



**The Trinidad and Tobago Rally Club**

## **Safety Regulations**

*Version 1.2*

*Date Issued 1<sup>st</sup> April 2024*

## **Introduction**

The Trinidad and Tobago Rally Club (TTRC) is a non-profit motorsport club located in the Caribbean Island of Trinidad & Tobago. The club was founded in 1977 and is the NGB (National Governing Body) for the sport of rallying in Trinidad & Tobago, and is the sole local body recognized by the Ministry of Sport and Community Development of the government of Trinidad & Tobago.

## **What do we do?**

The conducts:

- The organization, execution and supervises Treasure Hunt events.
- The organization, execution and superintends Stages Rallying
- The organization, execution and superintends training of marshals for the sport.
- The organization, execution and superintends the development of drivers/Co-Drivers

The following safety regulations were developed to promote fun, fair and safe competition. If you encounter any issues such as spelling or grammatical errors or a dispute, please don't hesitate to notify a member of the TTRC Executive Committee, and we will gladly address them as needed.

**Unless a modification is otherwise stated within this rule book, then the modification is strictly not allowed.** Anyone can contact a TTRC Executive Committee member for

**These regulations will be in effect from 1<sup>st</sup> April 2024.**

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# Safety Regulations Definition

If a car is deemed to pose a safety risk due to its construction, it may be disqualified by either the COC or the Stewards of the meeting upon the advice of scrutineers. Additionally, cars may be barred from competition if any safety component is found to be below standard.

## Car & Driver Safety Minimum Requirements Checklist

All cars are mandated to have the following requirements related to safety:

- A weld-in roll cage of 6 points or more with side impact
- The roll cage must have roll-over and side impact protection for the driver
- Driver helmet for auto racing
- A one piece driver race suit with minimum SFI 3.2/1A
- A neck restraint device is MANDATORY (EG. HANS, Neck Foam Collar or similar )
- Onboard fire extinguisher of 5lbs securely stored
- Wheels cannot exceed the body width. Fenders flares are acceptable
- Wheels must be enclosed within a wheel well. Therefore vehicles interested in competing with suspension and/or wheels not contained within the limits of the body of the vehicle will be rejected.
- Vehicles that were originally designed from production as single seater will not be allowed.
- A 1-piece race seat must be installed. (We recommend a FIA rated seat)
- A SFI rated 4-point or greater seat belts must be used
- 2 Emergency kill switches, one internal for driver and one external, each clearly marked.

**Cars and competitors must be present at the Briefing and pass Event Scrutineering to enter an event.**

## Rollcage Details

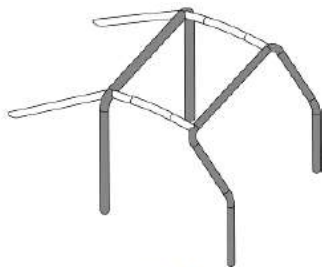
The fitting of a roll cage is compulsory. A roll cage must reduce body shell deformation and aids to reduce driver/co-driver risk to an injury. Tubes must not carry any liquids or gas. The cage must be contained between both front and rear axles. Interior trim may be modified to facilitate the roll cage installation. As stated the TTRC also requires diagonal members for the driver/co-driver for side impact. see diagram 253-9, 253-10, 253-11. Gussets too can be used as a reinforcement.

A roll cage can be passed if it meets one of the list of criteria below:

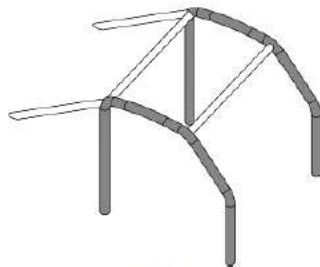
1. The roll cage follows the minimum design and utilizes the material specified in this section and the installation and welding is of satisfactory quality.
2. The roll cage was designed and installed into a FIA homologated vehicle and the homologation papers are presented to the scrutineer to confirm.
3. The roll cage has been approved by a National Governing Body and follows the FIA regulations regarding the same.

