2024 Technical Regulations for INRC-2

The Following Articles of 2024 FMSCI Appendix J are applicable

Art.251 – Classification and Definitions
Art.252 – General Prescriptions for Production Cars(Group N), Touring Cars(Group A)
Art.253 – Safety Equipment (Groups N, A)
Art.254 – Specific Regulations for Production Cars (Group N)

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

It is permitted to use after-market replacement parts as long as such parts are in conformity with the homologated parts vis dimensions and working principle(including of Optional variants in Group N) in ALL ASPECTS except the brand name. Such parts should have no additional functions relative to the original parts.

Art.1 – Eligible Vehicles & Classes

Any large-scale series production cars manufactured or assembled and sold in India on or after 01/01/2010 is only eligible(for E.g. Mitsubishi Cedia was sold from 2006 to 2011 so it is eligible for this class).

The vehicles must be homologated with the FMSCI or have a completed TDF (Technical Data Form) to be eligible to compete.

Naturally Aspirated cars with engine displacement up to 2100cc.

Factory Super charged/Turbo charged Cars up to 1400cc.

Art.2 – Dimensions & Minimum Weight

Normally Aspirated Engine	Super Charged Engine	Minimum Weight
Over 1390cm^3 and up to 1600cm^3	Over 927cm^3 and up to 1067cm^3	1030 Kgs
Over 1600cm^3 and up to 2000cm^3	Over 1067cm^3 and up to 1333cm^3	1080 Kgs
Over 2000cm^3 and up to 2100cm^3	Over 1333cm^3 and up to 1400cm^3	1130 Kgs

This is the real weight of the car, with neither driver nor co-driver nor their equipment and with a maximum of one spare wheel.

When two spare wheels are carried in the car, the second spare wheel must be removed before weighing.

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, headlight wiper, fuel and intercooler water spray (if homologated) tanks, which must be empty.

The minimum weight of the car may be checked with the crew on board (driver + co-driver + their full equipment), as the minimum weight defined in Art.2 tabular column + 160 kg.

Further, the minimum weight defined in Art.2 tabular column must also be respected.

It is permitted to complete the weight of the car by one or more ballast weights provided that they are unitary blocks, rigidly fixed by means of tools on to the floor of bodyshell / chassis in a location clearly visible to the scrutineers, with the provision for sealing.

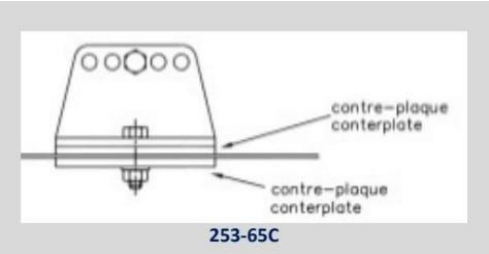
Maximum mass of a single ballast is 30kgs, Maximum mass of ballast at each mounting location is 30kgs and must respect drawing 253-65C.

Ballast must only be made of lead**(no other materials).**

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.

Any movable ballast system is forbidden.

The ballast should not have any sharp edges and all the edges must have a minimum radius of 5mm.



253-65C

The minimum area of contact between bodyshell /chassis and counter plate is 40cm^2 for each fixing point.

Failing to meet the required weight regulations will result in disqualification or exclusion of the car.

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

Art.3 – Engine

3.1-Engine & Gearbox Mounting

Engine & Gearbox mounts free, not the numbers, and mounting point on the monocoque to remain as OEM.

3.2-Compression Ratio

Compression ratio FREE

3.3-Cylinder Block

As supplied by manufacturer, as per Homologation/TDF, but modification of Cylinder Block is permitted only to provide Oil Squirters.

3.4-Maximum Bore Allowed

Re boring of 0.5mm maximum is allowed in relation to the original bore as specified in the Homologation/TDF, even if the capacity class limit is exceeded (Crossing the limit of 2100cc in NA cars & 1400cc in Super charged cars is permitted, provided that this limit was crossed only by means of reboring to a maximum of 0.5mm over the homologated/TDF bore).

3.5-Piston

Only OEM/After market pistons are allowed provided they confirm to Homologation/TDF.

3.6-Connecting Rod

As supplied by manufacturer, as per Homologation/TDF.

Modification of Connecting Rod is permitted only to provide Oil Squirters.

3.7-Crank Shaft

As supplied by manufacturer, as per Homologation/TDF

Serpentine belt is FREE

3.8-Flywheel

The weight of the flywheel is FREE, rest of the dimensions should be maintained as per the homologation/TDF.

