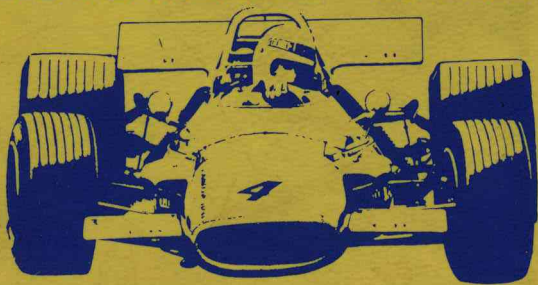




FEDERATION INTERNATIONALE DE L'AUTOMOBILE

FIA

**YEAR BOOK OF
AUTOMOBILE SPORT**



**ANNUAIRE DU
SPORT AUTOMOBILE**

1970

ANNEXE "J" AU CODE SPORTIF INTERNATIONAL

**CLASSIFICATION, DÉFINITION ET
SPÉCIFICATIONS DES VOITURES**



APPENDIX "J" TO THE INTERNATIONAL SPORTING CODE

**CLASSIFICATION, DEFINITION AND
SPECIFICATIONS OF CARS**

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APPENDIX J

TO THE INTERNATIONAL SPORTING CODE

1970

Classification, Definition and Specifications of cars

Specifications in italics are interpretations or explanations given by the CSI since the introduction of the present Appendix "J" in 1966

TITLE I

CLASSIFICATION OF CARS

Art. 251.—Categories and groups: cars competing in events shall be distributed into the following categories and groups:

Category A: recognized production cars (numbers between brackets are those of the required minimum production in 12 consecutive months).

- Group 1 : series-production touring cars (5,000).
- Group 2 : special touring cars (1,000).
- Group 3 : series-production grand touring cars (1,000).
- Group 4 : special grand touring cars (500).
- Group 5 : sports cars (25).

Category B: experimental competition cars.

- Group 6 : prototype-sports cars.

Category C: racing cars.

- Group 7 : two-seater racing cars.
- Group 8 : formula racing cars.
- Group 9 : formula libre racing cars.

TITLE II

DEFINITIONS AND GENERAL PRESCRIPTIONS

Art. 252.—Definitions a) Recognized production cars: cars of which the series-production of a certain number of identical (see definition of this word hereafter) cars, has been completed within a certain period of time, and which are meant for the normal sale (see below) to the individual purchaser. This period of time is of 12 consecutive months. The checking of the existing minimum production enables the ACN to apply to the FIA for recognition (see this word below).

b) Experimental competition cars: cars which have nothing or which have no more to do with a series-production vehicle, either that only one of the type has been built, or that the number of units which has been built is inferior to what is required for the group for which the minimum number of units annually produced is the smallest, or that although they originate from a series-production car, they have been modified or equipped with new accessories to the point that their series-production nature has been lost.

c) Racing cars: cars manufactured solely for speed races on a circuit or a closed course. These cars are generally defined by the international racing formulae the specifications of which are fixed by the FIA for a certain period of

time. Racing cars not being defined by any international formula are said to be "formule libre" and their specifications must in that case be set out in the supplementary regulations of the event.

d) Identical: by "identical" cars are meant cars belonging to one and the same fabrication series and which have the same coachwork (outside and inside), same mechanical components and same chassis (even though this chassis may be amalgamated with the coachwork in case of a unitary construction).

"Mechanical components" include all parts for the propulsion, suspension, steering and braking system and all accessories whether moving or not which are necessary for their normal functioning (such as for instance, electric accessories).

By chassis is meant the structure of the car which holds mechanical components and coachwork together, and includes any structural part which is located below the horizontal plane passing through the centre of the wheel hubs.

e) Minimum production: this minimum production, different for each group of cars, applies to cars which are identical, the manufacturing of which has been fully completed within a period of 12 consecutive months.

f) Normal sale: means the distribution of cars to individual purchasers through the normal commercial channels of the manufacturer.

g) Recognition: is the official certification made by the FIA that a minimum number of cars of a specific model has been made on series-production terms to justify classification in group 1, 2, 3, 4, or 5 of these regulations. Application for recognition shall be submitted to the FIA by the ACN of the country in which the vehicle is manufactured and shall entail the drawing up of a recognition form (see below). It must be established in accordance with the special regulations, called "Regulations for Recognition", laid down by the FIA, and a manufacturer wishing to obtain the recognition of his model(s) must undertake to abide by their prescriptions. Recognition will only be granted to car-models which were still in production on 1st January 1968 or the production of which was started after that date. Recognition of a series-produced car will become void 4 years after the date on which the series-production of the said model has been stopped.

Recognition of a model may only be valid for one group. The transferring of a previously recognized model from one group to another will therefore nullify the effect of the said previous recognition.

h) Recognition forms: all cars recognized by the FIA shall be the subject of a descriptive form called recognition form on which shall be entered all data enabling identification of the said model.

To this effect only the standard recognition forms and standard additional form for "normal evolution of the type" and "variant" approved by the FIA shall be used by all ACNs.

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

In case of any doubt remaining after the checking of a model of car against its recognition form, the scrutineers would have to 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.

It will rest with the competitor to obtain the recognition form and, if need be, the additional forms concerning his car, from the ACN of the manufacturing country of the vehicle.

Whenever the scrutinizing of a car shows the complete compliance of it with its recognition form, inasmuch as is required for the group in which it is admitted, there is no need to worry about its year of fabrication

Therefore, the chassis and engine numbers which may be mentioned on the recognition form are not to be taken into consideration.

i) Cylinder-capacity classes: the cars shall be distributed into the following 13 classes, according to their cylinder-capacity

1.	Cylinder-capacity inferior or equal to	500 cc					
2.	Cylinder-capacity exceeding	500 cc	and inferior or equal to	600 cc			
3.	"	"	"	600 cc	"	"	700 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	"	"	5,000 cc
13.	"	"	"	5,000 cc			

Regulations intended for specific events may provide one or several sub-divisions of class 13. There shall be no sub-division of the other classes.

The above mentioned classification will apply only to non-supercharged engines.

Unless otherwise specified in special provisions set up by the FIA for a certain category of events, the organizers 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.

j) Formulae of equivalence between reciprocating piston engines and special engines.

Rotary piston engines: cars with rotary piston engines covered by the NSU-Wankel patents will be admitted on the basis of a piston displacement equivalence. This equivalence is twice the volume determined by the difference between the maximum and minimum capacity of the working-chamber.

Turbine engines: cars propelled by a turbine engine will be admitted on the basis of a formula of equivalence with regard to alternating piston engines. This formula is the following:

$$A = \frac{C \times 0.09625}{(3.10 \times R) - 7.63}$$

A = 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 between the fixed blades of the high pressure turbine first stage. 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 "A".

The area of the high pressure nozzle is thus the product—expressed in square centimetres—of height by width and by the number of vane spaces.

C = Cylinder-capacity of reciprocating piston engine expressed in cubic centimetres.

R = The pressure ratio i.e. the ratio of the compressor of the turbine engine. This pressure ratio is obtained by multiplying together a 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 stages will be designated to have a pressure ratio of:

$$4.25 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \times 1.15 \text{ or } 4.25 \times 1.15^6.$$

The CSI reserve their right to modify the basis of comparison established between conventional type engines and new type engines, while giving a previous notice of one year to start from January 1st, following the date on which the decision was made.

k) Supercharging: if the engine of a car includes a separate device used for supercharging it, 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 new cylinder-capacity of the car shall always be considered as the real one. This shall particularly be the case for assigning the car to its cylinder-capacity class, and the car will be treated in all respects as if its cylinder-capacity thus increased was its real capacity. Especially in regard to its classification per cylinder-capacity class, its inside dimensions, its minimum number of seats, etc.

A dynamic air inlet for ducting the air from the atmosphere into the engine intake will not be considered as a supercharging device.

l) Coachwork: by coachwork is meant:

— externally: all parts of the car licked by the air-stream and situated above a plane passing through the centre of the wheel hubs.

— internally: all visible parts of the passenger compartment.

Coachworks are differentiated as follows:

1) completely closed coachworks,

2) completely open coachworks,

3) convertible coachworks: with a hood in either supple (drop-head) or rigid (hard-top) material.

Coachworks of one same minimum series shall be identical with the only exception of a "sun roof".

However, if a model has its coachwork equipped with a specific number of doors and has been recognized on the basis of a given minimum series, similar recognition may be granted to another coachwork with a different number of doors when its minimum production reaches 50% of the figure necessary for recognition of the basic series, providing that both models have the following common characteristics:

1) a coachwork of similar shape, i.e. of which the general appearance is basically the same and which has not been modified beyond what is necessary to change from a four door version to a two door version (or vice-versa);

2) exactly identical mechanical parts;

3) the same wheelbase, track and number of seats;

4) at least the same weight;

5) an FIA decision to recognize this variant coachwork and to draw up an additional "variant" recognition form.

As far as convertible cars are concerned, these must comply in all respects with the specifications applying to closed cars if they run an event under this form, or with the specifications concerning open cars if they run with the hood down or the hardtop removed.

m) Use of aerodynamic devices on cars of groups 4, 6, 7 and international racing formulae: in interpreting Art 252(l), shall definitely be considered as coachwork all external parts of the car which extend above the highest point of either the front or rear wheels (with tyres) with the exception of units definitely

associated with the functioning of the engine or transmission and the anti-roll bar.

Any specific part of the car which has an aerodynamic influence on the stability of the vehicle must be mounted on the entirely sprung part of the car and shall be firmly fixed whilst the car is in motion.

Neither the safety roll bar, nor any of the units associated with the functioning of the engine or transmission shall have an aerodynamic effect by creating a vertical thrust.

All external projections swinging in a horizontal plane shall have a minimum radius of 1.5 cm. The leading edge of any aerofoil fixed to the front of the car shall not be sharp.

n) Minimum weight: is the real minimum weight of the empty car (without persons or luggage aboard) fully equipped and ready for delivery to the purchaser. It shall consequently include a spare-wheel equipped with a tyre similar to those mounted on at least 2 of the 4 wheels, and none of the accessories normally mounted on the least expensive model of the series concerned being removed, except for the normally supplied repair kit (jack, tool-kit). All liquid tanks (of lubrication, cooling system, braking, heating system, if need be), except for the fuel tank, must be full.

The minimum weight of the car mentioned on the recognition form shall be strictly respected. Any lightening of the car by removal or replacement of parts, aiming at reducing its weight, is prohibited.

Art. 253.—Prescriptions common to all cars of categories A and B.

a) Chassis, ground-clearance, steering lock: the car, supplied with enough fuel for starting the event, its oil and water tanks full, must be able to drive over—under the power of its engine and with its driver at the steering-wheel—a mass of 80×80 cm and 10 cm high.

The maximum steering radius shall be 6.75 m which means that the car must be able to make a complete turn in both directions without the wheels going beyond two parallel lines drawn on the ground 13.50 m apart.

b) Coachwork: minimum inside dimensions and minimum number of seats: cars shall be equipped with a minimum of two seats or a minimum of four seats according to the group in which they seek recognition and, within a same group, according to their engine cylinder-capacity.

