

**ROTAX**  
**RMC**  
GRAND FINALS



**BAHRAIN**

**SAKHIR**

**DEC 2 – 9, 2023**

## **TECHNICAL REGULATIONS**

MICRO MAX | MINI MAX | E20 SENIOR | E20 SENIOR MASTERS | E10 MINI



# TECHNICAL REGULATIONS

MICRO MAX | MINI MAX | E10 MINI  
E20 SENIOR | E20 SENIOR MASTERS

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# TECHNICAL REGULATIONS

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The chapter A refers to the 125 Micro MAX and 125 Mini MAX Technical Regulations.  
The chapter B refers to the Project E20 Technical Regulations.  
The chapter C refers to the E10 Mini Technical Regulations.

The Competition shall be run in accordance with these RMCGF 2023 – Micro Max / Mini Max / E20 Senior / E20 Senior Masters / E10 Mini Technical Regulations and official Bulletins and:

- ROTAX MAX CHALLENGE GRAND FINALS 2023 Technical Regulations and the official Bulletins
- ROTAX MAX CHALLENGE GRAND FINALS 2023 Sporting Regulations and the official Bulletins
- ROTAX MAX CHALLENGE GRAND FINALS 2023 Supplementary Regulations
- CIK/FIA Karting Technical Regulations and official Bulletins

The Organizer of the event reserves the right to issue modifications to the Technical Regulations, that will be published as Official Bulletins.

The English language is the official version.

Headings in this document are for ease of reference only and do not form part of these Technical Regulations.

## A. 125 MICRO MAX / 125 MINI MAX CLASSES

### 1. EQUIPMENT

The only equipment – complete kart and tyres – allowed during the event will be provided on a loan basis, by the organizer and must be in accordance with these Regulations and its Appendices.

#### 1.1. AMOUNT OF EQUIPMENT

According to Article 2.1 of the RMCGF2023 Technical Regulations.

#### 1.2. CHASSIS, BRAKE SYSTEM, BODYWORK

1.2.1. According to Article 2.2. of the RMCGF2023 Technical Regulations.

1.2.2. Single brand chassis per category, defined by tender. The brand for each class is:

125 Micro MAX: IPKarting PRAGA

125 Mini MAX: BirelART

#### 1.2.3. Front fairing

- The use of a homologated Front Fairing and of the homologated Front Fairing Mounting Kit of the bodywork homologation is mandatory for all categories, in accordance with CIK Specific Prescriptions, article 31 and CIK Technical Drawing No 3.2. and 3.2.1.
- Appropriate fairings and mounting kits will be provided to Entrants/Drivers with each kart and are the only components which may be used.
- The provisions of CIK General Prescriptions, article 2.3.3 regarding mounting, installation, checking, reporting of breaches and application of penalties will be applied in full.

#### 1.3. TYRES

##### 1.3.1. Type

Dry	Mojo C2 CIK Mini	front 4.0 x 10.0 – 5	rear 5.0 x 11.0 – 5
Wet	Mojo CW CIK Mini	front 3.6 x 10.0 – 5	rear 4.5 x 11.0 – 5

##### 1.3.2. Quantity for each category

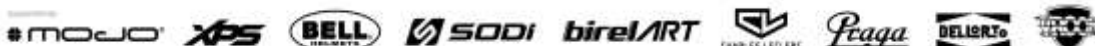
###### 1. Dry tyres:

###### Micro Max

- 1 set for the whole event (non parc fermé status).

###### Mini Max

- 1 set is for non-qualifying practices (non parc fermé status).
- 1 set is for qualifying up to and including finals (non parc fermé status).



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# TECHNICAL REGULATIONS

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## 2. Wet tyres:

- Maximum one set of MOJO CW CIK Mini will be handed out for non-qualifying practices (non parc fermé status).
- Organizer keeps the right to decide if a second set of wet tyres will be handed out for qualifying practice up to and including final.
- Maximum 2 sets are available for the whole event for each category. They will only get handed out in case of rain (non parc fermé status).

## 3. Distribution and usage of tyres:

- The first set of slick tyres will be handed out after the chassis raffle. This set shall be used during the event for all non-qualifying practices.
- A certain number of used tyres from the first set (depending on the category) will be kept in parc fermé.
- After the last session of the non-qualifying practice each driver will receive a new set of slick tyres, which has to be used for the qualification phase up to and including the final. Each tyre of this set is marked with a barcode and the starting number and must be kept in the parc fermé.
- Each driver is responsible for checking that the marking of the starting number is visible outside, otherwise the tyre has to be presented in parc fermé for remarking.
- If there is a reasonable risk for rain, wet tyres together with rims will be handed out in time. Each tyre of these sets is marked with a barcode and the starting number.
- In case of mechanical failure of a tyre, each driver may exchange maximum 1 front and 1 rear tyre (each wet and dry), except if failure has been caused on purpose/misuse. In case of a mechanical failure of a tyre, the technical scrutineer will determine if the failure was due to material defect or has been caused on purpose/misuse. The technical scrutineer's decision will be final and not subject to protest or appeal.
- If the failure has not been caused on purpose/misuse the following rule will apply:
  - In all categories a new tyre will be provided as replacement during Free Practice or before Qualifying. During Qualifying Heats, Pre-finals and Final a used tyre (with similar wear rate) will be provided as replacement.

