REGULATIONS & SPECIFICATIONS FOR THE 2019 SOUTH AFRICAN MOTORCYCLE CIRCUIT RACING CHAMPIONSHIP

SUPERSPORT 300

2019

CONTENTS

SPORTING REGULATIONS

1. Controllers

MSA may delegate the normal administration of the series to an approved body, at its sole discretion.

2. Championship Classes

The championship shall be open to the following classes:

a) Supersport 300 is open to riders from 01 January of the year in which they turn 14 years old, until the end of the year in which they turn 21 years old for male competitors. There is not an upper age restriction for female competitors. Competitors ranking in the top 3 championship positions, in either 600 or 1000 classes, of the last 3 National Championships are not eligible to enter the Supersport 300 Class.

3. Aim of the Championship

a) To declare a South African National Champion in the class mentioned in Art. 2a subject to there being at least 8 starters in the relevant class – refer SSR 82 (i).

4. Eligibility of Competitors and Manufacturers

a) All National Championship riders shall be in possession of a national competition licence valid for motorcycle circuit racing and issued by MSA.

b)

5. Championship Series

a) The Motorsport Calendar is available from MSA and gives details of the championship events.
b) Practice is N O T permitted at the circuit hosting the next round of the championship series from the date of the immediately preceding championship round, until the start of official practice as listed in the SR's for the championship round in question. No practice is permitted at the circuit hosting the first race meeting of the season, in the immediate 30 days preceding the first race meeting. This clause does not apply to legitimate participation in any bona fide MSA-sanctioned race meeting that forms part of a recognised MSA club or regional championship series.
c) The only practice permitted will be as detailed in the SRs for each event.
d) Where applicable, it shall be compulsory for all competing motorcycles to carry series sponsors' decals (refer GCR's 246 and 247).
e) Competition numbers will be issued by MSA. Numbers 1,2&3 will be reserved for the rider who finished in these positions in the Superbike and Supersport class during the previous year's national championship series. Such numbers that are not taken up will not be re-allocated. All other numbers shall be issued on a 'first come first served' basis with consideration of rider number use history, following receipt of a written application to MSA and followed by a written confirmation of the number allocated by MSA. All numbers not taken up 7 (seven) days prior to the start of the first round of the championship will be released for use by MSA.
f) Permitted podium attire will consist of the competitor's race leathers, worn zipped up and race boots. Crash helmet and gloves are optional. Sunglasses may be worn. Team attire is not permitted. Podium attendees will be required to wear series sponsors accessories, such as caps, as directed by the promoter. An exception will be made for Championship winners on the podium of the race in which they achieve this accolade.

6. Qualifying and grid positions

a) Grid positions for Race 1 in all classes shall be determined according to each competitor's quickest time set during the official qualifying session held on the day preceding the races or as otherwise indicated on the official programme for the event. Competitors who do not set a time during the official qualifying session will start Race 1 from the back of the grid, subject to the provisions of Article 7 below.
b) Grid positions for Race 2 in all classes shall be determined according to each competitor's second quickest lap time set during the official qualifying session held on the day preceding the races or as otherwise indicated on the official programme for the event. Competitors who do not set a second quickest lap time during the official qualifying session will start Race 2 from the back of the grid, subject to the provisions of Article 7 below.
c) It is the competitor's responsibility to know his/her grid position prior to forming up on the grid. Delaying of the start due to indecision relating to grid positions shall render the competitor/s concerned liable to be moved to the back of the grid or excluded from the race concerned, at the discretion of the Clerk of the Course (CoC).
d) Where qualifying times have not been recorded for whatever reason, grid positions for Race 1 will be as per championship point's standings to date, and thereafter by race number. The grid positions for Race 2 shall be as per the finishing order of Race 1.
e) The starting grid will be arranged in a 3-3-3-3 configuration "in echelon". Each line will be offset. There will be a distance of 9 metres between each row. See SSR 36.

7. Non-qualifiers

If a rider falls outside of the 107% qualification ruling, he will have to apply, in writing, to the CoC within 30 minutes of the qualifying session having ended, stating his reasons as to why he should be allowed to compete. The final decision will rest with the CoC, as to whether the rider is allowed to compete or not.

8. Race distance

Each race meeting or round of the championship will consist of one or two separate races (dependent on class). Notwithstanding the above, if for reasons of force majeure it is not possible for all the races originally scheduled to take place at a meeting, refer to the provisions of GCR 273. To determine the actual distance parameters for a race, refer to SSR 82 iv).

9. Championship points

All races will count towards the final championship standings. Points will be scored as follows:

1st	25 Points	6th	10 Points	11th	5 Points
2nd	20 Points	7th	9 Points	12th	4 Points
3rd	16 Points	8th	8 Points	13th	3 Points
4th	13 Points	9th	7 Points	14th	2 Points
5th	11 Points	10th	6 Points	15th	1 Point

10. Use of spare motorcycle

If a motorcycle is damaged to the extent that it is not possible for it to be repaired in the time available, application must be made in writing to the Clerk of the Course and the appointed National Technical Consultant (TC), together with proof in support of this application, to use the nominated spare

motorcycle, which must be identified by a letter 'T' next to the front race number, and subject to the following conditions:

a) The spare motorcycle must have passed pre-event scrutineering, and be in a ready-to-race condition, with a sealed engine.
b) Use of the spare motorcycle (as a whole machine) shall require that the rider concerned will start the race/s concerned from pit lane.
c) Under no circumstances may a spare motorcycle be used during practice or official qualifying for set-up purposes. Offenders shall be precluded from taking any further part in the event in question.
d) Any removal of parts from the spare motorcycle will render it non-eligible to be used as a spare motorcycle during the event in question.
e) The wheels and tyres of the damaged motorcycle must be transferred to the spare motorcycle prior to its use as a spare motorcycle as per 10b) above.