For each group specified in these regulations, the minimum number of seats is listed hereafter and the minimum inside dimensions for both cases are indicated in the following paragraphs.

1st case (see diagram 1): car equipped with 4 or (more) seats.

The height at the front (B) is measured between the lowest point of the front seat cushion compressed by a standard mass of 60 kgs (see diagram 2) and the ceiling (the padding if any, may be compressed). Should the backrest of the front seat(s) be inclined backwards, the protected height must also be measured at the same angle as the inclination of the backrest.

— If the front seats are separate, the measurement is made in the middle of the two seats. In case of adjustable front seats, the seats will be placed in medium position.

— If there is a common front seat, the measurement is made at 25 cm from the centre line of the car.

The height at the back (D) is measured between the cushion of the rear seat, compressed by the standard mass, and the ceiling (the padding, if any, may be compressed) at 25 cm from the centre line of the car. Should the backrest of the rear seat be inclined backwards, the protected height must also be measured at the same angle as the inclination of the backrest.

The width over the front seats (C) is measured along the vertical plane passing through the centre of the standard mass, 30 cm above the compressed seat, and between the upper strip of each front door.

The width over the back seats (E) is measured along the vertical plane passing through the centre of the standard mass, 30 cm above the compressed seat and between the upper strip of each back door, or at the same height as for the front seats when there are no rear doors.

The minimum dimensions (in centimetres) are the following:

Cylinder-capacity	B	C	D	E
Up to 700 cc	85	100		
From 700 to 2,000 cc	85	110	85	110
Over 2,000 cc	90	120	85	120

Moreover, in order to be considered as a four-seater, a model must fulfill certain conditions regarding its rear-seating capacity. These conditions are the following (see diagram 3):

- 1.— l must be at least 90% of L;
m must be at least 85% of M;
n must be at least 80% of N;
p must be at least 80% of k+m.

- 2.— k must measure at least 15 cm and the minimum measures for the foot-space of the rear passengers must be: 32 cm long, 5 cm high and (for each one of the two passengers) 25 cm wide.

- 3.— the space available for the rear passengers must meet the following condition: $k+l+m=95$ cm minimum.

- 4.— cars in which the back of the rear seat(s) is inclined forward beyond the vertical cannot be considered as four-seaters.

The measuring of the above dimensions must be carried out under the following conditions:

— the front seat, if adjustable, must be placed in its normal driving position, i.e.: $K+L+M$ must measure at least 120 cm.

— if the front seats have reclining backrests, these should be set at an inclination of 15° backwards.

— K is measured horizontally from the brake pedal (at rest) to the foremost point of the front seat; k is measured horizontally at a height equal to l) from the back of the front seat to the foremost point of the rear seat.

L and l are measured vertically from the highest point of the cushion of the seat to the floor of the car. At the front L must be measured at the usual resting-place of the driver's heels.

M and m are measured horizontally from the foremost point of the seat to the backrest to be measured at a height of L (l).

Two specific cases must be distinguished:

- 1) bucket-seats: the measuring must be taken on the centre line of each seat.
- 2) common seat: measuring must be carried out at 25 cm from the longitudinal axis of the vehicle.

However, for the rear seat(s) measuring must be made in the same vertical plane as for the front seats.

N (and n) are measured vertically from the highest point of the backrest to the highest point of the cushion of the seat.

p is measured (in the same vertical plane as m) horizontally from the rearmost point of the backrest of the front seat to the backrest of the rear seat.

For the above-mentioned measurements, seats must not be occupied.

2nd case (see diagrams 4 and 5): cars with a minimum of 2 seats.

The two seats must be distributed equally on either side of the longitudinal centreline of the car and at the same level, regardless of their normal play for adjusting them to the size of the driver. The location provided for placing or housing the seats must have a minimum width of 40 cm maintained all along the depth of the seat.

The "protected height" shall be at least 80 cm measured from the cushion of the seat compressed by the standard mass (see diagram 2) to the ceiling (any existing padding being compressed) in cars with closed coachwork and 80 cm from the surface of the seat compressed by the standard mass (see diagram 2) to the upper edge of the windscreen (measured vertically through the centre of the standard mass) in case of open cars.

The minimum interior width over the front seats (see measurement C) shall be of 100 cm in cars with a cylinder-capacity inferior or equal to 700 cc, 110 cm in cars with a cylinder-capacity from 700 cc to 2,000 cc and 120 cm in cars with a cylinder-capacity exceeding 2,000 cc. The minimum width of foot-space (for each person) must be at least 25 cm measured perpendicularly to the centreline of the car, plumb with the pedals.

The passenger's compartment and seat shall remain free throughout the competition and shall not be encroached upon by any element or equipment of the car except when Appendix J specifically provides otherwise. The passenger's compartment and seat of open cars shall not be covered by means of a tonneau cover of any type.

c) Windshield—Windshield wiper: a windshield made of safety glass is compulsory. In all production cars it shall be made of the material originally provided by the manufacturer. It shall be equipped with at least one automatic wiper sweeping a sufficient area to enable the driver to distinctly see the road from his seat.

The windshield shall comply with the following requirements:

- 1) be placed symmetrically with regard to the centreline of the car,
- 2) have a minimum height of 25 cm, maintained between two points symmetrically placed with regard to the centreline of the car and of which one is determined by the vertical line passing through the centre of the steering-wheel. There must furthermore be at least 45 cm between the two said points,
- 3) have a minimum width of 90 cm; chord measured at half its vertical height.

Shall be considered as being the windshield, only the glass area through which one has an entirely free vision towards the front, without being limited by any outside opaque projection apart from the bulge of the mudguards which cover the front wheels.

d) Mudguards: shall be of permanent nature and firmly fixed.

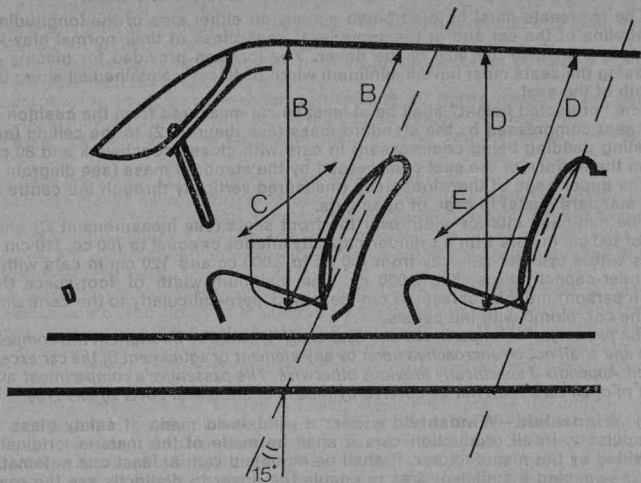
They shall project over the wheels and provide efficient covering of at least one third of their circumference, and at least the width of the tyre.

In those cars where mudguards are entirely or partly overhung by the body structure, the combination mudguards-body or the body alone shall nevertheless meet the above protection requirements.

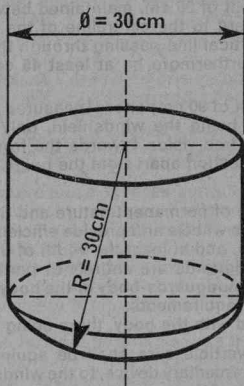
Mudguards must be solid with the body, there being no gap between them.

e) Hood: open or convertible cars shall be equipped with a hood fitting exactly, and without any intermediary device, to the windshield the door windows or side panels, and the rear of the coachwork.

The hood may not interfere with the opening of the doors. It shall include a rear window, the minimum dimensions of which are specified in the present article (see below "rear view").

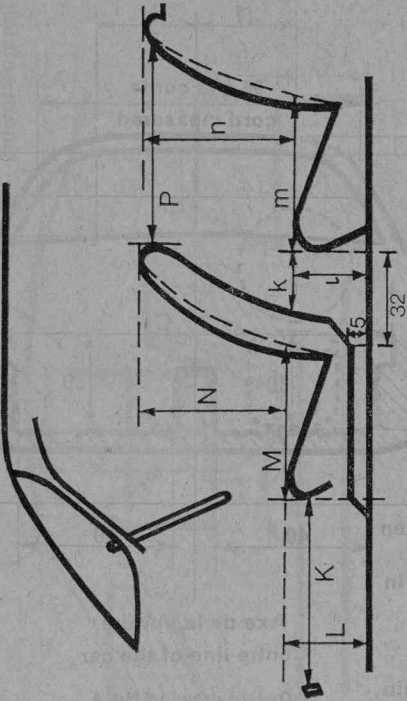


Dessin/drawing No. 1



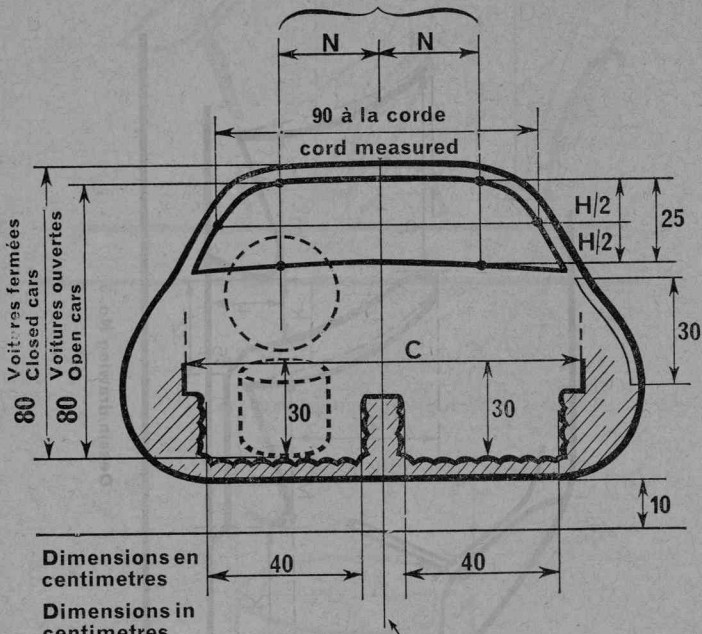
Weight/tare = 60 kgs ± 200 grms.

