The Federation of Motor Sports Clubs of India

Two Wheeler Technical Regulations 2021

The Federation of Motor Sports Clubs of India

RALLYING

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Introduction

1) These rules including the technical regulations, schedules and appendices contained herein, shall govern all competitions in which a two wheeler (as hereinafter defined) may take part, organized in the territory of the FMSCI under an organizing permit issued by it for other than FIM Championship events. These rules shall be valid from **1st January 2021**

2) These rules have been drawn up for the proper and equitable conduct of motor sports and are based on the International Sporting Code of the FIM and the Sporting Code of the FMSCI. Some of the text comprises additions and adoptions drawn up in India to suit local conditions local competitions and local two-wheelers.

3) In so far as they do not conflict with these rules, the supplementary regulations and official instructions applicable to a competition shall be deemed to form part of these rules.

4) The FMSCI has the right to grant an exemption from these rules to suit special conditions or to enable unusual features to be included in the competition and must be specified in the supplementary regulations.

5) International events run under an International Permit issued by the FMSCI must comply with the International Sporting Code as usual. Only refer to these rules in respect of any matter not covered by the Code.

6) Unless otherwise stated, compliance with all regulations in this publication governing groups and classes, safety requirements, lists, technical specifications and definitions is MANDATORY.

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7) Changes on consideration of SAFETY MAY BE IMPLEMENTED IMMEDIATELY. All other changes will be implemented after a notice period, which will be decided by the council on a case to case basis. The council of the FMSCI, may in its own discretion, authorize immediate implementation if deemed necessary or advisable.

8) Approval of a two wheeler or a component or its homologation is an indication of its acceptance solely for the purpose of these regulations and is not to be taken as a guarantee or warranty as to the standard of its design or manufacture or its fitness or suitability for any use to which it may be put.

9) Questions or requests for clarification or advice on these technical regulations should be made in writing to the **Technical Head** / Chairman, Technical Regulations commission and forwarded to him through the Secretariat. Only those replies / interpretations signed by him will be valid.

10) These technical regulations have been compiled for both safety and eligibility and form the basis of all motor sports in the territory of the FMSCI. They must be studied by Constructors, Tuners, Competitors, Organizers, Scrutineers, Stewards and all others involved with the administration and conduct of motor sports in the territory of the FMSCI in order to ensure total compliance

11) Read these regulations carefully. Unless these regulations specifically permit variations and / or modifications and / or additional work of any type to be carried out, the same is expressly forbidden. In other words, unless these regulations state that you can do it… YOU CANNOT.

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Chapter 1 : Classification

1.1 Groups

All two wheelers shall be grouped as follows :

1.1.1. Group “A”

All solo two-wheelers whether series production, specials or otherwise, Indian or imported.

1.1.2. Group “B”

All solo two-wheelers manufactured / assembled in India, homologated with FMSCI but modified within the frame work of the regulations listed.

1.1.3. Group “C”

All solo two – wheelers manufactured / assembled in India, homologated with the FMSCI but modified within the framework of the regulation listed.

1.1.4. Group “D”

All Solo two-wheelers manufactured / assembled in India, homologated with the FMSCI

1.2. Classes

All Indian two – wheelers other than Group “A”, will be divided into the following classes according to the Cubic Capacity of their engines.

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1.2.1 Mopeds

Class	Engine Capacity
Class P0	Up to 75 cc

1.2.2 Motorcycles

1.2.2.1 Motorcycles – 2 stroke & 4 stroke

Class	Engine Capacity
Class M-1 Super Sport 130	Up to 130 cc
Class M-2 Super Sport 165	Above 130 cc upto 165 cc
Class M-3 Super Sport 210	Above 165 cc upto 210 cc
Class M-4 Super Sport 260	Above 210 cc upto 260 cc
Class M-5 Super Sport 400	Above 260 cc upto 400 cc
Class M-6 Super Sport 550	Above 400 cc upto 550 cc

1.2.3. Scooters

Class	Engine Capacity
Class S-O	Upto 80 cc
Class S-1	Above 80 cc upto 110cc
Class S-2	Above 110 cc upto 160cc
Class S-3	Above 160 cc upto 210 cc

1.2.4. Motorcycles Group "A" only

Class	Engine Capacity
Class A-1 Super Pro	Upto 125 cc
Class A-2 Super Pro	Above 125 cc upto 250 cc
Class A-3 Super Pro	Above 250 cc upto 500 cc
Class A-4 Super Pro	Above 500 cc upto 750 cc

A vehicle may be homologated and entered only in the class under which it falls, as detailed above.

