BNL KARTING SERIES

TECHNICAL REGULATIONS 2021

VISA RACB SPORT N° T01-BNL/B21

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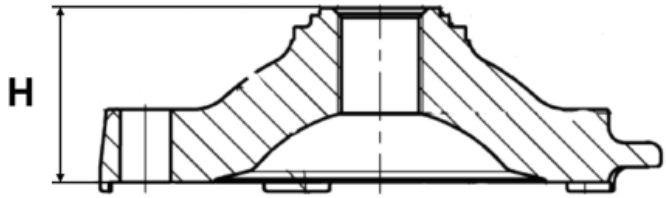
ART. 1. Technical Regulations EVO MICRO MAX

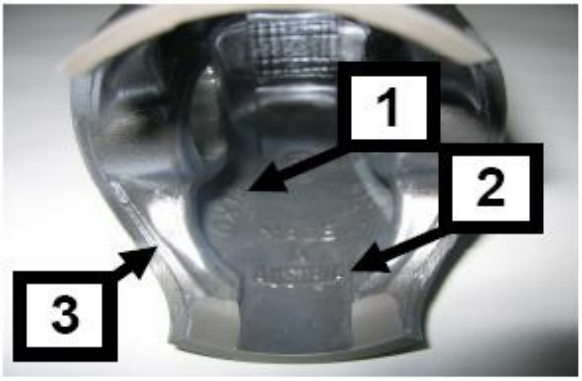
1.00 / Chassis	Maximum one chassis per competitor per event (weekend). Only CIK/FIA homologated chassis or chassis that have been manufactured by CIK/FIA homologated factories. The homologation sheet has to be available at any time. If the chassis is CIK/FIA homologated also all parts have to be used according the CIK/FIA chassis homologation. (Art.1.00 till 1.06 including)		
Wheelbase	Minimum: 850 mm	Maximum: 950 mm	
Chassis pipe	Ø 28 Magnetic steel / Wall thickness 2mm ± 0,2mm		
1.01 / Brakesystem	Mechanic or hydraulic. Between the master brake cylinder and the brake pedal an extra security brake cable is mandatory. Minimum 1,8mm thickness. Also, an extra security clip is mandatory at the brake pads. A ceramic brake disc is not allowed.		
1.02 / Rear axle	Magnetic material only.		
Diameter	Maximum Ø30 mm		
Wall thickness	Minimum 4,9 mm (entire length).		
1.03 / Rims	Aluminium or magnesium / Diameter 5 inch		
Front rim	115 mm (tolerance +/- 6mm) measured to the outside of the rim.		
Rear rim	145 mm (tolerance +/- 6mm) measured to the outside of the rim.		
Rim modifications	Any additions to the rims are not allowed. Except: adhesive balancing lead. Bead retaining screws are not mandatory.		
Maximum width	Maximum 120 cm / measured to the outside of the rim		
1.04 / Tyres	MOJO®		
Dry	MOJO C2 CIK with barcode	Front 10x4.00x5	Rear 11x5.00x5
Rain	MOJO CW CIK with barcode	Front 10x3.60x5	Rear 11x4.50x5
	Slick race tires must be ordered in advance through the organization (voucher system). One set of slick tires per event is allowed. (Two front and two rear tires) Tires must be mounted according to the direction of rotation defined on the tire. If it's detected on the pre-grid area that a driver has fitted his tires incorrectly (wrong direction) then he will be moved to the repair zone. The driver has the possibility to assemble his tires correctly, with the help of one (1) mechanic. Only putting the tires in the correct direction is allowed. It is not allowed to do other technical changes. Afterwards he may start, but only when the start is given. He is not entitled to participate in the formation laps. If the observation takes place after the race, the driver will be excluded from the relevant part of the competition. It is not allowed to modify the tires. The brand name, code number, barcode and the indications always need to be visible on the tires. Only normal air is allowed to fill the tires.		
1.05 / Rear bumper	The plastic bumper must be homologated. And cover at least 2/3 of the rear wheels and may not protude the rear tires.		
1.06 / Side-pods Front panel Front fairing	Only a complete homologated plastic spoiler set is allowed. The complete spoiler set should have the same homologation number. The homologation sheet has to be available at any time. Using composite like carbon fiber is not allowed. For security reasons it is mandatory to use a front bumper with a minimum width of 82 centimeters. Only plastic frame protection parts (left, right, front) is allowed. The complete set should be free of damage. A CIK front fearing bumper is mandatory for all type of chassis and has to be mounted according the CIK regulations.		
1.07 / Fuel tank	The plastic fuel tank should be mounted in a correct way, at the appropriate place. All vents must end up in a reservoir.		