Dessin/drawing No. 2



Dessin/drawing No. 3

Largeur sur laquelle la "hauteur protégée" doit être maintenue
Width where the "protected height" must be maintained



Axe de la voiture

Centre line of the car

$N = N$

$N + N = 45 \text{ cm min}$

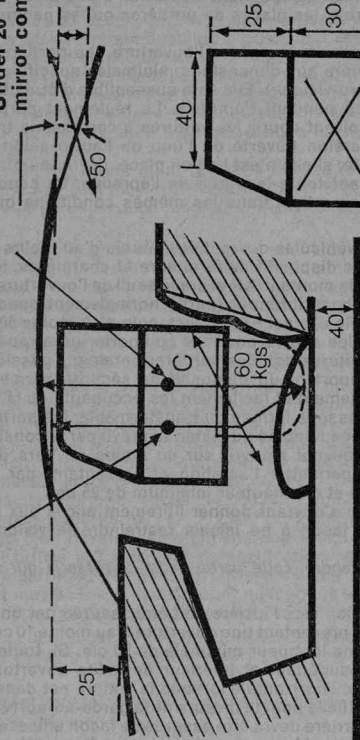
Dessin/drawing No. 4

	0-700 cc	700- 2,000 cc	2,000+ cc
C	100	110	120

En dessous de 20° retro-
viseur extérieur
obligatoire
Under 20° rear view
mirror compulsory

80 Voitures ouvertes
80 Open cars

80 Voitures fermées
80 Closed cars



Dimensions en
centimètres
Dimensions in
centimètres

Dimensions portière
Door dimensions

Dessin/drawing No. 5

It must be capable of being used during all or part of the event. The supplementary regulations may specify in which state convertible body cars must run (as closed cars or open cars, otherwise it shall be at the discretion of the entrant) but the hood if not fitted on the car must always remain aboard the car during the whole of the event. The hood may be replaced by a hard top subject to the same conditions as for a hood.

f) Doors: all vehicles shall be fitted with at least one rigid door on each side, with closing devices and hinges which may not be located on the rear-door post, nor on the door-sill. The dimensions of the lower door panel (the part which is normally opaque) must be such as to allow a rectangle of at least 50 cm wide and 30 cm high being inserted in it. The corners of this rectangle may be rounded to a maximum radius of 15 cm. Cars with sliding-doors will not be allowed unless they include a safety system enabling a quick and easy evacuation of the car's occupants in case of an accident.

Cars with closed or convertible coachwork shall have doors equipped with moveable windows of the material provided by the manufacturer for the considered model, liable to be opened over at least one third of their surface in order to provide for ventilation, each window having a minimum width of 40 cm and a minimum height of 25 cm.

When opened, the doors must give free access to the seats. They must be made in such a way that they never restrict the lateral view of the driver.

By door should be understood the part of the coachwork opening to give access to the seats.

g) Rear view: this shall be provided by an inside mirror commanding a rear window measuring at least 10 cm vertically 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, when the car complies with the same specifications as those required for checking the ground-clearance (see art. 253), the rear view must be efficiently obtained by other means (two outside mirrors or any other system of equivalent efficiency).

h) Luggage trunk: a covered space shall be provided which is an integral part of the coachwork but outside the space occupied by the passenger seats.

This space shall be such as to enable to carry without special difficulty a number of suit-cases, sheltered from rain or dirt which varies according to the cylinder-capacity of the engine equipping the car (see below), of the following minimum dimensions: 60 cm × 40 cm × 20 cm.

Cylinder-capacity inferior or equal to 2,000 cc: 1 suit-case,

Cylinder-capacity superior to 2,000 cc: 2 suit-cases.

However, in cars having inside dimensions which are inferior to the minima laid down in article 253 b to allow classification as a four-seater, but which contain a compartment behind the front seats liable to receive passengers, this compartment may be taken into account as luggage space whether or not it has been equipped for this purpose but without modifying any of the original parts.

i) Starting: cars must be equipped with a device and its source of power for automatically starting the engine and able to be actuated by the driver sitting at the wheel.

j) Fuel tanks: the total capacity of the fuel tanks (main and additional) must not exceed the following limits:

Cars up to 700 cc of engine cylinder-capacity : 60 l.

Cars from 700 cc to 1,000 cc cylinder-capacity: 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.

Cars from 2,000 cc to 2,500 cc cylinder-capacity: 110 l.

Cars over 2,500 cc " " : 120 l.

Will be considered as a fuel tank any container holding fuel which can flow out by any method either to the main-tank or directly to the engine.

The filling-port(s) (and vents) of each tank must always be outside the passenger-compartment and be entirely leak-proof.

Safety type fuel tanks

The FIA has followed with great interest the introduction on the car accessory market of safety type fuel tanks, generally in the form of a tank in normal sheet steel with a layer of rubber inside (so called "bladder" type tanks) but sometimes also entirely made of synthetic material.

In order to promote the use of these tanks which are a considerable improvement in the drivers' safety, and to avoid any kind of administrative complications (conformity of the cars with their recognition forms, etc.), the use of safety type fuel tanks will be allowed and even recommended for all groups of cars of Appendix J and in all motor sport events.

Nevertheless, for cars of groups 1, 2 and 3 of Appendix J, the fitting of safety tanks will be allowed only if the manufacturer of the car has recognized them as such and provided they do not exceed the capacity of the original tanks as stated on the recognition form.

Location of fuel tanks: *The emplacement foreseen by the manufacturer for the fuel tank(s) and the feeding system towards the engine, constitutes one of the principles of series-production, and this implies that no change can be made, unless an authorization is explicitly stated in Appendix J.*

However, a derogation to the above rule shall be made for cars in which the manufacturer has placed the fuel tank inside the passenger compartment, and close to the occupants.

In this specific case, and for the sake of safety, it will be possible, whatever the group of cars, to mount a leak-proof protective barrier between the tank and the passengers, or to change the place of the tank and, if necessary, its accessory parts (filling port, petrol pump, outlet tube).

k) Spare-wheels: all cars shall be equipped with at least one spare wheel with its tyre occupying the position provided for by the manufacturer which may not encroach upon the space provided for luggage.

The spare wheel must be equipped with a tyre of the same dimensions as those fitted on at least two wheels of the car.

l) Silencer (muffler) and exhaust system: even when the specific provisions for a group allow replacement of the original muffler, cars competing in an open road event shall always be equipped with an exhaust muffler complying with the road regulations of the country(ies) through which the event is run.

For events run exclusively on closed circuits, the supplementary regulations may authorize modification, replacement or removal of the exhaust muffler.

The outlet pipes of the muffler shall be directed either rearwards or sideways. If the outlet pipes are pointing rearwards, their orifices shall be placed at a height neither superior to 45 cm nor below 10 cm; they shall not protrude by more than 15 cm beyond the overall length of the car. If the exhaust pipes are directed sideways, their orifices must be located aft of a vertical line passing through the wheelbase centre and may not project in any way beyond side of the coachwork. Adequate protection shall be provided in order to prevent heated pipes from causing burns.

m) Safety devices: for all cars competing in events entered on the FIA International Sporting Calendar:

— a supplementary locking device for engine bonnet, boot lid, and any other

important objects carried on board of the vehicle, such as spare wheel, tool set, etc;

- a supplementary protection of all fuel pipes and brake lines;
- anchor fittings for safety harness;
- a windscreen of safety glass of the laminated type;
- during the event, the car shall carry a dry chemical fire-extinguisher of at least 1 kg capacity. It may be located in the space provided for the passenger.

Moreover, for cars competing in events which are speed races exclusively the following safety devices are foreseen:

- 1st) for cars with an open coachwork: compulsory fitting of a roll bar being 3 cm higher than the driver's helmet and being wider than the driver's shoulders when seated at his wheel;
- 2nd) for cars with a closed coachwork: optional fitting in of a roll cage improving the rigidity of the body and meant to prevent it from crushing in the event of a violent shock or a somersault. This roll-cage must be mounted in such a way that:
 - it shall in no way interfere with access to the seats and normally occupying them;
 - it shall not encroach on the volume reserved for the driver or any of the passengers;
 - the exact weight of the device shall be subject to a statement from the competitor, to be appended to the entry form. This weight must be added to that indicated for the vehicle on the recognition form.

The fitting of the above mentioned safety devices, which is mandatory for speed events (open cars), is authorized and even recommended for regularity trials.

n) General circuit breaker: all cars participating in speed races on closed circuits or in hill-climbs must be equipped with a general electric circuit breaker, which must be clearly marked. Closed cars must be fitted with two circuit breakers, one in the driver's compartment and one outside the vehicle in an easily detectable location. The fitting of such circuit breakers which is compulsory for speed events on circuits and hill-climbs is authorized and even recommended for rallies.

o) Oil catch tank: when cars are running in events which are entered on the FIA Sporting Calendar and when their lubrication system includes an open type sump breather, they must be equipped in such a way as to prevent oil from spilling on the track. In cars of a cylinder-capacity inferior or equal to 2,000 cc, the oil catching device shall have a minimum capacity of 2 litres and of 3 litres for cars with a cylinder-capacity exceeding 2,000 cc.

p) Minimum lighting equipment:

- for all types of races, cars must be equipped with two "Stop" lights. In addition for events run during the night, cars must be fitted with at least two headlights as effective as those normally fitted on FIA homologated Touring or Grand Touring cars and two direction indicators mounted at the rear.
- for events run on open roads (rallies), cars must comply with the legal requirements of the country of the event; cars from other countries must comply in this respect with the Convention on international road traffic.

q) Limits of authorized modifications: certain modifications to the original parts, certain additions and/or removal of accessories normally mounted by the manufacturer of the model concerned, are explicitly authorized by the present regulations. The limits of these modifications are set out for each of the 6 groups of categories A and B. All those not explicitly mentioned as permissible for the group in which the car claims classification and which affect, even secondarily,

the mechanical efficiency of the engine, the steering, the transmission, the road-holding and/or the braking, will imply the exclusion of the car from its group.

If these modifications or additions have been the subject of a previous statement by the entrant, the car may be allowed to compete in the event in one of the other groups provided in the supplementary regulations and with the prescriptions of which it complies. Should there be however an obvious case of wilful misrepresentation, the entrant should not be authorized to start or should be stopped if he had already started, with request to the ACN concerned to pronounce his suspension for at least 12 months.

r) Fuel: for speed races on circuit and hillclimbs: the fuel defined under Art. 297 hereafter.

For rallies: a commercial fuel freely sold in the country(ies) traversed by the event. If in one of the countries the standards of the best commercial fuel are inferior to the fuel having the lowest octane number in one of the three following countries: France, Great Britain, Italy, a special waiver may be granted to the promoters with the approval of the CSI.

Upper-cylinder or two-stroke engine lubricants are authorized on condition there is no increase of the fuel octane number.

s) Application of general prescriptions: the general prescriptions must be complied with if the particular specifications of groups of cars of categories A and B do not mention them or do not provide for any stricter prescription.

Art. 254.—Rule for changing from one group to another and authorized amalgamation of groups: cars originally belonging to a certain group but which have been subject to duly declared modifications and/or additions that exceed the limits specified for the group concerned, may pass into a higher group, provided for in the supplementary regulations, with the prescription of which it complies and under the following conditions:

- | | |
|--------------------|----------------------|
| Group 1 | passes into group 2. |
| Group 3 | passes into group 4. |
| Group 4 (or 3+4) | passes into group 5. |
| Group 5 (or 3+4+5) | passes into group 6. |

TITLE III

SERIES PRODUCTION TOURING CARS

Art. 255.—Definition: touring cars built on large series production terms. These cars shall compete in an event without having undergone any preparation likely to improve their performances or their conditions of use. The only working authorized is normal maintenance or the replacement parts damaged through wear or accident and the modifications and additions explicitly authorized hereafter under article 257. Except for what is explicitly authorized any part damaged through wear or accident may only be replaced by an original part which must be exactly the same as the one for which it is substituted.