11. General rules

a) The GCRs and SSRs applicable to motorcycle racing must be read and understood in conjunction with these regulations and specifications.
b) Generators for use with tyre warmers are NOT allowed on the start grid.
c) Fluid containers other than for drinks or clear water are prohibited in the pre-race paddock (where applicable) and/or on the grid unless prior permission to the contrary has been granted by the CoC.
d) The regulations make provision for the use of a pre-race facility (paddock). The CoC shall have the discretion to decide whether or not to make use of such a facility at a particular event and shall advise his intentions in this regard during Riders' Briefing.
e) Access to the parc fermé is limited to the rider plus two (2) assistants. Failure to adhere to this requirement may result in the exclusion of the offending rider. No motorcycle may be removed from parc fermé without permission from the Technical Consultant (TC)or the CoC motorcycles must remain there until given instructions by the TC or the CoC. Failure to comply with this rule may result in exclusion of the offending rider.
f) Any requested technical inspections must commence within 20 minutes of the request being made by the relevant official/s, unless permission to the contrary has been granted by said officials TC. Failure to comply in this regard, and/or any action that may interfere with the conducting of a technical inspection or cause it to be delayed unnecessarily, may result in the exclusion of the rider concerned.
g) Any act by any member of any team including the rider, that threatens the timeous starting of a race, or that causes a race start to be delayed, may result in the associated rider being penalised.
h) Any interference by any member of any team with the timing personnel and/or their equipment, may lead to the associated rider being penalised.
i) The TC may instruct any team or competitor to present their motorcycle at any time for the purposes of sealing the engine. Failure to do so will result in disqualification until such time as the request is adhered to.
j) Riders or required team members failing to attend Rider & Team Briefing, without being excused by the CoC, shall be required to start all races at the event from the back of the grid. Only riders may attend riders briefing.
k) Any matter/s not relevant to riders briefing must be submitted in writing to the promoters for further discussion.

12. Numbers and Number Plates

The background & number colour guide is as follows:

- red background and white numbers

Guidelines for the sizes for all the front numbers are: Minimum height = 140mm

	Minimum width = 80mm Minimum stroke = 25mm Minimum space Between numbers = 10mm
Guidelines for the sizes for all the side numbers are:	Minimum height = 120mm Minimum width = 70mm Minimum stroke = 20mm Minimum space Between numbers = 10mm

The allocated number (& plate) for the rider must be affixed on the motorcycle as follows:

a) Once on the front, either in the centre of the fairing or slightly off to one side. The number must be centered on the background with no advertising within 25 mm in all directions.
b) Once on each side on the lower rear portion of the lower fairing. The number must be centred on the white background. Any change to this position must be pre-approved a minimum of 2 weeks before the first race by the Technical Director.
c) The numbers must use clear, eligible fonts. All digits must be of standard form.
d) Any outlines must be of a contrasting colour and the maximum width of the outline is 3 mm. The background colour must be clearly visible around all edges of the number (including outline). Reflective or mirror type numbers are not permitted.
e) Numbers cannot overlap.
f) In case of a dispute concerning the legibility of numbers, the decision of the TC will be final.

13. SUPERSPORT300 TECHNICAL REGULATIONS AND SPECIFICATIONS NATIONAL CHAMPIONSHIP

The following rules are intended to permit limited changes to the homologated motorcycle in the interests of safety and improved competition between various motorcycle concepts.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THESE RULES IS STRICTY FORBIDDEN

If a change to a part or system is not specifically allowed in any of the following articles, then it is forbidden

a) Any amendments to these technical regulations shall only take effect when published in an official MSA circular.
b) Any competitor found to be in breach of these technical regulations will be subject to the provisions of GCR 176.
c) The TC may, at his sole discretion, call on external specialists for additional consulting.

13.1 Eligibility – Motorcycles

a) To be admitted to the championship, motorcycles require homologation as per 14.3 below.
b) The class will be based around the machines sold in Europe as A2 class machines and excluding the A1 class machines. The TC has the right to decide which machines will eligible in the class.
c) For 2018 the following will be legal:

- - Honda CBR500R
- - Kawasaki Ninja 300 (EX300ADF)
- - Kawasaki Ninja 400 (EX400G/H/J)
- - KTM RC390
- - KTM RC390R
- - Yamaha YZF-R3

d) All motorcycles must comply in all respects with all the requirements of the applicable regulations.
e) The appearance from both the front and the rear, and the profile, of all motorcycles must (except when otherwise stated) conform to the homologated shape (as originally produced by the manufacturer).
f) All motorcycles must be 4-stroke, normally aspirated and sold to the public in South Africa for road use.
g) All components, unless expressly stated to the contrary in these regulations, must remain as originally produced and homologated by the manufacturer, or must be aftermarket components homologated locally (where the use of such aftermarket components is permitted in terms of the regulations).
h) The competitor is responsible for producing specifications and other material (e.g. the service or owner's manual) to prove the legality of his/her motorcycle. Legality can also be proved by way of comparisons with similar OEM parts.
i) The appointed MSA Technical Committee has the ultimate authority in respect of decisions regarding the technical legality of any motorcycle.

13.2 Balancing Various Motorcycle Concepts

MSA and the appointed MSA Technical Committee reserves the right to applying balancing to the machines in the class as they see fit in order to maintain equality amongst machines. Methods may include but are not limited to the following:

- Rev Limit
- Weight limit change
- The decision to apply the handicap will be taken by MSA and the appointed MSA Technical Committee, at any time deemed necessary to ensure fair competition.