Unless otherwise specified in special provisions imposed by the FMSCI for a certain category of events, organizers are not bound to include all the above mentioned classes in the supplementary regulations and, furthermore, they are free to merge two or more consecutive classes according to the requirements of their events.

NO CLASS CAN BE SUB-DIVIDED.

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Chapter 2 : Definitions

2.1. Two-Wheeler

A two wheeler is a two wheeled vehicle making only one track on the ground, propelled by an engine and designed essentially to carry one rider and may be another passenger.

2.1.1 Motorcycle

A two wheeler with both the wheel-rims having a diameter not less than 400mm and using a clutch (centrifugal or manual) and a gearbox (manual, variomatic or auto gear) which offers more than a single speed transmission ratio (stepped or stepless) between engine and rear wheel.

2.1.2 Scooter

A two wheeler with both wheel-rims having a diameter less than 400mm and having a free and open space in front of the seat for the passage of rider's legs.

2.1.3 Moped

A two wheeler with both the wheel-rims having a diameter not less than 400 mm and having a single fixed transmission ratio between engine and rear wheel. It may have auxiliary pedals or a kick start.

2.1.4 Indian Two Wheeler

A two-wheeler manufactured in India and is sold to the public through the normal commercial outlets of the manufacturer in a minimum of two hundred (200) numbers of identical examples within a period of twelve (12) consecutive months. The two-wheeler may be wholly or partially manufactured and / or assembled in India from Indian and/ or imported components.

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2.1.5 Model of two – wheeler

A two wheeler belonging to a production series distinguishable by a specific conception and external general lines of body work and by an identical mechanical construction of the engine and the transmission to the wheels.

2.1.6 Indian component

A component manufactured in India and / or a component imported by the manufacturer of an Indian vehicle and fitted as 'original equipment' (OE) on the vehicle. This definition also includes any component not fitted by the manufacturer as Original Equipment (OE) provided such component is manufactured in India in a minimum of **200** nos. within a period of 12 consecutive months and is freely available for sale to the public as an after market direct replacement through normal commercial outlets. It shall have the same function as that of the OE component it replaces.

The FMSCI may waive the minimum production requirement should circumstances so warrant.

2.1.7 Wherever the word "FREE" is used in these regulations, without any attached conditions, it is permitted to use any Indian or imported component which may be specially made, the specifications of which are unrestricted in any manner, subject only to conditions of general prescriptions.

2.2 Homologation

It is the official certification made by the FMSCI that a minimum number of two hundred (200) Indian two-wheelers of specific model have been made on series production basis to justify classification. All two-wheelers that conform to the definition of Indian two-wheeler will be required to be homologated with the FMSCI to be eligible to compete in any National event in India. Indian two-wheelers which have been homologated with FIM will automatically be homologated with the FMSCI.

2.2.1 Homologation Form

A form containing all technical data required for homologation and identification of the said two-wheeler.

(i) The presentation of homologation form at scrutiny and / or at the start may be required by the organizers who will be entitled to refuse the participation of the entrant in the event of non-presentation.

Only original FMSCI Homologations will be accepted. XEROX COPIES OF HOMOLOGATION FORMS WILL NOT BE ACCEPTED

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(ii) In case of any doubt remaining after checking of a competing two- wheeler against its homologation form, the scrutineer may refer to either the workshop manual or the spare parts catalogue published by the manufacturer of the two-wheeler .

(iii) In case of lack of sufficient technical specifications, scrutineers may carry out direct scrutineering by comparison with the said part obtained from the manufacturer or his authorized dealer.

The FMSCI homologation form consists of the following:

1. A basic form giving technical specifications of the basic model
2. Additional sheets describing `homologation extensions' which can be variants, errata or evolutions which may be issued from time to time.

(a) Variants (VF)

These are supply variants (more than one supplier providing the same part to the Manufacturer, where the purchaser does not have any choice).

(b) Variants(VO)

These are options offered by the Manufacturer through the normal commercial outlets.

(c) Erratum (ER)
Cancels an incorrect piece of information previously furnished by the manufacturer / constructor and replaces it by a corrected one.

(d) Evolution (ET)
Characterizes modifications made on a permanent basis to the basic model where there is complete cessation of the production of the two wheeler in its old form.

(e) Evolution (ES)
Sporting evolution characterized by modification made on a permanent basis intended to render a model more competitive.

2.2.2 For Evolution (ET) changes, any component which is homologated as ET evolution is freely interchangeable within the same model without any modification, as allowed for Variant (VF) or Variant (VO).

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Chapter 3 : Common Technical Regulations

3.1 General Conditions

In respect of all two wheelers, the drive shall be transmitted to the ground only through the rear wheel of the machine.

