

2014 TTRC Vehicle REGULATIONS

1. 2WD Cars will be grouped as follows:

Modified (M) (See Section 1.0 for class regulations)

M1 . 0 to 1600cc / 900kg

M2 . 1600cc to 2000cc / 960kg

M3 . 2000cc to 2500cc / 1050kg

M4 . 2500cc to 3000cc / 1150kg

*Subtract 3 Kgs per 10ccs or part thereof for cars up to 1,600cc to a minimum of **600Kgs**.*

Super Modified (SM) (See Section 2.0 for class regulations)

SM5 . 1600cc to 2000cc

SM5 . 2000cc to 3000cc

Forced induction cars must use a factor of 1.5 x Engine cc rating to determine class.

To calculate weight for this class . For every 10cc (actual engine cubic capacity) add 3kg to the base weight of **600kg**. For cars running with 1000cc or less, the minimum weight is 600kg

Examples:

1600cc car is as follows: $1600/10 = 160 \times 3 = 480 + 600$ base weight = 1080kg

1800cc car is as follows: $1800/10 = 180 \times 3 = 540 + 600$ base weight = 1140kg

2000cc car is as follows: $2000/10 = 200 \times 3 = 600 + 600$ base weight = 1200kg

Maximum Vehicle weight must not exceed **1310kgs**.

For Cars with Rotary Engines

CC equivalent = 2 x swept volume

12A = 2292cc

13B = 2608cc

Forced induction cars must use a factor of 1.5 x Engine cc rating

2. 4WD Cars will be grouped as follows:

Group N . As per the most recent FIA homologation documents as they pertain to the car.

Group A . As per the most recent FIA homologation documents as they pertain to the car, inclusive of specific allowances made by the TTRC Executive. See Section 3.

Group N and Group A cars are permitted to replace body panels with non OEM replacements however the replaced panels must all function as original and be fabricated from multi-layered composite material. The Minimum weight for all cars must be met as advised by these rules, regardless of any replaced panels.

WRC . As per the FIA homologation documents as they pertain to the car.

General Regulations

COMPETITORS ARE ADVISED THAT THE EVENT ORGANISER RESERVES THE RIGHT TO CHECK SPECIFICATIONS OF ANY VEHICLE WITHOUT THE VEHICLE BEING OFFICIALLY PROTESTED.

1. PRODUCTION . the word production will be taken to mean any car or part thereof listed in the Glassø Guide (UK), Japanese Motor Vehicles Guide (Japan), Used Car BuyersqGuide (US: Kelley Blue book or N.A.D.A. yellow book) or any other source for used car sales that the organizers deem fit including internet sources.

2. FUEL . Restricted to VP Leaded - C9, C12, C16, Q16, VP Unleaded 103, 109 and ALL SUNOCO Equivalents, pump gasoline and pump diesel. Any competitor being scrutineered for compliance on this list will on request declare which fuel is being used. This is subject to a sample at any time by the Scrutineer and tested accordingly. Any competitor who wishes to use a fuel not stated above shall send an application in writing to the TTRC (no less than 7 days prior to an event) for consideration. The use of methanol as a fuel or for water injection or any other purpose is NOT allowed.

3. ELIGIBILITY - The following information needs to be available to the organizers in such form as to convince them of its authenticity, or will be obtained from other technical sources as determined by the organizers, before any vehicle can be eligible for competition: Original Manufacturers' brochure, ownersqmanual and/or FIA Homologation papers, listing in BuyersqGuide. All material that is used to confirm the specification of a vehicle must be presented on demand.

4. All modifications are forbidden unless expressly stated in the regulations specific to the group in which the car is entered, by the general regulations or "Safety Equipment".

5. It is the duty of each competitor to satisfy the Scrutineers and the Stewards of the Meeting that his vehicle complies with these regulations in their entirety at all times during the event.

6. MINIMUM WEIGHT - Minimum weight is the real weight of the empty car as it competes (without persons or luggage aboard) with tools, jack and spares. All liquid tanks (lubrication, cooling, braking, heating where applicable) must be at the normal level, with the exception of consumable liquid tanks which must be empty. Additional headlights must be removed before weighing. It is permitted to complete the weight of the car by one or several ballasts provided that they are strong and unitary blocks, fixed by means of tools with the possibility to fix seals, placed on the floor of the cockpit or roll cage, visible and sealed by the Scrutineers. At no time during the event may a car weigh less than the absolute minimum real weight stated in these regulations. In case of a dispute during weighing, the full equipment of the driver and co-driver will be removed, including their helmets. Headphones external to the helmet, tools, spare parts including tyres and wheels, shall be left in the car. If a vehicle is underweight for the class it was registered for, it will not be eligible for points in the event.

