

## **2. TECHNICAL REGULATIONS**

*The following technical rules are written for the Valencia final. Certain provisions are also drafted with the aim of guiding the National, regional or continental federations in the drafting of their own technical rules. The interest and the goal being that the machines have the same technical provisions.*

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

#### **2.1. INTRODUCTION**

Motorcycles participating in the FIM MiniGP World Series must comply with the provisions of this regulation. As set out in the Sporting Regulation, this Championship is open to motorcycles produced by the Official Supplier of the FIM MiniGP World Series (Ohvale S.r.l), with the following category:

- GP-0 160 4Speed

The FIM MiniGP World Series is open to Ohvale GP-0 160 4 Speed motorcycles manufactured by Ohvale S.r.l. and supplied for the Championship by the Official Supplier.

Motorcycles and engines allowed to participate in this class must comply with these regulations.

If requested, the manufacturer (or distributor for him) is required to deliver to FIM or FMN. the material and / or documentation relating to approved motorcycles. All the documentation will be treated confidentially by FIM or FMN.

It is allowed to use some parts of the specific kit for the model of motorcycle in use and / or make changes as indicated in the fiches deposited by the manufacturer.

Except as explicitly authorized by this regulation and in the fiches, all components of the motorcycle must be kept original, therefore as originally produced by the manufacturer.

If not specified, the front, side and rear views of the motorcycles will conform to the appearance of the model as originally produced by the manufacturer. The physical appearance of exhaust system is excluded from this standard.

During scrutineering, the FIM Technical Director/Chief Technical Steward can avail themselves of the support of the Technical Service of the Official Supplier of the FIM MiniGP World Series. The Organizer can avail itself of the Technical Service of the Official Supplier also for scrutineering involving the withdrawal of the engine or one of its components.

#### **2.2. MOTORCYCLE TECHNICAL SPECIFICATIONS**

##### **2.2.1. Homologated motorcycles**

The motorcycle homologated for the 2021 FIM MiniGP World Series is the OHVALE GP-0 160 4Speed (from 2016 to 2022).

### **2.2.2. Sealing engines quota**

At any time during the event, each rider may have only one motorcycle (frame) verified and punched in his/her name. Punching consists of applying a sticker, or indelible paint to the motorcycle frame, generally near the steering head on the right side of the motorcycle at the discretion of the Scrutineers. The sticker will be applied at the conclusion of the Motorcycle Verification and indicates that the motorcycle has passed technical inspection and is deemed legal for use by the rider for that race.

Punching of a second motorcycle is granted in case of proven technical reasons (e.g., accident, frame breakage, etc.) and must be agreed with the FIM Technical Director/Chief Technical Steward.

During the whole season each regular rider is entitled to use, then have sealed, a maximum of 3 engines. Wild card riders are allowed to have a maximum of 2 engines sealed per event and no more than 3 during the season. An engine is considered used the moment the motorcycle with that engine crosses the transponder signal reception point at the pit lane exit.

Where required by FIM, the engines must be presented for sealing already provided with the identification seal affixed by the Ohvale Technical Service.

Where requested by FIM, engines submitted for sealing in the FIM MINIGP WORLD SERIES must have the screws already drilled to be tied as follows.

The Official Supplier's Technical Service seal and, where required, the FIM seal, shall be applied to the fixing screws of the timing cover.

Where required by FIM, engines must be sealed by the FIM Technical Director/Chief Technical Steward or their Staff, as indicated in the following articles.

Each rider has the obligation to seal at least one engine during the technical inspections of the first event to which it participates. Use on the track of an engine without seals or with damaged seals involves the immediate affixing of new seals and is equated with technical irregularity.

Sealing of additional engines can occur during, at the end of the current event or in subsequent events, according to the rider's needs, subject to agreement with the FIM Technical Director/Chief Technical Steward and the Official Supplier's Technical Service.

The engines are sealed in the rider's name, so the exchange of already sealed engines among riders is also prohibited within the same team.

Applying new seals to an engine with missing, removed or damaged seals is likened to sealing of a new engine. Except for the replacement of seals removed during the Technical Inspections, provided the engine to be submitted for substitution seals within the Technical Inspections of the events following the verification.

The use of each engine, therefore of the sealing, beyond the permissible amount is penalized with departure from last position in the grid, in the first race following

the sealing request. In case more than one rider show up for sealing of an engine above the maximum allowed number, the starting order is the one with which the riders are showed up for the engine sealing (the last showing up will be in the last position, the last but one showing up before the last one, and so on).

### **2.2.3. Chassis / Frame**

#### **2.2.3.1. Frame**

The frame must be kept original, is only permitted to fit the chassis anti-vibration plate produced in kit by the manufacturer for the model of motorcycle in use. The painting of the frame is free, but its polishing is forbidden. The use of shells to protect the swing arm or frame is forbidden.

#### **2.2.3.2. Seat post frame**

The seat post frame must be kept original. The painting of the seat post frame is free, but its polishing is forbidden.

#### **2.2.3.3. Front fairing frame**

The front fairing frame must be kept original. Painting of front fairing frame is free, but polishing is forbidden.

#### **2.2.3.4. Swing arm**

Except as authorized in the following articles, the swing arm and swing arm pivot must be kept original.

It is allowed replace the original chain tensioner adjusters with the racing ones produced by the manufacturer for the model of motorcycle in use.

All motorcycle must be equipped with a solid protective chain guard (shark fin) fixed to the swing arm produced by the manufacturer of motorcycle.

#### **2.2.3.5. Steering plates**

The upper and lower fork bridges and the steering axle must remain as originally produced by the manufacturer on the homologated motorcycle, as well as the steering lock stops device.

The steering stem must remain in its original position.

#### **2.2.3.6. Handlebars and controls**

Except as authorized in the following articles, the handlebars, the handlebar clamps, the manual controls (throttle control, brake and clutch levers and electric controls), and the handlebar terminal must be kept original.