The TTRC will accept as a minimum roll cage to be

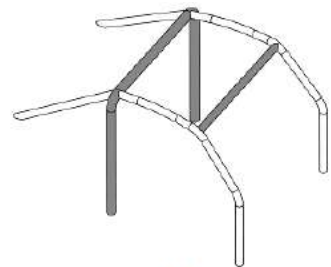
- A main rollbar, front lateral rollbar and connectors. See diagram 253-1
- Two lateral rollbars and connectors. See diagram 253-2
- A main rollbar, 2 lateral rollbars and connectors. *This is the most commonly used design.* See diagram 253-3
- Diagonal members for the driver/co-driver for side impact. See diagram 253-9, 253-10, 253-11



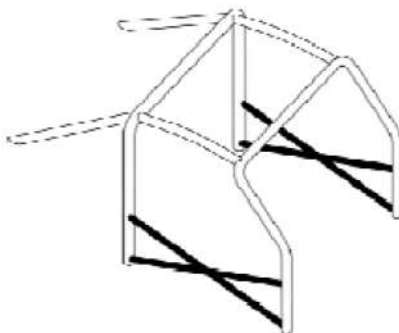
253-1



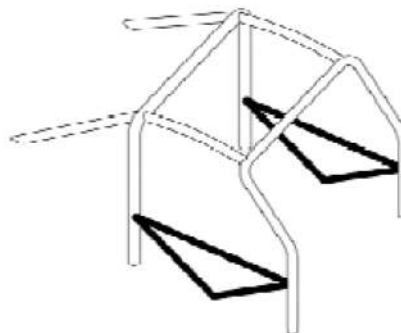
253-2



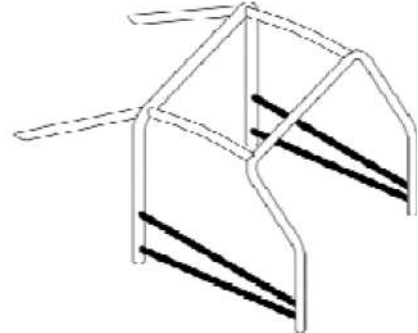
253-3



253-9



253-10

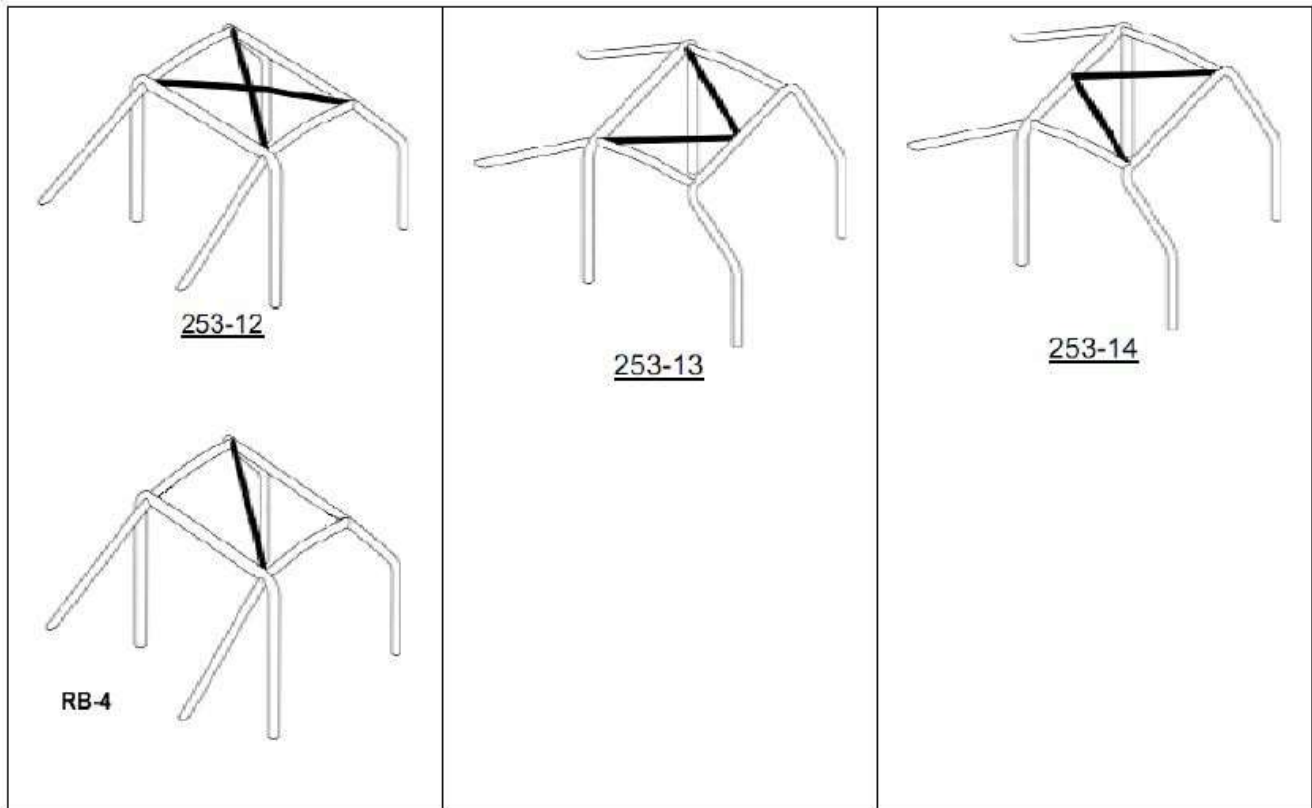


253-11

Additional elements are allowed and highly encouraged and are as follows.