7. Suspension parts or wheels made partially or entirely from composite materials are prohibited.

8. Only the following accessories may be installed in the cockpit: spare wheels, tools, spare parts, safety equipment, communication equipment, ballast, windscreen washer container. Containers for helmets and tools situated in the cockpit must be made of non-flammable material.

9. The original fitting of the air bags may be removed and they must be deactivated.

10. FUEL TANKS - Fuel tanks may be replaced by foam-filled fuel cells (manufactured by a recognized manufacturer) either in the original location of the tank or in the luggage compartment.

There must be an orifice to evacuate any fuel which may have spread into the tank compartment. The position and the dimension of the filler hole as well as that of the cap may be changed as long as the new installation does not protrude beyond the bodywork and guarantees that no fuel shall leak into one of the interior compartments of the car. If the filler hole is situated inside the car, it must be separated from the cockpit by a liquid-tight protection. Tanks may be ventilated through the car roof.

11. Carbon brake discs are forbidden; brake lines, pipes and fittings may be replaced.
12. Only electronic management of engines is allowed, no electronic controls of differentials, suspension, transmission etc. except in Group N, A WRC.
13. The top 1/3 of the wheel diameter must be covered by the wheel arch when viewed from above.
14. Throughout the car, any nut, bolt, screw, pipe or hose may be replaced and have any kind of locking device (washer, lock nut, etc.).
15. Interior insulation, lining, padding and minor interior trim may be removed. External decorative strips may be removed. Any parts following external contour of the bodywork and less than 25 mm thick will be considered as decorative strips. Hubcaps must be removed. The inner door and side panels may be replaced.
16. Jacking points may be strengthened, moved, and increased in number.
17. The fitting of under-body protection is authorized, provided that these have no other function and are removable.
18. Electric window winders may be replaced with manually-operated winders and vice-versa.
19. Strengthening of suspension parts is allowed.
20. Inversion of the driving side is possible if the original car and the modified car are mechanically equivalent and the parts used are available from the manufacturer for the model in question.
21. All wiring may be replaced; switches, fuses, and relays are unrestricted. Except for Group N, battery location is unrestricted. If mounted in the cockpit the battery must be located behind the front seats. In this case, the protection box must include an air intake with its exit outside the cockpit if the battery is unsealed. If the battery situated in the cockpit is a dry battery, the terminals must be insulated.
22. Roof vents and any other mechanisms for increasing cockpit airflow are unrestricted
23. **NOISE** - The check which is done for exhaust noise is as follows: 1 meter from the end of the tail pipe at an angle of 45 degrees @ 4500rpm under no load to a maximum of 108 db's on 'A' scale (slow).
24. A functional starter must be fitted and be operable by the driver when seated.
25. Cars must be fitted with a gearbox including a reverse gear and be able to be operated by the driver when he is normally seated.
26. Cutting of holes in the front bodywork for lights and brackets is allowed and original lights may be replaced as long as they fill the original holes. Extra lights must be mounted below the highest point of the bonnet. Additional driving lights must be wired in such a way that they automatically go off when the headlight main beam is dipped
27. Tires must have 10% of their width treaded or grooved at a minimum of 2mm depth. They must be mounted safely on the class-specified wheel rim.

- 28.** Laminated front windshields are mandatory.
- 29.** All accessories which have no effect on the vehicle's performance are allowed without restrictions, such as those concerning the aesthetics or interior comfort (lighting, heating, radio, steering wheel, gauges, etc.), on the condition that they do not influence the performance of the car. Heating/A/C systems are unrestricted.
- 30.** Fuel lines may be changed.
- 31.** Additional safety fastenings for the windscreen and the side windows may be fitted provided they have no aerodynamic effect.
- 32.** Fluid reservoirs are unrestricted as long as they are secured and sealed.
- 33.** Only water is allowed to be injected into the intake manifold on vehicles with "water injection" systems. No methanol, alcohol, or any other hydrocarbons are allowed in the "water injection" system.
- 34.** No Nitrous Oxide injection is allowed.
- 35.** The block may be bored by up to 1 mm and be classified according to original cubic capacity, or be bored/sleeved more than 1 mm and be classified according to its actual cubic capacity. Bearings, bolts, gaskets, seals, oil pump and oil pump pick-up are unrestricted.
- 36.** Alternative pistons may be used provided they comply with original manufacturer's general specification - i.e. weight (10% tolerance) and number of rings. Compression ratio is free and machining of the piston is allowed.
- 37.** The head fitted must be the production head used by the manufacturer for the block utilized and oriented in the same way. Machining, porting and polishing of the head is allowed. Valve springs, guides, lash caps, seats and collets are free.
- 38.** It is permitted to close any unused apertures in the cylinder head and block where these may be redundant.
- 39.** Camshafts, their material, timing, type and dimensions of the pulleys, chains and belts are free. The camshaft followers, shims, rockers and push rods are free.
- 40.** Non-standard clutch discs and pressure plates are allowed.
- 41.** Crankshaft doweling and flywheel bolts are unrestricted.
- 42.** Forced induction systems are unrestricted.
- 43.** Engine management systems and electronics (ignition, fuelling etc.) are unrestricted.
- 44.** Dry-sumping is not allowed, however, modifications to engine wet-sump are unrestricted.

