2.7 SUPERSTOCK 600 TECHNICAL SPECIFICATIONS

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

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

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

Superstock motorcycles require an FIM homologation (see Appendix FIM Homologation procedure for Superstock, Supersport and Superbike motorcycles). All motorcycles must comply in every respect with all the requirements for road racing as specified in these Technical Regulations, unless they are already equipped as such on the homologated model.

For 2016: 2013-2015 Kawasaki ZX-6R (636) is accepted as homologated for 2016 MotoAmerica competition.

The appearance from the 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 Motorcycle specifications

All parts and systems not specifically mentioned in the following articles must remain as originally produced by the manufacturer for the homologated motorcycle.

2.7.2 Engine configurations and displacement capacities

The following engine configurations comprise the Superstock class:

Over 401cc up to 600cc	4-stroke	4 cylinders
Over 401cc up to 675cc	4-stroke	3 cylinders

The displacement capacity, bore and stroke (new), must remain at the homologated size. **All machines must be normally aspirated.**

2.7.3 Balancing various motorcycle concepts

In order to equalize the performance of motorcycles used in the Superstock 600 Championship, A system of performance enhancements or restrictions can be developed. (Such as minimum weight, air restrictor or REV Limit may be applied according to their respective racing performances.) The decision to apply a balancing system to a motorcycle will be taken by the MotoAmerica Permanent Bureau based on decisions made by the Superbike Commission at any time deemed necessary to ensure fair competition.

2.7.4 Minimum weight

Over 401cc up to 600cc	4 cylinders	164kg (360.8lbs)
Over 401cc up to 675cc	3 cylinders	164kg (360.8lbs)

For 2016: 2013-2016 Kawasaki ZX-6R (636) minimum weight- 166 kg (365.2 lbs)

At any time of the event, the weight of the whole motorcycle (including the tank and its contents) must not be lower than the minimum weight.

There is no tolerance on the minimum weight of the motorcycle.

During the final technical inspection at the end of the race, the selected motorcycles will be weighed in the condition they finished the race, and the established weight limit must be met in this condition. Nothing may be added to the motorcycle. This includes all fluids.

During the practice and qualifying sessions, riders may be asked to submit their motorcycle to a weight control. In all cases the rider must comply with this request.

The use of ballast is allowed to stay over the minimum weight limit and may be required due to the handicap system. The use of ballast and weight handicap must be declared to the MotoAmerica Technical Director at the preliminary checks.

2.7.5 Numbers and Number Plates

The background colors and figures (numbers) for Superstock 600 are red (pantone 186c) background with yellow (pantone yellow) numbers:

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

Minimum width:	70 mm
Minimum stroke:	20 mm
Minimum space between numbers	10 mm

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

a. Once on the front, either in the center of the fairing or slightly off to one side. The number must be centered on the red background with no advertising within 25mm in all directions.
b. Once, on each side of the motorcycle. The preferred location for the numbers on each side of the motorcycle is on the lower rear portion of the main fairing near the bottom. The number must be centered on the red background. **Any change to this position must be pre-approved a minimum of 2 weeks before the first race by the MotoAmerica Technical Director.**
c. **The numbers must use the fonts as detailed after Art2. Any numbers not using these fonts must have the design of the numbers and the layout pre-approved by the MotoAmerica Technical Director a minimum of 2 weeks before the first race. All digits must be of standard form.**
d. **Any outlines must be of a contrasting colour and the maximum width of the outline is 3mm. The background color must be clearly visible around all edges of the number (including outline). Reflective or mirror type numbers are not permitted.**
e. **Numbers cannot overlap**

