SAFETY EQUIPMENT FOR CROSS-COUNTRY VEHICLES
(BASED ON FIA REGULATIONS – APPENDIX J – ARTICLE 283)

ART. 1

A vehicle, the construction of which is deemed to be dangerous, may be excluded by the Stewards of the competition.

ART. 2

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

ART. 3 LINES, FUEL PUMPS AND ELECTRIC CABLES

3.1 All groups

Automatic fuel-flow cut-off
It is recommended that all fuel feed pipes going to the engine and
return pipes from the engine be provided with automatic cut-off valves located directly on the fuel tank which automatically close all the fuel lines under pressure if one of these lines in the fuel system is fractured or leaks.

The vent lines must also be fitted with a gravity activated roll-over valve. The roll over valve is recommended for National entries
All the fuel pumps must only operate when the engine is running, or during the starting process.

3.2 Group T2

Fuel lines must be changed for aviation-type fuel lines, the route of these lines being free.
For national entries the fuel lines should be atleast the ones used by an Indian vehicle manufacturer as an OE part

They must comply with the paragraphs and articles concerning them below.
Additional protections are authorised on the inside against risks of fire or of the projection of fluids.

3.3 Groups T1, T3 and T4

For national entries the fuel, oil, water, hydraulic and lubricating lines should be atleast the ones used by an Indian vehicle manufacturer as an OE part

3.3.1 The fittings must be manufactured according to the specifications below :

Fuel lines (except the connections to the injectors and the cooling radiator on the circuit returning to the tank) must have a minimum burst pressure of 70 bars (1000 psi) at the minimum operating temperature of 135°C (250°F).
Lubricating oil lines must have a minimum burst pressure of 70 bars (1000 psi) at the minimum operating temperature of 232°C (450°F).

When flexible, these lines must have threaded connectors and an outer braid resistant to abrasion and flame (do not sustain combustion).
In the case of fuel lines, the metal parts which are isolated from the shell of the car by non-conducting parts must be connected to it electrically.

3.3.2 Lines containing hydraulic fluid under pressure must have a minimum burst pressure of 280 bars (4000 psi) at the minimum operating temperature of 232°C (450°F).
If the operating pressure of the hydraulic system is greater than 140 bars (2000 psi), the burst pressure must be at least double the operating pressure.
When flexible, these lines must have threaded connectors and an outer braid resistant to abrasion and flame (do not sustain combustion).

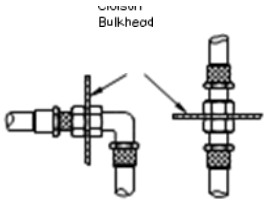
3.3.3 Lines containing cooling water and lubricating oil must be outside the cockpit.
Lines containing fuel or hydraulic fluid may pass through the cockpit or the cab but without any connections except on the front and rear bulkheads in accordance with the Drawings 253-59 and 253-60, and on the braking circuit (except T4).
With the exception of the brake master cylinders and their fluid tanks, any tank for hydraulic fluid is forbidden in the cockpit.

The brake fluid tanks must be securely fastened and be protected by a liquid- and flame-proof covering.

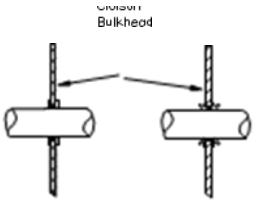
3.3.4 Fuel pumps and taps must be outside the cockpit.

3.3.5 Only the intakes, exits and lines for air for ventilating the cockpit are allowed inside the cockpit.

3.3.6 Self-sealing fast connectors may be installed on all the lines excepting the brake lines.



253-59



253-60

ART. 4 SAFETY OF THE BRAKING SYSTEM

Double circuit operated by the same pedal :
The pedal must normally control all the wheels ; in the event of a leakage at any point of the brake system pipes or of any kind of failure in the brake transmission system, the pedal must still control at least two wheels.
The vehicle must be fitted with a handbrake system acting on the brakes of one and the same axle and mechanically independent of the main system (hydraulic or mechanical).

ART. 5 ADDITIONAL FASTENERS

At least two additional fasteners must be fitted for each of the bonnet and boot lids.
This measure also applies to tailgates, but not to doors.

The original locking mechanisms must be rendered inoperative or removed.
These fasteners must be "American fasteners", a bayonet passing through the lid, and the latter being locked by a pin also attached to the lid.
If plastic parts are used, metal reinforcements must be provided for,
to prevent wrenching.

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

ART. 6 SAFETY HARNESSES

6.1 Safety harnesses

6.1.1 Harnesses in compliance with FMSCI/ FIA 8853/98 standard

Compulsory until 31.12.2020.

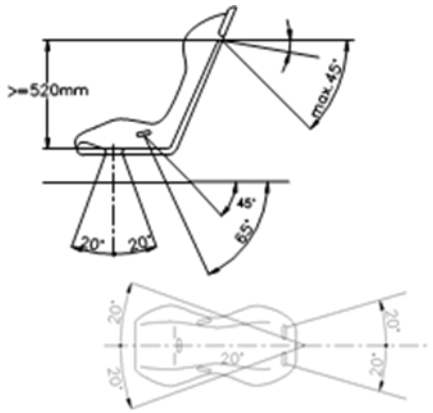
6.1.2 Harnesses in compliance with FIA 8853-2016 standard

Recommended, compulsory as from 01.01.2021.

Two belt cutters must be carried on board at all times.
They must be easily accessible for the driver and co-driver when seated with their harnesses fastened.
Furthermore, it is recommended that for competitions which include public road sections, the harnesses be equipped with push-button release systems.
The ASNs may homologate mounting points on the safety cage when this cage is being homologated, on condition that they are tested
National entries may have roll cages as per the FMSCI regulations.

6.2 Installation

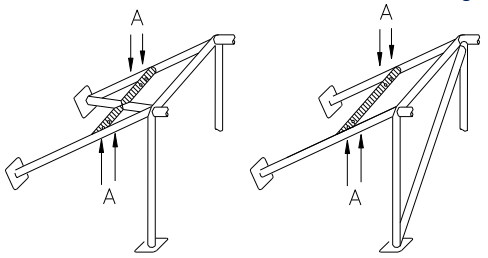
It is prohibited for the safety harnesses to be anchored to the seats or their supports.
The anchorage points of the series vehicle (Groups T2 and T4) must be used.
If the installation on the series anchorage points is impossible, new anchorage points must be installed on the shell or the chassis or the cabin, a separate one for each strap the furthest rearward as possible for the shoulder straps.
Care must be taken that the straps cannot be damaged through chafing against sharp edges.
The recommended geometrical locations of the anchorage points are shown in Drawing 253-61.



253-61

In the downwards direction, the shoulder straps must be directed towards the rear, and must be installed in such a way that they do not make an angle of more than 45° to the horizontal from the upper rim of the backrest (20° from the driver's shoulders in T4), although it is recommended that this angle does not exceed 10°.
The maximum angles in relation to the centreline of the seat are 20°
divergent or convergent (measurement in horizontal projection).
If possible, the anchorage point originally mounted by the car manufacturer on the C-pillar must be used.
Anchorage points creating a higher angle to the horizontal must not
be used.
If mounting on the series anchorages is impossible, the shoulder straps may be fixed or leaning on a rear transverse tube fixed to the cage or to the top anchorage points of the front belts.

The shoulder straps may also be fixed to the safety cage or to a reinforcement bar by means of a loop, and may also be fixed to the top anchorage points of the rear belts, or be fixed or leaning on a transverse reinforcement welded between the backstays of the cage (see Drawing 253-66) or on transverse tubular reinforcements according to Drawings 253-18, 253-26, 253-27, 253-28 or 253-30.

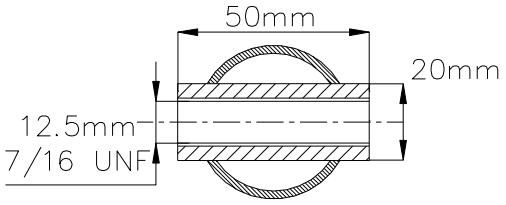


Ⓐ trous de montage pour harnais
mounting holes for harness

253-66

In this case, the use of a transverse reinforcement is subject to the following conditions :
The transverse reinforcement must be a tube measuring at least 38 mm x 2.5 mm or 40 mm x 2 mm, made from cold drawn seamless carbon steel, with a minimum tensile strength of 350 N/mm^2
The height of this reinforcement must be such that the shoulder straps, towards the rear, are directed downwards with an angle of between 10° and 45° (20° in T4) to the horizontal from the rim of the backrest (or the driver's shoulders in T4), an angle of 10° being recommended
The lap and crotch straps must not pass over the sides of the seat but through the seat, in order to wrap and hold the pelvic region over the greatest possible surface.

The lap straps must fit tightly in the bend between the pelvic crest and the upper thigh. Under no conditions must they be worn over the region of the abdomen
The straps may be attached by looping or by screws, but in the latter case an insert must be welded for each mounting point (see Drawing 253-67 for the dimensions).

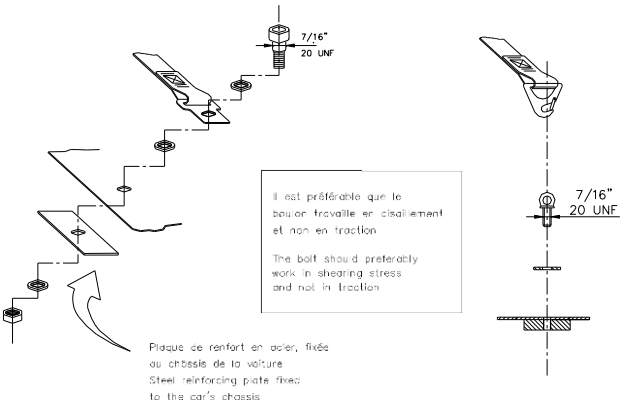


253-67

These inserts must positioned in the reinforcement tube and the straps must attached to them using bolts of M12 8.8 or 7/16 UNF specification.
Each anchorage point must be able to withstand a load of 1470 daN, or 720 daN for the crotch straps.
In the case of one anchorage point for two straps (prohibited for shoulder straps), the load considered must be equal to the sum of the required loads.
For each new anchorage point created, a steel reinforcement plate with a surface area of at least 40 cm^2 and a thickness of at least 3 mm must be used.

