

MSF MASTERS

**MSF
ULTIMATE**

Technical Regulations MSF Ultimate 2022

Version 1.0
10 Apr 2022

**MSF
TOUGE**

Malaysia Speed Festival



TECHNICAL REGULATIONS – MSF ULTIMATE 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, kit cars or limited production sports car. FIA-spec competition-prepared cars. Saloon-based, minimum production 2500 units per calendar year. No supercars.

1.2. Sub-categories

Low Volume Sportscars will be classified in Ultimate category.

- a) Ultimate Masters category: open capacity and method of induction.
- b) Ultimate 1600: up to 1600cc, no year of manufacture limitations.

Approval for entry is at the discretion of the Promoters.

2. DEFINITION OF MSF ULTIMATE CATEGORY

2.1. Defining what is a 'MSF Ultimate' category vehicle:

- Open category vehicles.
- Equipped with a welded or bolted-in roll cage which complies to MAM and FIA specifications, and is welded / bolted to the body and chassis at minimum 6-points. The rollcage may be constructed to increase bodysHELL rigidity with additional strengthening points to the pillars and suspension pick-up points.; refer to 5.1 for details.
- May be stripped of any interior equipment such as carpets, door trims, centre consoles, etc. Dashboard/instrument panel is not required. Replacement door panels permitted. Window glass may be replaced with acrylic Perspex plastic or similar. Windscreen must remain glass.
- 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. Fuel tank & supply

- Original OEM fuel tank may be replaced with a fuel cell The fuel cell must be of FIA specification.
- an inboard FIA specification fuel surge tank is allowed
- 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. Engine & Transmission mounting and location

- May be altered as necessary. New engine mountings must be securely engineered and welded

3.3. Gear box

- The gearbox may be changed or modified
- Gear ratios may be modified. Final Drive ratio may be modified. Dog Engagement & Straight Cut



gears are permitted.

- Limited-Slip Differentials (LSD) are permitted

3.4. Brakes

- Stainless steel braided brake hoses are required.

3.5. Suspension

- Modifications to the car's suspension are permitted.

3.6. Exhaust System

3.6.1 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 100mm 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.

3.6.2 Minimum one (1) muffler / silencer must be fitted, which are subject to particular examination by scrutineers.

4. INTERIOR

4.1. Interior may be stripped of any interior equipment such as carpets, door trims, centre consoles, etc. Dashboard/instrument panel is not required. Replacement door panels permitted.

5. SAFETY EQUIPMENT

5.1. 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.

5.2. Safety cage specifications.

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

5.2.1. 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



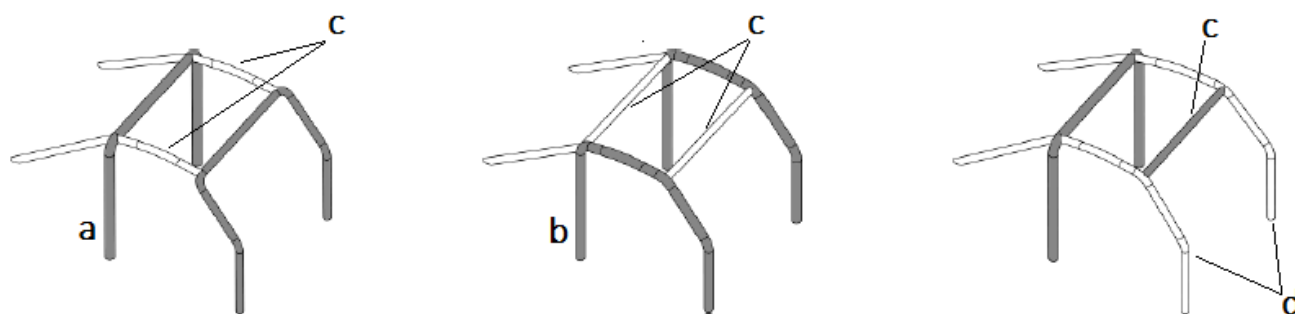


Diagram 5-1

5.2.2. Mount plates

Mount plate size: 80mm x 80mm

Mount plate thickness: 3mm

Reinforce plate thickness: 3mm

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

5.3. Compulsory general safety items

5.3.1. 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.

