

## 2015 DMSB Technical Regulations for the Moto3 GP Class

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To ensure fair competition, DMSB (German Motor Sport Federation) shall be at liberty to amend/adapt the Technical Regulations any time.

Violations of the Technical Regulations are governed in the corresponding Sporting Regulations.

**Everything not expressly permitted by the Technical Regulations is not allowed.**

**Allowed modifications must not entail prohibited modifications or violations of the Regulations.**

### 1. General provisions for the Moto 3 GP Class

For all motorcycles, the use of titanium, carbon fibres or carbon fibre composite materials shall be prohibited for the frame structure, the front fork, the handlebar, the swing arm, as well as the swing arm and wheel axles.

Moreover, no light-alloy wheel axles or swing arm axles shall be used. The use of titanium screws and nuts shall be allowed.

## 2. Classification

up to 250cc/4-stroke, 1 cylinder

The rider clothing/equipment must comply with the FIM General Technical Regulations for Road Racing, Article 1.65 (see DMSB Rulebook, orange part, 2015 Technical Regulations for Road Racing).

The rider's name must appear on the right arm near the wrist (sew-on label, stitching).

## 3. Minimum weights

The minimum weight is 148kg.

The rider with complete safety equipment and the vehicle must correspond with the minimum weight at all times during the event.

If the rider wearing his safety equipment complete for racing weighs less than a) 48.0kg or b) 53.0kg, the following shall apply:

Ad a) rider's weight 48kg or less:

The total minimum weight is calculated as follows: The weight difference (to the total weight) established during weighing (rider and motorcycle) shall be divided in half (50%) and added to the established actual weight.

Ad b) rider's weight at least 48.1kg but less than 53.0kg:

The total minimum weight is calculated as follows: 75% of the weight difference (to the total weight) established during weighing (rider and motorcycle) shall be added to the established actual weight (rounded to 0.5kg).

Example a) (rider's weight 48kg or less)

Rider 48.0kg

Motorcycle 87.0kg

Total actual weight: 135.0kg

Resulting difference to minimum weight (148kg): 13.0kg

50% of weight difference: 6.5kg (additional weight)

This results in a total minimum weight of **141.5kg** (135kg + 6.5kg).

Example b) (rider's weight at least 48.1kg but less than 53kg)

Rider 50.0kg

Motorcycle 87.0kg

Total actual weight: 137.0kg

Resulting difference to minimum weight (148kg): 11.0kg

75% of weight difference: 8.5kg (additional weight)

This results in a total minimum weight of **145.5kg** (137kg + 8.5kg).

It is mandatory to determine the weight difference at Technical Scrutineering. This rule must be obeyed throughout the event. For the weighing, the vehicle must be ready to race, inclusive of all minimum liquid levels and sufficient fuel. The determined weight must be recorded on the scrutineering form.

Prior to the weighing, after and/or during the practice sessions and after the race, nothing may be added. This also applies to liquids.

A weight tolerance of -1kg is accepted only after the race.

## 4. Starting numbers

see red part, DMSB SUPERBIKE\*IDM 205: Art. 7; blue part, Figures pertaining to the Technical Regulations: Fig. 0.

## 5. Fuel

All motorcycles must run on commercial unleaded fuel.

The FIM provisions on fuel shall apply.

Each participant/team shall specify and document the type of fuel used, the exact type, the source and the manufacturer in the technical passport/scrutineering form, and report any modifications to the series coordinator before an event.

DMSB may take fuel samples at any time during the event.

## 6. Parts - description

If the construction of a motorcycle appears to present a danger, it may be excluded from the event or from continuation in the event.

## **7. Main frame and sub-frame**

All motorcycles must display a vehicle identification number (chassis number) on the main frame. In the absence of the original chassis number, the scrutineers shall apply a seal.

The chassis design shall not be subject to any restrictions as long as it complies with the requirements set forth in the FIM Grand Prix Technical Regulations and the material provisions under Article 1 therein.

## **8. Front fork**

The front fork shall not be subject to any restrictions as long as it complies with the following requirements:

Steering dampers may be mounted or replaced by accessory dampers. The steering damper must not be used as a steering lock limiting device.

## **9. Rear swing arm**

A chain guard must be installed so that no persons or parts of the body may become snagged inadvertently between the drive parts and chain.