## ROOF BARS

There are four designs for this element. Bars can be slightly bowed to follow the contour of the roof. See diagram 253-12, 13, 14 and RB-4



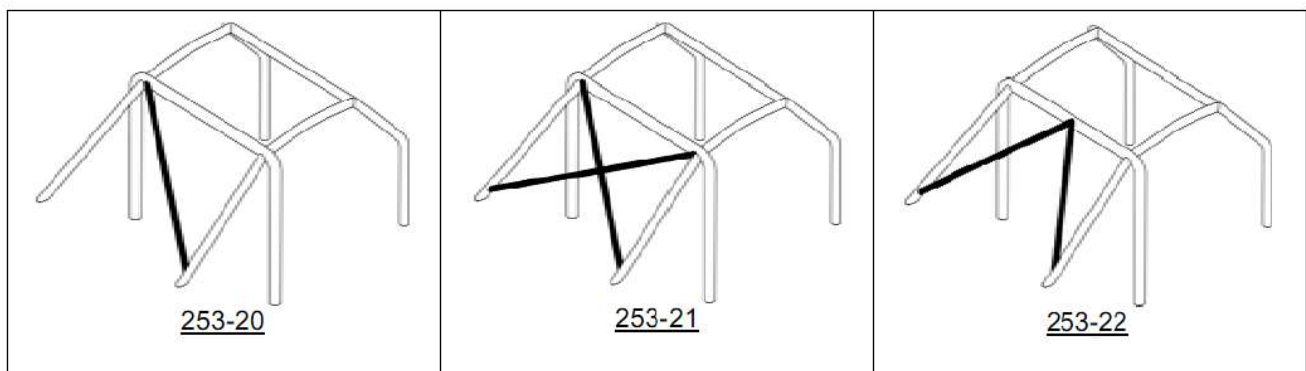
## BACKSTAY DIAGONALS

There are three designs for this element. Bars can be slightly bowed to follow the contour of the roof. See diagram 253-20, 21, 22

For 253-21 is required that one of the diagonals in the X be a continuous tube.

For 254-22 must be used for roof bar 253-14.

For 253-20 and 253-21 the upper end of the diagonals must join the end of the back stay no more than 4 inches from the junction with the main rollbar or with the rear leg of a lateral rollbar. For the lower end of the diagonal shall be to the opposite backstay at no more than 4 inches from its connection to the vehicle.