Handlebars and manual controls (clutch and brake levers) must stay original. Can be repositioned, but a minimum clearance of 30 mm must be maintained between the tank and the handlebars, including any accessories attached to it.

Is forbidden to use handlebars without mounted terminals.

It is forbidden to repair the handlebars by welding.

The control levers on the handlebars (brake and clutch) must always have rounded edges and must have a ball-form ending.

In any position of the steering and the front suspension, the control levers on the handlebars must not touch any component of the motorcycle.

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

It is mandatory to use the brake lever guard device supplied in the specific kit for the model of motorcycle in use, which protects the front brake lever from any involuntary actuations resulting from the contact between two motorcycles.

#### **2.2.3.7. Footrest and Controls**

Except as authorized in the following articles, the footrests, and foot control must be kept original.

Footrests and foot controls can be re-positioned only using the setting originally provided by the manufacturer.

Gear shift pedal and his leverage can be replaced to use one of reverse type.

The rear brake lever peg may also be repositioned.

It is forbidden to repair the footrests by welding.

It is forbidden to enter in the track with footrests having the original terminal in plastic material plug in poor condition or without a mounted terminal.

It is forbidden to repair the footrest supports by welding.

#### **2.2.3.8. Start lever**

The starting lever of the original engine must remain mounted and running and be equipped with a system that prevents accidental opening (example: elastic).

### **2.2.4. Suspension**

#### **2.2.4.1. Front suspension**

Except as authorized in the following articles, the fork must be kept original in every component.

It is allowed to replace the original forks with the original "+5" forks on motorcycles produced from 2019 onwards.

Position of the fork sleeve respect to the steering plates is free.

It is possible to mount the fork spring pre-load system provided by the manufacturer for the motorcycle model in use.

The elastic coefficient (K) and the pre-load of the main springs are free.  
Quantity and type of hydraulic oil are free.

#### **2.2.4.2. Rear suspension**

Except as authorized in the following articles, the rear suspension must be kept original in every component.

The adjusting system and attachments of the rear suspension to the frame and swing arm must be kept original.

The wheelbase of the shock absorber, the position of the hydraulic registers, the elastic coefficient (K) and the pre-load of the main spring of the shock absorber are free.

#### **2.2.5. Brake system**

##### **2.2.5.1. Brake discs**

The brake discs must remain as originally produced by the manufacturer for the motorcycle.

It is not allowed to add air ducts in order to improve the cooling of the braking system.

##### **2.2.5.2. Brake calipers**

Except as authorized in the following article, the front and rear brake callipers, as well as all their fixing points and all anchor pieces, must be kept original.

It is compulsory to fit original brake pads. It is possible to fit brake pads from the specific kit for the motorcycle model in use.

##### **2.2.5.3. Master cylinder**

Master cylinder (front and rear) and the related pipes must be kept original.

Installation of a protection of the brake pump positioned on the handlebar, is allowed to prevent oil leaks if they break after falling.

#### **2.2.6. Wheels**

Wheel rims, inner and outer spacers and their spindles must be kept original. All dimensions of the wheel rims should be as indicated below:

- Front Wheel      2,50" x 10"
- Rear Wheel        3,00" x 10"

#### **2.2.7. Tank and fuel system**

##### **2.2.7.1. Tank**

Plastic tank and tank cap must remain as originally produced by the motorcycle manufacturer.

Fuel tank must be filled with fire retardant material (i.e., fuel cell foam, "Explosafe").

### **2.2.7.2. Fuel line**

The fuel circuit, understood as the set of ducts and devices between the tank and the carburettor, is free.

Replacement of the fuel cock is allowed.

The addition of fuel filters is allowed.

Use of quick connectors for fuel pipes is allowed.

## **2.2.8. Intake system**

### **2.2.8.1. General**

Except as authorized in the following articles, the fuel system must be kept original.

### **2.2.8.2. Carburettor**

Case 1:

Is mandatory the use of the carburettor indicated in the following points:

- Category GP-0 160 4Speed                      DELL'ORTO PHBH 28 BD

For the duration of the event, it is mandatory to use a carburettor calibration (max jet, min jet, model and needle position, needle jet, valve) within the range indicated by the Official Supplier. The use of different calibrations (even for a single element) from those indicated by the Official Supplier is sanctioned as a technical irregularity.

During an event, the Official Supplier can modify the carburetion range as long as it is immediately communicated to the riders within 60 minutes from the beginning of the next session.

BRAND / MODEL	Dell'Orto PHBH28-BD
Float	6,5 g
Needle & Seat Assy	250
Starting Jet	55
Idle Jet	50
Needle Jet	262 T
Main Jet	120
Jet Needle model / Position	X71 / 4° seat from the top

Piston Valve	50
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The use of pumps or power-jet is forbidden.

### **2.2.8.3. Intake duct**

It is compulsory to replace the intake duct of GP-0 motorcycle models manufactured from My2016 to My2021 with the one originally mounted on motorcycles manufactured from My2022 onwards.

### **2.2.8.4. Air filter**

The air filter is mandatory and must be as indicated in the points below.

Only the standard metal air filter supplied by the manufacturer may be used.

The use of air filter made from the spongy material is forbidden.

Use of systems to increase the pressure close to the air filter using the dynamic air pressure when the motorcycle is in movement is forbidden.

## **2.2.9. Engine**

### **2.2.9.1. General**

Except as expressly permitted in the following articles, the engine must remain completely original.

The only engine allowed are those indicated in the points to follow:

- a - Category GP-0 160 4 Speed ZONGSHEN W150 – G OHVALE SET-UP

Bore and Stroke must remain original.

It is compulsory to use the right-side engine cover that is part of the specific kit for the model of motorcycle in use supplied by the manufacturer.

### **2.2.9.2. Engine head**

Except as authorized in the articles to follow, any type of machining for the removal of material (including polishing) and application of material (including surface treatment) is prohibited.

Intake and Exhaust ducts must remain original.

