

B4.0 **Category** **Cadet**
Class **Rotax Micro Cadet**
Contact J.A.G. Engineering – www.jagrotax.co.uk

B4.1 **Introduction.** A restricted version of the FR125 Junior Max to give the younger driver the opportunity to race Rotax Max. The promoters reserve the right, with the agreement of Motorsport UK, to alter the technical regulations to ensure safety of drivers, fairness of competition, economy and the wishes of competitors and changes of specifications from Rotax agreed by Motorsport UK. Enquiries to J.A.G. Engineering, Unit 6 Mid Sussex Business Park, Folders Lane East, Ditchling, Hassocks, Sussex BN6 8SE. Tel. 01444 243112.

B4.2 **Engine.** The only engine permitted in this class is the Rotax FR125 Micro Cadet with restrictors, from engine number 8626234. The Micro Cadet adheres to the Junior Rotax FR125 Max fiche plus extensions for the Micro. The cylinder is to be of non-Power Valve type. The engine is a single cylinder, liquid cooled, reed valve two stroke. All engines must be sealed between cylinder, crankcases, cylinder head and the reed valve block with an official seal to prevent modification. All seals must be crimped with the official Rotax crimping tool part No.276 110. Each end of the sealing wire must only pass through the seal once.

All engines are issued with an official identity card. It is the competitor's responsibility to ensure the numbers inscribed on the engine and seal correspond with those on the identity card at all times. Only authorised dealers will be issued with seals for use during maintenance of the engines. The identity card must be filled in and signed by an authorised dealer. The engine must be presented at scrutineering with the official class seal intact and the identity card lodged with the scrutineer. The card must be collected by the competitor at the end of the race meeting. (At club race meetings it is not compulsory for competitors to lodge the identity card with the scrutineers. The identity card must be available for inspection by the scrutineers at any time during the race meeting.)

Should a seal become damaged, loose or lost during racing it must be reported to the meeting's scrutineer before leaving parc ferme. To allow the competitor to continue racing the scrutineer may at their discretion re-seal the engine with an official Motorsport UK seal. The new seal no. must be entered in the engine's identity card and signed by the scrutineer, plus their licence number. The engine must be taken to an official dealer with Motorsport UK seal intact to be re-sealed with an official class seal before competing at the next race meeting.

B4.2.1 **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 regulations or the official Motorsport UK fiche. The adjustment of elements specifically designed for that purpose shall not be classified as modifications, i.e. carburettor and exhaust valve adjustment screws.

UNLESS IT STATES THAT YOU CAN DO IT YOU CANNOT!!!

The engine must be raced in standard form as manufactured and supplied by Rotax unless otherwise stated. Filing, grinding, polishing, surface treating, machining or lightening of any component is forbidden unless otherwise stated. The addition of material to any component is not allowed unless otherwise stated. All parts used in or on this engine must be of original manufacture or source as supplied by Rotax for the FR125 Max unless otherwise stated. The engine is to be used with air box, carburettor, fuel pump, radiator, wiring loom, ignition system and exhaust system as supplied by Rotax unless otherwise stated. Position and method of mounting the battery, wiring loom, exhaust system are free providing they are securely fixed to the satisfaction of the meeting's scrutineers and in accordance with Motorsport UK Yearbook regulations. Filing of crankcase to allow easy fitting of water connection is allowed. Fitting of thread inserts or repair damaged threads is allowed, except for the spark plug thread in the cylinder head insert, providing such repairs are not used to derive any benefit other than rectification of damage.

Minor damage to the cylinder or crankcase may be repaired by welding but only to restore the component to the original specification.

The use of thermal barrier coatings/ceramic coatings on or in the engine or exhaust system is not allowed. Replacement connectors to repair wiring loom are permitted. Repairs to starter motor are also allowed.

B4.2.2 **Exhaust and Inlet Throttle Restrictors.** Exhaust restrictor must be in place at all times. Restrictors must be as supplied by J.A.G. Engineering and comply with the official fiche, no modifications allowed. Exhaust flange restrictor, **18.30mm** maximum round bore, all exhaust gases must pass through this restrictor.