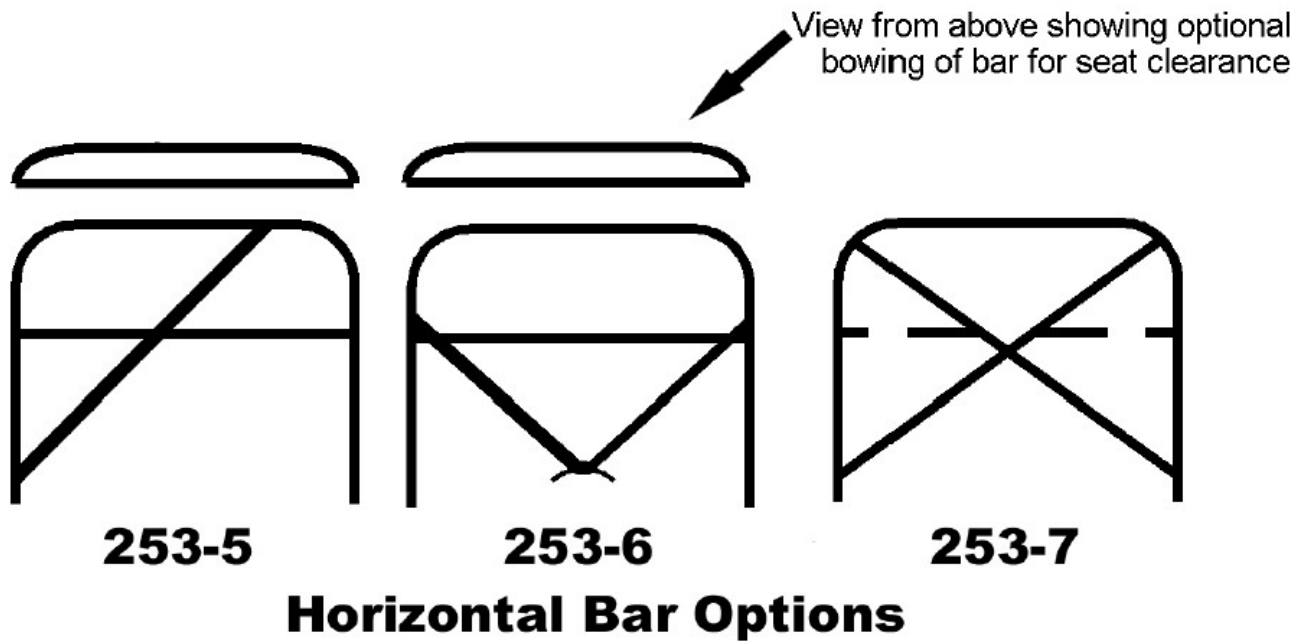
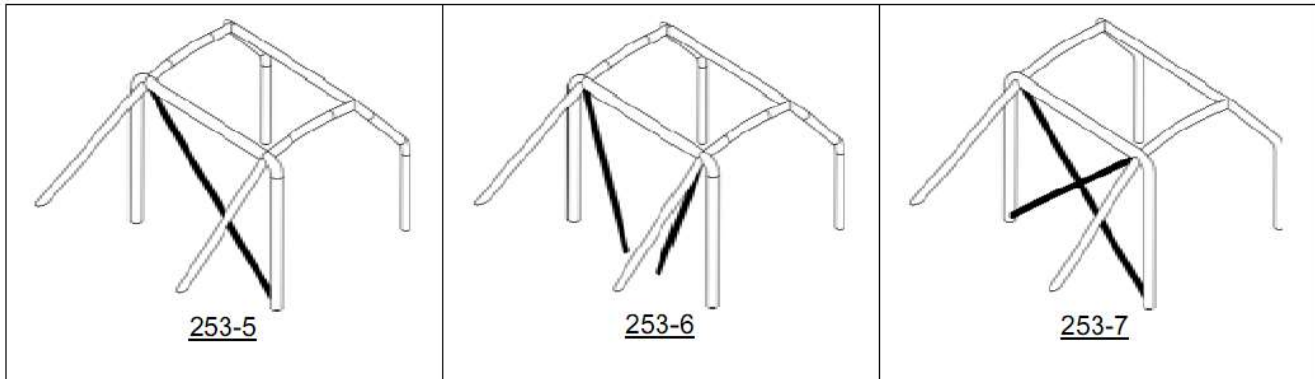


