



The Federation of Motor Sports Clubs of India

National Sports Federation recognized by the Government of India

**2023 Specific Technical Regulations
for
FMSCI – SUV Challenge
Rallying**

Member of



Federation Internationale de l' Automobile

2023 Specific Technical Regulations for SUV Challenge

The SUV Challenge Specific Regulations 2023 should be read with the following Articles of FMSCI Appendix J RALLYING.

Article.251 – Classification and Definitions

Article.252 – General Prescriptions for Production Cars (Group N), Touring Cars (Group A)

Article.253 – Safety Equipment (Groups N,A)

Article.254 – Specific Regulations for Production Cars (Group N)

Any modifications are forbidden unless expressly authorized by the regulations specific to the group as mentioned below.

All modifications permitted below, in the SUV Challenge, will be in addition to the modifications permitted in Article 254

It is permitted to use after-market replacement parts as long as such parts are in conformity with the homologated parts N(including of Optional Variants in Group) in ALL ASPECTS except the brand name. Such parts should have no additional functions relative to the original parts (UNLESS SPECIFICALLY AUTHORISED IN THE REGULATIONS BELOW)

Art.1-Eligible vehicles

FMSCI Homologated/TDF- SUV- PRODUCED AND SOLD IN INDIA WITH ENGINES AS SUPPLIED BY THE MANUFACTURER. THE PERMITTED MODIFICATIONS TO THE ENGINES, ARE MENTIONED BELOW.

NO MODIFICATIONS ARE PERMITTED TO THE ORIGINAL BODY AND CHASSIS OF THE HOMOLOGATED/TDF VEHICLE (UNLESS SPECIFICALLY AUTHORISED IN THE REGULATIONS BELOW)

Art.2-Minimum Weight & Ballast

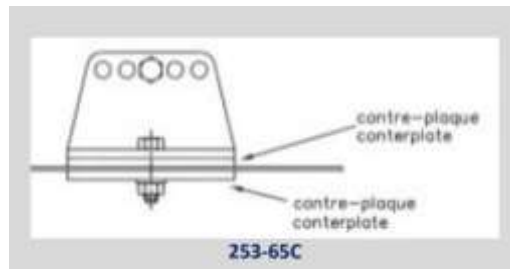
As mentioned in the Homologation / TDF form

1. Cars must have at least the weight appearing on the Homologation Form.
2. This is the real weight of the empty car (without persons or luggage aboard) without tools or jack, and with a maximum of one spare wheel.
3. When two spare wheels are carried in the car, the second spare wheel must be removed before weighing.
4. All the liquid tanks (lubrication, cooling, braking, heating where applicable) must be at the normal level foreseen by the manufacturer, with the exception of the windscreen wiper or headlight wiper, brake cooling system, fuel and water injection tanks, which must be empty.
5. Additional headlights which do not appear on the Homologation form must be removed before weighing.
6. In rallies only, the minimum weight of the car (under the conditions of Article 2(point 1 to 5) with crew (driver + co-driver + the full equipment of the driver and co-driver) must be : Minimum weight defined in Article 2(point 1 to 5) + 160 kg. Furthermore, the weight defined in Article 2(point 1 to 5) must also be respected.

It is permitted to complete the weight of the car by adding one or several ballast, provided that they are safely secured, visible and approved by the scrutineer. Holes in the mounting retainers must be provided for sealing.

The ballast must be attached to the bodyshell/chassis at least at two fixing points by bolts of at least grade 8.8 with a minimum diameter of 10mm, with counter plates, according to the principle of Drawings 253-65C

No ballast should have sharp edges and all the edges must have a radius of minimum 5mm



The minimum area of contact between bodyshell /chassis and counter plate is 40cm² for each fixing point.

The Organisers/Technical Delegate have the right to weigh the cars at any time during the event.

Art.3-Engine

Re boring of 0.5mm maximum is allowed in relation to the original bore

Art.3.1-Piston

FREE

Art.3.2-Compression Ratio

FREE

Art.3.3-Connecting Rod

FREE

Must be made of steel

Art.3.4-Cylinder Head Assembly

As supplied by the manufacturer.

CAM shaft / CAM sprocket and Valve springs are FREE. Modifications to the original Head are permitted by addition of material or by removal of material. The original Head should be identifiable as the Head supplied by the manufacturer.

Art.3.5-Air Filter

Air filter and its plumbing FREE

Art.3.6-ECU

ECU and wiring system FREE

The location of the ECU may be changed

Sensors and Actuators are free.

Modification of the Wiring loom, as well as custom built looms are permitted

Art.3.7-Crankshaft

Crankshaft Balancing is permitted. Forged steel crankshafts are permitted

The make and material of the shell bearings and thrust bearings are free.

All engine pulleys are free along with the drive belt

Art.3.8-Engine Flywheel

FREE. Diameter of the starter ring and the number of teeth must be retained. Only steel or Aluminium alloy or a combination of both is permitted. No exotic materials are permitted. Titanium, composites etc)

Art.4-Supercharging

Art.4.1-TURBOCHARGER - FREE. But not the numbers, limited to only one in number.

