



# RMMCGF – ROTAX MAX MOJO CHALLENGE GRAND FINALS 2017

## TECHNICAL REGULATION MICRO MAX / MINI MAX / JUNIOR MAX

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Version 1 – 19/10/2017

## TECHNICAL REGULATION

The Event shall be run in accordance with:

- ROTAX MAX CHALLENGE Technical Regulations 2017 (RMCTR 2017) and its appendices
- CIK Technical Regulations 2017
- RMMCGF Micro / Mini / Junior Sporting Regulations
- Karting Specific Prescriptions 2017 from FPAK
- General Prescriptions of Automobile and Karting 2017 from FPAK

### 1. EQUIPMENT

**1.1. COMPLETE KART:** According article 5. of the RMMCGF Micro/ Mini/ Junior Sporting Regulations and this technical regulations.

#### 1.2. ENGINE

1.2.1. The engines for the ROTAX MAX MOJO CHALLENGE GRAND FINALS 2017 (RMMCGF 2017), will be supplied with all the original accessories and must be according this Technical Regulations.

1.2.2. The engines for the RMMCGF 2017 are the following:

- Micro Max: **ROTAX 125 Micro MAX EVO**
- Mini Max: **ROTAX 125 Mini MAX EVO**
- Junior Max: **ROTAX 125 Junior MAX EVO**

1.2.3. The 125 Junior MAX EVO engine is the basis for the three categories.

1.2.4. Engines are sealed as on article 3 of RMCTR 2017.

1.2.5. The manipulation of a seal in any moment means the immediate desclassification of the event.

1.2.6. Modifications, Repairs and Additions – According article 4. of the RMCTR 2017.

#### 1.3. CHASSIS AND BODYWORK

1.3.1. Chassis and bodywork for each category are only allowed the one supplied by the organizer.

1.3.2. No changes are allowed on the chassis and bodywork except the ones mentioned in this regulation. The Chief Scrutineer may allow some changes on the chassis in case the height of a driver will not allow him/her to fit properly in the kart. In any case those changes may not interfere with the performance of the chassis.

1.3.3. All parts must be original and supplied by the chassis manufacturer.

1.3.4. Rear axle and its components, braking system and rims as supplied by the organizer.

##### 1.3.5. Micro MAX category

1.3.5.1. Praga Cadete Chassis, model Picollo, CSAI homologation number 07/CH/20

1.3.5.2. Wheel base: 950mm (+/-5mm)

1.3.5.3. Maximum width of the rear axle with rims and tires mounted: 1200 mm

1.3.5.4. It is allowed to use excentrics for caster and camber settings. Front hubs are not allowed.

1.3.5.5. Bodywork as CSAI homologation.

1.3.5.6. Front, rear and side bumpers according CIK Technical Regulations 2017.

1.3.5.7. Seat fixation is limited to 4 fixation points on the chassis and 2 extra side bars.

##### 1.3.6. Mini MAX and Junior MAX category

1.3.6.1. Only the chassis supplied by the organizer:

- Mini MAX: chassis Birel, model RY30 S9, homologation number 32/CH/20
- Junior MAX: chassis Praga, model DRAGON EVO, CIK homologation number 87/CH/20

1.3.6.2. Chassis and bodywork according CIK Technical Regulations 2017.

1.3.6.3. Braking system must be CIK homologated.

1.3.6.4. Front brakes are not allowed.

1.3.6.5. Maximum width of rear axle (with rims and tires mounted):

- o Mini Max.....1350 mm
- o Junior Max.....1400 mm

##### 1.3.7. Front Fairing

1.3.7.1. The use of a homologated Front Fairing & Front Fairing Mounting Kit and the use of a homologated bodywork homologation period 2015 – 2020 is mandatory, according CIK Specific Prescriptions, article 30 and according this regulation. The front bumper and the front fairing technical specifications must be as CIK Technical Regulation, article 2.5.1.1. and 2.7.1.5., respectively, and also according the technical drawings in Appendice 1 – **2a** and **2c** are the drawings of the bumper and of the mounting kit, respectively and **2d** is the technical drawing of the front fairing mounting.

