



ALPE ADRIA MOTO 3 TALENT CHALLENGE

TECHNICAL REGULATIONS

2020

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Changes for 2020 are in bold & red.

AACR 5.0 GENERAL

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

EVERYTHING THAT IS NOT AUTHORISED AND PRESCRIBED IN THESE RULES 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

The only model homologated is HONDA NSF 250 R (Type MR03).

All motorcycles must be naturally aspirated.

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.

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

AACR 5.1 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.

AACR 5.2 DISPLACEMENT CAPACITIES

The following engine configuration comprise this class:

HONDA NSF 250 R 4-stroke 1 cylinder

The displacement capacity, bore and stroke (new), must remain at the homologated size.

AACR 5.3 MINIMUM WEIGHT

The minimum total weight (motorcycle + rider) in running condition is 145 kg.

A limit to the amount of ballast that may fixed to the motorcycles of the lightest riders will be imposed: The minimum total weight will not be applied if the motorcycle's weight is 96 kg or higher.

At any time of the event, the total weight (motorcycle + rider) must be higher or equal than the minimum total weight.

There is no tolerance on the minimum weight.

During the final inspection at the end of the race, the selected motorcycles will be weighted 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 Chief Technical Steward at the preliminary checks.

The ballast must be made from solid metal piece(s), firmly and securely connected, either through an adapter or directly to the main frame or engine, with minimum 2 steel bolts (min. 8 mm diameter, 8.8 grade or higher). Other equivalent technical solutions must be submitted to the Chief Technical Steward for his approval.

Fuel in the tank can be used as ballast.

AACR 5.4 NUMBER PLATES / STARTING NUMBERS

The background colours and figures (numbers) for this class is:

Number:	Background:
Black	White

The sizes for all the front numbers are:	Minimum height Minimum width Minimum stroke Minimum space between numbers	120 mm 60 mm 20 mm 10 mm
The sizes for all the side numbers are:	Minimum height Minimum width Minimum stroke Minimum space between numbers	100 mm 50 mm 15 mm 10 mm

The number must be clearly visible and in a good shape.

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

- a) One on the front, either in the centre of the fairing or slightly off to one side.
- b) One on each side of the motorcycle, the preferred location for this numbers is on the lower rear portion of the main fairing near the bottom. Alternatively, one across the top of the rear seat section with the top of the number towards the rider. The rear and side numbers are optional.
- c) Numbers must be easily legible in a clear simple font and contrast strongly with the background colour.
- d) Numbers must be centred on the background.
- e) Backgrounds must be of one single colour and must be clearly visible around all edges of the number (including outline).
- f) Any outlines must be of a contrasting colour and the maximum width of the outline is 3 mm.
- g) Reflective or mirror type numbers are not permitted.
- h) Numbers cannot overlap.

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

AACR 5.5 FUEL

- a) 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 FIM Superbike, Supersport & Supersport 300 World Championship Regulations **2020**; Article 2.8.
- b) At the technical control, each rider must declare the brand and type of fuel he is using.
- c) At least 1/2 litre fuel must remain in the fuel tank of all the motorcycles that finished the race to take samples if needed.**

AACR 5.6 TYRES

- a) The maximum number of tyres for each event is:
 - i. Dry tyres:**
 - **Front: 4**
 - **Rear: 5**

A corresponding number of official tyre stickers will be handed over personally, to the rider only, at the administration office.
 - ii. Wet tyres: The number of tyres is free. Wet tyres do not need to be marked with tyre stickers.**
- b) Competitors must use tyres of Dunlop, Pirelli, Bridgestone or Michelin brand, these are distributed and approved exclusively by the official tyre suppliers during the event only:**
 - i. Dunlop tyres only by Maco Racing, s.r.o., I.D. 35804241**
 - ii. Pirelli tyres only by Haas Recykling Polska Sp. z.o.o., NIP 524-274-17-19**
 - iii. Bridgestone tyres only by MERCURY TRADE s.r.o., ID 07380950**
 - iv. Michelin tyres only by Pneu-Sport SRO, ID 25982648**