Valves, valve seats, valve guides, tappets, oil seals must be the original. Only normal maintenance provided by the service manual is allowed.

The springs, half-cones and valve plates must remain original. Valve spring shims are not allowed.

It is not allowed to rectify the head plane to restore the surfaces.

The volume of the combustion chamber and the height of the squish must comply with the values indicated in the following table:

Category	Volume (cc)	Squish* (mm)
Category GP-0 160 4 Speed	13.5 +/- 0.4	0.60

\*No tolerance is admitted on the height of the squish.

Spark plug is free. None of the parts of the spark plug, beside electrodes, can protrude out the interior of the combustion chamber.

The only heat range admitted are 7 and 8.

### **2.2.9.3. Valves timing diagram**

Any modification of the camshaft is forbidden.

Timing driven sprocket and his fixing screws, must be kept original. Modification or increase of the diameter of the fixing holes are forbidden.

Chain timing and his timing chain tensioner must be kept original.

### **2.2.9.4. Cylinder**

Cylinder must be kept original.

Any surface treatment of the inner wall of the cylinder, is forbidden.

### **2.2.9.5. Piston**

Any modification to the piston, including polishing and lightening, is forbidden.

Any modification to ring set, pins and their holders is forbidden.

### **2.2.9.6. Connecting rod**

Any modification to the rod, including lightening and polishing, is forbidden.

### **2.2.9.7. Crankshaft**

Engine crankshaft must remain original, any modification included lightening, balancing and polishing is forbidden.

### **2.2.9.8. Crank case**

The engine crankcase and engine crankcase covers must remain original, even with regard to colour and surface finishing. It is only allowed making holes less than Ø12 on the flywheel cover to help the cooling of the internal organs.

It is forbidden to repair the crank cases and engine covers by applying material.

## **2.2.10. Transmission**

### **2.2.10.1. Primary transmission**

The gears of the primary drive (on the crankshaft and on the clutch) must be kept original.

### **2.2.10.2. Clutch**

Except as authorised in the following articles, the clutch, including the springs, driven discs and clutch control must be kept original.

The "EVR by OHVALE" slipper clutch kit included in the specific kit for the model of motorcycle in use is not allowed.

### **2.2.10.3. Gearbox**

Any change to the gearbox, understood as the assembly consisting of the gear selection system and drive forks, primary and secondary shafts and their gears transmission is forbidden.

Any kind of treatment on the surface for reducing friction (including polishing and superfinishing), is forbidden.

### **2.2.10.4. Final transmission**

For the final transmission (pinion, rear wheel sprocket) the use of components distributed by Ohvale is mandatory.

Only options allowed

Pinion	14 to 17 teeth
Sprocket	28 to 35 teeth
Chain	420

## **2.2.11. Cooling and lubrication system**

### **2.2.11.1. Oil cooler**

The oil cooler must remain original.

### **2.2.11.2. Oil Circuit**

Any modification to the oil pump is forbidden.

The oil pipes that connect the engine to the oil cooler must be kept original. The engine breather pipes must be put into a tank with a minimum volume of 250cc.

The oil inlet and discharge plugs, the delivery and return pipes to the oil cooler, the cam head oil pipe and the oil filter cover screws must be perfectly sealed and secured with a binding wire to prevent accidental opening.

## **2.2.12. Electrical system**

### **2.2.12.1. Wiring and electric controls**

The main wiring must be kept original.

It is mandatory to keep the ignition kill switch mounted on the right side of the handlebar.

### **2.2.12.2. Engine ignition and control**

Except as authorized in the following articles, the engine ignition and control system (rotor, stator, CDI and coil) must be kept original.

At any time of the event, the FIM Technical Director/Chief Technical Steward has the right to request the replacement of any components of the engine ignition and control system mounted on the motorcycle. The refusal to proceed with the replacement is equated with a technical irregularity.

### **2.2.12.3. Engine control sensors**

The use of electronic shift assistance systems (quick-shifter) is forbidden.

No additional controllers or sensors other than those originally fitted to the engine may be added in order to implement engine control strategies. Original engine mounted sensors must be retained.

### **2.2.12.4. Additional Equipment**

With the exception of what is authorized in the following articles, any electrical or electronic components (sensor, CDI, display) that are additional or not originally mounted on the motorcycle, are forbidden.

Use of electronic equipment with IR (infrared) technology, GPS or radio timing recording for on-board lap timing / data recording purposes is allowed. Telemetry is not allowed (remote signal to or from the motorcycle).

It is allowed to mount one or more systems (dashboards, displays, etc.) to display the parameters indicated in the points below:

- RPM
- Oil temperature
- Lap Time
- Engine Hours

Integrated dashboards with electronic tracing function, geolocation and data acquisition, is allowed. The data acquisition must be just limited to the channels listed below:

- RPM
- Oil temperature
- Lap Time

- Engine Hours
- Position and speed (by GPS signal).

All motorcycles must mount the rear safety light included in the specific kit for the model of motorcycle in use. The riders must ensure that the light is switched on whenever Race Director declare wet race or practice.

The presence of cables or electronic components or of not clear origin are not allowed and is considered as a technical irregularity. The FIM technical director has the final decision.

## **2.2.13. Fairing/Bodywork**

### **2.2.13.1. General**

Except as authorized in the following articles, the fairing, the saddle, the front and rear mudguard and all the superstructures that make up the motorcycle body, must be kept original.

Colour and graphics are free.

The use of carbon fibre components is forbidden.

### **2.2.13.2. Fairings**

Except as authorized in the following articles, the fairing must be kept original.

It is allowed to modify the fairing as indicated in the following points:

- a) Replace the original front fairing and / or fairing with those originally fitted on motorcycles produced from 2018.
- b) Replace the original tail/tank cover with the one originally fitted to GP-0 My 2022 motorcycles.

The windshield must remain original. The windshield can be coloured and not transparent in order to accommodate the table and the front race number.

The size and shape of the oil cooler holes for all GP-0 models built up to 2017 are free. It is also permitted, as well as recommended to mount protective grilles or wire mesh to protect the oil cooler.

