



**The Federation of Motor Sports Clubs of India**

National Sports Federation recognized by the Government of India

# **2023 Specific Technical Regulations for INRC R**

Member of



Federation Internationale de l' Automobile

## 2023 Specific Technical Regulations for INRC R

**The INRC R Specific Regulations 2023 should be read with the following Articles of FMSCI Appendix JRALLYING.**

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 INRC- Group-R, 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 vis dimensions and working principle (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.

When the word FREE is used in the regulations below, it means that those parts need not be homologated as a variant. It also means that parts may be used without any attached conditions, so long as the basic function/principle, of the replaced part is the same. In some cases it is permitted to remove parts, and in others, replace.

### Art.1-Eligible vehicles

FMSCI Homologated/TDF Cars with FMSCI R2B / R2C Kits

OR

FMSCI Homologated/TDF Cars following the regulations listed below.

Series production Indian vehicles sold on or after 01/01/2010 in India.

E.g. Mitsubishi Cedia was sold from 2006 to 2011 so it is eligible for this class.

### Art.2-Classes

Normally Aspirated engines – Up to 2100cc

Supercharged engines – Up to 1400cc

### Art.3-Minimum Weight & Ballast

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

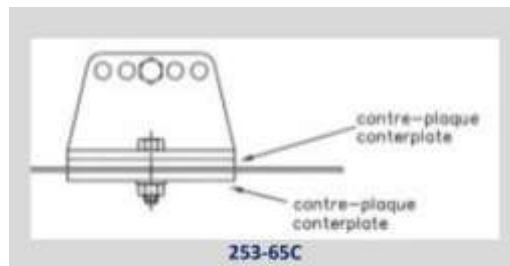
and intercooler water spray (if homologated) tanks, which must be empty.

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.3 tabular column + 160 kg.  
Further, the minimum weight defined in Art.3 tabular column 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 40cm<sup>2</sup> for each fixing point.

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

#### **Art.4-Engine**

For the sole purpose of being able to fit the gearbox, local external machining of the engineblock is allowed. Mountings and their anchorages on the body shell may be modified provided that the angle and position of the engine within its compartment are not modified. The number of mountings may not be modified. The material of the elastic part may be replaced; the number of mountings must be the same as the original

Re boring of 0.5mm maximum is allowed in relation to the original bore. Crossing the limit of 2100cc NA or 1400cc Supercharged is permitted, provided the limit was crossed only by means of reboring to a maximum of 0.5mm over the Homologated bore.

#### **Art.4.1-Piston**

FREE

#### **Art.4.2-Compression Ratio**

FREE

#### **Art.4.3-Connecting Rod**

FREE

Must be made of steel

#### **Art.4.4-Cylinder Head**

Surfacing of the head gasket plane is permitted. Cylinder head Porting is allowed. Addition and removal of material is permitted  
Cylinder head gasket is FREE.

**Art.4.5-Valve Train(inlet and Exhaust)**

FREE, but not their numbers so long as the valve homologated diameter is maintained.

The valve cotters and guides are not subject to any restriction.

Valve springs and their numbers are free.

Spacers may be added under the springs.

Except TITANIUM, any other material may be used in the valve train

Rocker arms are free as well as their ratio

The timing is free. If the original timing includes an automatic play recovery system, this may

be neutralized mechanically and play compensation discs may be used.

**Art.4.6-Air Filter**

Air filter and its plumbing up to the throttle body is FREE, but must remain in the engine compartment.

**Art.4.7-ECU**

ECU and wiring system are FREE, and 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.4.8-Camshaft**

FREE

Adjustable CAM pulley is permitted. The number and diameter of the bearings must be retained.” VVT” and “VALVETRONIC” etc. Type systems are authorised if original. They may be rendered inoperative.

Timing belt, belt tension rollers and locking of belt tensioners are free. The material and the profile of the timing belt is free so long as the number of teeth is identical to the original.

The oil inlets may be blocked. The plugs used must have no function other than that of blocking the ducts.

The valve play compensation discs between the valve buckets and stem are free

**Art.4.9-Crankshaft**

Crankshaft Balancing is permitted. Forged Steel crankshafts are permitted

The make and material of the shell bearings and thrust bearings are free, but they must retain their original type and dimensions. All engine pulleys are free along with the drive belt

**Art.4.10-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.5-Supercharging****Art.5.1-TURBOCHARGER**

FREE. But not the numbers.

Supercharging a Homologated NA car is permitted, provided the CC limit of the Supercharged vehicles under Art.2 Classes is respected.

**Art.5.1.1-Restrictor**

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.5.2-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.

Ducting of cooling air to the intercooler is permitted from the bumper/front grill with a maximum outer diameter of 10 cm or two cooling ducts of 7 cm diameter or any other shape so long as the area is equal to, or less than those mentioned above. These ducts may be made of composite material. Water spray system may be adopted.

**Art.6-Lubrication**

The oil radiator, oil/ water exchanger, lines, thermostat and pump strainers (including the number) are free without modifying the bodywork. The oil radiator 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.7-Intake Manifold**

FREE.

Relocation of the fuel injectors is permitted

**Art.8-Throttle Body**

Numbers has to be same as Homologation / TDF. Diameter of the throttle Valve is FREE  
Vehicle equipped with Motorized Throttle body may change to mechanical Throttle body or vice versa.

**Art.9-Injectors**

No of Injectors FREE and their Working Principle is FREE

Blow off valves and fuel pressure regulators are FREE

**Art.10-Exhaust**

FREE

**Art.11-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. Holes 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.12-Gear Box**

FREE

The number of mountings and their anchorages may be modified.

