



Technical Regulations

Malaysia Saga Cup Championship 2024

Version 1.0
4 Dec 2023

Malaysia Speed Festival



TECHNICAL REGULATIONS – SAGA CUP CATEGORY

(The regulations are subject to change, which will be published via Additional Supplementary Regulations – ASR)

1. GENERAL

1.1. Eligible cars

- It being 4-wheeled production PROTON Saga or PROTON Saga Iswara car, below 1500cc. The chassis designation “LM”
- All variants and models of this particular vehicle are valid

1.2. Sub-categories

- There will be four (4) sub-categories within Saga Cup with Championships:
 - o ‘Pro’ category
 - o ‘Advanced’ category
 - o ‘Intermediate’ category
 - o ‘Casual’ category
- Grading of Drivers within the four categories will be decided by the MSF Organising team, and based upon lap times at Sepang Circuit. The cut-off lap times (lap time bracket) will be determined statistically, to provide for a balanced field and number of drivers and cars within each sub-category.
- Any driver that throughout the year consistently dips into the laptime bracket of the next faster laptime bracket, will be promoted to the next sub-category. ‘Consistently’ here refers to at least 1 fastest lap in the next upper bracket over 3 consecutive races.
- There will be a reduction of 1-second per lap lap-time bracket from Round 5 till end of the Series (till the final round). This is to compensate as drivers improve their driving skills and laptimes.

1.3. Modifications made to the vehicle cannot compromise the safety or structural integrity of the vehicle.

Approval for entry is at the discretion of the Promoters.

2. SPECIFIC REQUIREMENTS FOR SAGA CUP CATEGORY

2.1. Defining what is a ‘SAGA Cup’ category vehicle:

- Interior regulations based on the old FIA Group N regulations:
The interior of the vehicle includes the minimum items which would define it visually to a casual observer as a car which may be driven on the street with daily amenities, such as:
 - o Air-conditioning switches and blower switches;
 - o Original full length dashboard with all listed panels including steering column cover and indicator stalks, switches, and centre console with gear shift cover;
 - o Original Front door trim panels on both driver's and passenger's side;
 - o Original glass all around
 - o complete list of interior items refer to paragraph 4 ‘Interior’.
- Equipped with a welded or bolted-in roll cage which compiles to MAM and FIA specifications, and is joined to the body and chassis at more than 6-points. The rollcage may be constructed to increase bodysell rigidity with additional strengthening points to the pillars and suspension pick-up points.; refer to 5.1 for details.
- Suspension hard points may NOT be altered. Subframes may be modified as required but must be based on the original structure and engineering concept of the original subframe. If the subframe is modified beyond what would be acceptable for Street usage, will not be accepted.
- Organiser's decision to accept or decline a car's categorisation shall be final.



2. DRIVER ATTIRE

- 2.1. Drivers are required to wear proper auto/motor Helmets. Minimum requirement is SNELL SA / DOT Approved. No Bicycle Helmets allowed. It is highly recommended to use a helmet which uses double-D type strap fasteners.
- 2.2. Drivers are required to wear proper racing attire: Flame Retardant club-level Racing suit complying minimum SFI 3.2A/1 and/or EN533. Similar Flame Retardant shoes and gloves required.
- 2.3. Use of Hand And Neck Restraint (HANS) device is recommended.
- 2.4. Prohibited to wear non-flame retardant suit or open-toe shoes.

3. SAFETY EQUIPMENT

3.1. A Safety cage must be installed.

- It must be secured at minimum six (6) points on the floor with secure bolts or welded plates. Mounting points are the base of the A Pillar, B Pillar and the rear wheel arch or rear suspension turret.

