



БЪЛГАРСКА ФЕДЕРАЦИЯ ПО КАРТИНГ
BULGARIAN KARTING FEDERATION

НАЦИОНАЛНИ КАРТИНГ СЕРИИ
www.bfk.bg



RMC Technical Regulation 2019

Edition 2019

Specific Regulation regarding Bulgarian Championship

1. RMC categories

125 Junior MAX
125 Senior MAX

2. Equipment

2.1. Amount of equipment

1 chassis with 1 engine
1,5 sets of dry tires
1 sets of wet tires

2.2. Chassis, brake system, bodywork

CIK-FIA homologated equipment, single brand chassis per category, defined by tender.
Every chassis is marked with a chassis seal with a unique serial number (barcode).
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).
The permitted adjustments/optional parts on the Kart are defined in the RMCGF supplementary regulations.

2.3. Tires

Every tire has a unique serial number (barcode).
Tires 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).

125 Junior MAX

Dry	Mojo D2	front 4.5 x 10.0 – 5	rear 7.1 x 11.0 – 5
Wet	Mojo W3	front 4.5 x 10.0 – 5	rear 6.0 x 11.0 – 5

125 Senior MAX

Dry	Mojo D2	front 4.5 x 10.0 – 5	rear 7.1 x 11.0 – 5	rear 6.0 x 11.0 – 5
Wet	Mojo W3	front 4.5 x 10.0 – 5		

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

Strictly no modifications or tire treatment is allowed.

Tire check with tire sniffer Mini-RAE-Lite: Maximum value = 4ppm.

The distribution procedure for the tires is defined in the RMCGF supplementary regulations.

2.4. Engines

Every engine is sealed with an engine seal with a unique serial number (barcode).
Engines 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).
The mandatory settings, permitted adjustments and optional parts are defined in the RMCGF supplementary regulations.
For all components outside the engine seal, the competitor is responsible to assure the conformity with the RMCGF Technical Regulations.



2.5. 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)

Engine coolant (water) temperature (sensor M10x1 mounted in the cylinder head)

The speed of one wheel

Acceleration in X/Y direction

Position (via GPS system)

Connection of the data acquisition system to the Rotax engine battery is allowed.

2.6. Safety equipment

According to Article 3, CIK-FIA technical regulations

2.7. Advertising on engines

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

3. Modifications, legal additions, non-tech items, measurements

3.1. 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. carburetor and exhaust valve adjustment screws.

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

Anything which is not expressly allowed in the RMC GF Technical Regulations, is forbidden.

3.2. Legal additions

Temperature sensor for engine coolant (water).

3.3. 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.

3.4. 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.

4. Technical Specification (within the engine seal) for ROTAX kart engines

125 Junior MAX

125 Senior MAX

Any component within the engine seal not defined in this RMC GF Technical Regulations, must be compliant with the Global RMC Technical Regulations 2019.

4.1. Squish gap

125 Junior MAX minimum = 1,20 mm

125 Senior MAX minimum = 1,00 mm

The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax 580130).

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.



5. Technical Specification (outside the engine- and carburetor seal) for ROTAX kart engines

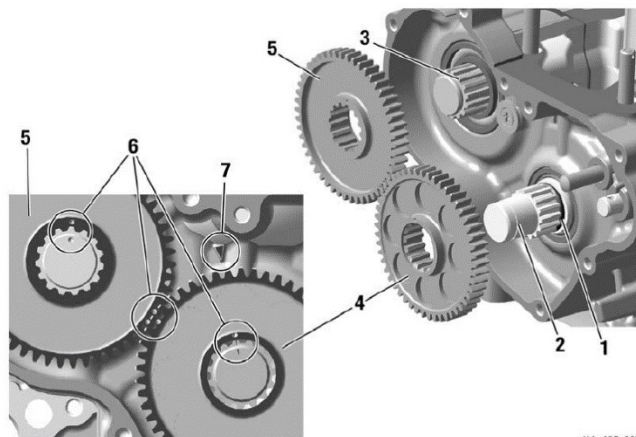
125 Junior MAX
125 Senior MAX

For all components outside the engine- and carburetor seal, the competitor is responsible to assure the conformity with the RMCGF Technical Regulations.

