2.8 TECHNICAL SPECIFICATIONS FOR SUPERMONO

Teams / riders may present for technical control a maximum of one motorcycle.
In case of an not repairable crash or engine breakdown the team / rider may present a second motorcycle for technical control.
The chief technical steward must give his permission.

2.8.1 Displacement capacities

Maximum capacities:

Supermono up to 250 cc.	Single cylinder
Supermono 250up to 500cc.	Single cylinder
Supermono 500 up to 800 cc.	Single cylinder

- Engines may operate on the four stroke principle only.
- Engines must be normally aspirated.
- No tolerance on capacities is permitted.
- Engine capacity must be measured at ambient temperature.

2.8.2 Minimum Weights

Supermono up to 250 cc	80 kg
Supermono 250 up to 500 cc	90 kg
Supermono 500 up to 800 cc	95 kg

Ballast may be added to achieve the minimum weights, but it must be securely fixed to the frame and must be declared to the Chief Technical Steward at the preliminary check.
In the final inspection at the end of the race, the machines chosen will be weighed in the condition they finished the race. Nothing can be added to the machine including water, oil, fuel or tyres.

A 1 kg. tolerance in the weight of the machine at the post race control is accepted.

2.8.3 Number Plate

The sizes for all the front numbers are:	Minimum height:	140 mm
	Minimum width:	80 mm
	Minimum stroke:	25 mm
The size for all the side numbers is:	Minimum height:	120 mm
	Minimum width:	60 mm
	Minimum stroke:	20 mm
Minimum space between the numbers		***10 mm***

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

- one on the front, either in the centre of the fairing or slightly off to one side;
- one, on each side of the motorcycle, placed in front of the lower fairing;
- Also a number may be placed at the top of the rear seat section with the top of the number towards the rider.

These numbers must have the same size as the front numbers.

There must be a clear area around the numbers of at least 50 mm.

The numbers may not overlap.

The background colours and figures for Supermono are black background with yellow numbers.

With the RAL colour table values being black 9005 and yellow being 1003.

In case of a dispute concerning the legibility of numbers, the decision of the Chief Technical Steward will be final.

2.8.5 Fuel

All Supermono engines must function on normal unleaded fuel ***(included E 10 and E 85)*** with a maximum lead content of 0.005 g/l (unleaded) and a maximum MON of 90 (see FIM specifications)

2.8.6 Machine Specifications

2.8.6.1 Main Frame Body

The use of titanium and/or magnesium in the construction of the frame is not permitted.

2.8.6.2 Front Forks

The use of titanium in the construction of the front forks is not permitted.
The surface treatment is free. There must be at least 15 degrees of movement of the steering each side of the centre line.
Stops must be fitted to ensure a clearance of at least 30 mm between the handlebar and the tank when at the extremes of lock.
The steering damper cannot act as a steering lock limiting device.

2.8.6.3 Rear Fork (Swing arm)

The use of titanium, magnesium and composites in the construction of the rear fork (swing arm) spindle is not permitted.

2.8.6.4 Suspension

No restrictions.

2.8.6.5 Wheels

Maximum front wheel rim width is 4.0 in.

Maximum rear wheel rim width is 6.25 in.

Minimum wheel diameter is 16 in.

The use of titanium or any other light alloy in the construction of the wheel spindles is not permitted.

2.8.6.6 Brakes

Supermono's must have a minimum of one brake on each wheel that is independently operated. The use of carbon fibre or carbon composite discs is not allowed.

2.8.6.7 Tyres

Racing tyres must be used.

Tyre warmers are allowed.

2.8.6.8 Foot Rest/Foot Controls

Footrests may be of a folding type but in this case must be fitted with a device which automatically returns them to the normal position, and an integral protection must be provided at the end of the footrest.

Non folding metallic footrests must have an end (plug) which is permanently fixed, made of plastic, Teflon or equivalent type of material (min. radius of 8 mm).