1.3.7.2. The front fairing and the mounting kit must be mounted during all the Non-Qualifying Practice, Qualifying, Qualifying Heats, Pre-Finals and Finals.

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### 1.4. WEIGHT LIMIT

Minimum weight (the complete kart and driver with all his race equipment) for each category is the following:

- ROTAX Micro Max: **110 kg**
- ROTAX Mini Max: **130 kg**
- ROTAX Junior Max: **145 kg**

### 1.5. DATA ACQUISITION

Systems which permit the reading/recording of following data are allowed only:

- Lap time
- Engine rpm (by induction on the high tension cable)
- Two indications of temperature
- The speed of one wheel
- Acceleration in X/Y direction
- Position (via GPS system)
- Steering wheel angle sensor
- Connection of the data acquisition system to the original ROTAX battery is allowed.
- During free practice also telemetry systems are allowed.

### 1.6. COMPOSITE MATERIALS

Composite materials (carbon fiber etc.) are banned except for the seat and the floor tray. Alloys from different metals/substances are not considered as composite materials.

### 1.7. SAFETY EQUIPMENT

For RMC overalls, helmets, kart shoes, gloves and other kind of driver protection (e.g. rib protector) must comply with the regulations of FPAK and CIK-FIA. It is mandatory the usage of a safety neck collar in Micro Max and Mini Max categories

### 1.8. ADVERTISING ON ENGINES

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

## 2. TIRES

2.1. Tires **MOJO** will be supplied by the organizer and it will be the following type for the categories:

#### ROTAX MICRO MAX:

- Slicks: Type **C2** (4.0x10.0-5 Front /5.0x11.0-5 Rear)
- Wet: Type **CW** (4.0x10.0-5 Front /5.0x11.0-5 Rear)

#### ROTAX MINI MAX:

- Slicks: Type **D2-6** (4.5x10.0-5 Front /6.0x11.0-5 Rear)
- Wet: Type **W3** (4.5x10.0-5 Front/6.0x11.0-5 Rear)

#### ROTAX JUNIOR MAX:

- Slicks: Type **D2** (4.5x10.0-5 Front /7.1x11.0-5 Rear)
- Wet: Type **W3** (4.5x10.0-5 Front /6.0x11.0-5 Rear)

### 2.2. Micro MAX category

2.2.1. The first set of slick tires will be handed out after chassis raffle. This set shall be used for the entire event. Each tire of this set is marked with a barcode and the starting number and must be kept in the parc ferme.

2.2.2. Each driver is responsible to check if the marking of the starting number is visible outside, otherwise the tire has to be presented in parc ferme for remarking.

2.2.3. If there is a reasonable risk for rain, wet tires (MOJO CW) together with rims will be handed out in time. Wet tires have to be kept in parc ferme at any time. Each tire of these set is marked with a barcode and the starting number.

### 2.3. Mini MAX and Junior MAX category

2.3.1. The first set of slick tires will be handed out after chassis raffle. This set shall be used during the event for all non-qualified practices. This set of tires is not marked and doesn't need to be kept in parc ferme.

2.3.2. A certain number of used tires from the first set will be kept in parc ferme.

2.3.3. After the last session of the non-qualifying practice driver will receive a new set of MOJO D2-6 (Mini MAX category) / MOJO D2 (Junior MAX category) slick tires, which has to be used for the qualification phase

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up to and including the final phase (pre-final and final). Each tire of this set is marked with a barcode and the starting number and must be kept in the parc ferme.

2.3.4. Each driver is responsible to check if the marking of the starting number is visible outside, otherwise the tire has to be presented in parc ferme for remarking.

2.3.5. If there is a reasonable risk for rain, wet tires (MOJO W3) together with rims will be handed out in time. Wet tires provided for non-qualifying practices as well as wet tires provided for qualifying practices up to and including final have to be kept in parc ferme at any time. Each tire of these sets is marked with a barcode and the starting number.

