

# Technical Regulations MSF Street Cars 2019



Malaysia Speed Festival



## **TECHNICAL REGULATIONS – STREET CARS CATEGORIES**

(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. Sub-categories**

Street sportscars will be classified in Super Street category.

a) **Super 1500 NA:** below 1500cc, high volume unibody monocoque chassis only.

b) **Street 1600 NA:** naturally-aspirated maximum 1600cc, VTEC and other forms of variable lift and timing are permitted. No rotary engines.

c) **PROTON 1800 NA:** Proton car and engine vehicles only, must be a production-based Proton vehicle and engine, 1900cc and below. Original powertrain format, engine and gearbox must be a Proton production engine.

#### **d) Street Tuned Limited:**

- Forced Induction.

- Petrol Engine with no variable-valve timing up to 1600cc; with variable-valve timing up to 1500cc.
- Diesel up to 2000cc.
- Turbocharger must meet either of the below specifications:
  - 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.

- 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.

#### **e) SuperStreet Limited:**

- Forced Induction.

- 4-cylinder engines 1750cc to 2000cc non-VTEC; 6-cylinder engines up to 2500cc; rotary 1308cc (maximum 2 rotors only) with peripheral port modifications not permitted
- Honda VTEC systems with forced induction limited up to 1800cc only: applicable to B-series and D-series engines. Honda B-series engines with non-VTEC limited up to 1800cc only.
- Turbocharger must meet either of the below specifications:
  - o Original OEM Turbocharger that are specific to the engine used in the car;
  - o TD05 Turbocharger with original TD05 housing;
  - o T28 Turbocharger with original T28 housing, GT turbochargers not permitted;
  - o Any other Turbo with similar dimensions to the TD05 / T28 is permitted; to be declared to and certified by the Organisers prior to the race meeting.

- Naturally Aspirated

- Honda VTEC engines limited to 2200cc maximum engine capacities: this includes ALL Honda VTEC engines such as B-series, K-series, H-series, and F-series.
- Naturally-aspirated non-VTEC up to 4500cc; other forms of variable valve timing permitted.



f) **Street 2000 NA:** naturally-aspirated minimum 1900cc and maximum 2000cc; 3-box saloon car body only, 2-door and 4-door permitted (includes Coupes and Fastbacks); 2-box hatchbacks not permitted.

- VTEC not permitted
- other forms of variable lift and timing are permitted
- No rotary engines
- forced induction not permitted.

Approval for entry is at the discretion of the Promoters.

## 2. DEFINITION OF STREET LIMITED CATEGORY

2.1. Defining what is a 'Street Limited' category vehicle:

### 2.1.1 *Street Limited cars:*

- 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 and blower switches;
  - o OEM full length dashboard with all listed panels including steering column cover and indicator stalks, switches, and centre console with gear shift cover;
  - o OEM Front door trim panels on both driver's and passenger's side;
  - o OEM glass all around
  - o complete list of interior items refer to paragraph 4 'Interior'.
- Welded-in safety cages are limited to 6-points welded to the floor; to be basic in configuration and may NOT be welded to strengthen the shell; 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.

## 3. GENERAL MODIFICATIONS

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

3.2. Outline for modifications to Street category vehicles:

- Original OEM fuel tank is required, in the original location with original refuelling hose and orifice.
- 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.
- 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.

3.3. Brakes

- Brake callipers & disc rotors may be replaced with aftermarket items.
- Brake Pads & Brake Hoses may be replaced with aftermarket items.

3.4. Suspension

- Adjustable suspension top-mounts are permitted.
- 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 OEM locations.

- OEM 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.

#### 4. INTERIOR

4.1. Interior of participating cars to be as such:

4.1.1. Fitted with OEM equipment as listed below:

- Air-conditioning switches and blower. Compressor, condenser and evaporator may be removed.
- OEM dashboard required. To be presentable.
- OEM Front door trim panels on both driver's and passenger's side.
- OEM glass all around. Front windscreen is to be 2-layer glass.
- Passenger side front seat is required