Principles of mounting to the chassis / monocoque :

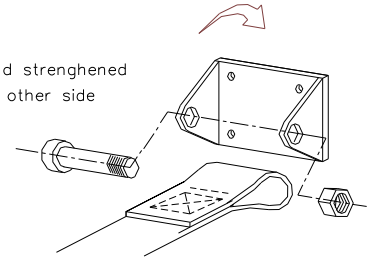
1) General mounting system : Drawing 253-62.



253-62

2) Shoulder strap mounting : Drawing 253-63.

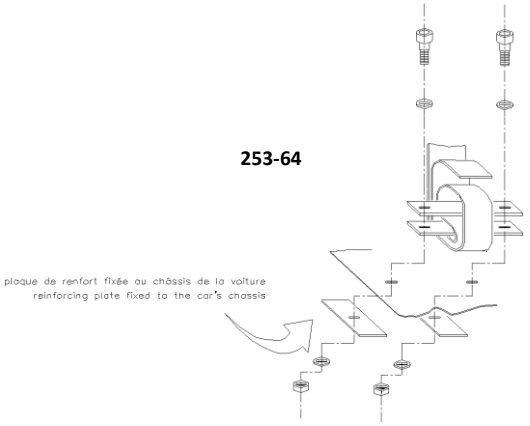
plate fixed to the chassis and strenghened by a reinforced plate on the other side



253-63

3) Crotch strap mounting : Drawing 253-64.

253-64



6.3 Use

A safety harness must be used in its homologation configuration without any modifications or removal of parts, and in conformity with the manufacturer's instructions.

The effectiveness and longevity of safety harnesses are directly related to the manner in which they are installed, used and maintained.

Elastic devices attached to the shoulder straps are forbidden.

The harnesses must be replaced after every severe collision, and whenever the webbing is cut, frayed or weakened due to the actions of chemicals or sunlight.

They must also be replaced if metal parts or buckles are bent, deformed or rusted.

Any harness which does not function perfectly must be replaced.

Note :

It is not allowed to mix parts of harnesses. Only complete sets, of proprietary manufacture, may be used.

ART. 7 EXTINGUISHERS – EXTINGUISHING SYSTEMS

National entries may follow the FMSCI regulations on EXTINGUISHING SYSTEMS (BIS certified manual dry power extinguishers are permitted.)

The use of the following products is prohibited : BCF, NAF.

7.1 Systems mounted

7.1.1

All cars (trucks) must be equipped with an extinguishing system in compliance with FIA Standard for plumbed-in Fire Extinguisher Systems in Competition Cars (1999) unless otherwise stated hereunder.

Extinguishing systems in compliance with FIA Standard 8865-2015 (Technical List n°52) are :

Compulsory for cars of Group T1, T2 and T4

Recommended for cars of Group T3

The system must be used in accordance with the manufacturer's instructions and with Technical Lists n°16 or n°52.

7.1.2 All extinguishers containers must be adequately protected and must be situated within the cockpit.

The container may also be situated in the luggage compartment on condition that it is at least 300 mm from the outer edges of the bodywork in all horizontal directions.

It must be secured by a minimum of 2 screw-locked metallic straps and the securing system must be able to withstand a deceleration of 25 g.

Anti-torpedo tabs are required.

The material of the securing system must operate within the -15°C to +80°C temperature range.

All extinguishing equipment must withstand fire.

Plastic pipes are prohibited and metal pipes are obligatory (unless specified otherwise).

7.1.3

The driver and co-driver(s) must be able to trigger the extinguishing system manually when seated normally with safety harnesses fastened and steering wheel in place.

The means of triggering must be marked with a letter "E" in red inside a white circle of at least 10 cm diameter with a red edge.

Groups T1, T3 and T2

National entries – A single cutoff switch, easily accessible from inside and outside may be used

Two means of triggering from the outside must be situated near to the circuit-breaker switches, and not combined with them.

Group T4

A mean of triggering from the outside must be situated near to the circuit-breaker switch, and not combined with it.

7.1.4 The system must work in all positions.

7.1.5

Extinguisher nozzles must be suitable for the extinguishant and be installed in such a way that they are not directly pointed at the occupants' heads.

7.2 Manual extinguishers

National entries may follow the FMSCI regulations on EXTINGUISHING SYSTEMS (BIS certified manual dry power extinguishers are permitted.)

7.2.1 All cars must be fitted with one or two fire extinguishers in compliance with Articles 7.2.2 to 7.2.5 hereunder.
All trucks must be fitted with two fire extinguishers in compliance with Articles 7.2.2 to 7.2.5 hereunder.
In all cases, Manual extinguishers in compliance with FIA Standard 8865-2015 (Technical List n°52) are recommended (Articles 7.2.2 to 7.2.5 hereunder do not apply in this case).

7.2.2 Permitted extinguishants :
AFFF, FX G-TEC, Viro3, powder or any other extinguishant homologated by the FIA.

7.2.3 Minimum quantity of extinguishant :

AFFF	2.4 liters
FX G-TEC	2.0 kg
Viro3	2.0 kg
Zero 360	2.0 kg
Powder	2.0 kg

7.2.4

All extinguishers must be pressurised according to the contents :

AFFF	in accordance with the manufacturer's instructions
FX G-TEC and Viro3	in accordance with the manufacturer's instructions
Zero 360	in accordance with the manufacturer's instructions
Powder	8 bars minimum, 13.5 bars maximum

Furthermore, each extinguisher when filled with AFFF must be equipped with a means of checking the pressure of the contents.

7.2.5 The following information must be visible on each extinguisher :

Capacity
Type of extinguishant
Weight or volume of the extinguishant
Date the extinguisher must be checked, which must be no more than two years after either the date of filling or the date of the last check, or corresponding expiry date.

All extinguishers must be adequately protected.

Their mountings must be able to withstand a deceleration of 25 g. Furthermore, only quick-release metal fastenings, with metal straps, are

accepted.
Anti-torpedo tabs are required. (recommended for national entries)
The use of fireproof lines is strongly recommended : plastic lines are not recommended and metallic lines are strongly recommended.

At least one of the extinguishers must be easily accessible for the driver and the co-driver(s), seated normally with safety harnesses fastened and steering wheel in place.

For trucks, in place of one of the two extinguishers, it is permitted to fit an extinguisher system featuring in the Technical List n°16 or in the Technical List n°52.

ART. 8 SAFETY CAGES

National entries- FMSCI roll cage regulations may used for T1, T3 and T2)

For T1, T3 and T2 only, see Article 287.3 for T4.
For Group T1 and T3 cars, the reference to the date of homologation must be understood as the date on which the FIA technical passport was first issued.

Articles 8.1 to 8.3 hereafter apply only to safety cages of cars **homologated as from 01.01.2017**.

For safety cages of cars **homologated before 01.01.2017**, refer to Articles 283-8 of the 2016 Appendix J.

8.1 General

The fitting of a safety cage is compulsory.
Unless otherwise stated in the applicable technical regulations, it may be either :

a. **Fabricated in compliance with the requirements of the following articles (as from Article 283-8.2) ;**

b. **Homologated or Certified by an ASN according to the FIA homologation regulations for safety cages (National entries- Safety roll cages need not conform to the FIA homologation as long as it conforms to the FMSCI regulations)**
Any cage which is homologated by an ASN must be identified by means of an identification plate affixed to it by the manufacturer; this identification plate must be neither copied nor moved (i.e. embedded, engraved, metallic plate).
The identification plate must bear the name of the manufacturer, the
homologation or certification number of the ASN homologation form or certificate and the individual series number of the manufacturer.

An authentic copy of the homologation document or certificate bearing the same numbers, approved by the ASN and signed by qualified technicians representing the manufacturer, must be presented to the competition's scrutineers.

c. **Homologated by the FIA according to the FIA homologation regulations for safety cages.**

For Group T2 only.
It must be the subject of an extension to the homologation form of the vehicle homologated by the FIA.

The manufacturer's identification must be as specified on the extension.
The purchasers must receive a numbered certificate corresponding to this.
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Any modification to a homologated or certified safety cage is forbidden.
To be considered as a modification, any process made to the cage by machining, welding, that involves a permanent modification of the material or the safety cage.
All repairs to a homologated or certified safety cage, damaged after an accident must be carried out by the manufacturer of the cage or with his approval.
The chromium plating of all or part of the cage is forbidden. Tubes must not carry fluids or any other item.

The safety cage must not unduly impede the entry or exit of the driver and co-driver.
Inside the cockpit, the passage of the following elements between the side members of the bodyshell and the safety cage is forbidden :
Electric cables
Lines carrying fluids (except windscreen washer fluid)
Lines of the extinguishing system.
Members may intrude into the occupant's space in passing through the dashboard and trims.

8.2 Definitions

8.2.1 Safety cage

Multi-tubular structure installed in the cockpit and fitted close to the bodyshell, the function of which is to reduce the deformation of the bodyshell (chassis) in case of an impact.

8.2.2 Rollbar

Tubular frame forming a hoop with two mounting feet.

8.2.3 Main Rollbar (Drawing 253-1)

Transverse and near-vertical (maximum angle +/-10° to the vertical) single piece tubular hoop located across the vehicle just behind the front seats.
The tube axis must be within one single plane.

8.2.4 Front Rollbar (Drawing 253-1)

Similar to main Rollbar but its shape follows the windscreen pillars and top screen edge.

8.2.5 Lateral Rollbar (Drawing 253-2)

Near-longitudinal and near-vertical single piece tubular hoop located along the right or left side of the vehicle, the front pillar of which follows the windscreen pillar and the rear pillar of which is near- vertical and located just behind the front seats.

The rear pillar must be straight in side view.