2.4. In case of mechanical failure of a tire, each driver may exchange maximum one tire front and one tire rear (each wet and dry), except if failure has been caused on purpose/misuse. In case of a mechanical failure of a tire, it is up to the technical scrutineer to verify if the failure was due to material defect or has been caused on purpose/misuse. If the failure has not been caused on purpose/misuse the following rule will apply:

- a) In the Micro Max category a new tire will be provided as replacement.
- b) In the Mini Max and Junior Max categories a new tire will be provided as replacement during Free Practice or before Qualifying. During Qualifying Heats, Pre-finals and Final a used tire (with similar wear rate) will be provided as replacement

2.5. Strictly no modifications or tire treatment allowed. MiniRAE Lite will be used to check for tire treatment. Threshold value of 4 ppm may not be exceeded. If this value is exceeded, driver will not be allowed to go to the pre-grid.

2.6. Tires must be mounted according to the sense of rotation defined on the tire.

2.7. It is Entrants/ Driver responsibility to check if all the equipment that is supplied to him is according to those regulations.

### 3. TECHNICAL SPECIFICATION (WITHIN ENGINE SEAL) FOR ROTAX ENGINES

3.1. According to article 5 of the RMCR 2017, and its appendixes, except the modifications introduced in this Regulation.

3.2. Squish gap minimum

3.2.1. Minimum squish gap is:

- 125 Micro MAX EVO = 2,40 mm
- 125 Mini MAX EVO = 2,40 mm
- 125 Junior MAX EVO = 1,20 mm

3.2.2. Micro MAX and Mini MAX category

To achieve the defined minimum squish gap one spacer (Rotax part no. 626 420, with same shape as cylinder base gasket) in combination with at least two cylinder base gaskets (one below the spacer and one above the spacer) must be used. The squish gap must be measured with a certified slide gauge and by using a 3 mm tin wire (Rotax part no. 580 132).

3.2.3. Junior MAX category

The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax part no. 580 130).

3.2.4. The crankshaft must be turned by hand slowly over top dead center to squeeze the tin wire. The squish gap must be measured on the left and right side in the direction of the piston pin. The average value of the two measurements counts.

3.3. Cylinder

3.3.1. Cylinder with one main exhaust port and without exhaust valve. Only allowed cylinder marked with code 223991

3.3.2. Exhaust port timing

3.3.2.1. The "exhaust port timing" (distance from the top of the cylinder to the top of the exhaust port) has to be checked by means of the template (ROTAX part no. 277 402).

3.3.2.2. Insert the template into the cylinder, and move the template (at the highest point of the exhaust port) as far as possible into the exhaust port. In this position the template may not touch the cylinder wall.



### 4. TECHNICAL SPECIFICATION (OUTSIDE THE ENGINE SEAL) FOR ROTAX ENGINES

4.1. According to article 6 of the RMCTR 2017, and its appendixes except the modifications introduced in this Regulation.

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### 4.2. Centrifugal clutch

- 4.2.1. Only the version of clutch 659 907 is legal to be used. This clutch is marked with the wording "ROTAX".  
4.2.2. Only the version of clutch drum 659 937 is allowed to use.

### 4.3. Ignition system

- 4.3.1. Only the one supplied by the organizer is allowed.  
4.3.2. The spark plug allowed is the NGK GR8DI with washer.  
4.3.3. Electrode gap (maximum): Filler gauge 1,2 mm must not fit in between the two electrodes (125 Micro MAX and 125 Mini MAX).  
Electrode gap (maximum): Filler gauge 1,0 mm must not fit in between the two electrodes (125 Junior MAX).  
4.3.4. The spark plug cap is red, marked "NGK" and is the only one allowed.

#### 4.3.5. Dellorto system

- 4.3.5.1. Only the Dellorto ignition system version 2017 is allowed, as in picture.