13.3 Homologation

a) Motorcycles to be raced in the championship must be homologated by either the FIM or by MSA. Only motorcycles imported into South Africa by the recognised official importer of the specific make, and which comply with these regulations, shall be permitted to take part in the series, subject to compliance with the additional criteria outlined below:

b) The motorcycle must be homologated by the FIM for Supersport racing. The prevailing retail price (VAT inclusive) of the motorcycle to the general public through official dealer outlets shall not exceed R79000. Said price caps may be adjusted in the event of significant exchange rate fluctuations.

c) Where a particular brand and model of motorcycle (that complies with these regulations) is not homologated by the FIM, the official South African importers may make application to the MSA Motorcycle Racing Commission for a local homologation to allow the motorcycle to be raced in the series. In such cases, the following shall apply:
   - The importer concerned shall pay to MSA a homologation fee of R55 000 (excl. VAT), which shall incorporate a fee towards the technical administration of the series.
   - At least 50 examples of the motorcycle concerned must have been imported into SA (proof must be submitted in this regard).
   - The official importer must submit one new motorcycle, chosen by the Technical Consultant, together with a completed homologation document supplied by MSA for inspection.
   - The homologation, or otherwise, of the relevant motorcycle shall be at the sole discretion of the MSA.
   - Should such an application for homologation be refused, 10% of the homologation fee paid shall be retained by MSA and the balance of the fee shall be returned to the applicant.

d) Any motorcycle homologated under these rules (parts a and b above) shall be allowed to compete without time limitation subject to continued compliance with the appropriate technical regulations and payment of the required fee to MSA by the relevant official importer for the season in question.

13.4 Minimum Weights

a) The minimum weight for each model is as follows:
   - Kawasaki Ninja 300 (EX300ADF) 140kg
   - Kawasaki Ninja 400 (EX400G/H/J) 145kg
   - Yamaha YZF-R3 140kg
   - Yamaha YZF-R3A 140kg
   - KTM RC390 136kg
   - Honda CBR500R 153kg

b) The minimum weights specified shall apply for motorcycles as they come off the track, containing a minimum of 2 litres of fuel.

c) Any machine found to be underweight at any time during a race meeting shall be excluded from the session/race/race meeting concerned.
d) The minimum weights may be reviewed during the season. Any amendments to the minimum weights, or the inclusion of rider + motorcycle minimum weights, will be published by MSA in an official circular/bulletin.
e) The use of ballast is allowed to stay over the minimum weight limit and may be required due to the handicap system. The use of ballast and weight handicap must be declared to the TC at the preliminary checks.

13.5 Race Numbers

a) Race numbers must appear on the front of all motorcycles, as well as both sides. The front number must be clearly legible from a distance of 50 metres.
b) There is no restriction on the font, or design of race numbers, provided they comply with the legibility requirements as per (a) above. Ideally the individual numbers must be a bright primary colour outlined in black to improve the overall visibility and effect.
c) The appointed TC shall have the ultimate authority to make a ruling as to race numbers' compliance with the legibility requirements and the onus rests on the rider/team to ensure that race numbers can be easily read by spectators and race officials.
d) No triple digit numbers shall be allowed except for 'guest' riders.

13.6 Fuel

a) All motorcycles must use pump fuel available to the general public via normal filling stations.
b) All motorcycles must contain at least two (2) litres of fuel at the end of each qualifying session or race.
c) Should the TC suspect any fuel used to be non-compliant the onus shall rest on the competitor concerned to prove to the contrary. Failure to satisfactorily do so shall render the competitor concerned liable to be penalised by the Clerk of the Course.
d) Separate samples of the fuel used by any competitor may be requested before and/or after a race. These samples must be taken in accordance with the provisions of GCR 240's "Guidelines in respect of fuel sampling".
e) Notwithstanding the above, the TC (in conjunction with the Clerk of the Course) may request the use of a controlled fuel no later than 30 minutes prior to the start of a race. Failure to use the controlled fuel when requested shall result in the competitor concerned being prevented from starting the race in question and/or being excluded from the race meeting.
f) Refer SSR 67 for additional fuel controls.

13.7 Machine Specifications

If a change to a part or a system is not specifically allowed in any of the following articles then it must remain as originally produced by the manufacturer for the homologated machine.

13.8 Engine

a) Engines will be officially sealed or marked by the TC prior to competition.
b) The seal or marking may be photographically recorded. Any attempt made to remove the seal will damage it irreparably. The onus is on the rider to ensure the seal remains intact at all times. The seal may only be removed with written approval of the appointed national TC for the series. If a seal is removed without permission the competitor may be disqualified.
c) Motorcycles may be selected for dyno testing, or dyno tested before and after race events.
d) Engine mounting brackets or plates must remain as originally produced by the manufacturer for the homologated machine.

13.9 Fuel Injection System

Fuel injection systems refer to throttle bodies, fuel injectors, variable length intake tract devices, fuel pump and fuel pressure regulator.

a) The original homologated fuel injection system must be used without any modification.
b) The fuel injectors must be stock and unaltered from the original specification and manufacture.
c) Air Funnels must remain as originally produced by the manufacturer for the homologated motorcycle.
d) Butterfly valves cannot be changed or modified.
e) Secondary throttle valves plates may be removed or fixed in the open position and the electronics may be disconnected or removed. The secondary throttle shaft(s) must remain in place.
f) All the parts of the variable intake tract device must remain and operate exactly as homologated. They cannot be added if not fitted to the homologated machine.
g) Air and air/fuel mixture can go to the combustion chamber exclusively through the throttle body butterflies.
h) Electronically controlled throttle valves, known as “ride-by-wire”, may only be used if the homologated model is equipped with the same system. Software may not be modified and all the safety systems and procedures designed by the original manufacturer must be maintained.

13.10 Cylinder Head

a) Must be the originally fitted and homologated part with no modification allowed.
b) The head gasket may be changed.
c) The exhaust air bleed system must be blocked and the external fittings on the cam cover(s) may be replaced by plates.

