



# TECHNICAL REGULATIONS 2018

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## 1. ELIGIBLE VEHICLES

- 1.1. All vehicles must have valid registration and insurance and to be roadworthy for driving on public roads.
- 1.2. The rally does not require homologation / technical passport of the racing vehicles. Never the less such can help speeding up the scrutineering. There are however several safety and technical requirements which must be fulfilled before entering the scrutineering.
- 1.3. Vehicles which have been manufactured between 01.01.1962 and 31.12.1985
- 1.4. Where a vehicle manufactured after the 31<sup>st</sup> of December 1985 is mechanically and bodily identical to that manufactured prior to this date its body will be considered eligible.
- 1.5. It is the obligation of the competitor to provide the documents of the car entered and of its relevant date of manufacture and / or any other documentation required to prove the validity of any modification used on the car to show that it was from that period.
- 1.6. Commercial vehicles, SUV, 4WD, turbocharged and supercharged vehicles are NOT permitted in the event.
- 1.7. All vehicles must have at least rear registration plates securely fixed to the vehicles.
- 1.8. Should the roll cage be damaged during the event then it must be inspected by the Technical Delegate/Chief Scrutineer and the car will only be permitted to continue if the cage is deemed safe by the Technical Delegate/Chief Scrutineer.
- 1.9. Due to the surface conditions in the special stages of the rally, the rally vehicles should be prepared following a **SAFARI SPECIFICATIONS**.

## 2. GENERAL TECHNICAL REQUIREMENTS – HISTORIC CARS

- 2.1. Minimum a rear mounted registration plate
- 2.2. Operational head and tail lights
- 2.3. Operational brake lights
- 2.4. Operational horn
- 2.5. Properly installed Rally Safety System – installed at the scrutineering by the organizer.
- 2.6. 2pcs of 2kg fire extinguishers

- 2.7. tow strap
- 2.8. first-aid-kit according to the present norm
- 2.9. breakdown triangle
- 2.10. Properly installed “+” and “-” power supply cables directly from the vehicle’s battery for the Rally Safety System. See appendix 1 for details.

### 3. SPECIFIC SAFETY REQUIREMENTS

- 3.1. All vehicles must be fitted with a roll cage. Specifications of the roll cage according to the respective FIA-Appendix J are highly recommended.
- 3.2. Motorsport helmets for each competitor, with a valid or expired FIA-homologation
- 3.3. Minimum 4 points safety racing harnesses, with a valid or expired FIA-homologation
- 3.4. All vehicles must be fitted with race “bucket” seats.
- 3.5. Vehicles must have a protective bulkhead of non-flammable material between the engine and the crew compartment capable of preventing passage of fuel and flames in case of an accident. Also the vehicle must be fitted with a fireproof bulkhead or container to current FIA Standards between the fuel tank and the crew compartment capable of preventing the passage of the flame and fluid. Where fuel tank and/or fuel pumps are mounted within the bodywork a drain hole and hose of no less than 20mm diameter must be present to evacuate any leaked fuel in the case of unforeseen tank failure or leakage. Fuel tanks mounted to the underside of the vehicle only require a venting hole drilled through at the lowest point in protection guards if fitted.
- 3.6. All fuel lines and connections and filler pipes must be enclosed within a liquid proof metal tube or casing and any breathers and overflow pipes must be of metal or metal braided. Any pipes carrying flammable or hot liquid passing through the passenger compartment must be metal, metal covered or metal braided.
- 3.7. A sealed metal cover or container must enclose any oil tank or expansion bottle located within the crew compartment.
- 3.8. Carrying additional fuel in any fuel containers during the Leg is strictly forbidden.
- 3.9. All vehicles in the rally must be fitted with a circuit breaker which can isolate all electric circuits and stop the engine from both inside and outside the car and these must be clearly labeled with a red arrow. The Circuit breaker MUST NOT isolate the power supply for the Rally Safety System.
- 3.10. All cars must be fitted with a windscreen of laminated type glass.
- 3.11. The maximum fuel tank capacity is free. If the tank is not a standard tank as supplied by the manufacturer then it must be an FIA approved safety fuel tank or any tank acceptable to the Chief Scrutineer.