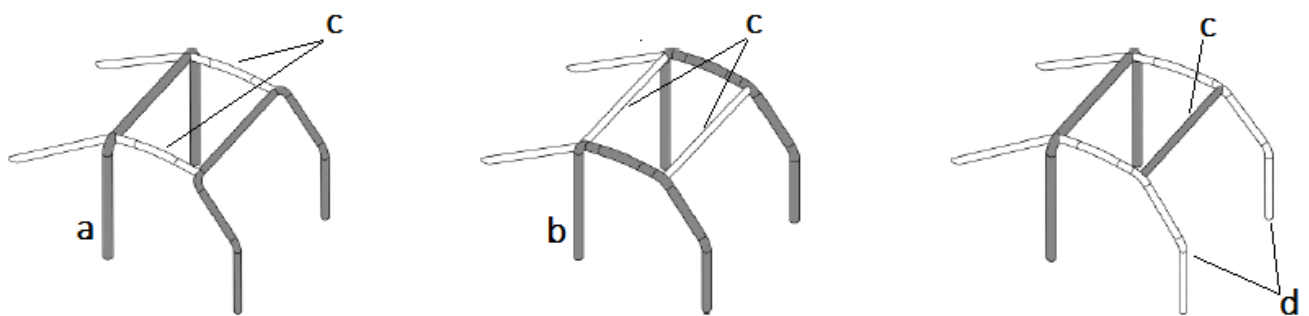


Diagram 5-1

- At least 1 diagonal bar minimum is required between the Main Rollbar Hoop and a lower mounting point – either on the main hoop or on the rear bar to the floor – to create a truss.

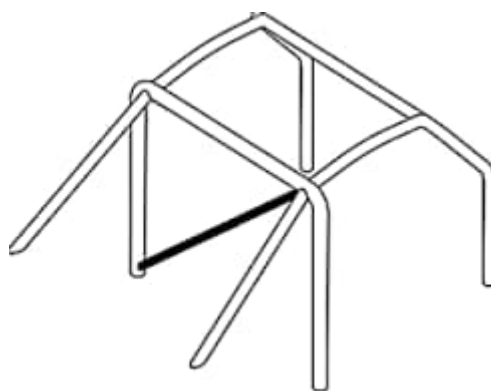


Diagram 5-2

- A 2-bar side impact bar is compulsory. 2 diagonal X-bars or parallel-bars required on both left and right sides.



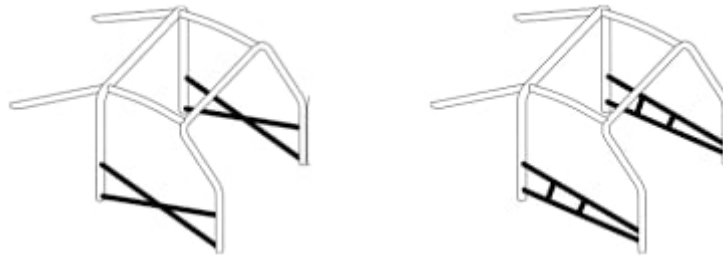


Diagram 5-3

3.2. Safety cage specifications.

Safety Cage Specifications. Only steel circular tubes are allowed for use.

3.2.1. Specifications are

Dimensions (mm)		Use
*Recommended	45 x 2.5 (1¾" x 0.095") or 50 x 2.0 (2.0" x 0.083")	<ul style="list-style-type: none"> • Main rollbar (A in Diagram 5-1) • Lateral rollbars (B in Diagram 5-1) • Transverse members (C in Diagram 5-1)
*Minimum requirement	38 x 2.5 (1½" x 0.095") [CDS only] or 40 x 2.0 (1.6" x 0.083") [Mild Steel]	<ul style="list-style-type: none"> • Main rollbar (A in Diagram 5-1) • Lateral rollbars (B in Diagram 5-1) • Transverse members (C in Diagram 5-1) • Lateral half-rollbars (D in Diagram 5-1) • Any other parts of the safety cage

3.2.2. Mount plates

Mount plate size: 120mm x 120mm

Mount plate thickness: 3mm

Reinforce plate thickness: 3mm

3.2.3. Welding: full welding around the diameter of the tubing. It is not permitted to grind or plate the welding.

3.3. Compulsory general safety items

3.3.1. Cut-off switches for electrical and fuel systems are compulsory with an external switch/lever. A sticker identifying the electrical cut off switch must be affixed near the switch.

3.3.2. Competition safety harness belt are required. Minimum 4 points.

3.3.3. Competition bucket seat is recommended.

3.3.4. A Fire Extinguisher must be fitted of minimum specification:

- DCF (CF3 BR): 4.9kg
- NAF 83: 3.2kg
- NAF P: 3.2kg
- AFF: 2.4kg
- Powder: 2.0kg



3.4. Items in passenger compartment

3.4.1. Any battery placed within the passenger compartment must be of sealed Dry cell type.

It must be installed securely within a secure box with lid cover.

3.4.2. Oil Catch tank within Engine bay must be of non-flammable material ie alloy or steel material

- must be securely mounted
- must be enclosed with no leaks or gaps
- must have hoses that are securely attached
- plastic bottles are not permitted.