**1.3.3.** All tyres are marked with barcode and can only be used by the assigned driver.

**1.3.4.** Tyres are assigned (on a loan basis for the time of the event) to drivers, registered and routinely checked/scanned by means of the Rotax EMS (Event Management System).

**1.3.5.** Strictly no modifications or tyre treatment is allowed. Tyre check with "tyre sniffer" Mini-RAE-Lite: Maximum value = 4ppm. Over this value there will be a second check. If the value remains over the 4ppm, Driver will be disqualified from the event.

**1.3.6.** Tyres must be mounted in accordance with the rotation markings defined on the tyre.

## 1.4. ENGINES

According to Article 2.4. of the RMCGF2023 Technical Regulations.

The 125 Junior MAX engine is the basis for the engine configurations 125 Micro MAX and 125 Mini MAX.

## 1.5. RETURN OF EQUIPMENT

According to Article 2.5. of the RMCGF2023 Technical Regulations.

## 1.6. DATA ACQUISITION

According to Article 2.6. of the RMCGF2023 Technical Regulations.

## 1.7. SAFETY EQUIPMENT

According to Article 7, CIK-FIA technical regulations.

## 1.8. FUEL/OIL

Pre-mixed fuel will be provided via Parc Fermé for the whole event.

## 1.9. ADVERTISING ON ENGINES

No sponsor stickers except ROTAX, BRP, MOJO, XPS are allowed on the engine and engine accessories.





## 2. MODIFICATIONS, LEGAL ADDITIONS, NON-TECH ITEMS, MEASUREMENTS

According to Article 3. of the RMCGF2023 Technical Regulations.

## 3. TECHNICAL SPECIFICATIONS (OUTSIDE THE ENGINE AND CARBURETOR SEAL) FOR ROTAX KART ENGINES

For all components outside the engine and carburettor seal, the competitor is responsible to assure the conformity with the RMCGF2023 Technical Regulations.

### 3.1. IGNITION SYSTEM

According to Article 4.6. of the RMCGF2023 Technical Regulations.

**3.1.1.** The electronic control unit (ECU) is labelled with stickers and is still legal also if the sticker is unreadable or disappeared.

125 Micro MAX: "666815"

125 Mini MAX: "666818"

The ECU must be checked with the ECU tester (Rotax 276230) according to following procedure.

Disconnect engine cable harness from ECU.

Connect ECU tester cable harness to ECU.

Connect energy cable of ECU tester cable harness with the charging connector of engine cable harness.

At every connection with the battery the software version of the ECU tester will be indicated on the display for approx. 2 seconds.

The software version indicated on the display must be 2V00.

Start the test by pressing the button "✓" on the ECU tester.

After approx. 3 second the type of ECU ① that is actually tested will be indicated in the second line of the display.

After approx. 30 seconds the result ② of the test will be indicated in the first line of the display.



The ECU tester must indicate following results:

125 Micro MAX category

① 666815MAX

② !! Test OK !!

125 Mini MAX category

① 666818MINIMAX

② !! Test OK !!

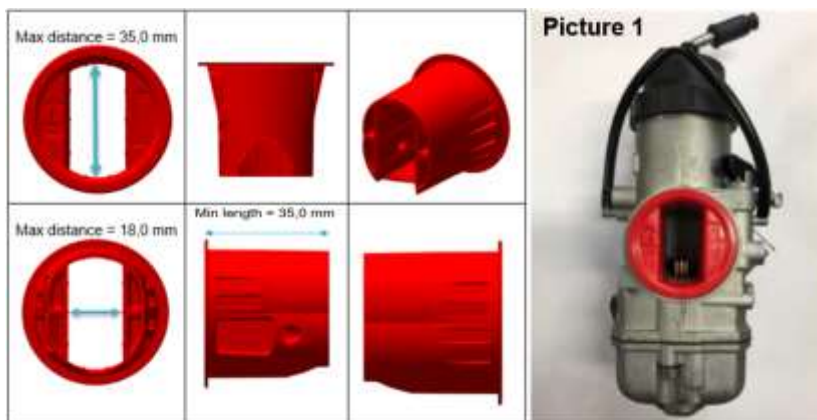
### 3.2. CARBURETTOR

According to Article 4.9. of the RMCGF2023 Technical Regulations.

**3.2.1.** For the 125 Micro MAX and 125 Mini MAX classes, the throttle body restrictor must be installed in the rear of the carburettor and in the correct orientation (see picture 1 below for reference).