4.1.2 Fitted with OEM 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.

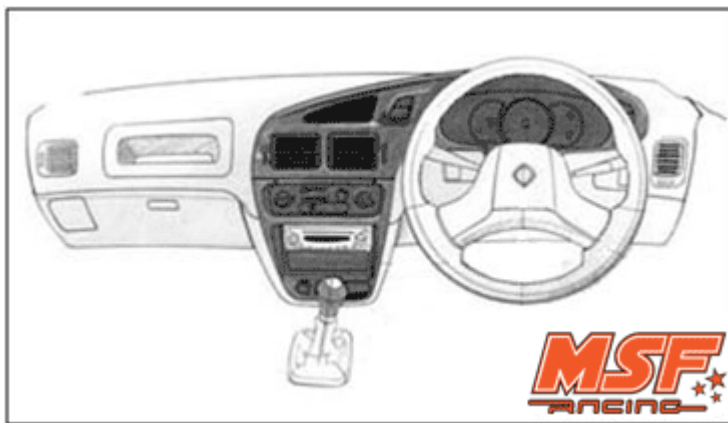


Figure 2016a

4.1.3 The following items may be removed and/or replaced with non-OEM material/items for safety and/or to accommodate safety equipment:

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

#### 5. SAFETY EQUIPMENT

5.1. A bolt-in or welded-in 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.
- A driver side impact X-bar is compulsory; 2 diagonal bars in an "X" configuration. 6 inches from the floor for 1 side, and 18 inches from the floor for the opposing side, and vice-versa.
- Only the main 6 cage location points to the floor of the shell may be welded.
- No welding to front suspension turrets.
- No welding to pillars (Only bolting to existing locations on the pillars or bodyshell is acceptable).



## 5.2. Safety cage specifications.

Minimum specifications for MSF Racing legal rollcages as published are:

- Material type: Mild steel  
Pipe diameter: 1 3/4 inch  
Pipe thickness: 0.118 inch
- Material type: Cold drawn stainless steel  
Pipe diameter: 40mm  
Pipe thickness: 2mm
- Mount plates  
Mount plate size: 5" x 6"  
Mount plate thickness: 0.125 inch  
Reinforce plate thickness: 0.125 inch
- Welding: full welding around the diameter of the tubing. It is not permitted to grind or plate the welding.

5.3. Certain parts of the interior can be stripped of certain trim to facilitate installation of Roll Cage Items that may be removed are:

- Rear Seat Back and Rear Seat Cushion.
- Rear parcel shelf or speaker shelf board.
- Floor carpets and headlining

5.4. Only the following listed items may be replaced for safety equipment installation:

- from the rear of the front seats and B-pillar onwards, the Rear Inner Door Panels and Rear Inner Side Panels must be in place, and may be replaced with other fire resistant panels that completely cover the window winder & door catch mechanism. There must not be any exposed metal in this area.
- Audio head unit may be removed and must be replaced with plastic panel to accommodate safety electric cut-off switch and other safety switches. There must not be any exposed hole in the dashboard.

## 5.5 Compulsory general safety items

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

5.5.2. Competition safety harness & Competition bucket seat is recommended.

5.5.3. A Fire Extinguisher must be fitted. Minimum is 1kg CO2 or Powder unit

## 5.6. Items in passenger compartment

5.6.1. 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.

5.6.2. 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.



## 5.7. General safety

- 5.7.1. No fluid leaks of any kind.
- 5.7.2. No loose items within engine bay.
- 5.7.3. Poorly engineered and poorly attached bars inside the cabin are not allowed.
- 5.7.4. 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 3.2 and 5.6.1.

## 6. BODYWORK

6.1. Composite material for certain bodyparts are allowed. Parts replaceable are

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

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.

6.2. Headlights and tail lights are recommended to be taped up.

6.3. All exterior lights must be functional.

- Both OEM headlights location must have functional headlamps
- Additional spot/fog lights are allowed.
- All Tail/Rear lights must be functional. Brake Lights must be functional.

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

6.5. 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.

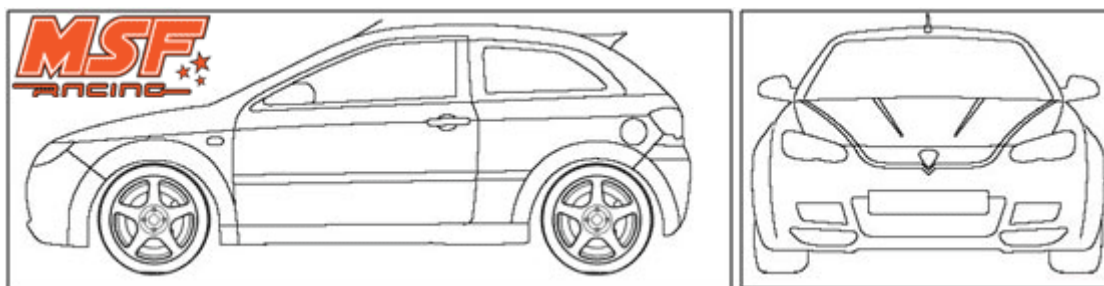


Figure 2016b & 2016c

## 7. DRIVER ATTIRE

7.1. Drivers are required to wear proper auto/motor Helmets. Minimum requirement is SIRIM Approved. No Bicycle Helmets allowed. It is highly recommended to use helmet which use double-D type strap fasteners.

