



Technical Regulations

SAGA CUP



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 three (3) sub-categories within Saga Cup:
 - o ‘Pro’ category
 - o ‘Advanced’ category
 - o ‘Casual’ category
- Grading of Drivers within the three 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.

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 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’.
- Equipped with a welded or bolted-in roll cage which compiles to AAM and FIA specifications, and is welded 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.



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 Saga Cup 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

- OEM brake calliper & disc rotors must be retained.
- Brake Pads & Brake Hoses may be replaced with aftermarket items.
- Vented Front Disc & Rear Brake disc systems are not allowed.

3.4. Suspension

- Adjustable suspension top-mounts are not permitted. OEM-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 OEM and standard. Rose-joint / spherical bearing suspension components to replace the rubber bushes is not permitted.
- OEM suspension types, mounting points and location must be used. Aftermarket coilover types may be used.

4. INTERIOR

4.1. Interior of participating cars to be as such:

4.1.1. Fitted with OEM equipment as listed below:

- Air-conditioning and blower switches. 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 not 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.



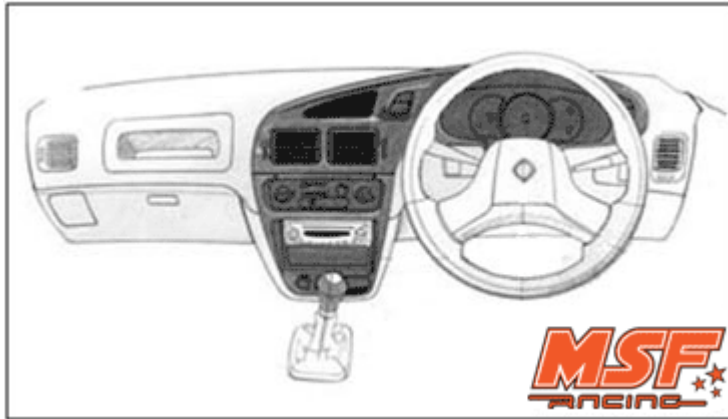


Figure 2016a

4.1.3 The following items may be removed:

- 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 bar is compulsory. Minimum 1 diagonal bar between the A-pillar and B-pillar safety cage support. Recommended minimum 2 diagonal bars.

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. 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 of minimum specification:

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

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 material for certain bodyparts are allowed, all parts must still retain the OEM factory body look and style. 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. Bodywork modifications are not permitted to the front and rear wheel arches.

- Wheel arches need to be stock size and shape
- Tyres must not protrude beyond OE bodywork
- all OEM glass must be retained. Not permitted to change to perspex or acrylic
- welding to the bodyshell for strengthening and safety bars is permitted

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.

- Saga Cup category is 1500cc + 7.5cc

8.2. 4G15 or 4G13 engines only up to 1500cc. 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.
- OEM single Carburettor compulsory, with OEM 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: Must use original distributor, housing, and cap. Triggering may be replaced with electronic or optical triggering to replace the original contact points.

Coil on plug and any other form of programmable and / or digital electronic ignition is not permitted.

8.5. Gear box

- OEM Proton Saga gearbox with original Clutch Engagement using cable.
- Final Drive ratio may be modified.
- Gear ratios may NOT be modified. Dog Engagement & Straight Cut 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. TYRES

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

9.2. Saga Cup category to use Hankook Ventus V12 Evo2 in size 195/50-15

10. 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

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.
- RACE CARS: Front aerodynamic devices must not extend beyond 100 mm from the front edge of the front bumper/nose.



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

No part of the aerodynamic device can be wider than 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.

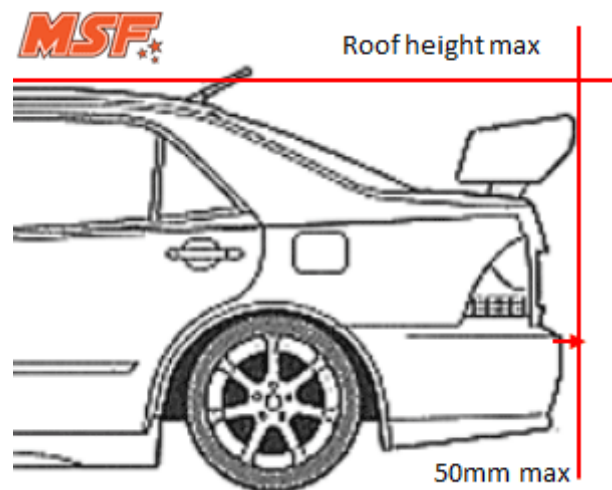
10.4. Rear Wing

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 1,000.00, for every deleted Partner /Sponsor sticker, is required of any Competitor that does not apply any MSF Partner /Sponsor stickers.

MSF RACING 2016 Mandatory Sticker Placement

Category Sponsor
Fluorescent Car Number
MSF Series Sponsors
MSF Official Tyre
Title Sponsor

16 INCHES
11 INCHES 11 INCHES

Sticker Placement Guidelines

Drivers must support any and all official MSF Partners by displaying Partners logos in the mandatory sticker areas
 Official MSF Partners sticker board be located in the patch below front windows behind the front wheels
 Official Tyre Partner sticker must be placed along wheel arches
 Official MSF Category Partner stickers will be located at top of windscreen
 Door Numbers : on the side of car must be located on the front door. Each number must be minimum A3 size (11" wide, 16" high); so a two-digit number would be 22" wide and 16" high. Multiple numbers must be separated from one another by at least 1". All numbers must be of a contrasting colour to the car and reflective stickers are recommended.
 Windscreen Numbers: on the left front of the windscreen, 6 inches high, Arial Narrow, in White or preferably Bright Yellow colour
 Team and Driver's sponsor stickers may be located at all other locations not used by the allocated SNF areas: front bonnet, roof, rear doors and fender, rear boot, front and rear bumpers
 A Rejection Fee of RM 500 is required if do not wish to stick any of the stickers. A failure to display the required stickers will result in Disqualification.

Sticker Placement for MSF Racing Series Cars 2016/7. [CLICK FOR LARGER IMAGE](#)

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