## MAIN HOOP DIAGONALS MEMBERS

There are three designs for this element. See diagram 253-5, 6, 7

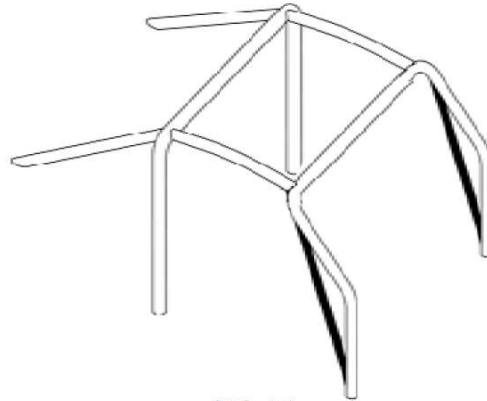
For Choice 253-6 the two halves of the V must be attached to each other and to one continuous reinforcement plate, which is welded on the top of a floor tunnel (not separately to opposite sides of a floor tunnel). A continuous tube is preferred. The level at which each half of the V connects to the main roll bar must be at least 60% of the vertical height of the main rollbar up from the floor plates.

Choices 253-5 and 253-6 both require that a horizontal bar be added. The horizontal bar may be bowed out of the plane of the main hoop. A horizontal bar may be added to Choice 253-7.



## A-PILLAR REINFORCEMENT

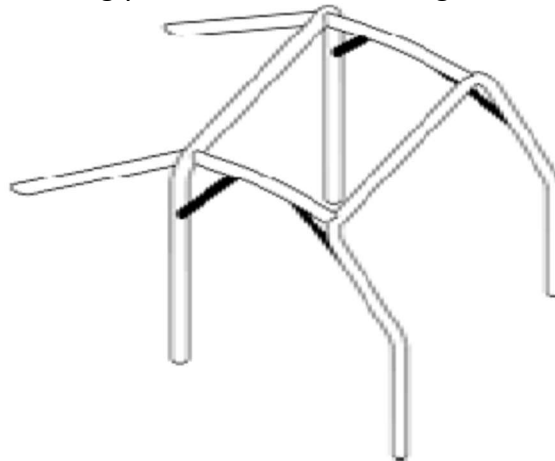
This reinforcement may be bent only if it remains straight from a side view and the angle of the bend does not exceed 20 degrees. Junctions with the lower mounting point and the upper junction of the lateral half roll bars and transverse member over the windshield, or the front hoop and longitudinal members over the doors, must be less than 4”.



253-15

## ADDITIONAL REINFORCEMENT

The following reinforcement is strongly recommended See diagram 253-31



253-31

## DASH BAR

Dash bar (the transverse member fixed to the front rollbar, or between the front legs of lateral rollbars or half rollbars) must not encroach upon the space reserved for the occupants. It must be placed as high as possible but its lower edge must not be higher than the top of the dashboard. In some vehicles a OEM installed bar may originally be installed. This original bar can be connected to the roll cage.



## FRONT CORE SUPPORT

Extension of the roll cage forward to the strut towers is allowed.

## TRUNK AREA REINFORCEMENT

Reinforcement of the rear trunk floor is allowed to better protect trunk mounted fuel cells

## ATTACHMENT TO THE VEHICLE

**The cage must be welded to the body at all points.** All tubing must be welded directly to a reinforcement plates. At all termination points a tube to the vehicle body **must use reinforcement plates.** Crush box style is optional.

Reinforcement plates must be 1/8" thick.

It is strongly recommended the roll cage be weld to the A and B pillars. The use of metal plates/tube to bridge any existing gaps is allowed.