#### 4.3.6. Electronic control unit (ECU)

- Micro MAX and Mini MAX: ROTAX 666 815
- Junior MAX: ROTAX 666 813

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

4.3.6.2. The ECU has to be checked with the ECU tester (Rotax part no. 276 230). The software version indicated on the display has to be 2V00. The ECU tester has to indicate following results:

#### **MICRO MAX and MINI MAX**

First line: **666815MAX**  
Second line: **!! Test OK !!**

#### **JUNIOR MAX**

First line: **666813JNRMAX**  
Second line: **!! Test OK !!**

#### 4.3.7. Battery, battery fixation

4.3.7.1. Original battery with following specification only are legal to be used: YUASA YT7B-BS (with Rotax branding).

4.3.8. At the entrance of assembly park, Scrutineers may ask the driver(s) to change the ignition coil and/or ECU, by another one supplied by the organization.

### 4.4. Carburetor

4.4.1. Only the one supplied and marked by the organizer, Dellorto VHSB 34 XS, according article 6.10. of RMCTR 2017.

4.4.2. For the 125 Micro MAX class the stop sleeve (minimum length of 31,8 mm) inside the carburetor has to be fitted at any time.

4.4.3. A minimum required size of main jet may be determined for the event, for each category, by a "Bulletin".

### 4.5. Radiator

4.5.1. Only the one supplied by the organizer is allowed.

#### 4.5.2. Mini MAX and Junior MAX

4.5.2.1. 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.

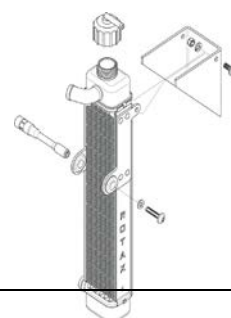
4.5.2.2. It is not allowed to remove the original flap.

#### 4.5.3. Micro MAX

4.5.3.1. It is not allowed to remove the original flap

4.5.3.2. To apply tape is not an allowed modification to control the air flow through the radiator.

4.5.3.3. Cooling area: Height = 280–300 mm; Width = 58–62 mm; Thickness = 30–34 mm.



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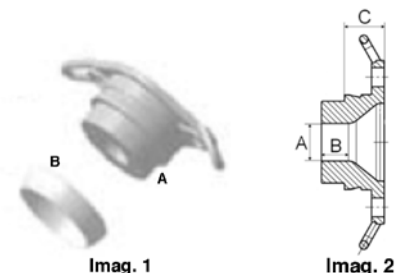
### 4.6. Exhaust system

Original exhaust system as supplied by Rotax is mandatory to be used.

#### 4.6.1. Exhaust socket

##### 4.6.1.1. Micro MAX and Mini MAX

- The exhaust socket gasket must be in perfect conditions, to not allow the exhaust of gases.
- It is mandatory to use only one exhaust socket gasket (Rotax part no. 250 271).
- In image 2, maximum inner diameter (A) of exhaust sockets are:
  - Micro MAX: 18,20 mm
  - Mini MAX: 20,20 mm
- Diameter (A) must apply for a length (B) of at least 12 mm.
- Inner diameter for B must be always the same along all length defined for B.
- The measurement (C) must be at least 18,5 mm.
- The internal profile of the exhaust socket has to be checked with the template, Rotax 277405.

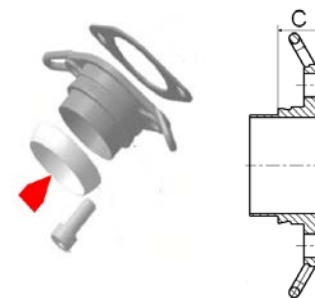


- **Micro Max:** Fit the template 18 mm as far as possible into the exhaust socket (without gasket, carbon deposits removed). There has to be a constant crack light between the profile of the exhaust socket and the profile of the template.
- **Mini Max:** Fit the template 20 mm as far as possible into 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.



##### 4.6.1.2. Junior MAX

- The measurement (C) must be at least 15,5 mm.



### 4.6.2. Exhaust

4.6.2.1. Only the one supplied by the organizer is allowed.

##### 4.6.2.2. Micro MAX

- A specific exhaust system has to be used for the 125 Micro MAX engine, as in the picture.
- The inner diameter of the elbow outlet at the silencer end cover has to have a minimum measurement of 21 mm.
- The exhaust will be ruffled and it has to be in Parc Fermé.



### 4.7. Gear ratio

Engine sprocket must be original Rotax and zxlz sprocket are only allowed the ones supplied by the chasis manufacturer.