2.8.6.9 Handlebars and Hand Controls

Handlebars must have a width of not less than 450 mm and their ends must be solid or rubber covered. The width of the handlebar is defined as the width measured between the outside of the handlebar grips or throttle twistgrips.

The use of titanium in the construction of handlebars is not permitted.

Throttle controls must be self closing when not held by the hand.

Levers must not must be longer than 200 mm. measured from the pivot point.

Engine stop switch must be located on the handlebars.

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.

2.8.6.10 Fairing/Body Work

The front wheel with the exception of the tyre and the part hidden behind the mudguard must be clearly visible from each side.

Bodywork must not extend beyond a line drawn vertically at the leading edge of the front tyre. The suspension should be fully extended when the measurement is taken. Mudguards shall not be considered as streamlining.

Mudguards are not compulsory. When fitted, front mudguards must not extend in front of a line drawn upwards and forwards at 45 degrees from a horizontal line through the front wheel spindle or below a line drawn horizontally and to the rear of the front wheel spindle.

The windscreen edge and the edges of all other exposed parts of the streamlining must be rounded.

The front inclination where the number plate is fixed must not exceed an angle of 30° to the rear of the vertical (see diagram A).

Whatever the position of the handlebars, there must be a space of at least 20 mm between the streamlining and the ends of the handlebars or other steering system, including any attachments thereto.

The maximum width of bodywork must not exceed 600 mm. The width of the seat or anything to its rear shall not be more than 450 mm, exhaust systems excepted.

The maximum height of the back of the riders seat is 150 mm. This will be measured from the lowest point of the rigid base of seat to the uppermost part of the fairing behind the rider.

No part of the streamlining (fairing) must be to the rear of a vertical line drawn through the rear wheel axle.

The rim of the rear wheel must be clearly visible over 180° of its circumference to the rear of this line.

There must be a clearance of at least 15 mm around the circumference of the tyre at all positions of the motorcycle suspension and all positions of the rear wheel adjustment.

No part of the motorcycle shall project to the rear of a vertical line drawn through the exterior edge of the rear tyre.

The motorcycle, unloaded, must be capable of being leaned at an angle of 50 degrees from the vertical without touching the ground, other than the tyres.

Air foils or spoilers may only be fitted on solo machines when they are an integral part of the fairing or seat. They must not exceed the width of the fairing nor the height of the handlebar. Sharp edges must be rounded off with a minimum radius of 8 mm. Moving aerodynamic devices are not permitted.

The rider in the normal driving position must be completely visible, with the exception of his forearms, from either side, from the rear and from above. In race position, the minimum space between the face of the rider, or his helmet and the streamlining (including the windscreen) must be 100 mm. It is forbidden to use transparent materials to evade these rules.

The fuel cap must be fitted in such a way that it does not protrude in relation to the tank profile and cannot be torn off in a crash.

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 (min. 5 litres).

The lower fairing should incorporate a maximum of two holes of 25 mm. These holes must remain closed in dry conditions and can only be open in wet race conditions as declared by the Clerk of the Course.

All sharp edges must be rounded.

2.8.6.11 Fuel Tank

Fuel tank must be completely filled with a fire retardant material (i.e. "Explosafe").

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 secured to prevent accidental opening at any time.

The fuel cap must be fitted in such a way that it does not protrude in relation to the tank profile and cannot be torn off in a crash.

2.8.6.12 Seat

The width of the seat shall not be more than 450 mm.
The maximum height of the back of the riders seat is 150 mm.
This will be measured from the lowest point of the rigid base of seat to the uppermost part of the fairing behind the rider.
All exposed edges must be rounded.

2.8.6.15 Radiator and Oil Coolers

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

2.8.6.16 Air Box

The air box is compulsory and must be completely closed around the induction bell mouth and all engine breather tubes, with air ingress only above the lowest point of the bell mouths lip (see diagram C). Carburation instruments may be entyrely within the airbox.

The air box drains must be sealed.

All Supermono motorcycles must have a closed breather system. The oil breather line must be connected and discharge in the airbox.