Supercharging the Homologated NA car is permitted.

Art.4.2-TURBO RESTRICTOR

All turbo's must be fitted an air restrictor(**34mm for 2 valves** per cylinder and **32mm for more than 2 valves** per cylinder)and must be according to the drawing in FMSCI-ARTICLE 254(254-4). Holes must be provided for the purpose of sealing.

- **RESTRICTOR DESIGN- AS PER IN ARTICLE 254, DRAWING NUMBER 254-4 OR FOLLOWING THEREGULATIONS BELOW**

The restrictor design is free provided it complies with the points mentioned below.

1. All the air fed through the turbo and to the engine must pass through the restrictor only. The Technical Delegate may insist on the competitor to reveal all the air flow to the engine.
2. Any air found to bypass the restrictor, by way of a leak, intentional or unintentional, shall be considered as non conformity.
3. The restrictor internal diameter shall be a maximum of ~~30mm~~ **(As per ART 4.2)** and this diameter has to be maintained for a minimum length of 3mm, unless otherwise stated in the regulations.
4. This diameter must be complied with, regardless of the temperature conditions.
5. The maximum distance, inclusive of the restrictor minimum length (3mm) shall be no more than 150mm from the outer most upstream extremity of the blades of the compressor wheel.
6. The fitment of the restrictor housing must be by way of bolts, on to the turbo housing. Threading the original housing for bolting the restrictor is permitted. The restrictor housing must be fitted, by using an intermediate 'O' ring, to ensure proper sealing. The technical delegate will verify the fitment, when the sealing is done. Removal of the restrictor housing may be necessary to satisfy the scrutineers of the method of sealing of air intake into the turbo. Additional sealing methods are permitted. Failure of the sealing methods used, which could allow additional air bypassing the restrictor, will lead to nonconformity.
7. Fitment of the restrictor housing by way of grub screw is not permitted.
8. Holes for sealing must be provided in at least two of the bolts of the restrictor housing, adjacent to one another, which would ensure that the housing can never be removed without cutting the seal and removal of bolts.
9. Sealing of the compressor housing to the body of the turbo will be done by sealing two adjacent bolts. One seal may be used to seal all the four bolts (2 Bolts for Restrictor to turbo housing and the 2 bolts for turbo housing to the main body).
10. The diameter of the holes provided for sealing in the bolts shall be no more than 3 mm
11. It will be duty of the competitor to ensure the sealing is done in a way which will not

allow removal of the sealed components without breaking the seals.

12. The restrictor must be made from a single material and may be pierced solely for the purpose of mounting and sealing.

Art.4.3-INTERCOOLER

FREE.

Ducts and the pipes of the supercharging system are free, but their only function must be to channel air and to join various parts together. The intercooler and its components must be in the engine bay or ahead of the radiator provided it is within the bodywork of the car. Ducting for the intercooler is permitted through the bumper, front grill. Holes may be cut out to allow air to pass. Water spray system may be adopted.

Art.5-Lubrication

The oil cooler, oil/ water exchanger, lines, thermostat and pump strainers (including the number) are free without modifying the bodywork. The oil cooler cannot be situated outside the bodywork.

The oil gauge is free but must be present at all times. It may be moved from its original location. Fitting of an oil filter is mandatory and the entire oil flow must pass through this filter or cartridge. An adaptor between the oil filter and the oil filter housing or between the oil filter support and the engine block is permitted. The adaptor may also have oil cooling and temperature and / or the pressure sensor connections. Fitment of baffles in the oil sump is permitted. The oil pump may be modified. The flow rate may be increased relative to the original. Fitting of oil pump chain tensioner is permitted. The drive system to the oil pump is free. The oil pressure regulation system may be modified. The oil pressure accumulator is free.

Art.6-Intake Manifold

FREE.

Relocation of the fuel injectors is permitted.

Art.7-Throttle Body

FREE, but limited to one only

Art.8-Injectors

Injectors may be modified or replaced in order to modify their delivery, but without modifying their working principle, nor their mountings.

Blow off valves and fuel pressure regulators are FREE

Art.9-Exhaust

FREE

Art.10-Cooling System

A larger radiator may be fitted, the mounting points may be changed to accommodate the same, so long as it remains in proximity to the original radiator.

Radiator screens are FREE.

Cooling fans are FREE.

Water pump FREE (Mechanical / Electrical)

The original Radiator Cowl may be modified to accommodate a larger radiator and the intercooler. Openings may be made (FREE OF SIZE AND SHAPE) in the front bumper/front bodywork/front grill, provided these are meant for the sole purpose of

cooling the radiator/intercooler or brakes. However the minimum weight of the car should be respected.

Art.11-Gear Box

Only the internals of the OEM Gearbox is FREE

The number of mountings and their anchorages may be modified.

Gear Ratios FREE

Linkages are FREE.

Internals of the Transfer Gearbox is FREE as long as it remains within the OEM housing.

Machining of the internal part of the housing is permitted.