3.5. General safety

3.5.1. No fluid leaks of any kind.

3.5.2. No loose items within engine bay.

3.5.3. Poorly engineered and poorly attached bars inside the cabin are not allowed.

3.5.4. Cache tanks, items, pumps, etc that involve lubricant and/or oil are not permitted in the passenger cabin of the cars, excluding items mentioned in 3.4.

4. FUEL TANK

4.1. Original fuel tank is required, in the original location with original refuelling hose and orifice. It is not permitted to change the fuel tank.

4.2. An inboard FIA specification fuel surge tank is allowed:

- limited to one 5-litre surge tank only.
- Petrol lines inside the vehicle, if any, must be certified safety fuel lines.
- A fire-proof bulkhead and/or protective cover and/or compartment must enclose the fuel pump.
- A pre-event inspection and approval is necessary and if they meet the organisers safety standards, will be registered and approved. An appointment minimum 1-week prior to the event is required.

5. BRAKING SYSTEM

5.1. General

5.1.1. Front: Original brake caliper & disc rotors must be retained.

5.1.2. Rear: Original drum brakes must be retained.

- Vented Front Discs are not allowed
- Conversion to rear Brake disc systems is not allowed.

5.2. Brake disc rotors, pads, brake shoes, and brake hoses may be replaced with direct-replacement aftermarket items: but must be of original dimensions. Slotted and cross-drilled etc rotors permitted.



6. SUSPENSION

6.1. Suspension bushes

- Adjustable suspension top-mounts are not permitted. Original-type front and rear suspension top mounts only.
- Original rubber suspension bushes may be replaced with hard rubber, polyurethane, and nylon material bushes. Mounting points must remain original and standard.
- Rose-joint / spherical bearing suspension components to replace the rubber bushes is not permitted.

6.2. Original suspension types, mounting points and location must be used. Aftermarket coilover type dampers may be used.

6.3. Suspension hard-points at the body and sub-frames may be strengthen with added plates.



7. TYRES

7.1. All categories - with no exceptions - are to use the control tyre in the sizes described below.

7.2. SAGA Cup category to use:

- Hankook Ventus RS4 (Z232) in size 195/50-15

8. POWERTRAIN

8.1. There is no maximum engine capacity restriction for this category.

- Original 4G1x engine block to be used, to be visually stock externally;
- No additional welding or plates permitted to be added on to increase bore or stroke, other than what may be contained within the original engine block

8.2. 4G15 or 4G13 engines only. Engine Block and Cylinder Heads must be original 4G15 or 4G13.

- The numbers of attachment points to the bodyshell must remain as standard production.
- Reverse heads not permitted.
- Original single Carburettor compulsory, with original inlet manifold only
- Exhaust manifolds may be replaced. Titanium material not allowed.
- Oil sump may be modified. Dry sump systems not permitted.
- Forced-induction not permitted.

8.3. Engine & Transmission mounting and location

- Original engine mounting points on the body / subframe must remain. Additional brackets to provide stiffer engine locating and mounting, is permitted.
- Rubber Engine mountings may be replaced

8.4. Distributor & ignition

- Must use original distributor, housing, and cap. Triggering may be replaced with electronic or optical triggering to replace the original contact points.
- No replacement standalone ECU permitted.
- Coil on plug and any other form of programmable and / or digital electronic ignition is not permitted.

8.5. Gear box

- Original Proton SAGA gearbox with original Clutch Engagement using cable.
- Final Drive ratio may be modified.
- Gear ratios may be changed and modified. However, Dog Engagement gears are not allowed.
- Limited-Slip Differentials (LSD) are not permitted

8.6. Fuel information

- Nitrous Oxide system is not allowed in any category.
- Any fuels or fuel blends that contain oxidisers and oxygenates in any alcohol forms (methanol, nitro-methanol, ethanol, butanol, etc) will not be permitted.
- Water-methanol injection into the intake manifold is not a fuel, and is permitted

9. EXHAUST SYSTEM

9.1. Exhaust system must exit with sideways or rearward-facing exhaust outlets.

If rearwards, the outlet/s shall be between 100mm and 450mm above the ground and shall not protrude more than 50mm beyond the rearmost portion of the automobile.

If directed sideways, the outlet/s must be located rearward of the midpoint of the wheelbase. In any case, they shall not project beyond the maximum width of coachwork /body when seen from above.