8.2.6 Lateral half-rollbar (Drawing 253-3)

Identical to the lateral rollbar but without the rear pillar.

8.2.7 Longitudinal member

Near-longitudinal single piece tube joining the upper parts of the front and main rollbars.

8.2.8 Transverse member

Near-transverse single piece tube joining the upper parts of the lateral half-rollbars or of the lateral rollbars.

8.2.9 Diagonal member

Transverse tube between :
One of the top corners of the main rollbar, or one of the ends of the transverse member in the case of a lateral rollbar, and at the lower mounting point on the opposite side of the rollbar.
or
The upper end of a backstay and the lower mounting point of the other backstay.

8.2.10 Removable members

Members of a safety cage which must be able to be removed.

8.2.11 Cage reinforcement

Member added to the safety cage to improve its strength.

8.2.12 Mounting foot

Plate welded to the end of a rollbar tube to permit its bolting to the bodyshell/chassis, usually onto a reinforcement plate.

This plate may be welded to the bodyshell/chassis in addition to the bolts.

8.2.13 Reinforcement plate

Metal plate fixed to the bodyshell/chassis under a rollbar mounting foot.

8.2.14 Gusset (Drawing 253-34)

Reinforcement for a bend or junction made from bent sheet metal with a U shape the thickness of which must not be less than 1.0 mm. The ends of this gusset (point E) must be situated at a distance from the top of the angle (point S) of between 2 to 4 times the outer diameter of the biggest of the tubes joined.
A cut-out is permitted at the top of the angle but its radius (R) must be no greater than 1.5 times the outer diameter of the biggest of the tubes joined.
The flat sides of the gusset may have a hole the diameter of which must not be greater than the outer diameter of the biggest of the tubes joined.

253-34

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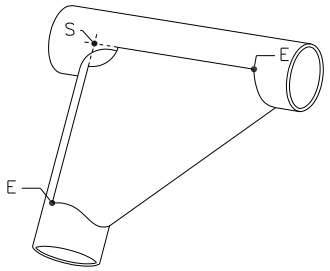


8.3 Specifications

8.3.1 Base structure

The base structure must be made according to one of the following designs :

Base structure 1 (Drawing 253-1)

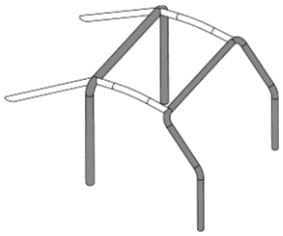
1 main rollbar
1 front rollbar
2 longitudinal members
2 backstays
6 mounting feet

Base structure 2 (Drawing 253-2)

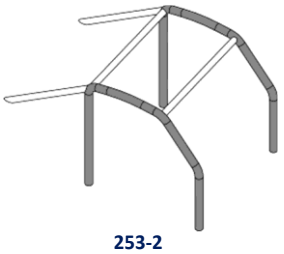
2 lateral rollbars
2 transverse members
2 backstays
6 mounting feet

Base structure 3 (Drawing 253-3)

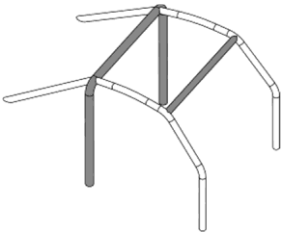
1 main rollbar
2 lateral half-rollbars
1 transverse member
2 backstays
6 mounting feet



253-1



253-2



253-3

The vertical part of the main rollbar must be as close as possible to the inner side panels of the bodyshell and must have only one bend between its lower part and its upper part.

The pillar of a front rollbar (or the front pillar of a lateral rollbar or of a half-rollbar) must follow the windscreen pillars as close as possible and have only one bend between its lower part and its upper part.

The following connections must be situated at the roof level :

- Longitudinal members to the front and main rollbars
- Transverse members to the lateral rollbars
- Semi-lateral rollbar to the main rollbar

There must be no more than 4 removable connections at the roof level.
The backstays must be attached at the roof level and near the top outer bends of the main rollbar, on both sides of the car, possibly by means of dismountable joints.
They must form an angle of at least 30° with the vertical, must run rearwards and be straight and as close as possible to the inner side panels of the bodyshell.

8.3.2 Design

Once the base structure is defined, it must be completed with compulsory members and reinforcements (see Article 283-8.3.2.1), to which optional members and reinforcements may be added (see Article 283-8.3.2.2).
Unless explicitly permitted and unless dismountable joints are used in compliance with Article 283-8.3.2.4, all members and tubular reinforcements must be single pieces.

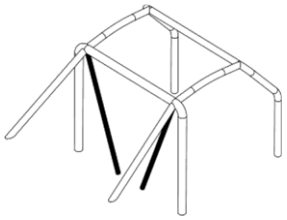
8.3.2.1 Compulsory members and reinforcements

8.3.2.1.1 Diagonal member

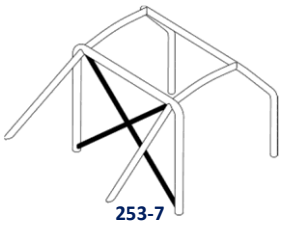
The cage must have one of the diagonal members defined by :

- Drawings 283-8 (Groups T1 and T3 only) and 253-7.

In the case of Drawing 283-8, the distance between the two mountings on the bodyshell/chassis must not be greater than 400mm.
Members must be straight and may be removable.
The upper end of the diagonal must join the main rollbar no further than 100 mm from its junction with the backstay, or the backstay no more than 100 mm from its junction with the main rollbar.
The lower end of the diagonal must join the main rollbar or the backstay no further than 100 mm from the mounting foot (except for the case of Drawing 283-8) (see Drawing 253-52 for the measurement).



283-8



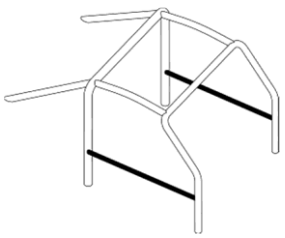
253-7

8.3.2.1.2 Doorbars

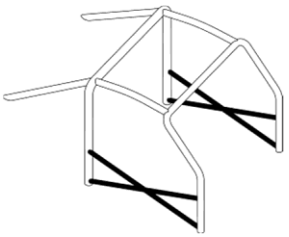
One or more longitudinal members must be fitted on each side of the vehicle according to Drawings 283-9 or 253-9.
The tube(s) making up this reinforcement must be built into the cage and its(their) angle with the horizontal tube must not exceed 15° (angled downwards towards the front).
Drawings may be combined.
The design must be identical on both sides.
For competitions without co-driver, members may be fitted on the
driver's side only and it is not compulsory for the design to be identical on both sides.
The side protection must be as high as possible, at least 10 cm from the bottom of the seat in the case of Drawing 283-9, but in all cases its upper attachment points must not be higher than half the total height of the door measured from its base.

If these upper attachment points are located in front of or behind the door opening, this height limitation applies to the corresponding intersection of the member and the door opening (side view).
In the case of Drawing 253-9, it is recommended that the lower attachment points of the members be directly onto the longitudinal member of the bodyshell/chassis and that at least one part of the "X" be a single-piece bar.

The connection of the doorbars to the windscreen pillar reinforcement (Drawing 253-15) is authorised.



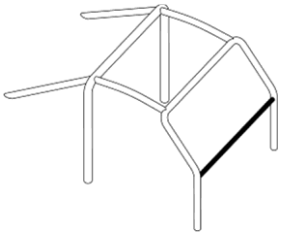
283-9



253-9

8.3.2.1.3 Transverse member (Drawing 253-29)

It must be straight.
It may be placed as high as possible but its lower edge must not be higher than the uppermost point of the dashboard.
It must not be positioned below the steering column.

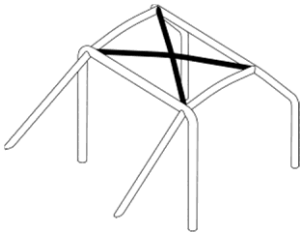


253-29

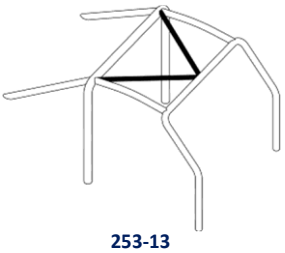
8.3.2.1.4 Roof reinforcement

The upper part of the safety cage must be reinforced with members according to one of Drawings 253-12, 253-13 and 253-14.

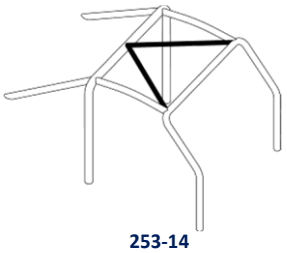
The members may follow the curve of the roof.
For competitions without co-drivers, in the case of Drawing 253-12 only, only one diagonal member may be fitted but its front connection must be on the driver's side.
The ends of the members must be less than 100 mm from the junction between rollbars and members (not applicable to the top of the V formed by reinforcements in Drawings 253-13 and 253-14). Junction of tubes at the top of the V :
If the tubes do not join each other, the distance between them must not be more than 100 mm at their connection with the rollbar or the transverse member.



253-12



253-13

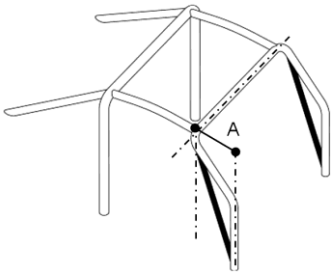


253-14

8.3.2.1.5 Windscreen pillar reinforcement

It must be fitted on each side of the front rollbar (Drawing 253-15).
It may be bent on condition that it is straight in side view and that the angle of the bend does not exceed 20°.
Its upper end must be less than 100 mm from the junction between the front (lateral) rollbar and the longitudinal (transverse) member.

Its lower end must be less than 100 mm from the (front) mounting foot of front (lateral) rollbar (see Drawing 253-52 for the measurement).
For cars homologated as from 01.01.2018 :
If this reinforcement intersects the doorbars, it must be split in several parts.



