Gr. N). In rallies, however, the carrying of tools and spare parts for the car will be allowed under the conditions laid down in Art. 253 a. Any object of a dangerous nature (battery, inflammable products, etc.) must be carried outside the cockpit.

3) ENGINE

3.1) **Supercharging :** in case of supercharging, the nominal cylinder-capacity will be multiplied by 1.4 and the car will pass into the class corresponding to the fictive volume thus obtained. The car will be treated in all respects as if its cylinder-capacity thus increased were its real capacity. This shall particularly be the case for assigning the car to its cylinder-capacity class, its interior dimensions, its minimum number of places, etc.

N.B.: The FISA reserves the right to change, the supercharging coefficient as from January 1st 1987.

3.2) **Equivalence formula, between reciprocating piston and rotary engines** (of the type covered by the NSU Wankel patents)

The cubic capacity equivalent is 1.8 times the volume determined between the maximum capacity of the combustion chamber.

3.3) Equivalence formula between reciprocating piston and turbine engines

This formula is the following:

$$C = \frac{S(3,10 \times R) - 7,63}{0,09625}$$

S = High pressure nozzle area — expressed in square centimetres by which is meant the area of the air-flow at the exit from the stator blades (or at the exit from the first stage if the stator has several stages). Measurement is done by taking the minimum area. In cases where the first stage turbine stator blades are adjustable, they will open to their greatest extent to present the greatest area for the determination of area S.

The area of the high pressure nozzle is thus the product of the height (expressed in cm) by the width (expressed in cm) and by the number of vane spaces.

R = The pressure ratio is the ratio of the compressor of the turbine engine. It is obtained by multiplying together the value for each stage of the compressor, as indicated hereafter:

Subsonic axial compressor : 1.15 per stage.

Trans-sonic axial compressor : 1.5 per stage.

Radial compressor : 4.25 per stage.

Thus a compressor with one radial and six axial subsonic stages will be designated to have a pressure of:

$$4.25 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \text{ or } 4.25 \times 1,15^6$$

C = Equivalent cubic capacity for reciprocating piston engines in cm³.

3.4) All engines into which fuel is injected or in which fuel is burned after an exhaust port are prohibited for the time being.

3.5) Equivalences between reciprocating piston engines and new types of engines

The FISA reserves the right to make modifications on the basis of comparisons established between classic engines and new types of engines, by giving a two year notice from the 1st January following the decision taken.

3.6) Exhaust system and silencer

Even when the specific provisions for a group allow the replacement of the original silencer, the cars competing in an open-road event shall always be equipped with an exhaust silencer complying with the traffic regulations of the country(ies) through which the event is run.

The orifices of the exhaust pipes shall be placed at a maximum of 45 cm and a minimum of 10 cm from the ground. The exit must be located aft of a vertical plane passing through the wheelbase centre and may not project at any point beyond the side of the bodywork. Moreover, adequate protection must be provided in order to prevent heated pipes from causing burns.

The exhaust system must not be provisional. Exhaust gas may only exit at

the end of the system. Parts of the chassis must not be used to evacuate exhaust gasses.

Catalytic exhausts : Should two possible versions of one car model be homologated (catalytic and other exhaust), the differences characterizing the catalytic model shall be included under « additional information » on the basic form. The cars must comply with one or other version, all combinations of the two versions being prohibited.

3.7) **Starting on board the vehicle:** starter with electric or other source of energy on board operable by the driver when seated in the seat.

4) TRANSMISSION

All cars must be fitted with a gearbox including a reverse gear which must be in working order when the car starts the event, and be able to be operated by the driver when he is normally seated.

5) WHEELS

Mesuring wheel width : the wheel width is to be measured with the wheel mounted on the car, or the ground, the vehicle in race condition, driver aboard, at any point along the circumference of the tyre, except in the area in contact with the ground. When multiple tyres are fitted as part of a complete wheel, the latter must comply with the maximum dimensions for the Group in which tyres are used (See Article 255.5.4 and Article 256.5).

Application : Touring Cars (Gr. A), Sports Cars (Gr. B).

6) COACHWORK

6.1) Convertible vehicles must comply in all respects with the specifications applying to open cars.

6.2) Minimum inside dimensions

If a modification authorised by Appendix J affects a dimension stated on the homologation form this dimension may not be retained as an eligibility criterion for the car.

6.3) **Cockpit:** only the following accessories may be installed in the cockpit - spare wheel(s), spare parts, safety equipment, communication equipment, ballast (if permitted), windscreen washer water container (Touring Cars (Gr. A), Sports Cars (Gr. B) only). The passenger compartment and seat of an open car must in no way be covered.

Containers for helmets and tools situated in the cockpit must be made of non-inflammable material.

7) LIGHTING

A fog light may be changed for another provided that the original mounting remains the same.

8) FUEL-COMBUSTIVE

8.1) The use of "commercial fuel" is obligatory, that is to say the use of motor fuel produced by an oil company and currently distributed at road refuelling stations throughout one same country.

May therefore be used, all commercial fuels of the country in which the event takes place, with no other additive except that of a lubricant of current sale which cannot increase the octane number, or water.

May also be used, under the same conditions, any commercial fuel(s) which — in France, Germany, Great Britain and Italy — is (are) of the highest octane rating, according to the Research Method.

If the above-mentioned fuel cannot be easily imported into the country where the event is taking place, it may be replaced by another one of similar quality and with the same octane number (RON) — with a tolerance of + 1 — specially made by an oil company.

Whenever, in France, Great Britain, Germany and Italy, a new commercial fuel is made available which has higher octane rating than those sold so far, the oil company producing the said fuel shall give notice to the FIA by a registered letter and this new commercial fuel (or its equivalent as specified hereabove) may be used for racing 30 days after the registered letter has been mailed.

The oil companies who supply fuel directly to the entrants of a race shall have to send to the promoters the characteristics and a sample of the fuel delivered in such quantity as is sufficient to carry out the necessary analyses, and also a declaration stating that the fuel complies with the present specifications.

8.2) Only air may be mixed with the fuel as an oxidant.

8.3) Refuelling procedure

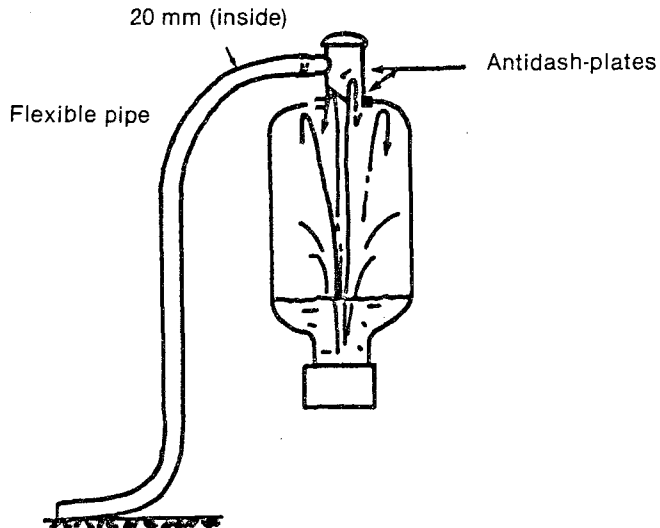
Standardised coupling

— In case of a centralised system provided by the circuit or a system provided by the competitors, the refuelling hose shall be provided with a leak-proof coupling to fit the standardised fitting mounted on the car. The dimensions of this fitting are given in the diagram on page 252.

— All cars must be provided with a fuel fitting complying with this diagram. This leak-proof fitting must comply with the dead man principle and must not therefore incorporate any retaining device when in a open position (spring-loaded, bayonet, etc.).

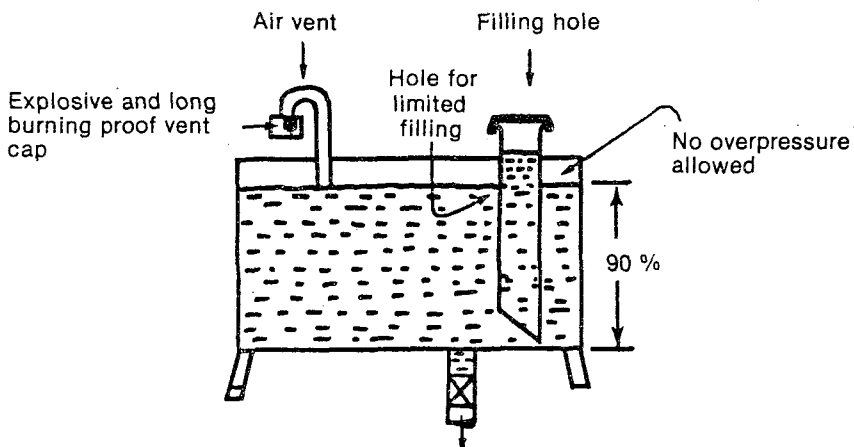
— The air vent(s) must be equipped with non-return valves and valves having the same closing system as that of the standard fitting and having the same diameter. During refuelling the outlet of the air-vent must be connected with the appropriate coupling either to the main supply-tank or to a transparent portable container with a minimum capacity of 20 litres provided with a closing system rendering it completely leak-proof. The venting catch tanks must be empty at the beginning of the refuelling operation. In cases where the circuits are unable to provide the entrants with a centralised system, they will have to refuel the above procedure. The level of the reserve tank may in no case be more than 3 metres above the level of the track where the refuelling is effected. This applies to the whole duration of the event.

The overflow bottles must conform to the following diagram :



The reserve tank and all metal parts of the refuelling system from the coupling over the flow meter up to the tank and its rack be connected electrically to the earth.

It must also conform to the following diagram :



Applications: For Touring Cars (Gr. A), Sports Cars (Gr. B), refer to the general prescriptions of the FIA Championship.

Art. 253 - Safety equipment (category I)

SAFETY DEVICES FOR ALL CARS OF CATEGORY I COMPETING IN EVENTS ENTERED ON THE FIA INTERNATIONAL CALENDAR:

1) A car, the construction of which is deemed to be dangerous, may be excluded by the Stewards of the meeting.