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

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

5.4. Items in passenger compartment

5.4.1. 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.

5.4.2. 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.

5.5. General safety

5.5.1. No fluid leaks of any kind.

5.5.2. No loose items within engine bay.

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

6. BODYWORK

6.1. Composite materials are allowed, all parts must still retain the OEM factory body look and style.

6.2. Windows

- Front windscreen is to be glass.
- other side and rear windows may be replaced with acrylic Perspex plastic or similar

6.3. Headlights and taillights are recommended to be taped up.



6.4. All Tail/Rear lights must be functional. Brake Lights must be functional.

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

7. DRIVER ATTIRE

7.1. Drivers are required to wear proper auto/motor Helmets. Minimum requirement is SNELL approved certification. 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 to wear non-flame retardant suit 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.

- Ultimate 1600 category is 1600cc + 8cc

- Ultimate category engine capacity is not regulated.

8.2. General information

- The numbers of attachment points to the bodyshell must at minimum be the same as or more than that of the vehicle's standard production bodyshell

8.3. Permitted engine capacity

Engine capacity calculations for MSF Ultimate category will be based existing FIA concepts and equivalency formulas as follows:

- Forced induction engines will be subject to an equivalency factor of 1.7, except for Ultimate Touring.
- Rotary engines will be subject to an equivalency factor of 1.9.

8.4. Ultimate

- Open engine capacity and type
- Engine conversion permitted; attachment points to the bodyshell must be strengthened and properly engineered and fabricated.

8.5. Ultimate 1600

- The numbers of attachment points to the bodyshell must remain as standard production.
- Oil sump may be modified. Dry sump systems not permitted.

8.7. Fuel information

- Fuel blends that contain oxidisers and oxygenates in any alcohol forms (methanol, nitro-methanol, ethanol, butanol, etc) are allowed.

Ethanol blends are allowed.

100% methanol is not permitted.

- Water-methanol injection into the intake manifold is not a fuel, and is permitted

9. TIRES

9.1. All categories - with no exceptions – are not permitted to run slick tyres.



10. AERODYNAMIC DEVICES

Aerodynamic devices are open.

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 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 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.

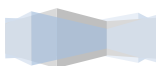
- Windscreen Numbers: Must be placed on the left front of windscreen, below Category Partner sticker. Must be 6" high in Arial Narrow font using White or fluorescent Yellow sticker.

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 2,000.00, for every deleted Partner /Sponsor sticker, is required of any Competitor that does not apply any MSF Partner /Sponsor stickers.

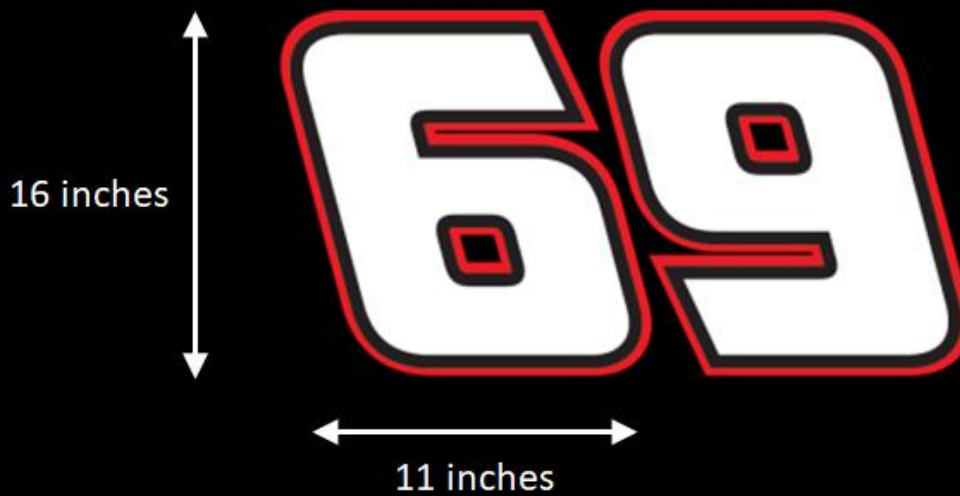
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MSF Racing Series



MSF Mandatory Decals Area



MSF SUPERTURISMO Competition Number Specifications



Sticker Placement for MSF Cars 2020.