

SACU 2025 Formula Supersport REGULATIONS

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SACU Formula Supersport Championship All machines competing in these classes must confirm with the following regulations. SACU reserve the right to change these regulations at any point and inform riders in the form of a bulletin.

FORMULA SUPERSPORT SPECIFICATIONS

These rules are intended to permit changes to the homologated motorcycle in the interest of safety and competitiveness. EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN. All motorcycles must comply in every respect with all the regulations requirements for Road Racing as specified in the SACU Standing Regulations. The appearance from both front, rear and the profile of Supersport motorcycles must (except when otherwise stated) conform to the homologated shape (as originally produced by the manufacturer. The appearance of the exhaust system is excluded from this rule.

Bikes which qualify for MSVR Supersport, GP2 class Rules also qualify for SACU Formula Supersport Class

Engine output may be checked at Championship rounds, 600 and 636cc four cylinders no limit, all others must not exceed 132BHP

1

Machine Specifications All items not mentioned in the following articles must remain as originally produced by the manufacturer for the homologated machine. The only exception from the above is that a full rolling chassis from a Kawasaki ZX-6R 600 may use engine, throttle bodies and airbox from the Kawasaki 636 and these must be homologated from the Kawasaki Ninja ZX-6R 2019 (636cc) model year or later.

2.

Engine configurations and Displacement capacities

Over 400cc up to 636cc 4 stroke 4 cylinders, 675cc 3 cylinders

637cc - 750cc 4 stroke 4 cylinders 750cc four cylinder, standard engine producing not more than 132 BHP at the rear wheel, Dyno sheet must be presented as proof of eligibility. Dyno checks are possible, any infringement will result in exclusion until proof of compliance is provided to SACU Stewards.

Over 500cc up to 800cc 4 stroke 3 cylinders

Over 748cc up to 959cc 4 stroke 2 cylinders

The displacement capacities must remain at the homologated size. Modifying the bore and stroke to reach class limits is not allowed.

3

Number Plate Colours Front: White background, blue numbers

Numbers must be legible

The decision of officials will be final.

4 Fuel

Fuel can be pump “road” fuel or pumped/canned race fuel, with a maximum 102 RON. No additives are permitted.

5 Tyres

Slick tyres are allowed.

6 Engine

Fuel injection systems

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

The original homologated fuel injection system must be used

Throttle bodies intake insulators may be modified.

The injectors must be standard units as on the homologated motorcycle. Bell mouths, including their fixing points, may be altered or replaced from those fitted by the manufacturer on the homologated machine. Butterfly cannot be changed or modified.

Cylinder Head – Supersport 600 – 636cc

Cylinder head must be as homologated. The following modifications are allowed:

- a) Grinding of the cylinder head surface on the side of the gasket;
- b) Modifications of the inlet and exhaust ports by taking off or adding material (welding is forbidden);
- c) Original homologated valves guides may be cut or modified, but only on the intake or exhaust port side;
- d) Polishing of the combustion chamber;
- e) Original valve seats must be used, but modifications are allowed to the shape;

f) Compression ratio is free, but the combustion chamber can be modified only by taking material off.

It is forbidden to add any material to the cylinder head unless as described above.

The combustion chamber may be modified.

Rocker arms (if any) must remain as homologated (material and dimensions)

Valves must remain as homologated by the original manufacturer.

Valves spring retainers and cotters may be altered or replaced.

Valve springs may be changed.

Cylinder Head – 750cc 4 cylinder, 800cc Triples, 1000cc Twins

No modifications are allowed. No material may be added or removed from the cylinder head
Valves, Valve seats, Valve guides, Valve springs, Tappet buckets, cotters, spring base, shims, Oil
Seals, spring retainers must be as originally produced by the manufacture for the homologated
engine.

Camshaft - 750cc 4 Cylinder, 800cc Triples, 1000cc Twins

No modification allowed

Camshaft – Supersport 600 – 636cc

Cam timing of engines up to 600cc with 4 cylinders may be altered from the engine
manufactures homologated timing and the sprockets on those engines may be altered to
achieve this. The method of drive and the cam sprockets or gears must remain as homologated.