To reduce the torque in the steering, it is allowed to displace the front wheel and rear wheel leaving a maximum width of 75 mm between them (refer definition of two-wheeler `One Track`).

The following items shall Not be altered from a homologated two wheelers unless otherwise stated.

a) Type of engine
b) Numbers of cylinder /s
c) The material and casting of the crankcase, cylinder, cylinder-head and the gear box shell
d) Position of the cylinder/s and head/s relative to the crankcase and
e) Its construction material

Gussets or tubes may be added

3.2 General Prescription

The General Prescriptions given below must be adhered to while making any modifications / changes in the two wheeler. The two wheeler in the form as sold by the manufacturer must undergo necessary changes where its construction is contradictory to the definitions as laid down in Chapter 1. Modification / changes if required for safety purpose as laid down further in this chapter must also be carried out to make the two wheeler take part in the concerned competition.

3.2.1 Number Plates

Number plates must be three in number and may be oval or rectangular in shape. They may be made from rigid and solid material (plastic or fiberglass) and should measure not less than 285 mm x 235mm. The plates must not be curved more than 50 mm out of the true plane. One plate must be fixed to the front, inclined not more than 30 degrees rearwards from the vertical. The others must be placed vertically on each side of the machine, facing outward. They must be fixed in such a manner as to be clearly visible and they must not be masked by any part of the machine or by the rider / pillion rider when seated in the riding manner. In case of separate plates, a space of equivalent size of the bodywork can be painted with matt colors or fixed. The figures must be clearly legible and the background painted with matt colors to avoid reflection from sunlight. The minimum dimensions of the number letters are :

Height of the figure	140 mm
Width of the figure	080 mm
Width of the Stroke	025 mm
Space between the two figures	015 mm

The English form of letters should be used. The space of a least 5 cms must be left free all-round the number plates in which no advertising may appear. Any other number or marking on the machine that may be confused with the competition number plate must be removed before the start of the competition. The side number plate must be positioned above a horizontal line drawn through the rear wheel spindle and front edge of the plate must be behind a vertical line drawn 200 mm to the rear of the rider's footrest. The space between the numbers may be perforated on the number plate. Machines with number plates which do not conform to the above listed specifications shall not be passed by the Technical Steward. The Chief Time Keeper may direct the removal of any other number not connected with the competition number, if in his opinion, the presence of the number could prejudice the operation of timing and scoring.

The color of the number and background must be white on black or vice versa unless number stickers are supplied by the organizers

3.2.2 Starting Devices

Starting Devices are compulsory for Rallies & Raids.

3.2.3 Exhaust Pipes

The extremity of the exhaust pipes for all two wheelers must not pass the vertical tangent of the rear tyre. The end to the exhaust pipe, over a minimum distance of 30 mm must be horizontal and parallel to the central axis of the two wheeler with a tolerance of +/-10 degrees. Exhaust fumes must be discharged, towards the rear, but not in the manner as to raise dust, foul the tyres or brakes or inconvenience other riders.

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3.2.4 Control Levers

For all type of two wheeler all handlebar levers (Clutch, Brake etc.,) must be in principle ball-ended. The diameter of this ball should be at least 19 mm. This ball can also be flattened, but in that case the edges must be rounded with minimum thickness of this flattened part being 14mm. These ends must be permanently fixed and form an integral part of the lever. The maximum length of control levers measured from the pivot point to the extremity of the ball must not exceed 200mm. Each control lever if pivoted on the footrest axis must work under all circumstances, such as the footrest being bent or deformed. The handlebar lever must be mounted to swivel, so that at no time can the rider's fingers be trapped between the lever and the handlebars. Each lever must be mounted on an independent pivot. The end of the levers when closed must not be situated closer than 40mm to the furthest extremity of the handlebar.

Gear levers are allowed to be cut. **. <u>Gear shift selection pattern may be altered retaining the OE number of gears.</u>**

3.2.5 Throttle controls

For all two wheelers, throttle controls must be self-closing when not held by the hand.

3.2.6 Handlebars

The minimum angle of rotation of the handlebar on each side of the centerline or mid position must be 20 degrees. Stops, other than steering dampers must be fitted to ensure a minimum clearance of 30mm between the handlebar with levers and the tank when on full lock to prevent trapping the rider's fingers. The handlebar grips must be not longer than 150mm and must be attached to the ends of the handlebars. Exposed handlebar end must be plugged with a solid material or they be rubber covered.

Handlebar clamps must be very carefully radiused and engineered so as to avoid fracture points in the bar.

3.2.6.1 Deleted

3.2.6.2 For Rallies and Raids

The width of the handlebars must not be less than 600 mm and not more than 850mm. If hand protectors are used, they must be of shatter resistant material and have permanent opening for the hand.