Inlet throttle restrictor must be in place at all times. Restrictor must be as supplied by J.A.G. Engineering and comply with the official fiche, no modifications allowed. The **total** length of the inlet throttle restrictor must be 43mm minimum. **The carburettor must be fully assembled with the inlet throttle restrictor (and washer where used) correctly installed. The carburettor cap must be firmly tightened and fixation plate (Part No. 251790) must be correctly fitted. Rotax gauge (Part No. 277400) must not touch the bronze atomiser in the centre of the carburettor venturi.**

In addition the throttle body restrictor (Rotax Part No. 267536) must be installed in the rear of the carburettor and in the correct orientation at all times. Illustration of this can be found in the fiche.

B4.2.3 **Carburettor. Dell'orto VHSB 34 XS.**

All parts of the carburettor including the body are to be unmodified and run as supplied by Rotax. The carburettor must have VHSB 34 (cast in body) XS (stamped on body). All parts must comply with the official fiche. The only adjustments allowed are the main jet, external air screw, throttle stop adjustment screw, and needle position on the five grooves provided.

Needle jet DP267. Choke jet 60. Idle jet 60, idle jet emulsion tube 45. Needle K57. Float needle valve 150. Slide 45. Floats 4.0gr. The venturi insert must have 12.5 stamped on the top.

Throttle cable and adjusters are free. It is permitted to use a single length of vent tube looped across the two air vents of the carburettor with a hole or slot cut in the side of the vent tube at the top of the loop.

FLOAT LEVER ARM HEIGHT: Using the ROTAX gauge (Part No:277 400), the float arms must both fit between the gauge slot without touching. The carburettor must be upside down on a horizontal flat surface. The gauge must sit on the metal body of the carburettor without gasket.

B4.2.4 Fuel Pump. Only Mikuni – Fuel Pump DF 44-210 may be used. The fuel pump must be fitted to the bottom or side of the standard air box bracket. Only a single length of pulse tube from crankcase connector to fuel pump may be used.

A single fuel line may be fitted between the fuel pump and carburettor. Rotax in line fuel filter (Part No. 274161) must be used and fitted between fuel tank and fuel pump.

An Internal fuel tank filter is also permitted. No restrictors, fuel returns or additional reservoirs are permitted.

B4.2.5 Intake Silencer. Only Type 2 may be used.

The Intake Silencer/Airbox must be used unmodified as supplied by Rotax for the FR125 Max engine with its filter and all component parts including support bracket in place.

The two halves of the airbox must be securely screwed together using 4 M6 screws. All 4 screws must be sufficiently tightened to securely clamp the two halves of the airbox together.

Intake silencer tube and airbox-to-carburettor socket must be marked with "ROTAX".

In all conditions the air box MUST be positioned with inlet trumpets to the bottom of the box. The air box must be securely fitted in a manner to prevent rotation.

B4.2.6 Exhaust System. Only Rotax Micromax EVO exhaust (Part no. 273136) may be used. The exhaust system may not be modified in any way except for the pop rivets securing the silencer end plate may be replaced with screws. The use of a jubilee clip to secure the end plate pop rivets or screws is allowed. It is permitted to paint the exhaust system with black paint. The use of any other coating or plating is not allowed. It is permitted to make minor repairs by welding or brazing to the exhaust system providing there are no alterations to the original dimensions.

It is permitted to weld/braze a socket (at a distance of 50-80mm from the ball joint) on the top of the exhaust system for measuring the exhaust gas temperature.

B4.2.7 Radiator. The radiator must be fitted to the right hand side of the engine using standard hoses and connections as supplied by Rotax. Only Micro/Mini Radiator Part no. 295923 is permitted. The use of alternative hose clips and screw fixings are permitted. Blanking of the radiator is free providing it does not necessitate the modification of the original components other than simple attachment. Minor repairs to the radiator are allowed.