The method of drive must remain as homologated. The camshaft is free to be modified or
replaced, but 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.

The duration is free but the lift must remain as homologated

Cam sprockets or gears

Cam sprockets or cam gears may be modified or replaced to allow the degreeing of camshafts.

Cylinders

Cylinders no modifications are allowed.

Connecting Rods, Pistons, Piston Rings and Clips No modifications are allowed.

Crankshaft

No modifications are allowed. Polishing and lightening is not allowed.

7 Crankcase/Gearbox and all other Engine Cases (i.e. ignition case, clutch case)

Crankcases must remain as homologated. No modifications are allowed. It is not allowed to add a pump used to create a vacuum in the crankcase. If a vacuum pump is installed on the homologated motorcycle then it may be used only as homologated. Other engine cases must be made of the homologated material with the exclusion of the lateral side covers.

8 Lateral covers and protection

All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, must be protected by a second cover made of composite material, type injection moulded nylon long fibre 60%, carbon or Kevlar®, aluminium or steel plates and/or bars are also permitted. All these devices must be designed to be resistant against sudden shocks and must be fixed properly and all devices are fitted by bolts onto the engine cover/case. Dispensation is available for older machines where secondary covers are not available.

9 Transmission/Gearbox

All transmission/gearbox ratios, shafts, shift drum and selector forks may be altered or replaced. The design concept must remain the same as the original homologated parts.

Primary gears must remain as homologated.

Quick-shift and blipper systems are allowed.

The gearbox must be as produced by the original manufacturer for the homologated machine with the homologated ratios, but the gears may have strengthening, under cutting and super finishing.

Countershaft sprocket, rear wheel sprocket, chain pitch and size can be changed

10 Clutch

An aftermarket slipper clutch may be used but the type (Wet or Dry) and the operating method (Cable or Hydraulic) must remain as homologated.

The friction plates, drive plates and springs may be changed but the numbers must be the same as on the homologated machine.

The clutch secondary (spider) slipper clutch springs may be changed or modified and the number can change from that initially supplied on the homologated model.

The addition of an air bleed system may be used. Back control torque springs and their number may be changed.

11 Oil Pumps, water pumps and Oil Lines

Oil lines may be modified or replaced.

Oil lines containing positive pressure, if replaced, must be of metal reinforced construction with swaged or treaded connectors.

Oil pump and water pump no modification are allowed.

12 Radiator and oil coolers

The radiator may be changed only if it fits in the standard location and does not require any modifications to the main frame or to the fairings' outer appearance.

Design and construction of the cooling system is free, provided it only uses an aluminium alloy throughout its construction.

Modifications to the existing oil cooler are allowed only if it does not require any modifications to the main frame or to the fairings' outer appearance.

A heat exchange (oil/water) can be exchanged by an oil cooler. Radiator fan and wiring may be changed, modified or removed. Additional oil coolers are not allowed.

Oil cooler must not be mounted on or above the rear mudguard.

13 Air Box

The air box must remain as originally produced by the manufacturer on homologated machine.

The air filter element may be removed or replaced.

The air box drains must be sealed. All motorcycles must have a closed breather system.

The oil breather line must be connected and exclusively discharge in the airbox.

Only the original breather vents may be used.

Where breather or overflow pipes are fitted they must discharge via existing outlets. The original closed system must be retained; no direct atmospheric emission is permitted.

14 Fuel Supply

Fuel pump and fuel pressure regulator must remain the same as on the homologated motorcycle.

For Moto2 / GP2 machines, the fuel pump may be changed to accommodate the prototype tank.

The fuel pressure must be as homologated.

Fuel lines from the fuel tank up to the injectors (fuel hoses, delivery pipe assembly, joints, clamps, fuel canister) may be replaced.

The fuel line(s) going from the fuel tank to the fuel injection system must be located in such a way that they are protected from possible crash damage.