2) If a device is optional, it must be fitted in a way that complies with regulations.

3) CABLES, LINES AND ELECTRICAL EQUIPMENT

Fuel, oil lines and brake cables must be protected externally against any risk of deterioration (stones, corrosion, mechanical breakages, etc.) and internally against all risks of fire.

If the series production fitting is retained, no additional protection is necessary.

Application: obligatory for Touring Cars (Gr. A), Sports Cars (Gr. B).

4) BRAKING SAFETY SYSTEM

Double circuit operated by the same pedal: the pedal shall normally control all the wheels ; in case of a leakage at any point of the brake system pipes or of any kind of failure in the brake transmission system, the pedal shall still control at least two wheels.

Application: compulsory fitting on all cars Touring Cars (Gr. A), Sports Cars (Gr. B). If this system is fitted in series production, no modifications are necessary.

5) ADDITIONAL FASTENERS

At least two additional fasteners for the front and rear bonnet and boot lid, the original fasteners having been rendered inoperative.

Large objects carried on board the vehicle (such as the spare wheel, toolkit, etc.) must be firmly fixed.

Application: obligatory for Touring Cars (Gr. A), Sports Cars (Gr. B). Optional for Production Cars (Gr. N).

6) SAFETY BELTS

Wearing of a diagonal strap and one abdominal strap: fixation points on the shell: 3.

Application: Compulsory for all Production Cars (Gr. N) together with Touring Cars (Gr. A), Sports Cars (Gr. B) participating in rallies.

Wearing of two shoulder straps and one abdominal strap: fixation points on the shell: two for the abdominal strap - two or possibly one symmetrical in relation to the seat for the shoulder straps.

Application : compulsory for all Touring Cars (Gr. A), Sports Cars (Gr. B) (except in rallies).

A hole may be made in a series production seat to allow the passage of a safety belt.

7) EXTINGUISHERS - EXTINGUISHING SYSTEMS

They must have the following characteristics:

RALLY, CIRCUIT, SLALOM,	(minimum quantities) 4 kg Halon 1211 or 1301
HILL CLIMBS	powder or equivalent*
	(in 2 bottles maximum)

**équivalent* : a product having a efficiency and non-toxicity at least equal to that of Halon 1211.

N.B. : Installed systems are allowed in Group Touring Cars (Gr. A) Sports Cars (Gr. B) as replacements for the systems laid down in this article. In this case please refer to the Sport Prototype Cars regulations (Article 4.4).

7.1.1) Installation

Each extinguisher bottle must be installed in such a way that it is capable of withstanding accelerations of up to 25 g no matter how these are applied. Only rapid release metal mountings will be accepted.

7.1.2) Operation - Triggering

The extinguisher(s) must be easily accessible to the driver and co-driver.

7.1.3) Checking

The type of extinguishant, its quantity, and the total weight of the bottle must be specified on the bottle(s).

7.2.1) Circuits, Rallies, Slaloms, Hillclimbs

The cars must be equipped with one or two bottles containing a minimum of 4 kg of Halon 1211 or 1301 (BCF-BTM) powder or equivalent.

7.2.2) Autocross or Rallycross

Cars must be equipped with a single bottle containing 2 kg minimum Halon 1211 or 1301 (BCF-BTM) power or equivalent.

8) ROLLBAR

8.1) DEFINITIONS

8.1.1) Rollcage

A structural framework made up of tubes, connections and fixation points. It is designed to prevent serious deformation in the case of a collision or a car turning over.

8.1.2) Rollbar

Structural framework made up of a main rollbar, a front rollbar, connections and fixation points.

8.1.3) Safety cage

Structural framework made up of a main rollbar, a front rollbar, connections and fixation points.

8.1.4) Main rollbar

A structure which should be made out of a vertical frame situated in transversal plane in relation to the car's axis, near the back of the front seats.

8.1.5) Front rollbar

Identical to the main rollbar but its shape follows the windscreen mountings and the front part of the roof.

8.1.6) Lateral rollbar

A rollcage made up of a vertical framework situated in a longitudinal plane or in relation to the car's axis placed on the right or the left. The rear pillar must be placed against or behind the back of the driver's seat or that of his co-driver. (Drawing 6). In cases where the rear pillar is used as the main rollbar, the connection must be near the roof (Drawing 4a). The front bar must be near the windscreen and dashboard. The driver and his co-driver must be able to get in and out of the vehicle without any inconvenient difficulty.

8.1.7) Longitudinal strut

Longitudinal tubes belong neither to the main rollbar nor to the front rollbar.

8.1.8) Diagonal strut

Tube crossing the car from one of the corners of the main rollbar to any fixation point of the other side of the rollbar or of the near longitudinal strut.

8.1.9) Framework reinforcement

Tube fixed to the rollcage improving its efficiency.

8.1.10) Reinforcement plates

Metal plates, fixed to the chassis structure of the cars on which the rollbar rests.

8.1.11) Fixing plates

Plates which are attached to the tubes and allow their fixation to the chassis.

8.1.12) Removable connections

Optional connection of lateral or diagonal struts to the main rollbar or the front rollbar. It must be possible to dismantle these pieces of equipment.

8.2) SPECIFICATIONS

8.2.1) General comments

8.2.1.1) Safety cages should be designed and constructed in such a fashion that after they have been properly built in, they prevent the bodywork from deforming and thus reduce the risks of injury to people on board the vehicle.

The essential characteristics of safety cages come from a finely detailed construction, suitable adaptation and fixation to the car plus snug fitting against the bodywork. The rollbars must never be used as pipes for liquids.

The bar or bars must be constructed in such a way that it (they do) not obstruct access to the front seats and do not encroach on the space provided for the driver and co-driver. However parts of the rollcage may encroach upon the front passenger space by passing through the lateral upholstery of the rear seats. The rear seat may be folded down.

Any modification to the homologated rollbars (see Art. 8.6) is forbidden, even with regard to the fixations and welds.

8.2.1.2) Basic rollcage (drawings 1 & 2)

Rollbar : Production Cars (Gr. N) and Touring Cars (Gr. A), Sports Cars (Gr. B) up to 2 000 cm³.

Rollcage : Touring Cars (Gr. A), Sports Cars (Gr. B) more than 2,000 cm³ (optional for Production Cars (Gr. N) and Touring Cars (Gr. A), Sports Cars (Gr. B) up to 2,000 cm³) (drawings 3 & 4).

8.2.1.3) Different possibilities of installing the obligatory strut (with the exception of rallies).

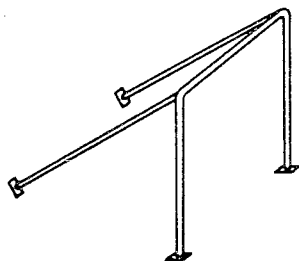
The obligatory strut can be fixed as illustrated in all basic rollcages (drawings 1-4).

The combination of several struts (drawings 5-8) is permitted.

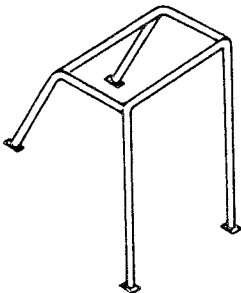
8.2.1.4) Different possibilities of installing the optional reinforcements of the rollcage (drawings 9 to 12).

Each type of reinforcement (drawings 9-11) may be used separately or combined with one or several others.

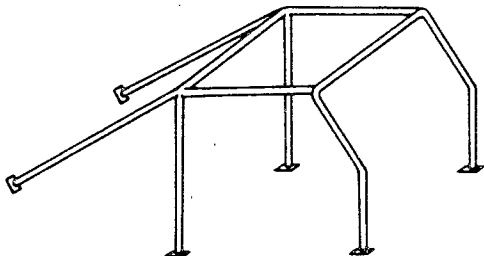
These reinforcements can be installed in each of the basic rollcages (drawings 1-4).