3.2.7 Footrests

The footrests of the rider must be placed in front of the vertical line passing through the centre of the rear wheel. They must be positioned to give easy access to any control pedal without the rider having to lift his foot off the footrest in order to operate the pedal. The ends of the footrests must be rubber covered or rounded off with a spherical radius of not less than 8 mm. Strengthening of OE footrest is allowed.

3.2.7.1 Deleted

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3.2.7.2 Radiator coolant

Free

3.2.7.3 Deleted

3.2.7.4 For Rallies and Raids

Footrests must not be positioned more than 50 mm above a straight line passing through the centre of the wheels when the motorcycle is normally loaded. Footrests can be of a folding type, but in this case, must be fitted with a device which automatically returns them to the normal position.

3.2.8 Chains

The locking clips on the connecting links, where fitted, must be tight fitting and fitted in the correct direction.

3.2.9 Chain Guards

If the primary transmission is exposed, it must be fitted with a guard as safety measure designed in such a manner that under no circumstances can the rider come in to accidental contact with the transmission parts. **This applies to the Secondary Drive train also.**

3.2.9.1 Deleted

3.2.9.2 For Rallies and Raids

Fitting of chain guard to secondary chain is optional.

3.2.10 Inclination and Suspension

It must be possible for all two wheelers not being loaded to be inclined to an angle of 50 degrees from the vertical without any part of it other than the tyres coming in to contact with the ground.

3.2.11 Streamlining

Streamlining may be used for events other than motocross, trials and dirt races and must comply with the following regulations : .

a) The front wheel, with the exception of the tyre must be visible from either side
b) There must be no streamlining forward of a straight line drawn vertically through the axis of the front wheel
c) There must be no streamlining to the rear of a straight line drawn vertically through the axis of the rear wheel. The rim of the rear wheel must be clearly visible for the 180 degrees of its circumference to the rear of this line. No part of the machine other than the mudguard, may project to the rear of a straight line drawn vertically through the exterior edge of the rear wheel.
d) Normal mudguards are not considered as streamlining.
e) There must be a clearance of at least 50mm between the streamlining and extremities of the handlebar, whatever the position of the handlebar.

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3.2.12 Stands

Fitting of a proper main stand and / or side stand is mandatory for rallies and raids.

3.2.13 Rear view mirrors

Fitting of at least one rear view mirror of minimum 70 sq.cm area is mandatory for rallies and raids.

3.2.14 Deleted

3.2.14.1 Front Mudguard

The front mudguard must cover at least 100 degrees of the circumference of wheel. The angle formed by a line drawn from the front edge of the mudguard to the center of the wheel and one drawn horizontally through the center of the wheel must be

between 45 degrees and 60 degrees. The angle formed by two lines, one drawn from the rear edge of the mudguard to the center of the wheel and one drawn horizontally through the center of the wheel shall not exceed 20 degrees. It is permitted to strengthen the existing front mudguard and / or brackets.

3.2.14.2 Rear Mudguard

(a) Deleted

(b) For other events

The rear mudguard must cover at least 120 degrees of the circumference of the wheel and the angle contained by a line drawn from the rear edge of the mudguard to the center of the wheel and a line drawn horizontally through the center of the wheel shall not exceed 20 degrees when measured with the crew sitting on the machine.

3.2.15 Lighting System

Fitting of additional forward facing lights is permitted provided that the total number including the headlights does not exceed three (3).

3.2.16 Horns

FREE. Number and location not restricted.

3.2.17 Brakes

All two wheelers must be equipped with one efficient brake operating on each wheel, operated independently and concentrically with the wheel.

3.2.18 Wheel rims / discs spokes

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Any modification (see Art. 4.2.5.7) to the rim or spokes of an integral wheel (cast, moulded, riveted) as supplied by the manufacturer or of a traditional detachable rim, other than for spokes, valves or security bolts is prohibited except for tyre retention screws sometimes used to prevent tyre movement relative to the rim. If rim is modified for these purposes, bolts, screws, etc must be fitted.

If cast or welded wheels are used for motocross, a protection must be provided by enclosing the spokes with solid discs.

All wheel spokes should be taut and intact.

3.2.19 Tyres

The tyres should be in sound condition, with no signs of perishing or cracking and with no cuts on the side walls and tread surface.
Tyre catchers and Tyre Mousse's are permitted

3.2.19.1 For Rallies and Raids

a) There is no restriction on the type of tyre used. Only tyres normally available from commercial or retail sources for use on the public highway are permitted for rallies and raids.
b) At the pre-event scrutiny, tread must be of a minimum depth of 2.5 mm and maximum of 13 mm. Tyre surface must not be fitted with subsequently mounted elements such as anti-skid spikes, special chains etc. All tyre measurements will be done with the tyre mounted on the rim, at a pressure of 1kg/cm^2 and taken at a tyre section 90 degrees from the ground.
c) Additional tubes may be fitted in to tyres provided that the maximum number of tubes fitted inside any one tyre is not greater than three.

