





The Federation of Motor Sports Clubs of India

**FMSCI RALLYCROSS 2018
Technical Regulations**

Member of	
 Federation Internationale de l' Automobile	 Federation Internationale de' Motocyclisme

2018 Technical Regulations applicable to ALL classes

The following Articles of 2018 FMSCI Appendix J is applicable

Art.251 – Classification and Definitions

Art.252 – General Prescriptions for Production Cars (Group N).

Art.253 – Safety Equipment (Groups N)

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

Introduction

The following Technical Regulations are set out in accordance with the FMSCI specified format and it should be clearly understood that if the following texts do not clearly specify that you can make a modification you should work on the principle that you cannot.

Cars must comply with the Technical Regulations throughout official practice, qualifying heats and finals.

No approved modification may give rise to an unapproved one.

The use of magnesium alloy sheet is not permitted. Titanium sheet may only be used for heat shields.

Series Part (SP)

Series Part being original parts or replacement parts identical to the original parts as fitted to the car / engine at the time of manufacture or subsequently replaced due to use or accident. All such parts shall be available through the original car manufacturer's dealer network. All relevant specifications shall be referenced from the manufacturers' official data or applicable FIA/FMSCI homologation form or TDF form.

Free Part (FP)

Free Part being parts that may be freely sourced. Such parts may be removed or replaced with another part on condition that the substitute part has no additional function relative to the part it replaces. These parts may have other conditions imposed under these technical regulations.

1. Telemetry/Voice Communications

1.1.1 Any form of wireless data transmission between the vehicle and any person and/or equipment is prohibited while the car is on the track.

This definition does not include:

Voice radio communications between the driver and his/her team Transponder from the official timekeeping, and automatic timing recording.

None of the previously mentioned transmission data may in any way be connected with any other system of the car (except for an independent cable to the battery only). On-board data recorders are allowed.

The transmission of data by radio and/or telemetry is prohibited.

On-board TV Cameras are not included in the above definitions.

Data transmission through a temporary physical connection is allowed in the paddock only.

1.1.2 The use of radio between the driver and his/her team is authorized.

2. Judicial Cameras

- 2.1.1 All cars must carry a forward facing camera, positioned to show the driver's feet, hands and the view through the front windscreen. Cameras must record in HD quality and have a removable memory card. Systems with multiple cameras must be set to display images so that any 'inset' views do not obscure the view through the front windscreen or of the driver's hands and feet. Cameras must be mounted before scrutineering. Suction mounts are not permitted.
- 2.1.2 It is the driver's responsibility to ensure that that camera is recording during practice, qualifying and finals.
- 2.1.3 It is the driver's responsibility to ensure that the battery life and memory card space is adequate to record the entire race and until the car is parked in the paddock or parc ferme. The memory card must contain only the current event.
- 2.1.4 Video must be made available to the clerk of the course on request. The driver must present any video requested by the Clerk of the Course on his own laptop/tablet, cued and ready to play. The penalty for non-compliance with any of the above will be exclusion from the race.
- 2.1.5 The Clerk of the Course may request memory cards be left with him. Drivers must record the serial numbers of their memory card(s) to avoid any confusion when the card(s) are returned. It is the driver's responsibility to ensure they have a spare memory card available.
- 2.1.6 Judicial camera video can be used only by the officials and the Championship organiser. With the exception of cameras installed by the Championship TV contractor no other oncar/incar video, still or motion picture cameras will be permitted without the written authority of the Championship Coordinator. For the avoidance of doubt, Competitors may not allow footage from the judicial camera to be published in any way without the written authority of the organizer/FMSCI

3. Eligible Vehicles

Only vehicles with FMSCI Homologation / TDF (Technical Data Form) are allowed.

Classes

- 1) 1100cc to 1400cc N
- 2) 950 to 1400cc Turbo N
- 3) 1401cc to 2000cc N
- 4) 1100cc to 1400cc RS
- 5) 1401cc to 2000cc RS1

4. Weight

The minimum weight of the car can be 10% lesser than the Homologated /TDF/Manufacturer specified weights. All the liquid tanks (lubrication, cooling, braking, heating where applicable) must be at the normal level foreseen by the manufacturer. For example: The homologated weight of the VW POLO is 1045kg. The minimum weight of the VW polo can be 1045-10percent i.e. $1045 - 104.5 = 940.5$ kg.

5a. Interior

- i. The use of a fixed back—with headrest-securely mounted seat is mandatory. 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.

From a 'race ready' position with seat belts fastened, the driver must be able to vacate the car in 5 seconds

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. Gauges or meters are permitted.
- vii. Spare wheel & AC blower units may be removed.

5.b Exterior

Only the rear doors, front passenger door, front bonnet, front fenders and rear boot may be replaced with fiberglass or carbon fiber. It must be possible to open the front doors from outside and inside the cabin. Door glasses may be replaced with clear Perspex, the thickness of which cannot be less than 3mm

Headlights can be removed. However the opening must be covered with fiberglass and be safely secured.

