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<u>36043</u>	6 December 2021	6 December 2021	Article 5
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Part Two

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Note: Amendments will be visually highlighted for a duration of 12 months starting from the implementation of each amendment. Text changes made for grammatical and/or formatting purposes will not be subject to highlighting.



Part Two

1. Application Process for a LVV / MotorSport Authority Card: All MotorSport NZ competition licence holders are eligible to apply for an Authority Card.

A. Reference Appendix Two Schedule A, Part One Article 8.3: For vehicles modified for competition use that are required to be used on public roads. The Authority Card covers the following elements / modifications*:

- Safety harnesses (with 4 or more straps)
- Safety Cage (that extends forward of the front seat Occupants)
- Modifications that effect the interior impact regulations
- Removal of an SRS airbag system
- Braided flexible hydraulic brake lines
- Hydraulic handbrake assembly
- Open brake bias system
- Plastic windows
- Safety fuel tanks / Dry Break Refuel Adapters
- Removal of Stability Control System

*for other modifications refer to the LVV Code.

B. Application Process: For all applications (new card and renewal):"

- Make application through the MotorSport NZ online system including payment of the required fee.
 - (for new or initial card applications) print off the Inspection report
 - Contact an 'A' Scrutineer or Technical Officer through your Car Club to organise an inspection of the vehicle.
 - The Scrutineer / Technical Officer will complete the relevant sections of the application form.
 - Scan and email (or post) the completed form to the MotorSport NZ Administration Office.
 - The card will normally be processed and issued within one(1) working week.

Note: Application may also be made using Authority Card Application (form T007) from the MotorSport NZ website

C. Application Requirements:

- You must have a current MotorSport NZ Competition Licence or you must apply for one at the same time as the Authority Card.
- You must have a current MotorSport NZ Vehicle Logbook or you must apply for one at the same time as the Authority Card.

D. Conditions of Use:

- The Authority Card is valid for the duration of the applicants Competition Licence, hence when the licence expires so does the Authority Card.
- The vehicle must be used in a minimum of two(2) permitted events per year.
- The vehicle shall be maintained to Appendix Two Schedule A requirements at all times
- If there are any additions to the modification categories as detailed on the card, a new card application must be made.
- If ownership of the vehicle changes, a new card application must be made.

2. Renewal Process for a LVV / MotorSport Authority Card:

- A. **Requirements**: The following requirements must be complied with in order to apply for an Authority Card renewal:
 - Either make application through the MotorSport Online system including payment of the required fee or alternatively, obtain a renewal application form T008 from the MotorSport NZ website (www.motorsport.org.nz).
 - Confirm the Competition Licence is still current.
 - Confirm that the vehicle has been used in a minimum of two(2) documented (refer logbook entries) events and has been Safety Audited within the past six(6) month period (or a new application is required).
 - Confirm the vehicle details are still current (eg. No changes have been made).
 - Confirm the modification categories (as detailed on the existing card) are still current.
 - Confirm vehicle ownership has not changed.
 - If not making application through the MotorSport Online system, mail the completed form (with the appropriate fee) together with the vehicle's MotorSport NZ logbook to the MotorSport NZ administration office.
 - The renewal will normally be processed and a new card issued within one(1) working week from date of receipt.

B. Authority Card Frequently Asked Questions:

Why / When do I need an Authority Card?

An Authority Card is required to certify dedicated motorsport modifications and is used to obtain a WOF

What are the basic conditions?

The applicant must hold a current MotorSport NZ Competition licence and the vehicle must comply with the alternative standards and be used in a minimum of two(2) motorsport events per year.

Am I the only person who can drive the vehicle?

Use of the vehicle is not restricted solely to the applicant (the licence holder who the Authority Card has been issued to) although it does remain their responsibility. **How long is the card valid?**

The Authority Card remains valid concurrent with the applicant's licence. This will normally be 12 months if the card is applied for at the same time as the applicants Competition licence, although it will be less if applied for during the validity of the Competition licence; as it will expire at the same time as the licence.

Why do I have to renew the card (every year)?

This is because the Authority Card runs concurrently with the holders Competition licence and this ensures (as per the agreement between MotorSport NZ and the NZTA) that only current licence holders may have such specialist exemptions. It also ensures the applicant takes responsibility for the condition and maintenance of their vehicle relative to the modifications listed.