Riders using a different tyre brand can only take part in their first entry in the season.
- c) All tyres in use must be easily identifiable with the official tyre stickers.**
- d) The official tyre stickers must be applied to the left sidewall of the tyres.**
- e) Sticker requirements: Stickers must be used for all Free Practices except Free Practice 1, Qualifying's, and Races. In Warm Up's, stickers are not required.**
- f) The stickers of 2019 season are not valid for 2020 season.**

- g) Tyres must be a fully moulded type carrying all size and sidewall markings of the tyres for commercial sale to public.
- h) Slick tyres are allowed.
- i) The tyres must have a DOT and/or E-Mark, the DOT and/or E-mark must be on the tyre sidewall.
- j) Any modification or treatment of the tyres (cutting, grooving) is forbidden.
- k) Wet tyres and intermediate tyres can be used only when the Race Direction has declared the race or practice "WET".
- l) Wet tyres must be a fully moulded tyre.
- m) Wet tyres do not need to carry a DOT and/or E-marks; however, these tyres must be marked "not for highway use" or "NHS".
- n) The use of hand-cut tyres is not allowed.

AACR 5.7 ENGINE

- a) There is no allocated number of engines.
- b) Motorcycles will be randomly chosen for dyno testing.
- c) At any time, the Technical Director, under supervision of the Race Direction may request a team that the engine used during a Qualifying Practice (QP) to be sealed and checked in a posterior inspection. This request must be submitted at any moment during the event and the team has the right to work in the engine maintenance until two (2) hours after this notification. This maintenance must be done under supervision of a Technical Steward. At the end of this maintenance, the engine will be sealed.

AACR 5.7.1 Fuel injection system

General: Fuel injection systems refer to throttle bodies, fuel injector, intake track devices, fuel pump and fuel pressure regulator.

- a) The original homologated fuel injection system must be used without any modification.
- b) The throttle bodies must be stock and unaltered from the original specification and manufacture and in the same position as on the homologated motorcycle.
- c) The fuel injectors must be stock and unaltered from the original specification and manufacture and in the same position as on the homologated motorcycle.
- d) Air funnels must remain as originally produced by the manufacturer for the homologated motorcycle.
- e) Butterfly valves must remain as originally produced by the manufacturer for the homologated motorcycle.
- 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" cannot be used.

AACR 5.7.2 Cylinder head

- a) The cylinder head must be the originally fitted and homologated part with no modifications allowed.
- b) The head gasket(s) may be changed.
- c) The valves, valve seats, valve guides, valve springs, tappets, oil seals, shims, valve cotters, cam followers, spring base and spring retainers must be the originally fitted and homologated parts with no modifications allowed.
- d) Only normal maintenance interventions as prescribed by the Manufacturer in the motorcycle's Service Manual are authorised.
- e) Valve spring shims are not allowed.

AACR 5.7.3 Camshafts

- a) The camshafts must be the originally fitted and homologated parts with no modifications allowed.

AACR 5.7.4 Cam sprockets

- a) The cam sprockets must be the originally fitted and homologated parts with no modifications allowed.
- b) The cam chain and tensioner must be the originally fitted and homologated parts with no modifications allowed.

AACR 5.7.5 Cylinder

- a) The cylinder must be the originally fitted and homologated part with no modifications allowed except its height.
- b) The total height (included the cylinder and cylinder gasket; excluded the head gasket) must be at least 0.2 mm more than the height of the homologated cylinder.

AACR 5.7.6 Piston

- a) The piston must be the originally fitted and homologated part with no modifications allowed.

AACR 5.7.7 Piston rings

- a) The piston rings must be the originally fitted and homologated parts with no modifications allowed.

AACR 5.7.8 Piston pin and clips

- a) The piston pin and clips must be the originally fitted and homologated parts with no modifications allowed.

AACR 5.7.9 Connecting rod

- a) The connecting rod must be the originally fitted and homologated part with no modifications allowed.