3.9-Cylinder Head

Cylinder head Porting is allowed but adding of materials is not allowed. Surfacing/Facing of the Cylinder head is allowed.

Cylinder head gasket is FREE

3.10-Fuel Injection System & Throttle body

Fuel Injection system:

The injectors may be modified or replaced in order to modify their flow rate, but without modifying their operating principle and their mountings.

The injector rail may be replaced with another of free design but fitted with threaded connectors for connecting the lines and the fuel pressure regulator.

If the injectors are located in / through the inlet manifold, it is allowed to relocate the injectors in the inlet manifold.

Throttle body:

Numbers has to be same as Homologation / TDF.

Diameter of the throttle Valve is FREE

Vehicle equipped with Motorized Throttle body may be changed to mechanical Throttle body or vice versa.

3.11-Sensors & Actuators

The OEM Lambda / Oxygen sensor may be replaced with a wide band sensor and is FREE.

Addition of sensor is not permitted, other than addition of an oil pressure sensor in place of an oil pressure switch is permitted even though it may not be homologated.

3.12-CAM Shaft

As supplied by manufacturer, as per Homologation/TDF

Adjustable CAM pulley is permitted.

3.13-Intake & Exhaust Valves

As supplied by manufacturer, as per Homologation/TDF

3.14-Intake Manifold

Intake manifold FREE

But the Mounting points of the Intake Manifold should be same as OEM.

Fitment dose not entail the modification of other components, (Ex. Fire wall & Bonnet).

If the injectors are located in / through the inlet manifold, it is allowed to relocate the injectors in the inlet manifold.

Air filters FREE

All components up stream of the throttle body are FREE(up to throttle body are free), but must be in the confines of the engine compartment.

3.15-Exhaust System

FREE (Exhaust manifold to the exit is free)

There should be at least one muffler present in the system

The location of the exit of the exhaust pipe is as per Homologation/TDF or the exit of the exhaust pipe must be at the rear of the car, you are permitted to modify, reshape, cutting the bumper for the exit of the exhaust.

Exhaust gases may only exit at the end of the system

3.16-Ignition System

As supplied by manufacturer, as per Homologation/TDF

3.17-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.

The original Radiator cowl may be modified to accommodate a larger radiator.

3.18-Lubrication System

The fitting of an oil cooler outside the Engine compartment is permitted so long (FRONT BUMPER) as it does not protrude beyond the general front perimeter of the car seen from above, without modifying the bodywork.

Fitting an oil cooler in this manner does not allow the addition of an enveloping aerodynamic structure.

The fitting of baffles in the oil sump is authorized.

3.19-Induction System

Only OEM/After market Turbo charger are allowed provided they confirm to Homologation/TDF

Inter Cooler, type and its plumbing is FREE

If the Air Inlet housing of the Turbo charger(Inner Diameter) is below 33mm Restrictor is not required, if its more than 33mm Restrictor is mandatory by respecting Art 254.

Art.4 – Fuel Circuit

Fuel FREE

4.1-Fuel Tank

As supplied by manufacturer, as per Homologation/TDF or as per FMSCI Appendix-J Art 253-Art.14.

4.2-Fuel Pump

Fuel Pump FREE, location can be in tank or outside.

The number must remain as supplied by manufacturer, as per Homologation/TDF.

Art.5 – ECU, Wiring Harness & Electrical Equipment

5.1-ECU & Wiring Harness

FREE- including the wiring harness

Location of the ECU may be changed.

5.2-Battery

Battery FREE

Mounting clamps FREE.

Its allowed to modify the battery location from the existing location forward or backward or sidewise by six inches.

Art.6 – Power Train

6.1-Driven Wheels

Only 2-Wheel Drive Cars are permitted

6.2-Clutch

Clutch FREE, with the exception of the number of clutch plates.

6.3-Gearbox

Gear Box housing must be as per Homologation/TDF.
Gear Ratios FREE, Synchronized or Non-Synchronized (Dog Box) Final Drive Ratio FREE
Gear selecting Grid pattern on series model must be retained.
Removal of material from the OEM housing is permitted to accommodate fitment.

6.4-Differential

The use of a mechanical type Limited slip differential(LSD) is authorized, provided that it can be fitted in the series(Original) housing.
Removal of material from the OEM housing is permitted to accommodate fitment.