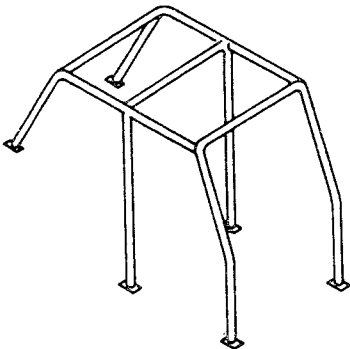
Dessin/drawing No 1



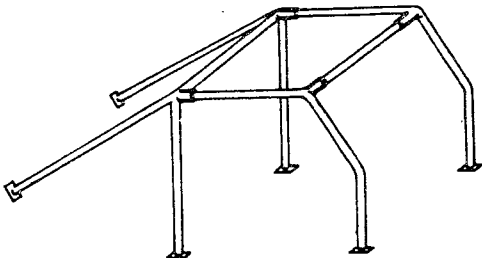
Dessin/drawing No 2



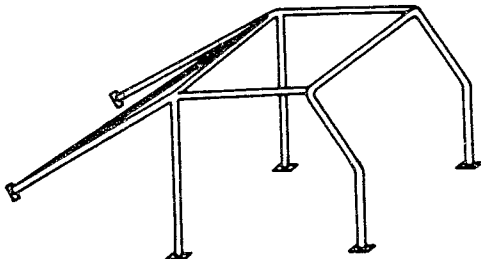
Dessin/drawing No 3



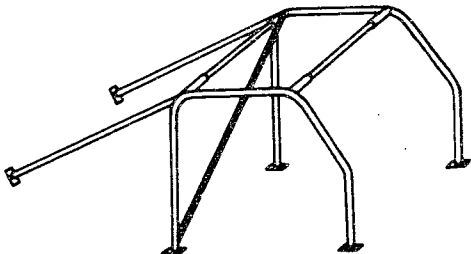
Dessin/drawing No 4



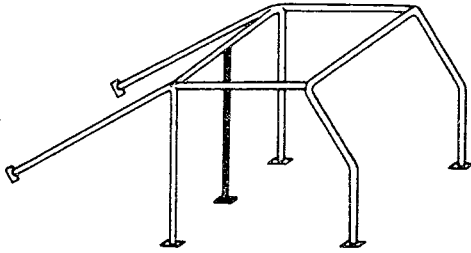
Dessin/drawing No 4a



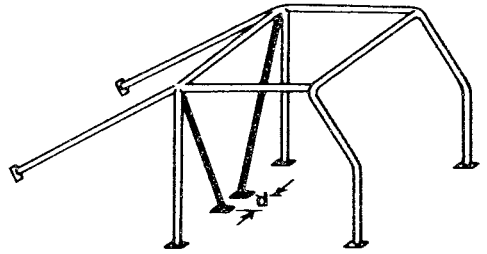
Dessin/drawing No 5



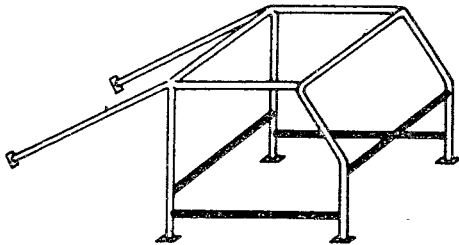
Dessin/drawing No 6



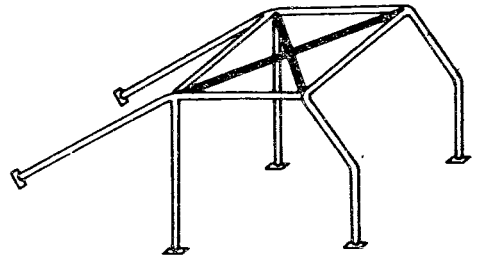
Dessin/drawing No 7



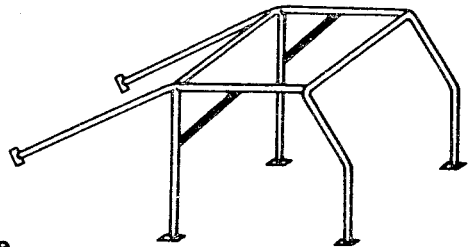
Dessin/drawing No 8
($d \leq 30$ cm)



Dessin/drawing No 9

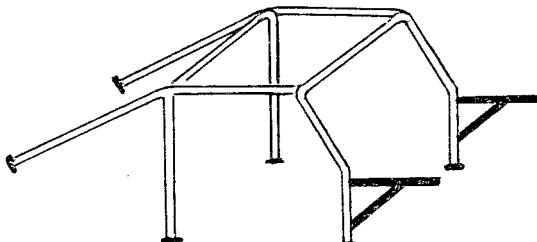


Dessin/drawing No 10



Dessin/drawing No 11

- 1 — Plancher de la voiture/Car floor
- 2 — Plaque de renfort/Reinforcement plate
- 3 — Plaque d'attache/Attachment plate



Dessin/drawing n° 12

8.2.2) Technical specifications

8.2.2.1) Main and front and lateral rollbars

The rollbars must be in a single piece. Their construction must be impeccable without unevenness or cracks. The fitting must be done in such a way it marries the interior shape of the car, or straight if it cannot be directed upwards. If it is necessary for the lower parts of the rollbar to be rounded, these parts must be strengthened and follow the interior shape exactly.

Minimum bending $r_m = 3 \times$ tube diameter.

In order to get an efficient installation of the roll-cage, it is allowed to locally modify the original upholstery, directly on the legs of the roll-cage, for example by cutting or embedding (deformation).

This is only valid for the vertical pillars A and B and for the longitudinal upright at the front door level.

However, this modification can in no case allow the removal of entire parts of the upholstery.

8.2.2.2) Fixation of the rollbars to the body

Minimum fixations for the safety rollcage:

1 for each pillar of the main or lateral rollbar.

1 for each pillar of the front rollbar.

1 for each pillar of the rear longitudinal strut.

1 for each pillar of the main rollbar, and each rear pillar of the lateral rollbar at the fixation point for the front seat belt, or in the approximate area of this position.

The fixation of the rollbar pillars must be done with at least 3 bolts.

The attachment points of the rollbars on the body must be reinforced with a steel plate of a least 3 mm thick and with a surface area of 120 cm², welded to the body.

The various possibilities are given in drawings 12 to 18.

Hexagonal bolts or similar, of a minimum diameter of 8 mm (minimum quality 8-8 as per the ISO specifications) shall be used.

The nuts shall be self-tapping, self-locking or fitted with washers.

These fixations represent a minimum. It is possible to increase the number of bolts, to weld the steel rollbar to the bodysell.

8.2.2.3) Longitudinal Struts

They must be fixed to the left and to the right above and outside the main rollbar, then going directly backwards and as near as possible to the interior side contour.

A rounded construction (with a large bend) is allowed if it is placed a near the roof as possible.

The diameter, the thickness and the material of the longitudinal struts should correspond to the norms fixed for the rollcages.

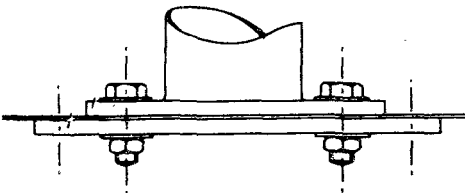
The forces must be efficiently divided and absorbed. The attachment points must be strengthened by plates if their location does not allow them to absorb forces. (See drawing 19).

8.2.2.4) Diagonal Struts

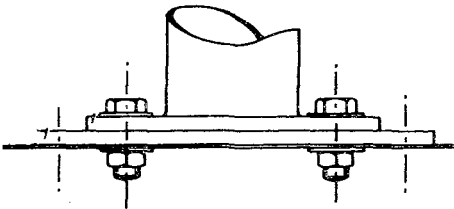
With the exception of rallies, the installation of at least one diagonal strut is obligatory.

Their construction must be carried out in accordance with drawings 5 to 8 without bends.

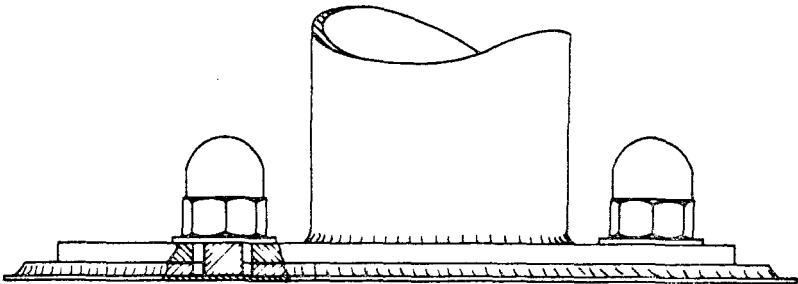
The attachment points of the diagonal struts must be so located that they cannot cause injuries.



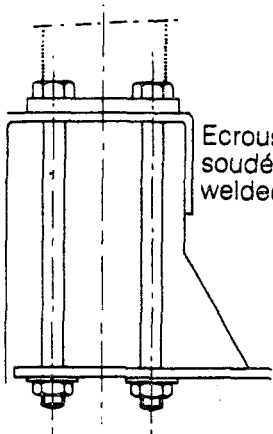
Dessin/drawing No 12



Dessin/drawing No 13

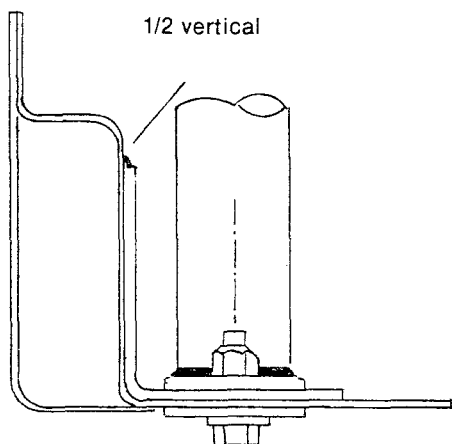


Dessin/drawing No 13a

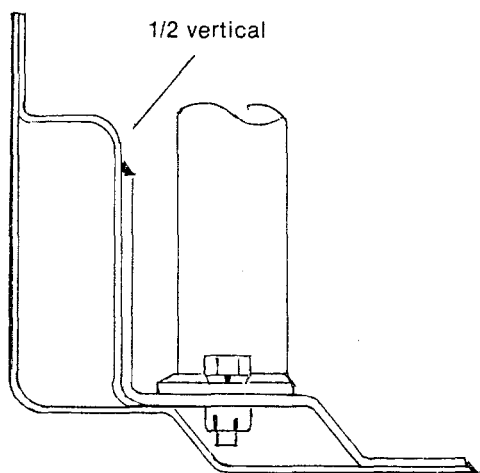


Ecrous rivetés ou soudés/Rivettted or welded nuts

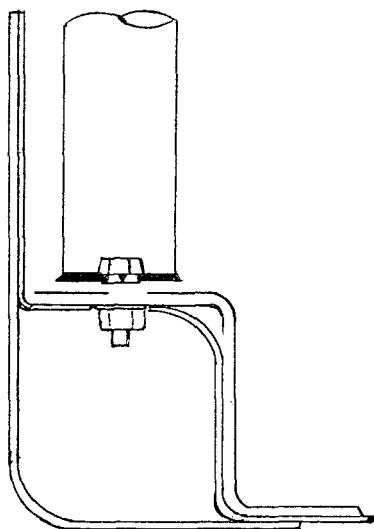
Dessin/drawing No 14



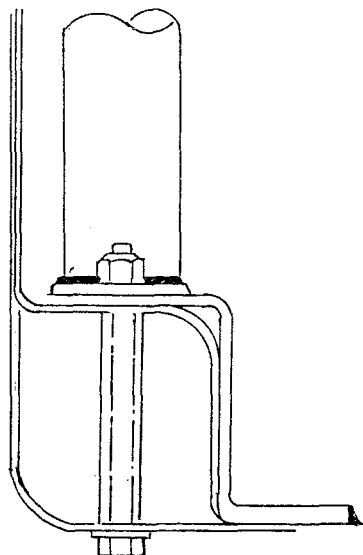
Dessin/drawing n° 15



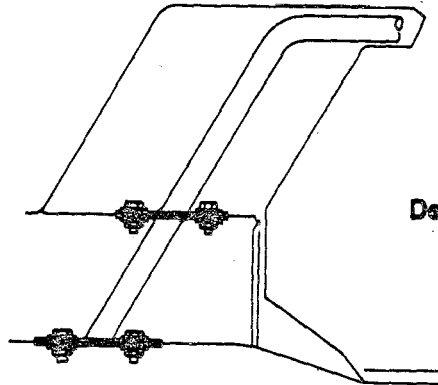
Dessin/drawing n° 16



Dessin/drawing n° 17



Dessin/drawing n° 18



Dessin/drawing No 17

They must preferably have the same diameter as the tubes of the main structure.

