





The Federation of Motor Sports Clubs of India

FMSCI RALLYCROSS 2019 Technical Regulations

The Federation of Motor Sports Clubs of India

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

2019 Technical Regulations applicable to ALL classes

The following Articles of 2019 FMSCI Appendix J - RALLYING is applicable - 2019

Art.251 - Classification and Definitions 2019

Art.252 - General Prescriptions for Production Cars (Group N).-2019

Art.253 - Safety Equipment (Groups N) 2019

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

Article 251 - 254 FROM Rallying 2019

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.

1. Telemetry/Voice Communications

OPTIONAL

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.

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

2. Judicial Cameras- OPTIONAL

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.

It is the driver's responsibility to ensure that that camera is recording during practice, qualifying and finals.

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.

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.

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.

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 on car/in car 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.

1. **FOR THE RALLY CROSS 2019, ALL CARS WITH FMSCI HOMOLOGATION/TDF ARE PERMITTED IRRESPECTIVE OF YEAR OF MANUFACTURE**
2. **TYRES TO BE USED WILL BE SPECIFIED IN THE SUPPLYMENTARY REGULATIONS**

CLASSES

1. 950cc to 1450cc- TURBO N- RXT will run to TC4- 2019- Rally cross Technical regulations.
2. 1401cc to 2000cc N- RXN will run to 2019 INRC-3 Technical regulations.
3. 1100cc to 1400cc- RX will run to 2019 INRC-2 Technical regulations.
4. 1401cc to 2000cc- RX1 will run to 2019 INRC-2 Technical regulations

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=940.5kg.

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 4-point harness with a 4- point mounting or more points 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 front fenders and bumpers may be replaced with fiberglass or carbon fiber provided it is the same shape as the OE. 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

Minimum, FMSCI Safety regulations art:253

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

- Flame resistant race suit
- Flame resistant gloves and shoes
- Flame resistant underwear
- Flame resistant balaclava
- Frontal head restraint (FHR) for Turbo and RS1 class is mandatory

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

Chassis & Bodywork

Outside Rear View Mirrors Compulsory

Have any under tray provided with drainage holes to prevent accumulation of liquids. No apertures will be permitted in windscreens

All drivers must wear GOOGLES if they don't wear a full-face helmet with visor.

Have an operative windscreen wiper and washer system.

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

Have a bulkhead separating the cockpit from the engine compartment.

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

Bumpers: 4 support straps of a maximum width of 25mm per bumper is allowed.

The OE bonnet and boot locks must be removed and external positive locking fasteners fitted.

Have towing eyes of adequate strength and size fitted front and rear. These should be painted a contrasting bright colour.(RED, YELLOW OR ORANGE)

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

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

Be fitted with mud flaps behind all four wheels extending to a minimum of 3.8cm either side of the tyre tread and to a maximum of 10cm above the ground.

THE TECHNICAL DELEGATE (in his absence the Chief Scrutineer) IS THE FINAL AUTHORITY ON THE CONDITION, STRUCTURE AND SAFETY 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

Is permitted

10. Fuel

Free

The Following Articles of 2019 FMSCI- Rallying Appendix J is

applicable 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)

All modifications permitted in this Group will be in addition to the modifications permitted in INRC - 3 regulations

It is permitted to use after market replacement parts as long as such parts are in conformity with the homologated parts (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.

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.

Engine mounts free not the numbers and mounting point on the monocoque to remain as OE

2.1 Piston

Free

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

Forged Piston allowed.

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

4.1 Cylinder Head

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

5.1 Connecting Rod

Modification of Connecting Rod / Cylinder Block is permitted to provide Oil Squirters

6.1 Gasket

Free

7.1 Camshaft

Standard as per Homologation / TDF

Adjustable CAM pulley is permitted.

8.1 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, 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.

9.1 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)

10.1 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 vise versa.

11.1 Exhaust

Free

Fitment dose not entail the modification of other components.

The Exit of the Exhaust pipe shall be at the Rear of the Car below the Bumper.

There should be at least one muffler present in the system

12.1 Gear Box

Gear Box housing must be AS PER Homologation/TDF

Gear Ratios 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.

.Removal of material from the OE housing is permitted to accommodate fitment

12.2 Clutch

The disc is free, including the weight, with the exception of the number of plates.

The diameter of the clutch disc is free

13. ECU and wiring system

Free-Modification of the Wiring Harness is permitted

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14. In addition, the following are permitted

1. Dashboard must remain but all accessories including glove box, centre console can be removed.
2. All plastic claddings inside the passenger compartment can be removed.
3. Suspension Top mount mounting on the chassis is free but point of articulation remains the same.
4. Radiator mounts free
5. Removal of the complete AC 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
6. 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.
7. Strengthening of knuckles and lower arms with addition of material with or without creating hollow section is allowed.
8. Suspension Top mount mounting on the chassis is free but point of articulation remains the

same

- **NOTE- All safety wear for this Group shall be as per FIA /FMSCI regulations .**

Note: Other than the modifications permitted expressly above should follow 2019 Group N Technical Regulations FMSCI. Art 254



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Specific Technical Regulations Turbo class

The following Articles of 2019 FMSCI Appendix J - RALLYING - 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

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

Only OE Manufacturer Turbo Cars are allowed.