5.1. Balance drive (125 Junior MAX and 125 Senior MAX)

Steel balance gears only (minimum width = 8,8 mm) are legal to be used.

Balance gears must be installed and must be aligned according to the illustration.



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5.2. Centrifugal clutch (125 Junior MAX and 125 Senior MAX)

Engagement speed of centrifugal clutch at maximum 4.000 rpm (the kart without driver must start to move).

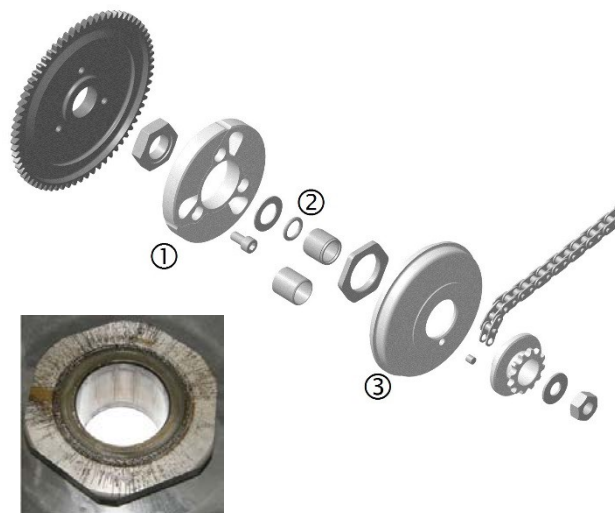
The clutch (1) must show the wording "ROTAX".

O-ring (2) must be fitted.

The clutch drum (3) must show the wording "ROTAX".

Signs of emission of grease from the needle/plain bearing into the clutch drum may not exceed the like shown in the picture.

Contact area between clutch and clutch drum must be dry at any time – no lubrication allowed.



Clutch

Height of clutch (B)

125 Junior MAX and 125 Senior MAX: Minimum = 11,45 mm

Thickness of clutch shoe (A)

Minimum = 24,10 mm

Measurement must be done at the 3 open ends of the clutch, 5 - 10 mm from the machined groove (all clutch shoes must be completely closed at measurement - no gap).



Clutch drum (125 Junior MAX, 125 Senior MAX and 125 MAX DD2)

Outer diameter (C) of clutch drum

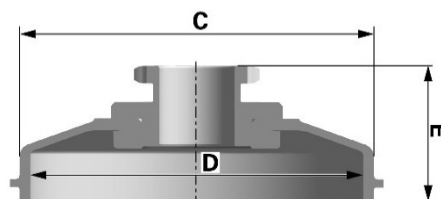
Minimum = 89,50 mm

Diameter must be measured with a sliding caliper just beside the radius from the shoulder (not at the open end of the clutch drum).

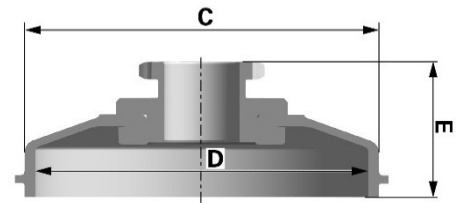
Inner diameter (D) of clutch drum

Maximum = 84,90 mm

Diameter must be measured with a sliding caliper. The measurement must be done in the middle of the clutch drum (in the contact area between clutch and clutch drum).