253-15

8.3.2.1.6 Reinforcement of bends and junctions

The junctions between :
The diagonal members of the main rollbar
The roof reinforcements (configuration of Drawing 253-12 only)
The doorbars (configuration of Drawing 253-9 only)

The doorbars and the windscreen pillar reinforcement (Drawing 253-15) must be reinforced by a minimum of 2 gussets complying with Article 283-8.2.14.
If the doorbars and the windscreen pillar reinforcement are not situated in the same plane, the reinforcement may be made of fabricated sheet metal, provided it complies with dimensions in Article 283-8.2.14.

8.3.2.2 Optional members and reinforcements

Unless otherwise stated in Article 283-8.3.2.1, members and reinforcements shown in Drawings 253-16 to 253-21, 253-23 to 253-28 and 253-30 to 253-33 are optional. Reinforcement tubes must be straight.

They must be welded or installed by means of dismountable joints (see Article 283-8.3.2.4).
All members and reinforcements mentioned above may be used separately or combined with one another.

8.3.2.2.1 Backstay diagonals (Drawings 253-20 and 253-21)

The configuration of Drawing 253-22 is compulsory if a roof reinforcement complying with Drawing 253-14 is used.

8.3.2.2.2 Front suspension mounting points (Drawing 253-25)

The extensions must be connected to the front suspension top mounting points.

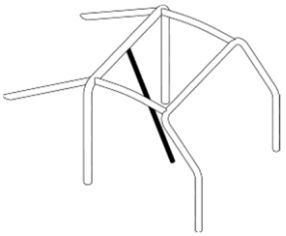
8.3.2.2.3 Transverse members (Drawing 253-26 to 253-28 and 253-30)

Transverse members fitted on the main rollbar or between the backstays may be used for the safety harness mountings in accordance with Article 283-6.2 (use of dismountable joints prohibited in this case).
For members shown on Drawings 253-26 and 253-27, the angle between the central leg and the vertical must be at least 30°.

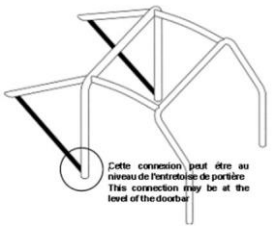
8.3.2.2.4 Reinforcement of bends or junctions (Drawings 253-31 to 253-33)

Reinforcements must be made of tubes or bent-sheet metal with U shape complying with Article 283-8.2.14.
The thickness of the components forming reinforcement must not be less than 1.0 mm.
The ends of the tubular reinforcements must not be more than half way down or along the members to which they are attached, except for those of the junction of the front rollbar, which may join the junction of the door member/front rollbar.

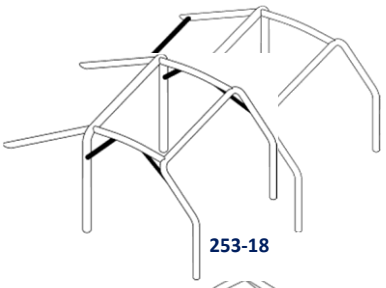
8.3.2.2.5 Mounting of the lifting jacks For Group T1 and T3 cars, the lifting jacks may be fixed to the safety cage.



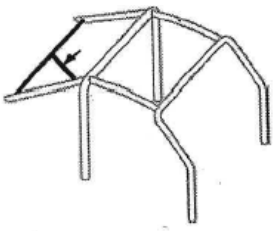
253-16



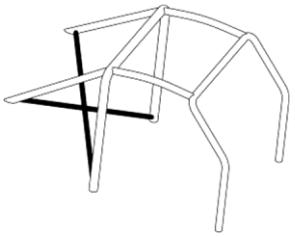
253-17



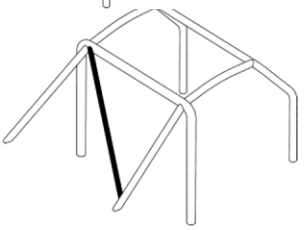
253-18



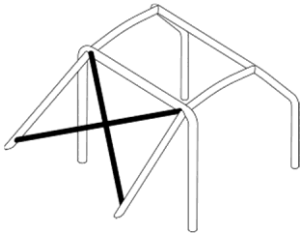
253-18B



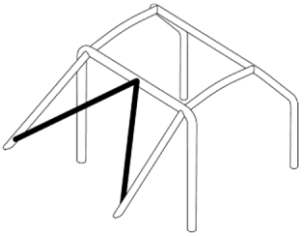
253-19



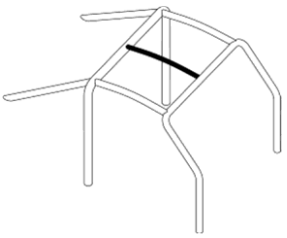
253-20



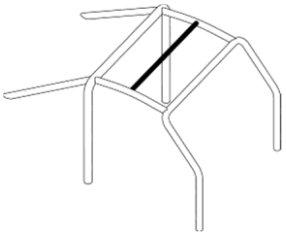
253-21



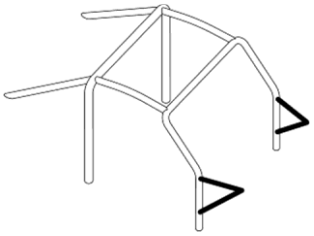
253-22



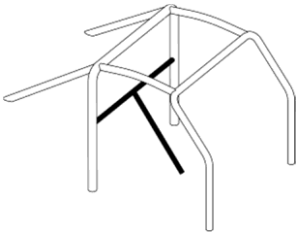
253-23



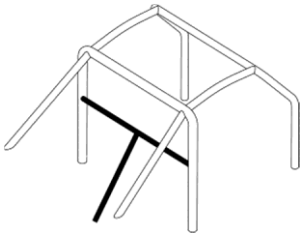
253-24



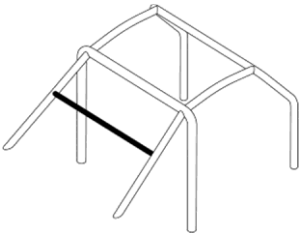
253-25



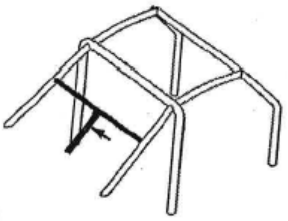
253-26



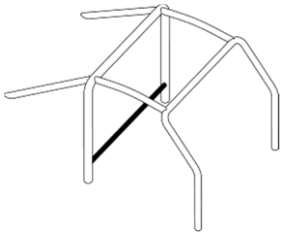
253-27



253-28

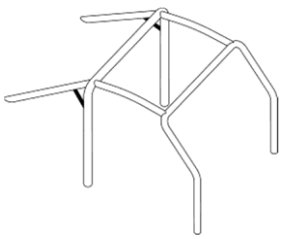


253-28B

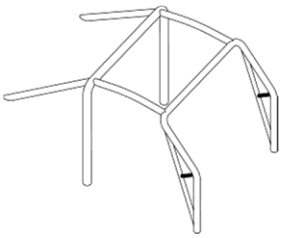


253-30

253-31



253-32



253-33

8.3.2.3 Minimum configuration of the safety cage

The minimum configuration of a safety cage is defined as follows :

With co-driver	Without co-driver
Drawing 283-1	Drawing 283-2 or symmetrical

The base structure may vary according to Article 283-8.3.1.

The diagonal member may vary according to Article 283-8.3.2.1.1. Roof reinforcement may vary according to Article 283-8.3.2.1.4.

In the case of a car with a crew of three, the safety cage must comply with Drawing 283-3, with a second main rollbar situated close to the back(s) of the rear seat(s).

With regard to pick-up vehicles, the cockpit of which is not large enough to allow the fitting of the compulsory basic safety cage, it is possible to mount the rollbar(s) as per one of the Drawings 283-4 to 283-7.

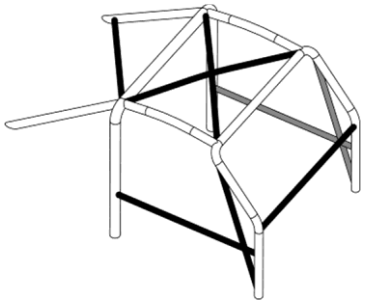
This possibility is open to pick-ups only, to the exclusion of all other types of bodywork and all the points of the installation must comply with the prescriptions of the other paragraphs (including the material specifications of Article 283-8.3.3).

Drawing 283-4 : One diagonal member compulsory.

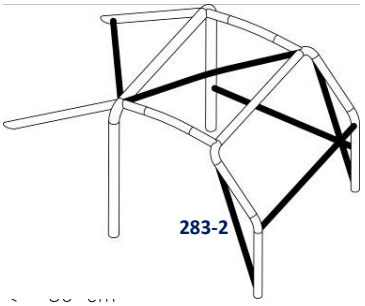
Drawing 283-5 : Two diagonal members compulsory, one for the 4-point cage inside the cockpit (according to Drawing 253-5), one for the 4-point outside cage (according to Drawing 253-4 or 253-5).

Drawing 283-6 : One diagonal member compulsory (according to Drawing 253-4 or 253-5).

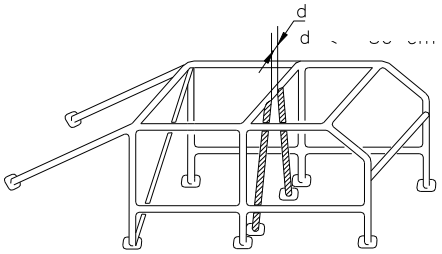
Drawing 283-7 : Two diagonal members compulsory, one for the interior 4-point cage, one for the exterior 6-point cage.