AACR 5.7.10 Crankshaft

- a) The crankshaft must be the originally fitted and homologated part with no modifications allowed.

AACR 5.7.11 Crankcase / Gearbox housing

- a) The crankcase / gearbox housing must be the originally fitted and homologated parts with no modifications allowed (including painting, polishing and lightening).
- b) It is not allowed to add a pump used to create a vacuum in the crankcase.

AACR 5.7.11.1 Lateral covers and protection

- a) Lateral (side) covers cannot be altered, modified or replaced. These must be the originally fitted and homologated parts with no modifications allowed.
- b) All lateral covers/engine cases containing oil and which could be in contact with the ground during a crash, must be protected by a second cover made from metal such as aluminium alloy, stainless steel, steel or titanium. Covers made from composite materials are not permitted. These covers must be fixed properly and securely with a minimum of three (3) case cover screws that also mount the original covers to the crankcase. All these covers must be designed to be resistant against sudden shocks, abrasions and crash damages. Sharp edges which could damage the track surface are not allowed.
- c) The secondary covers should cover a minimum of 1/3 of the original cover. These must have no sharp edges, which could damage the track surface.
- d) FIM / Alpe Adria approved covers are permitted without regard of the material or its dimensions.
- e) Oil containing engine covers must be fixed with steel bolts.
- f) Plates / crash bars made from aluminium or steel are also permitted in addition to these covers. All these devices must be designed to be resistant against sudden shocks, abrasions and crash damages and must be fixed properly and securely. Sharp edges, which could damage the track surface, are not allowed.
- g) Plates /crash bars must not protrude outside the fairing for more than 30 mm.
- h) The Chief Technical Steward has the right to refuse any cover not satisfying the safety requirements.

AACR 5.7.12 Transmission / Gearbox

- a) The transmission / gearbox must be the originally fitted and homologated parts with no modifications allowed.
- b) Quick-shift (upshift only) systems are allowed (including wiring and potentiometer).
- c) Downshift blipping is not allowed.
- d) Countershaft sprocket, rear wheel sprocket, rear sprocket carrier hub, chain pitch and size may be changed.
- e) The sprocket cover may be modified or eliminated.

AACR 5.7.13 Clutch

- a) Clutch system must be the originally fitted and homologated parts with no modification allowed.
- b) Friction and drive discs may be changed but their number must remain as original.
- c) Helical clutch springs may be changed, but only the non-helical clutch springs can be eliminated.

AACR 5.7.14 Oil pumps and oil lines

- a) The oil pumps and oil lines must be the originally fitted and homologated parts with no modifications allowed.

AACR 5.7.15 Cooling system

- a) Only water can be used as cooling liquid. Additives are not permitted.
- b) The water radiator must be the originally fitted and homologated part with no modification allowed.
- c) Protective meshes may be added in front of the oil water radiator.
- d) The radiator tubes/hoses to and from the engine may be changed, but the system must be unaltered. Catch tanks may be changed but must be fixed in a secure way.
- e) Radiator cap must be standard.

AACR 5.7.16 Air box

- a) The air box (and its included ram-air intake) must be the originally fitted and homologated parts with no modifications allowed.
- b) The air filter element may be modified or replaced but not eliminated and must be mounted in the original position. The air filter element cannot be used to modify the airflow inside/outside the air box.
- c) The air box drains must be sealed.
- d) All motorcycles must have a closed breather system. All the oil breather lines must be connected, may pass through an oil catch tank, and must exclusively discharge in the air box.
- e) No heat protection can be added to the air box.

AACR 5.7.17 Fuel supply

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

ACCR 5.7.18 Exhaust system

- a) Exhaust pipes and silencers may be modified or changed.
- b) The number of the final exhaust silencer must remain as homologated. The position of the silencer is free.
- c) For safety reasons, the exposed edges of the exhausts pipe 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 basic noise limit for this class is 107 dB/A (with a 3 dB/A tolerance after the race only). Some circuits may have a lower noise limit. This will be published in the Supplementary Regulations of the respective event.**
- f) Noise is controlled in a static test at 5.000 rpm.