Art. 256.—Minimum production and number of seats: series-production touring cars shall have been manufactured in a quantity of at least 5,000 identical units and offer at least 4 seats, except if their engine cylinder-capacity is inferior or equal to 700 cc. In which case the manufacturer may deliver them as two-seaters.

Art. 257.—Mountings and modifications authorized:

a) Lighting devices: all lighting and signalling devices must comply with

the legal requirements of the country of the event; cars from abroad must comply in this respect with the Convention on international road traffic.

Lighting devices which are part of the standard equipment must remain those foreseen by the manufacturer and must comply as far as is concerned their functioning with what the manufacturer has foreseen for the considered model. Thus, if changing from a road beam to a passing beam is produced by merely deflecting the beam inside one same reflector, this system may not be altered.

Freedom is granted with regard to the frontal glass, the reflector and the bulbs.

The mounting of additional headlights is authorized provided that a total of 6 headlights is not exceeded (parking lights not included). Extra headlights 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 additional headlights. Shall be considered as a headlight any lighting-device throwing a beam towards the front (dipped-beam, long range lamp, anti-fog lamp).

The fitting of reverse-lights is authorized, if necessary by embedding into the coachwork, but provided it will only switch on when engaging the reverse-gear, and provided the police regulations are respected.

The mounting of manoeuvrable search-lights on the roof or elsewhere is forbidden.

Waivers may be granted to these specifications on condition that they be explicitly provided for in the supplementary regulations of the event.

To comply with legal requirements of certain countries, it is permissible to rearrange the casing of front signalling devices in order to house both traffic indicators and parking lights.

b) Fuel and oil tanks: must be those normally provided by the manufacturer for the model concerned, the capacities of which are specified on the recognition form. If, for the same model, tanks of different capacities are normally provided, only those mounted on the required number of cars necessary for recognition will be authorized.

The location and type of filling port for the fuel tank(s) may not be changed.

The use of a fuel tank with a larger capacity may be authorized by the ACN with the FIA's agreement, in the case of events organized under particular climatic conditions (on desert or tropical courses for instance).

c) Cooling circuit: if, for the same model, radiators of different capacities are normally provided, only those mounted on the required number of cars necessary for the recognition will be authorized. The addition of a radiator screen is authorized.

The use of a radiator with a larger capacity may be authorized by the ACN with the FIA's agreement, in the case of events organized under particular climatic conditions.

Make and type of thermostat are free, but it may not be removed nor its position changed.

The radiator screen may be a rigid plate fixed behind the grille.

d) Induction: the carburettor(s) or fuel injector pump(s) normally mounted on the recognized model and described on the recognition form may not be changed or removed.

The elements which control the quantity of fuel fed in the engine may be changed, but not those which control the quantity of air.

e) Electrical equipment: the tension (voltage) of the electrical equipment may not be changed.

The make and capacity (amperage) of **battery** and **generator** are free. The manufacturer may provide for one same minimum series the use either of a

dynamo or of an alternator on condition that this is explicitly mentioned on the basic recognition form or on an additional "variant" form.

The original battery may be replaced—by the manufacturer or the entrant himself—by another one of larger capacity provided however that the location remains unchanged. By location of the battery is meant the coachwork compartment in which the battery is originally mounted.

Ignition coil, condenser, distributor and regulator are free; subject to the ignition system remaining the same as that provided by the manufacturer for the model concerned, and the replacement of the said accessories do not entail any modification of the attachment system provided by the manufacturer for the model concerned.

Spark plugs: make and type free.

In case of an electric circuit under a 12 volt tension, this may be produced either by a 12 volt battery or by two 6 volt batteries connected in series on condition the batteries remain in their original location and that there is no reduction of weight as compared with the original system provided by the manufacturer.

f) Transmission: for one same series of 5,000 cars the following possibilities are given on the express condition that they are those of the series-production and that they are normally sold to the purchaser and entered on the recognition form.

Gear-box:

- either two gear-boxes with the same number of ratios but different in their staging,
- or two gear-boxes with a different number of ratios and different in staging provided that 50% of the required minimum number of cars have been equipped with either one of the gear-boxes.

The fitting of an overdrive system in addition to the existing gear-box is authorized.

Final drive: two different ratios.

Should the manufacturer have provided a greater number of gear-box ratios and/or rear axle ratios, he must, to obtain recognition, prove that he has achieved the required minimum production of the car as many times as he has submitted two different gear-boxes and two different rear-axle ratios. An automatically controlled gear-box is not taken into consideration. The use of it and of its particular rear-axle ratio will always be authorized in addition to the set of two manually controlled gear-boxes.

The gear-box lever must be located as provided by the manufacturer and mentioned on the recognition form. Form and length are free.

The use of an automatic gear-box is authorized but on condition this gear-box is foreseen by the manufacturer and mentioned on the recognition form. No minimum production is required.

g) Shock absorbers: the make and type are free. However, no addition is allowed, and neither their original purpose nor their number, nor their system of operation may be modified. By system of operation is meant: hydraulic, friction, telescopic, or lever type. The original supports may not be changed in any way.

h) Wheels and tyres: wheels must be those provided by the manufacturer for the considered model. They are defined by their diameter, the width of their rim and the track they determine. Wheels which differ by their shape or dimensions may be recognized subject to the following conditions:

- that there are enough cars equipped with such wheels to justify recognition.
- that they are mounted in compliance with the specifications of paragraph "mudguards" of Art. 253.

In any case, the four wheels of a car must always belong to one and the same recognized set of wheels.

Tyres are free (make and type) on condition they are tyres provided by their manufacturer to be fitted on the wheels without any intermediary device. All special or additional non-skid devices for snow or ice may also be fitted.

i) Brakes: must be those provided by the manufacturer. The replacement of worn linings is authorized and their system of attachment is free, provided the dimensions of inner friction surfaces remain unchanged. Servo-assistance is only permitted when duly recognized as fitted on a number of identical cars equal at least to that required for recognition.

It is permissible to fit a dual braking system on condition that it be of the same make as that of the hydraulic master cylinder or provided by the manufacturer of the vehicle.

The material of the brake linings is free provided the dimensions of friction surface of the new linings are the same as the original ones.

The same applies to the clutch linings.

j) Supplementary accessories not included in the recognition: are authorized without restriction provided they have no influence whatsoever on the behaviour of the car, such as those concerning the aesthetics or the inside comfort (lighting, heating, radio, etc.) or those enabling an easier or safer driving of the car (speed-pilot, windscreen washer, etc.) provided they do not affect, even indirectly the mechanical performance of the engine, the steering, the transmission, the road holding and the braking.

All controls and their functions must remain those provided by the manufacturer, but it is permissible to arrange them in such a way as to make them accessible and easier to use, i.e. lengthening of the handbrake-lever, fitting of additional pads to the brake-pedal, etc. The position of the steering-wheel may be indifferently on the left or on the right, provided this only results in a simple transposition of the steering-system linkages as provided and supplied by the manufacturer and without any other mechanical alteration (manifolds, etc.).

The following is authorized:

- 1) The windshield may be replaced by a windshield of same material but with a heater-defroster device incorporated.*
- 2) The original heater may be replaced by another one provided by the manufacturer and mentioned in his catalogue as available on request.*
- 3) An electric water thermometer may be replaced by one of capillary type and a standard manometer by another one of high precision type.*
- 4) The hooter may be changed or an extra one may be added, at the disposal of the passenger if wished.*
- 5) The mechanism of the handbrake lever may be adapted for obtaining an instantaneous unbolting (fly-off handbrake). All electric switches may be freely changed, inasmuch as is concerned their purpose, their location and—in case of the adding of extra accessories—their number.*
- 6) Extra relays and fuses may be added to the electric circuit, battery wires may be lengthened, pipes of the braking circuit may be protected by an armoured casing (metallic or other). The original accelerator cable may be replaced by another one, whether supplied or not by the manufacturer.*
- 7) The original speedometer may be replaced by another one provided it fits exactly in the housing of the original one.*
- 8) Seat brackets may be altered and any kind of seat-covers may be added, even those which constitute a bucket-seat.*
- 9) Jacking points may be strengthened, their location may be changed or extra ones may be added.*

- 10) *Head-light covers may be fitted provided they do not influence the streamlining of the car.*
- 11) *Complete freedom is left with regard to the location and appearance of registration number plates, in consideration of the great differences between legal requirements from one country to another.*
- 12) *Safety fasteners (such as straps) may be fixed to the lids of the engine compartment and the luggage boot. The latter may be adapted for better accommodation of the equipment carried (straps for fixing a tool-box, protection of a supplementary fuel-tank, of an additional spare-wheel etc). The attachment system of the standard spare-wheel may be altered provided its original location is not changed.*
- 13) *Extra compartments may be added to the glove-box and extra lateral pockets to the doors.*
- 14) *Plates of insulating material may be added in all places where they may be necessary to protect those carried aboard the car from a risk of fire.*
- 15) *An oil-catch or a water-tank may be fitted.*
- 16) *The radiator filler cap may be locked by any means.*

k) Coachwork: none of the normal elements of the coachwork (dashboard, all inside quiltings whatever their location), and none of the accessories normally mounted by the manufacturer on the lowest priced model may be removed or replaced.

However, the modifications deriving from the fitting of the supplementary accessories authorized in the preceding paragraph, such as those necessitated by the addition of a windscreen washer (drilling of a hole into the bonnet) or of a rev. counter (housing in the dashboard), will be allowed.

The same minimum series may comprehend various materials for seats, upholstery and inside quilting (cloth, leather, plastics, etc.) and two different types of front seats (bench type or separate seats). These variants must be stated on the recognition form and in particular the different weights resulting from the mounting of different seats must be specified.

Transparent parts must, in case of damages, be replaced by others made of a material identical to the original one listed on the recognition form. They shall be completely interchangeable with those originally fitted. They must be mounted on the original supports and their original opening system (if any) must be maintained.

Nuts and bolts may be freely exchanged and locked by pins or wires.

Bumper overriders may be removed.

When the regulations of an event allow the fitting of an undershield, the fuel and brake system pipes may be protected by all means.

On the contrary, the following modifications are prohibited:

- 1) *to change the rake of the steering column,*
- 2) *to remove wheel-spats which are part of the coachwork,*
- 3) *to add an extra bolting system of the doors,*
- 4) *to add extra parking lights,*
- 5) *to change the location of the opening handle of the bonnet,*
- 6) *to replace the grille bolts by others of "quick-release" type.*

l) Bumpers, embellishers, streamlining: bumpers are compulsory on all cars for which the manufacturer has normally provided them. For speed-events on circuit and for hill-climbs, the supplementary regulations may authorize the bumpers of a car to be removed. Failing such an authorization the bumpers must remain. For rallies, any car, normally delivered with bumpers and the recognition form of which shows such an equipment, must retain them.