3.2.19.2 Deleted

3.3 Fuel

Free- The use of additives / octane boosters are permitted.

The use of aromatic or alcoholic fuel is prohibited. Only air shall be used as an oxidizing agent. Nitrous oxide and water injection are prohibited.

A sample of the fuel of the first three finishers or of any other rider selected at random who finishes may be tested.

3.4 Equipment and protective clothing

3.4.1 Helmets

Crash Helmets

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Crash helmets of standard design and construction must be used by competitors in all events. Competitors must ensure that helmets worn are suitable for the type of the event entered. The user must ensure that the crash helmet is in a serviceable condition, that it fits properly and that is secured properly. The decision of the scrutineer is final.

Rallies

Crash helmets must be worn by all crew members throughout the event including reccee.

Fit and security

To ensure satisfactory fit and security of your helmet, proceed as follows

a) Obtain correct size by measuring the crown of your head
b) Check that there is no side to side movement ; a helmet should fit snugly without causing discomfort.
c) Tighten straps securely – **ONLY A DOUBLE D RING FASTENING WILL BE ALLOWED.** The chin strap must be under tension at all times;
ensure therefore that the strip cannot slip. Chin cups are prohibited.
d) With head forward, attempt to pull up the back of the helmet to ensure helmet cannot be removed this way. Ensure you can see clearly over each shoulder.

e) Make sure nothing impedes your breathing in the helmet. And never cover your nose or mouth.
f) Never wear a scarf, tie or other loose clothing which could come loose and possibly cause an accident.
g) Ensure that the visor can be opened with one gloved hand.
h) Satisfy yourself that the back of the helmet provides protection for your neck.

Condition and care of helmets

a) The user himself must bear the prime responsibility for ensuring that his helmet is fit for the purpose intended, since significant damage to the helmet may have been sustained without this being apparent to the Scrutineer.
b) It is strongly recommended that the competitor buy the best possible helmet he can (the best is not necessarily the most expensive). A helmet bag should always be used.
c) There must be no alteration to the structure of a helmet. Where a radio is fitted this should only be done is accordance with the helmet manufacturer's instructions.
d) Repainting of helmets, affixing stickers thereon or drilling holes is not advisable as this may weaken the structure of the helmet; such weakening may not be visually apparent.

As there are specialized helmets to suit various disciplines of motor sports, competitors are advised to use the type applicable to the event in which they compete.

It is recommended that the helmets are replaced after three years after purchase, irrespective of use they have been put to. The fastening of the chin strap must only be by buckles / clips.

Use of plastic interlocking connects is prohibited.

The Federation of Motor Sports Clubs of India

e) Some moulded plastic helmets do meet approved standards; however, it is stressed that helmets manufactured from this material can be seriously damaged by substances such as petrol, paint adhesives, cleaning agents and sticker – such damage may not always be apparent; however, crazing or obvious dulling of the surface finish could indicate serious structural weakening of the helmet.
f) Use only a weak solution of soft soap and water to clean the interior and exterior of the helmet ; do not get the interior too wet.;
g) The helmet should be stored, preferably in a helmet bag, in a cool dry place away from sunlight when not in use.
h) A good helmet, properly cared for, is one very important link in a long chain of safety measures. Do not allow it to become the weak link. Do not rely on others. You are responsible for your own safety. Do not, through your own fault, became a grave burden to others.

NOTE : Total protection can never be given by any headgear and the best of crash helmets may not entirely prevent head injury or death in a severe accident. Helmet users must understand that helmets are deliberately constructed so that the energy of severe blow will be absorbed by the helmet and thereby partially destroy it. The damage may not be readily apparent; it is recommended that therefore that any helmet receiving a blow in an accident is replaced. This must be the responsibility of the of the helmet user, who will have been aware of the circumstances under which the helmet

was struck. It is not possible nor reasonable to expect the scrutineer, in every case, to observe significant damage. Where there is any doubt the helmet's fitness, the Chief Scrutineer is empowered to reject the same. It is the competitor himself who must ensure that the helmet which he uses is fully fit for its purpose. It is clear that this is a small insurance to pay for one's life. The competitor must also consider that, should he survive an accident, but receive head injuries having knowingly used a previously damaged helmet, he could be placing enormous burden of care upon his family.