The original fairing brackets can be replaced with quick-release attachments.

The lower fairing must have a perfect seal in order to contain lubricant leaks in the event of engine failure.

The lower fairing must incorporate two holes of 14 mm in the bottom of the front and rear lower area. This hole must remain closed in dry conditions and must be opened only in wet race conditions, as declared by the Race Director.

### **2.2.13.3. Mudguards**

It is permissible to replace the original fender with the original one fitted on motorcycles produced from 2018.

The distance between the front mudguard and the tyre may be increased.

The rear mudguard must be kept original.

#### **2.2.13.4. Seat**

Saddle seat can be changed.

#### **2.2.14. Exhaust system**

Except as authorized in the article to follow, in all categories the exhaust system must be kept original.

It is compulsory to update the silencer manufactured between 2016 and 2019 with the silencer originally fitted to motorcycles manufactured from 2020 onwards that are prepared for the fitting of the DB Killer.

The use of the silencer with the dB killer fitting is recommended. In countries where national regulations foresee a noise limit lower than the one allowed in this regulation; it is compulsory to use the silencer with the dB killer fitting. In this case, the use of the original dB killer is compulsory on all motorcycles.

As from 2022, the use of the silencer with the dB killer fitting is mandatory.

#### **2.2.15. Screw, bolts and fixing elements**

##### **2.2.15.1. General**

Bolts and fairing fixing elements are free but must have the same size as the originals and with a strength class equal to or higher than the original. Fairing fixing elements may be replaced by fast fixing ones.

The use of titanium or aluminium bolts and titanium or carbon fibre and / or kevlar fasteners, if not originally on the motorcycle or part of the specific kit for the model of motorcycle in use is forbidden.

##### **2.2.15.2. Engine bolts**

The original engine bolts can be replaced with another one of equal size and with a strength class equal to or greater than the original.

Where required it is permissible to drill holes for the passage of the binding threads, but any modification tending to a lightening is forbidden.

Resetting the threads with the use of helicoil is allowed.

### **2.3. WEIGHT**

The weight of the motorcycle in running order shall not be less than the value shown below:

- a) OHVALE GP-0 160 4Speed MY16-toMY21      66.0 Kg

## 2.4. TYRES, FUEL & LUBRICANTS

### 2.4.1. Tyres

- (1) The only tyres admitted to the FIM MiniGP World Series are those indicated here below:

Front tyre: Pirelli Slick Diablo NHSTL SC1 DSBK 100/80 x 10

Rear tyre: Pirelli Slick Diablo NHSTL SC1 DSBK 120/80 x 10

Each National/Regional/Continental Series must have a sole tyre supplier, and all riders must be racing with the same tyres at all times.

- (2) In the event that the qualifying practices or the race, are declared "wet" it is allowed the use of rain tires in the measures indicated below:

Front tyre: Pirelli Diablo Rain NHSTL SCR1 DB Rain 100/80 x 10

Rear tyre: Pirelli Diablo Rain NHSTL SCR1 DB Rain 120/80 x 10

- (3) For the entire duration of the event, it is permitted to use up to a maximum of:

- 2 set of tyres (2 front and 2 rear) for events with a maximum of 2 race.

Contingent tyres are recognizable and counted by affixing a punching during technical inspection.

The tyres should be brought to the parc fermé for punching possibly already mounted on the rims. It is forbidden to exchange tyres already punched between riders. Rain tyres are excluded from the counting, so there is no punching for these.

- (4) The rider or the rider's representative is responsible for checking the presence and conformity of the tyre codes/stickers when punching the tyres and before each entry into the track. Failure to check tyres at the time of punching will not be accepted as valid justification for the use of tyres without punching or with non-compliant punching. The ultimate responsibility for the collection and handling of tyres lies with the rider.
- (5) The tyre conformity check is normally carried out at the track entrance. Failure to stop the motorcycle for the time necessary for the check at the track entrance is considered as non-compliance with the riders' obligations. The technical scrutineers have the faculty to carry out additional controls, in the pits, in the pit lane and in the parc fermé.
- (6) If one or both marks are missing, the irregular tyres will be marked by the FIM Technical Director/Chief Technical Steward. Any tyre controlled unpunched will be sanctioned with a fine. In the event of repeated infraction or more serious cases, an additional penalty may be imposed (such as

starting from pit lane on the first race following the infringement, in which the rider takes part).

- (7) In case of exchange of tyres already allocated to riders, even if belonging to the same team, or in any case of use of tyres with different technical specifications from those associated with the rider for the event, the irregular tyres will be marked by the FIM Technical Director/Chief Technical Steward. Any tyre exchange will be sanctioned with a fine and additionally equated to a technical irregularity.
- (8) At the end of the session (practice or race), the rider must present to the FIM Technical Director/Chief Technical Steward a number of new tyres registered in his name equal to the number of tyres that have been marked as irregular, in order for them to be removed from the list of tyres associated with him. The rider will be allowed to continue the event with the tyre(s) marked by the scrutineer (provided that the make, model, size and compound are those indicated by the Exclusive Supplier). Failure to deliver new tyres will be considered as a technical irregularity, in repeated cases or those considered more serious, at the sole discretion of the FIM Technical Director, the additional penalty of starting from the last grid place in the first race following the infringement in which the rider takes part may be applied. In the event of an exclusion from the event, this article will not be applied.
- (9) In case of tampering with one or both punches, the irregular tyres will be marked by the FIM Technical Director/Chief Technical Steward. This infraction will be sanctioned with a fine and in addition will result in exclusion from the event.
- (10) In the event that a tyre already associated with a rider has defects that compromise its safe use, the tyre supplier may request the FIM Technical Director to replace the tyre. The final decision on tyre replacement rests with the FIM Technical Director. Any replacement tyre must have the same characteristics (make, model, compound and size) as the tyre it replaces.
- (11) The punching is placed on the right shoulder of the tyre, it is the responsibility of the rider or their agent on their behalf, to make sure the presence and the conformity of punching before getting on the track.
- (12) It is specified that when mounting the tyre on the wheel rim it is mandatory to respect the direction of travel indicated by the manufacturer.
- (13) The use of tyre warmers is also allowed on the starting grid. Every type of electrical feeding is forbidden.