13.11 Camshaft Assembly

a) At the technical checks: for direct cam drive systems, the cam lobe lift is measured; for non direct cam drive systems (i.e. with rocker arms), the valve lift is measured.
b) Camshaft Assembly Cam sprockets (and retaining bolts if fitted) must be the originally fitted and homologated part with no modification allowed.

13.12 Cam Shaft Sprockets or Gears

a) Must be the originally fitted and homologated parts with no modification allowed.
b) The cam chain and tensioner must remain as homologated.
c) Pressed on cam sprockets may be replaced with an adjustable boss and cam sprocket.

13.13 Cylinders

Must be the originally fitted and homologated part with no modification allowed.

13.14 Pistons

Must be the originally fitted and homologated part with no modification allowed.

13.15 Piston Rings

Must be the originally fitted and homologated part with no modification allowed.

13.16 Piston Pins & Clips

Must be the originally fitted and homologated part with no modification allowed.

13.17 Connecting Rod

Must be the originally fitted and homologated part with no modification allowed.

13.18 Crankshaft

Must be the originally fitted and homologated part with no modification allowed.

13.19 Crankcase / Gearbox Housing

Must be the originally fitted and homologated part with no modification allowed.

13.20 Lateral covers and protection

a) Lateral (side) covers may be altered, modified or replaced. If altered or modified, the cover must have at least the same resistance to impact as the original one. If replaced, the cover must be made in material of same or higher specific weight and the total weight of the cover must not be less than the original one.
b) All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, should be protected by a second cover made from metal, such as aluminium alloy, stainless steel, steel or titanium or long glass fibred nylon.
c) The secondary cover must cover a minimum of 1/3 of the original cover. It must have no sharp edges to damage the track surface.
d) Plates or crash bars made from aluminium or steel also are permitted in addition to these covers. All of these devices must be designed to be resistant against sudden shocks, abrasions and crash damage.
e) FIM approved covers will be permitted without regard of the material or its dimensions.
f) These covers must be fixed properly and securely with a minimum of three (3) case cover screws that also mount the original covers/engine cases to the crankcases.
g) Oil containing engine covers must be secured with steel bolts.
h) The TC has the right to refuse any cover not satisfying this safety purpose.

13.21 Transmission / Gearbox

a) Must be the originally fitted and homologated parts with no modification allowed.
b) Quick-shift (upshift) systems are allowed (including wire and potentiometer). The unit must be the FIM/MSA approved quick shifter/rev limiter.
c) Downshift blipping is not allowed.
d) Countershaft sprocket, rear wheel sprocket, chain pitch and size may be changed.
e) The sprocket cover may be modified or eliminated.
f) Chain guard as long as it is not incorporated in the rear fender may be removed.
g) The positive neutral selector mechanism may ne removed.
h) Shift star/indexer and detent may be replaced but must function as originally designed.

13.22 Clutch

a) Clutch system (wet or dry type) and the method of operation (by cable or hydraulic) must remain as homologated.
b) Friction and drive discs may be changed.
c) Clutch springs may be changed.
d) The clutch basket (outer) must be the originally fitted and homologated part but may be reinforced.

e) The original clutch inner assembly may be modified or replaced by an aftermarket clutch, also including back torque limiting capabilities (slipper type).

13.23 Oil pumps and oil lines

Must be the originally fitted and homologated part with no modification allowed.

13.24 Radiator, cooling system and oil cooler

a) The use of any coolant is permitted provided it is a non-Glycol type and the composition is confirmed by the competitor with the presentation of a supporting MSDS certificate, **all Glycol based products are prohibited**.
b) Protective meshes may be added in front of the oil and/or water radiator.
c) The cooling system hoses and catch tanks may be changed.
d) Radiator fan and wiring may be removed. Thermal switches, water temperature sensor and thermostat may be removed inside the cooling system.
e) Radiator cap is free.
f) An additional water radiator may be fitted but the appearance of the front, the rear and the profile of the motorcycle must not be changed. Extra mounting brackets to accommodate the additional radiator are permitted.

13.25 Air box

a) The air box must be the originally fitted and homologated part with no modification allowed.
b) The air filter element may be modified or replaced but not eliminated and must be mounted in the original position.
c) The air box drains must be sealed.
d) All motorcycles must have a closed breather system. All the oil breather lines must be connected, may pass through an oil catch tank and must exclusively discharge in the airbox.
e) No heat protection may be attached to the airbox.

13.26 Fuel supply

a) Fuel pump and fuel pressure regulator must be the originally fitted and homologated part with no modification allowed.
b) The fuel pressure must be as homologated.
c) Fuel lines from the fuel tank up to the delivery pipe assembly (delivery pipe excluded) may be replaced and must be located in such a way that they are protected from crash damage.
d) Quick connectors or dry break connectors may be used. Fuel vent lines may be replaced. Fuel filters may be added.

13.27 Exhaust system

a) Exhaust pipes and silencers may be modified or changed. Catalytic converters must be removed.
b) The number of the final exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) as the homologated model.
c) For safety reasons, the exposed edges of the exhausts pipe(s) outlet must be rounded to avoid any sharp edges.
d) Wrapping of exhaust systems is not allowed except in the area of the rider's foot or an area in contact with the fairing for protection from heat.