8.2.2.5) Optional reinforcements of the rollicage

The diameter, the thickness and the material of the reinforcements must correspond to the norms fixed for the rollcages.

They shall be either welded into position or installed by means of a detachable connection (obligatory for the front transversal reinforcements).

The reinforcement tubes should never be attached to the actual bodywork of the car.

8.2.2.5.1) Transversal struts

The fitting of 2 transversal struts as shown in illustrations 9 and 10 is permitted. The transversal strut fixed to the front bar must not, however, encroach upon the space reserved for the occupant(s). It must be placed as high as possible under the dashboard and must be detachable.

8.2.2.5.2) Longitudinal struts (lateral protection)

The fixing of a longitudinal strut at the side(s) of the vehicle at door level is permitted. The tube making up this reinforcement must be built into the safety rollcage and its angle with the horizontal tube must not exceed 15° (angled downwards towards the front). No point of the side protection should be higher than on third of the total height of the door measured from the base of the door.

8.2.2.5.3) Roof reinforcement

The reinforcement of the upper part of the rollcage by the strut(s) as shown in illustration 10 is permitted.

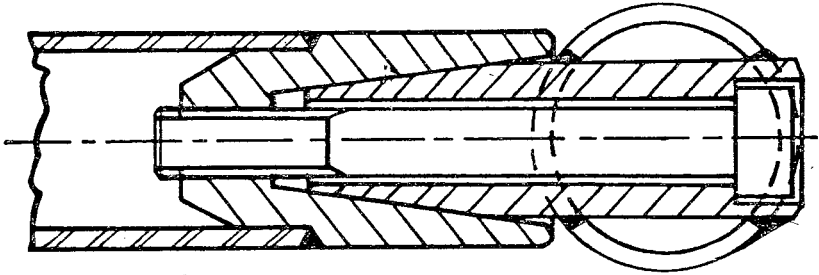
8.2.2.5.4) Angle reinforcement

The reinforcement of the upper angles between the main rollbar and the longitudinal connections with the front rollbar is permitted, as is the reinforcements of the upper rear angles of the lateral rollbars, as shown in illustration 11.

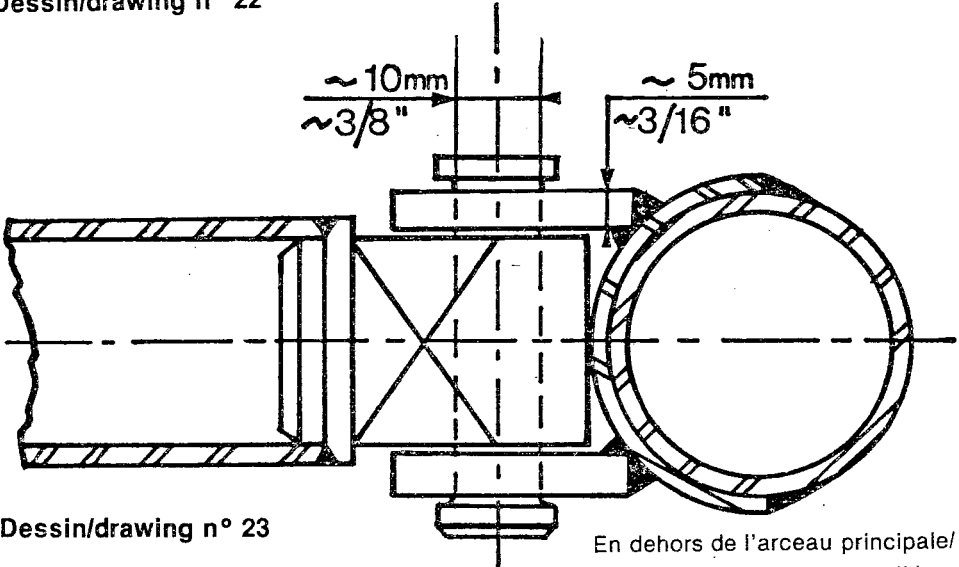
The upper fixation of these reinforcements shall, under no circumstances, be situated to the fore of the middle of the longitudinal linking tube, and their lower fixation shall, under no circumstances, be situated lower than the middle of the vertical pillar of the rollbar.

8.2.2.6) Padding for protection

The padding of the dangerous points on the rollbars is recommended in order to prevent injury.

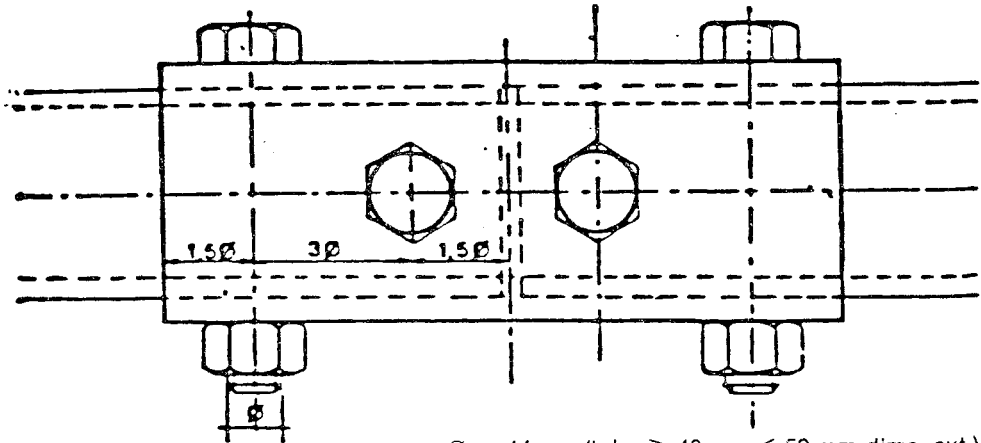


Dessin/drawing n° 22



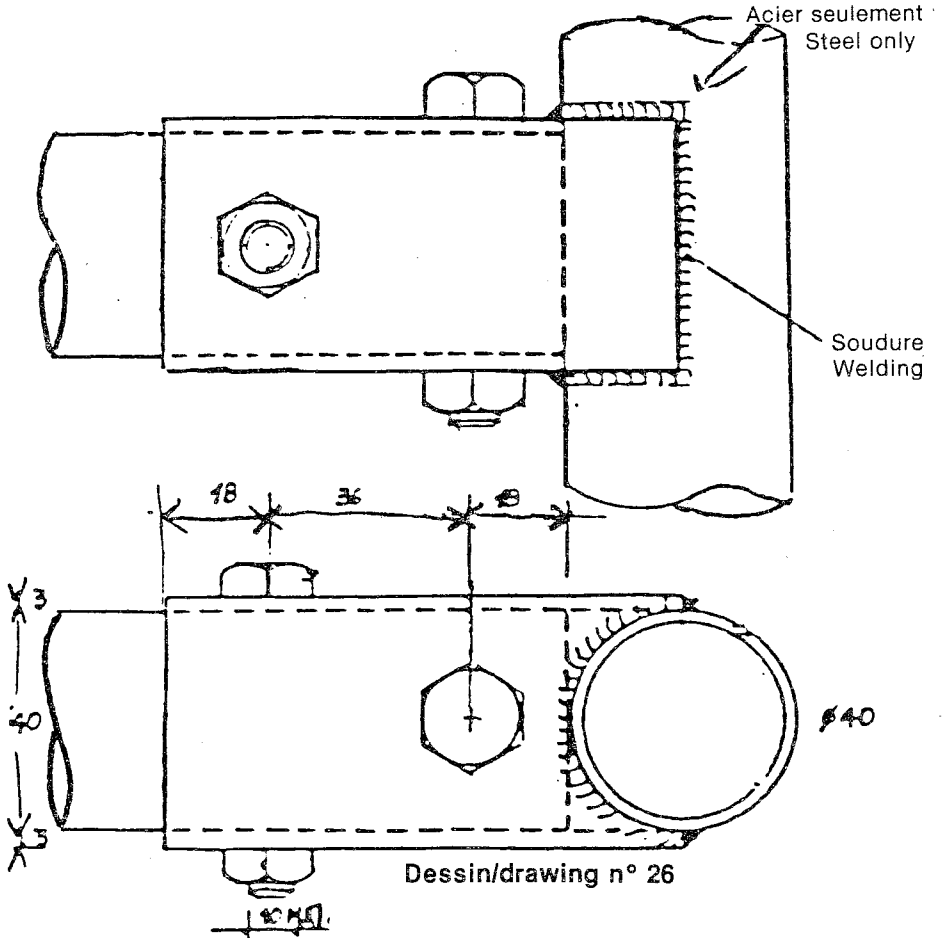
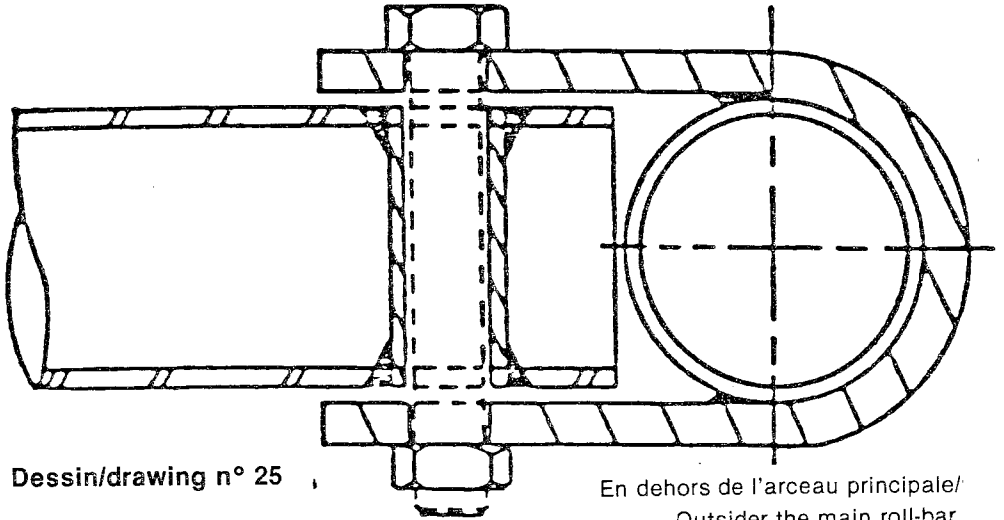
Dessin/drawing n° 23

En dehors de l'arceau principale/
Outside the main roll-bar.