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

2.7.6 Fuel

Please refer to Article: 2.8

2.7.7 Tires

a. Tires must be a fully molded type carrying all size and sidewall markings of the tires for commercial sale to the public. The depth of the tire treads must be at least 2.5 mm over the entire tire pattern width at pre-race control. The tires 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 tire to 50% of the tread elements is 35 mm.
b. The maximum number of tires, of any type, available to each rider during the event will be **specified in Article: 2.3.7**
c. For the Superstock 600 race only, wet and intermediate tires will not need to be marked with a tire sticker. They will not be considered in the total number of tires available for use, However normal allocation limits still apply.
d. Every tire used during the event must be marked with an adhesive sticker with a number allocated by the MotoAmerica Technical Director. The sticker will be a different color front and rear.
e. The tire stickers will be delivered to the teams in a sealed envelope, on the day before the first practice after which the teams will be responsible for their use.
f. Officials will check that all the motorcycles in the pit lane are fitted with tires carrying the sticker.
g. The use of motorcycles without the official stickers will be immediately reported to the Race Direction whom will take appropriate action.
h. Tire stickers must be mounted to the left sidewall.
i. Any modification or treatment (cutting, grooving) is forbidden.
j. At the beginning of the event, the Official Supplier may be requested by the MotoAmerica Technical Director to deliver to him four (4) samples of each type of tire to be used at the event.
k. The allocation of individual tires will be made on a random basis, with no involvement of any representative from the tire supplier, teams or riders. Those tires will be individually identified and may not be exchanged between riders, including between team mates, and may not be exchanged by the tire supplier after the allocation, except with the permission of the Race Direction.
l. 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 MotoAmerica Technical Director. However, the damaged sticker must be returned to the MotoAmerica Technical Director and/or the tire it was applied to, must be absolutely intact.

2.7.8 Engine

2.7.8.1 Fuel injection system

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

a. The original homologated fuel injection system must be used without any modification.
b. The fuel injectors must be stock and unaltered from the original specification and manufacture.
c. Bell mouths must remain as originally produced by the manufacturer for the homologated motorcycle.
d. Butterfly valves cannot be changed or modified.
e. Variable intake tract devices cannot be added if they are not present on the homologated motorcycle and they must remain identical and operate in the same way as the homologated system. All parts of the variable intake tract device must remain exactly as homologated.
f. Air and air/fuel mixture can go to the combustion chamber exclusively through the throttle body butterflies.
g. Electronically controlled throttle valves, known as 'ride-by-wire', may be only used if the homologated model is equipped with the same system. Software may be modified but all the safety systems and procedures designed by the original manufacturer must be maintained.

2.7.8.2 Cylinder Head

a. No modifications are allowed.
b. From 2016: No material may be added or removed from the cylinder head.
c. The gaskets may be changed.
d. The valves, valve seats, guides, springs, tappets, oil seals, shims, cotter valve, spring base and spring retainers must be as originally produced by the manufacturer for the homologated motorcycle. Only normal maintenance interventions as prescribed by the Manufacturer in the service manual of the motorcycle are authorized.
e. Valve spring shims are not allowed.

2.7.8.3 Camshaft

a. No modifications are allowed.
b. 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.

2.7.8.4 Cam sprockets or gears

a. Cam Sprockets may be slotted to allow the adjustment of cam timing.
b. Pressed on cam sprockets may be replaced with an adjustable boss and cam sprocket.
c. The cam chain must remain as homologated.
d. Cam chain tensioner must remain as homologated.

2.7.8.5 Cylinders

From 2016: No modifications are allowed.

2.7.8.6 Pistons

No modifications are allowed (including polishing and lightening).

2.7.8.7 Piston rings

No modifications are allowed.

2.7.8.8 Piston pins and clips

No modifications are allowed.

2.7.8.9 Connecting rods

No modifications are allowed (including polishing and lightening).

2.7.8.10 Crankshaft

No modifications are allowed (including polishing and lightening).

2.7.8.11 Crankcase / Gearbox housing

a. **From 2016: Crankcases must remain as homologated. No modifications are allowed (including painting, polishing and lightening).**
b. It is not allowed to add a pump used to create a vacuum in the crankcase. If a vacuum pump is installed on the homologated motorcycle then it may be used only as homologated.

2.7.8.11.1 Lateral covers and protection

a. Lateral (side) covers may be altered, modified or replaced. If altered or modified, the cover must have at least the same resistance to impact as the original one. If replaced, the cover must be made in material of same or higher specific weight and the total weight of the cover must not be less than the original.
b. All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, must be either replaced by a 'heavier' engine cover or protected by a second cover made from metal such as aluminum alloy, stainless steel, steel or titanium, or an approved cover.

c. Any secondary covers must cover a minimum of 1/3 of the original cover. It must have no sharp edges to damage the track surface. These covers must be fixed properly and securely with a minimum of three (3) case cover screws that also mount the original covers/engine cases to the crankcases.
d. Plates or crash bars made from aluminum or steel also are permitted in addition to these covers. All of these devices must be designed to be resistant against sudden shocks, abrasions and crash damage.
e. FIM approved covers will be permitted without regard of the material or dimensions.
f. These covers must be fixed properly and securely with case cover screws that also mount the original covers/engine cases to the crankcases.
g. **No oil containing engine case may be secured with aluminum bolts**.
h. The Technical Director has the right to refuse any cover not satisfying this safety purpose.

