



FÉDÉRATION INTERNATIONALE
DE MOTOCYCLISME

***Road Racing Superbike & Supersport
World Championships and Superstock
Cup Regulations***

***Règlements du Championnat du Monde
de Courses sur Route pour Superbike
& Supersport et pour la Coupe Superstock***

SBK SUPERBIKE
WORLD CHAMPIONSHIP

SUPERSPORT
WORLD CHAMPIONSHIP

SUPERSTOCK
FIM CUP 1000

2006

1st edition / 1^{ère} édition

ROAD RACING SUPERBIKE & SUPERSPORT WORLD CHAMPIONSHIPS AND SUPERSTOCK CUP REGULATIONS

REGLEMENTS DU CHAMPIONNAT DU MONDE DE COURSES SUR ROUTE POUR SUPERBIKE & SUPERSPORT ET POUR LA COUPE SUPERSTOCK

This book (hereinafter collectively referred to as the "Regulations") has been printed on 31.01.06. Successive editions can be printed for supplementing and/or amending. The new editions will be numbered (2nd edition, 3rd edition, etc.), dated and issued to all relevant Bodies. / *Ce livre (ci-après désigné collectivement sous la dénomination "Règlements") a été imprimé le 31.01.06. Des éditions successives peuvent être imprimées pour complément et/ou amendement. Les nouvelles éditions seront numérotées (2^{ème} édition, 3^{ème} édition, etc.), datées et transmises aux organismes appropriés.*

THIS BOOK PREVAILS OVER ALL OTHER FIM RULE BOOKS EXCEPT THOSE REFERRED TO AS AN APPENDIX.

CETTE BROCHURE PREVAUT SUR TOUS LES AUTRES REGLEMENTS FIM, A L'EXCEPTION DE CEUX QUI SONT RENVOYES A UNE ANNEXE.

2006

1st edition / 1^{ère} édition

FEDERATION INTERNATIONALE DE MOTOCYCLISME (FIM)

11, route Suisse

CH-1295 MIES

Tel: +41-22-950 950 0

Fax: +41-22-950 950 1

www.fim.ch

ccr@fim.ch

FGSPORTGROUP

Via di Tor Pagnotta, 94

00143 Rome

Tel: +39 06 50 966 1

Fax: +39 06 50 966 350

CONTENTS / SOMMAIRE

| | |
|---|------------------|
| GENERAL UNDERTAKINGS AND CONDITIONS..... | 4 |
| <i>OBLIGATIONS ET CONDITIONS GENERALES.....</i> | <i>4</i> |
| 1. SPORTING REGULATIONS..... | 5 - 50 |
| <i>REGLEMENTS SPORTIFS.....</i> | <i>5 - 50</i> |
| 2. TECHNICAL REGULATIONS..... | 51 - 135 |
| <i>REGLEMENTS TECHNIQUES</i> | <i>51 - 135</i> |
| 3. DISCIPLINARY AND ARBITRATION CODE | 136 - 146 |
| <i>CODE DISCIPLINAIRE ET D'ARBITRAGE</i> | <i>136 - 146</i> |
| 4. CIRCUIT STANDARDS..... | 147 |
| <i>NORMES POUR LES CIRCUITS</i> | <i>147</i> |
| 5. MEDICAL CODE..... | 148 - 161 |
| <i>CODE MEDICAL</i> | <i>148 - 161</i> |
| ANTI-DOPING CODE | 163 |
| <i>CODE ANTIDOPAGE</i> | <i>163</i> |

2006 EDITION
1st edition / 1^{ère} édition

2. TECHNICAL REGULATIONS

Amendments to the technical regulations may be made at any time in order to ensure fairer competitions.

If a motorcycle is found not to be in conformity with the technical regulations during or after the practices, his rider will be given a ride through penalty for the next race. Further penalties (such as a fine – a suspension and/or a withdrawal of Championship or Cup points) may also be imposed.

If a motorcycle is found not to be in conformity with the technical regulations after a race, his rider will be disqualified. Further penalties (such as fine – a suspension and/or a withdrawal of Championship or Cup points) may also be imposed.

2.1 INTRODUCTION

2.1.1 Motorcycles for the Road Racing Superbike & Supersport World Championships and Superstock Cup are based on recent or current production motorcycles and available to the public through the normal commercial channels of the constructor.

2.2 CLASSES

2.2.1 **The Sports Production classes will be designated by engine capacity.**

2.3 GENERAL ITEMS

2.3.1 Materials

The use of titanium in the construction of the frame, the front forks, the handlebars, the swing arms, the swing arm spindles and the wheel spindles is forbidden. For wheel spindles, the use of light alloys is also forbidden. The use of titanium alloy nuts and bolts is allowed.

- 1) Titanium test to be performed on the track: Magnetic test (titanium is not magnetic).
- 2) The 3 % nitric acid test (titanium does not react. If metal is steel, the drop will leave a black spot).

- 3) Specific mass of titanium alloys 4,5-5, of steel 7,5-8,7 can be ascertained by weighing the part and measuring its volume in a calibrated glass filled by water (intake valve, rocker, connecting rod, etc.).
- 4) In case of doubt, the test must take place at a Materials Testing Laboratory.

2.3.3 Handlebars

Exposed handlebar ends must be plugged with a solid material or rubber covered.

The minimum angle of rotation of the handlebar on each side of the centre line or mid position must be of 15° for all solo motorcycles.

Whatever the position of the handlebars, the front wheel, tyre and the mudguard must respect the gap with the motorcycle (parts) as written in Table 1.

Solid stops, (other than steering dampers) must be fitted to ensure a minimum clearance of 30 mm between the handlebar with levers and the tank when on full lock to prevent trapping the rider's fingers (see diagrams A,B,C).

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

The repair by welding of light alloy handlebars is prohibited.

2.3.4 Control levers

- 1) All handlebar levers (clutch, brake, etc.) must be ball ended (diameter of this ball to be at least 16 mm). This ball can also be flattened, but in any case the edges must be rounded (minimum thickness of this flattened part 14 mm). These ends must be permanently fixed and form an integral part of the lever.
- 2) Each control lever (hand and foot levers) must be mounted on an independent pivot.
- 3) The brake lever, if pivoted on the footrest axis, must work under all circumstances, such as the footrest being bent or deformed.

2.3.5 Wheel and rims (See Table 1)

- 1) All tyres will be measured mounted on the rim at a pressure of 1 kg/cm² (14 lb./sq.in.); measurements taken at a tyre section located at 90° from the ground.
- 2) Any modification to the rim or spokes of an integral wheel (cast, moulded, riveted) as supplied by the manufacturer or of a traditional detachable rim other than for spokes, valve or security bolts is prohibited, except for tyre retention screws sometimes used to prevent tyre movement relative to the rim. If rim is modified for these purposes bolts, screws etc., must be fitted.
- 3) The maximum wheel rim widths are:

| | |
|-------------------|-----------------------------------|
| Superbike | Front: 4.00" Rear: 6.25" |
| Supersport | according to the homologated size |
| Superstock | according to the homologated size |
- 4) For information, the distance is measured inside flange walls of the wheel rim in accordance with ETRTO.
- 5) The minimum rim diameter is 400 mm.

2.3.6 Tyres

Tyres may be replaced from those fitted to the homologated motorcycle.

- 1) **With the exception of tyres:**
 - a) supplied by the Official Supplier
 - b) slick tyres
 - c) tyres marked 'NOT FOR HIGHWAY USE' (NHS)

The manufacturer must identify the tyre with the following:

- The DOT mark and/or the E mark (used for "homologated tyres" or tyres marked for highway use only)
- **The name of the manufacturer**
- The year of manufacture (in code)
- The tyre dimension
- **The speed rating**
- Any other features necessary for the correct use of the tyre

2) Fitting

- The tyre must be mounted on the correct rim.
- The rim must not be deformed or damaged.

3) Permitted maximum speed

With the exception of tyres supplied by the Official Supplier, the minimum speed rating for use in Supersport and Superstock is (W).

4) Tyre surface tread pattern

The tread pattern is unrestricted. Minimum profile requirements are set for Supersport and Superstock.

The tread pattern must be made exclusively by the manufacturer when producing the tyre.

The choice of a certain type of tread pattern is left entirely up to the individual rider.

The choice of slick tyres (where applicable) will also be at the discretion of the rider. If conditions must become problematic however, he must take into account the recommendations of the appropriate representative of the tyre manufacturer.

As a safe minimum, the depth of the tyre tread over the whole pattern at pre-race control must be at least 2.5 mm.

Tyres which at the preliminary examination have a tread depth of less than 1.5 mm are considered as non-treaded tyres and the restrictions applying to slick tyres will then apply to them.

The surface of a slick tyre must contain three or more hollows at 120° intervals or less, indicating the limit of wear on the centre and muster areas of the tyre. The rider shall not enter the track if at least 2 of these indicator hollows are worn on different parts of the periphery.

2.3.7 The minimum distance between the surface of the tyre (at its largest point) and any fixed parts of a motorcycle is shown in Table 1.

2.3.8 Adaptation of the tyre's surface

In order to obtain optimal tyre adhesion, new unused tyres can be adapted by scuffing the surface. As a safe minimum, the depth of the tyre tread over the whole pattern at pre-race control must be at least 2.5 mm.

2.3.9 The use of tyre warmers is allowed.

2.3.10 Use of Tyres

The competitors shall only use tyres distributed by the Official Supplier during the event.

For each event, all tyres must be made of the same quality of compound and shall be strictly identical.

The controlled tyres must be marked in agreement with the instruction of the Technical Director.

All tyres to be used must be easily identifiable with a colour marking or a numerical system, to be applied by the Official Supplier at the time of manufacturing.

When the Official Supplier delivers the samples of the tyres to the FIM Technical Director, he must also give a written explanation of the marking and the general characteristics of the different types of tyres.

After the samples have been delivered to the Technical Director at the beginning of the event, any modification of the tread pattern (with the exception of normal wear) is not permitted.

During free practices, qualifying practices, **(Superpole for Superbike)**, warm up session **(and race for Superstock)**, no motorcycle may enter the track without the front and rear tyres being marked (see also Art. 2.4.6.7 / 2.5.6.7 / 2.7.6.7).

The FIM Technical Director may, at his discretion, require the exchange of one (1) or more competitors' tyres for a tyre sample under his control. The tyres exchanged remain under his control and he can exchange them for the ones of another competitor.

An appropriate identification will be applied on the left side of each tyre, in the controlled sessions.

No tyres marked for one event may be used during timed practices and in races at another event.

When indicated (see Art. 2.4.6.7 / 2.5.6.7 / 2.7.6.7), no unmarked dry-weather tyres are allowed in the pits.

2.4 SUPERBIKE TECHNICAL SPECIFICATIONS

Rules intended to give freedom to modify or replace some parts in the interest of safety, research and development.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN

Superbike motorcycles require an FIM homologation (see Art. 2.9). All motorcycles must comply in every respect with all the requirements for road racing as specified in the Technical Regulations, unless it is equipped as such on the homologated machine.

The appearance from both front, rear and the profile of Superbike motorcycles must (except when otherwise stated) conform in principle to the homologated shape (as originally produced by the manufacturer). The appearance of the exhaust system is excluded from this rule.

2.4.1 Displacement capacities

| | | |
|-------------|---------------------------|----------|
| 2 cylinders | Over 800 cc up to 1000 cc | 4 stroke |
| 3 cylinders | Over 750 cc up to 1000 cc | 4 stroke |
| 4 cylinders | Over 750 cc up to 1000 cc | 4 stroke |

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

2.4.2 Minimum Weights

The minimum weight will be: 165 kg

The use of titanium in the construction of the front forks, the handlebars and the wheel spindles is forbidden. For wheel spindles, the use of light alloys is also forbidden.

During the final inspection at the end of each race, the machines chosen will be weighed in the condition they finished the race.

The established weight limit must be met in the condition the machine has finished the race; nothing can be added to the machine. This includes water, oil, or fuel.

During the practice and qualifying sessions, riders may be asked to submit their motorcycle to a weight control in the pit lane. (This will be done in such a way that the rider and team will be disturbed as little as possible. In all cases, the rider must comply with this request for a control.)