Wheel embellishers may be removed. The addition of any protective device underneath the car is forbidden unless such a device is mentioned on the

recognition form of the model in question or is authorized or made compulsory by the supplementary regulations of the event.

TITLE IV

SPECIAL TOURING CARS

Art. 258.—Definition: cars of limited series-production which may be submitted to certain modifications aimed at making them better suited to competition. The list of the modifications and additions explicitly authorized is given hereafter under Art. 260.

Moreover in this group may be classed cars of group 1 which have been the subject of modifications and/or additions exceeding the limits of group 1. These cars will then enjoy the same freedom as provided for group 2.

Art. 259.—Minimum production and number of seats: touring cars shall have been manufactured in a quantity of at least 1,000 units and be equipped with at least 4 seats; however if their cylinder-capacity is equal or inferior to 700 cc, they may be delivered as two-seaters.

Art. 260.—Modifications and additions authorized: all those already authorized in group 1, plus the following ones:

a) Modifications of the original mechanical parts: the original mechanical parts having undergone all the normal machining operations foreseen by the manufacturer for series-production, except those for which the present article provides a freedom of replacement, may be subject of all perfecting operations by means of finishing or machining, but not replacement. In other words, provided the origin of the series-production part may always be ascertained undoubtedly, this part may be rectified, balanced, lightened, reduced or modified in its shape through machining, to the exclusion of any addition of material, mechanical extension or treatment which would entail a change in the molecular structure or the surface of the metal.

b) Engine—cylinder-heads and valves: besides the modifications which can be carried out on the cylinder-head as specified under paragraph a) hereabove, complete freedom is left as regards the valves, valve-guides and valve-seats. The number of valves per cylinder cannot be modified.

c) Engine—induction system and elements: the induction system is free. Yet direct injection may only be used on an engine for which the fitting of a direct injection system has been originally provided for in the manufacturing. Ditto for supercharging.

d) Engine—reboring: the reboring or replacement of sleeves of the engine is allowed up to the limit of the cylinder-capacity class to which the model belongs.

e) Engine—exhaust manifold, piping and mufflers: free. Yet, for events run on open roads, the efficiency of the mufflers must remain, in all cases, within the limits specified in the police regulations of the country of the event.

f) Engine—bearings: plain or roller bearings may be replaced by others of the same type, provided the crankshaft and the original bearing caps are retained.

g) Gaskets: gaskets may be replaced by others or suppressed.

h) Engine—lubricating system: the oil sump may be modified or replaced by another one of different shape and capacity. The oil pump may be modified or replaced by another one. Yet, the number of oil pumps originally fitted cannot be changed. Oil filters and oil coolers are free (type, number and capacity).

i) Engine—camshafts and valve gear: free. Yet the location, number and driving system of the camshaft(s) cannot be changed. There is no restriction as regards the number and type of valve springs provided the necessary modifications of the mechanical parts do not go beyond those specified under the previous paragraphs.

j) Piston, piston pin and piston rings: free.

k) Engine—other elements: Mountings are free. The cooling fan and water-pump may be modified, replaced or suppressed.

There is no restriction for the fuel pump as regards number, type, location and capacity. Nevertheless, it must never be located in the passenger compartment.

l) Transmission—gearbox. Mountings are free. The number of speeds of the gearbox cannot be modified. The ratios are free. The location and type of the gear lever are free.

m) Transmission—differential. Mountings are free. The differential ratios are free. A limited-slip differential, but not with a constant and complete locking effect, may be fitted provided it can be located in the casing without entailing a modification beyond that allowed under paragraph a)

The transmission shaft between the gearbox and the differential is free.

n) Suspension: it is allowed to modify the original parts of the suspension in compliance with the specifications of Art. 260 a) hereabove. The addition of a stabilizer is allowed, or the original one may be replaced by another one.

In the case of a rigid axle rear suspension it is allowed to add locating arms and their mounting brackets. The fitting of joints and attachment points of a different type and/or material is authorized.

o) Suspension—springs: complete freedom is left as regards springs provided the main type of spring is not changed. Yet, the fitting of other springs must not result in a modification of the mechanical parts beyond the limits fixed under Art. 260 a), and neither a change or a modification of the coachwork or the chassis. It is allowed to add auxiliary springs. According to the definition given under Art. 252 for chassis and coachwork, it is allowed to modify the non-visible parts of the coachwork.

p) Suspension—shock-absorbers: complete freedom is left as regards their number, type and fitting, provided no mechanical part be modified beyond the limits fixed under Art. 260 a). Nevertheless, mounting brackets may be added to the chassis and suspension elements.

q) Wheels and rims: complete freedom is left, provided their fitting can be carried out in full conformity with Art 253 d).

Moreover, the four wheels of a car must always have the same diameter.

r) Electrical system—lighting equipment: free. Yet, for events on open roads, the vehicle must be in compliance with the police regulations of the country where the event is run or with the International Convention on road traffic. The location of the battery is free, as long as it is not placed in the passenger compartment.

s) Electrical system—engine accessories: it is allowed to replace a dynamo by an alternator. The mounting brackets and crankshaft pulley are free.

The ignition system is free as long as its replacement or modification does not alter the mechanical parts beyond what is allowed under Art 260 a).

t) Fuel tanks and water radiators: the capacity of fuel tanks is free up to the limit specified under Art. 253 j). The location and dimensions of the filler orifice as well as those of the filling cap may be changed provided the new fitting does

not protrude beyond the coachwork line and provides against fuel leakage into the inside compartments of the car.

Should the tank and its filler be located in the luggage compartment, an outlet at the lowest point must be provided for the fuel accidentally spilled in this compartment.

There is complete freedom as regards the water radiator and its capacity. Its location may be changed provided no modification is entailed either to the outside or to the inside (cockpit) of the coachwork.

u) Braking system: the mounting of a double pump (master cylinder) or of any device which produces simultaneous action on the four wheels and a separate action on two wheels is allowed.

The discs and drums may be replaced by others provided the area of the friction surface is not modified. Linings are free. The backing plates may be modified and fitted with air openings. Protection shields may be modified or suppressed. Cooling air-ducts may be added provided they do not entail a modification of the coachwork.

The addition of brake servos is allowed.

v) Cables and pipes: it is allowed to entirely modify the arrangement, location and materials of all cables and pipes providing for the passage of fluid elements (air, water, fuel, electric currents, etc, including the suspension system).

w) Springs: any spring that can be found on a car may be modified or replaced by another one.

x) Coachwork elements: the steering-wheel and the front seats may be replaced, provided seats of at least the same weight as the original ones be substituted to them.

In case of the original seats being changed the two new ones must weigh at least the weight as entered on the recognition form for the original ones, but it is not mandatory that they both weigh the same weight.

y) Options—definitions: a variant of the series-production. Accessories or equipment delivered on express request of the customer. By option is therefore meant any equipment supplied in supplement to or in place of the basic model available on request, even if this equipment is normally fitted on some series-production cars as is the case, for example, on cars for export.

z) Recognition of an option: the recognition of an option will be granted only if the optional equipment is available freely at the manufacturer's or his dealers' for any one wishing to purchase it. It must be mentioned in the manufacturer's catalogue of spare parts for the model concerned and properly identified.

aa) Optional equipment which may be recognized with a minimum production of 100 units per year to equip 100 cars:

— Reinforced suspension elements, provided they are absolutely interchangeable with the original part and that the mounting points to the chassis remain in their original location.

A rigid rear axle is considered as being a part of the suspension. Consequently a reinforced axle can be recognised as a variant on the basis of an annual production of at least 100 of the part in question.

— Reinforced auxiliary chassis members.

— Gearboxes including those with a different number of speeds.

— Overdrive systems.

— Different steering ratios.

- Different transmission shafts and half-shafts with joints.
- Connecting rods but not in a different basic material.
- Different clutch and different flywheel—type and dimensions—provided their fitting is possible, within the limits of Art. 260 a).
- Clutch housings, differentials and gearboxes (extension housing included) of a different basic material.
- Cylinder head of a different shape and/or material, provided that the position and number of camshafts, and the number of valves per cylinder, remain unchanged. By position is meant either in the block or in the head.
- Crankshafts of a same basic material provided the type and diameter(s) of the bearings remain those specified on the recognition form. Nevertheless, this optional crankshaft must retain the original stroke.
- Different bearing caps.
- Equipment for dry-sump lubrication.
- Lightweight coachwork elements, such as aluminium doors, plexiglass lateral windows, glass fibre engine bonnets, etc. Nevertheless, the basic weight of the car mentioned on the recognition form shall not be modified. The recognition of lightweight elements is only meant to compensate the manufacturing tolerances and the fitting of some optional equipment which results in an increase of the basic weight.

bb) Optional equipment which may be recognized without a minimum production:

- Different dashboard.
- Protection shields under the car provided they do not decrease in a significant way the aerodynamic drag of the car.
- Wing extensions, aesthetically acceptable, provided they do not entail an increase of the width of the wings of more than 5 cm on each side of the car. Measurement is to be done at the vertical going through the centre of the wheel hubs.
- Brakes of different type and/or dimensions, which may include larger hubs and spindles.

cc) Any other option affecting directly or indirectly the performance of the car cannot be recognized unless 1,000 identical cars equipped with this option have been manufactured in 12 consecutive months.

NB: On account of the important modifications brought to the present group 2, scrutineers are requested to disregard the note 'Important' mentioned on the International recognition form and specifying which numbers are to be retained for the technical verification.

TITLE V

SERIES—PRODUCTION GRAND TOURING CARS

Art. 261.—Definition: two-seater cars manufactured on a limited series-production scale for the drivers who seek the best possible performances and/or the greatest comfort without a special concern about the cost.

Art. 262.—Minimum production and number of seats: grand touring cars must have been manufactured in a quantity of at least 1,000 units identical in all respects (unless authorizations, listed hereafter under Art. 263 specify otherwise) and be equipped with at least two seats.

(Nevertheless, for 1970, recognition in this group may be granted on the basis of a minimum production of 500 units per year).

Art. 263.—Modifications and/or additions authorized: exactly the same as those authorized for group 1 (Series-production touring cars) (see Art. 257).

SPECIAL GRAND TOURING CARS (ex-group 3)

Art. 264.—Definition: two-seater cars manufactured on a small series-production scale, and which may be subject to modifications in order to be more particularly adapted to sporting competition. This group also includes cars derived from those recognized in group 3 (Series-production GT cars) and modified beyond the limits allowed for group 3.

Art. 265.—Minimum production and number of seats: the Special Grand Touring cars must have been manufactured in a quantity of at least 500 units and be equipped with at least two seats.

Art. 266.—Modifications authorized: exactly the same as those authorized for Group 2—Special Touring cars (see Art. 260).

TITLE VII

SPORTS CARS (ex-group 4)

Art. 267.—Definition: high performance cars which must nevertheless include all equipment normally provided and legally required for vehicles using public roads.