2.7.8.12 Transmission / Gearbox

a. No modifications are allowed except shimming.
b. Quick-shift systems are allowed (including wire and potentiometer).
c. Countershaft sprocket, rear wheel sprocket, chain pitch and size may be changed.
d. The sprocket cover may be modified or eliminated.
e. Chain guard as long as it is not incorporated in the rear fender may be removed.

2.7.8.13 Clutch

a. Clutch system (wet or dry type) and the method of operation (by cable or hydraulic) must remain as homologated.
b. Friction and drive discs may be changed.
c. Clutch springs may be changed.
d. The clutch basket (outer) may be reinforced.
e. The original clutch assembly may be modified or replaced by an aftermarket clutch, also including back torque limiting capabilities (slipper type).
f. No power source (i.e. hydraulic or electric) can be used for gear selection, if not installed in the homologated model for road use. Human power is excluded from the ban.

2.7.8.14 Oil pumps and oil lines

a. No pump modifications are allowed.
b. 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.

2.7.8.15 Radiator, cooling system and oil cooler

a. The only liquid engine coolants permitted will be water or water mixed with ethyl alcohol.
b. Protective meshes may be added in front of the oil and/or water radiator(s).
c. The cooling system hoses and catch tanks may be changed.
d. Radiator fan and wiring may be removed. Thermal switches, water temperature sensor and thermostat may be removed inside the cooling system.
e. Radiator cap is free.

2.7.8.16 Air box

a. The air box must remain as originally produced by the manufacturer on the homologated motorcycle but the air box drains must be sealed.
b. The air filter element may be modified or replaced but must be mounted in the original position.
c. The air box drains must be sealed.
d. All motorcycles must have a closed breather system. All the oil breather lines must be connected and discharge in the airbox.
e. **Additional heat shielding is not allowed (i.e. gold or silver heat tape).**

2.7.8.17 Fuel supply

a. Fuel pump and fuel pressure regulator must remain as homologated.
b. The fuel pressure must be as homologated.
c. Fuel lines from the fuel tank to the delivery pipe assembly (excluded) may be replaced.
d. Quick connectors or dry break connectors may be used.
e. Fuel vent lines may be replaced.
f. Fuel filters may be added.

2.7.8.18 Exhaust system

a. Exhaust pipes and silencers may be modified or changed. Catalytic converters must be removed.
b. The number of the final exhaust silencer(s) must remain as homologated. The silencer(s) must be on the same side(s) of the homologated model.
c. For safety reasons, the exposed edges of the exhausts pipe(s) outlet must be rounded to avoid any sharp edges.
d. Wrapping of exhaust systems is not allowed except in the area of the rider's foot or an area in contact with the fairing for protection from heat.
e. The noise limit for Superstock is 107 dB/A (with a 3 dB/A tolerance after the race only)

2.7.9 Electrics and electronics

2.7.9.1 Ignition / Engine Control System (ECU)

a. The engine control system (ECU) must be an ECU (Kit or OEM) applicable to the specific homologated model. The ECU may have its software changed, but the ECU may not be physically modified.
b. The system may have FIM/DWO/MotoAmerica approved external ignition and/or injection module/s added.
c. The total combined retail price (software and tuning tools included) on sale to the general public cannot be higher than €2500 (tax excluded).
d. Central unit (ECU) may be relocated.
e. Optional equipment sold by the motorcycle Manufacturer for the homologated model is considered not homologated with the bike and must follow the requirements for approved electronics/data loggers.
f. During an event the Technical Director has the right to ask a team to substitute their ECU or external module with the sample received from the Manufacturer. The change has to be done before Sunday warm up.
g. No extra sensors may be added for control strategies except shift rod sensor and wheel speed sensors. Wheel speed sensors must be included in the Kit ECU and Harness package if required.
h. The addition of an infrared (IR) or GPS based lap timing system is allowed.
i. Data logging is not allowed. **Lap timers using any data recording with the exception of lap time are not allowed.**
j. Telemetry is not allowed.
k. No remote or wireless connection to the bike for any data exchange or setting is allowed whilst the engine is running or the bike is moving.
l. Harness:
    a. The main wiring harness may be replaced by the kit wire harness as supplied for the Kit ECU model, produced and/or approved by the manufacturer of the motorcycle and by FIM/DWO
    b. The key/ignition lock may be relocated, replaced or removed.
    c. Cutting of the original main wiring harness is allowed.
m. To be approved, samples of the ECU kits, kit harnesses and external modules with their tuning tools must be sent by the Manufacturers to the FIM Technical Director, with technical data and selling price.
n. For the ignition and or injection module, or quick shifter to be approved, samples must be sent by the manufacturer of the device to the MotoAmerica Technical Director with technical data and selling price.
o. The original speedometer and tachometer may be altered or replaced.
p. Spark plugs may be replaced.
q. Battery is free.