## 4. BODY MODIFICATIONS

- 4.1. The original bodywork shape and materials cannot be changed other than the use of lightweight panels for doors, bonnet, boot, wings etc only provided the actual vehicle weight is not less than the minimum weight the manufacturer has homologated before 31st December 1985. Proof of homologation is the responsibility of the competitor if requested.
- 4.2. Easing of the wheel arch to accommodate the permitted wheel / tire size and type is not encouraged and individual cases must be authorized by the Scrutineer. Those must have been 'used in the period' and have the same external profile.
- 4.3. Extra roof vents and exhaust vents for passenger compartment are allowed.
- 4.4. Vehicles must have mud flaps of stout material behind the rear wheels and driven wheels as a minimum. The mud flaps must cover the tires from the rear and must be a maximum of 7cms above the ground.
- 4.5. Vehicles must be fitted with a windscreen of laminated glass. All other windows must be as original except for those noted below.
- 4.6. For reasons of safety side and rear windows may be replaced by clear rigid transparent material of at least 5mm thickness.
- 4.7. Bull bars are permitted.
- 4.8. Jump plates and jump straps or holders are permitted.
- 4.9. Welding or bolting of the roll cage and reinforcement to suspension turrets is permitted

## 5. MECHANICAL MODIFICATIONS

### 5.1. ENGINE, GEARBOX, BRAKES, EXAUSTS AND AXLES

- 5.1.1. The engine must be that originally specified for the car by the manufacturer or an engine homologated as an option before 31st December 1985.
- 5.1.2. The cylinder block and head must be the same as originally fitted to the car. This means that the engine may not be changed from the original model to another engine homologated at a date later than the cars year of manufacturer unless this engine modification is a variant in the cars original homologation paper before 31.12.1985
- 5.1.3. Engine capacity is restricted to the manufacturer's specification for cars produced before 31st December 1985 or homologated option before that date.
- 5.1.4. Engine overbore beyond 60 thousandths of an inch over the manufacturers standard specification will not be allowed.
- 5.1.5. Camshafts must remain in the original location and number but their specification is free.
- 5.1.6. The following lists of specific modifications are to be adhered to:

- Engine oil cooler may be added within the bodywork and may not protrude the cars silhouette.
- Turbo chargers and super chargers are not permitted.
- Carburettors and manifolds: Induction is free but must respect period designs and technologies. Fuel injection systems must be run with period management systems and any modern ECU (electronic control unit) within period “look” casings are not permitted. Period ECU’s must retain their original input and output functions and evidence of such fuel injection systems, component parts and their technical composition must be produced to the Scrutineer.
- The mechanical method of coil discharge triggering within a distributor i.e. points and condenser may be changed and converted to an electronic one. The original distributor housing may be changed but the distributor must retain its original function and location.
- Electronic ignition conversions (ECU’s) that are ‘programmed’ or ‘mapped’ and use of external sensors to the distributor as a means of triggering are not permitted.
- It is forbidden to fit O2 or Lambda sensors in the exhaust manifold with dashboard read outs.
- Unless the Homologation Papers show / or evidence and “proof of period use” does not exist then the following items are NOT Permitted:
  - > The use of additional sensors in /on the engine, air intake, exhaust systems or manifolds.
  - > The use of electronic ignition systems that can be altered, either manually or electronically whilst the car is moving.
  - > The use of any electronic component that can or could transmit information or data regarding the engine, gearbox or diff performance.
  - > It is permitted for locations for sensors / components to be installed to aid diagnostics during service. However these sensors / components must be removed and blank plugs fitted when the car is not being serviced.
- The gearbox casing and number of gears must be those specified and fitted to the car before 31st December 1985 or those, which have been homologated for competition before that date. Gearbox ratios and gear material types are free. The bell housing may be substituted or modified. Gearbox oil cooler may be added within the bodywork.
- Axles, axle ratios and axle mountings on the axle side and not the body side are free and may be fitted with limited slip differentials. Mounting of the axle onto the body must be as homologated or as original during the period. Acceptable period evidence of the axle mounting should be produced by the competitor
- Brakes are free and maybe changed for metal disks from drums. Carbon fiber or other composite brakes are not permitted. (not lighter than ‘original)
- Exhaust systems are free.
- Protection guards on the gearbox and differentials are permitted and recommended.