The TTRC Executive has the final say regarding the acceptance or refusal of any car according to the classes/groups and attached rules and regulations. Cars may be reclassified in the spirit of completion and for safety reasons.

SECTION 1 (Modified Class . M1, M2)

1. Definition . Modified four-seater production cars.

2. Engine

- a. The engine may be replaced with any engine from any manufacturer but must remain normally aspirated and in the same general location.
- b. Only the following is restricted:
 - i. Engine must have wet sump which may be modified. An external oil pressure accumulator is allowed.
 - ii. The cylinder head must be the original production unit (or aftermarket equivalent) but may be modified in any way. The valve sizes must be production in engines with 4 or more valves per cylinder.
 - iii. The block must be the production item (or aftermarket equivalent) but may be modified in any way.
- c. It is possible to beat, shape or cut the bulkhead situated in the engine compartment for the fitting of engine ancillaries only.
- d. Cooling: Oil coolers may be fitted. The water radiator, cap and fixation are unrestricted, as are the hoses linking it to the engine. A radiator screen may be fitted. The fan, its drive system and thermostat are unrestricted. The fitting of a water catch tank is allowed.
- e. If the lubrication system includes an open type sump breather, it must be equipped in such a way that the oil flows into a catch tank. This must have a capacity of 2 liters. The oil must only flow from the oil catch tank towards the engine by the force of gravity alone. A fan may be fitted for cooling the engine oil, but must have no aerodynamic effect.
- f. Mountings - unrestricted provided that the angle and position of the engine within its compartment is similar to the original. Supports may be welded to the engine and to the bodywork and their position is unrestricted.
- g. Exhaust and exhaust manifold unrestricted.
- h. Innovation and modifications within the rules is encouraged.

3. Transmission

Transmissions are restricted to H pattern boxes only. No sequential boxes or shift mechanisms allowed. Internals are unrestricted.

4. Steering & Suspension

- a. Unrestricted except for the basic layout which must be similar to the original and fit without alteration to the body shell other than panel-beating to provide clearance. No remote reservoir shock absorbers allowed.
- b. Extra control arms can be added (compression/tension struts, radius arms etc.).
- c. Shock absorber turrets may be fabricated to allow the mounting of the suspension.
- d. Reinforcement bars may be fitted from the suspension mounting points to the body shell, rollcage or chassis.
- e. Strengthening of the mounting points and of the running gear, by addition of material, is allowed.
- f. Power steering may be added or removed. Electronic control of the power steering system is allowed.
- g. Steering boxes may be replaced with steering racks and vice versa.

5. Wheels and Tires

The maximum Rim Width is 7+, maximum diameter 15+. The wheels do not necessarily have to be of the same diameter or width.

6. Braking System

- a. Unrestricted except for the basic layout which must be similar to the original and fit without alteration to the bodyshell other than panel-beating to provide clearance.
- b. All 4 wheels must be braked on a dual circuit. The Handbrake must lock at least two wheels.
- c. Air cooling pipes and hoses may be added as long as holes made to accommodate them serve no other function.

7. Bodywork/Chassis

- a. Composite materials are allowed. . Replaced panels must all function as original and be fabricated from multi-layered composite material.
- b. Widening of the wings/bumpers - Increase of width of maximum 140 mm in total is allowed. This increase may be obtained by means of an extension or a new part.
- c. A Grille covered opening in the engine bonnet (including the radiator grille) is allowed with a surface of 1050cm" maximum. In the opening made in the bonnet it is permitted to add a plastic part serving as trim (air scoop or similar).
- d. Upper radiator support - The upper front cross member may be cut, replaced or modified between the headlamps. This cutting or modification must not affect the rigidity of the chassis structure.
- e. Strengthening of the chassis and bodywork is allowed.
- f. Unused supports (e.g. spare wheel holder) situated on the chassis/bodywork can be removed, unless they are supports for mechanical parts which cannot be moved or removed.
- g. Windscreen washer (size, position and nozzles), wipers, motor, position, blades and mechanism are unrestricted but there must be at least one windscreen wiper provided for the windscreen.
- h. The trim situated below the dashboard and which is not a part of it may be removed. Dashboards may be modified or changed, but must function and look similar to the original.
- i. Lightening of production panels will be allowed, including bonnet, doors, tail gate/trunk. Interior door panels must however be covered to protect the safety of the driver and co-driver from sharp edges.
- j. Front and rear windows may be replaced with polycarbonate or lexan type (Window Nets may be used)
- k. Fenders may be modified to the extent necessary to provide tire clearance, fender flares may be added in order for the body to fully cover the tires when viewed from above.