AACR 5.8 ELECTRICS AND ELECTRONICS

AACR 5.8.1 Ignition / Engine Control System (ECU) / Data Logger

- a) The engine control unit (ECU) must be the originally fitted and homologated part with no modifications allowed.
- b) It is not allowed to add injection and/or ignition modules that may modify the inputs/outputs of the ECU.
- c) The software used to modify the ECU must be the originally produced software by the manufacturer for the homologated motorcycle.
- d) The parameters that the software itself provides for engine adjustment cannot be modified under any circumstances.
- e) The Chief Technical Delegate has the right, at his discretion, to download and analyse the files and maps of the ECU.
- f) Central unit (ECU) may be relocated.
- g) At any time during an event, the Chief Technical Steward has the right to make a team substitute their ECU with the sample received from the motorcycle's manufacturer. This has to be done before Sunday Warm Up.
- h) The Data Logging system is free. The Data Logger cannot act to control or modify any strategy or setting/mapping in the ECU. The Data Logger cannot automate any setting/mapping changes.
- i) The maximum number of Data Logger inputs by external sensors are:
 - 1. Position and speed by GPS
 - 2. Engine water temperature
 - 3. Lambda signal
 - 4. Throttle position
 - 5. Engine RPM
 - 6. Rear wheel speed
 - 7. Front wheel speed
 - 8. Rear brake pressure
 - 9. Front brake pressure
 - 10. Front fork position
 - 11. Rear damper position
- j) The addition of a device for infrared (IR) transmission of a signal between the motorcycle and the team, used exclusively for lap timing, is allowed.
- k) The addition of a GPS unit for lap timing/scoring purposes is allowed.
- l) Telemetry is not allowed.
- m) Harness must be the originally fitted and homologated part with no modification allowed except:
 - i. Modifications are only allowed for downloading data from Data Logger.
 - ii. These modifications must be authorized by the Technical Director.
 - iii. Map selector and pit-limiter switches are considered homologated parts of the harness.
- n) Only the original dashboards are allowed.
- o) Display(s) for lap-timing and gear indication purposes only can be installed.
- p) The standard sensors for the ECU cannot be modified, replaced or removed.
- q) Spark plug may be replaced.
- r) Battery is free.

AACR 5.8.2 Generator, alternator

- a) Generator and alternator must be the originally fitted and homologated parts with no modifications allowed.
- b) The stator must be fitted in its original position and without offsetting.
- c) Operating the motorcycle on the battery only is not allowed.

AACR 5.9 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 will need to be replaced the rider or the team must request the use of a spare frame to the Chief Technical Steward.

The pre-assembled spare part frame must be presented to the Chief Technical Steward for the permission of rebuilding. The pre-assembly is strictly limited to:

- i. Main frame
- ii. Bearings (steering pipe, swing arm, etc.)
- iii. Swing arm
- iv. Rear suspension linkage and shock absorber
- v. Upper and lower clamps (triple clamp, fork bridges)
- vi. Wire harness

The spare frame will not be allowed in the pit box before the rider / team has received authorization from the Chief Technical Steward.

The Technical Stewards for safety checks must inspect the rebuilt motorcycle before its use and a new seal will be placed on the motorcycle frame.

No other spare motorcycle is allowed at the track. If found, penalties will be applied. For the remainder of the event, this motorcycle will be impounded and no part of that motorcycle can be used for spare parts.

Once the starting procedure is initiated, it is not possible to verify a second motorcycle, neither in case of detention by red flag. In case of events with two races, the Chief Technical Delegate may allow the request for verification of a second motorcycle.