The following mandatory gear ratio are:

- 125 Micro Max category: Only 13 teeth engine sprocket is allowed. Axle sprocket must be 63 teeth.
- 125 Mini Max category: Only 13 teeth engine sprocket is allowed in dry conditions and 12 in wet conditions. Axel sprocket must be between, included, 73 to 76 teeth.
- 125 Junior Max category: gear ratio is free.

## 5. FUEL

Fuel will be always supplied in Parc Fermé.

Drivers must mark the tank in order to inform the technical scutineers up to where they should fill the tank. Tank has to be mounted in Parc fermé and has to be returned after each track session.

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### 6. CHANGES AND BULLETINS

Any modification to this regulation will be published at the end of this regulation.

The modification has immediate effect after the corresponding date and being published on official FPAK web page – [www.fpak.pt](http://www.fpak.pt)

# TECHNICAL REGULATION

## ANEXO 1

### PÁRA-CHOQUES - DESENHOS TÉCNICOS

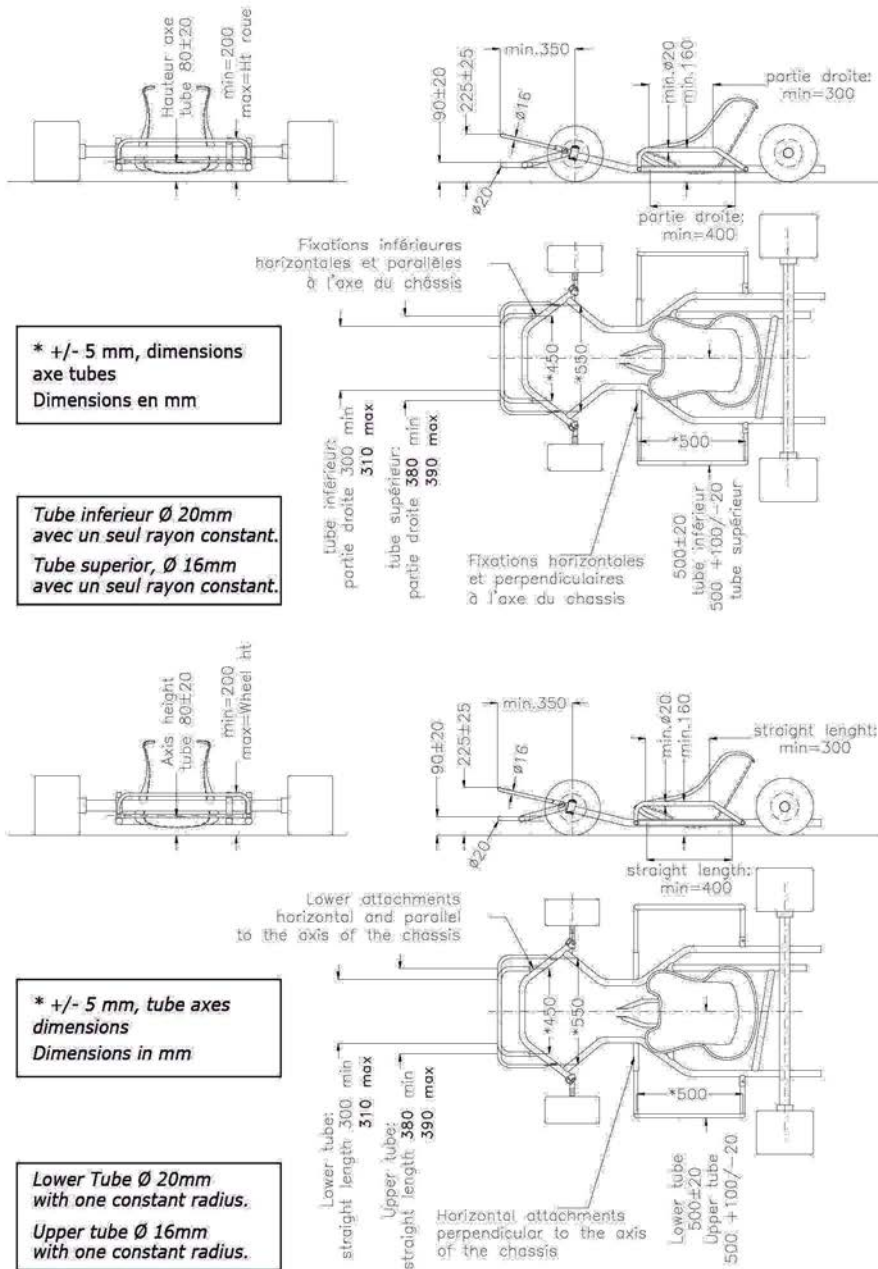
DESSINS TECHNIQUES  
TECHNICAL DRAWINGS

#### DESSIN TECHNIQUE N°2a

#### TECHNICAL DRAWING No. 2a

#### Pare-chocs pour circuits courts

#### Bumpers for short circuits





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## ANEXO 1

### DESENHOS TÉCNICOS – KIT DE MONTAGEM DA CARENAGEM FRONTAL

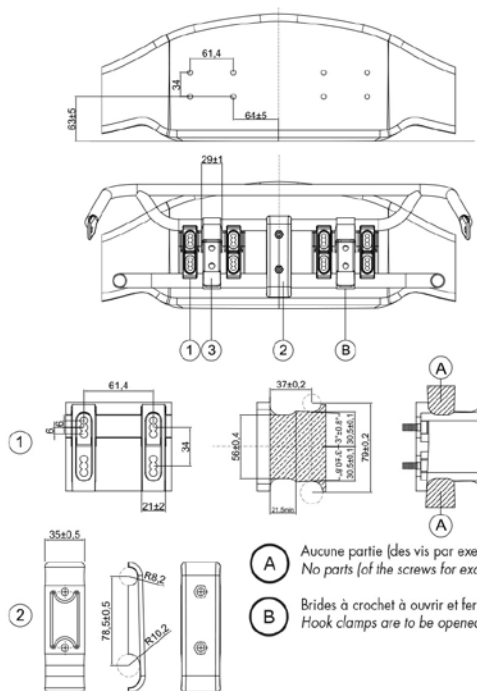
DESSINS TECHNIQUES  
TECHNICAL DRAWINGS

#### DESSIN TECHNIQUE N°2c

#### TECHNICAL DRAWING No. 2c

#### Kit de montagem de carénagem avant

#### Front fairing mounting kit



- A** Aucune partie (des vis par exemple) n'est admise dans cette zone.  