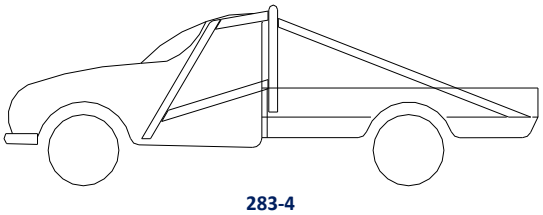
283-1



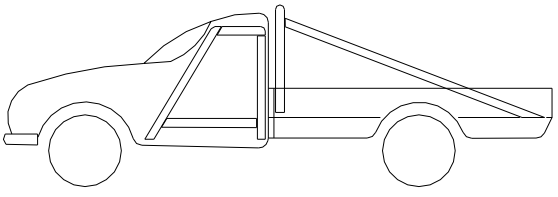
283-2



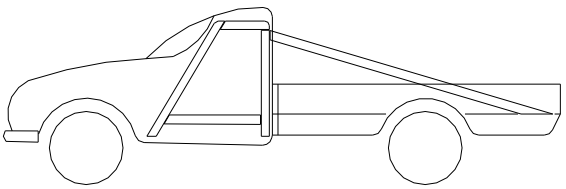
283-3



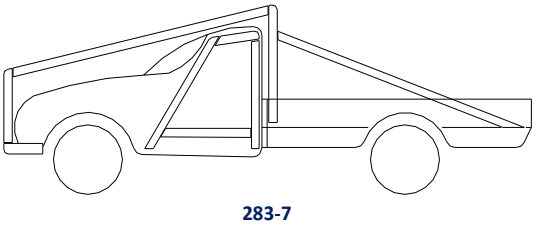
283-4



283-5



283-6



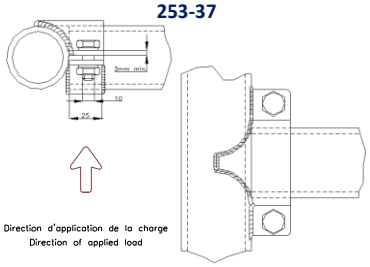
283-7

8.3.2.4 Removable members

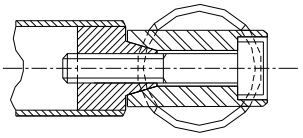
Should removable members be used in the construction of a safety cage in accordance with the present regulations, the dismountable joints used must comply with a type approved by the FIA (Drawings 253-37 to 253-47).
The removable connections must be fitted within the extension of the axis of the tubes, and must not be offset.
They must not be welded once assembled.
The screws and bolts must have a minimum quality of 8.8 (ISO standard).

Should removable members be used in the construction of a safety cage in accordance with the present regulations, the dismountable joints used must comply with a type approved by the FIA (Drawings 253-37 to 253-47).
The removable connections must be fitted within the extension of the axis of the tubes, and must not be offset.
They must not be welded once assembled.
The screws and bolts must have a minimum quality of 8.8 (ISO standard).
Dismountable joints complying with Drawings 253-37, 253-40, 253-43, 253-46 and 253-47 are solely for attaching optional members and reinforcements described by Article 283-8.3.2.2, and are forbidden for joining the upper parts of the main rollbar, of the front rollbar, of the lateral half-rollbars and of the lateral rollbars.

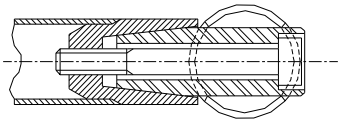
253-37

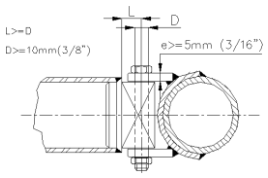


253-38

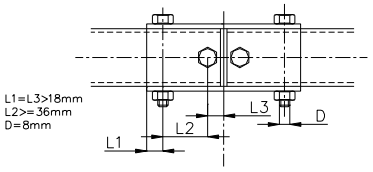


253-39

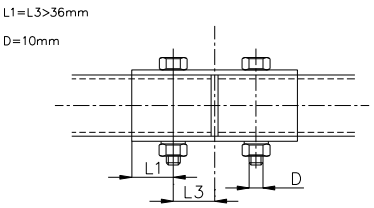




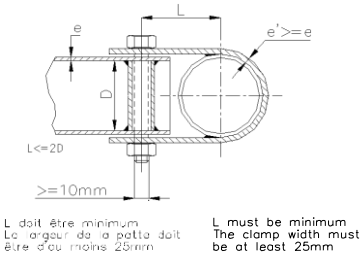
253-40



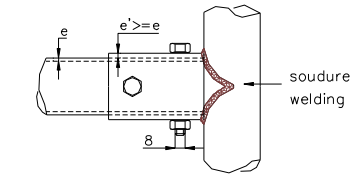
253-41

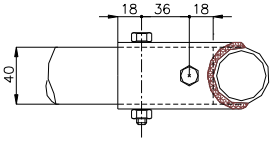


253-42

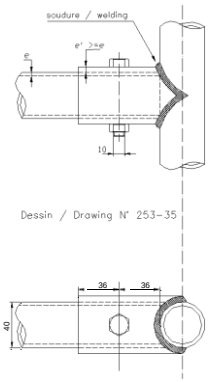


253-43

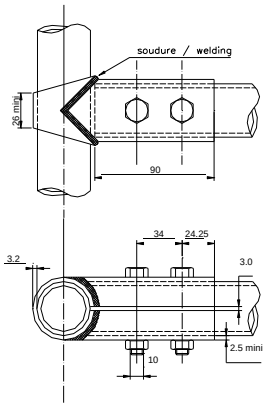




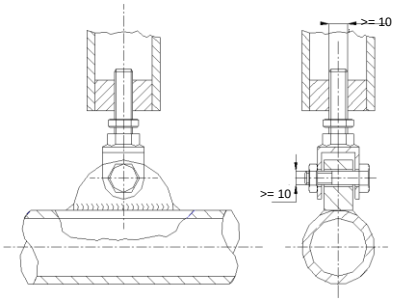
253-44



253-45



253-46



253-47

8.3.2.5 Installation constraints

The safety cage must be entirely contained between the following limits :

- 200 mm in front of the front wheel axis
- Rear wheel axis.

Nevertheless, the backstays may extend beyond this plane to be attached to the chassis.
On a monocoque chassis, the backstays may extend beyond the rear suspension mounting points, provided that they are fixed or welded onto a hollow body of the monocoque chassis.
The rear face of the headrest subjected to the regulation load defines the position of the tube of the main rollbar which may not protrude beyond it in vertical projection.
The distance between the occupants' helmets and the tubes of the safety cage situated forward of the seat backs must be no less than 80 mm.

8.3.2.6 Mounting of safety cages to the bodyshell/chassis

The safety cages must be fixed directly to the steel bodyshell or the main chassis, i.e. onto the structure to which the suspension loads are transmitted (with if necessary additional reinforcement at the joint between the chassis and the foot of the rollbar).

Minimum mounting points are :

- 1 for each pillar of the front rollbar
- 1 for each pillar of the lateral rollbars or lateral half-rollbars
- 1 for each pillar of the main rollbar
- 1 for each backstay.

To achieve an efficient mounting to the bodyshell, the original interior trim may be modified around the safety cages and their mountings by cutting it away or by distorting it.
However, this modification does not permit the removal of complete parts of upholstery or trim.
Where necessary, the fuse box may be moved to enable a safety cage to be fitted.

Mounting points of the front, main, lateral rollbars or lateral half- rollbars :
Each mounting foot must be attached by at least three bolts on a steel reinforcement plate at least 3 mm thick and of at least 120 cm^2 area which is welded to the bodyshell (contact surface between the reinforcement plate and the bodyshell).
Examples according to Drawings 253-50 to 253-56.
For Drawing 253-52, the reinforcement plate need not necessarily be welded to the bodyshell.

In the case of Drawing 253-54, the sides of the mounting point may be closed with a welded plate.
Fixing bolts must have a minimum diameter of M8 and a minimum quality of 8.8 (ISO standard).
Fasteners must be self-locking or fitted with lock washers.

The angle between 2 bolts (measured from the tube axis at the level of the mounting foot cf. Drawing 253-50) must not be less than 60 degrees.

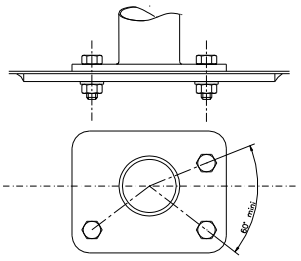
Mounting points of the diagonal members of the main rollbar
(Drawing 283-8 only) :
They must be fixed to reinforcement plates as defined above.

Mounting points of the backstays
Each backstay must be secured by a minimum of 2 M8 bolts with mounting feet of at least 60 cm^2 area (Drawing 253-57), or secured by a single bolt in double shear (Drawing 253-58), provided it is of adequate section and strength and provided that a bush is welded into the backstay.

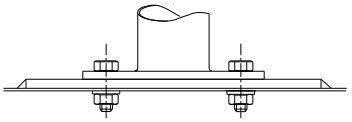
Their mountings must be reinforced by plates. These are minimum requirements.
In addition, more fasteners may be used, the support plates of the mounting feet may be welded to reinforcement plates, the safety cage (as defined by Article 283-8.3.1) may be welded to the bodyshell/chassis.

Special case
Safety cages equipping vehicles with a tubular or semi-tubular space frame (Groups T1 and T3) must be welded to the chassis or be an integral part of it.
The mounting points of the front, lateral, semi-lateral and main rollbars must be situated at least at the level of the cockpit floor.