Quick connectors or dry brake quick connectors may be used. Fuel vent lines may be replaced. Fuel filters may be added.

15 Exhaust System

Exhaust pipes and silencers may be modified or changed.

Catalytic converters must be removed.

For safety reasons, the exposed edge(s) of the exhaust pipe(s) outlet(s) must be rounded to avoid any sharp edges.

Wrapping of exhaust systems is not allowed except in the area of the riders foot or an area in contact with the fairing for protection from heat.

The noise limit for the 600 class machines will be 105 dB/A (with a 3 dB/A tolerance after the race).

16 Electrics and Switches

Connectors and switches are free.

Ignition/Engine Control System (ECU)

Spark plugs and plug caps and wires may be replaced.

ECU is free. Standard, Flashed, Kit, Motec etc can all be used.

17 Generator, alternator, electric starter

Kit style generators are allowed.

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

18 Additional Equipment

Additional electronic hardware equipment not on the original homologated motorcycle may be added (e.g. data acquisition, one rear wheel speed sensor for data logging ONLY, computers, recording equipment).

The addition of a device for infra red (IR) transmission of a signal between the racing rider and his team, used exclusively for lap timing, is allowed.

The addition of a GPS unit for lap timing/scoring purposes is allowed.

Telemetry is allowed.

19 Wiring Harness

The wiring harness may be altered or replaced.

Additional wiring harnesses may be added.

Cutting of the wiring harness is allowed.

20 Frame Body

Frame Body and Rear sub-frame

Frame must remain as originally produced by the manufacturer for the homologated machine.

Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount, sensors).

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.

Nothing else can be added or removed from the frame body.

All motorcycles must display a vehicle identification number on the frame body (chassis number).

Engine mounting brackets or plates must remain as originally produced by the manufacturer for the homologated machine.

Rear sub frame may be changed or altered, but the type of material must remain as homologated, or of higher specific weight.

Additional seat 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.

The paint scheme is not restricted but polishing the frame body or subframe is not allowed.

Moto2 and GP2 Frame and Rear Sub-Frame

The main frame must be a prototype chassis or a modified version of a production homologated chassis.

The rear subframe must be of a prototype design the construction of which is free or a modified version of a production homologated chassis.

A Carbon Fibre monocoque seat unit is allowed and free in its construction. Kevlar may be used around the frame mounting and any fixing points only.

21 Front Forks

Standard original internal parts of the forks may be modified or changed.

No prototype electronic ally-controlled suspensions can be used. If original electronic suspensions are used, they must be completely standard (any mechanical or electronic part must remain as homologated). The original electronic system must work properly in the event of an electric/electronic failure otherwise it cannot be homologated for FIM competitions.

After market damper kits or valves may be installed.

Fork springs may be modified or replaced.

Fork caps may be modified or replaced to allow external adjustment.

Dust seal can be modified, changed or removed if the fork is totally oil sealed.

The original surface finish of the fork tubes (stanchions, fork pipes) may be changed. Additional surface treatments are allowed.

The upper and lower fork clamps (triple clamp, fork bridges) must remain as originally produced by the manufacturer on the homologated machine.

Steering damper may be added or replaced with an aftermarket damper.

The steering damper cannot act as a steering lock limiting device.

22 Rear Fork (Swing arm)

Moto2/GP2 - The Swing Arm may be a prototype the design and construction of which is free but may only be constructed from aluminium alloy.

A chain guard must be fitted in such a way to reduce the possibility that any part of the riders' body must become trapped between the lower chain run and the rear wheel sprocket.

Rear fork pivot bolt must remain as originally produced by the manufacturer for the homologated machine.

Rear axle chain adjuster can be modified or changed.

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 calliper in place may be added to the rear swing-arm.

23 Rear Suspension Unit

Rear suspension unit can be changed or modified.

The original attachments of the frame and rear fork must be as homologated.

Rear suspension unit spring(s) may be changed.

No prototype electronic ally-controlled suspensions can be used.