- Front and rear stub axles and hubs must remain as designed in the period. For strength and to use bigger wheel bearings the size and material of the stub axle may be changed but not the design. The mounting of the suspension to the hub may be modified but such modification should not increase the suspension travel. The attachment of the strut casing to the hub/stub axle/upright must be in the same plane as envisaged by the manufacturer. The method of attachment may be changed from welding to bolting by the addition of lugs. Modifications like this must be presented to the Scrutineer for approval.
- Gearbox and differential oil coolers are permitted provided that they are housed within the original bodywork and do not change the original profile of the car.
- A snorkel may be fitted – hole size in body work must not exceed 75mm.
- The overall profile and shape and principle of a non-original part should remain broadly similar to the part it replaces.
- Section thicknesses may be increased (within reason) to add material to reinforce known weak areas and/or to fit a bigger wheel bearing for example. Extreme interpretations will be rejected.
- Original materials and manufacturing methodology may be changed for other materials and techniques. Therefore a casting can be replaced by a billet machined, fabricated or forged part.
- The geometry of a replacement parts should remain as originally specified by the manufacturer, therefore non original parts must remain directly interchangeable with the period part it replaces, excepting the strut attachment method.
- Wheel travel must not be increased through redesign or manufacturing alterations.
- Brake caliper fixation, orientation and geometry should remain as per the original part and/or the homologated optional part it replaces.
- Suspension arm connections between the upright/stub axle and suspension arm must remain dimensionally original. The rotational centre of the suspension arm outer joint(s) relative to the wheel/hub centre line must remain as per the manufacturer's original part.
- Strut attachment geometry must remain dimensionally original. Only the attachment method can be changed, so a "welded in unit with stub axle" (manufacturer original strut design) can be changed to a two piece "stub axle and strut with bolt attachments" design.
- Plate materials may be mixed with cast materials to add lugs for strut fixings.

## 5.2. SUSPENSION

- 5.2.1. The basic design and operating principle of the suspension must remain as the homologated or standard vehicle of the period before 31st December 1985 i.e. live axle, double wishbone, MacPherson strut etc.
- 5.2.2. The original chassis pick points must be respected and the mounting location points must be the original rotational centres with a tolerance of +/- 10mm. Rubber bushes may be replaced by larger or smaller diameter parts, rod ends or spherical bearings. Mounting bolts size may be changed.

5.2.3. Due to the nature of the event strengthening of pressed steel suspension components are permitted but such reinforcements must follow the original profile of the component. Such original components may not be replaced with alternative fabricated parts (tubular frame parts)

5.2.4. Springs and shock absorbers (including coil over springs) are free however must follow which homologation.

5.2.5. Sway bars may be added or increased in size or removed. Check straps for extension are permitted.

5.2.6. Twin shock absorbers are not permitted.

### 5.3. WEIGHT

5.3.1. The weight of the car must not be less than the weight of the production car and or the homologated weight in the papers.

### 5.4. TIRES AND SPARE WHEELS

5.4.1. Wheels and tires: The size of the tires maybe changed. Tires to a maximum size of 15 inches rim size and a maximum tire diameter of 670 mm.

5.4.2. The spare wheel may be mounted outside the car completely but is not permitted to protrude from the silhouette of the body of the car.

5.4.3. Mounting of the second spare wheel is permitted outside the car on special mounting brackets which must be deemed safe by our Scrutineer. Such a mounted wheel is not allowed to protrude outside the original body work of the car and the cars original profile must remain the same. The spare wheel must either be carried in the car or outside the car. Not half way between these two.

### 5.5. POWER STEERING

5.5.1. Retrofitting of power steering is permitted as long as the original steering system type remains unchanged.

## 6. RECOMMENDED EQUIPMENT

All the necessary spare parts and tools typical for the vehicle should be brought to the rally, sufficient lights (not only for the marathon stage), a torch, a winch, shackles, a high-lift, a spade, etc.

All vehicles, also the service vehicles and other wheelers, must have a valid registration and insurance and be roadworthy for the participation in the evaluated stages.

Strongly recommended: Garmin GPS device for road navigation. In case of changes in the itinerary or other communications, all route points will be given as GPS waypoints with their coordinates.

## 7. FUEL

### 7.1. Permitted Fuels

- Any pump fuel (commercial fuel stations)
- Avgas
- FIA approved race fuel

Additional lubricating compounds, not exceeding 2% by volume, may be added to the fuel. In case of two-stroke engines, this percentage may be higher.

Actual lead may also be added if needed, but it is not preferable. The addition of lead must not raise the octane value of the fuel beyond the limit of 90 MON nor of 102 RON. Lead content must not be greater the 0.15 g/l in any case (EN 237 or ASTM D3237).

Octane enhancers / compounds, which are added to petrol to replace lead, may be added if freely available from commercial retailers. The addition of these compounds must not raise the octane value of the fuel beyond the limit of 90 MON nor of 102 RON.

7.2. Competitors are entirely responsible for providing and distributing their own fuel throughout the event.

7.3. Roadside refueling is allowed following all safety precautions.

## 8. FUEL AUTONOMY

Fuel autonomy in the special stages must be around 150km.

Each competitor is responsible of the calculation of his autonomy. He cannot in any case make up against the Organisation if his vehicle doesn't reach the coverage of the minimum distance of 150km, whichever is the nature of the terrain. For safety reasons, an additional autonomy of 10% is recommended.