My vehicle has 'other' modifications that are not included on the card?

The Authority Card only covers 'dedicated' motor sport modifications hence all other applicable modifications should be covered under the LVV Code and detailed on a 'certification plate' attached to the vehicle.

What if I add or delete any of the modification categories on the vehicle (that is detailed on the card)?

A new application is required which will entail a physical inspection to be performed by an 'A' Scrutineer. All items on the card will be checked for compliance.

If nothing is changed on the vehicle and I renew the card every year will I ever need to have the vehicle inspected again?

Yes, this will happen automatically as part of the Safety Audit system performed at events.

3. Fuel Specification Chart:

Engine Fuel Specification Chart

Reference Appendix Two Schedule A, Part One Article 3.9(2)(a)

Property	Test Method	Unleaded Petrol	Leaded Petrol	Diesel
Density	ASTM D1298 or ASTM D4052	Not a Specifi	cation	0.820 Minimum 0.850 Maximum
Research Octane Number (RON)	ASTM D2699	108 Maxim	num	
Motor Octane Number (MON)	ASTM D2700	100 Maxim	num	
Cetane Index				51 Minimum
Percentage Volume evaporated at 70°C (E70)	ASTM D86	22% Minim 50% Maxin	num	
Percentage Volume evaporated at 100°C (E100)	ASTM D86	45% Minimum 71% Maximum		
Percentage Volume evaporated at 150°C (E150)	ASTM D86	75% Minim	um	
End Point (°C)	ASTM D86	210°C Maxi	mum	
Lead (mass of lead per litre of	IP224	5 mgPb/L Maximum		
gasoline)	IP270		0.85 gmPb/L Maximum	
Benzine (% volume)		1% Maximum		
Ethanol (% volume)		10% Maximum	0.01% Maximum	
Other Oxygenates (% volume)		1% Maximum		
Olefins (% volume)		18% Maximum		
Manganese (mg/L)		2mg/L Maximum		
Phosphorus (mg/L)		1 mg/L Maximum		

Engine Fuel Specification Chart

Reference Appendix Two Schedule A, Part One Article 3.9(2)(b)

Property	Test Method	Ethanolic Blends
Base Gasoline		Minimum 15%V Maximum 90%V
Ethanol Content	ASTM D5501	Maximum 85%
Methanol Content	ASTM D5501	0.5%V Maximum
Water Content	ASTM E203	1.0%V Max.

4. Standards Labels:

4.1 Helmet Standards:

(1) FIA Standards Label:







(2) Snell Standards Labels:





(a) Kart Helmet Labels:



(b) Youth Helmet Labels:



(3) British Standards Labels



(4) SFI Standards Labels:



(5) European Standard Label:

(6) Australian Standard Label: (example)

(7) FHR Standards / Labels:

In compliance with FIA standard 8858-2002

Manufacturer: Restraint Company Model: RCB-001

4.2 Safety Harness Standards / Labels:

FIA Standards Labels: (1)

SFI Foundation Standard Labels: (2)

sfi	FOUND	C.	Certi	ifies 1 oduct	That This Meets			sfi	FOUND	C.	Certi	manu fies 1 oduct	hat This Meets	
	SF	I SPE	C 16.	1		1			SF	I SPE	C 16.	5		1
	Da	te of Ma	nafacture			1			Da	te of Ma	mifacture			:
JAN	APR	JUL	OCT	01	02	1		JAN	APR	JUL	OCT	01	02	1
FEB	MAY	AUG	NOV	03	04			FEB	MAY	AUG	NOV	03	04	1
MAR	TIN	SEP	DEC	05	06		13	MAR	TTN	SEP	DEC	05	06	1

- 4.4 Competition Seat Standards / Labels:
 - (1) FIA Standards Labels:

(2) SFI Foundation Standard Labels:

- 5. Safety Structures (Roll Protection):
- **5.1 Design Specification:** The function of a Safety Cage is to reduce the risk of serious injury to the Occupants during competition. The ability of a Safety Cage to provide protection is dependent upon the quality of design and construction. The following essential design specifications shall be incorporated:
 - (1) Longitudinally, the structure shall be entirely contained within the confines of the front and rear shock absorber bodyshell mounts (excluding Single Seater and Sports Racing Cars), and
 - (2) For closed vehicles the structure must be as close fitting to the interior profile of the bodyshell as practical, and
 - (3) Members of the structure must not unduly impede the entry, exit, or access to the Occupant(s) of the vehicle, and
 - (4) Members of the structure must respect the headspace requirements designated by the shaded area in Diagram 8.3 in Part One. For all open vehicles the height of the main rollbar shall be at least 50mm above the top of the helmet of the normally seated Occupant(s) (refer diagram 5.1 below), and
 - (5) Where used all fasteners must be self locking M8, ISO 8.8 or greater, and
 - (6) No fluids may pass through any tubing forming part of the Safety Cage, and

- (7) Each Safety Cage must be identified by means of an identification number (being the MotorSport NZ Homologation number) or a plate permanently affixed by the manufacturer bearing the name of the manufacturer, the MotorSport NZ homologation number, and the individual serial or series number of the structure; this ID plate must neither be moved or copied.
- (8) The structure must be designed to suit the particular vehicle application respecting the aforementioned design specifications.

5.2 Material Specification: The only materials authorised under this schedule for safety cage construction are defined in the Material Specification Chart below. Aluminium alloys are specifically prohibited and the use of ASME 4130 / BS4T45 alloy steel tube is restricted solely to MotorSport NZ registered safety cage manufacturers who have been granted 'MotorSport NZ Recognised Manufacturer' status. If in any doubt as to the selection of an approved/authorised material, contact the MotorSport NZ Office in the first instance prior to the commencement of construction.

Material Specification Chart

All Constructors: Tubes manufactured in compliance with the MSNZ-Q29 Steel tubes for Safety Structures standard.

MotorSport NZ Recognised Manufacturers only: Cold Drawn Seamless alloy steel tubes manufactured in compliance with the ASME 4130 standard or BS4T45.

Note: Any structure manufactured from materials that do not meet the following dimensions must be approved under Part Two <u>Article 5.7</u> 'Alternative Design'.

Member Description	Member Diagram	Minimum Tube Dimensions			
		NZTM-Q29 or ITM-MSNZ-Q29 Standard	*ASME 4130 and *BS4 T45 (refer * above)		
Main Rollbar		44.5 x 2.5mm Or 50 x 2.0mm	44.5 x 2.5mm Or 50 x 2.0mm		
Other members of the principle structure including safety harness bar		38.1 x 2.5mm	38.1 x 2.5mm		
Optional members more than 300mm in length (examples shown)		38.1 x 2.5mm Or 40 x 2.0mm	38.1 x 1.6mm Or 40 x 1.6mm		

Gusset bars less than 300mm in length (examples shown)

5.3 Welding:

- (1) All welding shall be of the highest possible quality and preferably using a gas-shielded arc. Although good external appearance of a weld does not necessarily guarantee its quality, poor appearance is never a sign of good workmanship. Grinding welds to alter the appearance is not permitted.
- (2) Where a member of the Safety Cage terminates at another member or a reinforcing plate / mounting foot / footing box, welding shall be carried out around the entire perimeter of the tube. Mandatory for all principle structures. For optional members where this is impracticable 'best welding practices' must be observed.
- (3) Where attaching reinforcing plates to the bodyshell, 20mm stitch welding is permitted.

5.4 Construction Specification for Series Production Vehicles:

Note: Refer to Part Two Article 5.6 for Construction Specifications specific to Single Seaters, and Sports Racing Cars.

- (1) **Principal Structure:**
 - (a) Safety Rollbar: A Safety Rollbar must comprise of the following members: a Main rollbar, two(2) Backstays, and one(1) of the Diagonal (installed in either location) as defined by Diagram 5.4(a) below.

Diagram 5.4(a) - Principle Structure of a Safety Rollbar

(b) Safety Cage (homologated before 1 January 2013): The Safety Cage must comprise of the following members: a Main rollbar, two(2) Lateral rollbars, a Windscreen bar, two(2) Backstays, and one(1) Diagonal (installed in either location) as defined by Diagram 5.4(b) below.

Diagram 5.4(b) - Principle Structure of a Safety Cage pre 1 January 2013

(c) Safety Cage (homologated after 1 January 2013): The Safety Cage must comprise as a minimum of the following members: a Main rollbar, two(2) Lateral rollbars, a Windscreen bar, two(2) Backstays, one(1) Diagonal (installed in either location) and a Safety Harness bar/s (installed in either location) as defined by Diagram 5.4(c).