9.2. A muffler/s must be fitted, which are subject to particular examination by scrutineers.

WARNING: The aim of this is exhaust noise reduction, even if just a little – a muffler box which is emptied out of noise-absorbing material or baffle plates or such will not be accepted. Do not test the Technical team's intelligence.

10. INTERIOR

10.1. Interior of participating cars to be as such:

10.1.1. Fitted with original equipment as listed below:

- Air-conditioning and blower switches. Blower, compressor, condenser and evaporator may be removed.
- Original dashboard required. To be presentable.
- Original Front door trim panels on both driver's and passenger's side.
- Original glass all around. Front windscreen is to be 2-layer glass.
- Passenger side front seat is not required

10.1.2 Fitted with original full-length dashboard with all listed panels. Refer to diagram 2016a:

- Instrument Panel and cowling
- Steering Column cover and indicator stalks
- Centre console and switches
- Gear console and gear shift cover.

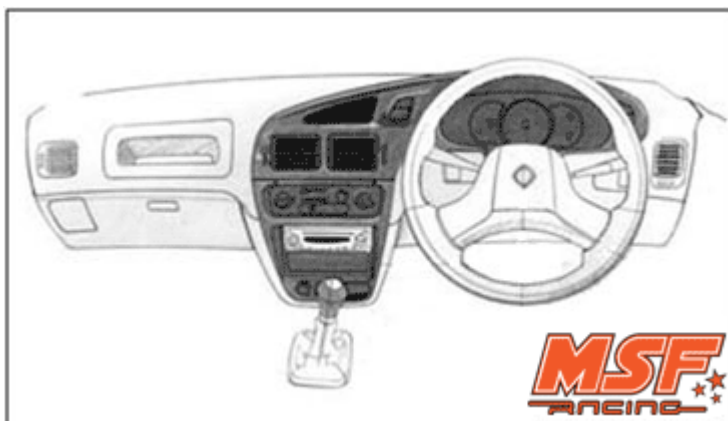


Figure 2016a

10.1.3 The following items may be removed and stripped:

- A, B, and C pillar trim
- any interior trim from the rear of B-pillar and Front seats
- headlining
- carpet

11. BODYWORK

11.1. Composite material for certain bodyparts are allowed, all parts must still retain the original factory body look and style. Parts replaceable are

- Front Bonnet
- Rear Bootlid
- Front wings / fenders
- Front bumper
- Rear bumper



11.2 Spare wheel well may be cut and covered. Cover must be metal and must be welded to the body. No plastic or ABS or composite material permitted.

11.3 Floorboard and any other part of the fundamental steel monocoque chassis body may not be cut and replaced with anything other than *metal* for the purposes of lightening.

11.4. All exterior lights must be functional.

- Both original headlights location must have functional headlamps
- Additional spot/fog lights are allowed.
- All Tail/Rear lights must be functional. Brake Lights must be functional.
- Headlights and taillights are recommended to be taped up.

11.5. Front and rear Tow Hooks must be attached and Arrow Stickers in fluorescent Red must be affixed.

11.6. Bodywork modifications are not permitted to the front and rear wheel arches.

- Wheel arches need to be stock size and shape. Permitted to roll and stretch the standard arches.
- Tyres must not protrude beyond OE bodywork
- all original glass must be retained. Not permitted to change to Perspex or acrylic
- welding and additional plating to the bodysell for strengthening and safety bars is permitted

12. AERODYNAMIC DEVICES

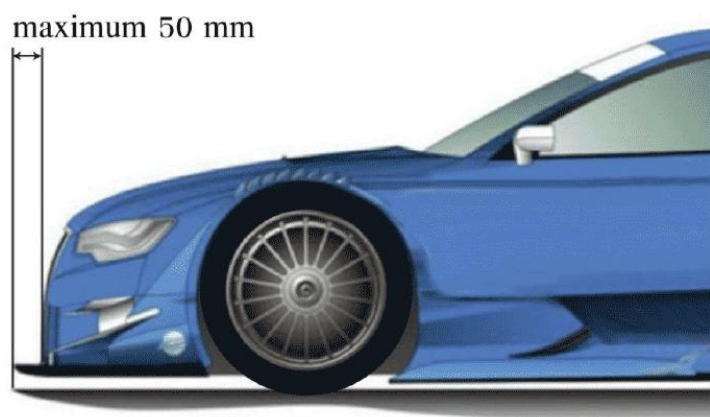
Aerodynamic devices and equipment refers to:

- Rear Spoilers and Front spoilers
- Frontal Canard fins
- Front Splitter
- Rear Diffuser
- Wing End Plate
- Rear Wing
- Side Skirt
- Gurney Flap
- Vortex Generator fins

12.1. Front Aero

Aerodynamic devices mounted in the front shall not be wider (laterally extended) than the width of the front wheel arches when viewed from the front.