SECTION 2 (Super-Modified Class . S3, S4)

1. Definition - Modified two and four-seater production cars.

2. Engine

- a. Modifications are unrestricted but must retain production block and cylinder head castings (or aftermarket equivalents).
- b. Turbo restrictors must be fitted as follows: 45mm for single turbos, 32mm for twin, parallel turbos. Pressure-charged engine factor of 1.5 times (Rule to be instituted from January 2015)
- c. Exhaust and exhaust manifold unrestricted.
- d. Engines must be located in their original general location.

3. Transmission

Unrestricted

4. Steering & Suspension

Unrestricted

5. Wheels

Maximum rim width 10+, maximum diameter 18+

6. Brakes

Unrestricted. Must have 4-wheel brakes on dual circuit, handbrake must lock at least two wheels.

7. Bodywork/Chassis

- a. Transmission tunnel may be modified or replaced with one fabricated from steel of original thickness as well as housing and brackets for a rear axle
- b. Bonnet, trunk lid, doors and wings (fenders) may be replaced with composite panels. Replaced panels must all function as original and be fabricated from multi-layered composite material. Rear wings, front spoilers and wheel arch extensions may be fitted. The rear wing must not be taller than 6+above the height of the original roof-line (which may not be lowered in relation to the sills) and no wider than the panel on which it is mounted (roof or trunk lid). Wheel arches, bumpers and splitters must extend no more 6+from the original plan of the vehicle.
- c. The front bulkhead may be reshaped (including cutting and welding) to allow engine fitment.
- d. Suspension design and pick-up points are unrestricted as long they maintain structural integrity and are safely modified/manufactured. This includes altering the bodyshell to accommodate strut turrets and other suspension mounts.
- e. Front inner wings and lower chassislegs may be replaced with a tubular structure to mount the engine, ancillaries and front suspension. Structural integrity must be maintained.
- f. Glass may be replaced with polycarbonate (Lexan). Nets may be used in place of front door glasses - see safety.
- g. Open top cars must have a roll cage fully surrounding the passenger compartment in accordance with the safety regulations. Nets must be fitted to the roll-cage structure over the side and top openings.

8. Electrical System

Unrestricted

9. Fuel System

Unrestricted

SECTION 3 (Group A . 4WD)

- 1. Definition** . Group A refer to cars that meet the homologation requirements of the FIA Group A Regulations. Also included in this Group are later model cars (than the last date of FIA homologated Group A) which meet the homologated Group A standards as well as the specific allowances made by the TTRC. The Minimum Weight for ALL Group A cars is 1230kg

- 2. TTRC Allowances**
 - a. Sequential Gearboxes are permitted with paddle shift and/or gear lever as desired. Gearbox housing must remain as homologated
 - b. Electronic Diff Controllers are permitted
 - c. Hydraulic Differential Pumps are permitted

SAFETY REGULATIONS

The TTRC mandates the following for all competitors

1. Personal Safety

All competitors are required to have their personal safety equipment available at scrutineering. The TTRC reserves final say on the approval of all personal safety equipment. Personal Safety Equipment is defined as the following (but not limited to):

- a. Helmet
- b. Suit
- c. Head and Neck Safety Device (HANS system)
- d. Shoes

2. First Aid Kit

An on-board First Aid Kit with a suitable supply of plasters, bandages, and other basic medical supplies must be kept in an accessible place in the car, and must be secured while competing.

3. OK / Red Cross Sign

All competitors must carry a sign displaying $\pm OK$ (Green lettering) and a Red Cross (Red) to be displayed in the event of a run-off, in order to communicate their status to oncoming competitors.