AACR 5.9.1 Frame body and rear sub frame

- a) The frame must be the originally fitted and homologated part with no modifications allowed.
- b) Holes may be drilled on the frame only to fix approved components (i.e. fairing brackets, steering damper mount, sensors).
- c) The sides of the frame body may be covered by a protective part made of a composite material. These protectors must fit the form of the frame.
- d) Crash protectors may be fitted to the frame, using existing points (**max. length: 50 mm**), or pressed into the ends of the wheel axles. Without exception, the wheel axles cannot be modified.
- e) Crash protectors / frame sliders must not protrude outside the fairing for more than 30 mm.
- f) Nothing else may be added by welding or removed by grinding from the main frame body.
- g) All motorcycles must display the manufacturer's vehicle identification number (chassis number) on the frame body.
- h) Engine mounting brackets or plates must remain as originally produced by the manufacturer for the homologated motorcycle.
- i) Front sub frame / fairing mount may be changed or altered, but the use of titanium and carbon (or similar composite materials) is forbidden.
- j) Rear sub frame:
 - i. Rear sub frame may be changed or altered, but the type of material must remain as homologated, or be material of a higher specific weight.
 - ii. Additional seat support brackets may be added, non-stressed protruding brackets may be removed if they do not affect the safety of the construction or assembly. Bolt-on accessories to the rear sub-frame may be removed.
 - iii. Repairing and welding of the sub frame is allowed.
- k) The paint scheme is not restricted but polishing the frame body or sub frame is not allowed.
- l) Thread repair using inserts of different material such as Helicoil® and Timesert® are allowed.

AACR 5.9.2 Front forks

- a) Outer and inner fork tubes, steering stem and nut(s), upper and lower triple clamps must be the originally fitted and homologated parts with no modifications allowed.

- b) Steering stem pivot position must remain in the homologated position.
- c) A steering damper may be added or the original damper may be replaced with an aftermarket damper.
- d) The steering damper cannot act as a steering lock limiting device.
- e) Fork caps cannot be modified or replaced to allow external adjustment.
- f) Dust seals may be modified, changed or removed if the fork remains totally oil-sealed.
- g) The springs of the homologated forks may be modified or changed.
- h) Any quantity and quality of oil can be used.
- i) The original surface finish of the outer and inner fork tubes cannot be changed. Additional surface treatments are not allowed.
- j) The inner parts of the cartridges can be modified or replaced.

AACR 5.9.3 Swing arm

- a) The swing arm must be the originally fitted and homologated part with no modifications allowed.
- b) The paint scheme is not restricted but polishing the swing arm is allowed with the sole aim of improving its aesthetics.
- c) The swing arm pivot bolt must be the originally fitted and homologated part with no modifications allowed.
- d) The rear axle adjuster (chain tensioner) must be the originally fitted and homologated part with no modifications allowed.
- e) Swing arm pivot position must remain as originally produced by the manufacturer for the homologated motorcycle.
- f) A solid protective cover (shark fin) must be fixed to the swing arm and must always cover the opening between the lower chain run, swing arm and the rear wheel sprocket, irrespective of the position of the rear wheel.
- g) Rear wheel stand brackets may be added to the rear fork by welding or by bolts. Brackets must have rounded edges (with a large radius). Fastening screws must be recessed. An anchorage system or point(s) to keep the original rear brake calliper in place may be added to the rear swing arm.
- h) The sides of the swing arm may be protected by a thin vinyl cover only. No composite or structural covers are allowed.

AACR 5.9.4 Rear suspension unit

- a) Rear suspension unit (shock absorber) cannot be externally modified or replaced and the original attachments to the frame and to the swing arm or linkage must be as homologated.
- b) All the rear suspension linkage parts must be the originally fitted and homologated parts with no modifications allowed.
- c) Rear suspension spring may be changed.
- d) Any quantity and quality of oil can be used.
- e) The inner valves and piston of the hydraulic components can be modified or replaced.
- f) The total length of the shock absorber must remain between the limits recommended by the manufacturer for the homologated motorcycle. The maximum length between mounting holes centres is 315 mm.