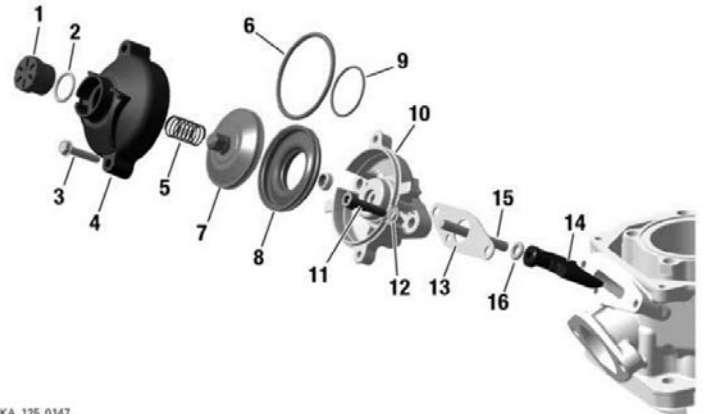


Height (E) of clutch drum with sprocket/primary gear
 Height of clutch drum with sprocket/primary gear
 125 Junior MAX and 125 Senior MAX
 Minimum = 33,90mm



5.3. Exhaust valve (125 Senior MAX and 125 MAX DD2)

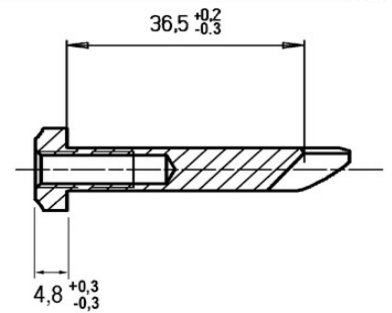
System must be used with all components fitted as shown in the illustration below.
 Bellow (8) must have green color.



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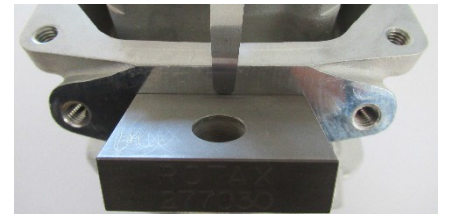
Exhaust valve

Length of the exhaust valve (item 2): 36,5 mm +0,20 mm/-0,30 mm.
 Width of collar: 4,8 mm +/-0,3 mm

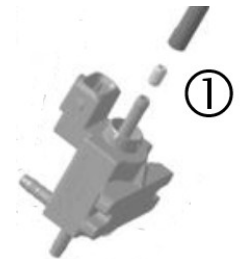


Distance of exhaust valve flange at cylinder to piston

Turn crankshaft until the piston just closes the exhaust port.
 Insert the exhaust valve gauge (Rotax 277030) as shown in the picture until it stops at the flange.
 At the circular contact area between exhaust valve and the flange of the cylinder, a feeler gauge 0,05 mm may fit between the gauge and the flange either on the top or bottom side, but must not fit on both sides.

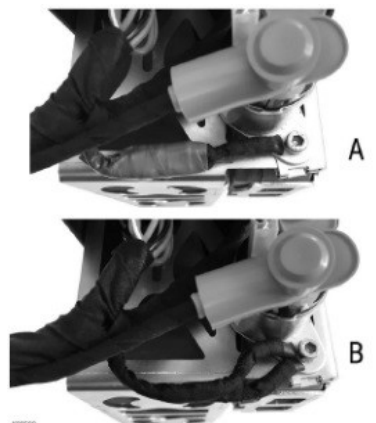


The use of the original impulse nozzle (1) in the pressure hose, connected to the magnet valve, is not allowed.



The electronic timed exhaust valve offers two different settings (A or B) for the opening of the exhaust valve.

- (A)...additional ground cable not connected
 - (B)...additional ground cable connected
- Both settings are legal to be used.



5.4. Ignition system

Dell'orto digital battery ignition system, variable ignition timing, no adjustments possible.

Spark plug, mandatory to be used

125 Junior MAX and 125 Senior MAX: NGK GR8DI
NGK GR9DI

Electrode gap (maximum)

Filler gauge 1,00 mm must not fit in between the two electrodes.

Spark plug cap

Marked "NGK", red color (see picture)



Ignition sensor

Sensor must show the in the first line the number marking 029600-0710.

A steel ball (diameter 3-5 mm) placed on circular surface of the sensor must stay in the center of the circular surface.