Diagram 5.4(c) - Principle Structure of a Safety Cage post 1 January 2013

(2) Main and Lateral rollbars:

(a) These frames must be constructed from one(1) piece of tube with a smooth and even appearance free of ripples or cracks. They shall be bent by a cold working process and the centre-line bend radius must be at least three times (3x) that of the tube's outside diameter. Ovalisation of the bends, being the ratio of minor to major diameters, shall be 0.9 or greater.

- (b) The vertical part of the main rollbar must be as straight and as close as possible to the interior profile of the bodyshell.
- (c) For Safety Cages homologated after 1 January 2013 the Main rollbar shall be within $\pm 10^{\circ}$ from vertical when viewed from the side.
- (d) The front leg of a Lateral rollbar must follow the windscreen pillar and have only one(1) bend in its lower vertical part. The connection of the Lateral rollbar to the Main rollbar shall be at roof level and the lower attachment at the floor must not be rearward of the forwardmost part of the lateral bar.
- (3) Backstays: These tubes shall be straight and of one(1) piece construction. They shall be attached within 100mm of the centre of the top outer bends of the Main rollbar on both sides of the vehicle and ideally should intersect the Main Rollbar at the same point as the Front Lateral Bar. They must make an angle of at least 30° with the vertical, and be as **close** as possible to the interior side-panels of the bodyshell.
- (4) Diagonals: These tubes shall be straight and as a minimum one(1) diagonal member shall be fitted, or, two(2) diagonals shall be fitted providing the two(2) bodyshell mounts are at least 60cm² in area less than 400mm apart, in accordance with Diagram 5.4(4) below. In all cases at least one(1) diagonal shall be of one(1) piece construction though it is permissible to use multiple diagonals in combination (refer diagram 5.4(4) below). The lower end of all diagonal members shall join the main rollbar or backstay within 100mm of the mounting foot/reinforcement plate.

The upper end of all diagonal members shall join either the Main rollbar or Backstay within 100mm from the junction of the Backstay.

Diagram 5.4(4) - Diagonals

(5) Safety Harness Bar: Shall be a transversal reinforcement welded between either the backstays, the vertical legs of the Main rollbar or another member of the structure where the material specification meets the minimum requirements for members of the principle structure (e.g. Diagonal bar). Refer to Part Two Article 5.2 Material Specification Chart for material size and specification.

Diagram 5.4(5) - Safety Harness Bar examples

(6) Side Intrusion bars:

(a) It is recommended that at least one(1) or more longitudinal tubes may be fitted at each side of the vehicle (*refer Diagram 5.4(6)(a) below*).

Diagram 5.4(6)(a) - Side intrusion bars

- (b) Where the door has been modified (refer Part One Article 5.10) and a Safety Cage is fitted at least one(1) Side Intrusion bar shall be fitted to that side of the vehicle.
- (c) These bars shall be as high as possible, but the intersection of the highest member and the door opening (dimension 'E') shall not exceed half the total height of the door aperture (dimension 'H').

In the case of side intrusion bars in the form of a "X" (refer Diagram 5.4(6)(a) above), it is recommended that the lower attachment points of these members be fixed either to the Main rollbar or forward Lateral rollbar at the footing or reinforcement plate.

Diagram 5.4(6)(c) – Door Aperture Requirements

The presence of the Safety Cage in the door aperture must comply with the following criteria (Refer Diagram 5.4(6)(c) above).

- Dimension A must be a minimum of 300mm, and
- Dimension B must be a maximum of 250mm, and
- Dimension C must be a maximum of 300mm, and
- Dimension E must not be more than half the height of the door aperture Dimension H.
- (7) **Optional reinforcing members:** May be used separately or in combination. They shall be either, welded in position or made removable. (Refer diagrams 5.4(7) below).

Diagram 5.4(7) – Optional reinforcing members examples

(8) **Transverse members:** The fitting of two(2) transverse members is recommended (Refer diagram 5.4(8) below). The transverse member fixed to the front rollbar must not encroach upon the space reserved for the Occupant/s. It must be positioned as high as possible, provided it is not higher than the lower edge of the windscreen. Attachment of the steering column to this member is authorised.

The transverse member fixed to the Main rollbar should be straight as possible and attach as close as possible to the Main rollbar footing or reinforcement plate.