At any time of the event, the weight of the whole machine (including the tank) must not be less than the minimum weight **with a tolerance of 1 kg**.

2.4.3 Number Plate Colours

The background colours and figures (numbers) for Superbike are white background with black numbers: the RAL colour table values being 9005 for black and 9010 for white.

| | | |
|--|-----------------|--------|
| The sizes for all the front numbers are: | Minimum height: | 160 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: | 25 mm |

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

- once on the front, either in the centre of the fairing or **slightly off to one side;**
- **once, on each side of the motorcycle. Alternatively, once across 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.**

For light coloured bodywork, there will be a black line of 8 mm minimum all around the perimeter of the white background.

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

2.4.4 Carburation Instruments

2.4.4.1 For 1000cc Twins and Three cylinders up to 900cc

- Carburation instruments refer to both throttle bodies and carburetors.
- Carburation instruments must be used un-modified either as the original homologated carburation instrument or as the homologated optional carburation instrument.
- The only modifications allowed to the homologated carburation instruments original or optional are jets, needles, throttle valves, fuel injectors and bell mouths.
- Variable-length carburettor/fuel injection intake tract devices that function while the engine is operating are prohibited, unless such a system is used on the homologated machine.
- The original manufacturer must use the following criteria for the designing and making of the optional homologated carburation instruments.
 - a) There is no limit for the intake size of an engine equipped either by carburetors or fuel injection systems.
 - b) The optional carburettor / injector body material must remain the same as used on the original homologated carburation instruments.
 - c) A minimum number of optional carburation instruments must be available as spare parts and be included in the manufacturer's racing parts lists. All manufacturers must have a minimum of 15 sets available through traditional distributorships worldwide for the life of the homologation. The price of the optional carburation instruments to the public must not exceed twice the manufacturers suggested retail price of the original homologated carburation instrument in the country of origin. This price must be indicated on the Homologation Form.
 - d) The motorcycle manufacturer may submit only one optional carburation instrument for each model at the time of homologation.
 - e) The motorcycle manufacturer must supply a sample set of the original and optional carburation instruments to the FIM for use as comparison samples at the events.
 - f) The motorcycle manufacturer must provide evidence that the minimum of 15 sets of optional carburation instruments have been manufactured.
 - g) The optional carburation instruments must be available for at least three years after the homologation date.
 - h) The carburation instrument homologation will be valid for the same period as the homologated motorcycle.

- i) An additional model of optional carburation instruments may be homologated during the life of the machine's homologation. These carburation instruments must meet the same requirements as the original modified instruments. This is to allow development after the original homologation.
- The optional carburation instruments may only be homologated at the same time as a new homologation. [see number i) above for additional optional carburation instruments].

2.4.4.2 For 1000 cc Three- and Four cylinders

- Carburation instruments refer to both throttle bodies and carburetors.
- The original homologated carburation instruments must be used un-modified.
- The use of optional homologated carburation instruments is not allowed.
- The fuel injectors may be replaced, however they must fit without modification to the homologated throttle body.
- The carburation instruments intake insulators may be modified.
- Bell mouths may be altered or replaced.
- Variable length intake tract devices that function while the engine is operating are not allowed, unless such a system is use on the homologated machine.
- Modifications to the fuel pump and the pressure regulator are allowed.
- The fuel injection management computer may be changed.
- The use of flash memory (flash RAM) is allowed.
- Vacuum slides may be fixed in the open position.
- Secondary throttle valves and shafts may be removed or fixed in the open position and the electronics may be disconnected or removed.

2.4.5 Fuel

All engines must function on normal unleaded fuel with a maximum lead content of 0.005 g/l (unleaded) and a maximum MON of 90 (see also Art. 2.10 for full fuel specifications).

2.4.6 Machine Specifications

All items not mentioned in the following articles must remain as originally produced by the manufacturer for the homologated machine.

2.4.6.1 Main Frame Body

The main frame must remain as originally produced by the manufacturer for use on the homologated machine.

The main frame may only be altered by the addition of gussets or tubes. No gussets or tubes may be removed.

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

Rear sub frame may be changed or altered, but the material must remain as homologated.

The paint scheme is not restricted.

2.4.6.2 Front Forks

Front fork in whole or part may be changed but must be the same type homologated (leading link, telescopic, upside down, etc.).

The upper and lower fork clamps (triple clamp, fork bridges) can be changed or modified.

Steering damper may be added or replaced with an after market damper.

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

2.4.6.3 Rear Fork (Swingarm)

The rear fork may be altered or replaced from those fitted to the homologated motorcycle. The use of carbon fibre or Kevlar® materials is not allowed if not homologated on the original machine. 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 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.

2.4.6.4 Rear Suspension Unit

Rear suspension unit can be changed but a similar system must be used (i.e. dual or mono).

The rear suspension linkage may be modified or replaced.

The original fixing points in the frame (if any) must be used to mount the shock absorber, linkage and rod assembly fulcrum (pivot points).

2.4.6.5 Wheels

Wheels may be replaced (see Art. 2.3.5.2) and associated parts may be altered or replaced from those fitted to the homologated motorcycle. Carbon fibre or carbon composite wheels are not allowed, unless the manufacturer has equipped the homologated production model with this type of wheel.

Bearings, seals, and axles may be altered or replaced from those fitted to the homologated motorcycle.

Wheel rims smaller than 16 in. in diameter are not allowed.

Maximum front wheel rim width: 4.00 in.

Maximum rear wheel rim width: 6.25 in.

2.4.6.6 Brakes

Front master cylinder may be altered or replaced from those fitted to the homologated motorcycle.

Rear master cylinder may be altered or replaced from those fitted to the homologated motorcycle.

Front callipers may be altered or replaced from those fitted to the homologated motorcycle.

Rear callipers may be altered or replaced from those fitted to the homologated motorcycle.

Brake pads or shoes may be altered or replaced from those fitted to the homologated motorcycle.

Brake hoses and brake couplings may be altered or replaced from those fitted to the homologated motorcycle. The split of the front brake lines for both front brake callipers must be made above the lower fork bridge (lower triple clamp).

Brake discs may be altered or replaced from those fitted to the homologated motorcycle. Only ferrous materials are allowed for brake discs. The use of exotic alloy materials for discs and brake callipers (i.e. aluminium beryllium, etc.) is not allowed.

2.4.6.7 Tyres

At each event, during free practices, qualifying practices, Superpole and warm up session, a maximum of thirteen (13) rear and **nine (9)** front tyres may be used. There is no limitation on the number of tyres for the race.

All tyres (slick, intermediate and wet) will be included in the total quantity count.

If the riders are given a red flag during the Superpole session, the FIM Technical Director may allow an additional set of tyres to be used.

At the beginning of the event, the Official Supplier must deliver to the FIM Technical Director four (4) samples of each type of tyre which will be used at the event.

The tyres used in the free practices, qualifying practices, Superpole and warm-up must be marked with an adhesive sticker.

The sticker will show an identification number for each rider and it will have a different colour depending on whether it is applied to the front or rear tyre. At each race the Technical Director will assign a number of his choice to the competitor, while the colours will change for each race.

The stickers will be handed to the teams in a sealed envelope, 13 for the rear tyres and 9 for the front tyres, on Thursday according with a timetable decided by the Organizer and the Technical Director. The timetable will be mailed to the teams by the Organizer at least a week before the event. In extraordinary situations the Technical Director can/may alter this program.

After delivery of the stickers, the teams will be responsible for their safekeeping and use.

The stickers must be applied to the left sidewall of the tyre. Personnel nominated by the Technical Director will check that all the motorcycles in the pit lane are fitted with tyres carrying the sticker.

The use of machines without these stickers will be immediately reported to the Race Direction which will take appropriate action.

On the Sunday morning, after the warm-up and after the check by the Official Supplier regarding the effective tyre wear, the unused stickers will be returned.

In exceptional cases, should the sticker be damaged or applied in the wrong way, up to 2 extra stickers may be provided at the sole discretion of the Technical Director. However, the damaged sticker must be returned to the Technical Direction and/or the tyre it was applied to, must be absolutely intact.

2.4.6.8 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. (see diagram A & C).

Non folding footrests must have an end (plug) which is permanently fixed, made of 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 Technical Director has the right to refuse any plug not satisfying this safety aim.**

2.4.6.9 Handle Bars and Hand Controls

Handle bars, hand controls and cables may be altered or replaced from those fitted to the homologated motorcycle

Engine stop switch must be located on the handle bars.

2.4.6.10 Fairing/Body Work

- a) Fairing, mudguards and body work must conform in principle to the homologated shape as originally produced by the manufacturer.
- b) Wind screen may be replaced.
- c) Original air ducts running between the fairing to the airbox may be altered or replaced from those fitted to the homologated motorcycle.
- d) 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 edge of openings in the fairing must be positioned at least 50 mm above the bottom of the fairing.
- e) The lower fairing must incorporate **one hole of 25 mm in the bottom of the front lower area**. This hole must remain closed in dry conditions and must be only opened in wet race conditions, as declared by the Race Director.
- f) Minimal changes are allowed in the fairing to permit the use of an elevator (stand) for wheel changes and to add plastic protective cones to the frame or the engine.
- g) Holes may be drilled or cut in the fairing or bodywork to allow additional increased intake air to the oil cooler. Holes bigger than 10 mm must be covered with a particle grill or fine wire mesh. Grill/mesh must be painted to match the surrounding material.
- h) Front mudguard must conform in principle to the homologated shape originally produced by the manufacturer.
- i) Holes may be drilled in the front mudguard to allow additional cooling. Holes bigger than 10 mm must be covered with metal gauze or fine mesh. Mesh must be painted to match the surrounding material.
- j) Rear mudguard may be added or removed.
- k) Material of construction of the front mudguard, rear mudguard and fairing may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.11 Fuel Tank

Material of construction of the fuel tank may be altered or replaced from those fitted to the homologated motorcycle.

All fuel tanks must be filled with fire retardant material, or be fitted with a fuel cell bladder.

Fuel tanks made of composite materials (carbon fibre, aramid fibre, glass fibre, etc.) must have passed the FIM Standards for fuel tanks or be lined with a fuel cell bladder.

Tanks made of composite material must bear the label certifying conformity with FIM Fuel Tank Test Standards. Fuel tanks without a fuel cell bladder must bear a label certifying conformity with FIM Fuel Tank Test Standards.

Such labels must include the fuel tank manufacturer's name, date of tank manufacture, and name of testing laboratory.

Each manufacturer is requested to inform the FIM/CCR Secretariat of its fuel tank model(s) which have passed the FIM test standards, together with a copy of the fuel tank label. Full details of the FIM Fuel Tank Test Standards and Procedures are available from the FIM (See 'Fuel Tank Test Standards' below).

Fuel cell bladders must conform to or exceed the specification FIM/FCB-2005. Full details of this standard are available from the FIM.

The fuel tank must be securely fixed to the frame. The fuel tank must be fixed rigidly (i.e. with bolts) to the frame from the front and from the rear. No bayonet type couplings are allowed to body work parts. The Technical Director has the right to refuse a motorcycle if he is of the opinion that the fuel tank fixation is not safe.

The original tank may be modified to achieve the maximum capacity of 24 litres, provided the original profile is as homologated.

A cross over line between each side of the tank is allowed (maximum inside diameter 10 mm).

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

Fuel tank filler caps may be altered or replaced from those fitted to the homologated motorcycle, and when closed, must be leak proof. Additionally, they must be secured to prevent accidental opening at any time.

The same size fuel tank used in practice must be used during the entire event.

Fuel tank homologation

1. Any fuel tanks, made of non ferrous materials (with the exception of aluminium) must be tested according to the test procedure prescribed by the FIM.
2. Each manufacturer is responsible for testing its own fuel tank model(s) and will certify that the fuel tank exceeds the FIM test standard, if it has passed the FIM test procedure for fuel tanks.
3. Each manufacturer must affix a quality and test label on each fuel tank type that is produced for competition use. This quality and test label will be the recognition of a fuel tank model which has passed the FIM test procedure.
4. All fuel tanks that are made to the same design, dimensions, number of fibre layers, grade of fibre, percentage of resin, etc, must be identified with the same quality and test label.
5. The quality and test label will include the following information on each label affixed to each fuel tank: name of the fuel tank manufacturer, date of fabrication, code or part number, name of testing laboratory, fuel capacity.
6. Each manufacturer is requested to inform the FIM/CCR Secretariat of its fuel tank model(s) which have passed the FIM test procedure, with a copy of the quality and test label, according to point 5.
7. Only fuel tanks that have passed the FIM test procedure will be accepted.