6.5-Transmission Shafts

As supplied by manufacturer, as per Homologation/TDF

Art.7 – Axles & Suspension

7.1-Suspension System

Strengthening of lower arms with addition of material with or without creating hollow section is allowed.
Strengthening of lower arm bushing is permitted by means of inserting a sleeve and the same can be welded to the lower arm. Bush material rubber or synthetic is allowed.
Rose joints and Rod end bearings are permitted.
Suspension top mount mounting on the chassis is free but point of articulation remains the same.

Shock Absorber:
For rallies taking place in India, a silent block may be replaced by a Uniball joint even if the shock absorber has a guiding function.
Front suspension top mounting fitting of uniball joint is permitted and modifications required in the strut tower to accommodate the uniball joint may be allowed.
To facilitate fitment of larger dimensioned top mounts of the rear shock absorber, enlarging central bore of the top plate in the chassis is permitted as long as the mounting points remain unchanged. Minor machining to the lower arm to accommodate gas hose of the rear shock absorber canister is also permitted.

Ride Height:
For asphalt rallies only, the ride height of the car may be reduced by a maximum of 25mm from the homologated/TDF ride height of the car.

7.2-Axle Assembly

Camber shims are allowed only at rear between stub axle and rear axle assembly.

7.3-Stabilisers

Stabiliser link rods are free.

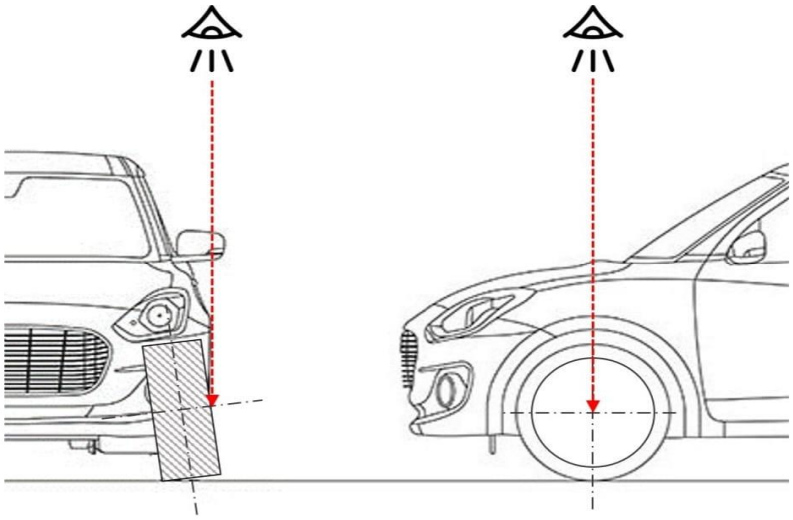
Art.8 – Running Gear

8.1-Wheels(Rims & Tyres)

Maximum wheel diameter of 17 inch is permitted.

Maximum wheel width of 8 inch is permitted.

No portion of the tyre above the centre line must be visible when viewed from the top(see drawing 8.1-1)



8.1-1

8.2-Wheel Assembly(Hub & Knuckle)

Strengthening of knuckles with addition of material with or without creating hollow section is allowed.

8.3-Brake System

If the anti-lock braking system (ABS) is disconnected or removed, the use of a mechanical rear braking distributor is authorized.

After market Brake Rotors are allowed even if they are slotted or drilled. The master cylinder, front brake disc and their caliper are FREE.

Fitting of rear disc brakes is permitted and the necessary modification for the same is allowed.

A maximum of 50mm more than the homologated track width is permitted at the rear.

The rear wheel arch can be modified to accommodate extra track width of 25mm each side to comply with Art.8.1(drawing 8.1-1).

In the case of a car fitted with servo-assisted brakes, this device may be disconnected or replaced.

Its allowed to disable the automatic rear brake adjuster.

The mechanical handbrake may be replaced with a hydraulic system but in this case a diagonal brake circuit (X shape) or the original system is mandatory. Dual rear handbrake (standard one and Hydraulic system) is permitted.

It is permitted to modify the position of the hydraulic handbrake system, provided that it remains on the central tunnel.

Brake booster can be rendered inoperative or removed.

Its allowed to relocate the master cylinder in the fire wall, and the required modifications to the linkages between brake pedal and master cylinder can be done if master cylinder is relocated.

8.4-Steering System

Strengthening of OEM tie rod is allowed.

Art.9 – Body Work

Strengthening of chassis is permitted by suitable welding process, collateral addition of material deposit in the process of welding is allowed.