Dessin/drawing n° 24

Ø = 14 mm (tube ≥ 40 mm < 50 mm dima. ext.)
16 mm (tube ≥ 50 mm diam. ext.)



The rollbar may be covered with a detachable protective casing.

8.2.2.7) Removable connections

Should removable connections be used in the construction of the rollbar they must comply with or be similar to a type approved by the FIA (see drawings 22-26).

The screws and bolts must be of a sufficient minimum diameter, and of the best possible quality (preferably aircraft type).

8.2.2.8) Welding instructions

All welding should be of the highest quality possible with full penetration (preferably arc welding and in particular heliarc).

Although good outside appearance of a weld does not necessarily guarantee its quality, poor looking welds are never a sign of good workmanship.

When using heat treated steel the special instructions of the manufacturers must be followed (special electrodes, helium protected welding).

It must be pointed out above all else that the manufacture of heat treated steel, and high carbon steels may cause certain problems and that bad construction may result in a decrease in strength (crinking) and an absence of flexibility.

8.3) MATERIAL PRESCRIPTIONS

Specifications of the tubes used:

Minimum material:	Minimum tensile strength:	Minimum dimensions:
Cold drawn seamless carbon steel	350 N/m ²	38 x 2.5 or 40 x 2 in mm

These dimensions represent the minima allowed.

In choosing the quality of the steel, attention must be paid to the elongation properties and the weldability.

8.4) REGULATIONS FOR CARS

8.4.1) Production Cars (Gr. N)

The fitting of a rollbar is compulsory for all events.

8.4.2) Touring Cars (Gr. A) and Sports Cars (Gr. B)

The fitting of a safety cage is obligatory for all events. The diagonal strut although not obligatory for rallies, is desirable.

Rules of application are as follows:

- up to 2,000 cm³: rollbar obligatory, rollcage optional.
- More than 2,000 cm³: rollcage obligatory.

8.5) EXCEPTIONS

However manufacturers of safety rollcage may also propose a rollbar of free conception to an ASN for approval as regards the material used, the dimensions of the tubes and the implantation of the braces provided that the construction is certified to withstand stress minima given hereafter (and applied simultaneously):

- 1,5 w lateral*;
- 5,5 w fore and aft;
- 7,5 w vertical.

*w = weight of the car + 75 kg.

It must be possible to submit a certificate on a form approved by the ASN to the event's scrutineers. It must be accompanied by a drawing or photo of the rollbar in question declaring that this rollbar can resist the forces mentioned above.

Rollbars must not be modified.

8.6) HOMOLOGATION

The FISA being aware of the problem of habitability being raised by the use of safety rollcages proposes that each car manufacturer recommends a type of safety rollcage complying with FISA standards.

This rollbar must be described on an homologation extension form presented to the FISA for approval and must not be modified (see Article 8.2.1.1).

9) REAR VIEW

This shall be provided by a inside mirror commanding a rear window with a least a 10 cm vertical opening, maintained along a width of at least 50 cm. However, if the straight line connecting the upper and lower edges of the rear window opening makes an angle inferior to 20° with the horizontal, the rear view must be efficiently obtained by other means (two outside mirrors or any other system of equivalent efficiency). Furthermore, all these cars should be equipped with two outside mirrors for circuit events.

Application : obligatory for all Groups.

10) TOWING-EYE

All cars will be equipped with a rear and front towing-eye for all events. This towing-eye will only be used if the car can move freely and it must not be used to lift the car. It will be clearly visible and painted in yellow, red or orange.

Application : All Groups.

11) WINDSHIELD

A windshield made of laminated glass is compulsory.

Application : All Groups.

12) SAFETY FIXING DEVICES FOR WINDSHIELDS

Such devices may be used freely.

Application : optional for all Groups.

13) GENERAL CIRCUIT BREAKER

The general circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, hooters, ignition, electrical controls, etc.). It must be a spark-proof model, and will be accessible from inside and outside the car. As for the outside, the triggering system of the circuit breaker will compulsorily be situated at the lower part of the windscreen mouting of driver's side for closed cars. It will be marked by a red spark in a white-edged blue triangle with a base of at least 12 cm.

Application: compulsory fitting for all Touring Cars (Gr. A) and Sports Cars (Gr. B) cars taking part in speed events on circuits or hill-climbs. The fitting is recommended for other events. Obligatory for Production Cars (Gr. N) in circuit events, optional in the other cases.

14) FIA APPROVED SAFETY FUEL TANKS

Whenever a competitor uses a safety fuel tank, it must come from a manufacturer approved by FIA.

In order to obtain the FIA's agreement, a manufacturer must have proved the constant quality of its products and its compliance with the specifications approved by the FIA.

Safety tank manufacturers recognised by the FIA must undertake to deliver to their customers exclusively tanks complying with the norms approved. To this end, on each tank delivered the name of the manufacturer, the model, the exact specifications according to which this tank has been manufactured, the date of the manufacturing, and the series number, shall be printed.

14.1) Technical specifications:

The FIA reserves the right to approve any other set of technical specifications after study of the dossier submitted by the manufacturers concerned.

14.2) Specifications FIA/Spec/FT3:

The technical specifications for these tanks are available, on request, from the FISA Secretariat.

14.3) Ageing of tanks:

The ageing of safety tanks entails a considerable reduction in the strength characteristics after approximately five years.

Therefore, all fuel cells must be replaced by new ones at the latest five years after the fabrication date indicated on the cell.

14.4) List of agreed manufacturers:

Federal Republic of Germany:

Uniroyal Englebert GmbH, Westerbachstr. 122, 6230 Frankfurt/Main 80.

United States:

Don W Allen Inc, 401 Agee Road, Grants Pass, Oregon 97526.

Aero Tecs Labs, Hewson Avenue, Warcick, NJ 07463.

Fuel Safe Corporation, 15545 Computer Lane, Huntington Beach, California 92649.

France:

Kléber Colombes, Division Tissus Enduits et Applications, 4, rue Lesage-Maille, 76320 Caudebec-les-Elbœuf.

Ets J. RICHE - BP 14 - 14690 Pont-D'Ouilly.

Société Lyonnaise des Réservoirs Souples, 18 rue Guillaume-Tell, 75017 Paris.

Superflexit SA, 45, rue des Minimes, 92405 Courbevoie.

Great Britain:

Marston Palmer Ltd, Wobaston Road, Fordhouses Wolverhampton, WV10 6QJ Staffs.

Premier Fuel Systems Ltd, Willow Road, Trent Lane Industrial Estate, Castle Donington, Derby DE7 2NP.

Italy:

Gipi, Via Abruzzi 7, 20090 Opera, Milano.

Pirelli, Viale Rodi 15, Milano.

Japan:

Fujikura Rubber Works Ltd., N° 20, 2-chome, Nishigotandu, Shinagawa-ku, Tokyo.

Kojima Press Ltd, 3-30 Shimoichibacho Toyota, Aichiken.

Sakura Rubber Co Ltd, 48-14-1 Chome Sasazuka, Shibuya Ku, Tokyo.

Sumitomo Electric Industries Ltd, 15-5 Chome Katahama, Migashi Ku, Osaka.

14.5) Applications of these specifications:

Touring Cars (Gr. A) and Sports Cars (Gr. B) cars may be equipped with a safety fuel tank if the modifications necessary do not exceed those allowed by the regulations.

15) PROTECTION AGAINST FIRE

An efficient protective screen must be placed between the engine and the occupants' seat, in order to prevent the direct passage of flames, in case of fire.

Art. 254 - Specific regulations for Production Cars (Gr. N)

1) DEFINITION

Large scale series production touring cars.

2) HOMOLOGATION

At least 5000 identical units must have been produced in 12 consecutive months and homologated by the FISA in Touring Cars (Gr. A).

The Optional Variants (VO) of the Touring Cars (Gr. A) form shall not be valid in Production Cars (Gr. N), unless they refer to:

- fly-wheel for automatic gearboxes;
- fuel tank;
- automatic gearboxes;
- sun roof;
- 2/4 doors versions;
- safety roll cage.

Likewise evolutions of the type (ET) homologated in Touring Cars (Gr. A) are not valid in Production Cars (Gr. N).

Production Cars (Gr. N) cars must derive from cars homologated in Touring Cars (Gr. A) in a stage of evolution after 1.1.1979 or from cars homologated in Group 1 1981 on the basis of their automatic transfer by the FISA into Group A.

The FISA shall only grant its homologation to a model which does not present any differences compared with the basic form of the country of construction which would affect the basis characteristics.

3) NUMBER OF SEATS

Cars must have at least 4 seats, in accordance with the dimensions defined for Touring Cars (Gr. A).

4) MODIFICATIONS AND ADJUNCTIONS ALLOWED OR OBLIGATORY

All the modifications which are not allowed are expressly forbidden.

The only work which may be carried out on the car is that necessary for its normal servicing; or for the replacements of parts worn through use or accident. The limits of the modifications and fittings allowed are specified hereinafter. Apart from these, any part worn through use or accident can only be replaced by an original part identical to the damaged one.

The cars must be strictly series production models identifiable by the homologation form data.

5) MINIMUM WEIGHT

Cars must have at least the weight appearing on the homologation form plus the weight of the safety devices.