ROTAX part number: 267536

No modifications are allowed, the ribbed surface on the inlet is to help ensure dimensions have not been modified.



### 3.3. RADIATOR

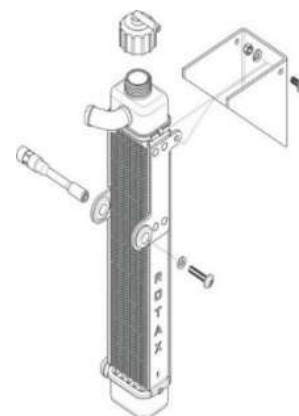
The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components as shown in the respective illustration. To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator. Tape may not be removed from the radiator during operation on the track. Any other non-original device to control the air flow through the radiator is prohibited.

Only version as shown in the illustration is legal to be used.

Cooling area:

- Height: 280 – 300 mm
- Width: 58 – 62 mm
- Thickness of radiator: 30 – 34 mm

To remove the original flap is NOT allowed.



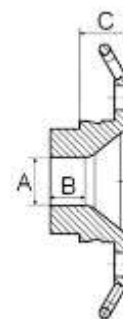
### 3.4. EXHAUST SOCKET

Just exhaust sockets with gasket ring are legal to be used. Diameter (A) must apply for a length (B) of at least 12 mm. Maximum inner diameter (A) of exhaust sockets:

- 125 Micro Max: 18,30 mm (Rotax part no. 273 192)
- 125 Mini Max: 22,20 mm (Rotax part no. 273 196)

The measurement (C) must be at least 18,5 mm.

Note: Exhaust socket is clearly marked "ROTAX GF23"  
 It is strictly forbidden to change or modify the exhaust socket in anyway.



The internal profile of the exhaust socket has to be checked with the template, Rotax 277 405.

Fit the template (125 Micro MAX "18 mm", 125 Mini MAX "22 mm") as far as possible into the exhaust socket (without gasket, carbon deposits removed). There has to be a constant crack light between the profile of the exhaust socket and the profile of the template.



### 3.5. EXHAUST SYSTEM

Allowed modifications:

- Replacing the original rivets of the silencer end cap by 4 mm metric screws and corresponding locking nuts. The 3 x fixations (rivets, bolts and locking nuts) must be always secured tight to ensure a sealing between the perforated tube and exhaust system. The perforated tube must be fully inserted into the exhaust system (see top, right picture for reference) External protrusion of the outer sealing ring of the perforated tube is forbidden. (Indicated by the red arrow).
- If the event requires the Exhaust / Perforated tube to be sealed, the seal must be passed through a 4<sup>th</sup> hole (maximum 4mm diameter). The hole must be in a position that avoids the leaking of exhaust gasses as indicated in the picture on the right. The perforated tube must be always secured tightly to the exhaust at 3 points.
- Replacing the original isolating mat in the silencer by one new original isolating mat.



A specific exhaust system has to be used for:

- 125 Micro Max: Rotax part no. 273 136
- 125 Mini Max: Rotax part no. 273 137

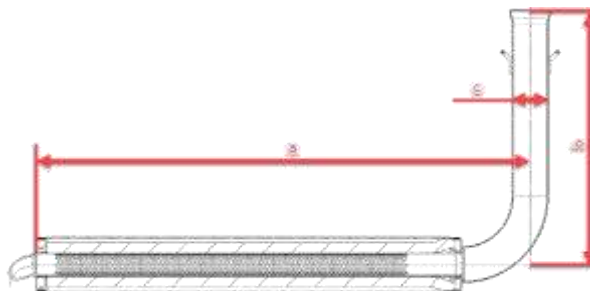
The Exhaust external body is a common component in both versions. The difference is in the internal components.

The silencer must be mounted in a position where the direction of the 90° elbow outlet (direction of the exhaust gasses) does not harm any component of the chassis.

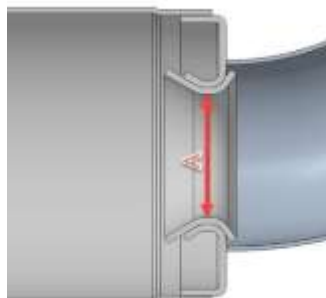
The exhaust must be mounted and secured in such a way to ensure a full sealing around the exhaust socket and the gasket ring.

The measurement in the diagram below are as follows:

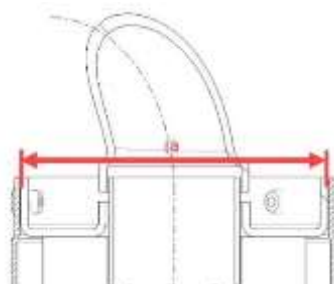
- (a) 580 mm +/- 5mm
- (b) 299 mm +/- 5mm
- (c) 42 mm +/- 3mm



A steel ball with a 28.0mm diameter or solid flat plate measuring 28.0mm and 1.5mm thick must not pass through Section "A" (Internal exhaust components must first be removed) and a steel ball with a 26.0mm diameter must be able pass through Section "A" in the below diagram from the inlet and through the 90-degree elbow completely. All exhaust gases must pass through Section "A"



The inner measurement of the exhaust system silencer end (a) in the below diagram must be a maximum of 63.0 mm.