9.1-Interior

1. Heating system/AC system: The original heating equipment may be retained. Using of a shorter drive belt after removal of a/c compressor is permitted. Removal of the complete AC/heating system is permitted, however if the engine pulley is a single unit which drives the AC as well as other components, it must be retained as OEM.
2. Dashboard must remain but all accessories including glove box, center console can be removed.
3. All plastic claddings inside the passenger compartment can be removed.
4. Fixing of Dead pedals for driver comfort are permitted.

9.2-Exterior

1. Windshield washer container is FREE, it is permitted to relocate the windshield washer water container within the space under the bonnet.
2. It is permitted to replace the OEM Bumpers with Fibre glass replicas, provided the shape is identical to the OEM component.
3. 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.
4. The Frame/Cowl which houses the radiator assembly, if made of plastic, may be made/repaired/strengthened with metal, so long as the original position of the components, it houses remains the same as provided by the manufacturer. Any change in position is permitted if a specific regulation allows it.
5. Bumpers / Grill / Headlights and Fender Inner Linings may be interchanged with different models of the same car.
6. Cooling Ducts / Vents are permitted with in the Bumper and on the Bonnet to enable cooling / venting of the Engine compartment and Brakes.
7. It is permitted to alter/modify the fenders for the purpose to accommodate the tyre profile with in the same.
8. Plastic and sound proofing parts may be removed from inside the wheel arches. These parts may be replaced made of aluminium, plastics or composite materials and the shape is FREE.
9. Bonnet vents/scoops FREE.

Art.10 – Safety Requirements

As per 2024 FMSCI Racing Regulations Appendix-J Art 253 Safety Equipment (Group N, A) and As per FMSCI 2024 Safety Requirements for 4Wheeler.

10.1-Driver Safety Equipment

As per FMSCI 2024 Safety Requirements for 4Wheeler.
Its highly recommended to use FHR
From 01.06.2024 its mandatory to use FHR along with Helmets compatible to use with FHR as per FIA standards.

10.2-Roll cage

As per 2024 FMSCI Racing Regulations Appendix-J Art 253 Safety Equipment (Group N, A) Art-8.Safety Cages

10.3-Seat & Seat Belt

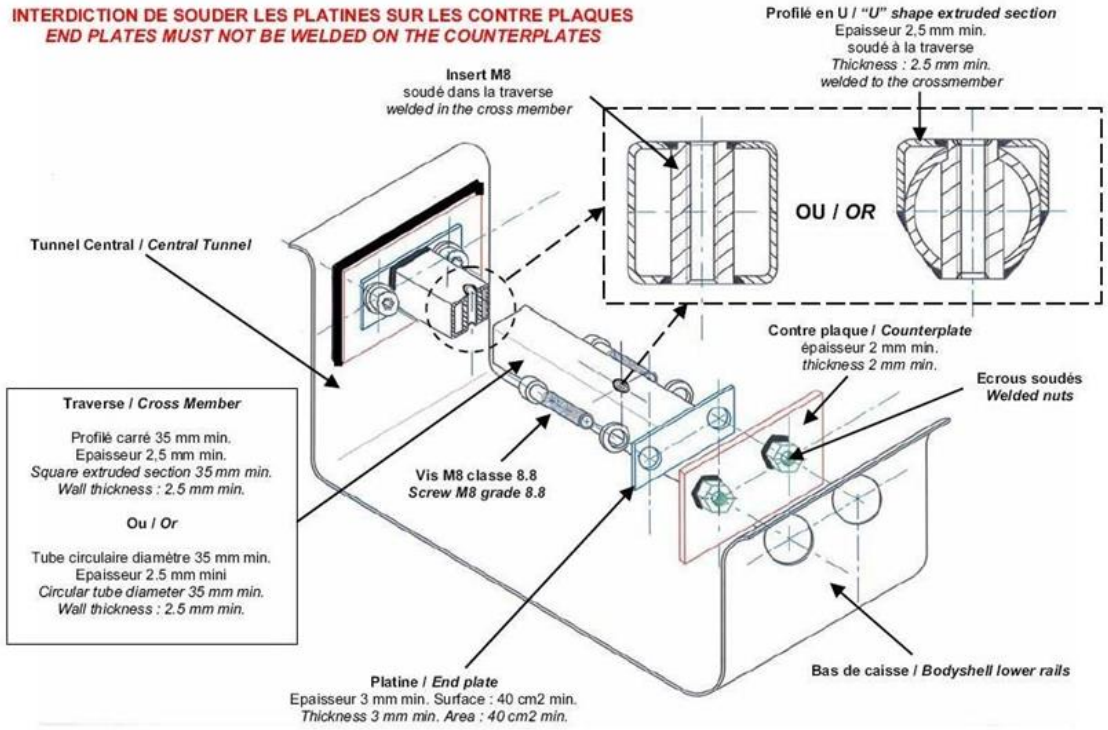
As per FMSCI 2024 Safety Requirements for 4Wheeler.

