



# Rotax Nordic Challenge

**Technical Regulation 2024**

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## 1. GENERAL

The Rotax Nordic Challenge Technical Regulations 2024 replace the Rotax Nordic Challenge Technical Regulations 2023.

Anything which is not expressly allowed in the technical regulations is forbidden.

The English language is the authentic version.

### 1.1 CATEGORIES

Karts used in the Rotax Nordic Challenge (**RNC**), are divided into the following classes:

- 125 Micro MAX
- 125 Mini MAX
- 125 Junior MAX
- 125 Senior MAX
- 125 MAX DD2 and MAX DD2 Masters

#### Note

The 125 Junior MAX engine is the basis for the engine configurations 125 Micro MAX and 125 Mini MAX. Only the deviations for 125 Micro MAX and 125 Mini MAX from the standard Technical Regulation for the 125 Junior MAX engine are defined.

The 125 Senior MAX engine is the basis for the engine configurations in the 125 Senior MAX Masters class with regards to all the component related regulations, except for class weight and driver's age.

The 125 MAX DD2 engine is the basis for the engine configurations in the 125 MAX DD2 Masters class with regards to all the component related regulations, except for class weight and driver's age.

### 1.2 AMOUNT OF EQUIPMENT

For each RMC race event (**from qualifying practice to the final**) the following maximum amount of equipment is allowed:

- 1 chassis
- 1 set of dry tires \*
- 1 set of wet tires \*
- 2 engines (except Micromax and Minimax classes which use raffle engines).

\*In the event of a race tire being damaged (**Slick or Wet**), the technical scrutineer may allow the competitor to nominate a "USED" tire of similar wear from the drivers registered practice tires as a replacement. The damage must be reported to the scrutineer immediately after the on-track action where the damage occurred, and prior to leaving the parc ferme / scale area.

## 2. EQUIPMENT

### 2.1 CHASSIS 125 MICRO MAX, 125 MINI MAX

For RNC's any chassis sanctioned by an authorized Rotax distributor or with a CIK-FIA homologation is allowed with a wheelbase of 950 mm. Frame tube size: 28x1,9 mm minimum, made of magnetic steel.

Rear axle bearing maximum 2 pcs.

Seat supports: 4, fixed, welded on frame, out of magnetic steel.

Front brakes are not allowed.

Rear axle diameter 30mm, minimum thickness 4,9 mm.

Maximum width: 1180 mm and minimum width: 1060 mm

Rims sizes for slick and wet tires: Front: 110-120(+/- 2 mm) / Rear: 130-150(+/- 2 mm).

Tire locking screws are not mandatory.

### 2.2 CHASSIS 125 JUNIOR MAX AND 125 SENIOR MAX

Front brakes are not allowed.

For RNC's any chassis sanctioned by an authorized Rotax distributor is allowed. Maximum diameter of rear axle = 50 mm, minimum wall thickness according to CIK-FIA rules.

At RNC chassis with a valid CIK-FIA homologation only are allowed. Any brake system must have a CIK-FIA homologation.

### 2.3 CHASSIS 125 MAX DD2/DD2 MASTERS

At RNC listed on the following material must hold a valid CIK homologation:

- Chassis
- Brakes
- Bodywork

For RNC 125 MAX DD2 Masters classes, chassis with or without a valid CIK Homologation are allowed to be used.

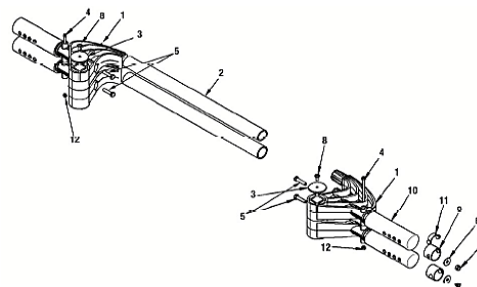
Chassis must be designed according to CIK-FIA rules for shifter classes (**front- and rear brakes mandatory**).

## Note

For the rear bumper either a system with a valid CIK-FIA homologation or the Rotax rear tire protection system (**according to illustration**) must be used.

No part shall be added or removed from original content (**except safety wire or bolt connection between pos. 1 and pos. 2 as well as number plate with support**).

Rotax original (**orange or red**) protection rollers only are allowed to be used.