If the swing arm is equipped with an underbody guard, the latter may be used as a chain guard.

For safety reasons, all motorcycles with an exposed primary drive must be equipped with a protector. The design of the protector must make it impossible for persons or parts of the body to become snagged inadvertently between the drive parts and chain, thus preventing injury.

## **10. Rear suspension systems**

The rear suspension system shall not be subject to any restrictions as long as it complies with the following requirements:

Suspension systems must be of a conventional passive, mechanical type.

Active and semi-active suspension systems and/or electronic control of any aspect of the suspension and suspension height shall not be permitted.

The spring of the spring strut must be made of an iron-based alloy.

## **11. Wheels/rims**

The wheels shall not be subject to any restrictions as long as they comply with the following requirements: The maximum rim sizes are: 2.5"x17" (front) and 3.5"x17" (rear)

The rims must be made of a magnesium or aluminium alloy.

## **12. Brakes**

The branching of the front brake line for the two front brake calipers must be located above the lower fork bridge. Otherwise, the brakes shall not be subject to any restrictions.

## **13. Tyres**

The use of slicks, intermediates and rain tyres shall be allowed:

The surface of a slick tyre must contain at least three grooves spaced apart by no more than 120°, indicating the wear limit of the tread surface and the tyre shoulder. As soon as two of these grooves are worn at different points of the tyre, this tyre may no longer be used.

Additional tread grooves, notches are only permitted on slicks (no-profile tyres), provided that those were cut by authorised specialised staff using a special tool, with a confirmed and documented release from the tyre manufacturer or his representative. Modified tyres shall carry Mepolette stickers.

The minimum distance between the tyre surface (at its widest point) and all solidly mounted components of the motorcycle is shown in Table 1 (see blue part, Figures pertaining to the Technical Regulations).

All tyres must comply with the manufacturer's general safety standards.

## **14. Foot rests/foot controls**

Foot rests shall not be subject to any restrictions as long as they comply with the General Technical Regulations for Road Racing.

The ends of the foot rests must have a spherical radius of 8mm (solid materials) and be made of solid plastic, Teflon or a comparable solid material. They must be rounded and securely and permanently covered (see blue part, Figures pertaining to the Technical Regulations: figure C).

## **15. Handlebars and hand controls**

Handlebars and hand controls shall not be subject to any restrictions as long as they comply with the following requirements: These items must not be made of carbon fibre, carbon fibre composite materials or similar materials.

The mandatory width of the motorcycle handlebars is at least 450mm (see blue part, Figures pertaining to the Technical Regulations: Fig. C). The handles must be positioned in a way that the distance between their ends corresponds to at least the compulsory minimum width for the handlebars.

Unprotected ends of the handlebar must be plugged with a solid material or rubber-coated.

The minimum steering angle of the handlebar on each side, relative to the central longitudinal axis and the straight-ahead position, shall be 15°.

In no position of the handlebar must the front wheel be in contact with the fairing (if present).

The installation of static steering stops (steering dampers are not considered to be stops) is mandatory in order to ensure a minimum distance of approx. 20mm between the handlebar with the hand levers and the fuel tank at a maximum steering angle (see blue part, Figures pertaining to the Technical Regulations: figures A, B, C).

Handlebar clamps must be designed to prevent handlebar breakage.

Repair welding of alloy handlebars shall not be allowed.

The hand levers for the clutch and front brakes shall not be subject to any restrictions but must have a ball end to the exterior (minimum diameter of this ball: 16mm), which may also be flattened, but the edges must be rounded in any case (minimum thickness of this flattened part: 14mm). The ends must be permanently attached and form an integral unit with the lever.

Each control lever (hand and foot lever) must be mounted on a separate pin.

The brake and clutch levers may be equipped with guard brackets.

## 16. Fairing/mudguard

The fairing materials shall not be subject to any restrictions.

The front wheel, with the exception of the tyre and the part covered by the mudguard, must be fully visible from both sides.

No part of the fairing may protrude beyond a line drawn vertically at the leading edge of the front tyre.

Mudguards shall not be regarded as parts of the fairing.