At least one tube of the same section and quality must extend each foot of the rollbar downwards.
Another diagonal is recommended, as well as a horizontal tube at floor level.
For non-steel bodyshells/chassis, any weld between the cage and the bodyshell/chassis is prohibited, only the bonding of the reinforcement plate on the bodyshell/chassis is permitted



253-50



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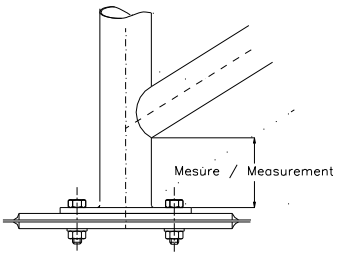

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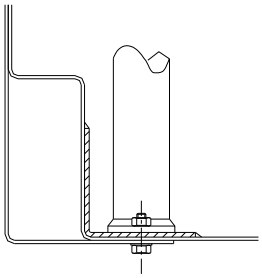

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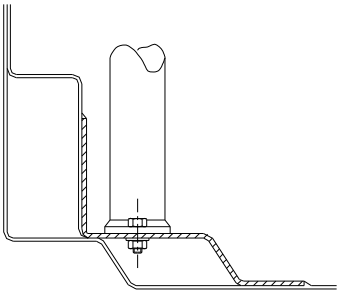

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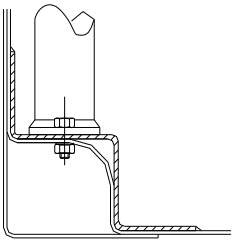

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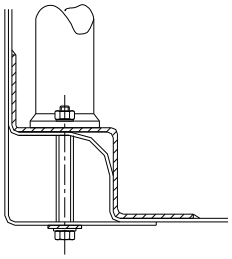

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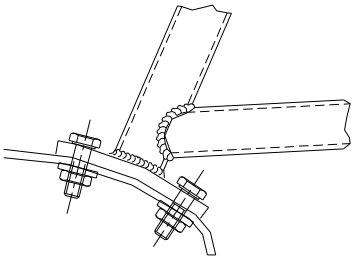
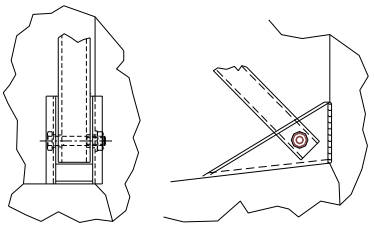


253-57



253-58

8.3.3 **Tube specifications** Only tubes with a circular section are authorised.

Specifications of the tubes used :

		Warning : For Group T1 and T3 cars, Articles 285-2 and 286-2 are prevailing for dimensions.	
Material	***Min. tensile strength***	***Minimum dimensions (mm)***	***Use***
Cold drawn seamless unalloyed carbon steel (see below) containing a maximum of 0.3 % of carbon	350 N/mm^2	45 x 2.5 (1.75"x0.095") */ or* 50 x 2.0 (2.0"x0.083")	*Main rollbar (Drawings 253-1 and 253-3) or Lateral rollbars +Rear transverse member (Drawing 253-2)*
		38 x 2.5 (1.5"x0.095") */ or* 40 x 2.0 (1.6"x0.083")	*Lateral half-rollbars nd other parts of the safety cage (unless otherwise indicated in the articles above)*

NOTE :
For unalloyed steel, the maximum content of additives is 1.7 % for manganese and 0.6 % for other elements.

These figures represent the minima allowed.
In selecting the steel, attention must be paid to obtaining good elongation properties and adequate weldability.
The tubing must be bent by a cold working process and the centreline bend radius must be at least 3 times the tube diameter.
If the tubing is ovalised during bending, the ratio of minor to major diameter must be 0.9 or greater.

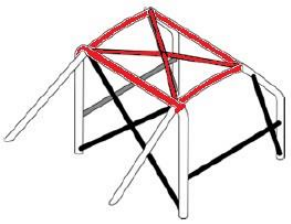
The surface at the level of the bends must be smooth and even, without ripples or cracks.

8.3.4 Guidance on welding

These must be carried out along the whole perimeter of the tube.
All welds must be with full penetration and preferably using a gas- shielded arc.
When using heat-treated steel the special instructions of the manufacturers must be followed (special electrodes, gas protected welding).

8.4 Protective padding

Where the occupants' bodies could come into contact with the safety cage, flame retardant padding must be provided for protection.
All tubes of the cage identified on drawing 253-68 and all roof reinforcements must be fitted with paddings in compliance with FIA standard 8857-2001, type A (see technical list n°23). (National entries- It is not mandatory to have FIA complaint roll cage padding. It has to be fire proof.)
Each padding must be fixed in such a way that it is not moveable from the tube.
Application : For all categories.
For competitions without co-driver, paddings are compulsory on driver's side only.



253-68

ART. 9 REAR VIEW

The rear view must be efficiently obtained by means of two outside mirrors (one on each side of vehicle).

ART. 10 TOWING-EYE

All cars must be at least equipped with a rear and front towing-eye.

This towing-eye must be very firmly fixed and it must not be used to lift the car.
It must be clearly visible and painted in yellow, red or orange, and must be located within the perimeter of the car.
Minimum inside diameter : 50 mm.
All trucks must be fitted with a front towing attachment of strength and size adequate for towing the vehicle on the itinerary of the competition.
It must be painted in a contrasting colour (yellow, red or orange) for easy identification and be available for immediate use when required.
It must not project beyond the surface of the bumper bodywork.

ART. 11 WINDSCREEN, WINDOWS, APERTURES

Windscreen and windows

A windscreen of laminated glass must be fitted, bearing a mark to verify the fact.
It may be fitted with one or several transparent and colourless films (maximum total thickness of 400 microns) on its outer surface, unless this is forbidden by the traffic regulations of the country(ies) through which the competition is run.
All other windows may be of any type of homologated safety glass.

A sun strip for the windscreen is authorised (see Appendix L), on condition that it allows the occupants to see the road signs (traffic lights, traffic signs…).
In the event of absence of a windscreen at the start of a leg, the wearing of a full face helmet with a visor or of motocross type goggles, or of an open face helmet with motocross type goggles is compulsory for all members of the crew, otherwise the vehicle shall not be admitted to the start of the leg.

During legs, crews must always have motocross type goggles in the cockpit, to be used in case of windscreen breakage.

If, after an accident, the deformation of the bodywork does not allow the replacement of the windscreen by a windscreen made from laminated glass, it may be replaced by a windscreen made from polycarbonate with a minimum thickness of 5 mm.
If the windscreen is glued, it must be possible, from inside the cockpit, to break the windows of the front doors or to remove them without using tools.
The rear and side windows, if transparent, must be made from a homologated material or from polycarbonate with a minimum thickness of 3 mm.
The use of transparent and colourless anti-shatter films on the interior face of the side windows, the rear window, the glass sunroof and the outside rear-view mirrors is mandatory (only for parts made from glass). The thickness of these films must not be greater than
100 microns and they must be fitted with an indicator allowing the control of their presence.

Front door windows may be fitted with one or several transparent and colourless films (maximum total thickness of 400 microns).

The use of tinted glass/films is permitted on other side windows and on the rear window. In such cases it must be possible for a person situated 5 m from the car to see the occupants as well as the contents of the car.

Nets

All vehicles of which the front doors are fitted with wind-down windows or glass windows must be equipped with protection nets affixed to these doors using a quick release system situated on the lower part.
The use of "clip" fixings is recommended.
The fixings of the net on the upper part must not be removable without the use of tools.
These nets must have the following characteristics :

Minimum width of the strips :	19 mm
Minimum size of the meshes :	25 x 25 mm
Maximum size of the meshes :	60 x 60 mm

and, viewed from the side, must reach from the centre of the steering wheel to the rearmost point of the seat on the side concerned.

ART. 12 SAFETY FIXING DEVICES FOR WINDSCREEN

Such devices may be used freely.

ART. 13 GENERAL CIRCUIT BREAKER

The anti-theft device of the original main ignition switch ("Neiman") must be removed.
The general circuit breaker must cut all electrical circuits, battery, alternator or dynamo, lights, hooters, ignition, electrical controls, etc.) and must also stop the engine.

For Diesel engines having no electronically controlled injectors, the circuit breaker must be coupled with a device cutting off the intake into the engine.
It must be a spark-proof model, and must be accessible from inside the car by the driver and the co-driver(s) seated and secured by their safety harnesses, and from outside the car.

Group T1, T3 and T2 cars must be equipped with two external switches, one on either side of the bottom of the windscreen pillars. (National entries- atleast one cutoff switch which must be accessible from inside the car by the driver and the co-driver(s) seated and secured by their safety harnesses, and from outside the car.)

They must be marked by a red spark in a white-edged blue triangle with a base of at least 12 cm.
Trucks must be fitted with a circuit breaker and/or a choker device which shuts down the engine and disconnects the batteries from all electrical circuitry (except any automatic fire extinguisher system).

This switch must be painted yellow and identified by a red spark on a white edged, blue triangle.

A prominent notice not less than 20 cm in width must be affixed to indicate the location of the switch.
The circuit breaker and the choker device must be placed on the outside, in the middle of the front face of the cab, beneath the windscreen.
The circuit breaker must be easily accessible at all times, even if the vehicle is lying on its side or roof.
In addition, an engine shut-down switch must be fitted in the cab, with its on-off positions clearly marked.

It must be operable by the driver and the co-driver(s) when normally seated and secured by their safety harnesses. The switch must also isolate any electric fuel pumps.
Note :
In the case of vehicles which use a mechanical engine shut-down system, a shut-down device may be fitted on the outside, separate to the electrical circuit breaker. However, the device must be fitted close to the circuit breaker, be clearly marked and have clear operating instructions (e.g. pull knob to stop engine).

ART. 14 FIA APPROVED SAFETY FUEL TANKS

National entries – Fuel tanks need not be FIA complaint, provided they are OE fuel tanks from an Indian car/ fuel tank manufacturer

14.1 Specifications FT3-1999, FT3.5- or FT5-1999

Only these specifications are accepted by the FIA.
The technical specifications for these tanks are available, on request, from the FIA.

14.1.1 Marking and validity of tanks

Each tank must have a marking with the following information :

- Name of the FIA standard
- FIA homologation number
- Name of the manufacturer
- Serial number
- Date of end of validity

No bladder may be used more than 5 years after the date of manufacture, unless inspected and recertified by the manufacturer for a period of up to another two years.

A leak-proof cover, made from non-flammable material, easily accessible and removable only with the use of tools, must be installed in the protection for tanks, in order to allow the checking of the validity expiry date.

14.2 Applications of these specifications and Installation of tanks

See the technical regulations of the Group concerned.
The use of safety foam in FT3-1999, FT3.5-1999 or FT5-1999 tanks is recommended.
Collecting tanks with a capacity of less than 1 litre are of free construction, but their number is limited by that of the main tanks equipping the vehicle.

