



Technical Regulations

MSF Tuner Production 2024

Version 1.0
1 Jan 2024

Malaysia Speed Festival



TECHNICAL REGULATIONS – TUNER PRODUCTION

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

1. GENERAL

1.1. Eligible cars

- Any 4-wheeled production-based car or limited production sports car.
- Saloon-based, minimum production 2500 units per calendar year. No supercars.

1.2. Vehicle configurations for Tuner Production

a) Forced Induction.

- Petrol Engine with no variable-valve timing up to 1600cc; with variable-valve timing up to 1500cc.
 - Diesel up to 2000cc.
 - *Turbocharger*
 - *If the turbocharger meets either of the below specifications, no restrictor is required:*
 - o Original OEM Turbocharger that is specific to the engine used in the car;
 - o TD04 Turbocharger with original TD04 housing;
 - o T25 Turbocharger with original T25 housing, GT turbochargers not permitted;
 - o Any other Turbo with similar dimensions to the TD04 / T25 is permitted; to be declared to and certified by the Organisers prior to the race meeting.
 - *If any other turbocharger than the above is fitted, a restrictor is required:*
- Forced induction RESTRICTOR size – 30mm: The car is allowed to install only 1 turbo with air restrictor. The narrowest part must not exceed specified size within 5 cm measured from the tip of compressor wheel. This diameter must be maintained for a minimum length of 3 mm.*

b) Normally Aspirated

- 4-valve and 5-valve per cylinder engines up to 1900cc.
- 2-valve and 3-valve per cylinder engines up to 2500cc.
- Mazda rotary-engine up to 1308cc (maximum 2 rotors only) peripheral port not permitted.
- Honda B-series engines up to 1700cc.
- Other Variable Valve Timing ie MIVEC, VVTI, VANOS, engines up to 1900cc.
- Hybrid powertrains
- Maximum engine capacity of up to 1900cc.

c) RWD 1600 (sub-category)

- Petrol Engine rear-wheel drive production cars with Toyota 4A-GE engines only, up to 1600cc.

Approval for entry is at the discretion of the Promoters.

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

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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.

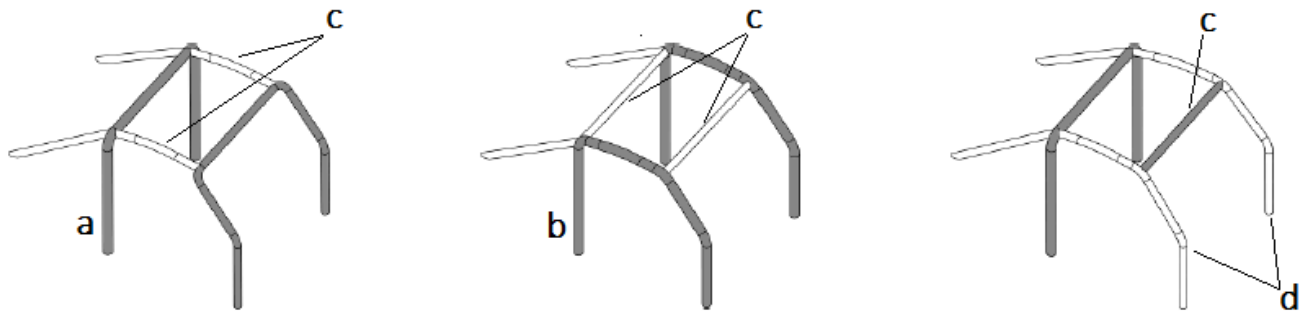


Diagram 5-1

- 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.

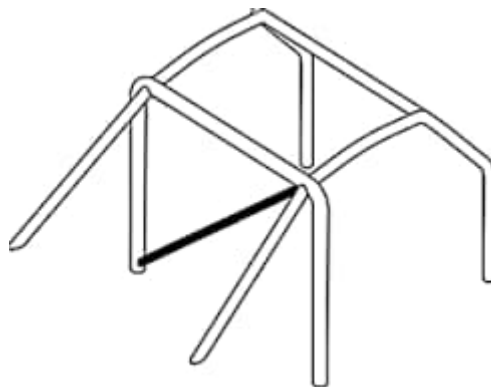


Diagram 5-2

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



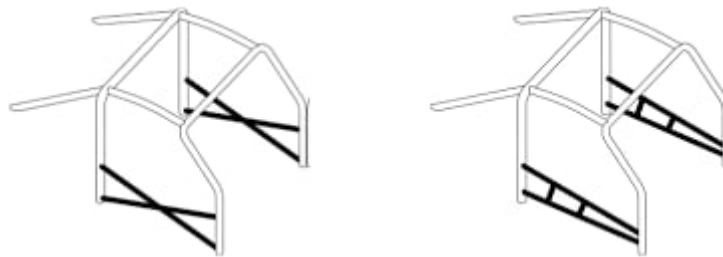


Diagram 5-3

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 (1 ½" 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