Fitting an additional gasket between the sensor and the crankcase is not allowed.



Ignition coil (and magnet valve - 125 Senior MAX and 125 MAX DD2 only) must be fitted with all components according to the illustrations below.

In case the mounting bracket (125 Junior MAX and 125 Senior MAX only) conflicts with a chassis component, the additions of 2 spacers, one per mounting hole, with a maximum thickness of 20 mm between the mounting bracket and the gearbox cover is allowed.

125 Junior MAX and 125 Senior MAX



The visual appearance of the ignition coil must be identical with the pictures.

Ignition coil must show 2 pins at the terminal.

The ignition coil is labeled with two stickers, "BRP 666820" and "NIG 0105".

The ignition coil is still legal to be used also if one or both stickers disappeared.

Minimum length of the high-tension cable of the ignition coil is 210 mm (from outlet of ignition coil to outlet of spark plug connector = visible length of cable).



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

125 Junior MAX: "666813"

125 Senior MAX: "666815"

The ECU must be checked with the ECU tester (Rotax part no. 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 "ü" on the ECU tester.

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

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



The ECU tester must indicate following results:

125 Junior MAX category

□ 666813JNRMAX

□ !! Test OK !!

125 Senior MAX category

□ 666815MAX

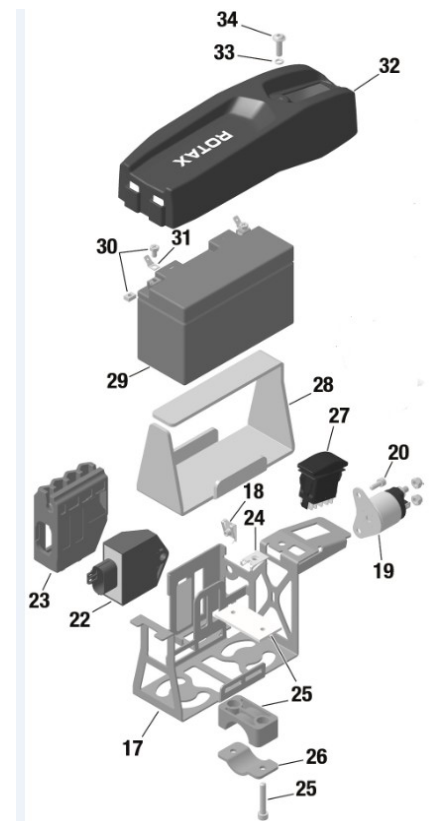
□ !! Test OK !!



5.5. Battery, battery fixation

Original battery with following specification must be used.
YUASA YT7B-BS (with "ROTAX" branding)

Battery must be fitted with the original battery clamp and battery cover (according to illustration below) on the left side of the seat.
Battery clamp (17) must be fixed to the chassis with two clamps (25-26) and 4 screws (25).



5.6. Intake silencer

125 Junior MAX and 125 Senior MAX

Intake silencer must be used with all parts as shown in the illustration and must be mounted on the support bracket with two screws (in dry and wet condition).

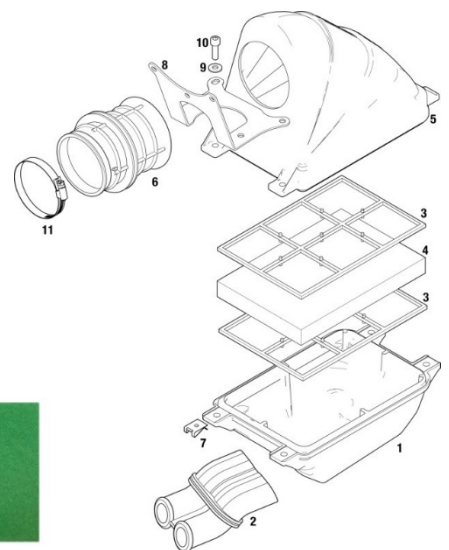
Intake silencer tube (2) and carburetor socket (6) are marked with "ROTAX".