2.4.6.12 Seat

Seat may be altered or replaced from those fitted to the homologated motorcycle.

The top portion of the rear body work around the seat may be modified to a solo seat. The solo seat then must incorporate the rear number plates. The appearance from both front rear and profile must conform in principle to the homologated shape.

The seat/rear cowl must allow for proper number display.

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. Mesh must be painted to match the surrounding material.

Material of construction of the seat may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.13 Radiator/Oil Cooler

The original radiator or oil cooler may be altered or replaced from those fitted to the homologated motorcycle.

Additional radiators or oil coolers may be added.

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

The appearance from the front, rear and profile of the machine must in principle conform to the homologated shape after the addition of additional radiators or oil coolers.

2.4.6.14 Air Box

The air box may be altered or replaced from those fitted to the homologated motorcycle (a special design for racing is allowed). **If fuel injectors are attached to the cover of the air box, their position must remain as original.**

The air filter element may be removed.

The air box 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 entirely within the airbox.

The air box drains must be sealed.

All 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.

2.4.6.15 Carburettors

(See Art. 2.4.4)

2.4.6.16 Fuel Injection System

(See art. 2.4.4)

2.4.6.17 Fuel Supply

The fuel injection management computer chip (EPROM) may be changed. The use of flash memory ("flash RAM") is allowed.

Fuel pump and pressure regulator may be modified or changed.

Fuel lines may be replaced.

The fuel line(s) going from the fuel tank to the carburation instruments must be located in such a way that they are protected from possible defects.

Fuel vent lines may be replaced.

Fuel filters may be added.

Fuel petcock may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.18 Engine

The following engine components may not be altered from the homologated machine except as noted.

Four cylinder engines with a bore and stroke ratio of 1.5 to 1 or greater will be subject to an RPM limit of 14'000 rpm's. This will be controlled by an electronic device issued by the FIM.

The homologated engine design concept cannot be changed.

Homologated materials and castings for the crankcase, cylinder, cylinder head and gear-box housing must be used.

Material for the crankcase, cylinder, cylinder head and gear-box housing may only be added by welding or removed by machining.

The method of cam drive must remain as homologated unless a complete kit is available through normal commercial channels. These kits must be available in significant quantity and be listed in the racing spare parts book.

***1000 cc Three and Four cylinders machines:**

Aftermarket or modified cam drive components are allowed, however the cam drive must be in the homologated location.

The method of valve retention must remain as the homologated model (no pneumatic valve retention devices are allowed unless fitted to the homologated model).

All moving internal engine, gear-box and clutch parts may be altered or replaced including materials from those fitted on the homologated motorcycle (unless not allowed by the individual section covering the parts in question).

Polishing and lightening of engine parts is permitted, except for carburation instruments (unless not allowed by the individual section covering the parts in question).

For Three and Four cylinder engines:

The sequence in which the cylinders are ignited (i.e. 1-2-4-3), must remain as originally designed on the homologated model. Simultaneous (*) firing of 2 cylinders is also forbidden if not adopted on the homologated motorcycle.

*** up to 5 degrees firing difference in 2 cylinders is regarded as 'simultaneous' firing.**

2.4.6.19 Cylinder Head

The homologated cylinder head can be modified as follows:

Homologated materials and castings for the cylinder heads must be used. Material for these parts may only be added by welding or removed by machining.

The induction and exhaust system including the number of valves and or ports (intake and exhaust) must be as homologated.

Porting and polishing of the cylinder head normally associated with individual tuning such as gas flowing of the cylinder head, including the combustion chamber is allowed.

The compression ratio is free.

The combustion chamber may be modified.

The valves may be altered or replaced from those fitted to the homologated motorcycle.

The valve seats may be altered or replaced from those fitted to the homologated motorcycle.

The valve guide may be altered or replaced from those fitted to the homologated motorcycle.

Valve springs may be altered or replaced from those fitted to the homologated motorcycle.

The valve retainers may be altered or replaced from those fitted to the homologated motorcycle.

***1000 cc Three and Four cylinder machines:**

Aftermarket or modified valves, springs, retainers and other valve train components are permitted. The original number of valves must be maintained.

- a. Valve **diameters**, including stem, must remain as homologated.
- b. Valves must be made of the same basic material as the homologated valves.
- c. Valves must remain in the homologated location and at the same angle as the homologated valves, **except for normal valve maintenance**.

2.4.6.20 Camshaft

Camshafts may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.21 Cam Sprockets or Gears

Cam sprockets or cam gears may be altered or replaced to allow the degreasing of the camshafts (see also Art. 2.4.6.18).

2.4.6.22 Crankshaft

Crankshaft may be altered or replaced from those fitted to the homologated motorcycle.

Crankshaft stroke must remain as homologated.

***1000 cc Three and Four cylinders machines:**

The following modifications are allowed to the homologated crankshaft:

- a. Bearing surfaces may be polished or a surface treatment may be applied.
- b. Balancing is allowed but only by the same method as the homologated crankshaft. (for example heavy metal i.e. Mallory metal inserts are not permitted unless they are originally specified in the homologated crankshaft.)
- c. Attachment of aftermarket ignition components or sensors is permitted.
- d. Balance shaft may be removed.

2.4.6.23 Oil Pumps and Oil Lines

Oil pump may be altered or replaced from those fitted to the homologated motorcycle.

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.

2.4.6.24 Connecting Rods

Connecting rods may be altered or replaced from those fitted to the homologated motorcycle. Carbon composite or carbon fibre materials are not allowed.

2.4.6.25 Pistons

Pistons may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.26 Piston Rings

Piston rings may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.27 Piston Pins and Clips

Piston pins and clips may be altered or replaced from those fitted to the homologated motorcycle.

2.4.6.28 Cylinders

Homologated materials and casting for the cylinder block must be used. The material for the cylinder block may only be added by welding and/or removed by machining. The sleeves or liner material may be changed and the surface finish is free. The original bore size must be retained.

2.4.6.29 Crankcase/Gearbox housing and lateral covers

Homologated materials and castings for crankcase and gearbox housing must be used. Material for crankcase and gearbox housing may only be added by welding or removed by machining.

Lateral (side) covers may be altered, modified or replaced. If replaced, the cover must be made in material of same or higher specific weight of the substituted cover.

2.4.6.30 Transmission/Gearbox

All transmission/gearbox ratios, **shafts, drums, selector forks** are free.

Primary gear ratios are free for 1000 cc Twins and 900 cc Three cylinder machines only.

Primary gear ratios must remain as homologated for 1000 cc Three and Four cylinder machines.

The number of gears must remain as homologated.

Additions to gearbox or selector mechanism, such as quick shift systems, are allowed.

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

2.4.6.31 Clutch

Aftermarket or modified clutches are permitted.

Back torque limiter is permitted.

***1000 cc Twins and 900 cc Three cylinder machines:**

Clutch system (wet or dry type) and method of operation (cable/hydraulic) may be altered or replaced from those fitted to the homologated motorcycle.

***1000 cc Three and Four cylinder machines:**

Clutch system (wet or dry type) and method of operation (cable/hydraulic) must remain as homologated.

2.4.6.32 Ignition/Engine Control System

Ignition/engine control system may be modified or changed.

Spark plugs and plug wires may be replaced.

2.4.6.33 Generator, alternator, electric starter

The generator, starting system electrical or manual including kick lever, pedal, starter crank gear and starter shaft may be altered, replaced or removed from those fitted to the homologated motorcycle.

2.4.6.34 Exhaust System

Exhaust pipes, **catalytic converters** and silencers may be altered or replaced from those fitted to the homologated motorcycle.

The number of the **final** exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.

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 Superbikes will be 107 dB/A (with a 3 dB/A tolerance after the race).

2.4.7 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.

Any type of spark plug and plug cap may be used.

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

Gaskets and gasket material.

Wheel balance weights may be discarded, changed or added to.

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

Fasteners (nuts, bolts, screws, etc.).

Electronic devices, electric cables, connectors, battery and switches.

External surface finishes and decals.

2.4.8 The following items MAY BE removed

Instrument and instrument bracket and associated cables.

Tachometer.

Speedometer and associated wheel spacers.

Radiator fan and wiring.

Chain guard.

2.4.9 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).

2.4.10 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.

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

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, oil lines, oil coolers, etc.).

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

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.

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.

2.4.11 Additional Equipment

Additional equipment not on the original homologated motorcycle may be added (i.e. data acquisition, computers, recording equipment etc.).

2.5 SUPERSPORT TECHNICAL SPECIFICATIONS

Rules intended to permit changes to the homologated motorcycle in the interest of safety.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN

Supersport motorcycles require an FIM homologation (see Art. 2.9). All motorcycles must comply in every respect with all the requirements for Road Racing as specified in the Technical Regulations, unless it is equipped as such on the homologated machine.

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.

2.5.1 Displacement capacities

| | | |
|--------------------------|----------|-------------|
| Over 400 cc up to 600 cc | 4 stroke | 4 cylinders |
| Over 600 cc up to 750 cc | 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.

2.5.2 Minimum Weights

The minimum weights will be:

| | | |
|--------|----------------|--------|
| 600 cc | four cylinders | 162 kg |
| 750 cc | two cylinders | 170 kg |

In the final inspection at the end of the race, the checked machines will be weighed in the condition they were at the end of the race.

The established weight limit must be met in the condition the machine finished the race. Nothing can be added to the machine including water, oil, fuel or tyres.

At any time of the event, the weight of the whole machine (including the tank) must not be less than the minimum weight **with a tolerance of 1 kg**.

During the practice and qualifying sessions every rider may be asked to submit his motorcycle to a weight control in the pit lane. (This will be done in such a way that the rider and team will be disturbed as little as possible, but in any case the rider and team must comply with these checks.)

2.5.3 Number Plate Colours

The background colours and figures (numbers) for Supersport are a white background with blue numbers: the RAL colour table values being 5010 for blue and 9010 for white.

The sizes for all the front numbers are:

| | |
|-----------------|--------|
| Minimum height: | 160 mm |
| Minimum width: | 80 mm |
| Minimum stroke: | 25 mm |

The sizes for all the side numbers are:

| | |
|-----------------|--------|
| Minimum height: | 120 mm |
| Minimum width: | 60 mm |
| Minimum stroke: | 25 mm |

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

- once on the front, either in the centre of the fairing or **slightly off to one side**;
- **once, on each side of the motorcycle. Alternatively, once across 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.**

For light coloured bodywork, there will be a black line of 8 mm minimum all around the perimeter of the white background.

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

2.5.4 Induction Tract Restriction

Carburation instruments must remain as homologated.

2.5.5 Fuel

All engines must function on normal unleaded fuel with a maximum lead content of 0.005 g/l (unleaded) and a maximum MON of 90 (see also Art. 2.10 for full fuel specifications).

2.5.6 Machine Specifications

All items not mentioned in the following articles must remain as originally produced by the manufacturer for the homologated machine.

2.5.6.1 Frame Body and Rear sub-frame

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

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

Additional seat brackets may be added but none may be removed. Bolt-on accessories to the rear sub-frame may be removed.

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

2.5.6.2 Front Forks

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

Standard original internal parts of the forks may be modified.

After market damper kits or valves may be installed.

Fork springs may be replaced.

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

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.

2.5.6.3 Rear Fork (Swing arm)

The rear fork must remain as originally produced by the manufacturer for the homologated machine. 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 swingarm.

2.5.6.4 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.

Rear suspension linkage must remain as originally produced by the manufacturer for the homologated machine.

2.5.6.5 Wheels

Wheels must remain as originally produced by the manufacturer at the time of sale into the dealer/distributor network for the homologated machine.

The speedometer drive may be removed and replaced with a spacer.

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

Front and rear wheel axles must remain as originally produced by the manufacturer for the homologated machine.

Wheel diameter and rim width must remain as originally homologated.

2.5.6.6 Brakes

Front and rear brake discs may be changed but must fit the original calliper and mounting. 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.