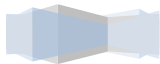
3.3.1. Cut-off switches for electrical and fuel systems are compulsory with an external switch/lever. A sticker identifying the electrical cut off switch must be affixed near the switch.

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.

- *Vehicles where original fuel tank has been replaced with FIA racing fuel cell, will be required to carry additional 20 KG weight ballast.*

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. Brake disc rotors, pads, brake shoes, and brake hoses may be replaced with direct-replacement aftermarket items. Slotted and cross-drilled etc rotors permitted.

6. SUSPENSION

6.1. Suspension bushes

- Original-type front and rear suspension top mounts may be replaced with adjustable items.
- Original rubber suspension bushes may be replaced with hard rubber, polyurethane, and nylon material bushes. Rose-joint / spherical bearing suspension components to replace the rubber bushes is also permitted. Mounting points must remain at the original locations. Mounting points must remain original and standard.

6.2. Original suspension types, mounting points and location must be used. Aftermarket coilover types may be used, adjustable top mounts to allow for camber adjustments is allowed.

7. TYRES & WHEELS

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

- Tuner Production category to use :
Hankook Ventus RS4 (Z232) in size 195/50-15

7.2. Wheels specification is open: width, offset, design



8. POWERTRAIN

8.1. The maximum engine capacity permitted is the allowed capacity as stated below in 8.3 with a tolerance of +0.5%.

8.2. General information

- Nitrous Oxide system is not allowed in any category
- The numbers of attachment points to the bodyshell must remain as standard production
- Oil sump may be modified. Dry sump systems not permitted.

8.3. Engine capacity

8.3.1. Forced Induction.

- Petrol Engine with no variable-valve timing up to 1600cc; with variable-valve timing up to 1500cc.
- Diesel up to 2000cc.
- *Turbocharger*

- *If the turbocharger meets either of the below specifications, no restrictor is required:*

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8.3.2. Normally Aspirated

- 4-valve and 5-valve per cylinder engines up to 1900cc.
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8.3.3. Hybrid powertrains

- Maximum engine capacity of up to 1900cc

8.3.4. RWD 1600

- Petrol Engine rear-wheel drive production cars with Toyota 4A-GE engines only, up to 1600cc.
- Any original cylinder head configuration: 16-valve & 20-valve.
- Throttle body size is Open.

8.4. Engine & Transmission mounting and location

- Fundamentals of the engine installation must not change. Original engine mounting points on the body / subframe must remain, even if the engine has been changed. Additional brackets, if required to mount different powertrain, is permitted.
- Rubber Engine mountings may be replaced

8.5. ECU

- The ECU may be flashed, and additional computer and control units may be added on / wired in.
- Replacement standalone ECU is permitted.

8.6. Ignition

- coil packs may be replaced with non-original items.



8.7. Gear box

- The gearbox must be derived from the manufacturer's range of production car gearbox transmission for the engine and body type. Original mounting points required but may be modified if required. The number and attachment points to the bodyshell must remain as standard production.
- Gear ratios may be modified. Final Drive ratio may be modified. Dog Engagement gears are not allowed.
- Limited-Slip Differentials (LSD) are permitted.
- Clutch may be changed; flywheel may be changed / lightened.

8.8. 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

10.1.1. 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 2023a:

- Instrument Panel and cowl
- Indicator stalks





Figure 2023a

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
- Steering Column cover
- Centre console and switches
- Gear console and gear shift cover.

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

Change of front and rear bumper to aftermarket styles is permitted.

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. Glass windows may be changed to Perspex or acrylic, except windscreen which must remain 2-layer glass

11.7. welding and additional plating to the bodyshell for strengthening and safety bars is permitted

11.8. Tyres must not protrude beyond OE bodywork. However if the wheel protrudes beyond bodywork additional wheel arches **MUST** be installed.

Wheel arches must cover from top of wheel & tire and reach to the bottom of vehicle floorpan level. Refer to diagram 2016b and 2016c below.