If original electronic suspensions are used, they must be completely standard (any mechanical or electronic part must remain as homologated).

The original electronic system must work properly in the event of an electric/electronic failure otherwise it cannot be homologated for FIM competitions.

Rear suspension linkage may be an adjustable unit. Link plate design is open.

24 Wheels

Must be made from an aluminium alloy or Carbon Fibre.

Wheel rim diameter size Front and Rear 17 inch

Front wheel rim width 3.50 inches or 3.75 inches

Rear wheel rim width 5.50 inches or 6.00 inches

Any inner tube (if fitted) or inflation valves may be used.

Wheel balance weights may be discarded, changed or added.

If the original design included a cushion drive for the rear wheel, it must remain as originally produced for the homologated machine.

25 Brakes

Front and rear brake discs may be changed.

However, the outside diameter, the ventilation system must remain as originally produced by the manufacturer for the homologated machine.

Internally ventilated discs are not allowed if not homologated in the original machine.

The brake disc carriers may be changed but must retain the same off set and same type of mounting to the wheels.

Replacement brake discs must be of ferrous material.

Brake callipers and master cylinders are open.

Motorcycles must be equipped with brake lever protection, intended to protect the handlebar brake lever(s) from being accidentally activated in case of collision with another machine. Such devices must be strong enough to function effectively and designed so that there is no risk for the rider to be injured or trapped by it, and it must not be considered a dangerous fitting (at the sole discretion of the Chief technical official).

Anti-lock Brake Systems (ABS) are not permitted.

Braking inputs must be powered and controlled solely by the rider's manual inputs.

Conventional hydraulic hand/foot controls such as master/slave cylinders for brake systems are allowed.

No increase or control of brake pressure by electronic or mechanical systems apart from the rider's direct manual inputs are allowed. Specifically, brake systems designed to prevent the wheel from locking when the rider applies the brake are forbidden. Front and rear hydraulic brake lines must be of braided steel type and readily available on the open market from an established manufacturer.

Quick connectors may be used. The split of the front brake lines for twin front brake callipers must be made above the lower edge of the fork bridge (lower triple clamp).

Front and rear brake pads may be changed.

Brake pad locking pins may be modified for quick change type.

Additional air ducts are allowed.

26 Handle Bars and Hand Controls

Handle bars, throttle assembly and associated cables, hand controls and levers may be replaced.

Handle bars and hand controls may be relocated.

Throttle controls must be self-closing when not held by hand Electric starter switch and engine stop switch must be located on the handle bars.

27 Foot Rest/Foot Controls

Foot rest/foot controls may be relocated, but the original mounting points must be used.

Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.

The end of the foot rest must have at least an 8mm solid spherical radius. Non folding footrests must have an end (plug) which is permanently fixed, made of aluminium, plastic, Teflon® or equivalent type of material (min. radius of 8mm).

The plug surface must be designed to reach the widest possible area of the footrest.

The Chief Technical Officer has the right to refuse any plug not satisfying this safety aim.

28 Fuel Tank

Fuel tanks are open in design but must be made from aluminium or steel.

The chief Technical official may require the team to exchange any parts of the fuel system for another standard part at any time.

No exotic materials maybe used to include Carbon Fibre.

Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250 cc made of a suitable material.

Fuel caps when closed, must be leak proof.

Additionally, they must be securely locked to prevent accidental opening at any time.

29 Fairing/Body Work

a) Fairing, front mudguards and body work must appear to be as originally produced by the manufacturer for the homologated machine. Moto2 and GP2 machines are open

b) Fairing and body work may be replaced with cosmetic duplicates of the original parts. The material may be changed. The use of carbon fibre or Kevlar® materials is allowed in fairing, fuel tank cover, seat, seat base and associated bodywork construction.

c) Size and dimensions must be the same as the original parts without any addition or subtractions of design elements. Moto2 and GP2 are open.