ELECTRICS & ELECTRONICS

13.28 Ignition & Engine Control System (ECU)

a) The Ignition / Engine Control System (ECU) engine control system (ECU) must be either:

I. The original system as homologated, with no change of software or with an MSA approved software.
II. The original system as homologated with no change of software or with an MSA approved software (option I.) and with an FIM/MSA approved external fuel injection module added.

b) Software and firmware flashing/updating will be controlled and managed by the TC and the MSA nominated technical specialist. Competitors will be liable for costs that may occur with this process.
c) Central unit (ECU) may be relocated.
d) Optional equipment sold by the motorcycle Manufacturer for the homologated model is considered not homologated with the bike and must follow the requirements for approved electronics/data loggers.
e) At any time during an event the TC has the right to ask make a team to substitute their ECU or external module with a MSA sample received from the Manufacturer. The change has to be done before the warm up session.
f) Sensors may not be replaced, modified or substituted unless noted and the allowed OEM ECU sensors / channels are:
    - Throttle position (multiple allowed)
    - Map sensor, Map Sync (pressure sensor on the intake port used to synchronize the engine during the start)
    - Airbox Pressure
    - Engine pick-ups (Cam, crank)
    - Twist grip position
    - Rear Speed Only (from ABS sensor) (No front speed sensor permitted)
    - Gearbox output shaft speed
    - Gear position
    - Air pressure
    - Water temperature
    - Air temperature
    - Tip-Over Switch (No lean angle)
    - Gear shift load cell / switch
    - Lambda sensor (may be OEM or a replacement sensor see Art. 14.28.i) may be connected to the original harness/ECU or to the FIM/MSA approved lambda control module.

g) No extra sensors may be added for control strategies except the shift rod sensor of the FIM/MSA approved revlimiter / quickshifter.
h) The FIM/MSA approved external fuel injection modules may not alter any sensor signal relating to the ride by wire system or control/actuate any part of the machine excepting the fuel injectors. No fuel module may add traction control strategies. The modules may only connect to the fuel injectors, lambda sensor, power supply and “piggyback the Throttle Position, Gear and RPM signals”. Closed loop/auto tuning is not permitted. Lambda closed loop/auto tuning is permitted. ONLY FIM/MSA approved auto tuning units may be used.
i) A compulsory FIM/MSA rev limiter/quickshift unit must be fitted, it is the teams discretion whether to use the quickshift function. This must remain fitted at all times.
j) Contact: info@hmquickshifter.com +44 (0) 1795 429168

Machine:	Part Number:
Honda CBR500R	HMGP-HO1016
Kawasaki Ninja 300 (EX300ADF)	HMGP-KA1016

Kawasaki Ninja 400 (EX400G/H/J)	HMGP-KA1712
Yamaha YZF-R3	HMGP-YA1016
KTM RC390	HMGP-KT1016

Fitting instructions are separately detailed with the units.

k) The following strategies are not allowed:

- Traction control (including anti-spin / rate of change of rpm)
- Launch Control
- Anti Wheelie
- Closed loop Engine Brake Control
- Corner by Corner / Distance based adjustments
- Rider adjusted trims

l) Other additional electronic hardware equipment not on the original homologated motorcycle cannot be added with the exceptions noted below.

m) Resistors/load may be added to replace the parts of the electrical system that have been removed (including lights and lambda sensors), to prevent ECU errors

n) The initial rev-limiter setting for each machine is as follows:

Machine:	Max RPM:
Honda CBR500R	10500 rpm
Kawasaki Ninja 300 (EX300ADF)	13,000 rpm
Kawasaki 400	10000 rpm
Yamaha YZF-R3	13,000 rpm
KTM RC390	10,500 rpm

o) Telemetry is not allowed.

p) No remote or wireless connection to the bike for any setting is allowed whilst the engine is running or the bike is moving.

q) Harness:

- The key/ignition lock may be relocated, replaced or removed.
- Cutting and removal of excess and unused wiring in the original wiring harness is allowed. All connectors must remain as originally fitted. No wires may be added.
- MSA/FIM approved manufacturer Kit Harness is allowed.

r) Dashboard/display/tachometer is free. However it may not incorporate a datalogger.

s) A lap timer may be fitted from the FIM approved lap timer list.

t) Spark plugs may be replaced.

u) Battery is free.

13.29 Generator, Alternator & electric start

a) Must be the originally fitted and homologated part with no modification allowed.

b) The stator must be fitted in its original position and without offsetting.

c) The electric starter must operate normally and always be able to start the engine during the event.

d) During parc fermé the starter must crank the engine at a suitable speed for starting for a minimum of 2 seconds without the use a boost battery. No boost battery may be connected to the machine after the end of the session.

13.30 Main frame – Frame body and rear sub frame

a) The frame must be the originally fitted and homologated part with no modification allowed.

b) Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount, sensors).
c) The sides of the frame-body may be covered by a protective part made of a composite material. These protectors must fit the form of the frame.
d) The side stand bracket may be cut or removed.
e) Nothing else may be added or removed from the main frame body. All motorcycles must display a vehicle identification number punched on the frame body (chassis number).
f) Engine mounting brackets or plates must remain as originally produced by the manufacturer for the homologated motorcycle.
g) Front sub frame/fairing mount may be changed or altered.
h) Rear Sub Frame:

- If removable it may be changed or altered, but the type of material must remain as homologated, or be material of a higher specific weight.
- If part of the main frame assembly then it may not be altered except as noted below.
- Additional seat support brackets may be added. Non-stressed protruding brackets may be removed if they do not affect the safety of the construction or assembly. Bolt-on accessories to the rear sub-frame may be removed.

i) The paint scheme is not restricted but polishing the frame body or sub frame is not allowed.

13.31 Suspension – General

a) Suspension is open to all manufacturers.
b) The price limits are capped at R25000.00 (new retail cost) total spend for purchase of both front and rear suspension. Cost fluctuations due to import tax or duties and currency changes will be taken into consideration regarding price cap.
c) Setting parts and tuning parts must be made available by the suspension manufacturers to all customers/teams/participants using the manufacturer's products. These parts shall be available for immediate delivery to all teams/customers.
d) Electronic controlled steering damper cannot be used if not installed in the homologated model for road use. However, it must be completely standard (any mechanical or electronic part must remain as homologated).