B4.2.8 Ignition Unit. EVO Dell'orto ignition system must use the system in its entirety which comprises of ignition coil, SENIOR MAX ECU (Part no. 666 815), mounting brackets, wiring loom, battery clamp (battery box) and all its components as described in the Motorsport UK fiche. Battery clamp (battery box) must be mounted on the left side of the chassis, next to the seat. **Only YUASA YT7B-BS (with or without Rotax branding) or ROTAX LiFePO4 battery may be used.**

B4.2.9 Spark Plug. The only spark plugs permitted are as listed below, and must be unmodified with sealing washer in place. **1.20mm feeler gauge must not fit between the two electrodes:**

NGK GR8D1, GR9D1

Other makes/types may be added to this list by J.A.G. Engineering, details will be published in official bulletin.

B4.3 Transmission. The clutch must be as supplied by Rotax for the FR125 MAX. The internal running surface of the clutch must remain dry and free of grease or lubricant or any additional substance. The engine clutch must be triggered at 4000 rpm maximum and make the kart and driver move forward. The clutch must be in direct drive (and 100% engaged) at 6,500 rpm. See U18.8. A bar test may also be used to test clutch engagement, parameters to be advised.

All sprockets must use a 15 x 19 x 17 needle cage bearing and O-ring seal.

B4.4 Weight. Minimum 105kg, including the driver. Minimum driver weight as per U17.29.6 is 28kg.

B4.5 Number Plates. Yellow with black numbers (see U17.27). The numbers must be of the 'Classic' type as described in U17.27.3.

B4.6 General. An ignition kill switch must be fitted and must be identified with a blue triangle to assist marshals in the event of an incident.

B4.6.1 Fasteners and Attachments. The use of alternative fasteners, washers, hose clips, fuel and pulse line is allowed unless otherwise specified. The use of additional air box support brackets, radiator support brackets, coil-mounting brackets, chain and clutch guards is allowed providing the fitting of these does not necessitate modification of the original components.

B4.6.2 Data logging. Data logging is permitted, data logging systems with or without memory may be used. Global Navigation Satellite System reception is permitted. It is only permitted to take readings of engine rpm, engine water temperature, exhaust gas temperature, speed of 1 wheel, an X/Y accelerometer, lap times and split lap times. The engine water temperature sensor may only be fitted in the position provided in the cylinder head cover for this attachment. The rpm, may only be recorded via a sensor on the HT lead to sense spark plug pulses. The HT lead must remain a single length from ignition coil to spark plug cap. The fitting of these sensors is only permitted providing there is no modification to the original engine components.

For 125 Micro MAX and 125 Inter MAX only.



It is mandatory to add 2 x additional "distance plates" to the reed block assy.

The "distance plates" must be secured tightly between the reed petals and the curved stopper plate on both sides of the reed assy and in the order as show in the diagram. The ROTAX markings must be facing the stopper plate as shown in the diagram.

It is Mandatory to install 2 gaskets between the reed block assy and the cylinder.

For Information only / non-tech item:

The assembly should utilize only oval head screws M3x6. (ROTAX Part number 240351).

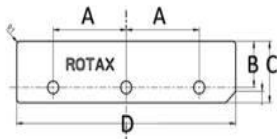
The use of tap tight fixings is not recommended for this application.

For identification purposes that the distance plates are installed, a M6 washer should be placed under the bolt, which is secured with the seal in position 1, as indicated in the picture.



The 2 x distance plates must be engraved ROTAX (as per the drawing below) with the part number 910224380 visible on the plate.

The plate must be flat with no curvature, when held against a straight edge no crack of light should be visible between the two surfaces and meet the below specification.



Measurement	Tolerance
A	+0,2 mm -0,2 mm
B	+0,3 mm -0,3 mm
C	+0,3 mm -0,3 mm
D	+0,7 mm -0,7 mm

Distance plate thickness

0,70 mm

Location holes

3,3 mm

+0,08 mm

-0,08 mm