(9) Reinforcement of bends and junctions: Where two(2) members form a join it is recommended to reinforce that join with tubes or gussets (refer Diagram 5.4(9)(a) below). When using gussets the materials must not be less than 1.0mm in thickness and the length of the sides attaching to the safety cage must be between 80mm and 100mm.

Diagram 5.4(9)(a) – Reinforcement of Bends and Junctions.

When using reinforcing tubes the ends of these tubes must not be more than half way down or along the members to which they are attached. A reinforcement member may be added on each side of the Lateral rollbar between the upper corner of the windscreen and the base of this rollbar (refer Diagram 5.4(9)(b) below).

Diagram 5.4(9)(b) – -Windscreen pillar reinforcement

Vehicles with a Safety Cage Homologated after 1 January 2006: In frontal projection, members and reinforcements must be only visible through the area of the windscreen described by diagram 5.4(9)(c) below. Refer also Part Two Article 5.4(6)(c) for door aperture requirements.

Drawing No 253-17E Diagram 5.4(9)(c) – Safety Cage containment area

(10) **Removable members:** Should removable members be incorporated into the design, the demountable joints used shall be of an approved type (refer Diagram 5.4(10)(a)). Hinge type joints shall not be used in the upper joins of the Principal structure. (Refer Diagram 5.4(10)(b)).

Diagram 5.4(10)(a) - Removable Member joint detail

Diagram 5.4(10)(b) – Removable Member joint detail (Hinge type)

5.5 Safety Cage Attachment:

- (1) **Reinforcement plates:** Where any member of the Safety Cage terminates at the bodyshell or chassis a reinforcement plate of at least 3mm thick steel plate shall be welded to the bodyshell or chassis.
 - (a) For the Main and Lateral rollbars a reinforcement plate with a minimum area of 120cm² in full contact with the surface of the bodyshell shall be used. The reinforcement plate shall be positioned so as to transfer any loadings vertically into the bodyshell (Refer Diagram 253-50 253-58 below)
 - (b) For all other members a reinforcement plate with a minimum of 60cm² shall be used.
 - (c) It is recommended that reinforcement plates be attached to the bodyshell in two(2) or more planes (refer diagrams 253-50 253-58 below).

- (2) Footing box: From 1 January 2011 a fully enclosed Footing box constructed of welded/folded steel plate at least 3mm thick may be used to support the Safety Cage. Where a footing box is used, a Reinforcement plate, (as defined by Part Two Article 5.5(1) above), shall also be used. The Reinforcement plate may make up two(2) or more sides of the footing box but must always be clearly visible. The use of internal gusseting/webbing is recommended.
- (3) Mounting foot: A mounting foot may also be used but is generally only used for dismountable structures. Where used each foot must be attached by at least three(3) bolts for the main and lateral / front rollbar, and at least two(2) bolts for the backstays of minimum ISO 8.8 M8 or be welded directly to the reinforcement plate/footing box. The mounting foot shall be at least 3mm thick steel plate, and shall be smaller than the reinforcement plate/footing box to which it is affixed. (Refer Diagram 5.5(3)).

(4) Suspension and drive train components:

- (a) For vehicles with a Safety Cage homologated before 1 January 2011: The attachment of suspension and drive train components to the Safety Cage is permitted providing those attachments are detailed on the original Safety Cage homologation. For vehicles where attachments of this type exist but are not detailed in the original homologation the homologation shall be updated by means of a Safety Cage Homologation Extension and a fatigue stress analysis and inspection report by a Road Transport Certifying Engineer shall be provided.
- (b) For vehicles with roll protection homologated from 1 January 2011: The attachment of suspension and drive train components directly onto the safety cage are not authorised although MotorSport NZ may allow such attachments providing a fatigue stress analysis and inspection report by a Road Transport Certifying Engineer is included with the Safety Cage Homologation Application.
- 5.6 Construction Specification for Single Seater and Sports Racing Cars: Single Seater and Sports Racing Cars with Safety Rollbars/Cages homologated after 1 January 2011 shall comply with the requirements of FIA Appendix J, or the requirements of this Schedule.