Wall welding must be of the highest possible quality. With full penetration using preferably a gas-shielded arc. All welds must cover the whole tube perimeter at each joint. Although good external appearance of a weld does not necessarily guarantee its quality, poor looking welds are never a sign of good workmanship.

## ROLLCAGE TUBE REQUIREMENTS

All tubing must be either seamless mild steel tubing, CDS (Cold Drawn Seamless) or DOM (Drawn Over Mandrel) steel or T45 High Tensile Carbon-Manganese cold drawn seamless tube. All tubes must be seamless with a minimum yield strength of 350 N/mm<sup>2</sup>.

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 ovalized during bending, the ratio of minor to major diameter must be 0.9 or greater. If this ratio is exceeded the bends may be plated or gusseted.

The main hoop and front lateral rollbars, must be made in one piece without any joins.

### T45 minimum dimensions are

Contact the TTRC management for specs

### All other tubes

Main Hoop – 45mm x 2.5mm (1.75" x .095") recommended or 38 x 2.0mm (1.5" x .095")

Lateral Hoop, Door Bars – 38mm x 2.0mm (1.5" x .095")

Header Rail, Dash Bar, Rear Stay Diagonal – 38 x 1.0mm (1.5" x .095")

## Kill Switch / Electrical Details

Master cut out switches must be fitted to all cars competing in all Groups. The switch must be fitted such that **both the driver and someone from outside the vehicle** can operate the said switch. In some cases 2 switches will need to be installed. A pull cord connected to a switch can be used as the second external switch. It is recommended the switch be installed at the lower part of the windscreen.

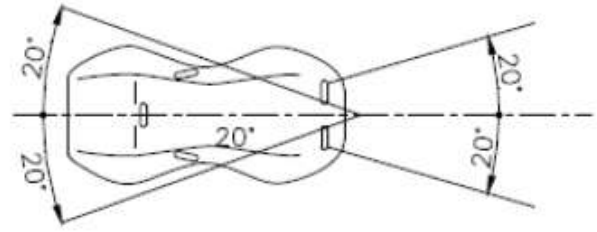
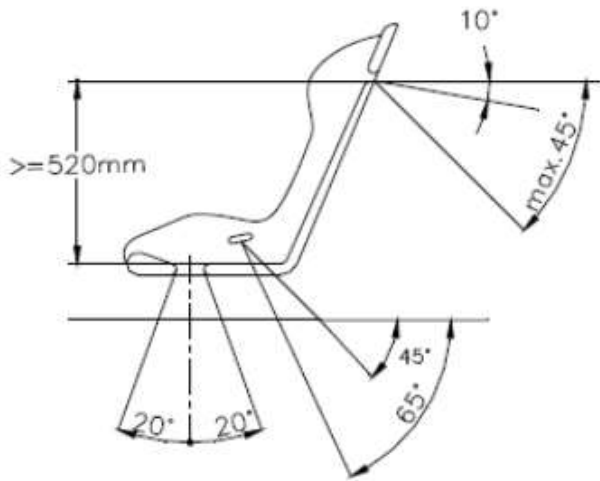
A switch must be marked by a Red Flash in a Blue Triangle to identify its location.



*Left Example of Kill Switch logo. Right example of logo placement next to an external switch pull*

## Safety Belts Details

Full harness belts with four or more mounting points are mandatory for events. **All belts must minimum be SFI or FIA rated.** They must be fixed to original seat belt fixtures, the roll cage structure or, where attached to the sheet metal of the car, must have a steel backing plate of at least 4 inches square and 3/16" thick. Principles of mounting to the chassis/monocoque see diagram 253-42. **A FIA rated belt is strongly recommended where possible.**



253-42



**Example of FIA rating on belts.**

## Racing Seats Details

The use of competition approved seats is mandatory in all cars. The race seat must be a one piece type. Reclinable type seats are not allowed. The Seat fixture must be bolted to the floor. Seats can be reinforced with at least 4 inches square and 3/16" thick plate. **The use of FIA rated seats is strongly recommended.**

## Driver / Co –Driver Equipment

### DRIVING SUITS

Occupants must wear one piece race suits of single layer (minimum) with **minimum of SFI 3.2/1A** rating. Shoes must be worn at all times by all occupants and must be laced and closed.