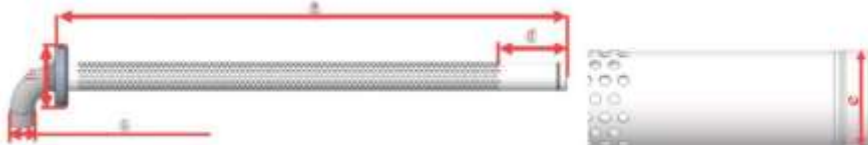
(Note: this is not a measurement of the perforated tube)

The Exhaust must be installed firmly to the chassis using a rigid mount/s.  
The Exhaust must be mounted to the rigid mount/s using 2 ROTAX silent blocks (part 660920 and or 260657 allowed).  
The deflection of the 2 silent blocks is the only Exhaust movement allowed.  
The Exhaust must be mounted in a neutral position with no stress on the 2 silent blocks.

**125 Micro MAX Perforated tube**  
ROTAX part number: 273212

The measurements in the diagram below are as follows:

- (a) at least 498 mm
- (b) minimum outside diameter of 61 mm
- (c) maximum outside diameter of 26 mm
- (d) minimum length 63 mm
- (e) minimum outside diameter of 26.0 mm



The only legal Isolation matting for 125 Micro MAX is:  
ROTAX part number 297982

New size minimum 480 x 270mm (+/-10mm)  
New weight 207gr (176g – 238g)  
Used weight minimum 140g  
Used weight maximum 350g

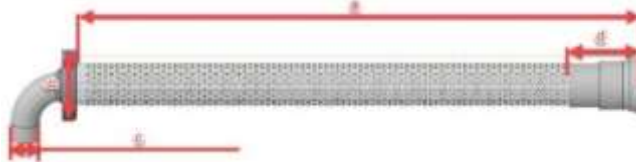


**125 Mini MAX Perforated tube**

ROTAX Part number 273211

The measurements in the diagram below are as follows:

- (a) at least 482 mm
- (b) minimum outside diameter of 61 mm
- (c) maximum outside diameter of 26 mm
- (d) at least 63 mm



Note:

Mini MAX perforated tube has a stamped ID marker “X” visible externally.



The only legal Isolation matting for 125 Mini MAX is:  
ROTAX part number 297985

New size minimum 490 x 180mm (+/-10mm)  
New weight 141g (119g – 163g)  
Used weight minimum 110g  
Used weight maximum 350g

## 4. PERMITTED ADJUSTMENTS TO THE CHASSIS, ENGINE, CARBURETTOR AND DRIVE TRAIN OPTIONS

### 4.1. 125 Micro MAX – IPKarting PRAGA

No.	Item	Specification
1	Carburation and gearing mandatory for the 1 <sup>st</sup> free practice.	112 Main Jet must be installed. Front sprocket 14, Rear sprocket 64 teeth. <b>Please note: you will need to install the correct main jet</b>
2	Carburation and gearing options for the 2 <sup>nd</sup> free practice through to the Finals	Any main jet from the kit supplied can be used. (105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119 & 120) Front sprocket 14, Rear sprocket 63, 64, 65 or 66 teeth.
3	Spark plug type and gap	NGK GR8DI. Filler gauge 1,20 mm must not fit in between the two electrodes.
4	Chain length and type	Only chains as supplied at the event by the manufacturer are legal to be used. 102 chain length.
5	Ride height	Front: IN A BULLETIN
6	Camber and Castor	IN A BULLETIN
7	Ackerman settings	IN A BULLETIN
8	Seat supports	IN A BULLETIN
9	Seat fixing	IN A BULLETIN
10	Other notes	IN A BULLETIN
11	Optional parts	IN A BULLETIN
12	Rear Wheelbase	Maximum 1100 mm
13	Rear Bumper	IN A BULLETIN

From the 2<sup>nd</sup> non-qualifying practice ROTAX recommends: Jet 112, needle position 4, 1,15 mm spark plug gap and 85°C engine temperature

**Note: Only standard components as supplied at the event by the manufacturer for the specific category may be used in accordance with the RMC GF Technical Regulations 2023 and its appendices.**