Unless otherwise specified within a dedicated technical schedule issued by an overseas ASN or the FIA, the following Safety Rollbar/Cage construction specifications shall apply. Where composite materials are used in the construction of the vehicle safety structure (chassis/safety cell or Safety Cage) refer to FIA Appendix J Article 275 and Article 259 for Single Seater and Sports Racing Cars respectively. Refer also to the MotorSport NZ Guidelines for Safety Cage Homologation for more information on the homologation requirements.

(1) Specification for Single Seater vehicles:

- (a) All designs shall incorporate a Main rollbar (being the principle rollbar), a Front rollbar (being the forward most rollbar) and Lateral Bracing stay/s in compliance with the following,
- (b) The Main rollbar and the Front rollbar shall be positioned symmetrically to the longitudinal centre-line of the vehicle, with the main rollbar positioned rearward of the driver, and the front rollbar positioned forward of the steering wheel (to a maximum of 250mm), and
- (c) The Main rollbar shall extend transversely across the cockpit with the outer most edge extending at least 100mm beyond the drivers' helmet when in their normal seated position, and
- (d) The minimum height of the Main rollbar shall be dictated by the calculated height necessary to ensure that the drivers' helmet remains 50mm below an imaginary line drawn between the tops of the Main and Front rollbars (refer diagram 5.1), and
- (e) Either two(2) rearward or two(2) forward facing bracing stays shall be fitted with symmetrical connection to the Main rollbar within 150mm of the top bend. Alternatively, a single rearward facing bracing stay is authorised where its top connection is positioned centrally to the top of the Main rollbar. Braces shall exceed an angle of 30° from the vertical and be straight, and
- (f) The bracing stays shall be directly welded or demountable joints (defined by diagram 5.4(10)(a) and 5.4(10)(b)) may be used, except joint 5.4(10)(b)(C) is not authorised, and
- (g) The tubes used for the Main and Front rollbars shall be made from SAE 4130 CDS tube or equivalent material and be at least 35mm in diameter and have a wall thickness of at least 2.5mm. The tubes used for the braces shall be of the same material and wall thickness, however the diameter may be reduced to not less than 26mm.

(2) Specification for Sports Racing Cars;

- (a) All designs shall incorporate a Safety Rollbar in compliance with the requirements of Part Two Article 5.4(1), and
- (b) The Main rollbar shall extend transversely across the full width of the cockpit with the outer most edge extending beyond the Occupant's shoulders when in their normal seated position, and
- (c) The Main rollbar shall be no further than 250mm rearwards of the normally seated Occupant(s), and
- (d) For all vehicles two(2) Lateral Bracing stays shall be fitted in accordance with Part Two Article 5.4(3). Where Backstays are used an optional single forward facing

brace that extends from a central position on the Main rollbar to the passenger floor area may also be fitted.

For Open Vehicles only, the two(2) Backstays may be replaced by two(2) forward facing Lateral Bracing stays, and

- (e) The Diagonal shall join the Main Rollbar within 100mm of the attachment point on the chassis at the lower point and within 100mm of the centre of the top bend of the main Rollbar at the upper end.
- (f) A Front rollbar is optional and may be incorporated as part of the vehicles frame forward of the steering wheel.
- (3) Single Seater and Sports Racing Car Safety Cage Mounting: The Main and Front rollbars should ideally be an integral part of the vehicles space-frame construction although these rollbars may be welded directly to the vehicles' space-frame/chassis, in which case framework reinforcements shall be incorporated with the attachment points located so that potential loads may be fed into the substantial structure of the vehicle's frame.
- **5.7 Alternative Design:** Safety Cages that may differ from the minimum Material and Design specifications of this Schedule shall be classified as 'Alternative Design'.

Constructors shall submit details of their alternative design, to MotorSport NZ for consideration, prior to construction.

All the design variations must be identified; in particular the material specification and dimensions, the optional reinforcing members, and the mounting details. Construction under alternative design shall also require certification by a qualified Engineer, representing the constructor. The design must be shown to withstand the following stress minima in an engineering report with supporting calculations. This report must accompany the Safety Cage Homologation Application.

(1) All Vehicles except Single Seater and Sports Racing Cars: Shall comply with the following: For these calculations it shall be taken that only the forward lateral, main rollbar and backstay footings are rigidly mounted.

W = weight of the vehicle + 150 kg.

(a) Arithmetic vertical static load test on the Main Rollbar:

0.075 W kN vertical uniformly distributed load 100mm in length 250mm in width and 40mm in depth shall be applied centrally to the top of the main rollbar in a vertical direction.