AACR 5.9.5 Wheels

- a) Wheels can be changed or modified, but the only material allowed is aluminium alloy.
- b) The only permitted wheel rim sizes are: Front: 2.50" x 17"; Rear: 3.50" x 17"
- c) A non-slip coating / treatment may be applied to the bed area of the rims.
- d) Wheel axles and nuts, bearings, wheel spacers and bearing spacers may be modified or replaced.
- e) The use of titanium and light alloys for wheel axles and nuts is forbidden.
- f) Wheel balance weights **are free**.
- g) Any inflation valves may be used. The use of metal valve stems is highly recommended.
- h) The use of any device to adjust the tyre pressure whilst on track is forbidden.

AACR 5.9.6 Brakes

- a) Brake discs may be replaced by aftermarket discs which comply with the following requirements:
 - i. Brake discs and carrier must retain the same material as the homologated disc or made of steel (max. carbon content 2.1 wt %).
 - ii. The outside diameter of the front brake disc must be between 290 and 300 mm.
 - iii. The thickness of the front brake disc is limited to 5,5 mm maximum.
- b) The front and rear brake calliper (mount, carrier and hanger) can be changed or modified. Monobloc callipers are forbidden.
- c) The pistons of the front brake calliper are limited to maximum 36 mm diameter. The only material allowed for this part is aluminium.
- d) In order to reduce the transfer of heat to the hydraulic fluid it is allowed to add metallic shims to the callipers, between the pads and the callipers.
- e) The front and rear brake master cylinder may be changed with aftermarket products, but the mounting points must remain as homologated.
- f) Front and rear brake fluid reservoir may be changed.**
- g) Front and rear hydraulic brake lines may be changed.
- h) "Quick" (or "dry-brake") connectors in the brake lines are not allowed.
- i) Front and rear brake pads may be changed. Brake pad locking pins may be modified for quick change type.
- j) Additional air scoops or ducts are not allowed.
- k) 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 of the material. The Chief Technical Steward has the right to refuse any guard not satisfying this safety purpose.
- l) The rear brake calliper bracket may be mounted fixed on the swing arm, but the bracket must maintain the same mounting (fixing) points for the calliper as used on the homologated motorcycle.
- m) The swing arm may be modified for this reason to aid the location of the rear brake calliper bracket, by welding, drilling or by using inserts such as Helicoil® and Timesert®.

AACR 5.9.7 Handle bars and hand controls

- a) Handle bars may be replaced.
- b) Handle bars 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. Cable operated throttles (grip assembly) must be equipped with both an opening and a closing cable.
- e) Clutch and brake lever may be exchanged by an aftermarket model. An adjuster to the brake lever is allowed.
- f) Switches may be changed but engine stop switch must be located on the handle bars.
- g) Motorcycles must be equipped with a functional ignition kill switch or button mounted on the **right or** left-hand handlebar (within the reach of the hand while on the hand grips) that is capable of stopping a running engine. The button or switch must be RED.
- h) The repair by welding of light alloy handlebars is forbidden.
- i) Exposed handlebar ends must be plugged with a solid material or rubber covered.
- j) The minimum angle of rotation of the handlebar on each side of the centre line must be of 15°.
- k) 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/fairing when on full lock to prevent trapping the rider's fingers.
- l) 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.

- m) Each hand lever must be mounted on an independent pivot.
- n) A thumb operated rear brake solution is allowed, but there must remain a functioning foot operated rear brake lever. In case of a dispute, the decision of the Chief Technical Steward is final.**

AACR 5.9.8 Foot rest / Foot controls

- a) Foot rests, hangers/brackets and hardware may be replaced and relocated but the hangers/brackets must be mounted to their original frame mounting points.
- b) **Gear shift must remain operated manually by foot.**
- c) Foot rests may be rigidly mounted or a folding type which must incorporate a device to return them to the normal position.
- d) The end of the foot rest must have at least an 8 mm solid spherical radius.
- e) Non-folding footrests must have an end (plug) which is permanently fixed, made of aluminium, plastic, Teflon® or an equivalent type material (minimum radius 8mm). The plug surface must be designed to reach the widest possible area. The Chief Technical Steward has the right to refuse any plug not satisfying this safety purpose.