**4.2. 125 Mini MAX – BirelArt**

No.	Item	Specification
1	Carburation and gearing mandatory for the 1 <sup>st</sup> free practice.	118 Main Jet must be installed. Front sprocket 14, Rear sprocket 73 teeth. <b>Please note: you will need to install the correct main jet</b>
2	Carburation and gearing options for the 2 <sup>nd</sup> free practice through to the Finals	Any main jet from the kit supplied can be used. (110, 111, 112, 113, 114, 115, 116, 117, 118, 119 & 120) Front sprocket 14, Rear sprocket 73, 74 and 75 teeth.
3	Spark plug type and gap	NGK GR8DI. Filler gauge 1,20 mm must not fit in between the two electrodes.
4	Chain length and type	Only chains as supplied at the event by the manufacturer are legal to be used. 104 chain length.
5	Ride height	Front: IN A BULLETIN Rear: IN A BULLETIN
6	Camber and Castor	IN A BULLETIN
7	Ackerman settings	IN A BULLETIN
8	Seat supports	IN A BULLETIN
9	Seat fixing	IN A BULLETIN
10	Other notes	IN A BULLETIN
11	Rear Wheelbase	Maximum 1100 mm
12	Rear Bumper	IN A BULLETIN

**From the 2<sup>nd</sup> non-qualifying practice ROTAX recommends: Jet 118, needle position 4, 1,15mm spark plug gap and 65°C engine temperature**

**Note: Only standard components as supplied at the event by the manufacturer for the specific category may be used in accordance with the RMC GF Technical Regulations 2023 and its appendices.**



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## B. PROJECT E20 CLASS

### 1. EQUIPMENT

The only equipment – complete kart and tyres – allowed during the event will be provided on a loan basis, by the organizer and must be in accordance with these Regulations and its Appendices.

#### 1.1. AMOUNT OF EQUIPMENT

According to Article 2.1. of the RMCGF2023 Technical Regulations.

#### 1.2. CHASSIS, BRAKE SYSTEM, BODYWORK

1.2.1. Single brand chassis SODI as supplied by Rotax.

1.2.2. Chassis are randomly assigned (on a loan basis for the time of the event) to drivers, registered and routinely checked/scanned by means of the Rotax EMS (Event Management System).

1.2.3. Chassis, brake system, front bodywork and Rear Wheel protection system must have a valid CIK homologation. Side pods and mounting bars utilize an expired CIK homologation.

1.2.4. Chassis must be in accordance with RMCGF Technical Regulations 2023 and its Appendices.

It is permitted for the rear wheels to be inside the side bodywork.

Minimum rear wheel base is 1340 mm at the widest point.

Maximum rear wheel base is 1400 mm at the widest point.

1.2.5. The Chief Scrutineer may allow some changes on the chassis, e.g. in case the height of a driver will not allow him/her to fit properly in the kart.

1.2.6. Every chassis is marked with a chassis seal with a unique serial number (barcode)

1.2.7. During the event, the driver can only change the Project E20 vehicle after the authorization of the ROTAX Project E20 race manager or the Technical Scrutineers (this decision can be taken only due to parts failure or accident damage). In this case the frame and the other needed parts must be paid for in advance (prices will be defined in the manufacturers price list prior to the event).

#### 1.2.8. Seat

- Original seat as supplied by Rotax is legal to be used only.
- It is the Driver / Entrant responsibility to mount the seat in accordance with the regulations.
- All fixation screws and nuts for the seat must be mounted and tightened at all times.
- Additional seat stays (supports) must be either fitted and tightened or removed from the chassis.
- Seat supports welded on the frame must not be bent except when authorized by Rotax.
- Lead must be fitted to the seat only.

1.2.9. Axles: Only the original rear axle as supplied by Rotax is legal to be used.

- Cutting the rear axle is not allowed.
- Fitting anything into the rear axle is not allowed!
- Stub axle adjustment must not be covered.

1.2.10. Stabilizer and sleeves must be either fitted and tightened or removed from the chassis.

1.2.11. Steering wheel can be mounted in any height positions to fit the driver using the standard or optional material as supplied/defined by the ROTAX. Steering shaft cannot be cut.

1.2.12. Floor tray: All screws and nuts must be fitted and tightened at all times, including the chassis protectors.

- A data acquisition sensor must be mounted to one of the fixation screws of the floor tray.
- Drilling a hole/s in the floor tray is not allowed.
- To remove the footrest is an allowed adjustment.

1.2.13. The 2 supports for the rear bumper must be mounted tight to the frame at all times. Screws of the rear bumper may be loose to enable a lateral movement of the rear bumper only.

1.2.14. Only original brake pads as supplied by the ROTAX or the chassis manufacturer for the Grand Finals are legal to be used.

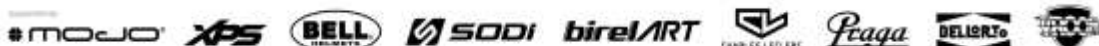
1.2.15. It is only allowed to use the parts, including rims, originally supplied by ROTAX.

1.2.16. Legal optional parts:

- Shorter pedals.
- Shorter brake rod.
- Angled steering wheel boss.
- Adjustable steering wheel boss.