## 2.4 CHASSIS PROTECTION

It is permitted to attach chassis protectors to the chassis rails left, right and front. The only material permitted is plastic. The installation and wear must satisfy the scrutineers of the event.

## 2.5 BODYWORK 125 MICRO MAX, 125 MINI MAX, 125 JUNIOR MAX AND 125 SENIOR MAX

In Micro MAX and Mini MAX accordance with regulations of National Federations.

In Junior Max and Senior Max accordance with regulations of CIK-FIA homologation. In Junior Max and Senior Max the rear bumper must have a valid CIK-FIA homologation.

Front bumper accordance with rules of valid CIK-FIA homologation. The usage of CIK-FIA valid homologated front bumper Mounting Kit is compulsory.

## 2.6 BODYWORK 125 MAX DD2/DD2 MASTERS

In accordance with regulations of CIK-FIA homologation.

Rear bumper must have a valid CIK-FIA homologation.

Front bumper accordance with rules of valid CIK-FIA homologation. The usage of CIK-FIA valid homologate front bumper Mounting Kit is compulsory.

## 2.7 TIRES

At all RNC races following tires have to be used:

			Front Tyre	Rear Tyre
<b>125 Micro MAX</b>	Dry	Mojo C2 CIK Mini	4.0 / 10.0 - 5	5.0 / 11.0 - 5
	Wet	Mojo CW CIK Mini	10 x 3,60 - 5	11 x 4,50 - 5
<b>125 Mini MAX</b>	Dry	Mojo C2 CIK Mini	4.0 / 10.0 - 5	5.0 / 11.0 - 5
	Wet	Mojo CW CIK Mini	10 x 3,60 - 5	11 x 4,50 - 5
<b>125 Junior MAX</b>	Dry	Mojo D2XX CIK Option	4,5 / 10.0 - 5	7.1 / 11.0 - 5
	Wet	Mojo W5 CIK	10 x 4,50 - 5	11 x 6,00 - 5
<b>125 Senior MAX</b>	Dry	Mojo D5 CIK Prime	4,5 / 10.0 - 5	7.1 / 11.0 - 5
	Wet	Mojo W5 CIK	10 x 4,50 - 5	11 x 6,00 - 5
<b>125 MAX DD2 / Masters</b>	Dry	Mojo D5 CIK Prime	4,5 / 10.0 - 5	7.1 / 11.0 - 5
	Wet	Mojo W5 CIK	10 x 4,50 - 5	11 x 6,00 - 5

- Strictly no modifications or tire treatment allowed.
- Recommended equipment to detect tire treatment is Mini-RAE-Lite.
- Threshold value of maximum 4 ppm is recommended.
- Tires must be mounted according to the sense of rotation defined on the tire.

## 2.8 DATA ACQUISITION

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

- 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

## 2.9 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.

## 2.10 SAFETY EQUIPMENT

For RNC overalls, helmets, kart shoes, gloves and other kind of driver protection must comply with the regulations of CIK-FIA. Only valid of CIK-FIA homologated Rib Protector legal to use.

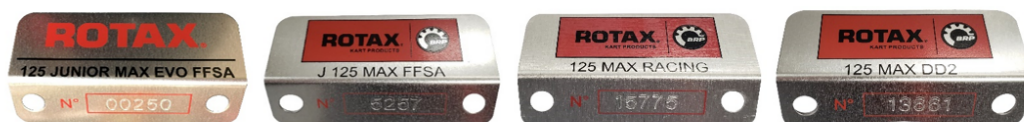
For RNC article 7 of CIK-FIA technical regulations apply.

## 2.11 FUEL / OIL

- Unleaded fuel 95 - 98 octane.
- XPS DYE, fully synthetic 2T, KART RACING OIL (Part No.25471) is allowed.
- XPS CASTOR RACING OIL 2T,(Part No.25479) is allowed from 01.06.2014.

## 2.12 ADVERTISING ON ENGINES

No sponsor stickers are allowed on the engine and engine accessories, except ROTAX, BRP, Mojo, XPS, Original SODI KART badges and the following plates attached to the cylinder.



## 3. ENGINE SEALING, SCRUTINIZING

At RNC, engines which are conform to the following technical regulation only, are legal to be used.

For RNC all Authorized Rotax Distributors and their Service Centres only are allowed to check and seal engines.