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.

Front and rear brake callipers **as well as all the mounting points and mounting hardware** (mount, carrier, hanger) must remain as originally produced by the manufacturer for the homologated machine.

The front master cylinder must remain as originally produced by the manufacturer for the homologated machine.

Rear master cylinder must remain as originally produced by the manufacturer for the homologated machine.

Front and rear hydraulic brake lines may be changed. The brake fluid reservoir may be replaced and/or repositioned. Quick connectors may be used. The split of the front brake lines for both front brake callipers must be made above the lower 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 not allowed.

2.5.6.7 Tyres

Tyres must be a fully molded type carrying all size and sidewall marking of the tyres for commercial sale to the public. The depth of the tyre treads must be at least 2.5 mm over the entire tyre pattern width at a pre-race control. The tyres must have a positive and negative tread of 96% positive and minimum 4% negative (land and sea ratio). The maximum distance from the external edge of the tyre to 50% of the tread elements is 35 mm.

One (1) size for the front and two (2) sizes for the rear are allowed. Each size, front and rear, must be available with the same tread pattern as the commercial tyres for the road use. The manufacturers may only submit one front and rear pattern for approval. The previously approved tyre pattern will remain valid until one year after the introduction of a new approved tyre pattern.

The FIM/CCR will grant the approval. The manufacturers must submit the tyre for approval 30 days prior to its first use. Templates proving the land and sea ratio must be included.

At the discretion of the rider, intermediate or WET weather tyres may be used. WET weather tyres must be a fully molded tyre. The use of hand cut tyres is not allowed. Wet weather tyres must be marked "Not for Highway Use" or "NHS".

At each event, during free practices, qualifying practices and warm up, a maximum of ten (10) rear and eight (8) front tyres may be used. There is no limitation on the number of tyres for the race.

All tyres (slick, intermediate and wet) will be included in the total quantity count.

All tyres to be used must be easily identifiable with a colour marking or a numerical system to be applied by the Official Supplier at the time of manufacturing.

At the beginning of the event, the Official Supplier must deliver to the FIM Technical Director four (4) samples of each type of tyre which will be used at the event.

The tyres used in the free practices, qualifying practices and warm-up must be marked with an adhesive sticker.

The sticker will show an identification number for each rider and it will have a different colour depending on whether it is applied to the front or rear tyre. At each race the Technical Director will assign a number of his choice to the competitor, while the colours will change for each race.

The stickers will be handed to the teams in a sealed envelope, 10 for the rear tyres and 8 for the front tyres, on Thursday according with a timetable decided by the Organizer and the Technical Director. The timetable will be mailed to the teams by the Organizer at least a week before the event. In extraordinary situations the Technical Director can/may alter this program.

After delivery of the stickers, the teams will be responsible for their safekeeping and use.

The stickers must be applied to the left sidewall of the tyre. Personnel nominated by the Technical Director will check that all the motorcycles in the pit line are fitted with tyres carrying the sticker.

The use of motorcycles whose tyres are not marked with stickers will be immediately reported to the Race Direction which will take appropriate action.

On the Sunday morning, after the warm-up and after the check by the Official Supplier regarding the effective tyre wear, the unused stickers will be returned.

In exceptional cases, should the sticker be damaged or applied in the wrong way, up to 2 extra stickers may be provided at the sole discretion of the Technical Director. However, the damaged sticker must be returned to the Technical Direction and/or the tyre it was applied to must be absolutely intact.

Any modification or treatment (cutting, grooving) is forbidden.

2.5.6.8 Foot Rest/Foot Controls

Foot rest/foot controls may be relocated but brackets must be mounted to the frame at the original mounting points.

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 8 mm solid spherical radius. (see diagram A & C).

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

2.5.6.9 Handle Bars and Hand Controls

Handle bars, hand controls and levers may be replaced (does not include brake master cylinder).

Handle bars and hand controls may be relocated.

Electric starter switch and engine stop switch must be located on the handle bars.

2.5.6.10 Fairing/Body Work

- a) Fairing, front mudguards and body work must appear to be as originally produced by the manufacturer for the homologated machine.
- 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.
- c) Size and dimensions must be the same as the original parts without any addition or subtractions of design elements.

- 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) The lower fairing must incorporate a **hole of 25 mm in the bottom** of the front lower area. **This** hole must remain closed in dry conditions and must be only opened in wet race conditions as declared by the Race Director.
- j) 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.
- k) Front mudguard must appear as originally supplied by the manufacturer for the homologated machine.
- l) Front mudguard may be replaced with cosmetic duplicates of the original parts.
- m) Front mudguard may be spaced upward for increased tyre clearance.
- n) Rear mudguard fixed on the swingarm may be replaced with cosmetic duplicates of the original parts.
- o) Rear mudguards fixed on the swingarm that incorporate the chain guard can be modified to accommodate larger diameter rear sprockets.
- p) The existing rear mudguard under the seat may be removed. A mudguard may be fitted directly onto the swingarm (it may not cover more than 120 degrees of the wheel).

2.5.6.11 Fuel Tank

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

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.

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.

2.5.6.12 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 use of carbon fibre or carbon composite materials is allowed.

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 10 mm must be covered with metal gauze or fine mesh. Mesh must be painted to match the surrounding material.

The solo seat then must incorporate the rear number plates.

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

The seat/rear cowl replacement must allow for proper number display.

All exposed edges must be rounded.

2.5.6.13 Wiring Harness

The wiring harness may be altered or replaced. Additional wiring harnesses may be added.

Cutting of the wiring harness is allowed.

2.5.6.14 Battery

The size and type of battery may be changed and relocated. Additional batteries may be added.

2.5.6.15 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.

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.

Additional oil coolers are not allowed.

2.5.6.16 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 discharge in the airbox.

The original air ducts running from the fairing to the air box may be altered or replaced.

The original air ducts to the airbox may be altered or replaced.

2.5.6.17 Carburettors

Carburettors must be the standard units as on the homologated model.

Carburettors intake insulators may be modified.

Butterfly cannot be changed or modified.

Carburettor jets and needles may be replaced.

Resizing of the air metering holes in CV carburetors slide control is permitted.

Electronic or mechanical enriching devices must remain installed but may be deactivated.

Bell mouths may be altered or replaced from those fitted by the manufacturer on the homologated machine.

2.5.6.18 Fuel Injection System

Throttle bodies must be standard units as on the homologated model.

Throttle bodies intake insulators may be modified.

The injectors must be standard units as on the homologated motorcycle.

Bell mouths may be altered or replaced from those fitted by the manufacturer on the homologated machine.

Butterfly cannot be changed or modified.

No modifications of fuel pump or pressure regulator are allowed.

The fuel injection management computer chip (EPROM) may be changed.

Fuel pump and fuel pressure regulator must remain as homologated.

The use of flash memory ("flash RAM") for fuel injection mapping is allowed.

2.5.6.19 Fuel Supply

Fuel lines may be replaced.

Quick connectors or dry brake quick connectors may be used.

Fuel vent lines may be replaced.

Fuel filters may be added.

Fuel petcock must remain as originally produced by the manufacturer.

2.5.6.20 Cylinder Head

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

Porting and polishing of the cylinder head normally associated with individual tuning such as gas flowing of the cylinder head, including the combustion chamber is allowed. Welding is not allowed.

The valve springs and valve spring retainers may be replaced or modified. The weight of the valve spring retainer must be the same or more than the original.

The compression ratio is free.

The combustion chamber may be modified.

The valves may be altered or replaced. The material may be changed. Maximum diameter and minimum weight must remain as homologated. The use of titanium valves is permitted in machines which are equipped with titanium valves in the machine as originally homologated.

The valve seats must remain as homologated. Modifications are allowed.

The valve guide must remain as homologated. Modifications in the port area are allowed.

Valve springs can be changed.

2.5.6.21 Camshaft

The method of drive must remain as homologated.

The duration is free but the lift must remain as homologated.

The cam chain or cam belt tensioning device(s) are free.

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.

2.5.6.22 Cam Sprockets

Cam sprockets can be modified or replaced to allow the degreeing of camshafts.

2.5.6.23 Crankshaft

Crankshaft must remain as homologated without modification.

Polishing and lightening is not allowed.

Modifications of the flywheels are not allowed.

2.5.6.24 Oil Pumps, water pumps and Oil Lines

Oil pump must remain as homologated. Modifications are allowed.

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.

The internal parts of the water pump may be changed or modified. The drive ratio may be changed. The external appearance must remain as homologated.

2.5.6.25 Connecting Rods

Connecting rods must remain as homologated.

Polishing and lightening is not allowed.

2.5.6.26 Pistons

Pistons must remain as homologated.

Polishing and lightening is not allowed.

2.5.6.27 Piston Rings

Piston rings must remain as homologated. No modifications are allowed.

2.5.6.28 **Piston Pins and Clips**

Piston pins and clips must remain as homologated. No modifications are allowed.

2.5.6.29 **Cylinders**

Cylinders must remain as homologated.

Only the following modifications to the cylinders are allowed. Cylinder head gasket surface may be machined to allow the adjustment of compression ratio or resurfacing to repair a warped cylinder surface deck.

Homologated materials and castings for cylinders must be used. **The surface finish of the cylinder bore must remain as homologated.**

Cylinder capacity must remain at the homologated size.

2.5.6.30 **Crankcase and all other Engine Cases (i.e. ignition case, clutch case)**

Crankcases must remain as homologated. No modifications are allowed (including painting, polishing and lightening).

Other engine cases must be made of the homologated material.

The crankcase/gearbox casing, ignition, clutch and generator covers may be protected by additional means i.e. protective covers made of stainless steel or carbon/Kevlar® composites.

Holes may be added in dry clutch covers to allow additional cooling.

Engine case guards in the form of strengthened engine side covers may be installed. These covers must be no lighter in weight than the standard part.

The countershaft cover may be removed.

The addition of a crankcase protector at the countershaft is allowed.

2.5.6.31 **Transmission/Gearbox**

All transmission/gearbox ratios are free.

The number of gears must remain as homologated.

Primary gears must remain as homologated.

Additions to gearbox or selector mechanism, such as quick shift systems, are not allowed.

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

2.5.6.32 Clutch

Clutch type (wet or dry) and the way of operation (by cable or hydraulic) must remain as homologated.

Friction and drive discs may be changed.

Clutch springs may be changed.

The clutch basket (outer) may be reinforced.

The original clutch assembly may be modified for back torque limiting capabilities (slipper type).

It is allowed to change to an aftermarket clutch with back torque limiting capabilities (slipper type).

The use of electro-mechanical or electro-hydraulic actuating systems are not allowed.

2.5.6.33 Ignition/Engine Control System

Ignition/engine control system (CDI) may be modified or changed.

Additional wiring harnesses may be added.

Cutting of the wiring harness is allowed.

Spark plugs and plug wires may be replaced.

2.5.6.34 Generator, alternator, electric starter

Generator may be modified, removed or replaced.

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

2.5.6.35 Exhaust System

Exhaust pipes and silencers may be modified or changed. **Catalytic converters may be replaced or removed.**

The number of **final** exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.

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 Supersport will be 107 dB/A (with a 3 dB/A tolerance after the race).

2.5.6.36 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.

2.5.7 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.

Any type of spark plug and plug cap may be used.

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

Wheel balance weights may be discarded, changed or added to.

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

Gaskets and gasket materials.

Painted external surface finishes and decals.

2.5.8 The following items MAY BE removed

Instrument and instrument bracket and associated cables.

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

Tachometer.

Speedometer and related wheel spacers.

Radiator fan and wiring.

Chain guard as long as it is not incorporated in the rear fender.

Bolt on accessories on a rear sub frame.

2.5.9 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).

2.5.10 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.

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

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, oil lines, oil coolers, etc.).

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

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.

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.

2.5.11 Additional Equipment

Additional equipment not on the original homologated motorcycle may be added. (e.g. data acquisition, computers, recording equipment, etc.).

2.7 SUPERSTOCK TECHNICAL SPECIFICATIONS

Rules intended to limit changes to the homologated motorcycle in the interests of safety.

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THIS RULE IS STRICTLY FORBIDDEN

The motorcycle must be homologated by the original manufacturer only. The model will be eligible for Superstock competition for a maximum period of 5 years.