1.2.17. Front fairing

According to Article 2.2.17. of the RMCGF2023 Technical Regulations.



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# TECHNICAL REGULATIONS

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## 1.3. TYRES

### 1.3.1. Type

Dry	Mojo D5 CIK Prime	front 4.5 x 10.0 – 5	rear 7.1 x 11.0 – 5
Wet	Mojo W5 CIK Mini	front 4.5 x 10.0 – 5	rear 6.0 x 11.0 – 5

### 1.3.2. Quantity for each category

#### 1. Dry tyres:

- 1 set is for non-qualifying practices (non parc fermé status)
- 1 set is for qualifying up to and including finals (non parc fermé status).

#### 2. Wet tyres:

- Maximum one set of MOJO W5 CIK will be handed out for non-qualifying practices.
- Organizer keeps the right to decide if a second set of wet tyres will be handed out for qualifying practice up to and including final.
- Maximum 2 sets are available for the whole event for each category. They will only get handed out in case of rain. (non parc fermé status)

#### 3. Distribution and usage of tyres:

- The first set of slick tyres will be handed out after the chassis raffle. This set shall be used during the event for all non-qualifying practices.
- A certain number of used tyres from the first set (depending on the category) will be kept in parc fermé.
- After the last session of the non-qualifying practice each driver will receive a new set of slick tyres, which has to be used for the qualification phase up to and including the final. Each tyre of this set is marked with a barcode and the starting number.
- Each driver is responsible for checking that the marking of the starting number is visible outside, otherwise the tyre has to be presented in parc fermé for remarking.
- If there is a reasonable risk for rain, wet tyres together with rims will be handed out in time. Each tyre of these sets is marked with a barcode and the starting number.
- In case of mechanical failure of a tyre, each driver may exchange maximum 1 front and 1 rear tyre (each wet and dry), except if failure has been caused on purpose/misuse. In case of a mechanical failure of a tyre, the technical scrutineer will determine if the failure was due to material defect or has been caused on purpose/misuse. The technical scrutineer's decision will be final and not subject to protest or appeal.
- If the failure has not been caused on purpose/misuse the following rule will apply:
  - In all categories a new tyre will be provided as replacement during Free Practice or before Qualifying. During Qualifying Heats, Pre-finals and Final a used tyre (with similar wear rate) will be provided as replacement.

**1.3.3.** All tyres are marked with barcode and can only be used by the assigned driver.

**1.3.4.** Tyres are assigned (on a loan basis for the time of the event) to drivers, registered and routinely checked/scanned by means of the Rotax EMS (Event Management System).

**1.3.5.** Strictly no modifications or tyre treatment is allowed. Tyre check with "tyre sniffer" Mini-RAE-Lite: Maximum value = 4ppm. Over this value there will be a second check. If the value remains over the 4ppm, Driver will be disqualified from the event.

**1.3.6.** Tyres must be mounted in accordance with the rotation markings defined on the tyre.

## 1.4. RETURN OF EQUIPMENT

According to Article 2.5. of the RMC2023 Technical Regulations.

## 1.5. DATA ACQUISITION

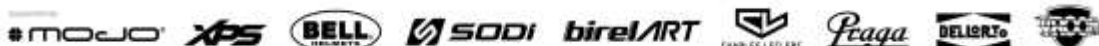
The Project E20 Vehicle is supplied with a custom data system, this is the only system allowed to be mounted to the steering wheel.

This system includes the integrated isolation monitoring systems warning lights. It is not allowed to add or remove anything to the system including any covering of the display screen.

It is permitted for the driver to install a second data system to the Vehicle, the mounting position has to be on the rear of the driver's seat and mounted in a way that satisfy the chief scrutineer for the event. The driver's own data system is not allowed to connect in any way to the electric powertrain or any of its components or accessories.

The driver's data system must be according to Article 2.6. of the RMC2023 Technical Regulations.

ROTAX reserves the right to share data between the competitors in the form of a data pack.





# TECHNICAL REGULATIONS

MICRO MAX | MINI MAX | E10 MINI  
E20 SENIOR | E20 SENIOR MASTERS

## 1.6. SAFETY EQUIPMENT

According to Article 7, CIK-FIA technical regulations.

## 1.7. ADVERTISING ON PROJECT E20 VEHICLE

No sponsor stickers except ROTAX, BRP, MOJO, XPS are allowed on the electric powertrain or any of its components or accessories.

## 2. MODIFICATIONS, LEGAL ADDITIONS, NON-TECH ITEMS, MEASUREMENTS

Neither the Electrical powertrain or any of its ancillaries may be modified in any way. "Modified" is defined as any change in form, content or function that represents a condition of difference from that originally designed.

It is not permitted for the driver / competitor to perform any work or maintenance on the battery charger, Electric powertrain or any of its accessories. If a competitor is found to have interfered with any of the powertrain components or the charging device the driver / competitor will be excluded from the event.