Authorized Distributors and Service Centres which are legal to check and seal engines are listed at <http://www.rotax-kart.com/Find-a-Dealer>.

By sealing an engine, the ROTAX Authorized Distributors and their Service Centres take over the responsibility for the conformity of the engine with according to the valid Technical Regulation. Also, a brand-new engine must be checked according to the Technical Specification before sealing.

### Note

The engines have to be sealed with specific ROTAX engine seals (black anodized aluminium seal with "ROTAX" - logo and a 6-digit serial number and a barcode)

Seals with barcode only are legal to be used.

Further legal seals are:

- Black anodized aluminium seals with "JAG"- logo and 6 digit serial number



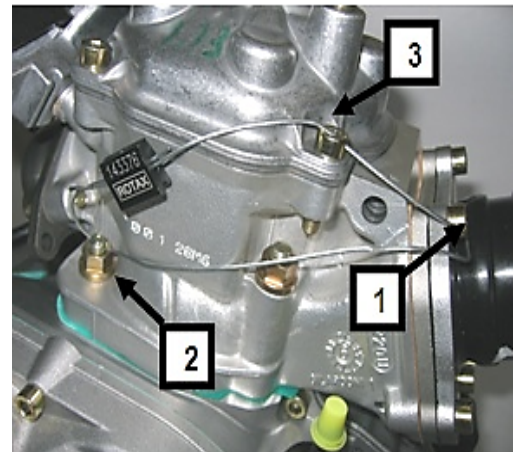
- Red anodized aluminium seals with "JAG"-logo and 6 digit serial number
- Red anodized seals with "KORRIDAS" and 6 digit serial number
- Blue anodized seals with 6 digit serial number (**Kombikart**)

## Note

By means of the steel cable the engine must be sealed on one Allen screw (**Pos 1**) of the intake flange, on one stud screw (**Pos 2**) of cylinder and one Allen screw (**Pos 3**) of the cylinder head cover (see attached pictures).

After sealing the engine seal thread must be squeezed using calliper ROTAX 276110 (see picture of engine seal).

It is not allowed to pass the end of the sealing wire through the seal a second time (as shown in picture only).

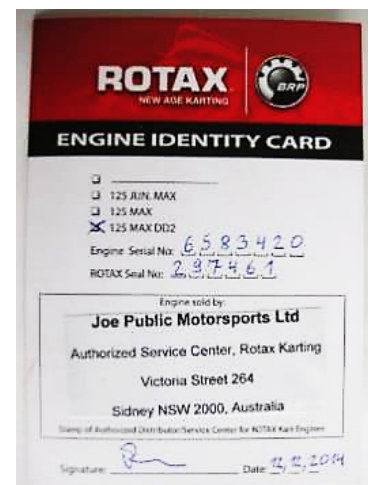


At every new sealing of an engine the ROTAX Authorized Distributor or Service Centres that checks and seals an engine is responsible for following indications at the Engine Identity Card which belongs to the owner of the engine.

- Serial no. of the engine
- Serial no. of the engine seal
- Stamp and signature of the Authorized Distributor / Service Center

At scrutineering the driver has to present:

- The engine(s) with the undamaged engine seal(s)
- The Engine Identity Card(s), showing the matching engine serial no.(s), the matching engine seal no.(s), the stamp(s) and signature(s) of the Authorized Distributor or Service Center that has (have) checked and sealed the engine(s).



The ROTAX authorized Distributor organizing a national RMC may appoint before every RMC race a neutral Service Center which will be the only one allowed to re-seal an engine between scrutineering and the final in the case of an engine failure.

During an RNC race authorized Distributors and their Service Centers are not allowed to re-seal an engine between scrutineering and the final.

The sealing of engines helps to reduce the times for scrutineering at races as during the race event just the accessories (**Carburettor, Exhaust, Radiator, ...**) must be checked.

Of course, scrutineers can request to open and re-check an engine according to the Technical Specification, before or after a race or in case of a protest. If an engine seal has been broken (**for which reason ever**), the engine has to be checked completely according to the Technical Specification and must then be re-sealed by an ROTAX authorized Distributor or one of its Service Centers.



## Note

FOR ALL COMPONENTS OUTSIDE THE ENGINE SEAL, THE COMPETITOR IS RESPONSIBLE TO ASSURE THE CONFORMITY WITH THE TECHNICAL REGULATIONS.