As the name Superstock implies, the machines used are allowed limited modifications. Most modifications are only allowed for safety reasons.

Superstock motorcycles require an FIM homologation (see Art. 2.9). All motorcycles must comply in every respect with all the requirements for Road Racing as specified in these Regulations, unless it is equipped as such on the homologated machine.

The appearance from both front, rear and the profile of Superstock 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.

2.7.1 Displacement capacities

| | | |
|-------------|---------------------------|----------|
| 4 cylinders | Over 600 cc up to 1000 cc | 4-stroke |
| 3 cylinders | Over 750 cc up to 1000 cc | 4-stroke |
| 2 cylinders | Over 850 cc up to 1200 cc | 4-stroke |

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

2.7.2 Minimum Weights

The FIM decides the minimum weight value for a homologated model as sold to the public by determining its dry weight.

The dry weight of a homologated motorcycle is defined as the total weight of the empty motorcycle as produced by the manufacturer (after removal of fuel, vehicle number plate, tools and main stand when fitted). To confirm the dry weight a minimum of three (3) motorcycles are weighed and compared. The result is rounded off to the nearest digit.

Superstock machines: minimum weight = dry weight minus 15 kg

In the final inspection at the end of the race, the checked machines will be weighed in the condition they were at the end of the race.

At any time of the event, the weight of the whole machine (including the tank) must be not be less than the minimum weight, with a tolerance of **1 kg**.

2.7.3 Number Plate Colours

The background colours and figures (numbers) for Superstock are red background with white numbers, with the RAL colour table values being 3020 for red and 9010 for white.

The sizes for all the front numbers are:

| | |
|-----------------|--------|
| Minimum height: | 160 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: | 25 mm |

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

- once on the front, either in the centre of the fairing or **slightly off to one side;**
- **once, on each side of the motorcycle. Alternatively, once across 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.**

For light coloured bodywork, there will be a black line of 8 mm minimum all around the perimeter of the white background.

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

2.7.4 Carburation Instruments

Carburation instruments must remain as homologated.

2.7.5 Fuel

All engines must function on normal unleaded fuel with a maximum lead content of 0.005 g/l (unleaded) and a maximum MON of 90 (see Art. 01.63 for full specification)

2.7.6 Machine Specifications

All items not mentioned in the following articles must remain as originally produced by the manufacturer for the homologated machine.

2.7.6.1 Frame Body and Rear sub frame

Frame must remain as originally produced by the manufacturer for the homologated machine. 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 can be added by welding or removed by machining from the frame body.

All motorcycles must display the manufacturers' vehicle identification number on the frame body (chassis number), **with the exception of spare frames.**

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

Rear sub frame must remain as originally produced by the manufacturer for the homologated machine.

Additional seat brackets may be added but none may be removed. Bolt-on accessories to the rear sub-frame may be removed.

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

2.7.6.2 Front Forks

Forks structure (spindle, stanchions, bridges, stem, etc.) must remain as originally produced by the manufacturer for the homologated machine.

Standard original internal parts of the forks may be modified.

After market damper kits or valves may be installed.

The fork caps can be modified or changed to add spring preload/compression adjusters.

Any quality and quantity of oil can be used in the front forks.

The height and position of the front fork in relation to the fork crowns is free.

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 after-market damper.

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

2.7.6.3 Rear Fork (Swing arm)

Every part of the rear fork must remain as originally produced by the manufacturer for the homologated machine (including rear fork pivot bolt and rear axle adjuster).

Rear wheel stand positioning (support) brackets may be added to the rear fork by welding or by bolts. Brackets must have rounded edges (with a large radius) viewed from all sides. Fastening screws must be recessed.

For safety reasons, it is compulsory to use a chain guard made with rigid plastic material, fitted in such a way to prevent trapping between the lower chain run and the final driven sprocket at the rear wheel.

2.7.6.4 Rear Suspension Unit

Rear suspension unit (shock absorber) may be modified or replaced, but the original attachments to the frame and rear fork (swing arm) must be used and the rear suspension linkage must remain as originally produced by the manufacturer for the homologated machine.

Rear suspension unit spring may be changed.

2.7.6.5 Wheels

Wheels must remain as originally produced by the manufacturer.

The speedometer drive may be removed and replaced with a spacer.

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

No modifications of the wheel-axles or any fixing and mounting points for front brake calliper are authorised. Spacers can be modified. Modifications to the wheels to keep spacers in place are permitted.

Wheel diameter and rim width must remain as originally homologated.

2.7.6.6 Brakes

Brake disks must remain as originally produced by the manufacturer for the homologated machine. Front discs can be made floating, using original rotors and mounting points.

The front and rear brake calliper (mount, carrier, hanger) must remain as originally produced by the manufacturer for the homologated machine.

The rear brake caliper bracket may be mounted 'fixed' on the swingarm, but the bracket must maintain the same mounting (fixing) points for the caliper as used on the homologated machine. A modification of these parts is authorized. The swingarm may be modified for this reason to aid the location of the rear brake caliper bracket, by welding, drilling or by using a helicoil.

The front and rear master cylinder must remain as originally produced by the manufacturer for the homologated machine. Front and rear brake fluid reservoir can be changed with an aftermarket product

Front and rear hydraulic brake lines may be changed.

The split of the front brake lines for both front brake callipers must be made above the lower fork bridge (lower triple clamp).

"Quick" (or "dry-brake") connectors in the brake lines are authorised.

Front and rear brake pads may be changed. Brake pad locking pins may be modified for quick change type.

Additional air scoops or ducts are not allowed.

2.7.6.7 Tyres

The rider can use a maximum of **four (4)** front and **four (4)** rear DRY weather tyres for each event.

The WET weather tyres must be provided by the Official Supplier, but their number is free.

WET weather tyres may only be used after the race or practice has been declared 'wet' by the Race Direction.

Any modification or treatment (cutting, grooving) is forbidden.

The use of tyre warmers is allowed.

The tyres used in the free practices, qualifying practices, warm-up and race must be marked with an adhesive sticker.

The sticker will show an identification number for each rider and it will have a different colour depending on whether it is applied to the front or rear tyre. At each race the Technical Director will assign a number of his choice to the competitor, while the colours will change for each race.

The stickers will be handed to the teams in a sealed envelope, 4 for the rear tyres and 4 for the front tyres, on Thursday according with a timetable decided by the Organizer and the Technical Director. The timetable will be mailed to the teams by the Organizer at least a week before the event. In extraordinary situations the Technical Director can/may alter this program.

After delivery of the stickers, the teams will be responsible for their safekeeping and use.

The stickers must be applied to the left sidewall of the tyre. Personnel nominated by the Technical Director will check that all the motorcycles in the pit line are fitted with tyres carrying the sticker.

The use of motorcycles whose tyres are not marked with stickers will be immediately reported to the Race Direction which will take appropriate action.

In exceptional cases, should the sticker be damaged or applied in the wrong way, up to 1 extra sticker may be provided at the sole discretion of the Technical Director. However, the damaged sticker must be returned to the Technical Direction and/or the tyre it was applied to must be absolutely intact.

2.7.6.8 Foot Rest/Foot Controls

Foot rest/foot controls may be relocated but brackets must be mounted to the frame at the original mounting points. Their two original points of fixture (for the footrest, foot-controls and on the shift shaft) must remain as original. Foot controls linkage may be modified. The original mounting points must remain.

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 8 mm solid spherical radius. (see Diagram A & C).

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

2.7.6.9 Handle Bars and Hand Controls

Handle bars may be replaced (does not include brake master cylinder).

Handle bars and hand controls may be relocated.

Throttle grip can be modified or substituted.

Clutch and brake lever may be exchanged by an after-market model.

Electric starter switch and engine stop switch must be located on the handle bars.

2.7.6.10 Fairing/Body Work

- a) Fairing and body work 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 machine, with slight differences due the racing use (different pieces mix, attachment points, fairing bottom, etc). The material may be changed. The use of carbon fibre or carbon composite materials is not allowed.
- b) Overall size and dimensions must be the same as the original part.
- c) Wind screen may be replaced with a duplicate of transparent material. The height of the windscreen is free, within a tolerance of +/- 15 mm regarding to the vertical distance from to the upper fork bridge.
- d) Motorcycles that were 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 (h). This device cannot exceed above a line drawn horizontally from wheel axle to wheel axle.
- 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 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 grills or “wire-meshes” originally installed in the openings for the air ducts may be taken away.
- h) g) 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 the openings in the fairing must be positioned at least 50 mm above the bottom of the fairing.
- h) **The lower fairing must incorporate an opening of Ø 25 mm diameter in the front lower area.** This hole must remain closed in dry conditions and must be only opened in wet race conditions as declared by the Race Director.

- i) Front mudguards may be replaced with a cosmetic duplicate of the original parts and may be spaced upward for increased tyre clearance.
- j) Rear mudguard fixed on the swing arm that incorporate the chain guard can be modified to accommodate larger diameter rear sprockets.

2.7.6.11 Fuel Tank

Fuel tank filler caps may be altered or replaced from those fitted to the homologated motorcycle, by a 'screw-on' type fuel cap (SAFETY).

Fuel tank valve petcock must remain as originally produced by the manufacturer for the homologated machine.

The sides of the fuel tank may be covered by a protective part made of a composite material. These protectors must fit the shape of the fuel tank.

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.

2.7.6.12 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.

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

The seat/rear cowl replacement must allow for proper number display.

2.7.6.13 Wiring Harness

The original wire-loom may be modified as indicated hereafter: The unused wire loom elements supplying current to direction indicators, horn, ignition contact and key-lock, etc, may be unplugged and/or removed (no cutting is allowed).

Cutting of the wiring harness is not allowed.

2.7.6.14 Battery

The size and type of battery must be as originally produced by the manufacturer for the homologated machine.

2.7.6.15 Radiator, cooling system and oil coolers

Additional radiators and/or oil coolers are not allowed.

The radiator tubes to and from the engine can be changed, but the system must be maintained, with its original tanks.

Thermal switches, water temperature sensor and thermostat can be removed inside the cooling system.

2.7.6.16 Air Box

The air box must remain as originally produced by the manufacturer on the homologated machine but the air box drains must be sealed.

The air filter element may be modified or replaced.

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

2.7.6.17 Carburetors

No modifications are allowed.

Carburettor jets, slide spring and needles may be replaced.

The slide metering holes may be changed.

Electronic or mechanical enriching devices must remain installed but may be deactivated.

Bell mouths must be as originally produced by the manufacturer for the homologated machine.

2.7.6.18 Fuel Injection System

No modifications are allowed.

The injectors must be standard units as on the homologated motorcycle.

Bell mouths must be as originally produced by the manufacturer for the homologated machine.

No modifications of fuel pump or pressure regulator are allowed.

The fuel injection management computer chip (EPROM) may be changed. Central unit must stay as homologated but the software can be changed.

The use of flash memory ("flash RAM) for fuel injection mapping is allowed. An additional control unit to change the fuel mixture may be installed and must be fitted to the original connectors.

2.7.6.19 Fuel Supply

Fuel lines may be replaced but the fuel petcock must remain as originally produced by the manufacturer.

Quick connectors or dry break quick connectors may be used.

Fuel vent lines may be replaced.

Fuel filters may be added.

2.7.6.20 Cylinder Head

No modifications are allowed.

No material may be added or removed from the cylinder head.

The cylinder head gasket may be changed.

The valves, valve seats, guides, springs and retainers must be as originally produced by the manufacturer for the homologated machine.

Valve spring shims are not allowed.

2.7.6.21 Camshaft

No modifications are allowed.

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 timing of the camshaft is free, however no machining of the camshaft sprocket is authorized.

2.7.6.22 Cam Sprockets

No dimensional modifications are allowed.

2.7.6.23 Crankshaft

No modifications are allowed (including polishing and lightening).

2.7.6.24 Oil Pumps and Oil Lines

No pump modifications are allowed.

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

2.7.6.25 Connecting Rods

No modifications are allowed (including polishing and lightening).

2.7.6.26 Pistons

No modifications are allowed (including polishing and lightening).

2.7.6.27 Piston Rings

No modifications are allowed.

2.7.6.28 Piston Pins and Clips

No modifications are allowed.

2.7.6.29 Cylinders

No modifications are allowed.