7.2. 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.

7.3. Use of Hand And Neck Restraint (HANS) device is recommended.

7.4. Prohibited wear are Shorts, slippers or open-toe shoes.



## 8. POWERTRAIN

8.1. The maximum engine capacity permitted is the allowed capacity as stated below for each Category +0.5% for tolerance.

- Super 1500 NA category is 1500cc + 7.5cc.
- Street 1600 NA category is 1600cc + 8cc.
- PROTON 1800 NA category is 1900cc + 9.5cc.
- Street Tuned and Super Street to be calculated at 0.5% accordingly.

### 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. *Super 1500 NA*

- Engine capacity up to 1500cc.
- Rotary engines are not permitted.
- Strictly naturally-aspirated engines only.
- Engines with variable valve timing and / or lift permitted.

### 8.4. *Street 1600 NA*

- Maximum capacity 1600cc.
- Rotary engines are not permitted.
- Strictly naturally-aspirated engines only.
- All forms of Variable valve lift and timing permitted.

### 8.5. *Proton 1800 NA*

- Proton engines only, maximum capacity 1900cc.
- Original powertrain format and mountings may be modified, but engine and gearbox must be an OEM Proton unit.
- Strictly naturally-aspirated engines only.
- MIVEC heads not permitted.

### 8.6. *Street Tuned Limited*

#### 8.6.1. Forced Induction.

- Petrol Engine with no variable-valve timing up to 1600cc; with variable-valve timing up to 1500cc.
- Diesel up to 2000cc.
- Turbocharger must meet either of the below specifications:
  - 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.

#### 8.6.2. 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.

#### 8.6.3. Hybrid powertrains

- Maximum engine capacity of up to 1900cc



## 8.7. SuperStreet Limited

### 8.7.1. Forced Induction.

- 4-cylinder engines 1750cc to 2000cc non-VTEC; 6-cylinder engines up to 2500cc; rotary 1308cc (maximum 2 rotors only) with peripheral port modifications not permitted
- Honda VTEC systems with forced induction limited up to 1800cc only: applicable to B-series and D-series engines. Honda B-series engines with non-VTEC limited up to 1800cc only.
- Turbocharger must meet either of the below specifications:
  - o Original OEM Turbocharger that are specific to the engine used in the car;
  - o TD05 Turbocharger with original TD05 housing;
  - o T28 Turbocharger with original T28 housing, GT turbochargers not permitted;
  - o Any other Turbo with similar dimensions to the TD05 / T28 is permitted; to be declared to and certified by the Organisers prior to the race meeting.

### 8.7.2. Normally Aspirated

- Honda VTEC engines limited to 2200cc maximum engine capacities: this includes ALL Honda VTEC engines such as B-series, K-series, H-series, and F-series.
- Naturally-aspirated non-VTEC up to 4500cc; other forms of variable valve timing permitted.

## 8.8. Street 2000 NA

- naturally-aspirated minimum 1900cc and maximum 2000cc;
- Honda VTEC engines not permitted; however non-VTEC Honda engines are allowed. Honda VTEC engines with the VTEC disconnected / non-functional are not permitted
- other forms of variable lift and timing are permitted
- No rotary engines
- forced induction not permitted.