13.32 Front forks

a) Forks (stanchions, stem, wheel spindle, upper and lower crown, etc.) Must be the originally fitted and homologated part with the following modifications allowed:
b) The upper and lower fork clamps (triple clamp, fork bridges) must remain as originally produced by the manufacturer on the homologated motorcycle.
c) Steering stem pivot position must remain in the homologated position (as supplied on the production bike). If the standard bike has inserts then the orientation/position of the original insert may be changed but the insert cannot be replaced or modified.
d) A steering damper may be added or replaced with an after-market damper.
e) The steering damper cannot act as a steering lock limiting device.
f) Fork caps on the mechanical forks may only be modified or replaced to allow external adjustment. (This does not include the mechanical fork leg that is part of the homologated electronic fork set).
g) Dust seals may be modified, changed or removed if the fork remains totally oil-sealed.
h) Original internal parts of the homologated forks may be modified or changed. After market damper kits or valves may be installed. The original surface finish of the fork tubes (stanchions, fork pipes) may be changed. Additional surface treatments are allowed.
i) Electronic fork's must have their complete internal parts (including all electronic control) replaced with a conventional damping system.

13.33 Rear fork (swing fork)

a) The rear fork must be the originally fitted and homologated part with no modification allowed.
b) Rear fork pivot bolt must be the originally fitted and homologated part with no modification allowed.
c) Rear swingarm pivot position must remain in the homologated position (as supplied on the production bike). If the standard bike has inserts then the orientation/position of the original insert may be changed but the insert cannot be replaced or modified.
d) A chain guard must be fitted in such a way to reduce the possibility that any part of a riders' body may become trapped between the lower chain run and the rear wheel sprocket.
e) Rear wheel stand brackets may be added to the rear fork by welding or by bolts. Brackets must have rounded edges (with a large radius). Fastening screws must be recessed. An anchorage system or point(s) to keep the original rear brake caliper in place may be added to the rear swing-arm.
f) The sides of the swing-arm may be protected by a thin vinyl cover only, no composite or structural covers are allowed.

13.34 Rear suspension unit

g) Rear suspension unit (shock absorber) may be modified or replaced, but the original attachments to the frame and rear fork (swing arm) (or linkage) must be as homologated.
h) All the rear suspension linkage parts must be the originally fitted and homologated part with no modification allowed.
i) Removable top shock mounts must be the originally fitted and homologated part with no modification allowed. A nut may be made captive on the top shock mount and shim spacers may be fitted behind it to adjust ride height.
j) Rear suspension unit and spring may be changed. An electronic shock absorber can be replaced with a mechanical one.

13.35 Wheels

a) Wheels must be the originally fitted and homologated part with no modification allowed.
b) A non-slip coating/treatment may be applied to the bead area of the rim.
c) If the original design includes a cushion drive for the rear wheel, it must remain as originally produced for the homologated motorcycle.
d) Wheel axles and retaining nuts (or bolts) must remain as homologated, wheel spacers may be modified or replaced.
e) Wheel balance weights may be discarded, changed or added to. Any inflation valves may be used.

13.36 Brakes

a) Brake discs may be replaced by aftermarket discs which comply with following requirements:

- Brake discs and carrier must retain the same material as the homologated disc and carrier or be steel (max. carbon content 2.1 wt%).
- Non- floating or single piece discs may be replaced with floating discs. The disc carrier must be the same material as the homologated carrier, steel or aluminium.
- The outside and inner diameters of the brake disc must not be larger than the ones on the homologated disc.
- The thickness of the brake disc may be increased but the disc must fit into the homologated brake caliper without any modification. The number of floaters is free.
- The fixing of the carrier on the wheel must remain the same as on the homologated disc.

f) The front and rear brake caliper (mount, carrier, hanger) must be the originally fitted and homologated part with no modification allowed.
g) In order to reduce the transfer of heat to the hydraulic fluid it is permitted to add metallic shims to the calipers, between the pads and the calipers, and/or to replace light alloy pistons with steel pistons made by the same manufacturer of the caliper.
h) The rear brake caliper bracket may be mounted fixed on the swing- arm, but the bracket must maintain the same mounting (fixing) points for the caliper as used on the homologated motorcycle.
i) The swing-arm may be modified for this reason to aid the location of the rear brake caliper bracket, by welding, drilling or by using a helicoil.
j) The front and rear master cylinder must be the originally fitted and homologated part with no modification allowed.
k) Front and rear brake fluid reservoirs may be changed.
l) Front and rear hydraulic brake lines may be changed.
m) The split of the front brake lines for both front brake calipers must be made above the lower fork bridge (lower triple clamp).
n) "Quick" (or "dry-break") connectors in the brake lines are not allowed.
o) Front and rear brake pads may be changed. Brake pad locking pins may be modified for quick change type.
p) Additional air scoops or ducts are not allowed.
q) The Antilock Brake System (ABS) must be removed. The ABS units electronic board may remain fitted to stop ECU errors.
r) Motorcycles should be equipped with brake lever protection, intended to protect the handlebar brake lever from being accidentally activated in case of collision with another motorcycle. Composite guards are not permitted. FIM approved guards will be permitted without regard of the material. The TC has the right to refuse any guard not satisfying this safety purpose.

13.37 Handlebars and hand controls

a) Handlebars may be replaced (except for the brake master cylinder). Handlebars and hand controls may be relocated. Throttle controls must be self closing when not held by the hand.
b) Throttle assembly and associated cables may be modified or replaced but the connection to the throttle body and to the throttle controls must remain as on the homologated motorcycle. Cable operated throttles (grip assembly) must be equipped with both an opening and a closing cable including when actuating a remote drive by wire grip/demand sensor.
c) Clutch and brake lever may be replaced with an after-market model. An adjuster to the brake lever is allowed.
d) Switches may be changed but the electric starter switch and engine stop switch must be located on the handlebars.
e) Motorcycles must be equipped with a functional ignition kill switch or button mounted on the right hand handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine.
f) Clutch lever guards may be fitted at the discretion of the rider.
g) Motorcycles must be equipped with brake lever protection, intended to protect the handlebar brake lever from being accidentally activated in case of collision with another motorcycle.