#### **2.4.2. Fuel**

Fuel shall be liquid at ambient pressure and temperature and shall be used as such.

The only fuel allowed is the lead-free one.

If the fuel is not purchased from a public station, the fuel used for competition is considered as race fuel and must be in accordance with the FIM Fuels Regulations. Please refer to Appendix FIM Fuels Regulations.

At no time must other fuel than from the official supplier (if any) be found in the motorcycle parts.

### **2.4.3. Lubricant**

At no time must other lubricant than from the official supplier (if any) be found in the motorcycle parts.

## **2.5. NUMBER PLATE AND RACE NUMBERS**

(1) The background colours of the tables and race numbers must be those indicated in the following points:

Category	Background	Number / Figure
GP-0 160 4Speed	Black	Red

(2) Front and side race numbers must have a minimum height of 80 mm.

## **2.6. SCRUTINEERING**

The motorcycles may be scrutineered and technical checks (including the required disassembly) or noise/performance and weight measurements may be executed before, during or after a meeting.

The FIM Technical Director may perform random controls during the event.

**Violations of the present Technical Regulations and noise levels exceeding the allowed limits shall be sanctioned by loss of result and/or the following penalties:**

- For prohibited potentially performance-enhancing modifications of the power unit including intake and exhaust systems = fine up to €250 (incl. VAT) and the rider's suspension for up to two subsequent events. If the offence occurs during the penultimate or last meeting of the season, the suspension may be carried to the next season, no matter in which class the rider shall start in that season.
- Other prohibited modifications = fines up to €150 (incl. VAT) per violation.

Should the officials be unable to determine the compliance/non-compliance of a part with the regulations on the spot, the part or the whole bike will be confiscated

for checking and the affected entrant will not be able to make any claims whatsoever. The owner of the motorcycle will be responsible for any costs incurred (disassembly, reassembly).

Non-compliant parts found during Scrutineering will be marked.

For major contraventions to the Technical Regulations, the FIM Stewards may penalise the respective participants by disqualification from one or several races or from the whole FIM MiniGP World Series.

### **2.6.1. Sanction for Non-Compliance with Fuel Regulations.**

Fuel controls may be carried out in accordance with article 2.5.2. of the Technical Regulations. A rider whose fuel does not correspond to the technical requirements will be sanctioned as follows:

1. Exclusion from the whole event in question independent of the moment of the fuel sampling;
2. Fine of 500 €;
3. Payment of all costs connected to the fuel test(s) for his case.

### **2.7. SOUND LEVEL**

In all categories, the maximum permissible sound level is 95 +2 dB/A at an engine revolution of 5500 rpm.

### **2.8. GASOLINE, LUBRICANT AND COOLANTS**

All vehicles must be fuelled with:

- unleaded gasoline (from public pump station or race type) OR
- a mixture of unleaded gasolines OR
- a mixture of unleaded gasoline(s) and lubricant in the case of 2-stroke engines.

The unleaded gasoline or the mixture of unleaded gasolines used must comply with the FIM specifications as set out in Art. 2.8.1.

The mixture of unleaded gasoline(s) and lubricant must comply with the FIM specifications as set out in Art. 2.8.2.

Riders/teams must declare to the FIM Technical Director (or the FMNR Chief Technical Steward when there is no FIM Technical Director appointed) the make and type of gasoline to be used during practices and race(s), upon presentation of the rider/team's motorcycle(s) at the initial Technical Verifications. They are also recommended to provide a certificate issued by the gasoline company which certify that the gasoline has been tested and is in conformity with FIM specifications.

Gasoline companies which supply 'race' gasolines (gasolines other than those obtained at public pump stations) to participating teams/riders must test their

gasoline at Intertek Schlieren (Switzerland) against FIM specifications set out in Art.2.8.1 and 2.8.2.

Providing the gasoline is within the FIM specifications, a certificate containing a test report and batch number will be issued to the fuel company.

The gasoline company shall be able to provide a copy of such certificate to their client rider/teams before they take part in a race.

Contact for gasoline analysis: [fimfuels@intertek.com](mailto:fimfuels@intertek.com)

A list of gasolines which are in conformity with FIM specifications will be published by FIM on the FIM website.

Furthermore, in the cases in which only gasoline from the appointed supplier is permitted (for a specific event or the entire World Championship, Prize or Cup), the aforementioned gasoline shall have been previously tested in a FIM appointed laboratory in order to test its conformity with the FIM specifications as set out in Art. 2.8.1 and 2.8.2:

- in case of conformity, a certificate of conformity (including test report and tested batch number) shall be available, and Art. 2.8 apply in case of controls for the riders/teams;
- in case the conformity is not achieved, the FMN of the organizing country, the Organizer/Promoter shall ask the FIM for a waiver in order to enable the use of gasoline not corresponding to FIM specifications. If the waiver is granted, the riders/teams will be responsible for using the gasoline provided without changing its composition. Controls may be carried out by FIM.