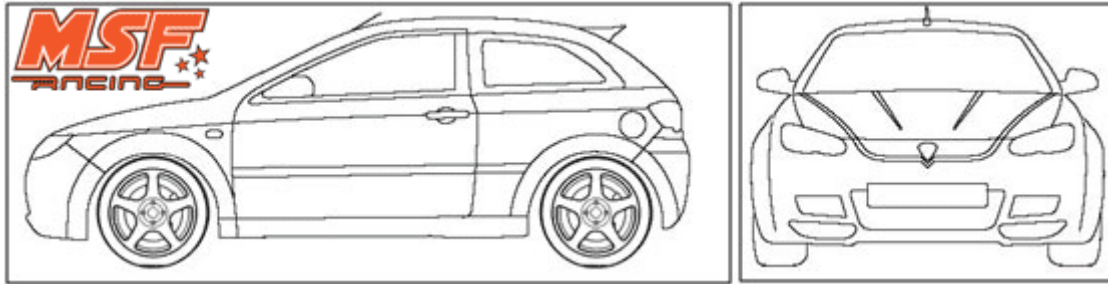
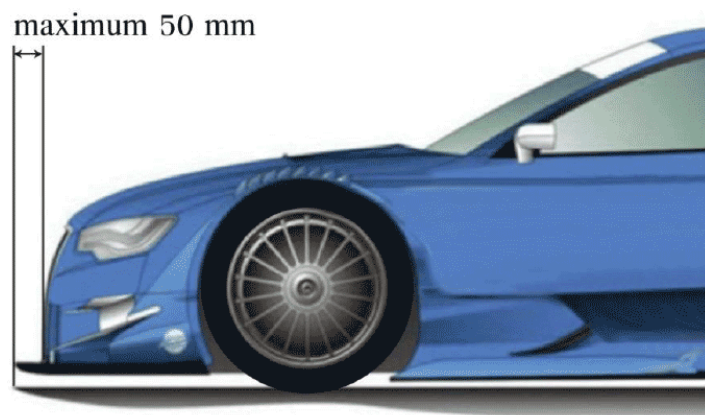


Figure 2016b & 2016c

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

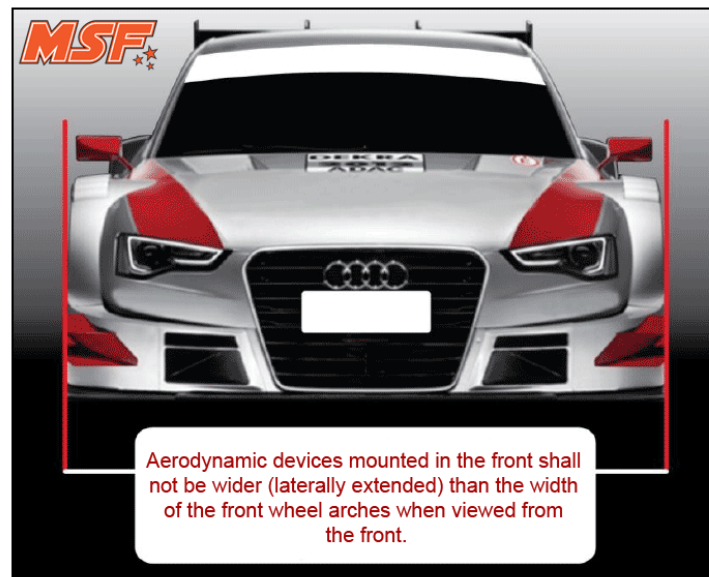
Aerodynamic devices mounted in the front shall not be wider (laterally extended) than the width of the front wheel arches when viewed from the front.

- 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.



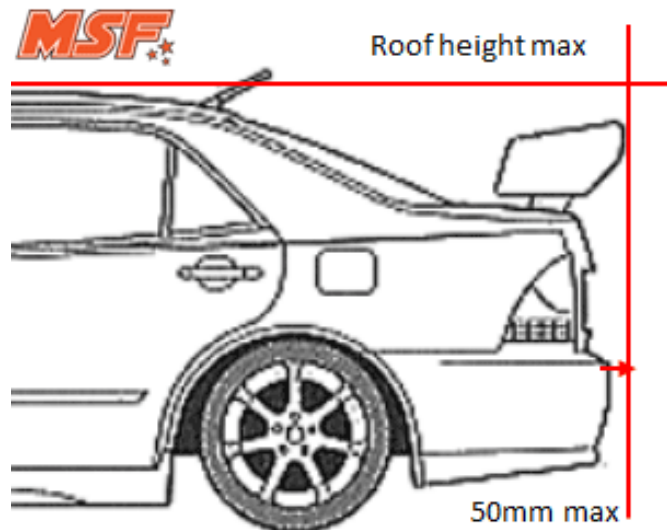
12.2. Width of ALL Aero (Front, Sides, Rear, Wings)

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.
- Rear aerodynamic devices must not extend beyond 50mm of the end of the rear bumper.