No part of the fairing may jut out beyond the rear of a vertical line drawn through the rear wheel axle. Beyond this line, the rim of the rear wheel must be fully visible (180° of the wheel's circumference). No part of the motorcycle shall extend beyond a rear perpendicular tangent applied at the outer edge of the rear wheel.

Spoilers may only be fitted when they are an integral part of the fairing or seat. They must neither exceed the width of the fairing nor the height of the handlebar. Sharp edges must be rounded off with a minimum radius of 8mm.

The edges of windshields and of all other exposed parts of the fairing must be rounded.

In the normal riding position, the rider must be completely visible, from either side, from the rear and from above. Excepted from this are his forearms. It is forbidden to use transparent materials to evade these rules.

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

The front mudguard must cover at least 100° of the wheel circumference. In this area, the wheel may be covered as long as the following angles are respected. The angle between a line drawn from the front edge of the mudguard to the wheel centre on the one hand and a horizontal line running through the wheel centre on the other hand must be between 45° and 60°. The angle between a line drawn from the rear edge of the mudguard to the wheel centre and a horizontal line running through the wheel centre must not exceed 20° (see blue part, Figures pertaining to the Technical Regulations: Fig. A).

The rear mudguard must cover at least 120° of the wheel circumference. The angle between two lines, one of which is drawn from the rear edge of the mudguard to the wheel centre, while the other runs horizontally through the wheel centre, must not exceed 20°.

Mudguards are not required if a fairing is available. However, if this is not the case, the fitting of mudguards is mandatory.

If the fairing of the saddle extends to the vertical tangent applied at the outer edge of the rear wheel (with a tolerance of -50mm), a rear mudguard is not required.

The lower part of the fairing must be constructed so that in the event of an engine failure, it can collect at least half of the motorcycle's oil and engine coolant (at least 3 litres).

The lower edge of the openings in the fairing must be at least 50mm above the fairing bottom.  
This part must have at least one and no more than two 25mm drain openings at the lowest point.  
The opening(s) shall remain closed and may only be opened if the Clerk of the Course declares a "wet race".

#### **17. Fuel tank**

The fuel must be contained in a single tank which is securely mounted to the motorcycle.-The fuel tank must be completely filled with a fire retardant material (preferably "Explosafe®").  
The fuel tank breather lines must be equipped with non-return valves that discharge into a catch tank with a min. capacity of 150cc, made of a suitable material.  
Closed fuel and oil filler caps must be leak-proof. In addition, they must be secured to prevent accidental opening.  
The fuel filler cap must be installed so that it does not protrude above the surface of the tank and that it cannot be torn off in an accident.

#### **18 Seat**

The height of the rear part of the rider's seat / hump must not exceed 150mm, measured from the lowest point of the rigid seat base up to the top of this seat cowl.  
The width of the seat or of all parts situated behind it, except exhaust systems, must not exceed 450mm.  
The top portion of the rear seat cowl may be modified to a solo seat (hump) and may be closed at the bottom towards the wheel.  
All exposed edges must be rounded.  
The use of carbon fibre or carbon composite materials shall be allowed.

#### **19. Cable harness**

The cable harness shall not be subject to any restrictions.

#### **20. Battery**

The size, type and location of the battery are optional.  
If lithium-ion batteries are used, they should be provided with an appropriate and approved BMS protection circuit.

#### **21. Water and oil cooler**

Any type of water and oil cooler may be used, but they have to be mounted inside the fairing.  
Only pure water may be used as engine coolant. Additives are allowed to prevent corrosion, cavitations and abrasion, provided that they do not contain MEG (monoethylene glycol).

#### **22. Airbox**

The air filter shall not be subject to any restrictions. The airbox must be completely closed around the intake trumpet of the carburettor / injection system.  
The airbox drains must be completely sealed and have a closed breather system.  
Sensors for data collection (data recording) may be added.

#### **23. Carburettor**

Gas valves/butterfly valves shall close automatically when the rider releases the handle.  
Otherwise, the carburettor shall not be subject to any restrictions.

#### **24. Fuel system/Injection - fuel inlet control**

The fuel injection system shall not be subject to any restrictions.  
Variable-length inlet systems shall not be allowed.  
Intake trumpets variable in length operating when the engine is running shall not be allowed, unless they are an original part of the engine manufacturer / model.  
Only one throttle, controlled by mechanical means (e.g. Bowden cable or similar), shall be allowed. No other moving parts (except injectors) shall be permitted in the intake area in front of the throttle. No interruptions of the mechanical connections shall be allowed.  
An idling speed control by means of a bypass system, controlled by the ECU, shall be allowed. Combinations with other systems shall not be permitted.  
No more than 2 independently controlled fuel injectors shall be allowed and they must be located above the inlet valve.