6..Safety Requirements

6.1 Minimum, FMSCI Safety regulations art:253

6.2 In addition to the minimum apparel standards set out in the FMSCI Safety regulations the following are mandatory:

- Flame resistant race suit homologated to FIA 8856-2000 standard
- Flame resistant gloves and shoes
- Flame resistant underwear
- Flame resistant balaclava
- Frontal head restraint (FHR) for Turbo and RS1 class is mandatory

6.3 The side windows of the car must remain closed. An anti-shatter transparent film should be glued to the glass windows.

6.4 Chassis & Bodywork

6.4.1 Outside Rear View Mirrors Compulsory

6.4.2 Have any under tray provided with drainage holes to prevent accumulation of liquids.

6.4.3 No apertures will be permitted in windscreens. All drivers must wear GOOGLES if they don't wear a full face helmet with visor.

6.4.4 Have an operative windscreen wiper and washer system.

6.4.5 When viewed from above wheels must be covered by rigid material at all times. The outside shape of the original coachwork must be retained.

6.4.6 Have a bulkhead separating the cockpit from the engine compartment.

6.4.7 Openings may be made in the bonnet or boot lid for ventilation.

6.4.8 Bumpers: 4 support straps of a maximum width of 25mm per bumper is allowed. Fiber glass bumper of the same shape and size is allowed

6.4.9. Have internal bonnet locks removed and external positive locking fasteners fitted.

6.4.10. Have towing eyes of adequate strength and size fitted front and rear. These should be painted a contrasting bright colour.

6.4.11. Be fitted with at least one internal rear view mirror of minimum surface area 120sq.cm securely mounted and positioned to give a clear view to the rear. The edges of the mirror must be protected by a suitable cover to reduce the possibility of injury in event of an accident

6.4.12. Under no circumstances can any part of the bodywork or the suspended parts of the car be below a horizontal plane passing 40mm above the ground, the car being in normal race trim with the driver strapped into the seat

6.4.13. Be fitted with mudflaps behind all four wheels extending to a minimum of 3.8cm either side of the tyre tread and to a maximum of 15cm above the ground.

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

7.Fire Extinguisher

Systems Mounted

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

OR

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

Protective Padding

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

8. Roll cage

As per Art 253 of FMSCI Safety Regulations.

9. Ballast

Not permitted

10.Fuel

Free

Specific Technical Regulations RS 1

Cars must comply with the Technical Regulations throughout official practice, qualifying heats and finals. No approved modification may give rise to an unapproved one. The use of magnesium alloy sheet is not permitted. Titanium sheet may only be used for heat shields.

Eligible vehicles

Only vehicles with FMSCI Homologation/Technical data form (TDF) allowed
Only 2010 and later manufactured cars are allowed.

1.1 Engine

Re boring of 0.5mm maximum is allowed in relation to the original bore without this leading to the capacity class limit being exceeded.

2.1 Cylinder Head

Cylinder head Porting is allowed but adding of materials is not allowed.

3.1 Compression Ratio

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

Free part. However:

The distance between Gudgeon Pin centre to Top of the Piston should remain as per Homologation / TDF/ Manufacturer specified. Forged Piston is allowed.

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

5.1 Connecting Rod

Oil Squirters are allowed.

6.1 Gasket

Free part

7.1 Camshaft

Standard

8.1 Engine & Gearbox Mounting

Engine and Gearbox Mount material Free.

But not their location and Numbers.

9.1 Throttle Body

Number has to be as per the Homologation /

Diameter of the Throttle Valve must be OE.

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

10.1 Intake Manifold

Free

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

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

11.1 Exhaust

Free

Fitment does not entail the modification of other components.

The exit of the exhaust should be at the rear of the car and upto a maximum of 10cm inside the perimeter of the car. The exit should not face downwards towards the ground

The noise level must respect the stated maximum prescribed by the organiser where the car competes.

12.1 Gearbox

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.

Welding and Adding of Materials not allowed to the Gearbox housing.

13.1 Lubrication

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.

14.1 Braking System

No modification permitted.

Handbrake: Fly-off hand brake is permitted.

Hydraulic hand brake is allowed

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

Brake Fluid Free

Brake Hoses Braided hoses are allowed.

15.1 Suspension

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 Suspension Top mounts Free

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

16.1 Tyre

Free or as specified by the organizer. Slick tires are not allowed

17.1 ECU

Free Part

Modification of the Wiring Harness must be within 10 inches from ECU connector.

Additional Sensors and Actuators not permitted.

18.1 Wheels

The Wheels are free, respecting the homologated maximum diameter. One inch oversize width from the homologated maximum width will be permitted, provided the entire contour of wheels form within the coach work / body work of the car.

No portion of the tires should be visible when viewed from the top.

Specific Technical Regulations Turbo class

Restrictor

Restrictor Size 24mm

Eligible vehicles

Only vehicles with FMSCI Homologation/Technical data form(TDF) allowed

Only 2010 and later manufactured cars are allowed.

1.1 Engine and Gearbox Mount

Engine and Gear Box Mount Materials Free

Not their numbers

2.1 Exhaust

Free after Factory Turbo down pipe

Fitment does not entail the modification of other components.