This is the real weight of the empty car (without persons or luggage aboard) without tools, jack. All the liquid tanks (lubrication, cooling, braking, heating where applicable) must be at the normal level foreseen by the manufacturer, with the exception of the windscreen wiper or headlight wiper, brake, cooling system, fuel and water injection tanks, which shall be empty. Additional headlights which do not appear on the homologation form must be removed before weighing.

6)

6.1) ENGINE

The accelerator cable may be replaced or doubled by another one regardless of whether it comes from the manufacturer or not.

— **Ignition:** make and type of plugs are free as are rev-limiters and high tension cables.

— **Cooling system:** the thermostat is free as is the control system and the temperature at which the fan cuts in.

Locking system for the radiator cap is free.

— **Fuel feed:** Carburettor(s) parts or fuel injection system parts regulating the quantity of fuel reaching the engine may be changed, provided that they have no influence on air admission. The original injection system must be maintained.

The engine mountings are free, but not their number.

6.2) TRANSMISSION

— **Clutch:** linings are free as well as their fixing method.

6.3) SUSPENSION

Springs :

Coil springs : The length is free, as is the number of coils, the wire diameter and the external diameter.

Leaf springs : The length, width, thickness and vertical curvature are free.

Torsion bars : The diameter is free.

— **Shock absorbers:** free, provided that their number, their type, their working principle, their attachment points and the spring trim position remain unchanged.

Gas filled dampers, regarding their working principle, will be considered as hydraulic dampers.

If, in order to change the damping element of a MacPherson suspension, or a suspension operating in a identical manner, it is necessary to replace the entire MacPherson strut, the replacement parts must be mechanically equivalent to the original ones and have the same mounting points and the same spring position.

6.4) RUNNING GEAR

The rims must be those homologated by the manufacturer. The tyres shall be free provided that they may be fitted to these rims.

6.5) BRAKING SYSTEM

Brake linings are free, as well as their mountings (riveted, bonded, etc.) provided that the contact surface of the brakes is not increased.

Protection plates may be dismantled or bent.

In the case of a car fitted with servo-assisted brakes, this device may be disconnected.

6.6) BODYWORK

6.6.1) **Exterior :** hubcaps must be removed.

Protective headlight covers may be fitted provided that their only function is to cover the glass, and that have no influence on the car's aerodynamics.

Underbody protection may be fitted during rallies.

Any locking system may be used for the cap of the petrol tank.

If the spare wheel is fixed underneath the bodywork, (i.e. if it is leaked by the airflow), it may be brought inside the cockpit, on condition that it is firmly secured and that it is not installed in the space reserved for the driver and the front-seat passenger.

6.6.2) Passenger space

All accessories which have no effect on the vehicle's behaviour are allowed without restrictions, such as those concerning the aesthetics or interior comfort (lighting, heating, radio, etc.), on the express condition that they do not influence, even in a secondary manner, the efficiency of the engine, steering, strength, transmission, braking, or road-holding.

All the passenger seats must be fitted with a headrest.

All the controls must be those provided by the manufacturer and they must retain their original function but they can be worked on to make them more accessible or more easily useable ; for example, the addition of an extension to the handbrake lever, of an additional flange to the brake pedal, etc.

The following is allowed in particular:

- 1) Additional measuring instruments, counters, etc. may be freely installed, provided that their fitting is not likely to create any dangers.
- 2) The horn may be changed or an additional one for the passenger's use added.
- 3) A fly-off handbrake is allowed.
- 4) Seat supports may be modified, and all kinds of seat-covers may be added including those creating bucket seats.
- 5) Bucket seats are allowed provided that they have at least the same minimum weight as the original seats or provided that they are ballasted to bring them up to the weight of the original seat.
- 6) Additional compartments may be added to the glove compartment as well as additional pockets to the doors.
- 7) Steering wheel is free.

6.6.3) Reinforcements

It is permitted to fit to the front reinforcement bars between the suspension mounting points to the body-shell to prevent separation and (or) convergence, on condition that they are removable and fixed exclusively by bolts on to the suspension or spring mounting points.

A hole may also be bored in the upper suspension trim to fit these rods. These bars may also be fitted at the rear, in the same conditions.

Strengthening of the suspended part is allowed provided that the material used follows the original shape and is in contact with it.

6.7) ELECTRICAL SYSTEM

— **Battery:** the make, capacity, and battery cables are free. The tension and the site of the battery must be retained.

— **Generator:** may be replaced by a more powerful one (watts). A dynamo may not be replaced by an alternator and vice-versa.

— **Lighting system:**

Additional headlights including the corresponding relays are allowed, provided that the total does not exceed eight (tail and parking lights not included provided that this is accepted by the laws of the country). They may not be housed within the bodywork.

Headlights and other exterior lights must always exist in pairs. A reversing

light may be fitted provided it can only be used when police regulations on this subject are observed.

Fuses may be added to the electrical system.

Art. 255 - Specific Regulations for Touring Cars (Gr. A)

1) DEFINITION

Large scale series production touring cars.

2) HOMOLOGATION

At least 5.000 identical examples of these cars must have been manufactured in 12 consecutive months.

3) NUMBER OF SEATS

The touring cars must have 4 seats minimum.

4) WEIGHT

Cars are subject to the following scale of minimum weights in relation to their cubic capacity.

up to:	1,000 cm ³ :	620 kg
	1,300 cm ³ :	720 kg
	1,600 cm ³ :	800 kg
	2,000 cm ³ :	880 kg
	2,500 cm ³ :	960 kg
	3,000 cm ³ :	1,035 kg
	4,000 cm ³ :	1,185 kg
	5,000 cm ³ :	1,325 kg
over:	5,000 cm ³ :	1,400 kg

This is the real minimum weight of the car, without driver or co-driver or additional equipment. At no time during the event may a car weigh less than the minimum stated in this Article.

The use of ballast is permitted in the conditions provided for under Article 2.3 of the "general prescriptions for Production Cars (Gr. N), Touring Cars (Gr. A), Sports Cars (Gr. B)".

5) MODIFICATIONS AND ADJUNCTIONS ALLOWED

GENERAL CONDITIONS

Irrespective of the parts for which the present article lays down freedom of modification, the original mechanical parts having undergone the normal machining operations laid down by the manufacturer for series production may be subjected to all tuning operations through finishing, scraping but not replacement. In other words provided that the origin of the series production part may always be established, its shape may be ground, balanced, adjusted, reduced or modified through machining.

However, the modifications defined by the above paragraph are allowed on condition that the weights and dimensions mentioned on the homologation form are respected.

4.	"	"	"	700 cc	"	"	"	850 cc
5.	"	"	"	850 cc	"	"	"	1,000 cc
6.	"	"	"	1,000 cc	"	"	"	1,150 cc
7.	"	"	"	1,150 cc	"	"	"	1,300 cc
8.	"	"	"	1,300 cc	"	"	"	1,600 cc
9.	"	"	"	1,600 cc	"	"	"	2,000 cc
10.	"	"	"	2,000 cc	"	"	"	2,500 cc
11.	"	"	"	2,500 cc	"	"	"	3,000 cc
12.	"	"	"	3,000 cc	"	"	"	4,000 cc
13.	"	"	"	4,000 cc	"	"	"	5,000 cc
14.	"	"	"	5,000 cc	"	"	"	6,000 cc
15.	"	"	over	6,000 cc				

Unless otherwise specified in special provisions imposed by the FIA for a certain category of events, the organisers are not bound to include all the above-mentioned classes in the Supplementary Regulations and, furthermore, they are free to group two or more consecutive classes, according to the particular circumstances of their events.

No class be subdivided.

2) DEFINITIONS

2.1) GENERAL CONDITIONS

2.1.1) Series Production cars (Category I):

Cars of which the production of a certain number of identical examples (see definition of this word hereinafter) within a certain period of time has been verified at the request of the manufacturer, and which are destined for normal sale to the public (see this expression).

Cars must be sold in accordance with the homologation form.

2.1.2) Competitions cars (Category II):

Cars built as single examples and destined solely for competition.

2.1.3) Identical cars:

Cars belonging to the same production series and which have the same bodywork (outside and inside), same mechanical components and same chassis (even though this chassis may be an integral part of the bodywork in case of a monocoque construction).

2.1.4) Model of car:

Car belonging to a production-series distinguishable by specific conception and external general lines of the bodywork and by an identical mechanical construction of the engine and the transmission to the wheels.

2.1.5) Normal sale:

Means the distribution of cars to individual purchasers through the normal commercial channels of the manufacturer.

2.1.6) Homologation:

Is the official certification made by the FIA/FISA that a minimum numbers of cars a specific model has been made on series-production terms to justify classification in Production Cars (Gr. N), Touring Cars (Gr. A), or Sports Cars (Gr. B) of these regulations. Application for homologation shall be submitted to the FIA/FISA by the ASN of the country in which the vehicle is manufactured and shall entail the drawing up of a homologation form (see below). It must be established in accordance with the special regulations called "Regulations for homologation", laid down by the FIA/FISA. Homologation of a series-produced car will become null and void 5 years after the date

Nuts and bolts: throughout the car, any nut, bolt, screw may be replaced by another nut, bolt, screw and may have any kind of locking device.

Adjunction of material: any adjunction of material or parts is forbidden unless it is specifically allowed by an Article in these regulations. Any material removed may not be reused.

5.1) ENGINE

5.1.1) Cylinder-block - Cylinder-head

A rebore of 0.6 mm maximum is allowed in relation to the original bore without this leading to the capacity class limit being exceeded. The resleeving of the engine is allowed within the same conditions as for re-boring, and the sleeve material may be modified.

Planing of the cylinderblock is allowed.

Cylinder head: planing authorized.

5.1.2) **Volumetric ratio:** free.

5.1.3) **Cylinder head gasket:** free.

5.1.4) **Pistons:** free as well as the piston-rings, gudgeon pins and their securing mechanism.

5.1.5) **Connecting rods, crankshaft:** besides the modifications laid down in the paragraph "General Conditions" above, the original crankshaft and connecting rods may receive chemical or heat treatment different to the laid down for series production parts.

5.1.6) **Bearings:** make and material are free; they must however retain their original type and dimensions.