The breather system (airbox plus any breather oil collector box) must be capable in the event of drain pipe blockage, of retaining a minimum of 1000 cc of discharged fluid.

2.8.6.17 Carburation instruments

No restrictions

2.8.6.18 Fuel Supply

All fuel lines must be totally leak proof.

2.8.6.19 Oil Lines

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

2.8.6.20 Transmission/Gearbox

The maximum number of gears is limited to six speeds.

2.8.6.21 Exhaust System

Maximum noise limit is **103 dB/A**, measured at a mean piston speed of 11 m/sec.

The correct stroke must be marked on a clearly visible position of the crankcase.

The outlet of the exhaust must not extend behind a line drawn vertically through the edge of the rear tyre.
The last 30 mm of the pipe must be horizontal and parallel to the centre line of the motorcycle with a tolerance of +/- 10 degrees.

2.8.7 The following items MUST BE incorporated

All motorcycles must have a functioning red light at the rear of the seat, to be used during wet practices and races or in low visibility conditions, as declared by the race direction.
The rear safety light must comply with the following:

a) The lightning direction must be parallel to the centre line of the motorcycle (running direction) and it must be clearly visible from the rear , at least 15 degrees to both left and right sides of the centre of the motorcycle.
b) It must be safely mounted on the very end of the seat /rear bodywork and approximately on the centre line of the motorcycle. In case of dispute over the mounting position or visibility of the rear safety light the dicision of the chief technical steward will be final.
c) The power output /luminosity must be equivalent to approximately 10-15 watt (incandescent) or 3-5 watt (led)
d) The light must be able to be switched on and off.

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

Throttle controls must be self closing when not held by the hand.

Electric fuel pumps must be wired through a circuit cut out which will operate automatically in the event of an accident.

A test procedure for the circuit cut out must be incorporated in the design of electrically operated fuel pumps for use upon inspection.

Safety bars, centre and side stands, if fitted, must be removed.

All drain plugs must be wired. External oil filter(s) screws and bolts that enter an oil cavity must be safety wired.

All Supermono motorcycles must have a closed breather system. The oil breather line must be connected and discharge in the airbox.

The breather system (airbox plus any breather oil collector box) must be capable in the event of drain pipe blockage, of retaining a minimum of 1000 cc of discharged fluid.

Where an oil breather pipe is fitted, the outlet must discharge into a catch tank located in an easily accessible position and which must be emptied before the start of a race.

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

The minimum size of a catch tank shall be 250 cc for gear box breather pipes and 500 cc for engine breather pipes.

Head lamp, rear lamp and turn indicators, if fitted, must be removed. The openings must be covered by a suitable material.

2.8.8 Additional Equipment

Additional equipment may be fitted. Telemetrie is not allowed.

2.9 Protective Clothing and Helmets

2.9.1 Riders must wear a complete leather suit with additional leather padding or other protection on the principal contact points, knees, elbows, shoulders, hips etc.

2.9.2 Linings or undergarments must not be made of a synthetic material which might melt and cause damage to the riders' skin.

2.9.3 Riders must also wear leather gloves and boots, which with the suit provide complete coverage from the neck down.

2.9.4 Leather substitute materials may be used, providing they have been checked by the Chief Technical Steward.

2.9.5 Use of a back protector is compulsory.

2.9.6 Riders must wear a helmet which is in good condition, provides a good fit and is properly fastened.

2.9.7 Helmets must be of the full face type and conform to one of the recognised international standards:

- Europe ECE 22-05 "P"
- Japan JIS T8133 - 2007 (valid until 31.12.2019)
  JIS T8133 - 2015
- USA SNELL M 2010 (valid until 31.12.2019)
  SNELL M 2015

2.9.8 Visors must be made of a shatterproof material.

2.9.9 Disposable "tear-offs" are permitted.

2.9.10 Any question concerning the suitability or condition of the riders clothing and/or helmet shall be decided by the FIM Technical Director/Chief Technical Steward, who may, if he so wishes, consult with the manufacturers of the product before making a final decision.