Only ROTAX High voltage level 2 qualified employees are permitted to work on any of the Electric powertrain or its accessories.

## 3. TECHNICAL SPECIFICATIONS FOR THE ELECTRICAL POWERTRAIN

### 3.1. MOTOR

Rotax designed Permanent Magnet Synchronous Motor (PMSM) with integrated transmission.

### 3.2. CONTROL UNIT

Specifically developed VCU (Vehicle Control Unit).

### 3.3. BATTERIES

Lithium-ion batteries incl. BMS (Battery Management System) and IMD (Isolation Monitoring Device).

### 3.4. COOLING SYSTEM

Optimized combined air and liquid cooling system.

### 3.5. SYSTEM VOLTAGE NOMINAL

350V.

### 3.6. E-BRAKING / RECUPERATION

Deactivated.

### 3.7. BOOST FUNCTION

Available, pre-set by ROTAX. Operated by the driver.

### 3.8. REVERSE FUNCTION

Available. Operated by the driver.

### 3.9. CERTIFICATION

DEKRA.

### 3.10. CHARGING

AC / CEE16.





# TECHNICAL REGULATIONS

MICRO MAX | MINI MAX | E10 MINI  
E20 SENIOR | E20 SENIOR MASTERS

## C. E10 MINI

### 1. EQUIPMENT

The only equipment – complete kart and tyres – allowed during the event will be provided on a loan basis, by the organizer and must be in accordance with these Regulations and its Appendices.

#### 1.1. AMOUNT OF EQUIPMENT

According to Article 2.1 of the RMCGF2023 Technical Regulations.

#### 1.2. CHASSIS, BRAKE SYSTEM, BODYWORK

1.2.1. According to Article 2.2. of the RMCGF2023 Technical Regulations.

1.2.2. Single brand chassis per category, defined by tender. The brand for ROTAX E10 MINI class is: BirelART (The nominated drivers must utilize the karts loaned to them for the 125 Mini MAX class. Kart must be clean and presented with new sticker (supplied free of charge prior to the first practice).

1.2.3. Front fairing

According to Article chapter A 1.2.3. of this Technical Regulation.

#### 1.3. TYRES

##### 1.3.1. Type

Dry	Mojo C2 CIK Mini	front 4.0 x 10.0 – 5	rear 5.0 x 11.0 – 5
Wet	Mojo CW CIK Mini	front 3.6 x 10.0 – 5	rear 4.5 x 11.0 – 5

##### 1.3.2. Quantity for each category

###### 1. Dry tyres:

- 1 used set for non-qualifying practices (non parc fermé status).
- 1 new set is for the warm-up to and including finals (non parc fermé status).

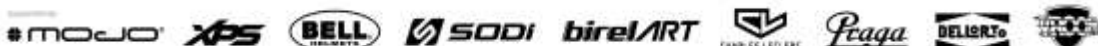
###### 2. Wet tyres:

- Maximum one set of MOJO CW CIK Mini will be handed out for non-qualifying practices (non parc fermé status). If wet tyres were handed out during the 125 Mini Max racing, these tyres used by the driver will transfer to the same nominated drivers for the ROTAX E10 Mini.
- Maximum one set of MOJO CW CIK Mini will be handed out for non-qualifying practices (non parc fermé status).
- Maximum 1 set are available for the whole event for ROTAX E10 Mini category. They will only get handed out in case of rain (non parc fermé status).

###### 3. Distribution and usage of tyres:

- The first set of slick tyres used will be the race tyres used by the driver in the 125 Mini Max category for the 1st practice (Friday evening).
- A new set of dry tyres will be handed out prior to the Saturday finals, these tyres are the only tyres allowed to be use until the end of the event (except in the case wet tyres are used).
- A certain number of used tyres from the first set (depending on the category) will be kept in parc fermé.
- Prior to Saturdays finals each driver will receive a new set of slick tyres, which has to be used for the Finals day. Each tyre of this set is marked with a barcode and the starting number and must be kept in the parc fermé.
- Each driver is responsible for checking that the marking of the starting number is visible outside, otherwise the tyre has to be presented in parc fermé for remarking.
- If there is a reasonable risk for rain, wet tyres together with rims will be handed out in time. Each tyre of these sets is marked with a barcode and the starting number.
- In case of mechanical failure of a tyre, each driver may exchange maximum 1 front and 1 rear tyre (each wet and dry), except if failure has been caused on purpose/misuse. In case of a mechanical failure of a tyre, the technical scrutineer will determine if the failure was due to material defect or has been caused on purpose/misuse. The technical scrutineer's decision will be final and not subject to protest or appeal.
- If the failure has not been caused on purpose/misuse the following rule will apply:
  - In all categories a new tyre will be provided as replacement during Free Practice or before Qualifying. During Qualifying Heats, Pre-finals and Final a used tyre (with similar wear rate) will be provided as replacement.