2.7.6.30 Crankcase and all other Engine Cases (i.e. ignition case, clutch case, etc.)

No modifications are allowed (including painting, polishing and lightening).

Engine case guards in the form of strengthened engine side covers may be installed. These covers must be no lighter in weight than the standard part.

Covers may be modified without any changes to the position and dimensions of the covered parts.

The crankcase/gearbox casing, ignition, clutch and generator covers may be protected by additional means i.e. protective covers.

2.7.6.31 Transmission/Gearbox

No modifications are allowed.

Additions to gearbox or selector mechanism, such as quick shift systems, are not allowed.

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

The sprocket cover can be modified or eliminated.

2.7.6.32 Clutch

No modifications are allowed.

Only friction and drive discs may be changed, but their number must remain as original.

Clutch springs may be changed.

2.7.6.33 Ignition/Engine Control System

The fuel injection management computer chip (EPROM) may be changed.

The central unit (ignition/engine control unit/CDI) must stay as homologated, but the software can be changed.

An additional control unit to change the fuel mixture may be installed and must be fitted to the original connectors.

2.7.6.34 Generator, alternator, electric starter

No modifications are allowed.

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

2.7.6.35 Exhaust System

Exhaust pipes, **catalytic converters** and silencers may be altered or replaced from those fitted to the homologated motorcycle.

The number of the **final** exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.

For safety reasons, the exposed edges of the exhausts pipe(s) outlet 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 Superstock be 107 dB/A (with a 3 dB/A tolerance after the race).

2.7.6.36 Fasteners

Standard fasteners may be replaced with fasteners of any material and design but titanium fasteners may not be used. 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 weights saving modifications are not allowed.

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

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

2.7.7 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.

Any type of spark plug.

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

Wheel balance weights may be discarded, changed or added to.

Gaskets and gasket materials (with the exception of cylinder base gasket).

Instrument, instrument bracket(s) and associated cables.

Painted external surface finishes and decals.

2.7.8 The Following Items MAY BE Removed

Tachometer.

Speedometer.

Radiator fan and wiring.

Chain guard as long as it is not incorporated in the rear fender.

Bolt on accessories on a rear sub frame.

2.7.9 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).

2.7.10 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.

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

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, oil lines, oil coolers, etc.)

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

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.

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.

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

2.7.11 Additional Equipment

Additional equipment not on the original homologated motorcycle may not be added. (i.e. data acquisition, computers, recording equipment etc.). Telemetry is not allowed, but potentiometers and other sensors can be maintained, if disconnected.

2.9 FIM HOMOLOGATION PROCEDURE FOR SUPERSTOCK, SUPERSPORT AND SUPERBIKE

ELIGIBILITY REQUIREMENTS

- Motorcycles must have a valid international homologation for road use or a national homologation for road use obtained in one of the signatory countries of the 1968 Vienna Convention.
- The motorcycles must represent machines of mass production.
- The motorcycles must be of current production or for sale to the public within 90 days of the homologation being granted by the FIM.
- The motorcycles are to be sold for every day use.
- At the time of the FIM homologation the inspected motorcycles must be completely equipped with all road going equipment. (I.e. full lighting equipment).
- All motorcycles must comply in every respect with all the requirements for road racing as specified in this Appendix.

2.9.1 Requirements for an FIM homologation

Motorcycles eligible for an FIM homologation must meet the following requirements:

- Only the original manufacturer may present the motorcycle for homologation.
- The manufacturer must be a holder of an FIM Manufacturer's licence.
- If the motorcycle is presented with an engine from a motorcycle manufacturer different from the manufacturer requesting the homologation, a permission or commercial agreement must be presented at time of the homologation request.
- The motorcycle must have a manufacturer's certificate of origin.
- The deadlines stated in these rules are the number of days prior to the deadline that the requests and documents must arrive in the FIM CCR Secretariat.

N.B.: If for marketing reasons or legal requirements, another type of carburetion instruments are fitted to the model in a particular geographical area, these instruments must be replaced for competition using the homologated instrument.

2.9.2 Minimum production quantities

The annual production figures of the manufacturer who requests the homologation does not include the production quantities of 50 cc automatics and 50 cc scooters, when establishing the minimum quantity of motorcycles required for a FIM homologation.

1) **Superstock**

Proof of production quantities must be provided by certified documentation.

- All manufacturers must produce a minimum quantity of 1000 units before the date of homologation. These motorcycles must be identical to the homologated model with the same specifications and available worldwide. The minimum number must have been reached prior to the homologation inspection. The homologated motorcycle must be for sale to the public within 90 days of the homologation inspection.
- A minimum quantity of 25 units must be shown at the time of homologation inspection.
- The FIM will withdraw the homologation if these rules are not respected.

2) **Supersport**

Proof of production quantities must be provided by certified documentation.

- Manufactures producing over 75,000 motorcycles per year must produce a minimum of 1000 units. These motorcycles must be identical to the homologated model with the same specifications and available worldwide. The minimum number must have been reached prior to the homologation inspection. The homologated motorcycle must be for sale to the public within 90 days of the homologation inspection.
- Manufactures producing less than 75,000 motorcycles per year must produce a minimum of 500 units. These motorcycles must be identical to the homologated model with the same specifications and available worldwide. The minimum number must have been reached prior to the homologation inspection. The homologated motorcycle must be for sale to the public within 90 days of the homologation inspection.
- A minimum of 25 units must be shown at the time of homologation.
- The FIM will withdraw the homologation if these rules are not respected.

3) **Superbike**

A motorcycle with a valid Superstock homologation may, having received formal request and payment from the original manufacturer, be homologated at any time for the Superbike class (Such homologation will not require new documentation or a factory visit).

Proof of production quantities must be provided by certified documentation.

FIRST HOMOLOGATION

A manufacturer requesting a homologation for the first time in its history must follow the procedure shown below:

- For a first time homologation, the manufacturer must produce a minimum quantity of 150 motorcycles (75 units at the time of the first homologation inspection and 75 units within a six month period following the first homologation inspection).
- The motorcycles must be for sale to the public within 90 days of the homologation being granted by the FIM.
- The FIM will withdraw the homologation if these rules are not respected.

ADDITIONAL HOMOLOGATIONS

- Requirements for manufacturers which have previously homologated a Superbike:
- The manufacturers producing over 100,000 motorcycles per year must produce a minimum of 500 units. These motorcycles must be identical to the homologated model with same specifications and available worldwide. The minimum of 500 units must have been reached prior to the homologation inspection.
- The manufacturers producing over 50,000 motorcycles and less than 100,000 motorcycles per year must produce a minimum of 250 units. These motorcycles must be identical to the homologated model with same specifications and available worldwide. The minimum of 250 units must have been reached prior to the homologation inspection.
- The manufacturers producing less than 50,000 motorcycles must produce a minimum of 150 units. These motorcycles must be identical to the homologated model with same specifications and available worldwide. The minimum of 150 units must have been reached prior to the homologation inspection.
- The motorcycles must be for sale to the public within 90 days of the homologation being granted by the FIM.
- The FIM will withdraw the homologation if these rules are not respected.

2.9.3 Dates for application, submissions & publications

- The deadline for receiving requests for homologation at the FIM CCR Secretariat is 45 days before the homologation inspection is to take place.
- A newly homologated motorcycle may race in the FIM Championship events 30 days following the homologation inspection.
- Motorcycles homologated by January 31st may be used in the first race of the season even if the event is less than 30 days following the homologation.
- After the homologation inspection, manufacturers are required to send the completed and signed Homologation forms 1, 2 and 3, together with all relating documentation and drawings, to the FIM CCR Secretariat.
- The deadline for receiving the completed, signed, and corrected homologation documents is 7 days following the homologation inspection. The documents and drawings have to be sent in paper form and in electronic form (*.pdf, *.jpg, *.doc, *.txt to ccr@fim.ch, cti@fim.ch).
- Within 7 days of the new homologation documents arriving at the FIM CCR Secretariat, an updated Homologation list will be published.
- At any time, copies of the homologation form 1, 2 & 3 drawings and photographs (DIN A4 size) and in electronic form may be requested from the FIM CCR Secretariat and will be available on the FIM website.

2.9.4 Application, Inspection and Homologation

- Only the original manufacturer may submit a request to the FIM CCR Secretariat for the homologation of a motorcycle.
- The original manufacturer may apply for a new homologation, a maximum of 2 times per year, in each racing class.
- The inspection of the motorcycle presented for homologation will be carried out according to the information requested on the forms produced by the FIM (Homologation Form 1, 2 and 3).
- The inspection must be carried out by an inspector appointed by the FIM CCR.

- The inspector must satisfy himself that the claims made on the production certificate (Form 2) are correct.
- The inspector will select at random 2 motorcycles for detailed inspection. One of these two must be disassembled sufficiently for all relevant measures to be taken. Inspection and disassembling will take place immediately once the selection has taken place. The inspector will remain present throughout the examination.
- The manufacturer shall at all times be responsible to complete the homologation documents with the correct information. All dimensions must be given according to the metric system, excluding wheel dimensions.
- After the inspection, the inspector will sign the completed certificates of homologation. These signed homologation forms indicate that the manufacturer will comply with the specifications mentioned on the homologation forms.
- Homologation documents with missing information will be returned to the manufacturer for correction. Corrected homologation documents must be returned immediately to the CCR Technical Members for verification of the corrections through the FIM CCR secretariat.
- The homologation forms will be studied by the CCR Technical Members of the and the FIM CCR Secretariat, to confirm that they are complete and correct prior to granting the homologation.
- Once a motorcycle has been homologated, it may be used for a maximum period of 5 years, or until such a time that the homologated motorcycle no longer complies with the technical rules.
- A manufacturer can request an extension of a homologation before the end of the 5 year homologation period. The FIM may grant an extension of the homologation period. The extension will be for an additional 2 years. The fee for this extension of the homologation period will be double the normal fee.
- A homologation or an extension of the homologation will be granted only if the fee has been paid.

2.9.5 Product Update

Any change in the specifications of the following parts of a FIM homologated motorcycle, will require a new homologation :

- Crankcase
- Cylinder
- Cylinder head
- Crankshaft, connecting rods
- Camshafts, valves
- Carburation instruments
- Frame: main dimensions [in relation to wheelbase, caster, steering head angle, relative location of the swing-arm, relative location of rear shock absorber(s) and linkages]
- New engine prefix number
- New frame prefix number

2.9.6 Homologation for Product Update

- Product updates on other parts than frame and engine, such as the fairing, wheels, etc can be granted by a homologation update.
- In case of homologation modification update, the manufacturer must send a notice to the FIM CCR Secretariat. The deadline for receiving requests for homologation update is 30 days before the first race of the new model that will be used in competition.
- With the formal notice, the manufacturer is required to send the Homologation forms 1, 2 and 3, together with all relating documentation about the product update (the drawings of the old and new products /parts, etc.) including a statement from which VIN-Number on the Product update is applicable, to the FIM CCR Secretariat, both in paper and electronic form.
- Only motorcycles, which have higher VIN number than the ones stated by the manufacturer are allowed to race using the new updated parts.
- The minimum production quantities valid for a homologation modification update are the same quantities as for new motorcycle homologation.
- The FIM will charge half of the homologation fee for an extension of a homologation or a homologation update.

- All forms requested and necessary for the homologation modification update must arrive at the FIM CCR Secretariat not later than 30 days before the modified parts will be used in competition.
- The FIM will withdraw the homologation if these rules are not respected.

2.9.7 Carburation Instruments for Superbikes

- The carburation instruments must be use un-modified either as the original homologated carburation instrument or as the homologated optional carburation instrument.
- The only modifications allowed to the original or optional homologated carburation instruments are jets, needles, throttle valves, fuel injectors and bell mouths.
- The original manufacturer must use the following criteria for the designing and making of the optional homologated carburation instruments :
 - a) There is no limit for the intake size of an engine equipped either by carburettors or fuel injection systems.
 - b) The optional carburettor / injector body material must remain the same as used on the original homologated carburation instruments.
 - c) A minimum number of optional carburation instruments must be available as spare parts and be included in the manufacturer's racing parts lists. All manufacturers must have a minimum of 15 sets available through traditional distributorships worldwide for the life of the homologation. The price to the public of the optional carburation instruments must not exceed twice the manufacturers suggested retail price of the original homologated carburation instrument in the country of origin. This price must be indicated on the Homologation Form.
 - d) The motorcycle manufacturer may submit only one optional carburation instrument for each model at the time of homologation.
 - e) The motorcycle manufacturer must supply a sample set of the original and optional carburation instruments to the FIM for use as comparison samples.
 - f) The motorcycle manufacturer must provide evidence that the minimum of 15 sets of optional carburation instruments have been manufactured.
 - g) The optional carburation instruments must be available for at least three years after the homologation date.
 - h) The Carburation instrument homologation will be valid for the same period as the homologated motorcycle.