- d) Wind screen may be replaced with transparent material only.
- e) The original combination instrument/fairing brackets may be replaced. All other fairing brackets may be altered or replaced.
- f) The original air ducts running between the fairing and the air box may be altered or replaced.
- g) The original air ducts into the airbox may be altered or replaced.
- h) The lower fairing has to be constructed to hold, in case of an engine breakdown, at least half of the total oil and engine coolant capacity used in the engine (minimum 5 litres). The lower edge of openings in the fairing must be positioned at least 50 mm above the bottom of the fairing.
- i) Minimal changes are allowed to permit the use of an elevator (stand) for wheel changes and to add a small plastic protective cone to the frame or engine.
- j) Front mudguard must appear as originally supplied by the manufacturer for the homologated machine. Moto2 and GP2 are open.
- k) Front mudguard may be replaced with cosmetic duplicates of the original parts. The use of carbon fibre or Kevlar® composites is allowed.
- l) Front mudguard may be spaced upward for increased tyre clearance.
- m) Rear mudguard fixed on the swing-arm may be replaced with cosmetic duplicates of the original parts. The use of carbon fibre or Kevlar® composites is allowed.
- n) Rear mudguards fixed on the swing-arm that incorporate the chain guard can be modified to accommodate larger diameter rear sprockets.
- o) The existing rear mudguard under the seat may be removed. A mudguard may be fitted directly onto the swing-arm (it may not cover more than 120 degrees of the wheel).

30 Seat

Seat, seat base and associated body work may be replaced with parts of similar appearance as originally produced by the manufacturer for the homologated machine.

The top portion of the rear body work around the seat may be modified to a solo seat. Holes may be drilled in the seat or rear cowl to allow additional cooling.

Holes which are bigger than 10mm must be covered with metal gauze or fine mesh.

The appearance from both front rear and profile must conform in principle to the homologated shape.

All exposed edges must be rounded.

31 Fasteners

Standard fasteners may be replaced with fasteners of any material and design.

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

Titanium fasteners may be used in structural locations, but the strength and design must be equal to or exceed the strength of the standard fastener it is replacing.

Special steel fasteners may be used in structural locations, but the strength and design must be equal to or exceed the strength of the standard fastener it is replacing.

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

Fairing/body work fasteners may be changed to the quick disconnect type.

32 The following items MAY BE altered or replaced from those fitted to the homologated motorcycle

Any type of lubrication, brake or suspension fluid may be used.

Bearings (ball, roller, taper, plain, etc.) of any type or brand may be used.

Gaskets and gasket materials. Painted external surface finishes and decals.

Tachometer – NB this must be working so that noise limits may be measured

33 The following items MAY BE removed

Emission control items (anti-pollution) in or around the air box and engines (O2 sensors, air injection devices)

Speedometer and related wheel spacers.

Bolt on accessories on a rear sub frame.

34 The Following Items MUST BE removed –

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

35 The following items MUST BE altered

Motorcycles must be equipped with a functional ignition kill switch or button mounted at least on one side of the handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine.

It is recommended that machines be equipped with a red light on the instrument panel. This light must flash in the event of oil pressure drop.

All drain plugs must be Safety wired. External oil filter(s) screws and bolts that enter an oil cavity must be safety wired (i.e. on crankcases, oil lines, oil coolers, etc.)

36 Rain Light

All motorcycles must have a functioning red light mounted at the rear of the machine to be used in rain or low visibility conditions as instructed by Race Control.

The team must ensure that the light is switched on whenever a rain tyre is fitted on the motorcycle and/or when any practice or race is declared “wet” by Race Control. Lights must comply with the following:

- a) lighting direction must be parallel to the machine centre line (motorcycle running direction), and clearly visible from the rear at least 15 degrees to both left and right sides of the machine centre line.
- b) mounted on the seat/rear bodywork approximately on the machine centre line, in a position approved by the Chief Technical Officer. In case of dispute over the mounting position or visibility, the decision of the Chief Technical Officer will be final.
- c) power output/luminosity equivalent to approximately: 10 – 15W (incandescent) 0.6 – 1.8 W (LED).