At no point shall the stress achieved in structure exceed the tensile strength of the material, and deformation shall not exceed 50mm in the direction of the applied load.

(b) Arithmetic static load test on the Front Rollbar: Where the structure is asymmetrical this load shall be applied to both sides of the vehicle.

0.035 W kN load shall be applied to the top of the front rollbar (at the intersection of the forward lateral and windscreen bar) directed downward, and to the front of the vehicle at an angle of 5° relative to the horizontal, and to the exterior of the vehicle at an angle of 25° relative to the horizontal in accordance with diagram 5.7(1)(a) and 5.7(1)(b).

At no point shall the stress achieved in structure exceed the tensile strength of the

material, and deformation shall not exceed 100mm in the direction of the applied load.

(c) Arithmetic static side load test on the Main Rollbar: Where the structure is asymmetrical this load shall be applied to both sides of the vehicle.

0.035W* kN uniformly distributed load 450mm in length shall be applied horizontally to the vertical leg of the main rollbar 550mm above the main rollbar footing.

At no point shall the stress achieved in structure exceed the tensile strength of the material, and deformation shall not exceed 50mm in the direction of the applied load.

(2) Single Seater and Sports Racing Cars: Shall comply with the following: For these calculations it shall be taken that only the Forward lateral, Main rollbar and Lateral Bracing stay footings are rigidly mounted.

(a) Arithmetic static load test on the Main Rollbar:

13.2 kN laterally, 49.5 kN longitudinally in a reward direction, and 66 kN vertically shall be applied to the Main rollbar simultaneously.

Additionally, but in a separate test; 13.2 kN laterally, 13.2 kN longitudinally in a forward direction, and 66 kN vertically shall be applied to the Main rollbar simultaneously.

At no point shall the stress achieved in structure exceed the tensile strength of the material, and deformation shall not exceed 50mm in the direction of the applied load.

(b) Arithmetic static load test on the Front Rollbar:

75 kN vertical load shall be applied to the top of the Front rollbar.

At no point shall the stress achieved in structure exceed the tensile strength of the material, and deformation shall not exceed 50mm in the direction of the applied load.

(3) Safety Harness Bar: If the minimum material dimensions as detailed in the chart under Part Two Article 5.2 are not complied with, the resistance of each anchorage point must be subject to calculation and included in the engineers report. The report must clearly demonstrate that the safety harness bar withstands a static loading of 1470daN per harness attachment point without breakage.

6. Homologation Application Process for Safety Rollbars and Safety Cages:

- 6.1
- (1) Make application through the MotorSport Online system, or alternatively, complete form T002, available from the MotorSport NZ website, which shall be completed by the constructor / manufacturer and submitted to the MotorSport NZ administration office together with quality photographs of the unpainted structure and the current fee.
- (2) Only correctly completed applications with accurate information with clear and close-up photographs will be able to be processed. It is imperative that the application is completed by someone suitably qualified to do so.
- (3) Advice on the completion of the application should be sought from the Technical Department wherever there is any doubt.
- (4) Once issued the Certificate shall be contained in the vehicles MotorSport NZ logbook and the homologation process will be completed with a physical inspection of the structure by an experienced Scrutineer.
- 7. **First Aid Kit Contents:** The following items must be contained as a minimum:
 - Crêpe Bandage.
 - Adhesive Tape; eg. Leucoplast or Leucopore or similar.
 - Small Dressing Strips; eg. Handiplast, Bandaid, Elastoplast or similar.
 - Wound Dressing Pads; Medium and Large. (For application to wounds or for bleeding)
 - Pain Relief Tablets; eg. Aspirin, or Paracetamol. (not including Codcomol, Digesic or other drugs as banned by Drug Free Sport NZ)
 - Adaptic [or similar paraffin gauze dressing] and/or 'Second Skin' [or similar dressing].
 - Gauze Swabs or Telfa or Curity.
 - Arm Sling and two(2) Safety Pins.
 - A minimum of two(2) Thermal Blankets; eg. Sirius.
 - Scissors and/or clothing shears.
 - Saline (sodium chloride 0.9%) 5 x 30 ml or equivalent quantity for irrigation of eyes and wounds.
 - Latex Surgical Gloves; two(2) pairs.