- i) An additional model of optional carburation instruments may be homologated during the life of the machine's homologation. These carburation instruments must meet the same requirements as the original modified instruments. This is to allow development after the original homologation.
- The optional carburation instruments may only be homologated at the same time as a new homologation [see number i) above for additional optional carburation instruments].

2.10 FUEL, OIL AND COOLANTS

All motorcycles must be fuelled with unleaded petrol, as this term is generally understood.

2.10.1 Physical properties for unleaded fuel

2.10.1.1 Unleaded petrol must comply with the FIM specification.

2.10.1.2 Unleaded petrol will comply with the FIM specification if:

(a) It has the following characteristics:

| Property | Units | Min. | Max. | Test Method |
|---------------------|-------------------|-------------|--------------|--------------------------------|
| RON | | 95.0 | 102.0 | ISO 5164 |
| MON | | 85.0 | 90.0 | ISO 5163 |
| Oxygen | % m/m | | 2.7 | ASTM D 5622 ASTM D 4815 (1) |
| Nitrogen | % m/m | | 0.2 | ASTM D 4629 |
| Benzene | % v/v | | 1.0 | EN 238 |
| RVP | kPa | | 90 | EN 12 |
| Lead | g/l | | 0.005 | EN 237 |
| Density at 15°C | kg/m ³ | 720.0 | 780.0 | ASTM D 4052 |
| Oxidation stability | minutes | 360 | | ASTM D 525 |
| Existent gum | mg/100 ml | | 50 | EN ISO 6246 |
| Sulphur | mg/kg | | 150 | ASTM D 5453 |
| Copper corrosion | rating | | C1 | ISO 2160 |
| Distillation: | | | | |
| E at 70°C | % v/v | 15.0 | 50.0 | ISO 3405 |
| E at 100°C | % v/v | 46.0 | 71.0 | ISO 3405 |
| E at 150°C | % v/v | 75.0 | | ISO 3405 |
| Final Boiling Point | °C | | 215 | ISO 3405 |
| Residue | % v/v | | 2.0 | ISO 3405 |
| Appearance | Clear and bright | | | Visual Inspection |

| Property | Units | Min. | Max. | Test Method |
|-----------------|-------|------|-------------|-----------------|
| Olefins | % v/v | | 18.0 | ASTM D 1319 (2) |
| Aromatics | % v/v | | 35.0 | ASTM D 1319 (2) |
| Total diolefins | % m/m | | 1.0 | GCMS/ HPLC |

Notes:

- (1) GC/MS methods may also be applied to fully deconvolute the GC trace.
- (2) The above maximum values for olefins and aromatics are corrected for fuel oxygenates content according to clause 13.2 of ASTM D 1319:1998.

- (b) The total of individual hydrocarbon components present at concentrations of less than 5% m/m must constitute at least 30% m/m of the fuel. The test method will be gas chromatography and/or GC/MS.
- (c) The total concentration of naphthenes, olefins and aromatics classified by carbon number must not exceed the values given in the following table:

| % (m/m) | C4 | C5 | C6 | C7 | C8 | C9+ |
|------------|----|----|-----|----|----|-----|
| Naphthenes | 0 | 5 | 10 | 10 | 10 | 10 |
| Olefins | 5 | 20 | 20 | 15 | 10 | 10 |
| Aromatics | - | - | 1.2 | 35 | 35 | 30 |

The total concentration of bicyclic naphthenes and bicyclic olefins may not be higher than 1% (m/m). The test method used will be gas chromatography.

- (d) Only the following oxygenates are permitted:

methanol, ethanol, iso-propyl alcohol, iso-butyl alcohol, methyl tertiary butyl ether, ethyl tertiary butyl ether, tertiary amyl methyl ether, di-isopropyl ether, n-propyl alcohol, tertiary-butyl alcohol, n-butyl alcohol, secondary-butyl alcohol

- (e) Manganese is not permitted in concentrations above 0.005 g/l. For the present this is solely to cover possible minor contamination by other fuels. The fuel will contain no substance that is capable of an exothermic reaction in the absence of external oxygen.

Lead replacement petrols, although basically free of lead, are not an alternative to the use of unleaded petrol. Such petrols may contain unacceptable additives not consistent with the FIM Fuel Regulations.

2.10.3 Air

Only ambient air may be mixed with the fuel as an oxidant.

2.10.4 Primary Tests

2.10.4.1 The FIM may require tests of fuels to be administered before, or at the time of delivery to, an event at which such fuels are to be used.

2.10.4.2 The FIM may request any person or organisation, being a potential Official Supplier of fuel, to submit a sample for testing for conformity with the fuel specifications.

2.10.5 Fuel Sampling and Testing

- 1) The Technical Director has the sole responsibility for the administration and supervision during the taking of fuel samples.
- 2) Motorcycles selected for fuel controls will usually be amongst the first three finishers, and will be directed to the "parc fermé" and the fuel tanks removed for weight controls.
- 3) Other finishers will be chosen at random for fuel controls. A Technical Steward will be posted at the entrance to the pit box of the selected rider who must not enter the pit box but accompany the Technical Steward to the technical control area or "parc fermé".
- 4) The fuel to be tested will be transferred into two bottles (2 samples of maximum 1ltr each), marked "A" and "B" and identified by reference to the machine from which the sample was taken. The bottles will be closed, sealed and labelled by the Technical Director.
- 5) Only new bottles will be used for the fuel samples and only new materials will be used to transfer the fuel.
- 6) The Fuel Sample Declaration form will be filled out immediately, containing all information as shown in the example sheet, including the riders and machines identity, date and place of fuel sampling. A responsible team member will sign this declaration, after verifying that all the information is correct.
- 7) Sample "A" will be sent to the FIM appointed laboratory, accompanied by a copy of the Fuel Sample Declaration form. Costs for the analyses of sample "A" will be paid by FIM.

- 8) Sample "B" will be handed over to the FIM for safeguarding in case of protests and/or requirement of a counter-expertise by the FIM appointed laboratory. Costs for the analyses of sample "B" will be paid by the team concerned.
- 9) Both samples will be transported by an authorised courier.
- 10) The laboratory must deliver the results of the fuel sample analyses to the Technical Director, with a copy to the FIM, as soon as possible after receipt of the samples, and before the Friday evening of the following Superbike, Supersport and Superstock Cup event.
- 11) In the case of non-conformity, the Technical Director must notify, as soon as practical after receipt of the results, the FIM, the Superbike, Supersport and Superstock Cup Race Direction and the rider/team representative concerned.

Within 48 hours of the receipt of the notification of the results of the laboratory test of sample "A", the team must notify the FIM and the Technical Director if counter-expertise is required (or not required) for sample "B".

The Race Direction will take a decision at the Superbike, Supersport and Superstock Cup event immediately following the notification of the results of the final expertise. Any appeal against the decision of the Race Direction will be heard by the FIM Stewards appointed for the Superbike, Supersport and Superstock Cup event at which the Race Direction decision is taken.

If there is no more Superbike, Supersport and Superstock Cup event following the notification of the results of the final expertise, the Race Direction will take a decision as soon as practical. Any appeal against the decision of the Race Direction will be heard by the FIM Stewards appointed by the FIM for this specific task.

- 12) The Technical Director must be present at the sample "B" test to confirm the identification and the seal status of the "B" sample.

Failure of the sample to correspond to the FIM fuel specifications will automatically result in the disqualification of the competitor. The result of the competitor's fuel sample analysis ("A" or "B" sample) more favourable to the competitor will be taken into account.

2.10.6 Fuel Storage

Fuel must only be stored in metal, **sealable** containers in the competitor's pit.

Fire fighting equipment, protective devices and staff must conform to the requirements imposed by the local authorities and by-laws.

The organiser must have fire extinguishers of a size and type approved by the local by-laws, available to each competitor in the pit area.

2.10.7 Coolants

The only liquid engine coolants permitted other than lubricating oil shall be water or water mixed with ethyl alcohol.

2.11 PROTECTIVE CLOTHING AND HELMETS

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

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

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

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

2.11.5 Use of a back protector is highly recommended.

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

2.11.7 Helmets must be of the full face type (integral) and conform to one of the recognised international standards :

- Europe ECE 22-05, 'P'
- Japan JIS T 8133 : 2000
- USA SNELL M **2005**

2.11.8 Visors must be made of a shatterproof material.

2.11.9 Disposable "tear-offs" are permitted.

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

2.12 PROCEDURES FOR TECHNICAL CONTROL

A rider is at all times responsible for his machine.

2.12.1 At each circuit an area must be designated as the Technical Checking Area. In this area, under the control of the Chief Technical Steward and the supervision of the Technical Director, suitable equipment will be installed to conduct the various tests viz :

- i) Equipment for measuring the noise of the motorcycle.
- ii) Weighing scales with check weights for calibration purposes.
- iii) Instruments for measuring engine capacity.
- iv) Rulers and degree discs and gauges for measuring other dimensions.

2.12.2 The technical control procedure will be carried out in accordance with the schedule set out in these Regulations. The Technical Stewards must be available throughout the event to check motorcycles and equipment as required by the Technical Director.

2.12.3 Presentation of a machine will be deemed as an implicit statement of conformity with the technical regulations. A rider's presence at the technical control is not mandatory.

2.12.4 Motorcycles will be inspected under the name of the team, with a record of the riders in the team entitled to use the motorcycle.

2.12.5 For each motorcycle the Technical Stewards will prepare a technical control card on to which will be recorded, amongst other information, the team presenting the motorcycle and the riders in that team entitled to use the motorcycle.

2.12.6 The Technical Stewards must inspect the motorcycle for obvious safety omissions and the Technical Director may, at his discretion, choose to check the motorcycles for technical compliance with all other aspects of these Regulations.

2.12.7 The Technical Director will refuse any machine that does not have a correctly-positioned positive transponder attachment. The transponder must be fixed to the motorcycle in the position and orientation as shown in the Timekeeping information given to teams pre-season and available at each event. Positive attachment of the transponder bracket consists of a minimum of tie-wraps, but preferably by screw or rivet. Velcro or adhesive alone will not be accepted. The transponder retaining clip must also be secured by a tie-wrap.

2.12.8 At the conclusion of the check, the Technical Stewards will place a small sticker on the motorcycle frame indicating that it has passed the safety checks.

2.12.9 The Chief Technical Steward will prepare a report on the results of technical control which, will be submitted to the International Jury via the Technical Director.

2.12.10 The Technical Stewards must re-inspect any machine that has been involved in an accident. This would normally be carried out at the pit of the rider concerned.

2.12.11 The Technical Stewards must be available, based on instructions from the Technical Director, to re-inspect any motorcycle for technical compliance during the meeting or after the race and to supervise inspection of a motorcycle following a protest on a technical matter.

2.12.12 At the end of the race, the Chief Technical Steward will ensure that all classified motorcycles are placed in the parc-fermé for a period of at least 30 minutes.

The motorcycles must be checked for compliance according to the Verification Guidelines (Art. 2.13), and any other technical requirement if requested by the Technical Director.

Competitors must retrieve their machines within 30 minutes after the opening of the closed park area, except for those machines chosen for disassembly. After this time limit, the closed park officials will no longer be responsible for the machines left behind.

2.12.13 The Technical Director may require a team to provide such parts or samples as he may deem necessary.

2.12.14 If a motorcycle is involved in an accident, the Technical Director must check the machine to ensure that no defect of a serious nature has occurred. However, it is the responsibility of the rider or the team to present his machine for this re-examination together with helmet and clothing.