- SAGA Cup: Front aerodynamic devices must not extend beyond 50 mm from the front edge of the front bumper/nose, following the perimeter edge around the front bumper/nose.



12.2. Width of ALL Aero (Front, Sides, Rear, Wings)

No part of the aerodynamic device can be wider then or protrude beyond the width of the wheel arches when viewed from the front.





12.3. Aerodynamic Devices Material

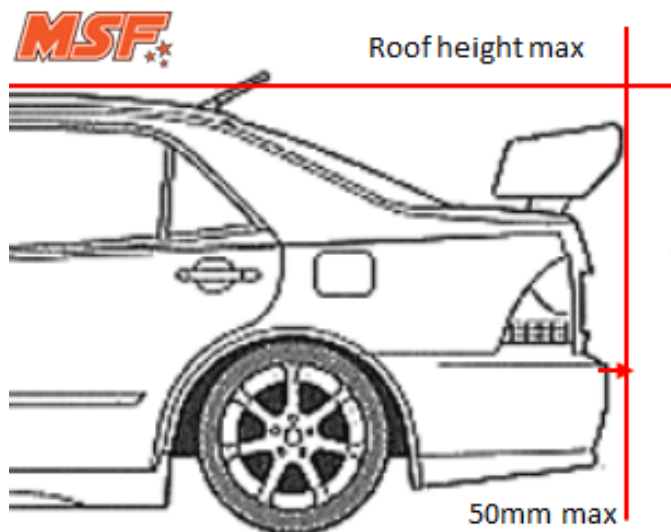
- All aerodynamic devices must be manufactured from either Wood, Plastic, or Composite materials (eg, fiberglass, carbon fiber, Kevlar fiber).
- *Metal may not be used for anything other than Rear Wing and rear wing stands/ mounts.*
- There must be no sharp edges to all aerodynamic devices that would cause injury to humans and passers-by.

12.4. Rear Aero

12.4.1. Only the rear wing, wing end plate, and legs/stands/mounts of the rear wing can be made of any material.

12.4.2. Maximum dimensions

- SEDAN / 3 Box design vehicles: Rear wing height must not exceed the height of the vehicle roofline.
- HATCHBACK / 2 Box design vehicles where there is no suitable length of metal bootlid along the horizontal plane: Rear wing height must not exceed 50mm above the vehicle roofline.
- Rear aerodynamic devices must not extend beyond 50mm of the end of the rear bumper



13. MINIMUM WEIGHT

13.1. General

- The minimum weight of a Car is to be set and weighed excluding the Driver and the Driver's apparel. This weight is with all fluids, and with enough fuel to be able to start and drive away after any weighing of the vehicle at Scrutineer or Parc Ferme.
- The minimum weight stated in 13.3 below for each category must be achieved at all times throughout a Race Meeting with no exception.
- The organiser reserves the right at all times to amend the weights of Cars in the interests of equitable competition.

13.2. Adding extra weights.

- To have the minimum weight as prescribed, additional weight and ballast may be added, and anchored firmly and securely. The ballast is to be placed on the floor of the cockpit, spare wheel well, or luggage compartment.
- The material used must be of a unitary block construction, fastened by a bolt with minimum of 10 mm in diameter with a metal plate on the bottom.
- The ballast must not have sharp edges. The scrutineer would have the rights to reject any ballast which is deemed unsafe.

13.3. Minimum weights for SAGA Cup: NONE

13.4. A maximum tolerance of +/- 5 kg is acceptable but absolutely no more no less.

14. COMPETITION NUMBER & VEHICLE PRESENTATION

14.1. Competitors are obliged to carry the MSF partners' logos in the mandatory sticker areas.

14.2. Official MSF Sticker Board of MSF Series Sponsors must be located in the area below the front windows behind the front wheel.