5.1.7) **Flywheel:** it may be modified in accordance with the above paragraph "General Conditions" provided that the original flywheel may still be identified.

5.1.8) Fuel feed:

The original system, as specified on the homologation form (such as K-Jetronic) must be retained.

Carburettor(s) parts or fuel injection system parts regulating the quantity of fuel reaching the engine may be changed, but not the diameter of the venturi.

Anti-pollution elements may be removed provided that this does not lead to an increase in the quantity of air admitted.

The filter and the original air filter box may be removed; the air intake may be fitted with a grill. An additional air filter may be fitted. The air ducting devices situated in front of the air filter are free in the engine compartment.

In the case of injection, it is possible to select a different air measuring device, provided that this still complies with Article 324 c on the homologation form, Articles C1 to C5 being able to be modified in this way.

Fuel pump(s) are free provided that they are not installed in the cockpit. Should this be an original fitting, the pump may remain in place, but must be well protected.

The accelerator linkage may be replaced or doubled by another whether or not it is supplied by the manufacturer.

The number, the characteristics and the principle of operation of the heat exchangers are free, as are the lines connecting them to the engine provided that the original model was fitted with at least one exchanger. The inlet and outlet air ducts/pipes may be changed.

5.1.9) Camshaft(s): free (except the number and number of bearings). Timing is free.

With regard to the cylinder head orifices (inner side of the engine), in the case of rotary engine, only those dimensions which have been entered on the Homologation Form have to be respected.

5.1.10) Valves: the material and the shape of the valves are free, but their characteristic dimensions (mentioned on the homologation form) must be retained (including the respective angles of the valves axis). Maximum valve lift must not be exceeded, with a tolerance of + 0.3 mm.

The cups, cotters and guides (even if they do not exist as original parts) are not subject to any hydraulic. Shims may be added under the springs.

Competitors using cars with any hydraulic valve lift system whatsoever must be able to supply the scrutineers with a mechanical valve lifter to enable them to measure the valve lift.

5.1.11) Rocker arms and tappets: they may only be modified in accordance with Art. 5 "General Conditions" above.

5.1.12) Ignition: the ignition coil(s), condenser, distributor, interrupter and plugs are free subject to the ignition system (battery/coil or magneto), remaining the same as provided by the manufacturer for the model concerned.

The fitting of an electronic ignition system, even without a mechanical interrupter, is allowed provided no mechanical part other than those mentioned hereabove is modified or replaced. In the same conditions, it shall be possible to change an electronic ignition for a mechanical ignition. The number of plugs may not be modified; that of the coils is free.

5.1.13) Cooling: Provided the original fitting on the car is retained, the radiator and its fixation are free, as are the lines linking it to the engine. A radiator screen may be fitted.

A fan may be added, the original one reduced in accordance with Article 5 "General Conditions", or it may be disconnected, but the original drive system must be maintained.

Thermostat is free. Dimensions and material of the fan/turbine are free, as are their number.

The fitting of a water catch tank is allowed. The radiator cap may be locked.

The water injection devices may be disconnected, but not removed.

5.1.14) Lubrication: radiator, oil/water exchanger, lines, sump and filter, are free. However, the fitting of an oil radiator outside the bodywork is only allowed below the horizontal plane passing through the hub in such a way that it does not protrude beyond the general perimeter of the car seen from above as it stands on the starting line.

Fitting an oil radiator in this manner does not allow the addition of an enveloping aerodynamic structure. All air vents must have the sole of inducing the necessary air for the cooling of the radiator, and must not have any aerodynamic effect.

Oil pressure may be increased by changing the discharge valve spring.

If the lubrication system includes an open type sump breather it must be equipped in such a way that the oil flows into a catch tank.

This must have a capacity of 2 litres for cars with a cubic capacity equal to or below 2,000 cc, and 3 litres for cars with a cubic capacity of over 2,000 cc. This container shall be made either out of plastic or shall include a transparent window.

5.1.15) Engine - Suspension - Angle and position

Supports are free (but not their number) provided that the angle and position of the engine within its compartment are not modified, and that Articles 5.7.1 et 5 - General Conditions are respected.

5.1.16) Exhaust: below the exhaust manifold exit the exhaust is free provided that the sound levels in the country(ies) crossed are not exceeded if it is an event on open roads. The exhaust exit must be inside the car's perimeter. (See General Prescriptions, Article 3.5).

For cars with turbocharged engines the exhaust can only be modified after the turbocharger.

5.1.17) Driving pulleys and belts for ancillaries situated outside the engine: may not be removed but their material and dimensions are free.

5.1.18) Gaskets: free.

5.1.19) Engine: springs: in the event of supercharging the spring(s) limiting the pressure in the inlet must remain unchanged.

Other springs are not subject to any restrictions but they must keep their original functioning principle.

5.1.20) Starter: it must be conserved, but its make and type are free.

5.1.21) Supercharging pressure : this pressure is free.

5.2) TRANSMISSION

5.2.1) Clutch: the clutch and its mechanism are free provided that it has the same number of plates as the series production item, that the original bell housing is retained, and the type of clutch operation (hydraulic or mechanical) as fitted in series production is not changed in any way.

The operation lever of a mechanical clutch may be changed from "push" to "pull" and vice-versa.

5.2.2) Gearbox

An additional lubrication and oil cooling device is allowed (circulation pump, radiator, and air intakes situated under the car) in the same conditions as for Article 5.1.14, but the original lubrication principle must be retained.

The gears of the additional gear box on the homologation form may be changed, provided that they respect the information given on this form.

Gearbox supports are free, but not their number.

5.2.3) Final drive and differential

A limited-slip differential is allowed provided that it can be fitted into the original housing without any modification other than those laid down in the above paragraph "General Conditions". The original differential may also be locked.

The original lubricating principle for the rear axle must be retained. However, an additional lubricating and oil cooling device is allowed (circulation pump, radiator, and air intakes situated under the car) under the same conditions as for Article 5.1.14.

5.3) SUSPENSION

The position of the mounting points of the suspension to the wheel uprights and to the shell (or chassis) must remain unchanged.

5.3.1) Reinforcement bars between the suspension mounting points to the body shell (or chassis) may be installed.

Apart from these two points, this bar must not be mounted on the bodyshell or the mechanical parts.

5.3.2) Strengthening by the adjunction of material, of the mounting points and existing suspension parts, the running gear and all the suspension parts is allowed.

5.3.3) **Anti-roll bar:** The anti-roll bars homologated by the manufacturer may be replaced or removed, provided that their mounting points on the chassis remain unchanged.

5.3.4) The joints may be of a different material from the original ones. Rubber articulations may therefore be replaced by "Unibal" joints, if this modification is possible without adding any material other than that which is necessary for the fitting of the joints.

5.3.5) The material and main spring dimensions are free (but not the type). The spring seats may be made adjustable even if this includes the adjunction of material.

A coil spring may be replaced with two or more springs of the same type, concentric or in series, provided that they are fully interchangeable with the original and can be fitted without any modifications other than those specified in this article.

5.3.6) **Shock Absorbers :** Make is free, but not the number, the type (telescopic, arm, etc.), the system of operation (hydraulic, friction, mixed, etc.) nor the supports.

With regard to their principle of operation, gas-filled shock-absorbers will be considered as hydraulic shock-absorbers. If in order to change the damping element of a Mac Pherson suspension, or suspension working on an identical principle, it is necessary to replace the entire Mac Pherson strut, the replacement part must be mechanically equivalent to the original one, except for the damping element, and the spring cup.

5.4) WHEELS AND TYRES

Complete wheels (complete wheel = flange + rim + tyre) are free provided that they can be housed within the original bodywork ; this means the upper part of the wheel (rim flange and tyre flank), located vertically over the wheel hub centre, must be covered by the bodywork, when measured vertically.

In no case should the width of the rim-tyre assembly in relation to the cubic capacity of the car, exceed the following:

up to:	1,000 cm ³ :	7"
	1,300 cm ³ :	7.5"
	1,600 cm ³ :	8.0"
	2,000 cm ³ :	9.0"
	3,000 cm ³ :	10.0"
	4,000 cm ³ :	11.0"
	5,000 cm ³ :	12.0"
over:	5,000 cm ³ :	13.0"

The rim diameter may be increased or reduced by up to 2 inches in relation to the original dimensions.

The wheels do not necessarily have to be of the same diameter.

5.5) BRAKING SYSTEM

5.5.1) Brake linings

Material and mounting method (riveted or bonded) are free provided that the dimensions of the linings are retained.

5.5.2) Servo brakes and braking force adjusters (pressure limiters)

They may be disconnected but not removed. The adjusting device free.

5.5.3) Cooling of brakes

Protection shields of homologated may be modified or removed, but material may not be added.

A single circular flexible pipe to channel air to the brakes of each wheel is allowed, but its interior diameter must not exceed 10 cm.

The air pipes must not go beyond the perimeter of the car, seen from above.

5.5.4) **Brake discs:** the only operation allowed is rectification.

5.5.5) The handbrake device may be disconnected but only for closed course races (circuit, hillclimbs).

5.5.6.) **Hydraulic pipes :** Hydraulic pipes may be replaced by lines of air-craft quality.

5.6) STEERING

Power steering may be disconnected but not removed.

5.7) BODYWORK - CHASSIS

5.7.1) Lightening and reinforcements

Strengthening of the suspended part is allowed provided that the material used follows the original shape and is in contact with it.

Insulating material may be removed from under the car floor, from the engine compartment, the luggage boot, and the wheel arches.

5.7.2) Exterior

5.7.2.1) Bumpers: Overrides may be removed.

5.7.2.2) **Hub-caps and wheel embellishers:** hub-caps may be removed. Wheels embellishers must be removed.

5.7.2.3) **Windscreen wipers :** motor position, blades and mechanism are free but there should be at least one windscreen wiper provided for the windscreen. The windscreen washer device may be disconnected.

5.7.2.4) External decorative strips may be removed. Any parts following the external contour of the bodywork and less than 25 mm wide will be considered as decorative strips.