The following helmets are recommended:

· **Europe**: **ECE 22-05 'P'**
Japan: JIS T 8133:2000, JIS T 8133:2007 JIS T 8133:2015 (Only Type 2 Full face)
USA: SNELL M 2005, SNELL M 2010", SNELL M 2015

3.4.2 Gloves

The rider must wear full leather gloves or competition gloves, for raids and rallies, the navigator may wear half gloves of leather or competition gloves.

3.4.3 Footwear

The rider / co-rider must wear footwear of leather **ONLY** to provide complete protection up to the ankles.

3.4.4. Clothing

3.4.4.1 Deleted

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3.4.4.2 For all other events

The rider / co-rider must wear trousers and full sleeved jackets of leather or other tough material throughout the competition.

3.4.5 Ponchos

Ponchos of any kind shall **ARE ALLOWED**,**FOR** rallies and raids.

3.4.6 First aid kit (for rallies and raids only)

All competitors must carry an approved first aid kit in rallies and raids and the crew must be familiar with its utilization in case of injury.

Recommendations : Bandages, Cotton, Tincture Iodine, Plaster, Painkillers have to be carried as first aid kit.

3.4.7 Locking devices

Front and rear axle and swing arm should be secured with self-lock nuts or locking pins.

3.4.8 Minimum weight

For the Group "D" bikes, the minimum weight will be the homologated weight less 10%. No other weights like RC book, tested, kerb weight will be considered. For Group "C" bikes, it will be 140 kgs (including the rider with shoes, helmet, gloves etc. as rider returns from the track with fluids in the bike as reporting for post event scrutiny).

The use of ballast is allowed to stay over the minimum weight limit. the use of ballast must be declared to the Chief Technical Steward at the preliminary checks.

Ballast must be made from solid metallic piece/s, firmly, securely connected, either through an adapter or directly to the main frame or engine, with minimum 2 steel bolts (min. 8 mm diameter, 8.8 grade or over). Fuel in the fuel tank can be used as ballast.

3.4.9 Shin guard / Knee caps

Wearing of shin guard and the knee caps are mandatory.

3.5 CDI

FREE for all groups.

3.6 Electronic Control Unit (ECU)

The Electronic Control Unit and the ignition components in the Electronic Control Unit are FREE for all groups. Nevertheless, the system must be entirely interchangeable with the original unit (i.e. the engine must work when the unit is replaced with the series unit). Sensors and Actuators on the input side must be standard, as must their function. No sensor may be added, even for the purpose of data.

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Chapter 4 : Specific Technical Regulations for Groups

This chapter describes the specific technical regulations and permitted modifications as applicable to different groups for two wheelers as defined in Chapter 1. They are listed starting with Group "D" which permits minimum modification / alteration.

Whatever modifications have been carried out, the rider must at all times have easy access to all controls without having to remove his hands and feet from the handlebar and footrest respectively.

4.1 Specific technical regulations for Group "D"

4.1.1 The two wheelers shall compete in an event without having undergone any preparation likely to improve their performance or their condition of use. The only working authorized is normal maintenance or the replacement of parts damaged through wear or accident and the modifications and additions explicitly authorized hereafter. Except for what is explicitly authorized, any part damaged through wear or accident may only be replaced by a part which must be exactly the same as the one for which it is substituted.

4.1.2 Where the manufacturer has freely used more than one make of component, the same may be freely interchanged.

4.1.3 No components shall be removed from the two wheeler as supplied by the manufacturer, in order to effect a reduction in weight or for any other reasons, except as later laid down in these regulations.

The Federation of Motor Sports Clubs of India

GROUP "D" BIKES SHOULD HAVE ENGINE NUMBER / CHASSIS NUMBER / RC BOOK AND A VALID INSURANCE EVEN IF IT IS TAKING PART IN CLOSED IN-STADIA EVENTS.

4.1.4 Permitted modifications for Group "D"

1. Engine

Overboring upto 1mm O/s from the homologated size permitted provided the maximum capacity of the class is not exceeded.

2. Carburetors

Metering devices such as jets, needles, slides etc are FREE

3. Handlebars

Any Indian component handlebar may be fitted provided the original method of fitting is retained. Welding of stay across the handle bar is permitted for all events. The specifications are : The stay on the crossbar must be soft-padded to avoid impact on chest in case of fall. The bar / tube should be minimum 12mm in diameter and shall not exceed the handlebar diameter.

4. Streamlining

No fairing or windscreen may be fitted unless it is a part of the original specification

5. Deleted

6. Seats

Seat cushions and covers are FREE. The original equipment seat plate and fitment shall be retained. Seat retaining strap or additional devices to hold the seat in place are permitted.