### 2.8.1. FIM specifications for unleaded gasolines or mixtures of unleaded gasolines

The following specifications are set for unleaded gasoline or the mixture of unleaded gasolines:

- a) The following properties shall be within the following thresholds (for each property, the relative test methods to be used for the measurement are indicated):

Property	Units	Min.*	Max.*	Test Method
RON		95.0	102.0	EN ISO 5164 or ASTM D2699
MON		85.0	90.0	EN ISO 5163 or ASTM D2700
Oxygen (includes 10% ethanol allowance)	% (m/m)		3.7	EN ISO 228541 or EN 13132 or elemental analysis
Nitrogen	% (m/m)		0.2	ASTM D 46292 or ASTM 5762
Benzene	% (V/V)		1.0	EN ISO 22854 or ASTM D6839 or ASTM D5580
Vapour pressure (DVPE)	kPa		100.0	EN 13016-1 or ASTM D5191
Lead	mg/L		5.0	ICP-OES or AAS
Manganese	mg/L		2.0	ICP-OES or AAS

Density at 15°C	kg/m <sup>3</sup>	720.0	785.0	EN ISO 12185 or ASTM D4052
Oxidation stability	minutes	360		EN ISO 7536 or ASTM D525
Sulphur	mg/kg		10.0	EN ISO 20846 or ASTM D5453
Distillation:				EN ISO 3405 or ASTM D86
E at 70°C	% (V/V)	20.0	52.0	
E at 100°C	% (V/V)	46.0	72.0	
E at 150°C	% (V/V)	75.0		
Final Boiling Point	°C		210	
Residue	% (V/V)		2.0	
Appearance	Clear, bright and visually free from solid matter and undissolved water			Visual inspection
Olefins	% (V/V)		18.0	EN ISO 22854 or ASTM D6839
Aromatics	% (V/V)		35.0	EN ISO 22854 or ASTM D6839
Total diolefins	% (m/m)		1.0	GC-MS or HPLC
Oxygenates:				EN ISO 228541 or EN 13132
Methanol	% (V/V)		3.0	The only oxygenates permitted are paraffinic mono-alcohols and paraffinic mono-ethers (of 5 or more carbon atoms per molecule) with a final boiling point below 210°C.
Ethanol	% (V/V)		10.0	
Isopropanol	% (V/V)		12.0	
Isobutanol	% (V/V)		15.0	
tert-Butanol	% (V/V)		15.0	
Ethers (C5 or higher)	% (V/V)		22.0	
Others	% (V/V)		15.0	

(1) In cases of dispute EN ISO 22854 will be the reference method.

(2) In cases of dispute ASTM D 4629 will be the reference method.

\* All reported min. and max. thresholds do not include the tolerance, which needs to be calculated in accordance with ISO 4259 and taken into account to correct the min. and max. thresholds.

The total of individual hydrocarbon components, present at concentrations of less than 5% (m/m), must constitute at least 30% (m/m) of the gasoline. The test method will be GC-FID (gas chromatography-flame ionisation detector) and/or GC/MS (gas chromatography-mass spectrometry).

The total concentration of naphthene, olefins and aromatics classified by carbon number must not exceed the values given in the following table:

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

Bicyclic and polycyclic olefins are not permitted. The fuel must contain no substances which are capable of exothermic reaction in absence of external oxygen.

**2.8.2. FIM specifications for mixtures of unleaded gasoline(s) and lubricant**

The lubricant:

must not change the composition of the gasoline fraction when added to the gasoline; must not contain any nitro-compounds, peroxides or any other engine power boosting additives; must in no way contribute to an improvement in overall performance; during the distillation up to 250°C, must not show a reduction in mass by evaporation of more than 10% (m/m) (test method: simulated distillation GC); must contain a max. content of anti-knock agents (lead, manganese, iron) of 10 mg/kg (test method: ICP-OES).

Moreover, the following specifications are set for the mixture of unleaded gasoline(s) and lubricant:

The following properties shall be within the following thresholds (for each property, the relative test methods to be used for the measurement are indicated):

Property	Unit	Min.	Max.	Test Method
RON			102.0*	EN ISO 5164 or ASTM D2699
MON			90.0*	EN ISO 5163 or ASTM D2700
Density at 15°C	kg/m <sup>3</sup>	690**	815**	EN ISO 12185 or ASTM D4052

\* Reported min. and max. thresholds do not include the tolerance, which needs to be calculated in accordance with ISO 4259 and taken into account to correct the min. and max. thresholds.

\*\* Min. and max. thresholds do include the tolerance.

**2.8.3. Air**

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

**2.8.4. Sampling and Testing**

The FIM may require gasoline controls, i.e., controls of the unleaded gasoline, mixture of unleaded gasolines or mixture of unleaded gasoline and lubricant, used by riders/teams at events. These controls involve an initial sampling at the event and further testing in the FIM appointed laboratory.

**2.8.4.1. Sampling**

The FIM Technical Director (or the FMNR Chief Technical Steward when there is no FIM Technical Director appointed) is the sole official responsible for the sampling management and supervision.

Riders/teams selected for gasoline controls are directed to proceed with their vehicles to the area that has been designated for this purpose.

The FIM Technical Director/FMNR Chief Technical Steward collects the gasoline from the motorcycle by using only new sample containers and pipettes/hand

pumps. The gasoline is transferred through the use of the pipette/hand pump directly from the gasoline tank into three containers, denominated A, B and C. The containers are closed and sealed by the FIM Technical Director/FMNR Chief Technical Steward.

The FIM Technical Director/FMNR Chief Technical Steward fills in (in all its parts) and signs the Gasoline Sample Declaration Form (see 2.10.4.3). The rider or a team representative also signs this Form, after verifying that all the information is correct.

The FIM Technical Director/FMNR Chief Technical Steward prepares an appropriate shipping box containing the collected A, B and C samples and a copy of the respective, signed, Gasoline Sample Declaration Form. The box is then shipped to the FIM appointed laboratory by registered courier.

#### 2.8.4.2. Testing

One or more properties to be checked (following the relevant testing method as per Art. 2.10.1 and 2.10.2) are set by the FIM for each selected rider/team.

Sample A is the first sample to be tested by the FIM appointed laboratory.

Sample B can be used for a second analysis if required by the FIM. The test result of the A or B sample more favourable to the rider/team is taken into account. Costs for the shipping and testing of sample A and B are paid by FIM.

As soon as possible after completing the testing, the FIM appointed laboratory reports the test results directly to the responsible CTI Coordinator.