5.7.2.5) Jacking points may be strengthened, moved, and increased in number.

5.7.2.6) Headlight covers may be fitted provided their sole aim is to protect the headlight glass and that they have no effect on the car's aerodynamics.

5.7.2.7) Taking into account the different police regulations in each country registration plate locations are free.

5.7.2.8) The registration plate mountings may be disconnected but not their lighting system.

5.7.2.9) Additional safety fastenings for the windscreen and the side windows may be fitted provided they do not improve the aerodynamic qualities of the car.

5.7.2.10) The fitting of underbody protection is allowed in rallies only.

5.7.2.11) The edges of the wing panels may be folded back if they protrude inside the wheel housing.

5.7.2.12) Removable pneumatic jacks are permitted, but without the compressed air bottle on board (circuits only).

5.7.3) Cockpit

5.7.3.1) Seats : seats and their mountings are free, but they must include a headrest. The front seats may be moved backwards but not beyond the vertical plane defined by the front edge of the original rear seat.

The front seats may be moved backwards but not beyond the vertical plane defined by the front edge of the original rear seat.

The passenger's seat may be removed as well as the rear seats (including their backrests).

5.7.3.2) Should the fuel tank be installed in the boot and the rear seats removed, a fireproof and liquid-proof bulkhead must separate the cockpit from the fuel tank.

5.7.3.3) **Dash board:** standard, however the trimmings situated below this and which are not a part of it may be removed.

5.7.3.4) **Doors :** The following is allowed:

- the removal of soundproofing material provided that this does not modify the shape of the doors.

- the replacement of electric winders by manual ones.

5.7.3.5) **Roof:** all padding, insulating material and roof lining may be removed from the underside of the roof.

5.7.3.6) **Floor:** insulating and padding materials may be removed. Carpets are free and may thus be removed.

5.7.3.7) **Other padding and soundproofing materials** may be removed.

5.7.3.8) **Heating system :** The original heating equipment may however, be replaced by another also provided by the manufacturer, and mentioned in his catalogue as supplied on demand.

5.7.3.9) **Air conditioning:** may be added or removed but heating must be assured.

5.7.3.10) **Steering wheel:** free, the anti-theft device may be removed.

The steering can be on either the right or left provided that it is a question of a simple inversion of the driving wheels control, laid down and supplied by the manufacturer without any other mechanical modifications except those made necessary by the inversion.

5.7.3.11) A rollcage may be fitted. (See Art. 253.9).

5.7.3.12) The rear removable window shelf in two-volume cars may be removed.

5.7.3.13) **Fluid pipes:** liquid pipes may pass through the cockpit, but these pipes should not have any connections in the cockpit.

Air pipes may only pass through the cockpit if these are intended for the ventilation of the cockpit.

5.7.4) **Additional accessories**

All those which have no influence on the car's behaviour are allowed, for example equipment which improves the aesthetics or comfort of the car interior (lighting, heating, radio, etc.). In no case can these accessories increase the engine power or influence the steering, transmission, brakes, or roadholding even in an indirect fashion. All controls must retain the role laid down for them by the manufacturer. They may be adapted to facilitate their use and accessibility, for example a longer handbrake lever, an additional flange on the brake pedal, etc.

The following is allowed:

1) The original windscreen may be replaced by a laminated windscreen with defrosting equipment incorporated.

2) Instruments such as speedometers, etc. may be installed or replaced without this causing any risks.

3) The horn may be changed or an additional one added, within reach of the passenger.

4) Circuit breakers may be freely changed vis-a-vis their use, position, or number in the case of additional accessories.

5) A "fly-off" hand brake may be installed.

6) Spare wheel(s) is/are not compulsory. However if there is/are any, it/they must be securely fixed, and not installed in the space reserved for the driver and front passenger (if he is on board). No exterior modification of the bodywork must result from its/their installation.

7) Additional compartments may be added to the glove compartment and additional pockets in the doors provided they use the original panels.

8) Insulating material may be added to the existing bulkheads to protect the passengers from fire.

9) It is permitted to change the joints of gear-box change systems.

5.8) **ELECTRICAL SYSTEM**

5.8.1) The nominal voltage of the electrical system including that of the supply circuit of the ignition must be retained.

5.8.2) The addition of relays and fuses to the electrical circuit is allowed as is the lengthening or addition of electric cables.

Electric cables and their sleeves are free.

5.8.3) **Battery:** the make and capacity of the battery(ies) are free. Each battery must be securely fixed and covered to avoid any short circuiting or leaks. Their location is free, however it (they) must not be placed in the cockpit. The number of batteries laid down by the manufacturer must be retained.

5.8.4) **Generator and voltage regulator** : free, but neither the position nor the driving system of the generator may be modified. The position of the voltage regulator may be changed but may not be placed in the cockpit unless it was placed there originally.

5.8.5) **Lighting - Indicating**

All lighting and signalling devices must comply with the legal requirements of the country of the event or with the Convention on international road traffic.

Taking this comment into account the location of the indicators and parking lights may be modified, but the original orifices must be sealed. The make of the lighting devices is free.

Lighting devices which are part of the standard equipment must be those foreseen by the manufacturer and must comply where their functioning is concerned with what the manufacturer has foreseen for the model in question.

However, the operating system of the retractable headlights, as well as its energy source, may be modified.

Freedom is granted with regard to the frontal glass, the reflector and the bulbs. The mounting of additional headlights is authorised provided that a total of 8 is not exceeded (parking lights and side lights not included) and provided that the total is an even one.

They may, if necessary, be fitted into the front part of the coachwork or into the radiator grille, but such openings as needed in this case must be completely filled by the headlights. The replacement of a rectangular headlight by two circular ones, or vice-versa, fitted on a support corresponding to the dimensions of the aperture and sealing it completely is allowed. The fitting of a reverse-light is authorised, if necessary by embedding it into the coachwork, but provided it will only switch on when the reverse-gear is engaged and provided the police regulations are respected.

The Supplementary Regulations of an event may give waivers to the above mentioned prescriptions.

5.9) **FUEL TANKS**

5.9.1) The total capacity of the fuel tanks must not exceed the following limits.

Cars up to	700 cc			
Cars from	700 cc to 1,000 cc	"	:	70 l
" "	1,000 cc to 1,300 cc	"	:	80 l
" "	1,300 cc to 1,600 cc	"	:	90 l
" "	1,600 cc to 2,000 cc	"	:	100 l
" "	2,000 cc to 2,500 cc	"	:	110 l
Cars over	2,500 cc	"	:	120 l

5.9.2) The fuel tank may be replaced by a safety fuel tank homologated by the FIA (specification FT3) or by another tank homologated by the car manufacturer. In this case, the number of tanks is free and the tank may be placed inside the luggage compartment but provision should be made for a collector hole to collect any petrol which may have leaked in this compartment. The various homologated tanks and the FT3 tanks may also be combined (including the standard tank), insofar as a total of their capacities does not exceed the limits determined by Article 5.9.1.

The position of the original tank may only be modified in cars of which the tank had been placed by the manufacturer inside the cockpit and close to the occupants. In this case it shall be permissible either to install a protective device between the tank compartment, and, if need be, to modify its supplementary accessories (refuelling orifice, petrol pump, overflow pipe). In any case, the changes of the position of the tanks should not give rise to any lightening or reinforcements other than those provided for under Article 5.7.1 but the opening remaining after the removal of the original tank may be closed by the installation of a panel.

The position and the dimension of the filler hole as well as that of the cap may be changed as long as the new installation does not protrude beyond the bodywork and guarantees that no fuel shall leak into one of the interior compartments of the car.

5.9.3) The use of an increased-capacity fuel tank may be authorised by the ASN with the agreement of the FIA for events organised under special geographic conditions (crossing desert or tropical country for example).

Art. 256 - Specific regulations for Sports Cars (Gr. B)

1) DEFINITION

Sports Grand Touring Cars.

2) HOMOLOGATION

At least 200 identical units (minimum 2 seats) of these cars must have been built in 12 consecutive months.

3) FITTINGS AND MODIFICATIONS ALLOWED

All those allowed for Touring Cars (Gr. A) with the following modifications.

4) WEIGHT

Touring Cars (Gr. A) Cars are subjected to the following minimum weight scale in relation to their cubic capacity.

up to	1,000 cm ³ :	580 kg
	1,300 cm ³ :	675 kg
	1,600 cm ³ :	750 kg
	2,000 cm ³ :	820 kg
	2,500 cm ³ :	890 kg
	3,000 cm ³ :	960 kg
	4,000 cm ³ :	1,100 kg
	5,000 cm ³ :	1,235 kg
over	5,000 cm ³ :	1,300 kg

5) WHEELS AND TYRES

Same text as for Touring Cars (Gr. A), (Art. 5.4) except for the rim diameter (in rallies only) and the maximum widths.

The total of the widths of two rim-tyre assemblies on the same side of the car must be less than or equal to:

up to	1,000 cm ³ : 16"
	1,300 cm ³ : 17"
	1,600 cm ³ : 18"
	2,000 cm ³ : 20"
	3,000 cm ³ : 22"
	4,000 cm ³ : 24"
	5,000 cm ³ : 26"
over	5,000 cm ³ : 28"

In rallies: the rim diameter cannot exceed 16" (or 415 mm for metric dimensions).

Art. 257 - **Group C1 Sports-Prototype regulations**

1) DEFINITION

Two seater competition automobiles built specially for races on closed circuits.

2) SPECIFICATIONS

2.1) Engine

By engine is understood the whole made up by the block, cylinders and cylinderhead(s). All modifications are allowed.

The maximum amount of fuel which may be carried on board is 100 l.

The maximum total quantity of fuel allocated for the whole distance or for the whole duration of the event is limited to:

180 km	: 100 l
360 km	: 190 l
800 km-500 miles	: 425 l
1 000 km	: 510 l
9 hours	: 830 l
12 hours	: 1 105 l
24 hours	: 2 550 l

2.2) Weight

The minimum weight is 850 kg.

This is the real weight of the empty car (with no persons or baggage on board, the car being fully equipped). All the safety parts normally prescribed are included in this weight.