Classes

Up to 1450cc

Weight

The minimum weight of the cars will be $\frac{cc}{100}$ divided by a constant which is **1.3 for 1450cc** 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 and Gearbox Mount

Engine and Gear Box Mount Materials Free
Not their numbers

2.1 Exhaust

Factory Turbo down pipe is Free

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.

Rear Exhaust is also permitted

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.

Brake Pads are Free but original shape and Dimension to be maintained. **Brake** Brake Fluid Free
Hoses Braided Hoses are allowed

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

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 bodywork 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)

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

6.1 Tyres

Refer to the SR

7.1 ECU

FREE

Modifications to the wiring harness - **FREE**

Additional Sensors and Actuators not permitted.

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 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.
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 blower units may be removed.

10.1 Exterior

A fabricated shield may be incorporated in place of an AC condenser. Hubcaps must be removed.

- i. Front fenders and the bumpers may be made of fiberglass or carbon fiber.

Fiberglass Specification

Fiberglass must be minimum of 3mm thickness.

Fire Retardant Resin (FRR) must be used in Fiberglass making. 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 SAFETY OF THE MODIFIED PARTS.

11.1 Doors

Must be original as supplied by the manufacturer.

OE Door pads and all insulation materials may be removed. Door pads must be replaced with fabricated ones if the OE ones are removed.

12.1 ROLL CAGES MUST HAVE DOOR SIDE PROTECTION CROSS BARS ARE MANDATORY

ROLLCAGES WILL BE AS PER FMSCI ARTICLE 253 –SAFETY REGULATIONS

14.1 Ballast

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.

Note:

Other than the modifications permitted expressly above should follow Specific Regulations for GROUP N article 254

Specific Regulation- 1401cc to 2000cc NA-INRC-3- 2019

The following Articles of 2019 FMSCI Appendix J- RALLYING 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)

Changes to the above Articles specific to 2019 Rallying are reproduced below:

It is permitted to use after market replacement parts as long as such parts are in conformity with the homologated parts (including of Optional Variants in Group N) in ALL ASPECTS except the brand name. Such parts should have no additional function/s relative to the original parts.

Eligible of cars

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

1) Art.9 : Fuel Combustive Fuel
Free

1) Art.6.1 : Engine

a) Carburettors

Air filters – Free All components up stream of the carburettor or the throttle body are free.

Engine mounts free not the numbers and mounting point on the monocoque to remain as OE

b) Exhaust

Free. (Exhaust manifold to the exit is free.) However the Exhaust ports in the cylinder head should remain as provided by the manufacturer **and 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.

The exhaust system must not be provisional

Exhaust gases may only exit at the end of the system

These liberties must not entail any bodywork modifications and must respect the Indian Motor Vehicle Act.

2) Art.6.2.1 : Clutch

The disc is free, including the weight, with the exception of the number of plates.

The diameter of the clutch disc IS FREE

3) Art.6.2.2 : Gear Box

Internals of the gearbox as per Homologation / TDF.

4) Art.6.2.3: Differential

The use of a mechanical type limited slip differential is authorized, provided that it can be fitted in the series housing.

5) Art.6.3 : Suspension

1.1) Strengthening of knuckles and lower arms with addition of material with or without creating hollow section is allowed.

Suspension Top mount mounting on the chassis is free but point of articulation remains the same.

1.2) Shock Absorber

- a) 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.
- b) 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.
- c) 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.

1.3) Ride Height

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

6) Art.6.4.1 : Wheels

Wheel size 1inch more in width is permitted and 1 inch more rim dia than the homologated size is permitted

7) Art.6.5 : Braking System

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

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

8) Art.6.5.1 : Handbrake

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.

9) Art.6.7 Bodywork

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

10) Art.6.7 Exterior

It is permitted to relocate the windshield washer water container within the space under the bonnet .
The water container can be from any car manufactured in India.

11) Art.6.7.2.6 Heating System/ AC system

- a) Read as: The original heating equipment may be retained.
- b) Using of a shorter drive belt after removal of a/c compressor is permitted.
- c) Removal of the complete AC 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

12) In addition, the following are permitted

- 7. Dashboard must remain but all accessories including glove box, centre console can be removed.**
- 8. All plastic claddings inside the passenger compartment can be removed.**
- 9. SFI helmets, suits , shoes, socks and innerwear are permitted**
- 10. Radiator mounts free**



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