14.3. Official MSF Tyre Partner sticker must be placed on the wheel arches, either front or rear arches on both sides.

14.4. Official MSF Title Sponsor sticker must be placed on the front windscreen area.

14.5. Other official MSF Partner stickers must be placed at the front or rear wings on both sides.

14.6. Competition numbers are to be placed in 2 locations:

- Door Numbers: Must be placed on doors on the side of the vehicle, to be clear and of contrasting colour to the body colour. General dimensions for each number digit to be roughly A3 Size (11" Wide x 16" High). Competition numbers must be of a contrasting colour to the car and reflective stickers are recommended.

Objectives are for the numbers to be clearly visible to the Time Keepers, Marshals, and Race Control.

- Windscreen Numbers: Must be placed on the left front of windscreen, below Category Partner sticker. Must be 6" high in Arial Narrow font using White or fluorescent Yellow sticker.

14.7. Competitors & team own sponsors may be located at all other locations such as:

- Front Bonnet.
- Roof.
- Rear Door/fender.
- Rear Bootlid or Tailgate.
- Front & Rear bumpers.

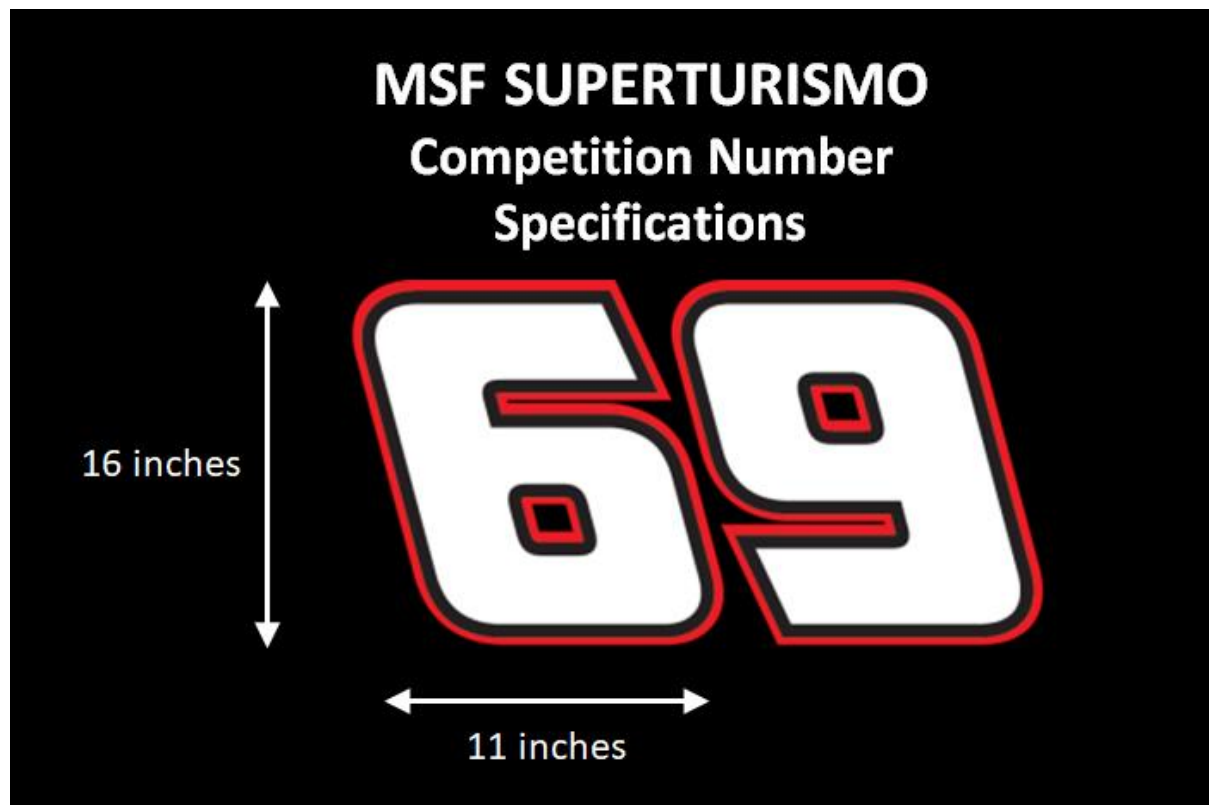
14.8. A rejection fee of RM 2,500.00, for every deleted Partner /Sponsor sticker, is required of any Competitor that does not apply any MSF Partner /Sponsor stickers.

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MSF Racing Series





Sticker Placement for MSF Racing Series Cars 2024.