1.3.3. All tyres are marked with barcode and can only be used by the assigned driver.



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# TECHNICAL REGULATIONS

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**1.3.4.** Tyres are assigned (on a loan basis for the time of the event) to drivers, registered and routinely checked/scanned by means of the Rotax EMS (Event Management System).

**1.3.5.** Strictly no modifications or tyre treatment is allowed. Tyre check with "tyre sniffer" Mini-RAE-Lite: Maximum value = 4ppm. Over this value there will be a second check. If the value remains over the 4ppm, Driver will be disqualified from the event.

**1.3.6.** Tyres must be mounted in accordance with the rotation markings defined on the tyre.

## 1.4. RETURN OF EQUIPMENT

According to Article 2.5. of the RMCGF2023 Technical Regulations. Prior to returning the kart the 125 Mini MAX engine and all components must be reinstalled and the ROTAX E10 material returned to the E Kart support team.

## 1.5. DATA ACQUISITION

The only allowed data system is the one as provided and loaned by ROTAX for the ROTAX E10 Mini event. Rotax has the right to share data between drivers and to use the data for ROTAX purposes.

## 1.6. SAFETY EQUIPMENT

According to Article 7, CIK-FIA technical regulations.

## 1.7. ADVERTISING ON ENGINES

No sponsor stickers except ROTAX, BRP, MOJO, XPS are allowed on the engine and engine accessories.

## 2. MODIFICATIONS, LEGAL ADDITIONS, NON-TECH ITEMS, MEASUREMENTS

Neither the powertrain nor any of its ancillaries may be modified in any way. "Modified" is defined as any change in form, content or function that represents a condition of difference from that originally designed. This is to include the addition and / or omission of parts and/or material from the powertrain package assembly unless specifically allowed within these rules. The adjustment of elements specifically designed for that purpose shall not be classified as modifications, i.e., mounting brackets to allow fitment of the powertrain to the chassis.

The repair of a thread on the motor housing (maximum of three threaded holes per motor housing) using a "Heli - coil" or similar is allowed.

Exception: The threads located under the motor housing to fix the crankcase on the motor mount may be repaired as needed.

Genuine ROTAX components only that are specifically designed and supplied for the ROTAX E10 powertrain are legal, unless otherwise specified.

Note:

ANYTHING WHICH IS NOT EXPRESSLY ALLOWED IN THE TECHNICAL REGULATIONS IS FORBIDDEN.

INTERNAL ADDITIONS:

No additional material may be added except in the case of repairs and shall only restore the powertrain or components to original specifications.

The use of thermal barrier coatings/ceramic coatings on or in the motor is prohibited.

The use of anti-friction coatings in or on the powertrain/motor components is prohibited.

## 3. TECHNICAL SPECIFICATIONS WITHIN THE POWERTRAIN

The only allowed charger to be used is that as provided by ROTAX.

Modifications of the charger is strictly forbidden.

The drivers must use the location provided in the ROTAX E Kart support tent for charging and working on the kart in-between the on-track elements of the event.







# TECHNICAL REGULATIONS

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### 3.1. Motor and Inverter

Standard as supplied by ROTAX and installed as instructed by ROTAX.  
Power settings can be verified at any time by the ROTAX race manager in conjunction with the Chief scrutineer.  
Final power settings will be published prior to the event in an official bulletin.

### 3.2. Battery system

Dual battery set up, Standard as supplied by ROTAX.

### 3.3. MCU

Standard as supplied by ROTAX, installed as instructed by ROTAX.

### 3.4. Software and Calibration file

Standard as supplied by ROTAX.  
Software / Calibration file can be verified at any time by the ROTAX race manager in conjunction with the Chief scrutineer.  
Final Software / Calibration file will be published prior to the event in an official bulletin.

## 4. ROTAX E10 MINI TECHNICAL SPECIFICATION

### 4.1. MOTOR

Motor with inverter, air cooled by natural airstream and internal fan (patent pending)

### 4.2. CONTROL UNIT

Control panel with integrated MCU (Motor control unit), with led indicators for battery status (SOC) and boost status.

### 4.3. Batteries

Air cooled. Lithium-ion batteries incl. BMS (Battery Management System).

### 4.4. Transmission

Standard chain type 219

### 4.5. System voltage nominal

48V

### 4.6. E-braking / Recuperation

Deactivated

### 4.7. Boost function

Available, pre-set by ROTAX. Operated by the driver.

### 4.8. Reverse function

Available. Operated by the driver.

### 4.9. Certification

IN A BULLETIN

### 4.10. Motor drive gear and rear axle sprocket options

The only allowed ROTAX E10 motor drive sprockets are as supplied by ROTAX.  
It is allowed to use the following size engine sprockets only 23 teeth.  
Rear axle Sprocket size between 73, 74 and 75 teeth are the only allowed options.

----- END OF TECHNICAL REGULATION -----

