



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

National Sports Federation recognized by the Government of India

**2019 Technical Regulations for  
INDIAN JUNIOR TOURING CARS (IJTC)  
(TC-2)**

Member of



Federation Internationale de l' Automobile



Federation Internationale de Motocyclisme

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## 2019 Technical Regulations for Indian Junior Touring Cars (TC2)

The following Articles of 2019 FMSCI racing regulations is 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)

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

### Eligible Vehicles

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Any large scale series production Touring car manufactured / assembled in India. Only vehicles with Homologation / TDF (Technical Data Form) are allowed.

Only 2010 and later sold cars are allowed.

### Classes

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Upto 1625 cc

### Weight

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The minimum weight of the cars will be “cc” divided by a constant which is **1.65 for 1625cc** WITH DRIVER. This is the real weight of the car WITH DRIVER.

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.

### 1.1 Engine

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Re boring of Engine 0.5mm maximum is allowed without this leading to the capacity class limit being exceeded.

**Swapping of engines / powertrain and its accessories / brakes from the same manufacturer is permitted. The engine, transmission, driveshafts and brakes maybe swapped from the same manufacturer. Engine with accessories such as alternator, starter motor, power steering system, radiator, gearbox, driveshafts and brakes maybe swapped over. For this purpose driveshafts maybe modified.**

**Modification to the engine mounting bracket to enable fitment to the OE chassis mounts is permitted. Chassis mounting location must remain OE**

Manufactured date of the engine should be 2010 or later as sold in India.

No modification to the mounting points of the chassis to accommodate fitment of this engine.

Modifications are permitted to the Water Pump pulley and the impeller  
Fuel lines may modified. Fuel hoses, cables and wiring may be modified to suit the engine.  
Fuel pump is free

## **1.2 Ignition System**

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Spark plugs, plug wire, coil and trigger wheel and rotor are free provided they are mechanically interchangeable with the original part.

## **2.1 Cylinder Head**

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Cylinder head Porting is allowed but adding of material is not allowed.  
Valves are free so long as the Homologated length and the diameter is respected. The shape of the valve may be altered

## **3.1 Compression Ratio**

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The Compression Ratio may be modified, If the car is homologated with higher rate, It must be modified so as not to exceed 10.8 +0.2 : 1.

Planning of the Cylinder head is allowed to achieve Compression Ratio.

## **4.1 Piston**

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Free part

The distance between Gudgeon Pin centre to Top of the Piston should remain as per Homologation / TDF.

Forged Piston is allowed.

Minimum weight of the piston remains as per Homologation / TDF.

## **5.1 Connecting Rod**

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Modifications permitted to provide Oil Squirting to pistons are allowed.

## **6.1 Gasket**

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Free

## **7.1 Camshaft**

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Standard

## **8.1 Engine & Gearbox Mounting**

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Engine and Gearbox Mount material Free. Modifications to the bracket to enable fitment on to chassis is permitted

## **9.1 Throttle Body**

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Number has to be as per the Homologation / TDF. Diameter of the Throttle Valve must be OE.

Vehicle equipped with Motorized Throttle body may change to mechanical Throttle body vise versa.

## **10.1 Intake Manifold**

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Free

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

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

## **11.1 Exhaust**

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Free

Fitment dose not entail the modification of other components.

The exit of the exhaust may be on the right or left side of the car, behind the mid-point of the wheelbase and below the door sill.

## **12.1 Gearbox**

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Gear Box housing must be OE

Gear Ratio Free, Synchronized or Non Synchronized (Dog Box) Final Drive Ratio Free

Mechanical type Limited Slip Differential (LSD) is authorized provide that it can be fitted in series Housing.

Gear selecting Grid pattern on series model be retained. Linkages may be modified

Welding and adding of materials is not allowed to the gearbox housing. Removal of material

on the inside of the casing to accommodate fitment of LSD and final drive is permitted

### **13.1 Lubrication system**

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The fitting of an oil radiator outside the bodywork is only allowed below the horizontal plane passing through the hub in such a way that it does not protrude beyond the general perimeter of the car seen from above as it stands on the starting line, without modifying the bodywork.

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

The fitting of baffles in the oil sump is authorized.  
Oil pumps are free. Oil coolers are permitted

### **14.1 Braking System**

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Handbrake: Fly-off hand brake is permitted.

Brake Pads are Free but original shape and Dimension to be maintained. Brake Fluid Free

Brake Hoses Braided hoses are allowed.

### **15.1 Suspension**

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No part of the car must touch the ground when all the tyres on one side are deflated. This test shall be carried out on a flat surface under race conditions (occupants on board).

Front and Rear suspension top mount - fitting of uniball joint is permitted and modifications required in the strut tower to accommodate the uniball joint may be allowed.

Front and Rear Suspension Top mounts Free

Camber and Caster can be modified (camber/caster change only through top mounts)

3 way dampers are permitted - (One way, two way and three way dampers are allowed)

In case of a torsion beam assembly the hub, the spindle including, flange of the torsion beam can be machined and/or shimmed to achieve the required geometrical change.

### **16.1 Tyre**

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Recommended 15 inch Specified by the Organizer

### **17.1 ECU**

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Free.

Modification of the Wiring Harness must be within 10 inches from ECU connector.  
Additional Sensors and Actuators not permitted.