Gear Ratios FREE, Synchronized or Non Synchronized (Dog Box) and Sequential gear boxes are permitted.

Linkages are FREE.

Internal shifting methods are FREE.

An additional oil cooling device may be used.

**Art.13-Final Drive**

FREE

Mechanical type Limited Slip Differential (LSD) is authorized.

The interior of the differential housing may be modified to accommodate the LSD

**Art.14-Clutch Assembly**

FREE

The master cylinder/slave cylinder/clutch disc/cover assembly/release bearing are free. **The clutch disc and their numbers are FREE**

**Art.15-Transmission Half Shafts**

FREE

**Art.16-Front and Rear Running Gear**

Strengthening of Sub frames by addition of material is permitted.

A silent block may be replaced by any other type of joint, collaring is authorised.

Upper plate for the mounting of shock absorber to chassis is FREE.

Front and rear hubs FREE.

Wheel carriers FREE, provided a maximum of 100mm over the homologated track width is not exceed, carrier supports may be strengthened(hollow sections authorised).

**Art.16.1-TRACK WIDTH** - A maximum of 100mm more than the homologated track width is permitted.

**Art.16.2-WISHBONES** - FREE

**Art.16.3-FRONT AND REAR SUB FRAMES** – Modifications, Addition or Removal of material are allowed.

**Art.16.4-HELICOIL SPRINGS** - FREE along with their numbers. Parts for preventing the springs from moving in relation to their mounting points are authorized.

**Art.16.5-TORSION BARS** - FREE. These freedoms on torsion springs do not authorise one to disregard the groundclearance.

**Art.16.6-FRONT AND REAR ANTIROLL BARS** - FREE. The anti-roll bars homologated by the manufacturer may be removed or disconnected.

**Art.16.7-SHOCK ABSORBERS** - FREE.

Whatever the type of shock absorbers used, plain bearings are mandatory and the use of ball bearings with linear guidance is prohibited.

Suspension travel limiters are allowed

**Art.16.8-FRONT AND REAR SUSPENSION TOP MOUNTS** - Free design.

**Art.16.9-REAR SUSPENSION – Method and Working Principle FREE****Art.17-Wheels / Rims**

Under no circumstances may the rim exceed a width of 8".

In all other respects wheels are FREE.

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

Spacers for wheel rims are permitted by respecting Art16.1

**Art.18-Braking System**

Disc brakes along with the complete braking unit are free for the front and rear, even if the original vehicle did not have one.

Brake rotors can only be made of steel.

For each wheel one cooling duct with a maximum diameter of 10 cm is allowed or two cooling ducts of 7 cm diameter is allowed, these ducts may be made of composite material.

Only the following mounting points are authorised for fixation of lines to bring the cooling air to the brakes.

- 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, provided these apertures remain unchanged.
- If the car does not have any original apertures, two circular apertures of a maximum diameter of 10 cm, or equivalent section, may be made in the front bumper.
- 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- 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.19-Steering**

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.20-Fuel Tank and Fuel Circuit**

The fuel tank capacity is FREE.

FIA approved Fuel Cell is Recommended for 2023 and mandatory from 2024.

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

The fuel tank may be relocated in the boot so long as there is a cover and this cover must be fire and leak proof. 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.

**Art.21-Electrical**

As per ART-254



**Art.22-Bodywork (Internal and external)**

- Strengthening of chassis is allowed by welding or addition of sheet metal so long as it follows the shape of the original part.
- The window glass of the rear doors, 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. The rear doors winding mechanisms may be removed.
- Front and rear wheel arches - 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
- It is permitted to alter/modify the fenders for the purpose to accommodate the tyre profile with in the same.
- 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.
- The original dashboard must be retained. It is permitted to remove the glove compartment cover and the central console. Door pads may be replaced with fabricated ones.
- All parts of the AC/heating system may be removed
- The dashboard may be modified to accommodate the fitment of roll cage, navigational instruments etc.
- 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.
- The front grill is free. The strengthening of suspension pickup points on the chassis is permitted even though this may form a box section
- Under body protection is permitted

**Art.23-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.

**Art.24-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.
- 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.
- 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/Rod end bearings are not allowed.
- Strengthening of OEM tie rod is allowed.
- Fixing of Dead pedals are allowed.



**Art.25-Battery**

i) Location of the battery:

- Battery must be located in its original location or in the cockpit.
- If Installed in the cockpit, the battery must be situated anywhere behind the base of the driver's or co-driver's/passenger seat.

ii) Battery fixing:

- Battery must be securely fixed and the positive terminal must be protected.
- If the battery is moved from its original position, it must be attached to the body using a metal seat and two metal clamps with an insulating covering, fixed to the floor by bolts and nuts.
- The insulation used for covering the battery must be of fire proof material. In case of any dispute concerning on the fire proof material, the decision of the FMSCI Chief Scrutineer/Technical Delegate will be final.
- For attaching these clamps, metallic bolts with a diameter of at least 8mm must be used, and under each bolt, a counter plate at least 3mm thick and with a surface of at least 20cm<sup>2</sup> beneath the metal of the bodywork.
- If the wet battery is moved from its original position into cockpit it must be rigidly fixed and the entire battery must be covered in a leak proof casing and the positive terminal must be protected and an insulation covering must be done between the battery and the leak proof outer casing. The decision of the Technical Delegate/Chief Scrutineer is final.

**Art.26-Safety Equipment**

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

**Art.27-Roll Cage**

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

**Art.28-Fuel**

FREE

**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 2023 Technical Regulations are highlighted in Yellow***

\*\*\*END\*\*\*