AACR 5.9.9 Fuel tank

- a) Fuel tank must be the originally fitted and homologated part with no modifications allowed.
- b) Fuel tank must be completely filled with fire retardant material (open-celled mesh, i.e. Explosafe®).
- c) Fuel tanks with tank breather pipes must be fitted with non-return valves that discharge into a catch tank with a minimum volume of 250cc made of a suitable material. The original catch tank can be changed.
- d) Fuel cap must remain as originally produced by the manufacturer for the homologated motorcycle. Fuel cap when closed must be leak proof.
- e) A rider spacer/pad may be fitted to the rear of the tank with non-permanent adhesive. It may be constructed of foam padding or composite material.
- f) The 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.**
- g) A fuel tank drain valve can be installed and must be located in such a way that it is protected from crash damage.**

AACR 5.9.10 Fairing / Bodywork

- 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 motorcycle, with slight differences due the racing use (different pieces mix, fixing points, fairing bottom, etc.). The material may be changed. The use of carbon fibre or carbon composite materials is not allowed. Specific reinforcements in Kevlar® or carbon are authorized locally around holes and stressed areas. Headlights must be included even when considered external.
- b) For all bodywork paint and decal design is free.
- c) Overall size and dimensions must be the same as the original parts, with a tolerance of +/- 10 mm, respecting the design and features of the homologated fairing as far as possible. The overall width of the frontal area may be + 10 mm maximum. In case of a dispute, the decision of the Chief Technical Steward is final.
- d) Wind screen may be replaced with an aftermarket product. The height of the windscreen is free, within a tolerance of +/- 15 mm referred to the vertical distance from/to the upper fork bridge. The screen must conform to the same profile from the front as the original - no double bubble or wide types. From a top view the length of the wind screen may be shortened by 25 mm to allow clearance for the rider. The edge of the screen must have no sharp edges. The material of the wind screen must be transparent.

- 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, but the use of titanium and carbon (or similar composite materials) is forbidden.
- f) The lower fairing has to be constructed to hold, in case of an engine breakdown, minimum 2,5 litres. The lower edge of all the openings in the fairing must be positioned at least 70 mm above the bottom of the fairing.
- g) 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 $\leq 90^\circ$.
- h) Motorcycles may be equipped with a radiator shroud (inner ducts) to improve the air stream towards the radiator but the appearance of the front, the rear and the profile of the motorcycle must not be changed.
- i) The lower fairing must incorporate an opening of $\varnothing 25$ mm diameter in the front lower area. This hole must remain sealed in dry conditions and must be only opened only in wet race conditions as declared by the Race Director.
- j) Front mudguards may be replaced with a cosmetic duplicate of the original parts and may be spaced upward for increased tyre clearance.

AACR 5.9.11 Seat

- a) Seat, seat base and associated bodywork may be replaced. The appearance from both front rear and profile must conform to the homologated shape. The length of the seat bodywork can be modified to allow taller riders.
- b) No part of the motorcycle can be behind a line drawn vertically at the edge of the rear tyre.
- c) The seat unit shall have a maximum height of the (approximately) vertical section behind the riders seating position of 150 mm. The measurement will be taken at a 90° angle to the upper surface of the flat base at the rider's seating position, excluding any seat pad or covering.
- d) Same materials as fairings must be used. The use of carbon fibre or carbon composite materials is not allowed. Specific reinforcements in Kevlar® or carbon are authorized locally around holes and stressed areas.
- e) All exposed edges must be rounded.

AACR 5.9.12 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 saving modifications are not allowed.
- c) Thread repair using inserts of different material such as Helicoil® and Timesert® are allowed.
- d) Fairing/body work fasteners may be replaced with a quick disconnect type.
- e) Aluminium fasteners may only be used in non-structural locations.