12.5. Rear bumper

- Rear bumper must at minimum come down to the height of the centre of the wheel centre hub
- No metal is permitted to be visible under the rear bumper when viewed from the side or the rear

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

- Tuner Production
 - up to 1500cc - 830 kg
 - up to 1600cc NA and non-Honda B-series - 880 kg
 - Other vehicles & engines: 950 kg
- RWD 1600
 - 16-valve head – 820 kg
 - 20-valve head – 850 kg

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.

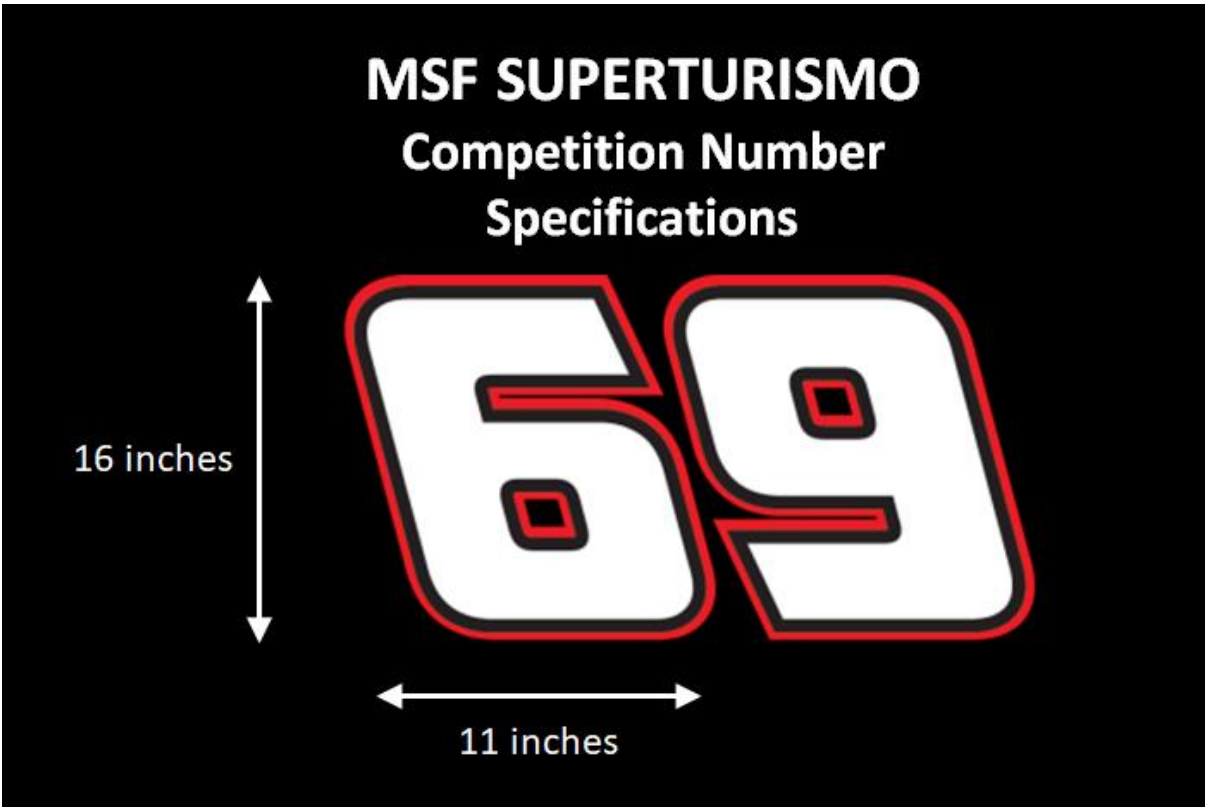
14.8. A rejection fee of RM 2,500.00, for every deleted Partner /Sponsor sticker, is required of any Competitor that does not apply any MSF Partner /Sponsor stickers.

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MSF Racing Series





Sticker Placement for MSF Racing Series Cars 2024.