2.7.9.2 Generator, alternator, electric starter

a. No modifications are allowed.
b. The electric starter must operate normally and always be able to start the engine during the event.

2.7.10 Main frame

During the entire duration of the event, each rider can only use one (1) complete motorcycle, as presented for Technical Control, with the frame clearly identified with a seal. In case the frame needs to be replaced, the rider or the team can request the use of a spare frame to the MotoAmerica Technical Director.

The pre-assembled spare frame must be presented to the MotoAmerica Technical Director to receive the permission to rebuild the motorcycle. The pre-assembly of the frame shall be strictly limited to:

- **Main frame**
- **Bearings (steering pipe, swing arm , etc)**
- **Swing arm**
- **Rear suspension linkage and shock absorber**
- **Upper and lower triple clamps**
- **Wiring harness**

The spare frame will not be allowed in the pit box before the rider or the team has received authorization from the MotoAmerica Technical Director.

The motorcycle, once rebuilt, prior to use must be inspected by the technical stewards for safety checks and a new seal will be placed on the motorcycle frame.

EXPLANATION OF THE PROCEDURES

Only one (1) complete motorcycle may be presented for the preliminary technical checks and it will be the only motorcycle allowed on the track and in the pit box during the practices, qualifying, warm up and race.

The frame of this motorcycle will be officially sealed by the MotoAmerica Technical Director or by his appointed staff. The seal will bear a serial number, which will be recorded. Any attempt made to remove the seal will damage it irreparably.

At any time during the event the technical stewards, under the direction of the MotoAmerica Technical Director, may check the seal and verify that it conforms to the motorcycle and rider it was assigned to. For cross reference, every frame must have a unique number punched on it, preferably on the steering-head.

If the motorcycle is damaged in a crash or in any other incident, it is allowed to use the pre-assembled spare frame to rebuild the motorcycle.

The spare frame may be pre-assembled with the following items: main frame assembly, swing-arm, rear suspension linkage, shock-absorber, steering head bearings, upper and lower triple clamps and wiring harness.

When a team decides that a crashed or damaged motorcycle requires a change of frame, it must inform the MotoAmerica Technical Director. Only at this point may the pre-assembled spare frame be brought into the pit box.

Parts may be transferred from the damaged motorcycle for the assembly of the replacement motorcycle.

Once the assembly of the replacement motorcycle is completed, it will then undergo technical and safety checks and it will be officially sealed. The seal on the damaged motorcycle will be destroyed by the technical staff and the chassis of this motorcycle must not be used for the remainder of the event. The new serial number will be recorded by the MotoAmerica Technical Director.

The replacement motorcycle may be used on the track only after the end of the practice and qualifying sessions or race in which the damage occurred. The damaged motorcycle must be removed from the pit box as soon as possible and put in storage outside the pit box.

After the pre-assembled spare part frame has been used, should it become necessary to replace the frame again because of a further crash or damage, the assembly work must be done using a bare frame with no components attached. The MotoAmerica Technical Director must inspect the bare frame and give his approval before work can start.

Any actions contrary to these procedures will result in a penalty as described in the Sporting Regulations

2.7.10.1 Frame body and rear sub frame

a. The frame must remain as originally produced by the manufacturer for the homologated motorcycle.
b. Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount, sensors).
c. The sides of the frame-body may be covered by a protective part made of a composite material. These protectors must fit the form of the frame.
d. Nothing else may be added or removed from the frame body.
e. All motorcycles must display a vehicle identification number punched on the frame body (chassis number).
f. Engine mounting brackets or plates must remain as originally produced by the manufacturer for the homologated motorcycle.
g. Front sub frame / fairing mount may be changed or altered.
h. Rear sub frame must remain as homologated but additional seat brackets may be added.
i. Additional seat brackets may be added, non-stressed protruding brackets may be removed if they do not affect the safety of the construction or assembly. Bolt-on accessories to the rear sub-frame may be removed.
j. The paint scheme is not restricted but polishing the frame body or sub frame is not allowed.