**25. Fuel supply**

The fuel lines shall not be subject to any restrictions.

**26. Engine**

The engine shall not be subject to any restrictions as long as it complies with the following requirements:

Only 4-stroke, one-cylinder, normally aspirated engines with a maximum displacement of 250cc shall be allowed. The maximum piston diameter shall be 81mm, with oval pistons not being allowed.

The engine block (crankcase and cylinder) must be made of a cast aluminium alloy.

The piston must be made of an aluminium alloy.

Connecting rods and valves must be made of either iron-based or titanium-based alloys.

The camshaft, piston pins, crankshafts and valve springs must be made of iron-based alloys.

The valve-train assembly must be driven by a chain / belt.

High-pressure oil lines must be of a metal reinforced construction with swaged or treaded connectors.

Oil leading components which risk being damaged in an accident (e.g. engine and gearbox housing as well as ignition, clutch and generator covers) must be protected by additional means made of steel, light-alloy, carbon, Kevlar or carbon fibre composite material components.

The oil breather hose must be connected and vent into the airbox or another catch tank.

The breather system (airbox plus any other oil collector box) must be designed to retain a minimum of 250cc of the discharged liquid when a vent pipe is clogged (as illustrated in the blue part, Figures pertaining to the Technical Regulations: Fig. C).

The ECU shall not be subject to any restrictions. The maximum engine speed must be limited to *14,000 rpm*. Throughout the races and practice sessions, the engine speed characteristics shall be recorded by means of data recording or similar systems. Checks will be carried out by the Scrutineers who may order the exchange of the part at any time.

The alternator must supply the battery with charging tension while the engine is running.

**Articles 27 – 36: not applicable**

**37. Gear ratio/transmission**

The transmission shall have no more than six gears. Otherwise, the transmission shall not be subject to any restrictions.

**38. Clutch**

The clutch shall not be subject to any restrictions. Electro-mechanical or electro-hydraulic clutch actuating systems shall not be permitted.

**Articles 39 – 40: not applicable**

**41. Exhaust system and noise control**

Exhaust gases must be discharged to the rear and in a way that they do not cause dust pollution or pollute the tyres and brakes nor hinder or disturb other riders in any way.

The exhaust end must not protrude beyond the vertical tangent applied at the rear edge of the rear wheel.

The silencers are marked at Technical Scrutineering. Any subsequent replacement shall not be allowed. It is possible, however, to fit another approved and marked replacement silencer.

Variable-length exhaust systems shall not be allowed. No moving parts, (e.g. valves, baffles ...) shall be allowed in the exhaust systems.

Noise exposure limit value: max. *113dB(A)* at 5,000rpm.

A tolerance of *+2dB(A)* shall be accepted only after the race at final Scrutineering.

During the check, the ambient noise shall not exceed *90dB(A)* within a 5m radius of the noise source.

**42. Fasteners/connecting components**

Aluminium fasteners may only be used for components that are neither subject to high stresses nor load bearing. In these fasteners, safety wire holes may be drilled.

#### **43. Miscellaneous**

All drain screws shall be secured by wire.

Further, all exposed screws and bolts (in oil flow) and external oil filters shall be effectively secured by wire.

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

Tail light:

The motorcycles must be equipped with an LED tail light. The LED tail light must be mounted to the rear fairing, at least 600mm above the ground and located in the area between the rear wheel and hump, and have adequate light intensity. It must be ensured that it is not obstructed by components and/or the rider and that its light is directed to the rear with a maximum deviation of 5° in relation to the motorcycle's longitudinal axis. Glare prevention is mandatory.

It may only be switched on in a wet race or upon instruction of the stewards of the meeting; non-compliance shall be punished.

Additional equipment not on the original homologated motorcycle may be added (data acquisition, computer, recording equipment, etc.). The required attachment holes with a diameter of up to 6mm may be drilled for this purpose. Electronic driving assistance shall be permitted.