7. Wheels

The original equipment rims as supplied by the manufacturer shall be retained. Tyre catching device is permitted. Indian components tyre only for road racing, Rallies and Raids. They should be mounted on the rims without any intermediary arrangement.

8. To provide for increased power required for headlight and / or additional lighting, necessary modifications may be made to the electrical system including the changeover to higher voltage. The battery and regulator / rectifier must be Indian component. Lighting coil is FREE.

9. O.E. Speedometer are allowed to be removed and fitting of odometer / navigational instruments is permitted.

10. Reduction in the Weight.

For Group "D", the following may be removed :

1) Plastic parts such as Tail pieces, Front fairings, Under cowling, Side covers.
2) Chain guards along with fitment brackets.

11. Mudguards are FREE as long as they conform to the general prescriptions of the NCR.

12. Fork braces are FREE and fitment is allowed.

13. Deleted

4.1.5 Deleted

4.1.6 Overflow or breather pipes to existing outlets may be added, which must be so fitted that they do not enter the exhaust gas stream, or impinge upon the tyres and do not inconvenience a following rider. Security bolts may also be added.

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4.2 Specific technical regulations for Group "C"

Two wheelers in Group "C" are eligible to compete with the modifications and conditions authorized as listed below, in addition to those permitted in Group "D" but within the limits laid down in Chapter 2 Common Technical Regulations.

4.2.1 Any permitted modification carried out on the existing component/s, shall be carried out in India. All components of these two wheelers, unless otherwise stated, must be Indian components.

4.2.2. In the event of the promoters of an event having any doubts whatsoever, as to the origin of any motorcycle or its component/s the onus of the proof shall rest with the competitor.

ENGINE NUMBER / CHASSIS NUMBER / RC BOOK AND A VALID INSURANCE IS MANDATORY FOR ALL GROUPS.

4.2.3 List of free items for Group "C" in addition to those allowed in Group "D"

1. Controls, control cables, Mudguards, Handlebars and mounting points, foot rests and mountings, pedals, fasteners, hoses.
2. Spark plugs, holders, ignition cables, batteries, rectifiers.
3. All bearings, bushings and spacers
4. Steering dampers
5. Tachometers (Revcounters), Navigation instruments
6. All gaskets, oil seals
7. All Springs **Chassis and Engine)**
8. Fuel filters, petrol cocks
9. All manifolds
10. Resonators
11. Secondary drive sprockets, camshaft drive sprocket
12. Exhaust system
13. Seats
14. Streamlining
15. Carburetors

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4.2.4 Permitted additional engine modifications for Group "C"

1) The shapes and sizes of the ports are FREE. The number of ports per cylinder/s, cylinder head/s shall not be altered. The bridge separating the bridged ports shall not be removed. The disc valves and inlet ports may be modified.
2) For four strokes only, the size of the valves are FREE. The number of valves shall not be altered. Valve lift / Timing can be changed by modifying the rocker arm or grinding the Cam lobes. Grinding of camshaft journal is permitted.
3) All engines are permitted to be over bored without restriction but they must remain within the cubic capacity of the class entered. Only pistons **/ Piston pins** conforming to the definition of Indian component are permitted in original or modified form. Modification is allowed with or without addition of material.
4) The cylinder/s, cylinder head/s shall be as supplied by the manufacturer. Material may be removed by machining only. Addition of material is prohibited. The method of cooling shall not be altered.
5) It is permitted to match the entry points from the crankcase to the transfer ports by removal of material only. Dowell pins to locate the cylinder to the crankcase is permitted.
6) No modifications is permitted on the crankshaft assembly, except for normal maintenance which includes replacement of connecting rods, pins, bearing etc.
7) Any Indian component/s carburetor/**s / injectors** may be used in original or modified form. **The Homologated method of fuel feed must be respected**. Supercharging / turbo charging is forbidden.
8) Any combination of Indian component ignition assembly (includes contact breakers, ignition coils, magnetos, alternators, stator plates, electronic ignitions) may be used in original or modified form. Magneto flywheel assemblies may be lightened and balanced.
9) The clutch basket including primary gear and clutch centre may be lightened and balanced. Any Indian component clutch plates (pressure and friction) may be used.
10) The secondary drive ratio may be altered. Any Indian component chain may be used.
11) Autolube equipment / battery may be removed.
12) Reed valves are FREE.
13) For Two Strokes only, the cylinder barrel and head may be interchanged between different models of the homologated vehicles from the same manufacturer.