2.7.10.2 Front Forks

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

i. Electronic forks: No aftermarket or prototype electronically-controlled suspension parts may be used. Electronic suspension may be used if such suspension is already present on the production model of the homologated motorcycle, and it must remain completely standard (all mechanical and electronic parts must remain as homologated) with the exception of shims and springs. The original suspension system must work safely in the event of an electronic failure. The electronic front suspension may be replaced with a mechanical system from a similar homologated model from the same manufacturer.

2.7.10.3 Rear fork (Swing arm)

a. The rear fork must remain as originally produced by the manufacturer for the homologated motorcycle.
b. A chain guard must be fitted in such a way to reduce the possibility that any part of the riders' body may become trapped between the lower chain run and the rear wheel sprocket.
c. Rear fork pivot bolt must remain as originally produced by the manufacturer for the homologated motorcycle.
d. Rear pivot position must remain in the homologated position (as supplied on the production bike). If the standard bike has inserts then the orientation/position of the original insert may be changed but the insert cannot be replaced or modified.
e. Rear wheel stand brackets may be added to the rear fork by welding or by bolts. Brackets must have rounded edges (with a large radius). Fastening screws must be recessed. An anchorage system or point(s) to keep the original rear brake caliper in place may be added to the rear swing-arm.

2.7.10.4 Rear suspension unit

a. Rear suspension unit (shock absorber) may be modified or replaced, but the original attachments to the frame and rear fork (swing arm) must be as homologated.
b. All the rear suspension linkage parts must remain as originally produced by the manufacturer for the homologated motorcycle.
c. **Mechanical suspension:** Rear suspension unit and spring may be changed.
d. **Electronic suspension:** No aftermarket or prototype electronically-controlled suspension parts may be used. Electronic suspension may be used if such suspension is already present on the production model of the homologated motorcycle, and it must remain completely standard (all mechanical and electronic parts must remain as homologated) with the exception of shims and springs). The original suspension system must work properly and safely in the event of an electronic failure. The electronic shock absorber can be replaced with a mechanical one.

2.7.10.5 Wheels

a. Wheels must remain as originally produced by the manufacturer for the homologated motorcycle.
b. A non-slip coating / treatment may be applied to the bead area of the rim.
c. If the original design includes a cushion drive for the rear wheel, it must remain as originally produced for the homologated motorcycle.
d. Wheel axles must remain as homologated, wheel spacers may be modified or replaced.
e. Wheel balance weights may be discarded, changed or added.
f. Any inflation valves may be used.

2.7.10.6 Brakes

a. Brake discs may be replaced by aftermarket discs which comply with following requirements:
    i. Brake discs and carrier must retain the same material as the homologated disc and carrier.
    ii. The outside and inner diameters of the brake disc must not be larger than the ones on the homologated disc.
    iii. The thickness of the brake disc may be increased but the disc must fit into the homologated brake caliper without any modification. The number of floaters is free.
    iv. The fixing of the carrier on the wheel must remain the same as on the homologated disc.
b. The front and rear brake caliper (mount, carrier, hanger) must remain as originally produced by the manufacturer for the homologated motorcycle.
c. In order to reduce the transfer of heat to the hydraulic fluid it is permitted to add metallic shims to the calipers, between the pads and the calipers, and/or to replace light alloy pistons with steel pistons made by the same manufacturer of the caliper.
d. The rear brake caliper bracket may be mounted fixed on the swing- arm, but the bracket must maintain the same mounting (fixing) points for the caliper as used on the homologated motorcycle.
e. The swing-arm may be modified for this reason to aid the location of the rear brake caliper bracket, by welding, drilling or by using a helicoil.
f. The front and rear master cylinder must remain as originally produced by the manufacturer for the homologated motorcycle. Front and rear brake fluid reservoirs may be changed with aftermarket products.
g. Front and rear hydraulic brake lines may be changed.
h. The split of the front brake lines for both front brake calipers must be made above the lower fork bridge (lower triple clamp).
i. "Quick" (or "dry-brake") connectors in the brake lines are allowed.
j. Front and rear brake pads may be changed. Brake pad locking pins may be modified for quick change type.
k. Additional air scoops or ducts are not allowed.