4. Fire Extinguishers

All cars must carry a working fire extinguisher or extinguishers (two) of a total minimum weight of 5 Lbs. of CO₂, Lite Water or dry powder and they must have a readable gauge. Mounted in-systems should be mounted such that they can be activated from inside the car by the driver/navigator while belted in the seat or from outside the car from a location clearly marked by an \pm in red. Handheld extinguishers should be securely mounted with a quick-detachable system and should be accessible while seated but not necessarily with the seat belts on. They may be mounted on the floor in front of or behind the front seats. If mounted behind, the only acceptable area is between the seats in the region of the transmission tunnel. Handheld Fire Extinguishers must bear certification of inspection for the current year.

5. Roll Cage

All cars competing in any speed event or all-stage rally, must be fitted with a six-point roll. All soft top vehicles must have a full roll cage manufactured by a recognized manufacturer of roll cages or be locally fabricated using 1.5 inch diameter seamless steel tubing of 0.090 inch minimum thickness for the main structure and 1.25 inch diameter steel tubing of 0.090 inch minimum thickness for the secondary braces. The Safety Committee must check all locally fabricated structures. Only aluminum alloy roll cages manufactured by a recognized roll cage manufacturer are allowed, and the Safety Committee must approve any alterations to these cages.

6. Seats / Harness

The use of competition approved seats is mandatory in all cars. The Seat fixture must be bolted to the floor and be reinforced with at least 4 inches square and 3/16+ thick. Full harness belts with four or more mounting points are mandatory for stage rallies and speed events. They must be fixed to original seat belt fixtures, the roll cage structure or, where attached to the sheet metal of the car, must have a steel backing plate of at least 4 inches square and 3/16+ thick.

7. Master Cut Switches

Master cut out switches must be fitted to all cars competing in all Groups. The switch must be fitted such that both the driver and someone from outside the vehicle can operate the said switch. A Red Flash in a Blue Triangle should identify location of switch or pull knob.

8. Fuel Tanks

Vehicles fitted with certified standard fuel tanks mounted inside the trunk must have the trunk area hermetically sealed from the passenger compartment regardless of whether the rear seat is removed or not, or must use a safety/bag type fuel cell. All fuel tanks must have exterior venting. All fuel lines must be clamped and secured. Fuel lines running through passenger compartment must be approved quality for particular use and must be properly secured to floor and panels.

9. Tow Eyes

All cars must be fitted with front and rear towing eyes to be used if the car can be moved freely. Their location must be clearly identified with either a red arrow (painted or tape) or the eye itself must be painted or taped in yellow, red or orange (Day-Glo).

10. Doors / Mirrors

All doors must remain unlocked during event or practice. Where driver's window is not up or is unavailable either safety net or arm restraints must be used. All cars must be fitted with at least one effective working rear view mirror.

11. Wheels

Wheels/tires cannot extend beyond the fender/wheel arch bodywork. This will be interpreted to mean that the top 1/3 of the wheel circumference must be covered by the fender/wheel arch when viewed from above (plan view) with the front wheels in the straight-ahead position.

12. Annual Inspection

All competition cars must be inspected annually before taking part in the Championship Season. There will be an annual Scrutineering date advised by the Executive Committee which all cars are expected to attend. Should a car that is being entered in the Championship Season not be able to attend the Annual Scrutineering then details must be provided in writing to the Executive Committee no less than one week prior to the Scrutineering date. A fee for late Scrutineering may apply.

13. Vehicle Logbook

All competitors shall use a standard TTRC-vehicle logbook at all high speed stages events. Vehicles without logbooks will not be allowed to start. Only one logbook will be issued for each vehicle (other than by way of extension or replacement) and the possession of two logbooks for one vehicle at one time shall be deemed a violation of these Rules. A complete description of the vehicle, its safety roll cage and the required photographs will be entered in the places provided. All changes of ownership of the vehicle shall be recorded as provided. At each event, this logbook must be presented at Scrutineering with the signature of the driver/entrant for that event in the space provided. The Scrutineer, during technical inspection, will note any deviations found regarding safety. If a waiver for the event is permitted the duration of the waiver shall be noted and complied with by the competitor. If a car is protested during an event, the results of this

protest shall be noted. Competitors will retain possession of the logbook upon completion of scrutineering. Rally officials may enter safety-related damage in the logbook. Logbooks from other sanctioning bodies and ASNs are accepted at all TTRC high speed stages events. A logbook is a record of the vehicle's competition history only, and not proof of legality or rules compliance.

14. Cars involved in an Accident

Any vehicle damaged during a speed event must be re-scrutineered before the vehicle will be allowed to compete again. Cars damaged during a rally are to be checked at the next stop over if they are able to continue to compete in the rally. It is the competitors responsibility to inform the Clerk of the Course that his vehicle was damaged and needs to be re-scrutineered, under the penalty of exclusion from the event.