From 01.06.2024 Seat Anchorage point and Seat support must only as per the following methods

1) If OEM seat anchorage points are not used(seat support must be fixed on to the cross member):

It must follow the drawing 253-65B of FMSCI Art 253-Safety Equipment(Group N, A)

The seat support must be fixed on to the anchorage points of cross member for fixing seats via at least 4 mounting points per seat, using bolts minimum M8 of grade 8.8



253-65B

FITTING INSTRUCTIONS

- 1- Drill holes (larger than nut outer diameter) in the bodyshell lower rail and in central tunnel wall.
- 2- Weld the nuts on the counter plates, then weld these on the bodyshell lower rail on the central tunnel wall.
- 3- Weld the 2 threaded inserts in the cross member, then weld the endplates at each end of the cross member.
- 4- Fix the assembly through 4 number of M8 bolts of grade 8.8 which are screwed in the welded nuts.

2) If OEM seat anchorage points are used on to fix the seat supports directly onto the shell/chassis:

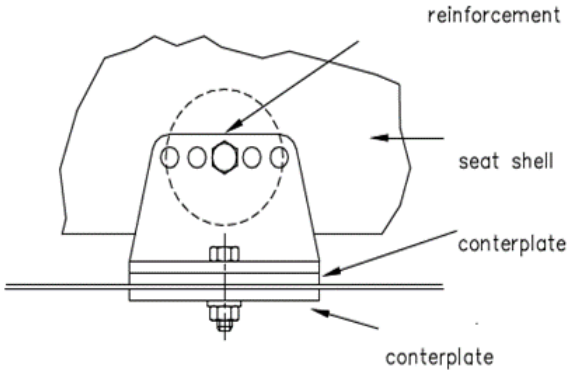
It must follow the drawing 253-65 of FMSCI Art 253-Safety Equipment(Group N, A)

The seat supports must be attached directly to the OEM seat anchorage points on the body shell/chassis via at least 4mounting points per seat using bolts with minimum M8 of grade 8.8 and counter plates, according to the Drawing 253-65.

The minimum area of contact between support, shell/chassis and counter plate is 40 cm2 for each mounting point.

The minimum thickness of the seat supports and counter plates is 3 mm for steel and 5 mm for light alloy materials.

The minimum longitudinal dimension of each support is 6 cm.



253-65

10.4-Fire Extinguisher

The minimum Quantity of Extinguishant for system mounted(plumbed in system) must be 3kg.

Manual Extinguishers

Minimum Quantity of Manual Extinguishant:

- AFFF 2.4liters
- FX G-TEC 2.0 kg
- Viro 3 2.0kg
- Zero360 2.0kg
- Powder 2.0kg

Fire Extinguishers to be rigidly fastened with a quick release clamps (minimum 2 nos.) fitted in an easily accessible and a visible position. The mounting bracket of the fire extinguisher must be bolted to the floor with a bolt of minimum 10 mm diameter. The minimum bracket thickness-2mm MS SHEET METAL

10.5-Protective Padding

Where the occupant's bodies could come into contact with the safety cage, flame retardant padding as per FMSCI 2024 Safety Requirements for 4Wheeler must be provided for protection.

Art.11 – Data Acquisition

Sensors(for driver development only)

Fitting of additional Sensors are allowed, for data acquisition.

Fitting of Additional Sensors are allowed provided these cannot have any form of actuators or motors to make any electro mechanical changes

Any device capable of making electro mechanical changes without human intervention will be classified as actuator these are not allowed.

The additional sensors is for driver development and input only.

Art.12 – Hybrid System

Hybrid unit and its components must be rendered inoperative or be removed in full.

Failing to meet the above required regulations will result in disqualification or exclusion of the car for the relevant session(s).

Note: Other than the modifications permitted expressly above should follow 2024 Group N Technical Regulations FMSCI Art 254.

Note: If any ambiguity or missing data from the Homologation / TDF form, the FMSCI may source any component from the OE manufacturers to compare dimensions.

NOTE: Changes for the 2024 Technical Regulations are highlighted in Yellow

****END****