l. The Antilock Brake System (ABS) may be used only if installed in the homologated model for road use. However, it must be completely standard (any mechanical or electronic part must remain as homologated, brake discs and master cylinder levers excluded), and only the software of the ABS may be modified.
m. The Antilock Brake system (ABS) can be disconnected and its ECU can be dismantled. The ABS rotor wheel can be deleted, modified or replaced.
n. Motorcycles must be equipped with brake lever protection, intended to protect the handlebar brake lever from being accidentally activated in case of collision with another motorcycle. Composite guards are not permitted. FIM approved guards will be permitted without regard to the material.
o. The Technical Director has the right to refuse any guard not satisfying this safety purpose.

2.7.10.7 Handlebars and hand controls

a. Handlebars may be replaced (except for the brake master cylinder).
b. Handlebars and hand controls may be relocated.
c. Throttle controls must be self-closing when not held by the hand.
d. Throttle assembly and associated cables may be modified or replaced but the connection to the throttle body and to the throttle controls must remain as on the homologated motorcycle.
e. Clutch and brake lever may be replaced with an after-market model. An adjuster to the brake lever is allowed.
f. Switches may be changed but the electric starter switch and engine stop switch must be located on the handlebars.
g. Motorcycles must be equipped with a functional ignition kill switch or button mounted on the right hand handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine. The button or switch must be RED.

2.7.10.8 Foot rest / Foot controls

a. Foot rest/foot controls may be relocated but brackets must be mounted to the frame in the original mounting points.
b. Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.
c. The end of the foot rest must have at least an 8 mm solid spherical radius.
d. Non folding footrests must have an end (plug) which is permanently fixed, made of aluminum, plastic, Teflon® or an equivalent type material (minimum radius 8mm). The plug surface must be designed to reach the widest possible area. The MotoAmerica Technical Director has the right to refuse any plug not satisfying this safety aim.

2.7.10.9 Fuel tank

a. Fuel tank must remain as originally produced by the manufacturer for the homologated motorcycle.
b. All fuel tanks must be completely filled with fire retardant material (i.e. fuel tank foam)
c. Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250cc made of a suitable material.
d. Fuel caps may be changed. Fuel caps when closed must be leak proof. Additionally, they must be securely locked to prevent accidental opening at any time.
e. The sides of the fuel tank may be protected with a cover made of a composite material. These covers must fit the shape of the fuel tank.

2.7.10.10 Fairing / Bodywork

a. Fairing and bodywork may be replaced with exact cosmetic duplicates of the original parts, but must appear to be as originally produced by the manufacturer for the homologated motorcycle, with slight differences due to the racing use (different pieces mix, fixing points, fairing bottom, etc.). The material may be changed. The use of carbon fiber or carbon composite materials is not allowed. Specific reinforcements in Kevlar® or carbon are allowed locally around holes and stressed areas.
b. Overall size and dimensions must be the same as the original part.
c. Wind screen may be replaced with an aftermarket product. The height of the windscreen is free **and must be** within a tolerance of +/- 15 mm referred to the vertical distance from/to the upper fork bridge. The screen must conform to the same profile from the front as the original – no double bubble or wide types. From a top view the length of the windscreen may be shortened by 25mm to allow clearance for the rider. The edge of the screen must have no sharp edges
d. Motorcycles that are not originally equipped with streamlining are not allowed to add streamlining in any form, with the exception of a lower fairing device, as described in point (g). This device cannot exceed above a line drawn horizontally from wheel axle to wheel axle and must follow the specifications described at point (g).
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 fiber composites and other exotic materials are forbidden. Particle grills or “wire-meshes” originally installed in the openings for the air ducts may be removed.
g. The lower fairing must to be constructed to hold, in case of an engine breakdown minimum 6 liters. The lower edge of all the openings in the fairing must be positioned at least 70 mm above the bottom of the fairing.

h. The upper edge of the rear transverse wall of the lower fairing must be at least 70 mm above the bottom. The angle between this wall and the floor must be ≤ 90°.
i. Original openings for cooling in the lateral fairing/bodywork sections may be partially closed only to accommodate sponsors' logos/lettering. Such modification shall be made using wire mesh or perforated plate. The material is free but the distance between all opening centers, circle centers and their diameters must be constant. Holes or perforations must have an open area ratio > 60%.
j. The lower fairing must incorporate a single opening of Ø 25 mm diameter in the front lower area. This hole must remain sealed in dry conditions and must be only opened in wet race conditions as declared by the Race Director.
k. Front mudguards may be replaced with a cosmetic duplicate of the original parts and may be spaced upward for increased tire clearance.
l. Rear mudguard fixed on the swing arm may be modified, changed or removed
m. Motorcycles may be equipped with inner ducts to improve the air stream towards the radiator but the appearance of the front, the rear and the profile of the motorcycle must not be changed.