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4.2.5 Permitted modification to Chassis / Suspension / Brakes Group 'C'

1. Front suspension

Fork travel / damping may be altered. Piston rod bolt is FREE. In case of Earles suspension, the length of the swinging arm may be altered, the shock absorber mounting points may be altered. All shock absorbers shall be Indian components in original or modified form. T-Stem and Triple clamp may be freely modified.

2. Rear suspension

The swinging arm may be strengthened by addition of material only. The length of the swinging arm may be altered. The shock absorber mounting points may be altered. The pivot point of the swinging arm with respect to the frame shall not be altered. All shock absorbers shall be Indian components in original or modified form.

3. Brakes

Any brake assembly and / or axle assembly may be used, however, modification is permitted only to the extent of allowing safe fitment. The fitment of disc brakes on the front wheel in Group "C" motorcycles is allowed. The front fork legs, front hubs are FREE if disc brake is fitted.

4. Wheels

Indian component rims, hubs and spokes may be used in original or modified form. Alloy wheels are permitted. Indian components tyre only for road racing, Rallies and Raids

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5. Frame Struts, clamps for attachment of components such as air filters, tool boxes, mudguards battery carriers etc. which as a result of strip down to racing trim, having become totally unloaded and stress free, may be removed. Reinforcement of the frame by the addition of extra frame members will be permitted without compromising its basic structural design and rigidity. Modifications required for fitment of different seat / fuel tank are allowed subject to the above.

6. Any component of chassis, suspension, brakes and bodywork deemed to be unnecessary for racing / competition and eligibility may be freely removed, provided that the removal of such component/s does not endanger the safety of the two wheeler or the rider.

7. Drilling of holes on any part of the front wheel, brake drum, hub or its component parts is not permitted.

8. Deleted

4.2.6 Fuel tanks (for rallies and raids)

Indian component fuel tanks may be used. **Modification to them is limited to fitment of vents, pipes, caps, taps and brackets.**

4.3 Specific technical regulations for Group "B"

Two wheelers in group "B" are eligible to compete with the modifications and conditions authorized as listed below, in addition to those permitted in group "C" but within the limits laid down under chapter 3 "Common Technical Regulations". Articles 4.2.1 and 4.2.2 are applicable in this group also.

4.3.1 List of Free items for Group "B" in addition to those allowed in Group "C"

1. Wheels, hubs, axles
2. Chains and chain adjusters
3. All types of ignitions (including coils, contact – breakers, magnetos, alternators, capacitor discharge & transistorized ignitions)
4. Fuel tanks – **OE ONLY- limiting the modification, only for fitment of vents,pipes,caps,taps and brackets**
5. Shock absorbers, all dampers
6. All instruments
7. Crank shaft assemblies (includes crankshaft, connecting rod/s, crank pins). Piston/s, Pin/s, Lock/s, Ring/s.
8. Components of the braking system (includes brake pads, brake linings, shoes, master cylinders, rotors, calipers)
9. Gears and gear ratios are FREE. The number of speeds as specified in the homologation form shall not be altered. . **However the shift pattern may be altered.**
10. Valves, number of valves, valve springs, retainers, locks, rocker arms, push-rods, cam-shaft/s and timing gear.
11. The components of the primary drive (crank pinion gears or sprockets and ratios)./ The method of drive shall not be altered from chain to gear or belt or vice versa.
12. The components of the clutch system (includes clutch basket, pressure and friction plates). The type of clutch shall not be altered from wet to dry or vice versa).
13. The method and components of the front suspension (includes fork assemblies, steering head assemblies, rake and trail)
14. The method and components of the rear suspension (includes swinging arm). However, the pivot point of the swinging arm with respect to the frame shall not be altered.

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15. Method of **Fuel Delivery. (i.e. Carburettor / Fuel injection) Super charging / Turbo charging is forbidden.**

16. Chassis Indian Component only – the onus of proof lies with the competitor .

4.3.2 Permitted additional engine modifications for Group "B"

1) The number of ports per cylinder/s, cylinder head/s may be altered.
2) The material and castings of the cylinder/s and cylinder head/s are FREE, as long as they are made in India. Additional studs on the cylinder/s cylinder head/s are permitted
   The piping for the oil passage in the cylinder head for lubricating the cylinder head and its components are free
3) Crankcase / gearbox shell : Material may be added by welding or removed by machining only. Primary compression ratio may be altered.
4) The stroke of the engine may be altered
5) **OIL COOLERS ARE PERMITTED.**

~~The method of cooling shall not be altered.~~

4.4 Specific regulations for two wheelers Group "A"

Provided it complies with regulations listed under Classification of two wheelers and common technical regulations, there is no restriction on the make, design or type of two wheeler that may be driven in competition held under these regulations, save as may be provided in the supplementary regulations.

** END **

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