### **18.1 Interior**

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- i. FIA homologated racing seats are mandatory.
- ii. The fitment of a 5-point harness with a 5-point mounting or more point's harness with turn buckle is mandatory. FIA homologated harness is mandatory.  
THE TECHNICAL DELEGATE (in his absence the Chief Scrutineer) IS THE FINAL AUTHORITY ON THE CONDITION AND SAFETY OF THE SEATS AND SEATBELTS USED
- iii. The passenger seat and rear seat(s) may be removed.
- iv. The removal of soundproofing, insulating material and carpeting is permitted.
- v. The steering wheel is free. The locking anti theft system device must be inoperative.
- vi. Extra gauges or meters are permitted.
- vii. Spare wheel & AC, heating system and all its accessories may be removed.

### **19.1 Exterior**

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- i. Only the front bonnet, front fenders and the rear boot/ rear door / Tail gate may be made of fiberglass, metal, composite or a combination.
- ii. Front passenger door must be openable from both inside and outside of the car.
- iii. Headlights can be removed. However the opening must be covered with a fiberglass / metal plate and be safely secured.
- iv. The original grill may be replaced with a mesh. Material is free. No other modification to the original opening is allowed.
- v. Bonnet vents are permitted.

#### Fiberglass Specification

Fiberglass recommended to be a minimum of 3mm thickness.

Ribs in the Fiberglass bonnet is recommended.

THE TECHNICAL DELEGATE (in his absence the Chief Scrutineer) IS THE FINAL AUTHORITY ON THE CONDITION, STRUCTURE AND SAFTY OF THE MODIFIED PARTS.

### **20.1 Safety Equipment**

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As per 2019 FMSCI Safety Regulations (Article 253)

#### **Fire Extinguisher Systems Mounted**

The minimum Quantity of Extinguishant for system mounted must be 3kg.

## Manual Extinguishers

### Minimum Quantity of Extinguishant:

AFFF	2.4 liters
FX G-TEC	2.0 kg
Viro 3	2.0 kg
Zero 360	2.0 kg
Powder	2.0 kg

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 bracket thickness – 2mm MS sheet metal

### Protective Padding

Where the occupant's bodies could come into contact with the safety cage, flame retardant padding must be provided for protection.

### Rear View

Reward visibility must be ensured by two external rear-view mirrors (one on the right and one on the left).

An inside rear view mirror is optional

## 21.1 Roll Cage Basic Structure

### As per FMSCI racing Regulations

The basic structure must be made according to one of the following designs :

1 main rollbar + 1 front rollbar + 2 longitudinal members + 2 backstays + 6 mounting feet (Drawing 253-1)

or

1 lateral rollbars + 2 transverse members + 2 backstays + 6 mounting feet (Drawing 253-2)

Or

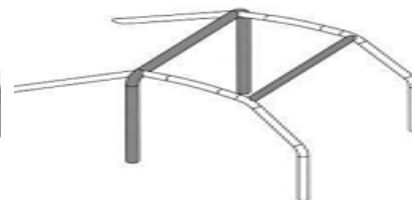
1 main rollbar + 2 lateral half-rollbars + 1 transverse member + 2 backstays + 6 mounting feet (Drawing 253-3)



253-1



253-2



253-3

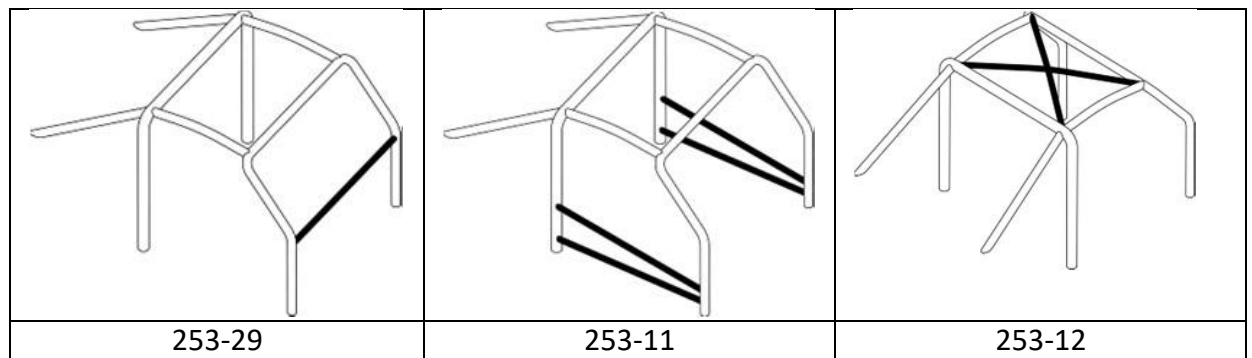
### **Compulsory members and reinforcements**

Cold drawn seamless unalloyed carbon steel tube (Containing a maximum of 0.3% of carbon) with a minimum tensile strength of 350 N/mm<sup>2</sup>



The minimum dimensions being 45mm X 2.5mm or 50mm X 2mm.

The basic minimum structural requirement as per Drawing 253-29 with side impact bars as in Drawing 253-11 and roof reinforcement Drawing as in 253-12. (Single Cross member is also allowed in Drawing 253-12).



## 22.2 Ballast

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It is permitted to complete the weight of the car by one several ballast 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, visible and sealed by the scrutineers.

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