If the helmet is clearly defective, the Chief Technical Steward must arrange to retain this helmet. The organiser must send this helmet, together with the accident and medical report (and pictures and video, if available) to the Federation of the rider. If there are head injuries stated in the medical report, the helmet then must be sent to a neutral institute for examination.

2.12.15 Noise will be checked after dry-Superpole (if applicable) as well as after the race. Noise may be checked at any time of the event by request of the Technical Director. On request of rider, team or mechanic, noise of their own motorcycles can be checked at any time during the event.

2.12.16 The random weight check during practices will be held with minimum disturbance to the riders. The weight scales will be placed in the pit-lane. The actual place is decided by the Technical Director.

The Technical Director has the final authority in case of a dispute on the conformity of the parts in question and for their acceptance.

2.13 VERIFICATION GUIDELINES FOR TECHNICAL STEWARDS

2.13.1 Verification

- Make sure all necessary measures and administrative equipment are in place at least 1 hour before the Technical control (see separate list) is due to open.
- Decide who is doing what and note decisions. "Efficiency" must be the watchword. Always keep cheerful and remember the reasons for Technical controls: SAFETY AND FAIRNESS.

- Be well informed. Make sure your FMN has supplied you with all technical "updates" that may have been issued subsequent to the printing of the Technical Regulations. Copies of all homologation documents must be in your possession.
- Inspection must take place under cover with a large enough area (min. surface 100 sq. metres).
- Weighing apparatus must be accurate and practical. The scale must be certified in the current year.
- Rules regarding noise level and measurement must be respected.

The machines will not be required for weight and/or noise check at the pre-race technical inspection.

The scales and noise meter will be available to the teams or riders for pre-race checking in the technical control area.

Noise test must take place in a clear area adjacent to the Technical control at least 5 metres from any possible noise reflecting obstruction.

The riders and teams must be aware that the weight and noise will be controlled at random during practice in the pit-lane, at the end of dry Superpole and at the end of each race.

Claiming that the noise and weight were not officially controlled before the race will not be grounds for appeal. Conformity of the rules is the responsibility of the rider and the team (or the participants).

The Technical Director reserves the right to spot check the weight and noise of any machines on pit row during free practice and official practice. This can occur at any time during the free practice and in the first forty minutes of any official (timed) practice. This will be carried out with the least possible inconvenience to the rider or the team.

Machines arriving later than the first free practice must be controlled in the technical control area.

At the conclusion of the inspections, a small sticker or coloured mark will be placed on the frame indicating that the machine had passed inspection.

The Technical Director/Chief Technical Steward must re-inspect any machine that has been involved in an accident.

The Technical Stewards must be available, based on instructions from the Technical Director or the Chief Technical Steward, to re-inspect any motorcycle for compliance during the meeting.

Dry Superpole

Every machine used in dry Superpole that has completed the Superpole run must be checked.

The minimum checks are weight and noise.

The Technical Director may request other checks.

Wet Superpole

There will be no technical control after a wet Superpole.

Superbike Race 1

The first five machines plus one at random from six through fifteen can be checked for the following compliance points:

- Weight: The weight will be checked in the condition that the machine has finished the race. No elements can be added to the machine neither fuel, oil, water nor tyres.
- Noise.
- Carb/injection: Homologation points.

The Technical Director may request other checks.

Superbike Race 2

The first ten machines plus one at random from eleven through fifteen can be checked for the following compliance points:

- Weight: The weight will be checked in the condition that the machine has finished the race. No elements can be added to the machine neither fuel, oil, water nor tyres.

- Noise.
- Carb/injection: Measurement and inspection of both inlet and outlet tract. (Homologation points).
- Engine: One engine and up to a maximum of three engines, chosen at random, can be checked internally for capacity and compliance with the regulations.

The random choice can be determined by the finishing positions selected prior to the race by the Chief Technical Steward. The Technical Director may at his absolute discretion require the control of any additional motorcycle and other checks.

The Technical Director may require a team to provide parts or samples, as he may deem necessary to confirm compliance with the rules.

The Technical Director may request other checks.

Supersport & Superstock Race

The first ten machines plus one at random from eleven through fifteen can be checked for the following compliance points:

- Weight: The weight will be checked in the condition that the machine has finished the race. No elements can be added to the machine neither fuel, oil, water or tyres.
- Noise.
- Carb/injection: Measurement and inspection of both inlet and outlet tract.
- Engine: One engine and up to a maximum of three engines, chosen at random, can be checked internally for capacity, cams, valve size, timing, etc.
- Tyre, air box and electric starter – compliance.

The random choice can be determined by the finishing positions selected prior to the race by the Chief Technical Steward. The Technical Director may at his absolute discretion require the control of any additional motorcycle and other checks.

2.13.3 Timetable

The Technical Stewards must be present and available during the opening hours of the Technical control area. The Technical Director and the Chief Technical Steward will instruct the Technical Stewards to verify motorcycles for compliance with technical and safety rules.

Thursday: From 15:00 to 18:00: Technical control

| | |
|-------------------------------------|------------|
| For all riders in Superbike: in pit | 2 people |
| For all riders in Supersport | 2/3 people |

Tasks: Inspection of machine safety, clothing and helmets
(NO NOISE OR WEIGHT CONTROL)

| | |
|-----------------------|----------|
| Administration tasks: | 1 person |
|-----------------------|----------|

Friday and Saturday: From 08:30 until 18:00

Technical control: Practice, qualifying and Superpole sessions

| | |
|--|----------|
| <u>Task:</u> Inspection of machine safety: Noise and Weight after the Superpole | 4 people |
|--|----------|

| | |
|---|----------|
| Inspection of crashed machines and technical controls | 2 People |
|---|----------|

| | |
|-----------------------|----------|
| Administration tasks: | 1 person |
|-----------------------|----------|

Sunday: From 08:00 until 18:00: Technical control on race day

Before race: safety checks on starting grid at the request of the Technical Director

| | |
|---|----------|
| <u>After race:</u> Technical control noise weight and carburation instruments | 8 people |
|---|----------|

| | |
|---------------------|----------|
| Displacement checks | 2 people |
|---------------------|----------|

| | |
|----------------|----------|
| Administration | 1 person |
|----------------|----------|

This is the required minimum of Technical Stewards. The number may of course be higher.

2.13.4 Equipment list

- Revolution meter
- Sound meter and calibrator
- Slide calliper
- Depth gauge
- Steel measuring tape
- Seals
- Weighing apparatus (scales) with calibration weights
- Tools for measuring engine capacity
- Tools for measuring valve lift
- Weighing apparatus for investigation of valve weights
- Colour for marking parts
- Magnet for materials testing
- Computer to read homologation CD-Rom

2.13.5 Documents list

- Regulations of the CURRENT year.
- Homologation documents
- CD-Rom with homologations
- Technical control forms
- Writing materials

2.14 NOISE CONTROL

Noise limits in force :

Noise will be controlled at: Max. 107 dB/A measured at a mean piston speed of 11 m/sec. The fixed RPM specified in Art. 2.14.6 may be used.

2.14.1 With the microphone placed at 50 cm from the exhaust pipe at an angle of 45° measured from the centre-line of the exhaust end and at the height of the exhaust pipe, but at least 20 cm above the ground. If this is not possible, the measurement can be taken at 45° upwards.

2.14.2 During a noise test, machines not equipped with a gear-box neutral must be placed on a stand.

2.14.3 The silencers will be marked when they are checked and it is not allowed to change them after the verification, except for any spare silencer which has also been checked and marked.

2.14.4 The driver shall keep his engine running out of gear and shall increase the engine speed until it reaches the specified Revolutions Per Minute (RPM). Measurements must be taken when the specified RPM is reached.

2.14.5 The RPM depends upon the mean piston speed corresponding to the stroke of the engine.

The RPM will be given by the relationship :

$$N = \frac{30,000 \times cm}{l}$$

in which N = prescribed RPM of engine
cm = fixed mean piston speed in m/s
l = stroke in mm

2.14.6 Noise control

Due to the similarity of the piston stroke in different engine configurations within the capacity classes, the noise test will be conducted at a fixed RPM. For reference only, the mean piston speed at which the noise test is conducted is calculated at 11 m/sec.

| | 1 cylinder | 2 cylinders | 3 cylinders | 4 cylinders |
|-------------|------------|-------------|-------------|-------------|
| 600 cc | 5,000 RPM | 5,500 RPM | 6,500 RPM | 7,000 RPM |
| 750 cc | 5,000 RPM | 5,500 RPM | 6,000 RPM | 7,000 RPM |
| over 750 cc | 4,500 RPM | 5,000 RPM | 5,000 RPM | 5,500 RPM |

2.14.7 The noise level for engines with more than one cylinder will be measured on each exhaust end.

2.14.8 A machine which does not comply with the noise limits may be presented several times at pre-race control.

2.14.9 The surrounding noise must not exceed 90 dB/A within a 5 metres radius from the power source during tests.

2.14.10 Apparatus for noise control must be to international standard IEC 651, Type 1 or Type 2.

The sound level meter must be equipped with a calibrator for control and adjustment of the meter during periods of use.

2.14.11 The "slow response" setting must always be used.

2.14.12 Due to the influence of temperature on noise tests, all figures are correct at 20°C. For tests taken at temperatures below 10°C, there will be a + 1 dB/A tolerance and for tests below 0°C, a + 2 dB/A tolerance.

2.14.13 Noise control after the competition

In a competition which requires a final examination of machines before the results are announced, this examination must include a noise control measurement of at least the first three machines listed in the final classification. At this final test, there will be a 3 dB/A tolerance.

2.14.14 Noise control during a competition

In a competition which requires noise control tests during the event, machines must comply with the noise limits without the tolerance in Art. 2.14.13.

2.15 GUIDELINES FOR USE OF SOUND LEVEL METERS

2.15.1 The Noise Control Officer (NCO) must arrive in sufficient time for discussions with the Technical Director and other Technical Stewards in order that a suitable test site and testing policy can be agreed.

2.15.2 Sound level measuring equipment must include a compatible calibrator, which must be used immediately before testing begins and always just prior to a re-test if a disciplinary sanction may be imposed.

Two sets of equipment must be available in case of failure of tachometer, sound level meter or calibrator during technical control.

2.15.3 Before testing, the NCO must if possible liaise with a maximum of two holders of FIM Sponsor's or Manufacturer's licences, or team managers, who have noise test equipment including calibrators, in order to agree the accuracy of the official sound level meter.

2.15.4 Tests must not take place in rain or excessively damp conditions. Machines considered excessively noisy must be individually tested if conditions allow.

2.15.5 In other than moderate wind, machines must face forward in the wind direction. (Mechanical noise will blow forward, away from microphone).

2.15.6 'Slow' meter response must be used.

2.15.7 'A' weighted setting on sound level meter.

2.15.8 Always round down meter reading, that is: 103.9 dB/A = 103 dB/A.

2.15.9 Corrections

Type 1 meter: deduct 1 dB/A

Type 2 meter: deduct 2 dB/A

2.15.10 Ambient temperature

Below 10° Celsius: deduct 1 dB/A

Below 0° Celsius: deduct 2 dB/A

All tolerances are accumulative. Action and decisions are taken during prior discussions with the Technical Director.

+++++



Diagramm 9

FIM ROAD RACING SUPERBIKE & SUPERSPORT WORLD CHAMPIONSHIPS AND SUPERSTOCK CUP

FUEL SAMPLES TAKEN ON /..... / FOR LABORATORY
ANALYSIS

PRACTICE OR
RACE N°:

Sample Can "A"

Can Label
N°

Can Seal
N°

RIDER :

Sample Can "B"

Can Label
N°

Can Seal
N°

MOTORCYCLE MAKE: _____

TEAM: _____

The above listed details refer to fuel samples taken from the fuel tank of the motorcycle specified after the race whilst in the Check Area for a period of 60 minutes pending any protest.

Sample "A" will go to the laboratory appointed by the FIM/Superbike International for analysis.

Sample "B" will be safeguarded by the FIM in case a counter-expertise is required.

As a responsible member of the team named on this sheet, I,

(print name): _____

have controlled the serial numbers of can seals and serial numbers of can labels and hereby certify the accuracy of the listed information.

Time: _____
(Signature)

Position in team: _____
(OWNER/MANAGER/MECHANIC)