## 8.9. 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

## 8.10. 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.

## 8.11. 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. TYRES

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

9.2. Super 1500 NA, Street 1600 NA, and PROTON 1800 categories to use size 195/50-15:

- Hankook Ventus V12 Evo2
- Hankook Ventus RS4 Z232





9.3. Street Tuned to use either of the following in either 195/50-15 or 17-inch sizes:

- Hankook Ventus V12 Evo2
- Hankook Ventus RS4 Z232

9.4. Street 2000 NA and Super Street to use either of the following in either 17-inch or 18-inch sizes:

- Hankook Ventus V12 Evo2
- Hankook Ventus RS4 Z232

**10. AERODYNAMIC DEVICES**

Aerodynamic devices and equipment refers to:

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

maximum 50 mm

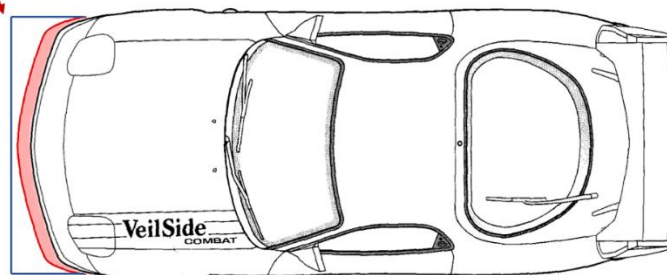


**10.1. Front Aero**

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.

- STREET CARS: 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.

No more than 100mm longer front bumper / nose and squared off to the edges



**MSF SuperTurismo Race Cars categories ASR for Aerodynamic Devices:**  
 - Front aerodynamic devices must not extend beyond 100 mm from the front edge of the front bumper/nose.

**Aerodynamic dimension for Race Cars categories**

**10.2. 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.





10.3. 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.

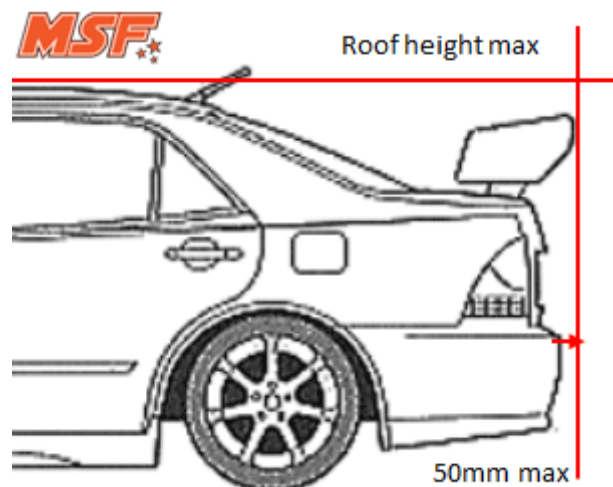
10.4. Rear Wing

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

- 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.

10.5. Rear Aero

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





## 11. COMPETITION NUMBER & VEHICLE PRESENTATION

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

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

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

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

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

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

- Door Numbers: Must be placed on each front Door. Each Number to be a minimum A3 Size (11" Wide x 16" High). All number must be of a contrasting colour to the car and reflective stickers are recommended.

- 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.

11.7. 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.

11.8. 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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**Creators, Owners, Official Promoters**

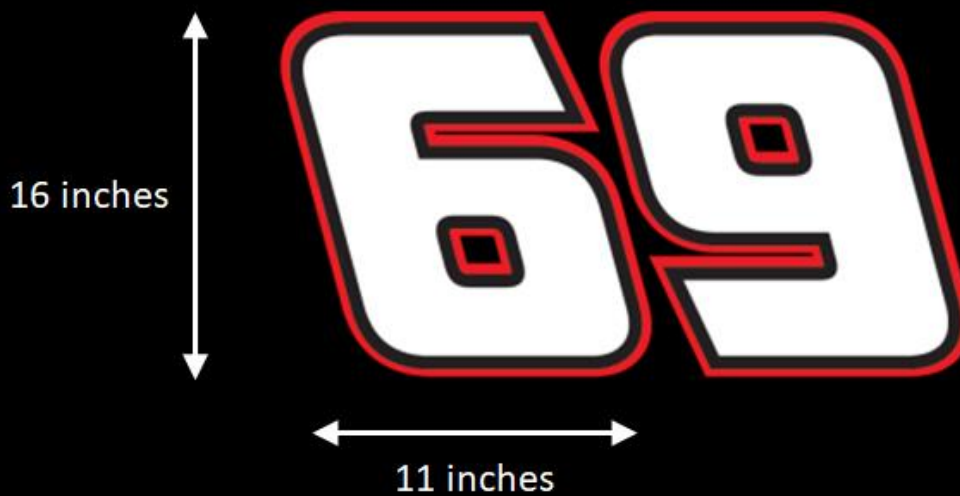
***MSF Racing Series***



# MSF Mandatory Decals Area



## MSF SUPERTURISMO Competition Number Specifications



Sticker Placement for MSF Racing Series Cars 2019.