Holes must be provided for in the floor of the boot in order to allow the outflow of the fuel in the event of a leak.
For cars in respect of which the manufacturer has not provided for a specific luggage compartment, as an integral part of the bodywork, the additional tank may be situated inside the cockpit to the rear of the rearmost seat.
In all cases, the tank including the filling pipes, must be totally insulated by means of flameproof and liquid-tight bulkheads or casing, preventing the infiltration of fuel into the cockpit or contact with the exhaust pipes.

Should the tank be installed in the luggage compartment, and when the rear seats are removed, the cockpit must be separated from the tank by a fire- resistant, flameproof and liquid-tight bulkhead or casing.
In the case of a two-volume car, it is possible to use a non-structural,non-flammable bulkhead made from transparent plastic between the cockpit and the location of the tank.
Tanks must be efficiently protected and very firmly attached to the bodyshell or the chassis of the car.

The location and dimension of the filler hole and cap may be changed on condition that the new installation does not protrude beyond the bodywork and gives every guarantee against a possible leakage of fuel into one of the inner compartments of the car.

These holes may be situated in the location of the rear or side windows.
The filler hole and the air vent must always be situated outside the cockpit on a metal part.
If there is a filler hole inside the bodywork, it must be surrounded by a receptacle with outflow to the outside.
The air vent must either come out on the roof of the vehicle or make a loop as high as possible inside the vehicle and come out under the vehicle on the opposite side to its connection to the tank.
These air vents must be fitted with self-sealing valves.

14.3 Fuel tanks with filler necks

All cars fitted with a fuel tank with a filler neck passing through the cockpit must be equipped with a non-return valve homologated by the FIA. This valve, of the type "with one or two flaps", must be installed in the filler neck on the tank side."
The filler neck is defined as being the means used to connect the fuel filler hole of the vehicle to the fuel tank itself.
National Entries- The non return Valve on the fuel tank filler neck need not be FIA homologated but can be an OE part from an Indian manufacturer

14.4 Refueling

Prior to any refueling operation, it is necessary to establish earthing common to the vehicle and to the refueling device.

14.5 Tank ventilation

The tank must be equipped with ventilation complying with Article 283-14.2, unless the series production tank, fuel feed circuit and ventilation are retained.

ART. 15 PROTECTION AGAINST FIRE

An efficient protective screen must be placed between the engine and all the mechanical parts on the one hand, and the occupant's seats on the other hand, in order to prevent the direct passage of flames in case of fire.

ART. 16 LIGHTING EQUIPMENT

The lighting equipment must comply on all points with the International Convention on Road Traffic.
Each vehicle must be fitted with at least :

- 2 headlights (combined passing lights/headlights)
- 2 front lamps
- 2 rear lamps and number plate lighting
- 2 stop lights
- 2 flashing indicators at the front and at the rear
- Distress lights.

Two additional headlights may be fitted, provided that they are not situated more than 250 mm above the base of the windscreen.

They may be housed inside the supports of the external rear view mirrors.
Each 'stop' light must have a minimum surface of 50 cm^2. The two headlamps and the additional lamps must be located in front of the axis of the front wheels, at a maximum height corresponding to that of the line of the bonnet/bottom of the windscreen (8 lamps maximum).
All forward facing lamps of more than 32 cm^2 surface area must be adequately protected and secured in case of glass breakage, by a grille or additional translucent panel.
Each vehicle must also be equipped with two additional red rear fog lamps, twinned or placed side by side with two additional "stop" lights.
Each of these lamps must be approved according to the ECE R38 road standard (or an equivalent or stricter standard from another country), or approved by the FIA (Technical list n°19).

They must be situated at a minimum height of 1.25 m from the ground, visible from the rear and attached to the outside of the vehicle. They must be fixed to both rear sides of the vehicle or, for pick-up type vehicles, to the upper angles of the rear part of the cabin.
These lights must be constantly switched on during the running of the selective section upon the directions of the Clerk of the Course. All the lighting equipment must be maintained in perfect working order throughout the entire duration of the competition.
A crew may not be allowed to start a stage until the electric circuit has been mended should it have been ascertained as being faulty.

ART. 17 AUDIBLE WARNING DEVICE

Each vehicle must be equipped with a powerful audible warning device, in working order throughout the entire duration of the competition. (National entries- recommended but not mandatory)

ART. 18 WHEELS AND TYRES

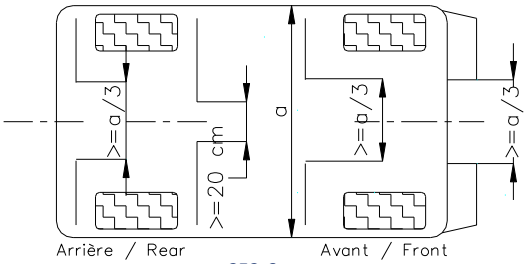
Each vehicle must include at least two spare wheels, identical to those with which the car is fitted, which must be very firmly secured throughout the entire duration of the competition.
Tyre temperature and/or pressure monitoring systems are authorised on condition that they are independent of any other system.

ART. 19 MUDFLAPS

Transverse mud flaps are accepted under the following conditions :

They must be made from flexible material
They must cover at least the width of each wheel, but at least one third of the width of the car (see Drawing 252-6) must be free behind the front wheels and the rear wheels
There must be a gap of at least 20 cm between the right and left mud flaps in front of the rear wheels
The bottom of these mud flaps must be no more than 10 cm from the ground when the car is stopped, with nobody on board
In vertical projection, these mud flaps must not protrude beyond the bodywork.
These mud flaps are compulsory to the rear of the rearmost wheels and to the rear of the driven wheels ; they must fulfill the preceding conditions, must be made from rubberized canvas or plastic (minimum thickness 5 mm) and be continuous with the bodywork.

Mud flaps to prevent splashing towards the front, made from flexible material, may be installed at the front of the vehicle.
They must not protrude beyond the overall width of the vehicle, or beyond the original overall length by more than 10 cm, and at least one third of the width of the car must be free in front of the front wheels.
For vehicles with more than 4 driven wheels, the only wheels to be taken into consideration are the rearmost wheels on the front and rear axles.



252-6

ART. 20 SEATS

1. Seats

All the occupants' seats must be homologated by the FIA (8855-1999 or 8862-2009 standards), and not modified.

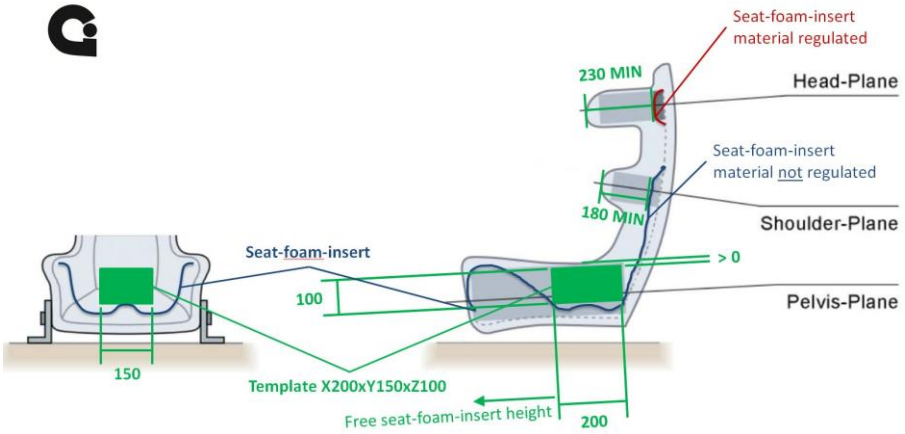
Seats in compliance with 8855-1999 FIA standard
The seat must be used in accordance with the seat manufacturer's instructions and with Technical List n°12.
The limit for use is 5 years from the date of manufacture indicated on the mandatory label.
An extension of 2 further years may be authorised by the manufacturer and must be indicated by an additional label.
If there is a cushion between the homologated seat and the occupant, the maximum thickness of this cushion is 50 mm.

Seats in compliance with 8862-2009 FIA standard
The seat must be used in accordance with the seat manufacturer's instructions and with Technical List n°40.
The limit for use is 10 years from the year of manufacture.

The use of supports homologated with the seat is compulsory.
If a foam insert is used between the homologated seat and the driver, minimum lateral support to the driver's head, shoulders and pelvis must be guaranteed as follows :

- 230mm min. at seat-side-head support along the head-plane.
- 180mm min. at seat-side-shoulder support along the shoulder- plane.
- 100mm min. in height at seat-side-pelvis support along the pelvis-plane over a length of 200mm min.

This requirement must be verified using a parallelepiped template of dimensions X 200 x Y 150 x Z 100 mm.

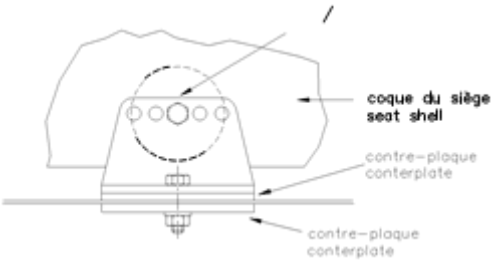


Drawing taken from "GT_Seat_Foam_Inserts_Regulation_Proposal_for_8862_Seats_v1.4.pptx" 2016.10.20

2. Anchorage points for fixing the seat supports

In T1 and T3, the attachments must comply with the following specifications.
In T2 and T4 if the original seat attachments are modified and/or replaced, these parts must comply with the following specifications. In all cases, the original sliding system must be removed or permanently blocked.

SPECIFICATIONS OF SEAT ATTACHMENTS (see Drawing 253-65) :



253-65

Supports must be attached to the shell/chassis via at least 4 mounting points per seat using bolts with a minimum diameter of 8 mm and counterplates, according to the drawing, and in accordance with the indications mentioned on the applicable Technical List (cf. "supports to be used" or "brackets to be used").. The minimum area of contact between support, shell/chassis and counterplate is 40 cm^2 for each mounting point.
If quick release systems are used, they must be capable of withstanding vertical and horizontal forces of 18000 N, applied non- simultaneously.