Art. 268.—Minimum production and number of seats: sports cars must have been manufactured in a quantity of at least 25 units and be equipped with at least 2 seats (as defined above under Art. 253).

Art. 269.—Conditions required for recognition: the 25 cars shall be identical as regards the following points:

a) Coachwork: general line, materials of construction, shape of wings and bonnet, number of doors. Small modifications will be allowed when made necessary by the different uses of the car (circuit or road events), or by the mounting of supplementary equipments authorized by the present regulations.

b) Chassis: wheelbase and track.

It is understood that the 25 identical cars needed for recognition in group 5 must all have the same track measurements with a set of wheels of specific size. However, during the scrutineering for an event, one must take into account the changes in track which could result from the fitting of different wheels or the modification of the suspension and/or brakes such as authorized for this group of cars.

The number of headlamps fitted on a car of Group 5 or 6 is free.

c) Engine: cylinder-head, cylinder block, number of cylinders, bore, stroke, number and location of crankshaft bearings, type of bearings and of all rotating parts; number, location and driving system of camshafts.

Number of valves and valve-operating system.

Number and location of the inlet and exhaust ports. (Free: ignition including the number of spark plugs, induction and exhaust: carburettor, filters, manifolds).

Reboring of the engine is allowed up to the limits of the cylinder-capacity class to which the model belongs.

d) Transmission: only one series of gears authorized, plus an automatic gearbox. Complete freedom for all gearbox and final drive ratios.

e) Suspension: its operating principle and function of its components. Four systems of **independent** suspension must be distinguished:

- a) McPherson's system;
- b) independent system by wishbones (two superposed open triangles or one closed and one open superposed triangles);
- c) independent suspension by one trailing arm for each wheel, the main characteristic being driving axles of variable length and two universal joints for each axle (example: rear suspension of the BMW 1600).
- d) independent suspension by swing axles, the wheels being fixed on the driving axle, i.e. rear suspension of the Renault Gordini R1135.

f) Braking systems: the braking system (drums or discs, or drum and disc brakes) must be identical on all cars of the minimum series required for recognition. The braking system must be laid out in such a way that the brake pedal normally controls the four wheels. In case of a leak at any point of the piping or any failure in the braking transmission the brake pedal should continue to operate on at least two wheels.

g) minimum weight: the weight of the sports cars shall be at least the one stated by their manufacturer on the recognition form of the model concerned, no reduction being allowed. This weight shall be at least equal to the minimum limits mentioned hereafter:

engine cylinder-capacity inferior or equal to	500 cc:	450 kgs
engine cylinder-capacity from	500 to	600 cc: 460 kgs
"	600 to	700 cc: 470 kgs
"	700 to	850 cc: 480 kgs
"	850 to	1,000 cc: 500 kgs
"	1,000 to	1,150 cc: 510 kgs
"	1,150 to	1,300 cc: 525 kgs
"	1,300 to	1,600 cc: 550 kgs
"	1,600 to	2,000 cc: 575 kgs
"	2,000 to	2,500 cc: 600 kgs
"	2,500 to	3,000 cc: 650 kgs
"	3,000 to	4,000 cc: 725 kgs
"	4,000 to	5,000 cc: 800 kgs
"	5,000 to	6,000 cc: 875 kgs
"	6,000 to	7,000 cc: 950 kgs
"	over 7,000 cc:	1,000 kgs

Art. 270.—Modifications and additions authorized:

a) Coachwork

Modifications made by the competitors themselves: taking the car such as it is recognized on the basic form, the competitors may make all coachwork modifications required by the different uses, such as:

- Fitting of aerodynamic devices in compliance with the following Art. 271.
- modification of the wings in order to allow the fitting of larger wheels.
- opening of air vents in the coachwork, in order to ensure better cooling of the brakes, radiators, etc.
- modifications in view of the mounting of extra headlights.

Recognition of coachwork variants: a same basic series of 25 cars may include open cars and closed cars. In that case, the recognition form must mention both variants.

If the recognition form contains only one of the two above variants, the other may be recognized at a later date as a mere option.

b) Engine

A manufacturer may apply for the recognition of optional cylinder heads provided the number of cylinder heads manufactured is sufficient to equip 25 cars, and provided the conception of the cylinder head, ie, the number of valves, type of combustion chamber, etc, is not modified.

The adoption of a dual ignition system is not considered as a change in the conception of the cylinder head.

c) Gearbox

An optional gearbox with a number of ratios different from that of the gearbox on the basic recognition form may be recognized as a mere variant provided it is freely available.

Art. 271.—Supplementary prescriptions concerning the use of aerodynamic devices: the highest point of any forward facing gap in the coachwork shall not be situated above a horizontal plane, 80 cm above the lowest point of the entirely sprung structure of the car.

The maximum width of the coachwork shall not exceed by more than 20 cm the maximum width measured between the two vertical planes tangent to the outer face of the front or rear wheels.

Art. 272.—Safety fuel tanks: cars competing in speed events on circuits shall be equipped with a safety fuel tank of the USAC type or in compliance with any other set of specifications approved by the FIA (see also Art. 296 n).

TITLE VIII

PROTOTYPE SPORTS CARS

Art. 281.—Definition: experimental competition cars especially manufactured for speed or endurance races on closed circuits. Their use on open roads may be foreseen and in that case, the cars must include all equipments normally provided and legally required for vehicles using public roads.

Art. 282.—Specifications: these cars shall meet all general prescriptions concerning cars of categories A and B (see Art. 253) except for the following points:

- a) the protected height of at least 80 cm is optional (Art. 253 b 2nd case),
- b) the windscreen is optional (Art. 253 c), but if there is one, its dimensions are free,
- c) the hood is optional (Art. 253 e),
- d) luggage space is optional (Art. 253 h),
- e) the spare wheel is optional (Art. 253 k).

Furthermore, prototype sports cars must be fitted with a double braking system such as specified under Art. 269 f, and be equipped with safety fuel tanks of an FIA approved type (Art. 272).

They must also comply with the supplementary regulations concerning the use of aerodynamic devices such as specified under Art. 271.

As regards open cars, the following specifications must be complied with:

— if the windscreen height is reduced to such an extent that the driver looks

over the top of it instead of through it, it may be considered as a mere wind-deflector. In that case, it may be of transparent plastic material and wipers are optional.

— unimpeded rear view must be ensured (for instance, by a rear-viewing mirror on either side of the vehicle).

TITLE IX

NON-DEFINED CARS

Art. 283.—Special ruling for rallies: promoters may allow participation in an event of cars of any type and which do not correspond to any of the above categories or groups, such as for instance military cars, buses, lorries, etc.

But in this case these non-defined vehicles shall have to be classed separately and may under no condition be mingled with other cars in the general classification of the event.

TITLE X

TWO-SEATER RACING CARS

Art. 284.—Definition: two-seater competition vehicles built exclusively for speed races on closed circuits.

Art. 285.—Classification of cars shall be according to engine displacement as follows:

1st series:	inferior or equal to	850 cc
2nd series:	from	850 to 1,150 cc
3rd series:	from	1,150 to 1,600 cc
4th series:	from	1,600 to 2,000 cc
5th series:	from	2,000 to 3,000 cc
6th series:	from	3,000 to 5,000 cc
7th series:	over	5,000 cc

Supplementary regulations of an event may provide for combining any of the above series of classes.

Art. 286.—Fuel: only commercial fuel such as defined by the FIA shall be used (see definition hereafter).

Art. 287.—Self-starter: the starting of the engine must be done by the driver seated at his wheel by means of a starter with a source of energy aboard the car.

Art. 288.—Brakes: these cars shall be equipped with a dual braking system operated by a single-control. In case of a leak or failure at any point in the system, effective braking power shall be maintained on at least two wheels.

A separate hand brake (emergency brake) is not required.

Art. 289.—Coachwork: coachwork shall provide comfort and safety for driver and a passenger. All elements of the coachwork shall be completely and neatly designed and finished, with no temporary or makeshift elements. The body shall cover all mechanical components, except that the intake and exhaust pipes may protrude.

All major body components such as front and rear bonnet and/or hood, mudguards, doors and windscreen must be maintained in normal position throughout the event.

a) Cockpit and seats: there shall be seats for the driver and a passenger of equal dimension and comfort, and equally disposed on each side of the longitudinal axis of the car. Seats shall be firmly attached in the car, but may provide for adjustment for the size of the occupant.

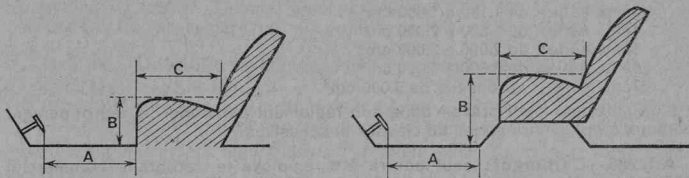
The passenger's space and seat shall remain available throughout the competition and shall not be encroached upon by any element of the car or equipment except as provided in these rules.

The passenger's compartment and seat shall not be sheltered by means of a tonneau cover of any type.

Driver and passenger space shall satisfy the following minimum dimensions:

— the inside minimum width of the compartment shall be 100 cm measured at the immediate rear of the steering wheel hub and at right angles to the longitudinal axis of the car, and must be unobstructed and maintained at least 25 cm in a vertical plane.

Seats must fulfil the following minimum dimensions:



(A) is always measured horizontally and parallel to the longitudinal axis of the chassis, between two vertical planes perpendicular to the longitudinal axis and defining from front to rear the open space on a level where such measurement is taken.

For the driver's seat, (A) is measured on the floor level, or at the bottom of any recess if need be, from the perpendicular of the furthest pedal in its position of rest.

For the passenger seat, this measurement is taken at a height of 20 cm above the floor or at the bottom of the recess, if need be.

In case of movable seats it is forbidden to alter the position of any seat while car is being measured.

(B) is measured vertically from the rear of (A) to the horizontal plane tangent to the highest part of the cushion as shown on the drawings.

(C) is measured on the seat's centreline, in the horizontal plane defined above from the upper end of (B), parallel to (A) and tangent to the foremost point of back of seats.

The arrangement of the body must be such that:

$$A + B + C = 110 \text{ cm minimum.}$$

The minimum width for the foot space for each person must be 25 cm measured at right angles to the longitudinal axis of the chassis, plumb to the pedals.

Windshield wipers are not required.

b) Visibility: coachwork shall provide visibility for driver and passenger forward and to both sides adequate for racing conditions. Rear view mirror(s) shall provide driver visibility to the rear on both sides of the car.

c) Doors: coachwork shall provide at least two rigid doors giving direct access to each seat. Each door shall accept a rectangle held in a vertical plane of at least 30 cm x 50 cm.

These dimensions shall not include any area above the horizontal plane of the body and door panels. The door openings may not be obstructed in any way. The locking mechanism shall be operable from both inside and outside of the car.