2.7.10.11 Seat

a. Seat, seat base and associated bodywork may be replaced with parts of similar appearance as originally produced by the manufacturer for the homologated motorcycle. The appearance from front, rear and profile must conform to the homologated shape
b. The top portion of the rear bodywork around the seat may be modified to a solo seat.
c. The homologated seat locking system (with plates, pins, rubber pads etc.) may be removed.

2.7.10.12 Rear Safety Light

All motorcycles must have a functioning red light mounted at the rear of the machine, this light must be switched on any time the motorcycle is on the track or being ridden in the pit-lane **and the session is declared WET**. All lights must comply with the following:

a. Lighting direction must be parallel to the machine center line (motorcycle running direction), and be clearly visible from the rear at least 15 degrees to both left and right sides of the machine center line.
b. The rear light must be mounted near the end of the seat/rear bodywork and approximately on the machine center line, in a position approved by the Technical Director. In case of dispute over the mounting position or visibility, the decision of the Technical Director will be final.

c. Power output/luminosity equivalent to approximately: 10 – 15 (incandescent), 0.6 – 1.8 W (LED).
d. The output must be continuous - no flashing safety light whilst on track, flashing is allowed in the pit lane when pit limiter is active.
e. Safety light power supply may be separated from the motorcycle.
f. The Technical Director has the right to refuse any light system not satisfying this safety purpose.

2.7.10.13 Fasteners

a. Standard fasteners may be replaced with fasteners of any material and design but titanium fasteners cannot be used. The strength and design must be equal to or exceed the strength of the standard fastener.
b. Fasteners may be drilled for safety wire, but intentional weight-reduction modifications are not allowed.
c. **Thread repairs may be made** using inserts of different material such as helicoils and timeserts.
d. Fairing / bodywork fasteners may be replaced with the quick disconnect type.
e. Aluminum fasteners may only be used in non-structural locations.

2.7.11 The following items MAY be altered or replaced from those fitted to the homologated motorcycle

a. Any type of lubrication, brake or suspension fluid may be used.
b. Gaskets and gasket materials.
c. Instruments, instrument bracket(s) and associated cables.
d. Painted external surface finishes and decals.
e. Material for brackets connecting non original parts (fairing, exhaust, instruments, etc.) to the frame (or engine) cannot be made from titanium or fiber reinforced composites.
f. Protective covers for the frame, chain, footrests, etc. may be made in other materials like fiber composite material if these parts do not replace original parts mounted on the homologated model.

2.7.12 The following items MAY BE Removed

a. Emission control items (anti-pollution) in or around the air box and engine (O2 sensors, air injection devices).
b. Tachometer.
c. Speedometer.
d. Chain guard as long as it is not incorporated in the rear fender.
e. Bolt-on accessories on a rear sub frame.

2.7.13 The following items MUST BE Removed

a. Headlamp, rear lamp and turn signal indicators (when not incorporated in the fairing). Openings must be covered by suitable materials.
b. Rear-view mirrors.
c. Horn.
d. License plate bracket.
e. Toolkit.
f. Helmet hooks and luggage carrier hooks.
g. Passenger foot rests.
h. Passenger grab rails.
i. Safety bars, center and side stands must be removed (fixed brackets must remain).

2.7.14 The following items MUST BE Altered

a. Motorcycles must be equipped with a functional ignition kill switch or button mounted on the right hand handlebar (within reach of the hand while on the hand grips) that is capable of stopping a running engine, the button or switch must be red.
b. 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).
c. All motorcycles must have a closed breather system. The oil breather line must be connected and discharge in the airbox.
d. 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.
e. Motorcycles must be equipped with a red light on the instrument panel that will illuminate in the event of oil pressure drop (Yamaha R6 exempted).