3. Fixing of the seat supports to the seat

The seat must be attached to the supports via 4 mounting points, 2 at the front and 2 at the rear of the seat, using bolts with a minimum diameter of 8 mm and reinforcements integrated into the seat.

Each mounting point must be capable of withstanding a force of 15000 N applied in any direction.

4. Dimensions of supports and counterplates

The minimum thickness of the supports and counterplates is 3 mm for steel and 5 mm for light alloy materials.
The minimum longitudinal dimension of each support is 6 cm.

ART. 21 SAFETY AIRBAGS

Any system having a safety airbag must be removed.

ART. 22 SPECIFIC REQUIREMENTS FOR ELECTRICALLY-POWERED VEHICLES

See Article 253-18.

MODIFICATIONS APPLICABLE ON 01.01.2019

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8.2.4 Front rollbar (Drawing 253-1)

Similar to main rollbar but its shape follows the windscreen pillars and top screen edge.
The lower part of the pillar must be near-vertical with a maximum angle of 10° to the vertical towards the rear.

At the mounting foot, the tube must not be rearward of the foremost point of the rollbar.

8.2.5 Lateral rollbar (Drawing 253-2)

Near-longitudinal and near-vertical single piece tubular hoop located along the right or left side of the vehicle, the front pillar of which follows the windscreen pillar and the rear pillar of which is near- vertical (maximum angle ± 10° to the vertical) and located just behind the front seats.

The rear pillar must be straight in side view.
The lower part of the pillar must be near-vertical with a maximum angle of 10° to the vertical towards the rear.

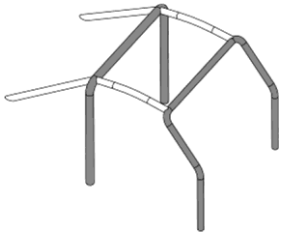
At the mounting foot, the tube must not be rearward of the foremost point of the rollbar.

....

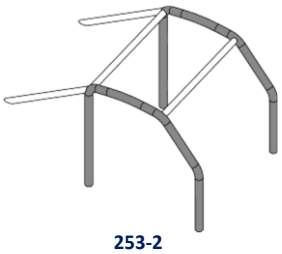
8.3.1 Base structure

The base structure must be made according to one of the following designs :

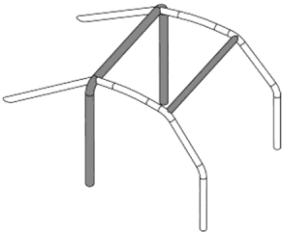
- **Base structure 1 (Drawing 253-1)**
  1 main rollbar
  1 front rollbar
  2 longitudinal members
  2 backstays
  6 mounting feet
- **Base structure 2 (Drawing 253-2)**
  2 lateral rollbars
  2 transverse members
  2 backstays
  6 mounting feet
- **Base structure 3 (Drawing 253-3)**
  1 main rollbar
  2 lateral half-rollbars
  1 transverse member
  2 backstays
  6 mounting feet



253-1



253-2



253-3

The near-vertical part of the main rollbar (or the rear pillar of a lateral rollbar) must be as close as possible to the inner side panels of the bodyshell and must have ~~only~~ no more than one bend ~~between its lower part and its upper part.~~

~~The pillar of a front rollbar (or the front pillar of a lateral rollbar or of a half-rollbar) must follow the windscreen pillars as close as possible and have only one bend between its lower part and its upper part.~~

The pillar of the front rollbar (or the front pillar of a lateral rollbar or half-rollbar) must follow the windscreen pillar as closely as possible and must have no additional bends below that where it ceases to follow the windscreen pillar.
The following connections must be situated at the roof level :

- Longitudinal members to the front and main rollbars
- Transverse members to the lateral rollbars
- Semi-lateral rollbar to the main rollbar

There must be no more than 4 removable connections at the roof level.
The backstays must be attached at the roof level and near the top outer bends of the main rollbar, on both sides of the car, possibly by means of dismountable joints.
They must form an angle of at least 30° with the vertical, must run rearwards and be straight and as close as possible to the inner side panels of the bodyshell.

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14.2 Applications of these specifications and Installation of tanks

See the technical regulations of the Group concerned.

The use of safety foam in FT3-1999, FT3.5-1999 or FT5-1999 tanks is recommended.
Collecting tanks with a capacity of less than 1 litre are of free construction, but their number is limited by that of the main tanks equipping the vehicle.
Holes must be provided for in the floor of the boot in order to allow the outflow of the fuel in the event of a leak.
For cars in respect of which the manufacturer has not provided for a specific luggage compartment, as an integral part of the bodywork, the additional tank may be situated inside the cockpit to the rear of the rearmost seat.
In all cases, the tank including the filling pipes, must be totally insulated by means of flameproof and liquid-tight bulkheads or casing, preventing the infiltration of fuel into the cockpit or contact with the exhaust pipes.

Should the tank be installed in the luggage compartment, and when the rear seats are removed, The cockpit must be separated from the tank by a fire- resistant, flameproof and liquid-tight bulkhead or casing.
In the case of a two-volume car, it is possible to use a non-structural, non-flammable bulkhead made from transparent plastic between the cockpit and the location of the tank.
Tanks must be efficiently protected and very firmly attached to the bodyshell or the chassis of the car.
The location and dimension of the filler hole and cap may be changed on condition that the new installation does not protrude beyond the bodywork and gives every guarantee against a possible leakage of fuel into one of the inner compartments of the car.

These holes may be situated in the location of the rear or side windows.
The filler hole and the air vent must always be situated outside the cockpit on a metal part.
If there is a filler hole inside the bodywork, it must be surrounded by a receptacle with outflow to the outside.
The air vent must either come out on the roof of the vehicle or make a loop as high as possible inside the vehicle and come out under the vehicle on the opposite side to its connection to the tank.
These air vents must be fitted with self-sealing valves.

MODIFICATIONS APPLICABLE ON 01.01.2020

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ART. 7 EXTINGUISHERS – EXTINGUISHING SYSTEMS

The use of the following products is prohibited : BCF, NAF.

7.1 Systems mounted

7.1.1

All cars (trucks) must be equipped with an extinguishing system in compliance with FIA Standard for plumbed-in Fire Extinguisher Systems in Competition Cars (1999) unless otherwise stated hereunder.
Extinguishing systems in compliance with FIA Standard 8865-2015 (Technical List n°52) are compulsory. :

- ~~Compulsory for cars of Group T1, T2 and T4~~
- ~~Recommended for cars of Group T3~~

The system must be used in accordance with the manufacturer's instructions and with Technical Lists n°16 or n°52.

8.3.2.1 Compulsory members and reinforcements

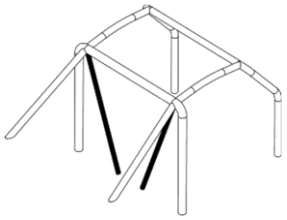
8.3.2.1.1 Diagonal members

a. Main rollbar:
The cage must have one of the diagonal members defined by :

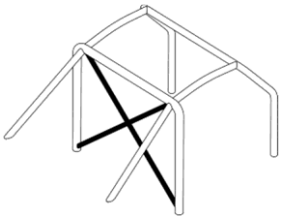
- Drawings 283-8 (Groups T1 and T3 only) and 253-7.

In the case of Drawing 283-8, the distance between the two mountings on the bodyshell/chassis must not be greater than 400mm.
Members must be straight and may be removable.
The upper end of the diagonal must join the main rollbar no further than 100 mm from its junction with the backstay, ~~or the backstay no more than 100 mm from its junction with the main rollbar~~.

The lower end of the diagonal must join the main rollbar ~~or the backstay~~ no further than 100 mm from the mounting foot (except for the case of Drawing 283-8) (see Drawing 253-52 for the measurement).

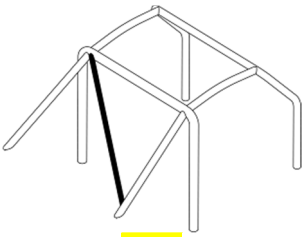


283-8



253-7

Backstays:
The fitting of one diagonal members according to Drawing 253-20 is compulsory for cars homologated as from 01.01.2020.



253-20

…… ……

8.3.2.2 Optional members and reinforcements

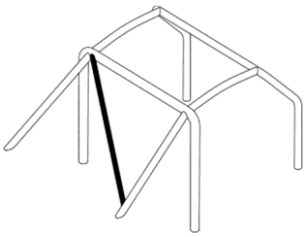
Unless otherwise stated in Article 283-8.3.2.1, members and reinforcements shown in Drawings 253-16 to 253-21, 253-23 to 253-28 and 253-30 to 253-33 are optional.
Reinforcement tubes must be straight.
They must be welded or installed by means of dismountable joints (see Article 283-8.3.2.4).

All members and reinforcements mentioned above may be used separately or combined with one another.

8.3.2.2.1 Backstay diagonals (Drawings 253-20 ~~and~~ to 253-22)

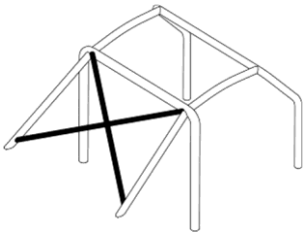
~~The configuration of Drawing 253-22 is compulsory if a roof reinforcement complying with Drawing 253-14 is used.~~
Configurations of Drawings 253-21 and 253-22 may replace that of Drawing 253-20.

…… ……

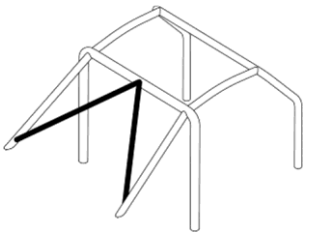


253.20

Optional only for cars homologated before 01.01.2020



253.21



253.22

Compulsory when a roof reinforcement according to Drawing 253-14 is used