On closed cars, the doors shall be so designed that in case the car is partially or completely overturned at least one of the doors shall remain in a position to be opened, or a means of escape other than the door must be provided.

d) Mudguards: mudguards shall be firmly attached to the coachwork with no gap between body and mudguard. They shall be placed above the tyres and shall cover them effectively by surrounding at least a third of their circumference. The width of each mudguard shall extend beyond the side of the tyres when the wheels are parallel to the longitudinal axis of the car.

In case the mudguards constitute a part of the body, or are partly overhung by the structure of the body, the combination of mudguards and body, or the body alone, shall meet the above requirements.

e) Aerodynamic devices: the use of aerodynamic devices is authorized provided Art. 252 m (General prescriptions) and Art. 271 (Supplementary prescriptions for two-seater cars) are complied with.

Art. 290.—Lighting: the minimum lighting equipment shall be:

a) at least two braking-lights;

b) for night racing, two head-lights at least as effective as those normally fitted on touring cars and two direction indicators mounted at the rear.

The supplementary regulations of an event may require additional lighting equipment.

Art. 291.—Wheels and tyres: there shall be no restriction on the size of wheels or tyres, provided they are identical on the right and left front axles, and identical on the right and left rear axles.

A spare wheel and tyre is not required.

Art. 292.—Safety equipment:

a) Fire extinguisher: all cars shall carry during competition a dry chemical fire extinguisher of at least 1 kg capacity. It must be securely mounted and may be located in the space provided for the passenger.

b) Scatter shield: the installation of a scatter shield is required on those cars where the failure of the clutch or flywheel could, due to its location, create a hazard to the driver. In addition, any rotating part of the drive train shall not pass openly through the driver and passenger compartment, but must be under the floor or chassis structure.

c) Roll bars: cars shall be equipped with a roll bar or structure to protect the driver in case the car overturns. It shall be firmly attached to the chassis structure and designed to withstand compression forces from the weight of the car as well as fore-and-aft loads from horizontal forces.

d) Safety belts: the car shall be provided with a safety belt of a quick release type attached to the chassis structure and designed to restrain the driver in his seat.

e) Exhaust system: the exhaust system shall terminate behind the driver and passenger seats.

f) Firewall and floor: cars shall have an adequate firewall to prevent the passage of flame from the engine compartment or under the car to the cockpit. Openings in the firewall for the passage of engine controls, wires, and lines shall be of the minimum size necessary.

The floor of the cockpit shall be constructed to protect the driver by preventing the entry of gravel, oil, water, and debris from the road and engine. Bottom panels or belly panels shall be adequately vented to prevent the accumulation of liquid.

g) Bulkheads and tanks: no part of any fuel, oil or water tank shall be exposed to any part of the driver and passenger compartment. Fuel tanks shall be vented to prevent the accumulation of fumes and to prevent fumes from passing into the driver or engine compartment.

Fuel tanks shall be isolated by means of bulkheads so that in case of spillage, leakage or a failure of the tank the fuel will not pass into the driver or engine compartment or around any part of the exhaust system.

Batteries shall be fully enclosed.

h) Closed cars: adequate ventilation shall be provided to prevent the accumulation of fumes inside the car.

i) Safety fuel tanks: the cars must be equipped with safety fuel tanks of an FIA approved type (see Art. 272).

TITLE XI

SINGLE-SEATER RACING CARS

Art. 293.—Formula No. 1.

Validity: from the 1st January 1966 to 31st December 1972.

Engines with reciprocating pistons:

a) engine cylinder-capacity without supercharging: inferior or equal to 3,000 cc;

b) engine cylinder-capacity with supercharging: inferior or equal to 1,500 cc.

Minimum weight, without ballast: 530 kg (including 30 kg as provided for by the safety measures announced on 1st January 1969).

Conditions imposed on Formula 1 events:

Except for a special waiver granted by the CSI, events for Formula 1 must compulsorily be run on a distance of at least 300 km and at the most 400 km.

Art. 294.—Formula No. 2.

Validity: from 1st January 1967 to 31st December 1971.

Reciprocating piston engines: engine cylinder-capacity superior to 1,300 cc and inferior or equal to 1,600 cc.

Special engines: the same specifications as those provided hereabove for Formula 1 are valid for Formula 2, the difference of cylinder-capacity being taken into account.

Minimum weight, without ballast: 450 kgs. (including 30 kg as provided for by the safety measures announced on 1st January 1969).

The cylinder-block must compulsorily be taken from an FIA recognized model of car, manufactured in a quantity of at least 500 units in 12 consecutive months. The cylinder-capacity may be obtained by increasing or reducing either the original bore or stroke or both dimensions.

On the cylinder-block, entirely finished will be permitted all modifications which are necessary to ensure the mounting and/or tightness of the cylinder-head, the driving device of the camshaft(s), ignition distributor, pumps (water, fuel, injection pump) and other accessories, when the original location or form of the above has been changed.

The type of cylinder (with or without sleeve) as well as the friction system of connecting rod and crankshaft bearings must remain the same as on the original engine.

The number of camshafts is free.

Feeding: the feeding system of the engine is free (by carburettor, direct or indirect injection) but no device liable to have a supercharging effect may be mounted.

The number of cylinders per engine is limited at six, but the CSI reserve their right to reconsider this decision from the moment that the FIA would have recognized in one of the first three groups of Appendix "J", three models of cars of different makes with an engine of more than six cylinders and of a cylinder-capacity inferior or equal to 2,000 cc. However such a decision of modification would only come into effect as from the 1st January of the following year.

Cooling system: the system of the original engine must be preserved (by air, by water).

Propulsion: through a maximum of two wheels.

Gearbox: maximum five ratios, the reverse gear not included.

Art. 295.—Formula No. 3.

Validity: from 1st January 1964 to 31st December 1970.

Engine: reciprocating piston engines only. Max. cyl. capacity 1,000 cc. Maximum cylinder-capacity may be obtained by increasing or reducing either the original bore or stroke or both dimensions.

Maximum number of cylinders: four.

The engine block, including cylinder-head and cylinders (should they be removable) shall be those of an FIA recognized model of car, manufactured in a quantity of at least 1,000 units in 12 consecutive months, excluding all engines with overhead camshafts.

The number of crankshaft bearings shall not be modified, nor the type of bearing (the replacement of a plain bearing by a roller bearing is therefore forbidden). The location of the camshaft shall not be altered.

The induction system shall be the same as that used on the car from which the engine has been taken (the use of an injection system on an engine normally fed by a carburettor is therefore forbidden).

The engine shall be equipped with only one carburettor, whatever its number of chokes, and a throttling flange of a maximum diameter of 36 mm and a minimum thickness of 3 mm shall compulsorily be mounted between carburettor and inlet pipe. Through this throttling flange all the carburated mixture feeding the cylinders must pass.

No supercharging device is authorized even if a series-production one was mounted on the original engine.

Other mechanical parts: the gearbox shall be that of an FIA recognized model of car, manufactured in a quantity of at least 1,000 units in 12 consecutive months, but not necessarily the one from which the engine has been taken. It shall not have more than four forward ratios plus a reverse gear. The scale of ratios is free. The use of any self-locking system on the differential is forbidden.

Dimensions:	minimum wheelbase	200 cm
	minimum track	110 cm
	maximum width of coachwork	95 cm

Minimum weight, without ballast (see hereafter): 420 kgs (including 20 kg as provided for by the safety measures announced on 1st January 1969).

Certificate of origin: any Formula 3 car showing up at the start of an event shall be supplied with a certificate established by the manufacturer and ratified by the National Sporting Authority, specifying the origin of the basic elements of the vehicle.

NB: The following new prescriptions will become valid for Formula 3 as from 1st January 1971.

Validity: as from 1st January 1971 to 31st December 1974. Reciprocating piston engines only.

Maximum cylinder-capacity: 1,600 cc.

The maximum cylinder capacity may be obtained by increasing or reducing either the bore or stroke or both dimensions.

Maximum number of cylinders: 4

The engine block and cylinder head castings, machining completed, must be those of a series-production car manufactured in at least 5,000 units in 12 consecutive months of a model recognized by the FIA.

The original engine block and cylinder head may be modified freely by removal of material to the exclusion of any addition of material.

The type of crankshaft bearings may not be modified (the replacement of a plain bearing by a roller bearing is therefore forbidden).

The induction system is free but it must compulsorily be fitted with a throttling flange of 3 mm in length and with a parallel hole of 20 mm diameter. Through this throttling flange all the air feeding the engine must pass.

The CSI reserves its right, after the experience obtained during the first year, to modify the dimensions of the throttling flange with a shorter previous notice than the two regular years.

No supercharging device is allowed even if a series-production one was fitted on the original engine.

The other original parts of the engine may be replaced or modified without restriction.

Other mechanical elements: the gearbox and differential casings must be those of a car manufactured in at least 5,000 units in 12 consecutive months, of a model recognized by the FIA, but not necessarily the model from which the engine has been taken. The gearbox may not have more than 5 forward speeds, plus a reverse gear.

Complete freedom is left as regards the ratios. The use of a limited slip differential is allowed.

Dimensions: minimum wheelbase	200 cm
minimum track	120 cm

Minimum weight, without ballast: 440 kg (including 30 kg as provided for by the safety measures announced on 1st January 1969).

Certificate of origin, etc, text unchanged.

Art. 296.—Prescriptions and definitions applicable to racing cars of the 3 international formulae.

a) Minimum weight: the minimum weight is that of the car in running order i.e. with all lubrication and cooling liquids but without fuel.

The ballast which is prohibited is that of a removable type. It is therefore permissible to complete the weight of the car through one or several ballasts incorporated to the materials of the car provided that solid and unitary blocks are used, and that they are fixed by means of a tool and offer the opportunity of being sealed on should the officials entrusted with the scrutineering of the car deem it necessary.

b) The construction of the vehicle must be symmetrical i.e. when the car is lifted laterally and weighed, the half weight on either side must be equal to half the overall weight, a margin of + or — 5% being allowed for the said half weight. To verify the above, the weighing must be done with all tanks full (fuel, water, oil)

and a driver, weighing at least 75 kilos normally sitting at the steering-wheel (or a ballast of the same weight occupying the same place)

c) Reverse gear: all vehicles must have a gearbox including a reverse gear, which must be in working order when the car starts the events and able to be operated by the driver when normally in his seat.

d) Compulsory automatic starter with electrical or other source of energy carried aboard the car and able to be controlled by the driver when normally in his seat.

e) Protection against fire: besides that already provided by Art. 125 of the International Sporting Code, the car shall be equipped with a general electric circuit-breaker either operating automatically or at the disposal of the driver.

f) Driver's seat liable to be occupied or left without it being necessary to open a door or remove a panel. Sitting at his steering-wheel the driver must be facing the road.

g) Attachment points for safety-belt, the use of such a belt being optional.

h) Coachwork: no part of the coachwork, with the exception of the safety roll bar, shall exceed in height a horizontal plane, 80 cm above the lowest point of the entirely sprung structure of the car.

Formulae 1 and 2

Behind the front wheels, the coachwork shall not exceed a maximum width of 110 cm (nevertheless, the exception provided for, hereafter, as regards lateral fuel tanks remains valid).