## 4. ENGINE MODIFICATIONS, REPAIRS AND ADDITIONS

### 4.1 MODIFICATIONS

Neither the engine 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 engine 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., carburettor and exhaust valve adjustment screws.

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

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

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

Genuine ROTAX components only that are specifically designed and supplied for the 125 Micro MAX, 125 Mini MAX, 125 Junior MAX, the 125 Senior MAX and the 125 MAX DD2 engine are legal, unless otherwise specified.

## Note

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

### 4.2 INTERNAL ADDITIONS

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

The use of thermal barrier coatings/ceramic coatings on or in the engine and on or in the exhaust system is prohibited.

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

Example of allowed repairs (but not limited to):

Example 1, Damaged Cylinder due to freezing.

It is allowed to repair the cracked cylinder by welding.

It would also be allowed to dress / finish the area marked red to restore the part to the original specification.

It would not be allowed to dress / finish areas not effected by damage.

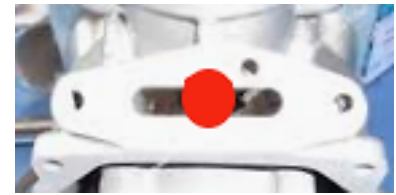


Example 2, Exhaust valve flange area repair.

Exhaust valve flange area (marked red) is damaged through contact wear with the exhaust valve.

It would be permitted to repair the red marked area only.

To dress or finish the area which was repaired in the red area would be allowed to ensure the engine is restored to its original specification.



**Note**

Removal of additional, as supplied material from the surrounding areas is strictly forbidden.

**4.3 LEGAL ADDITIONS**

Chain guard, engine mount, temperature gauge and tachometer/hour meter, catch cans for liquids with mounting brackets.

Customizing the cylinder head cover by painting is legal.

Sensor for exhaust gas temperature ([see exhaust systems](#)).

**4.4 NON-TECH ITEMS**

Non-original fasteners, circlips, washers, throttle cable housing, fuel and pulse line ([type and size](#)) as well as length of coolant hoses are allowed unless otherwise specified.

**4.5 MEASUREMENTS**

When taking any dimensional reading, of the following technical regulation, in the order of accuracy of 0,10 mm or even more precise, the temperature of the part must be between +10°C and +30°C.

Before taking any decision based on this regulation a check for available Bulletins\* is mandatory.

\* <http://www.rotax-kart.com/Max-Challenge/MAX-Challenge/Regulations>

To avoid excessive noise and exhaust emissions revving the engine in the servicing park is not allowed.

## **4.6 GEAR RATIO**

4.6.1. In Rotax Micromax classes the use 15Z front sprocket is compulsory while the rear sprocket size are 70,71,72.

4.6.2 In Rotax Minimax classes the use 14Z front sprocket is compulsory while the rear sprocket sizes are 74,75,76.

4.6.3 For Rotax Micromax and Rotax Minimax classes the final gear ratios will be prescribed in the technical regulation of each event separately.

4.6.4 Rotax Junior, Rotax Senior, Rotax DD2 and Rotax Masters classes gear ratio are free.

## **4.7 RAFFLE ( LOTTERY ) ENGINES FOR ROTAX MICRO MAX AND MINI MAX**

Only raffle engines and exhaust systems prepared by the organizer are allowed. The raffle of engines will take place at the time and place specified in the time schedule (Appendix 1 of the Event supplementary Regulation).

When handing over the engine to the competitor/mechanic, the handover deed is signed and a deposit of 100 euros is paid in cash (100 euros will be returned after the competition, after the engine has been accepted and checked) at the time and place specified in the schedule (Appendix 1 of the Event supplementary Regulations).

During the race weekend, it is possible to change the raffle engine once by paying an additional 100 euros. The exchange is possible until the start of the qualifying practice. It is no longer possible to replace the engine that came from the exchange!

It is allowed to use a carburettor manufactured from 2020 onwards.

Rotax Micromax main jet minimum 115 (the number on the jet must correspond to the actual size - it must not be smaller).

Rotax Minimax main jet minimum 122 (the number on the jet must correspond to the actual size - it must not be smaller).

Additional radiator covers (taping) are prohibited!

Intentional or unintentional damage to the engine and muffler is compensated by the user.

Attachments:

1. Rotax Max Engines Technical Specification (within the engine seal and outside the engine seal) .