Bottom intake silencer case (1) is marked on the inside with "225015".

Top intake silencer case (5) is marked on the inside with "225025".

Air filter has two layers and is marked with "Twin Air".

Air filter (4) must be installed as shown in the illustration between the two holders (3) and must cover the complete area of the bottom intake silencer case (1).



In wet (and dry) conditions it is not allowed to attach anything to the air box to protect the air inlet from water spray.

5.7. Carburetor

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

Carburetors 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).

Carburetor slide must show the digits "45" in casting.

Jet needle must be stamped with "K57".

The position of the jet needle is free.

Settings of the carburetor adjustment screws (idle and idle air) are free.

All jets must be correctly seated and securely fitted at any time (tightened)!

The range of allowed main jet numbers will be defined in the RMCGF Supplementary Regulations.

For specific conditions, the minimum allowed number, stamped on the main jet, will be defined by RMCGF Bulletins.

The complete inlet bore of the carburetor housing must show cast surface.

The venturi hole of the carburetor insert can show signs of a CNC control machining.

The two vent fittings must be connected to each other with the original air vent hose, minimum length = 155 mm.

The ventilation hole of the vent hose must be placed at the rear side of the carburetor.

Carburetor can be used with and without fuel sieve in the carburetor housing.



5.8. Fuel pump, fuel filter

MIKUNI diaphragm pump, (see picture) must be used and must be mounted as shown in the illustration.



125 Junior MAX and 125 Senior MAX

Fuel pump must be mounted on the bottom side of the support bracket for the intake silencer.



Fuel filter

Original fuel filter (see illustration) only is legal to be used.
Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between fuel tank and carburetor.



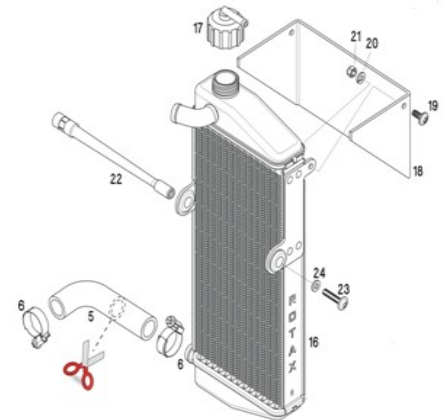
5.9. Radiator

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.

125 Junior MAX and 125 Senior MAX

The radiator must be mounted on the right side of the engine.

Cooling area: Height = 290 mm, width = 138 mm
Thickness of radiator: 34 mm
Radiator must be stamped on the side with "ROTAX".
To remove the original flap is an allowed modification.



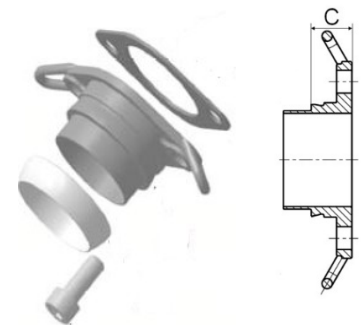
5.10. Engine coolant

Plain water without any additives must be used.

5.11. Exhaust system

Exhaust socket

The measurement (C) must be at least 15,5 mm.
To use up to 4 pieces of original Rotax exhaust springs, to fix the exhaust system to the exhaust socket, is allowed.
To use a "safety wire" to fix the exhaust system to the exhaust socket is not allowed.



Exhaust pipe with silencer

Allowed modifications:
Replacing the original rivets of the silencer end cap by M4 Allen screws and M4 locking nuts.
Replacing the original isolating mat in the silencer by one new original isolating mat.

A steel ball with 27,5 mm diameter must pass through the tuned pipe from the inlet and through the 180 degree elbow completely (silencer disconnected).

125 Junior MAX and 125 Senior MAX

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

Dimensions to be checked:

Length of inlet cone: 590 mm +/-5 mm

Length of cylindrical part of exhaust pipe: 130 mm +/-5 mm

Length of end cone: 230 mm +/-5 mm