For negative cases (i.e., conformity of the tested property(ies) with the specification), the riders/teams concerned will be individually informed by the FIM in due course, copying the rider/team's FMN, the FIM Technical Director/FMNR Chief Technical Steward, the competent authority (e.g., Race Direction, International Jury), the CTI Director, the Director and Coordinator(s) of the sporting Commission concerned.

Only for positive cases following testing of sample A or B or A and B (i.e. non-conformity of one or more properties\*), the responsible CTI Coordinator notifies by electronic mail\* the rider/team concerned (including the testing results) and, 24 hours after, forwards the relevant information to the rider/team's FMN, the FIM Technical Director/FMNR Chief Technical Steward, the competent authority (e.g. Race Direction, International Jury), the CTI Director, the Director and Coordinator(s) of the sporting Commission concerned.

\*Note: The non-conformity of one property (except the Appearance) is sufficient for declaring non-conformity of the gasoline or the mixture.

If the rider/team wishes to request a counter-expertise, he must notify the responsible CTI Coordinator by electronic mail\* accordingly, within 72 hours of receipt by the FIM of the delivery status notification pertaining to the notification of the test results to the rider/team.

If a counter-expertise is requested, the sample dedicated to the counter-expertise is sample C and the test shall aim at checking the same property(ies) previously checked on sample A/B. The rider/team can request that sample C be tested at one of the available FIM appointed laboratories. Costs for shipping and testing of sample C are paid by the rider/team concerned.

Upon notification of the sample C results, the responsible CTI Coordinator notifies by electronic mail\* the rider/team concerned (including the testing results) and

forwards the relevant information to the rider/team's FMN, the FIM Technical Director/FMNR Chief Technical Steward, the competent authority (e.g., Race Direction, International Jury), the CTI Director, the Director and Coordinator(s) of the sporting Commission concerned.

If no counter-expertise is requested within the time limit, the responsible CTI Coordinator forwards the relevant information by electronic mail\* the rider/team's FMN, the FIM Technical Director/FMNR Chief Technical Steward), the competent authority (e.g., Race Direction, International Jury), the CTI Director, Director and Coordinator(s) of the sporting Commission concerned.

The competent authority of the event concerned (e.g., Race Direction, International Jury) takes a decision based on the information received. The Coordinator of the sporting Commission concerned notifies the rider/team concerned regarding the decision by electronic mail\*.

The non-conformity of:

A sample (in the cases B sample was not used) or

B sample (in the cases A sample result was not conclusive) or

A and B samples or

A and B and C samples (in the cases B sample was used and a counter-expertise was requested) or

A and C samples (in the cases B sample was not used and a counter-expertise was requested) automatically results in the disqualification of the rider/team from the entire event.

No disqualification will be applied in case of conformity of sample C.

Furthermore, in any case, other penalties may be applied.

The rider/team has the right to appeal against the decision of competent authority of the event concerned (e.g., Race Direction, International Jury) in accordance with FIM Disciplinary and Arbitration Code applicable to the relevant discipline.

\*The receipt of a delivery status notification will be deemed as proof of delivery.



Riders'/Teams' responsible signature	
FIM Technical Directors'/FMNR Chief Technical Stewards' name	
FIM Technical Directors'/FMNR Chief Technical Stewards' signature	
Date and time (dd/mm/yy, hh/mm)	

### 2.8.5. Fuel Storage

Where the fuel is supplied by the Organiser, there shall be an officially designated and controlled fuel storage areas. Outside these areas, fuel may only be stored in metal containers.

A maximum of 60 litres of fuel, stored in a sealable container, is allowed in the competitor's pit.

The officially designated storage and supply area shall be in conformity with the building criteria. Firefighting equipment, protective devices and staff shall conform to the requirements imposed by the local authorities and by-laws.

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

## 2.9. PROTECTIVE CLOTHING AND HELMETS

The rider is at all times responsible for ensuring that his own protective clothing and helmets are in good condition (undamaged) and comply with the FIM Technical Regulations. In case one part of his protective clothing and helmets is damaged after a crash, the rider must systematically present this equipment to the FIM Technical Director or to the FMN Technical crew for check.

Riders will have to be equipped with the appropriate complete set of undamaged safety racing equipment:

- All equipment must comply with the following requirements
- Each rider must be wearing the following elements:
  - One piece leather suit (2-pieces suits are not allowed)
  - Racing boots
  - Racing gloves
  - Back & chest protectors
  - Helmet (must be of the full-face type)

**2.8.1** Riders must wear a complete leather suit with additional leather padding or other protection on the principal contact points, knees, elbows, musters, hips that conform to EN1621-1:2012.

The use of sliders (specific parts of the riders' safety equipment, either permanently fixed or removable, intended to make regular contact with the track surface to assist the rider while cornering), is permitted on the knees, elbows or any other parts of the race suit, where it is deemed necessary. They must not be manufactured from or contain any material that when in contact with the track surface may cause visual or other disturbance to other riders.

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

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

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

**2.8.5** Use of a chest and back protector is compulsory (with or without airbag protection in the suit) and must be clearly marked with the following norms:

- a) The back protector must comply with EN1621-2, CB ("central back") or FB ("full back") Level 1 or 2.
- b) The chest protector must comply with EN1621-3.

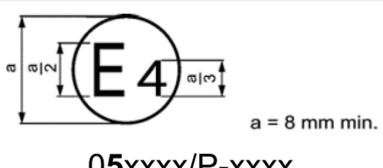
Use of a functional airbag system is strongly recommended.