The coachwork ahead of the front wheels may be extended to an overall maximum width of 150 cm.

Nevertheless, any part of the coachwork ahead of the front wheels, exceeding an overall width of 110 cm, shall not extend above the height of the front wheel rims.

Formula 3

Behind the front wheels, the coachwork must not exceed a maximum width of 95 cm (nevertheless, the present exception provided for in Appendix J for lateral fuel tanks remains valid).

The coachwork ahead of the front wheels may be extended to an overall maximum width of 135 cm.

Nevertheless, no part of the coachwork ahead of the front wheels, exceeding an overall width of 95 cm, shall extend above the height of the front wheel rims.

For all Formulae: wheels shall be external to the coachwork.

The mounting of lateral fuel tanks is tolerated provided however they do not protrude beyond the vertical plane passing through the median line of the tyres.

i) Braking safety system which must include a double circuit operated by the same pedal and complying with the following:

- the pedal shall normally control the four 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.

j) Fuel tanks complying with the following requirements:

- the filling port(s) and their caps shall not protrude beyond the coachwork material;
- the opening shall have a sufficient diameter for allowing the air exhaust at the time of quick refuelling (in particular those done under pressure) and if necessary the breather-pipe connecting the tank with the atmosphere shall be such as to avoid any liquid leakage during the running.

k) Oil catch tank: the mounting of a tank(s) or device meant for collecting any oil spilling out of the engine and/or transmission is compulsory. This device shall have a minimum capacity of 3 litres for F1 vehicles and those of formula libre of a cylinder-capacity of more than 2,000 cc and a minimum capacity of 2 litres for vehicles of Formula 2 and 3 and of formula libre of a cylinder-capacity inferior or equal to 2,000 cc.

l) Exhaust pipes: the outlet orifices of the exhaust pipes, when directed horizontally to the rear, must be placed at a height of more than 30 cm and less than 60 cm above the ground. If they are not entirely covered by an element of the coachwork, they may not protrude by more than 25 cm beyond the overall length of the car.

m) No refuelling of lubricant is allowed for the whole duration of the event. The filling ports of the oil tanks and radiators shall provide the possibility of affixing seals.

The leads sealing the filling port(s) of the lubricant tank(s) may not be removed at any time during the race.

The leads sealing the filling port(s) of the radiator(s) shall be in place at the start of the race, but may be removed at any pit-stop.

n) Safety devices: the safety devices and measures given hereafter must be complied with for racing cars of the international formulae and become mandatory at the indicated dates.

Roll-bars :

General considerations

1 — The basic purpose of such devices is to protect the driver if the car turns over or is involved in a serious accident. This purpose should always be borne in mind.

2 — All junctions of tubes must be strengthened. This strengthening may be obtained for instance by using gusset plates of a length of 6 cm on each leg and 5 mm thickness.

3 — The basic crash-bar hoops and all braces may be seamless mild steel tubing, normally used for space-frame constructions. It must be noted that certain chromium alloys present difficulties in welding and in that case a normalizing of the structure would be advisable.

4 — When determining the size of tubing used, a basic distinction should be made between crash-bars for open cars which have to absorb a direct shock and roll-cages which are primarily intended to strengthen the driver compartment, (see hereafter).

5 — If mounting plates are used, they should be of a sufficient thickness (eg 5 mm, as for the gussets).

6 — Whenever bolts and nuts are used, they should be of a sufficient minimum diameter, according to the number used. They should be of the highest possible quality (preferably aircraft). Square head bolts and nuts should not be used.

7 — One continuous length of tubing should be used for the main structure with smooth continuous bends and no evidence of crimping or wall failure.

8 — All welding should be of the highest possible quality 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.

9 — Braces should preferably be of the same size tubing as used for the main structure.

10 — For space-frame constructions it is important that crash-bar structures are attached to cars in such a way as to spread the loads over a wide area. It is not sufficient to simply attach the roll-bar to a single tube or junction of tubes. The roll-bar should be designed in such a way as to be an extension of the frame itself, not simply an attachment to the frame.

Considerable care should be attached to the necessary strengthening of the basic structure, for instance by adding reinforcement bars or plates so as to properly distribute the loads.

11 — For monocoque constructions, consideration should be given to using a roll-bar hoop of 360 degrees completely around the inside of the car, and attached with suitable mounting plates. This type of roll-bar then becomes a substitute for the frame.

Dimensions: the dimensions of the roll-bars must be as follows: the minimum height must be at least 36 inches (92 cm) measured along the line of the driver's spine, from the metal seat to the top of the roll-bar. The top of the roll-bar must also be at least at 5 cm above the driver's helmet, when the driver is sitting in normal driving position.

The width must be at least 38 cm measured inside the roll-bar between the two vertical pillars of the sides. It must be measured at 60 cm above the metal seat on the perpendicular to the line of the driver's spine.

Strength: in order to obtain a sufficient strength for the roll-bar, two possibilities are left to the manufacturers:

- a) the weight being that of the car in starting order (driver aboard, full tanks), the roll-bar must be able to withstand three simultaneously applied loads:
- 1.5 G lateral,
 - 5.5 G fore and aft
 - 7.5 G vertical, the induced loads being carried over into the primary structure.

A certificate signed by a qualified technician must be submitted to the Scrutineers of an event. It must be accompanied by a drawing or a photograph of the said roll-bar and state that this roll-bar can withstand the above mentioned loads.

- b) the tubes and brace(s) must have a diameter of at least $1\frac{3}{8}$ inch (3.5 cm) and at least 0.090 inch (2 mm) wall thickness. The material should be molybdenum chromium SAE 4130 (or equivalent in DIN, NF, etc.) or material of another specification but of the same strength. There must be at least one brace from the top of the bar rearwards at an angle not exceeding 60° with the horizontal. The diameter and material of the brace must be the same as those of the roll-bar itself.

Mandatory application dates:

- as from 1st March 1969 for F1,
- as from 1st January 1970 for F2 and F3.

Cables, lines and electrical equipment: except if the cables, lines and electrical equipment such as battery, fuel pump, etc., are in compliance with the requirements of the aircraft industry as regards their location, material and connections, they must be placed or fitted in such a way that any leakage cannot result in:

- accumulation of liquid,

- entry of liquid into the cockpit,
- contact between liquid and any electrical line or equipment.

Should the cables, lines or electrical equipment pass through or be fitted in the cockpit, they must be fully enclosed in a cover of a liquid-tight and fire-proof material.

Mandatory application date for all formulae: as from 1st March 1969.

Safety fuel tanks: the fuel tanks must be in compliance with USAC specifications or any other set of specifications approved by FIA.

The use of synthetic foam inside the fuel tank is optional.

Mandatory application dates:

- as from 1st January 1970 for F1 and F2,
- as from 1st January 1971 for F3.

NB: As an indication, the USAC specifications concerning bladder-type tanks are given hereafter:

All fuel tanks must have inserts conforming to the following specifications:

- 1 — The insert must have at least a one ply inner liner and a one ply outer liner of Nylon or Dacron fabric, coated with a nitrile type of fuel resistant elastomer.
- 2 — A lap of at least $\frac{3}{8}$ inch shall be used in all seams and splices.
- 3 — The inner liner must be nitrile type of fuel resistant elastomer with physical properties as follows:

Tensile	Warp	400 pounds minimum
	Fill	400 pounds minimum
Tear	Warp	25 pounds minimum
	Fill	25 pounds minimum
Puncture	Warp	25 pounds minimum
	Fill	25 pounds minimum

4 — All fittings must be built into the insert and cured under pressure making them an integral part when vulcanized.

5 — All metal insert fittings must be of the single flange fabric and nitrile moulded type using aluminium castings with cast-in nuts or studs, or plate aluminium with pressed in steel inserts. The gasket surface shall be fabric and nitrile moulded integral with the total product, or a metal face fabric flange used with a bulkhead fitting and sealed with a rubber "O" ring.

6 — All nipple fittings shall be of a moulded type with the hose clamp area fabrics wrapped to resist cold flow of rubber when under clamp pressure.

Tank fillers and caps: it is recalled that on formula cars, the tank fillers and their caps must not protrude beyond the coachwork.

The caps must be designed in such a way as to ensure an efficient locking action which reduces the risks of an accidental opening following a crash impact or incomplete locking after refuelling.

The fillers must be placed away from points which are vulnerable in case of a crash. The air vents must be located at least 25 cm to the rear of the cockpit.

Mandatory application dates: 1st March 1969 for all Formulae.

Extinguishers: the cars must be equipped with two fire-extinguishing systems (which may be fed by a single fire-extinguisher of at least 5 kg) as follows:

- a) a manual system operated by the driver in driving position, the outlets being directed at least towards the feeding systems and the injection pump (if provided),
- b) a manual system operated by the driver in driving position as well as by any helper outside the vehicle, and unloading inside the cockpit. The triggering device must be indicated by a red circle with the letter E.

Mandatory application dates as from:

- 1st March 1969 for F1 and F2,
- 1st January 1970 for F3.

Electric circuit-breakers: it is recalled that as from 1st January 1969, the fitting of a general electric circuit-breaker, clearly indicated, will become mandatory for all cars taking part in speed races.

For Formula cars, this circuit-breaker must be indicated by a blue triangle with a spark and be easy of reach as well from inside as from outside the car.

Influence of safety measures on minimum weights: it is considered that the introduction of the three following safety measures entails the weight handicaps mentioned hereafter:

- a) safety roll-bar : 10 kg
- b) safety fuel tank : 10 kg
- c) fire-extinguishing system : 10 kg (of which at least 5 kg extinguishing capacity).

Therefore the application of these three safety measures will be accompanied each time by an increase of 10 kg of the minimum weight required for the Formula concerned.

Art. 297.—Commercial fuel.

a) Fuel for all piston engines (reciprocating and rotary): by "commercial fuel" to be used in motor car speed events, the Federation Internationale de l'Automobile intends to designate a "motor" fuel produced by an Oil Company and currently distributed at road refuelling stations throughout one same country.

May therefore be used, in all speed races for which the use of commercial fuel is compulsory, 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 could not 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 (RM)—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 a higher octane-rating than those sold so far, the Oil Company producing this 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.

b) Fuel for vehicles propelled by turbine engines: kerosene used by commercial aviation companies for turbo-prop or jet engines or the fuel used by vehicles with conventional type engines and complying with the here-above definition of "commercial fuel".

Art. 298.—Formula "libre".

It is permitted to organize sporting competitions open to other racing cars than those defined by one of the three international Formulae.

All specifications concerning the vehicles and particularly the limitations of the cylinder-capacity are in this case at the discretion of the promoters and it

rests with them to list these specifications as clearly as possible in the Supplementary Regulations of the event, which anyway have to be approved by the National Sporting Authority answerable to the FIA.

However racing cars which do not comply with any of the International Racing Formulae, must for security reasons be in conformity with the following rules listed here-above under Art. 296, General prescriptions and definitions: e), i), j), k), l), m), n).