13.38 Foot rest/ Foot controls

a) Foot rests, hangers/brackets and hardware may be replaced and relocated but the hangers/brackets must be mounted to their original frame mounting points.
b) Foot controls; gear shift and rear brake must remain operated manually by foot.
c) Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.
d) The end of the foot rest must have at least an 8 mm solid spherical radius.

e) Non folding footrests must have an end (plug) which is permanently fixed, made of aluminium, plastic, Teflon® or an equivalent type material (minimum radius 8 mm). The plug surface must be designed to reach the widest possible area. The TC has the right to refuse any plug not satisfying this safety aim. SEP

13.39 Fuel tank

a) Fuel tank must be the originally fitted and homologated part with no modification allowed.
b) All fuel tanks must be completely filled with re retardant material (open-celled mesh, i.e. Explosafe®).
c) Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250cc made of a suitable material.
d) Fuel caps may be changed. Fuel caps when closed must be leak proof. Additionally, they must be securely locked to prevent accidental opening at any time.
e) A rider spacer/pad may be fitted to the rear of the tank with non- permanent adhesive. It may be constructed of foam padding or composite material.
f) The tank may not have a cover fitted over it unless the homologated machine also features a full cover.
g) The sides of the fuel tank may be protected with a cover made of a composite material. These covers must fit the shape of the fuel tank.

13.40 Fairing / bodywork

a) Fairing and bodywork may be replaced with exact cosmetic duplicates of the original parts, but must appear to be as originally produced by the manufacturer for the homologated motorcycle, with slight differences due to the racing use (different pieces mix, fixing points, fairing bottom, etc). The material may be changed. The use of carbon fibre or carbon composite materials is not allowed. Specific reinforcements in Kevlar® or carbon are allowed locally around holes and stressed areas. Headlights must be included even when considered external.
b) Overall size and dimensions must be the same as the original part, with a tolerance of +-5 mm, respecting the design and features of the homologated fairing as far as possible. The overall width of the frontal area may be +5 mm maximum. The decision of the TC is final.
c) Wind screen may be replaced with an aftermarket product. The height of the windscreen is free, within a tolerance of +/- 15 mm referred to the vertical distance from/to the upper fork bridge. The screen must conform to the same profile from the front as the original – no double bubble or wide types. From a top view the length of the windscreen may be shortened by 25 mm to allow clearance for the rider. The edge of the screen must have no sharp edges.
d) Motorcycles that are not originally equipped with streamlining are not allowed to add streamlining in any form, with the exception of a lower fairing device, as described in point (h). This device cannot exceed above a line drawn horizontally from wheel axle to wheel axle and must follow the specifications described at point (h).
e) The original combination instrument/fairing brackets may be replaced, but the use of titanium and carbon (or similar composite materials) is forbidden. All other fairing brackets may be altered or replaced.
f) The ram-air intake must maintain the originally homologated shape and dimensions.
g) The original air ducts running between the fairing and the air box may be altered or replaced. Carbon fibre composites and other exotic materials are forbidden. Particle grilles or “wire-meshes” originally installed in the openings for the air ducts may be removed.
h) The lower fairing must to be constructed to hold, in case of an engine breakdown minimum 4 litres. The lower edge of all the openings in the fairing must be positioned at least 70 mm above the bottom of the fairing.
i) The upper edge of the rear transverse wall of the lower fairing must be at least 70 mm above the bottom. The angle between this wall and the floor must be ≤ 90°.
j) Original openings for cooling in the lateral fairing/bodywork sections may be partially closed only to accommodate sponsors' logos/lettering. Such modification shall be made using wire mesh or perforated plate. The material is free but the distance between all opening centres,

circle centres and their diameters must be constant. Holes or perforations must have an open area ratio > 60%.

k) Motorcycles may be equipped with a radiator shroud (inner ducts) to improve the air stream towards the radiator but the appearance of the front, the rear and the profile of the motorcycle must not be changed.

l) The lower fairing must incorporate a single opening of Ø 25 mm diameter in the front lower area. This hole must remain sealed in dry conditions and must be opened only in wet race conditions as declared by the Clerk of the Course.

m) Front mudguards may be replaced with a cosmetic duplicate of the original parts and may be spaced upward for increased tyre clearance.

n) Rear mudguard fixed on the swing arm may be modified, changed or removed. The chain guard may be removed as long as it is not incorporated in the rear fender.

13.41 Seat

a) Seat, seat base and associated bodywork may be replaced.

b) The appearance from front, rear and profile must conform to the homologated shape.

c) The top portion of the rear bodywork around the seat may be modified to a solo seat.

d) The homologated seat locking system (with plates, pins, rubber pads etc.) may be removed.

e) Material as Fairing (article 14.40).

f) All exposed edges must be rounded.

13.42 Fasteners

g) Standard fasteners may be replaced with fasteners of any material and design but titanium fasteners cannot be used. The strength and design must be equal to or exceed the strength of the standard fastener.

h) Fasteners may be drilled for safety wire, but intentional weight-reduction modifications are not allowed.

i) Thread repair allowed using inserts of different material such as helicoils and timeserts.

j) Fairing/bodywork fasteners may be replaced with the quick disconnect type.

k) Aluminium fasteners may only be used in non-structural locations.