No parts (of the screws for example) are admitted in this area.
- B** Brides à crochet à ouvrir et fermer à la main uniquement sans aucun outil.  
Hook clamps are to be opened and closed by hand only without any tools.

Il n'est permis de fixer le carénage avant sur le kart qu'au moyen du kit de montage de carénage avant. Aucun autre dispositif n'est autorisé. Le carénage avant doit pouvoir reculer librement en direction du châssis sans aucune obstruction d'une partie quelconque pouvant limiter le mouvement.

Les pare-chocs avant (tubes inférieur et supérieur) doivent être rigidement fixés au châssis et présenter une surface lisse. Toute intervention mécanique ou autre destinée à augmenter la friction des pare-chocs avant est strictement interdite.

**Dans tous les cas, un espace de 27 mm minimum doit être prévu en tous points entre les pare-chocs avant (tubes inférieur et supérieur) et le carénage avant.**

#### Définition «Kit de montage de carénage avant»

1. Kit de support de montage pour carénage avant (2 pièces + 8 vis au total).
2. Support de pare-chocs avant (2 demi-coques + 2 vis au total).
3. Brides à crochet réglables (les 2 pièces doivent être fabriquées en métal).

Le logo de la CIK et le numéro d'homologation doivent être estampilés sur chaque pièce.

1. Kit de support de montage pour carénage avant (les 2 pièces doivent être fabriquées en plastique).
2. Support de pare-chocs avant (les 2 demi-coques doivent être fabriquées en plastique).