The exit of the exhaust should be at the rear of the car and upto a maximum of 10cm inside the perimeter of the car. The exit should not face downwards towards the ground

The noise level must respect the stated maximum prescribed by the organiser where the car competes.

3.1 Differential

LSD is permitted.

The use of mechanical type Limited Slip Differential is authorized provided that it can be fitted in the series housing without any modification.

4.1 Braking System

No modification permitted.

Handbrake: Fly-off hand brake is permitted.

Hydraulic hand brake is allowed

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

Brake Fluid Free

Brake Hoses Braided hoses are allowed.

5.1 Suspension

Shock absorbers and Springs free, External shock canisters allowed.

The reinforcing of the structural parts of the suspension (with the exception of anti-roll bars) and its anchorage points by the addition of material is allowed.

Ride height free.

Bushings and Mountings should conform to original design and size, uprated material is allowed.

Ground clearance must be such that the body work does not touch the ground when two tyres on the same side of the car are deflated.

Front Suspension Top mounts Free

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

6.1 Tyres

Free or as specified by the Organizer. Slick tires not allowed

7.1 ECU

FREE PART

Modifications to the wiring harness must be within 10 inches from ECU connector. Additional Sensors and Actuators not permitted.

8. Air Filter:

Free. Any ducting may be added to the front of the entry point of the air filter and must be within the Engine Compartment.

8.1 Fuel Pump

Additional fuel pump CANNOT be fitted.

9.1 Ballast

Ballast is not permitted

10.1 Wheels

The Wheels are free, respecting the homologated maximum diameter. One inch oversize width from the homologated maximum width will be permitted, provided the entire contour of wheels form within the coach work / body work of the car.

No portion of the tyres should be visible when viewed from the top.

Specific Regulation from 1100cc to 1400cc NA and from 1401cc to 2000cc NA

All cars homologated with FMSCI are permitted

1.1 Engine

Modifications to the engine is not permitted.

2.1 Modifications

Modifications and Adjuncts allowed or obligatory.
No Modifications are permitted.

3.1 Ballast

Ballast is not permitted.

4.1 ECU

ENGINE CONTROL UNIT: Free part including wiring. No additional sensors are allowed

5.1 Engine and Gear Box Mount

The Engine and Gear box mountings are Free provided the number of mounts and location remain as homologated.

6.1 Exhaust

FREE (Exhaust manifold to the exit is free).

Fitment does not entail the modification of other components.

The exit of the exhaust should be at the rear of the car and upto a maximum of 10cm inside the perimeter of the car. The exit should not face downwards towards the ground

The noise level must respect the stated maximum prescribed by the organiser where the car competes.

7.1 Gear box

Only Homologated ratios are allowed

8.1 Differential

The use of mechanical type Limited Slip Differential is authorized provided that it can be fitted in the series housing.

9.1 Suspension

Body shell, Shock Absorber and /or Spring Turrets/Perches shall not be modified in any manner (Except addition of a plate for reinforcement of area).

Droop Changes shall be achieved only through Shock absorber length. No special purpose shims and spacers may be used.

Cockpit and / or Remote control of shock absorbers is not permitted. Shocks with canisters allowed.

Springs are free.

Ride height is free. However, the ground clearance must be such that the bodywork does not touch the ground when two tyres on the same side of the car are deflated with driver on board.

Spring Rating is FREE.

Shock Absorber Suspension bushes are free.

Reinforcement bars may be fitted on the suspension mounting points (both top and bottom) to the bodyshell or chassis of the same axle, on each side of the car's longitudinal axis, on condition that they are removable and are attached by means of bolts.

10.1 Wheels

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No portion of the tyres should be visible when viewed from the top.

11.1 Braking System

No modification permitted.

Handbrake: Fly-off hand brake is permitted.

Hydraulic hand brake is allowed

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

Brake Fluid Free

Brake Hoses Braided hoses are allowed.

12.1 Head Light

Headlight maybe removed and the area covered with a plate/panel.

Note:

Other than the modifications permitted expressly above should follow Specific Regulations for Production Cars Group N 2018.

Specific Technical Regulations RS

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

5.1 Connecting Rod

Oil Squirters are allowed.

6.1 Gasket

Free part

7.1 Camshaft

Standard

8.1 Engine & Gearbox Mounting

Engine and Gearbox Mount material Free. But not their location and Numbers.

9.1 Throttle Body

Number has to be as per the Homologation

Diameter of the Throttle Valve must be OE.

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

10.1 Intake Manifold

Free

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

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

11.1 Exhaust

Free

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The noise level must respect the stated maximum prescribed by the organiser where the car competes.

12.1 Gearbox

Gear Box housing must be OE

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

Final Drive Ratio Free

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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 Suspension Top mounts Free

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

16.1 Tyre

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17.1 ECU

Free Part

Modification of the Wiring Harness must be within 10 inches from ECU connector.

Additional Sensors and Actuators not permitted.

18.1 Wheels

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** END **