*Example of Sfi marking*

### HELMETS

Driver helmet for auto racing. Helmets that are damaged or show signs of repairs and/or repainting may be rejected by the scrutineer. **A helmet with a Snell Rating of 1998 is recommended.**



*An example of the Shell certification Sticker*

## FRONTAL HEAD RESTRAINT

**A frontal head restraint device is mandatory** (EG. Hans Device, Motorsport Neck Foam Collar only or similar device)



*Left A hans device. Right Motorsport Neck Foam Collar*

## Fire Extinguishers

All cars must carry a working fire extinguisher or extinguishers (two) of a total minimum weight of 5 Lbs. of CO2, Lite Water or dry powder and they must have a readable gauge. “Plumbed in” systems should be mounted such that they can be activated from inside the car by the driver/navigator while belted in the seat or from outside the car from a location clearly marked by an “E” in red. Handheld extinguishers should be securely mounted with a quick-detachable system and should be accessible while seated but not necessarily with the seat belts on. They may be mounted on the floor in front of or behind the front seats. If mounted behind, the only acceptable area is between the seats in the region of the transmission tunnel. Handheld Fire



*Example of logo for plumbed in extinguishers*

## Tires

All cars are mandated to run the tires for the class they are competing. The Specific tire details for each class are below in each class section. *Eg. Spec Miata cars must run the spec ties for the class. Rally cars can run tires that comply with TTRC class rules., Group 1 will run their class rule of rim max size of 15” diameter x 7” width with a max tire of 205mm ETC.*

All tires cannot exceed the body width. Fenders flares are acceptable.

**Wheels must be closed within a wheel well.** Therefore vehicles interested in competing with suspension and/or wheels not contained within the limits of the body of the vehicle will be rejected.

## OK / Red Cross Sign

All competitors must carry a sign displaying 'OK' (Green lettering) and a Red Cross (Red) to be displayed in the event of a run-off, in order to communicate their status to oncoming competitors. This is to be kept within the car at all times. Should a vehicle run off or pull off to the side **either OK or medical must be shown.**

The sign should be shown before a corner if the car is parked immediately after. If the car is parked along a straight it can be stuck onto the vehicle and left.

Showing **"OK"** indicates the crew is ok.

If no **"OK"** is indicated, the competitor will inform the Finish Marshal of the no sign.

Showing **"Medical"** indicates you are seeking immediate medical assistance.

Should any competitor come upon a car with a medical sign displayed, the competitor is to immediately proceed to the next marshal point, stop and inform the marshal of the medial request.



*Example of OK / Medical sign*

## Fuel Tanks

Vehicles can be fitted with a safety/bag type fuel cell. The safety/bag type fuel cell must be mounted in the back of the car. We recommend that if a safety/bag type fuel cell is installed in a truck area that it be hermetically sealed from the passenger compartment. All fuel tanks must have exterior venting. All fuel lines must be clamped and secured. Fuel lines running through passenger compartment must be approved quality for particular use and must be properly secured to floor and panels.

## Tow Eyes

All cars must be fitted with front and rear towing eyes to be used if the car can be moved freely. Their location must be clearly identified with either a red arrow (painted or tape) or the eye itself must be painted or taped in yellow, red or orange (Day-Glo).

## Doors / Mirrors

All doors must remain unlocked during event or practice. Where driver's window is not up or is unavailable either safety net or arm restraints must be used. All cars must be fitted with at least one effective working rear view mirror

## Cars involved in an Accident

Any vehicle that sustains damage during a speed event must undergo re-scrutiny before being permitted to compete again. If a car is damaged during the event but can still continue, it must be inspected at the next stopover to ensure its continued eligibility for competition. Competitors are obligated to notify the Race Control if their vehicle is damaged and requires re-scrutiny, or risk exclusion from the event.