It is only permitted to fix the front fairing onto the kart using the front fairing mounting kit. No other device is authorised. It must be possible for the front fairing to move freely back in the direction of the chassis without any obstruction from any part that may restrict movement.

The front bumpers (lower and upper tube) must be rigidly connected with the chassis and must have a smooth surface. Any mechanical work or other intervention to maximize the friction of the front bumpers is strictly forbidden.

**There must be a clearance at all points between the front bumpers (lower and upper tube) and the front fairing of a minimum of 27 mm at all times.**

#### Définition «Front fairing mounting kit»

1. Mounting bracket kit for front fairing (2 pieces + 8 screws in total).
2. Front bumper support (2 half shells + 2 screws in total).
3. Adjustable hook clamps (the 2 pieces, shall be made of metal).

CIK Logo & Homologation number shall be embossed on each piece

1. Mounting bracket kit for front fairing (the 2 pieces shall be made of plastic).
2. Front bumper support (the 2 half shells shall be made of plastic).

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## ANEXO 1

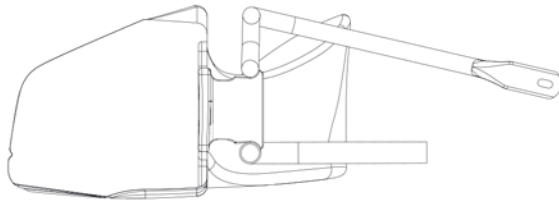
### DESENHOS TÉCNICOS – MONTAGEM DA CARENAGEM FRONTAL

DESSINS TECHNIQUES  
TECHNICAL DRAWINGS

#### DESSIN TECHNIQUE N° 2d

##### Installation correcte du «Carénage Avant»

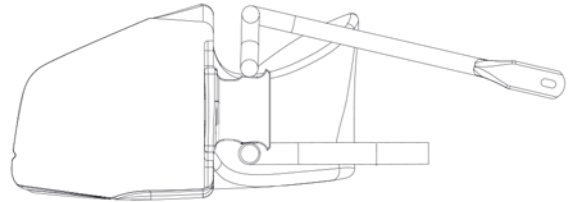
Position correcte / Correct position



#### TECHNICAL DRAWING No. 2d

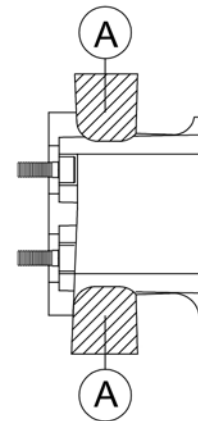
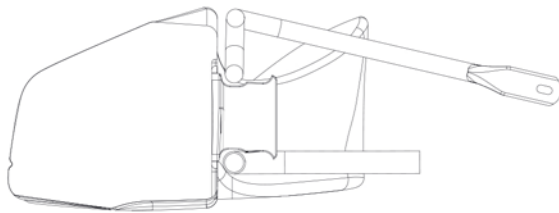
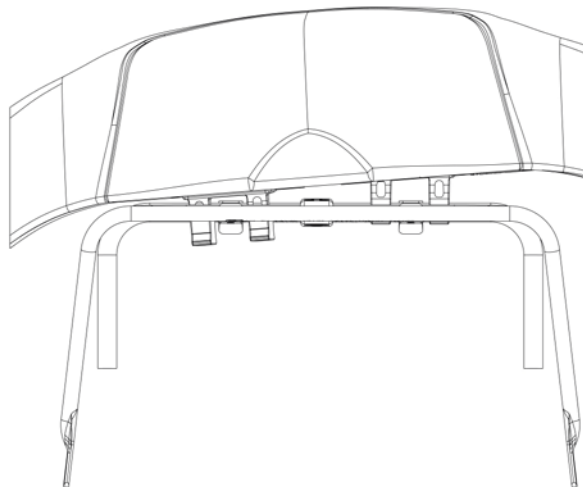
##### Correct installation of the "Front Fairing"

Position acceptable / Acceptable position



Position non acceptable si une quelconque partie des tubes du pare-chocs avant se trouve dans les zones marquées (A).

Not acceptable position if any part of the tubes of the front bumper are in the marked areas (A).



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