AACR 5.9.13 Rear safety light

All motorcycles must have a functioning red light mounted at the rear of the motorcycle. This light must be switched on any time the motorcycle is on the track or is ridden in the pit lane and the Race Direction declares the session WET.

All lights must comply with the following:

- a) The rear light must be mounted on the motorcycle during the whole time of the event.
- b) The rear light must be mounted properly with screws. Mounting the rear light with tape is forbidden. Mounting with hook-and-loop fasteners is allowed when the wiring of the light is connected to the motorcycle.
- c) The luminous field should be at least 4cm^2 (e.g. rectangular $4\text{ cm} \times 1\text{ cm}$, circular $\varnothing 2.25\text{ cm}$).
- d) Light direction must be parallel to the motorcycle centre line (motorcycle running direction), and be clearly visible from the rear at least 15° to both left and right sides of the motorcycle centre line.
- e) The rear light must be mounted near the end of the seat/rear bodywork and approximately on the

motorcycle centre line, in a position approved by the Chief Technical Steward. In case of dispute over the mounting position or visibility, the decision of the Chief Technical Steward will be final.

- f) Power output/luminosity should be equivalent to minimum 10 W (incandescent) or 1 W (LED). In case of dispute over the power output / luminosity, the decision of the Chief Technical Steward will be final.
- g) The output must be continuous - no flashing safety light allowed whilst the motorcycle is on the track. Flashing is allowed only in the pit lane when the pit limiter is active.
- h) The safety light power supply may be separated from the motorcycle.
- i) The Chief Technical Steward has the right to refuse any light system not satisfying this safety purpose.

AACR 5.9.14 Timekeeping instruments

All motorcycles must be equipped with a correctly positioned timekeeping transponder. The transponder must be approved by the official timekeeper and fixed in the longitudinal centre of the motorcycle (typically close to the swing arm pivot), on either the left or right side, as low as possible and avoided being shielded by carbon bodywork.

Correct attachment of the transponder bracket consists of a minimum of 2 tie-wraps, but preferably by screws or rivets. Any transponder-retaining clip must also be secured by a tie-wrap. Hook and loop fasteners or adhesive alone will not be accepted. The transponder must be working at all times during practices and races, also when the engine is switched off.

The Chief Technical Steward has the right to refuse any solution not satisfying these requirements.

AACR 5.10 The following items MAY BE altered or replaced

- a) Any type of lubrication, brake or suspension fluid may be used.
- b) Painted external surface finishes and decals.
- c) Material for brackets connecting non-original parts (fairing, exhaust, instruments, etc.) to the frame (or engine) cannot be made from titanium or fibre reinforced composites excepting the exhaust silencer hanger that may be in carbon.
- d) Protective covers for engine, frame, chain and footrests may be made in other materials like fibre composite material if these parts do not replace original parts mounted on the homologated motorcycle.

AACR 5.11 The following items MUST BE altered

- a) Motorcycles must be equipped with a functional ignition kill switch or button mounted on the left-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, oil filler caps and oil dip sticks must be wired. External oil filter(s) screws and bolts that enter an oil cavity must be safety wired (i.e. on crankcases).
- c) Where breather or overflow pipes are fitted they must discharge via existing outlets. The original closed breather system must be retained. No direct atmospheric emission is permitted.
- d) Motorcycles must be equipped with a red light on the instrument panel that will illuminate in the event of oil pressure drop.

AACR 5.11 Onboard cameras

- a) Onboard cameras can only be used with the permission of the Race Direction.**
- b) When a rider/team has obtained this permission, the motorcycle with the camera installed must be presented to the Technical Control.**
- c) Cameras must be mounted inside the fairing or on the top / bottom side of the rear seat bodywork.**
- d) Cameras must be fixed securely to the motorcycle. Adhesive will only be accepted when it is originally by the camera manufacturer.**
- e) Cameras must be secured to the motorcycle with an additional steel cable.**
- f) The Chief Technical Steward has the right to refuse any solution not satisfying these requirements.**