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

**2.8.7** Helmets must conform to one of the following recognised international standards:

EUROPE	ECE 22-05 (only "P" type) ECE 22-06 (only "P" type)
FIM	FRHPhe-01
JAPAN	JIS T 8133:2015 (only "Type 2 Full face")
USA	SNELL M 2015 SNELL M 2020 R SNELL M 2020 D

Examples of labels are reported below:

EUROPE	 <p style="text-align: center;">a = 8 mm min. 05xxxx/P-xxxx</p>	 <p style="text-align: center;">a = 8 mm min. 06xxxx/P-xxxx</p>
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FIM	
JAPAN	 <p>Protective helmet for motor vehicle users  <b>T8133:2015 Class 2</b>  Certification No. XX0000000  Label serial No. 0000000000  XXX Manufacturer's name  <small>(Trade mark of certification body)</small></p>
USA	

- 2.8.8           Visors must be made of a shatterproof material.
- 2.8.9           Disposable "tear-offs" are permitted.
- 2.8.10          Any question concerning the suitability or condition of the riders clothing and/or helmet shall be decided by the FIM Technical Director/ Chief Technical Steward, who may, if he so wishes, consult with the manufacturers of the product before making a final decision.

**2.10. Procedures for Technical Control**

The rider is at all times responsible for his/her motorcycle.

The Chief Technical Steward must be in attendance for an event at least 1 hour before the technical verifications are due to beginning. He must inform the Clerk of the Course, the Race Director and the Technical Director of his arrival.

He must ensure that all Technical Stewards, appointed for the event, carry out their duties in a proper manner.

He shall appoint the Technical Stewards to individual posts for the race, practices and final control.

The rider, or his mechanic, must be present with the motorcycle for Technical control within the time limits stated in the Time Schedule. The maximum number of persons present at the technical verification will be the rider, plus two others. In addition, the Team Manager will also be allowed.

The FIM Technical Director/Chief Technical Steward must inform the Race Director of the results of the Technical control. The Technical Director/Chief Technical Steward will then draw up a list of accepted motorcycles and submit this list to the Clerk of the Course.

The FIM Technical Director/Chief Technical Steward have the right to inspect any part of the motorcycle at any time of the event.

Any rider failing to report as required below may be disqualified from the event. Race Direction may forbid any team who does not comply with the rules, or any rider who may be a danger to other participants or to spectators, to take part in the practice sessions or in the races.

The Technical Control must be carried out in accordance with the procedure and times fixed in the General Information of the event.

The FIM Technical Director/Chief Technical Steward will refuse any motorcycle that does not have a correctly positioned positive transponder attachment. The transponder must be fixed to the motorcycle as described in Appendix 9.

The rider or the mechanic shall present a clean motorcycle and in conformity to the FIM rules. He shall also present the helmet, gloves, boots and leather.

An overall inspection of the motorcycle must be carried out in conformity with the FIM rules. Accepted motorcycles will be marked with paint or a sticker.

FIM Technical Director/Chief Technical Steward has the final authority in case of a dispute on the conformity of the parts in question and for acceptance thereof.

Before each practice the Chief Technical Steward can confirm that the motorcycle has passed the Technical Control by checking the Technical Control sticker before the motorcycles go on the track.

Only accepted motorcycles may be used in practices and races. Approximately 30 minutes after the Technical control have been completed, the Technical Director/Chief Technical Steward must submit to the Race Direction a list of accepted motorcycles and riders.

If a motorcycle is involved in an accident, the Technical Director/Chief Technical Steward may check the motorcycle, together with the helmet and clothing of the rider involved, to ensure that no defect of a serious nature has occurred. If a motorcycle was stopped with a Black Flag with Orange Disc, the FIM Technical Director/Chief Technical Steward must check the motorcycle. In both cases, it is the responsibility of the team to present the motorcycle (together with helmet and clothing of the fallen rider) for his re-examination in case they wish to continue. If the helmet is clearly defective, the Chief Technical Steward must retain this helmet. The Promotor can send this helmet, together with the accident and medical report (and pictures and video, if available) to the Federation of the rider. If there are head injuries stated in the medical report, the helmet then must be sent to a neutral institute for examination.

The team can scrutineer only one motorcycle per rider.

If during the official practice sessions, a motorcycle suffers any damages that are difficult to repair in the circuit, the FIM Technical Director could allow a second motorcycle to be presented for a technical inspection. The process of authorizing a new machine to be used is not possible during a practice session. 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, once the first race is finished, the FIM Technical Director may allow the request for verification of a second motorcycle.

Once the official practice sessions have started, only the motorcycle that has gone under the technical inspection will be allowed to be inside the box.

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

In the case that a machine fails post-qualifying or post-race technical checks due to damage or technical issues on-track, the following protocol will apply, always at the sole discretion of the Technical Director.

- a) Machines under the minimum weight limit due to:
  - a. Loss of fluid:
    - i. If the FIM Technical Director has verified that there is physical evidence of fluid loss due to an incident or mechanical issue on track, he may approve the fluid to be replenished to the levels as declared by the Manufacturer at the start of the season.
    - ii. If it is necessary to replace a damaged part to accommodate the fluid (e.g., radiator), this will be permitted only under the supervision of the FIM Technical Director who will confirm that the new part is identical to the damaged part.
  - b. Loss of material or parts:
    - i. If the FIM Technical Director has verified that the machine has lost a part or material due to an incident or mechanical

issue on track, he may approve the replacement of the part(s) with the following conditions:

- ii. The FIM Technical Director must verify that any new parts are identical to the original.
- iii. If the FIM Technical Director determines that there is insufficient physical evidence to prove that a part or material is missing, then the original part must be found before it can be replaced.
- iv. Missing ballast weights will only be permitted to be replaced if they are found and returned to Technical Control by the circuit officials.

b) Machines exceeding the maximum noise levels:

- i. If the FIM Technical Director is satisfied that there is sufficient physical evidence of damage or loss due to an incident or mechanical issue on track, he may approve the replacement of the missing or damaged exhaust parts, and the machine to be re-tested.

#### Noise tests

1. Noise tests must be conducted in an open area with a space of at least 10 metres between the motorcycle being tested and walls or other obstacles. There should be a minimum amount of ambient noise in the area.
2. The measuring equipment must be calibrated prior to the test and recalibrated at regular intervals.
3. The measuring equipment should be placed 50 cm from the end of the exhaust pipe and at 45-degree angle to the pipe either to the side or above. The maximum noise level at all times is prescribed in the Technical Rules of each class.