13.43 The following items may be altered or replaced from those fitted to the homologated motorcycle

a) Any type of lubrication, brake or suspension fluid may be used. Gaskets and gasket materials. Instruments, instrument bracket(s) and associated cables. Painted external surface finishes and decals.

b) Material for brackets connecting non original parts (fairing, exhaust, instruments, etc) to the frame (or engine) cannot be made from titanium or fibre reinforced composites excepting the exhaust silencer hanger that may be in carbon.

c) Protective covers for the frame, chain and footrests may be made in other materials like fibre composite material if these parts do not replace original parts mounted on the homologated model.

13.44 The following items may be removed

a) Emission control items (anti-pollution) in or around the air box and engine (O2 sensors, air injection devices). Tachometer. Speedometer.

b) Bolt-on accessories on a rear sub frame.

c) Headlamp, rear lamp and turn signal indicators (when not incorporated in the fairing). Openings must be covered by suitable materials. Rear-view mirrors. Horn.

d) Licence plate bracket. Toolkit. Helmet hooks and luggage carrier hooks. Passenger foot rests. Passenger grab rails. Safety bars, centre and side stands must be removed (fixed brackets must remain excepting side stand bracket). Catalytic convertors.

13.45 The following items must be altered

e) Motorcycles must be equipped with a functional ignition kill switch or button mounted on the right hand handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine.
f) All drain plugs must be wired. External oil filter(s) screws and bolts that enter an oil cavity must be safety wired (i.e. on crankcases).
g) Where breather or over flow pipes are fitted they must discharge via existing outlets. The original closed system must be retained: no direct atmospheric emission is permitted.
h) Motorcycles must be equipped with a red light on the instrument panel that will illuminate in the event of oil pressure drop.
i) All motorcycles must be equipped with functional ignition kill switch or a button mounted on the handlebars, within reach of the hands while on the hand-grips and that is capable of stopping a running engine.
j) Throttle controls must be self-closing when not held by the hand.
k) All drain plugs must be wired. External oil filter(s) and screws, plugs and bolts that enter an oil cavity must be safety-wired, as must the oil filler cap.
l) Where an oil breather pipe is fitted, the outlet must discharge into a catch tank located in an easily accessible position and must be emptied before the start of a practice session or race.
m) The minimum size of any such catch tank shall be 250cc for gearbox breather pipes and 500cc for engine breather pipes.
n) Headlamps, rear lamps, mirrors and turn indicators must be removed, but the profile and frontal appearance, including the turn indicator shape where this is molded into the fairing, must be retained. Any openings left by the removal of items must be covered by a suitable material.
o) Front brake calipers and brake lever retaining pins must be safety-wired or otherwise additionally secured.
p) Protective race helmets MUST BE Snell, Dot, JIS or ECE Approved and must be double D ring.

13.46 Tyres

a) MSA will confirm the details regarding the tyres to be used via official circular and/or via the official tyre order forms issued to riders.
b) Marked tyres must be used for all qualifying sessions and races. The onus is on the rider to ensure that his/her tyres are correctly marked.
c) Notwithstanding the above, if a race or qualifying session is declared as "wet" by the Clerk of the Course within the 60 minutes prior to the commencement of a qualifying session or race, then tyres may be changed to another type approved for wet weather use, at the sole discretion of the Technical Consultant. In the event of conditions improving, competitors may revert to using their marked 'dry weather' tyres. If the practice session and qualifying session and races are all 'wet' then the normal tyre quantity limitations shall be in force subject to "d)" below. If the sessions vary between 'wet' and 'dry' then the use of tyres shall be decided upon by the COC in consultation with the the TC.
d) If a competitor deems his tyre/s to be damaged and therefore unsafe to be used, then he/she may make application to the Technical Consultant for permission to change the damaged tyre/s. The changed tyre/s must be of the same make, type and compound as, and be of similar wear to, the damaged tyre/s. Selection of the tyre/s to be used is at the sole discretion of the TC. Penalties, if any, will be at the sole discretion of the Clerk of the Course.
e) Only homologated tyres will be permitted to be used. Any homologated tyre may be used in the racing season during which it is homologated.
f) The President of the MSA Motorcycle Racing Commission, the promoter and the MSA TC, shall, at their sole discretion, accept, rescind or decline a request for homologation of tyres. They shall also have the overriding authority to make a ruling in respect of any dispute regarding the eligibility of tyres.
g) In interpreting the use of tyres and/or the changing of tyres and/or safety matters relating to tyres, the Technical Consultant's decision shall be final, and binding on all parties.

h) Entrants are limited to the use of two (2) sets of tyres per race meeting. The same sets of tyres must be used for the official timed qualifying session and both races.
i) The Clerk of the Course, in consultation with the TC, may request the exchange of tyres between riders providing that the tyres are of the same make, compound and size and providing that such exchange is made prior to official qualifying and in sufficient time to allow the changing of said tyres.
j) Infringement of ANY tyre rule shall result in the offending rider, as a minimum, being excluded from the results of the race concerned and/or sent to the back of the grid for the ensuing race, together with the imposition of a 30 second time penalty. The penalty for more serious infringements shall generally be a three (3) race meeting ban. Should there be less than 3 race meetings left in the season, 60 points shall be deducted from the respective rider's and manufacturer's standings.
k) The use of tyre warmers is allowed (refer SSR 2 B).
l) Any amendments/additions to these tyre rules shall be notified to affected parties by way of an official MSA circular.
m) Where compounds are specified, these will be the only ones permitted.
n) The onus is on the rider to ensure that his/her tyres are correctly marked.
o) Teams are to ensure that tyres are fitted in the correct rotational direction.
p) The onus is on the rider to ensure they have sufficient wet weather tyres at all times.

13.47 Non-Compliant Parts/Components

Any part/component found not to comply with the regulations, and which is incapable of being brought back into specification in a permitted manner, may be confiscated and retained by MSA to prevent its continued use in events.