Art.12-Final Drive

Final Drive ratio FREE

The OEM housing has to be retained.

Strengthening of the differential housing is permitted.

Art.13-Clutch Assembly

FREE

The master cylinder is free.

Art.14-Propeller Shafts

FREE

Art.15-Front and Rear Running Gear

All silent blocks are FREE

Front and Rear springs are FREE, so long as the OEM mounting points remain the same as OEM.

Ride height is FREE

Art.15.1-FRONT AND REAR ANTIROLL BARS

FREE

The anti-roll bars homologated by the manufacturer may be removed or disconnected.

Art.15.2-SHOCK ABSORBERS

FREE

Additional shock absorbers may be fitted and its mounting point may be changed.

Suspension travel limiters are allowed

Art.16- Wheels & Rims

Rims are FREE

The spare wheel(s) is (are) not mandatory and if carried it must be securely fixed.

Spacers for wheel rims are permitted

Art.17-Braking System

- Original apertures in the body work, e.g., for fog lamps, may be used to bring cooling air to the brakes, the connection of the air ducts to the original apertures in the bodywork is free.
- A device for scraping away mud which collects on the brake discs and / or the wheels may be added.
- A device to protect the brakes from flying stones may be added.

- Servo brakes- FREE
- Brake linings/pads- material and mounting method (riveted or bonded) are FREE provided the dimensions of the linings are retained.
- Brake rotors are free as long as they are housed within the wheel rim.
- Pedal box - FREE or the original may be modified.
- Tandem Master cylinder - FREE.
- Front and rear pressure regulator / limiter- FREE.
- Handbrake – FREE. It is permitted to modify / replace the hand brake provided it remains on the central tunnel. Dual rear handbrake (standard one and Hydraulic system) is permitted.
- Front callipers- FREE. The calliper support is FREE.
- Its allowed to disable the automatic rear brake adjuster.

Art.18-Steering

Hydraulic power system are permitted even if it is not OEM.

The driving pulleys and the position of the hydraulic power steering system are FREE.

Steering rods are FREE

Steering column -FREE

Steering wheel - FREE, the original locking system of the anti-theft lock may be rendered inoperative.

Steering fluid tank - FREE

Art.19-Fuel Tank and Fuel Circuit

Additional fuel tank is permitted

The fuel tank capacity is FREE.

The OEM fuel tank may be replaced with any other OEM fuel tank, provided the original seam welding remains untouched.

The filler cap must be located on the body (external) and must have a breather/vent, and located where it is open to atmosphere. All fuel lines are free. The Fuel circuit is FREE.

Art.20-Electrical

As per ART-254

Art.21-Bodywork (Internal and external)

A HARD TOP COVERED, FIXED BODY, HOUSING THE DRIVER AND CO-DRIVER IS MANDATORY.

NO MODIFICATIONS TO THE ORIGINAL BODY SHELL OR CHASSIS IS PERMITTED UNLESS SPECIFICALLY PERMITTED.

- The rear windshield glass may be replaced with fixed Perspex / acrylic sheets, so long as the transparency of the original glass is maintained and fixed with bolts or rivets.
- Front and rear wheel arches – FREE. (So long as the wheel does not protrude beyond the wheel arch, when viewed from top, same method of measurements as in FIA-Group A). It is permitted to fold back the metal edges or reduce the plastic edges of the fenders and bumpers if they protrude into the wheel housing. TRACK WIDTH IS FREE.
- The original dashboard may be retained.
- Door pads may be replaced with fabricated ones.
- All parts of the AC/heating system may be removed

- Floor carpets are free and may thus be removed
- All sound proofing materials may be removed
- The capacity of the windshield water tank is free
- Additional safety fastenings for the windscreen and side windows are permitted
- The bumper mountings are free so long as the original shape of the bodywork and the bumper remain the same.
- Bumpers / Grills / Headlights and Fender Inner Linings may be interchanged with different models of the same car.
- Cooling Ducts / Vents are permitted with in the Bumper and on the Bonnet to enable Cooling / Venting of the Engine compartment and Brakes.
- Under body protection is permitted

Art.22-Bonnet Vents / Scoops

FREE. These modifications are limited to the bonnet only. This will be in addition to the roof scoops for the driver and navigator.

Modifications are permitted to the bonnet to accommodate the turbo and its plumbing.

Art.23-Additional modifications permitted

- It is permitted to replace the OEM Bumpers with Fibre glass replicas, provided the shape is identical to the OEM component.
- It is permitted to replace the OEM door rear view mirrors with any aftermarket mirrors, so long as the Rear-view visibility is equal to or more than the OEM mirrors.
- Fixing of Dead pedals are allowed.

Art.24-Safety Equipment

As per FMSCI Regulations Art 253 Safety Equipment & 2023 FMSCI Safety Requirements for 4W.

Art.25-Roll Cage

As per FMSCI Regulations Article-253 – Art-8.Safety Cages

Art.26-Fuel

FREE

NOTE: Changes for the 2023 Technical Regulations are highlighted in Yellow

END