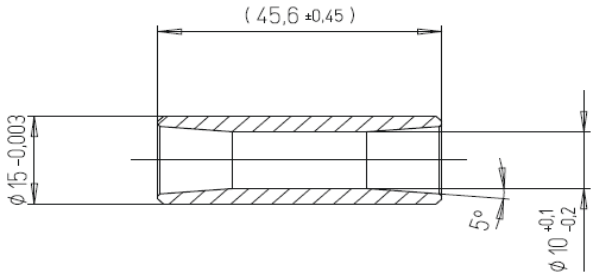
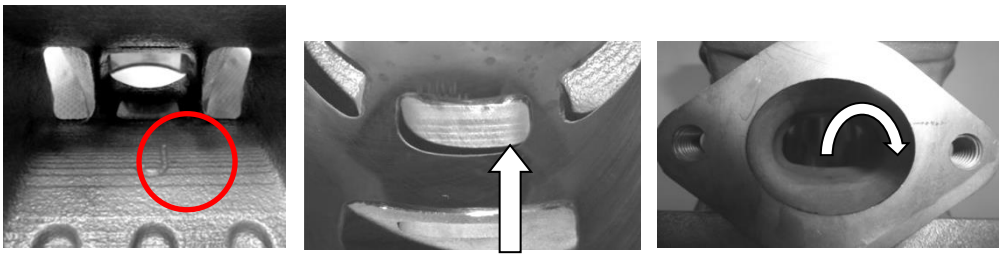
1.08 / Weights and clothing	Minimum weight at any moment of the event: 110 kg (kart + complete race gear). A driver must be equipped and appear for inspection with the following gear: (see timetable) Complete equipment must comply with the CIK regulations. A turbo visor is allowed in case of rain. Gloves which cover the entire hand. High shoes that cover and protect the ankles. The responsible doctor on the event may, for safety reasons, disapprove certain types of breast, neck or rib protections. A neck protection is mandatory. From the moment when the driver goes on track, he must wear the mandatory race gear as described in this article.
1.09 / Race numbers	Yellow plate with black digits (Numbers 1 – 99) (Front, rear, left and right sides)
1.10 / Data systems	Data logging with or without a GPS module is allowed. Data from the GPS module may only be saved in a system which has been mounted on the kart. Every other form of telemetry or radio communication is not allowed. Transferring data during sessions to a device, other than the data logger on board is not allowed. Power to activate the data system should be taken from a separate battery. It is not allowed to take power from the battery that is meant for the engine.
1.11 / Seat	The seat has to be fixed at minimum 4 places, 2 at the top (left and right) and 2 on the bottom (left and right). All seat supports have to be fixed with washers with a minimum thickness of 1,5mm and a diameter of 40mm.
1.12 / Ballast	Drivers who are lighter than the required minimum weight shall attach extra weight on their kart, until they reach the prescribed weight. Lest may only be installed on the chassis or on the seat. The Technical Scrutineering can force each driver to mount lest on another place. Lest shall be mounted so that everyone's security is guaranteed at all times: • Up to 3kg: at least with 2x M6 bolts including washer • Up to 6kg: at least with 2x M8 bolts including washer • Up to 10kg: at least with 4x M8 bolts including washer
1.13 / Cameras	Drivers may use a camera if mounted in an appropriate way **and accepted by the Scrutineers**. Helmet cameras are not allowed. Clips, etc, for mounting a camera may not be fit on the helmet.

Engine – Rotax EVO MICRO MAX

1.14 / Foreword	These regulations will be valid as of 1st of February 2021 and will replace all previous regulations. Only original spare parts which are manufactured by Rotax BRP are legal to be used. Any modifications are not allowed. Helix reparations with heli coils and/or wire bushes are allowed.
1.15 / Engines	Each race-meeting it is allowed to enter two engines. The engines should be sealed with an official Rotax seal. The engine registration card has to be available at any time.
1.16 / Squish	Minimum 2,40 mm (including possible carbon deposits)

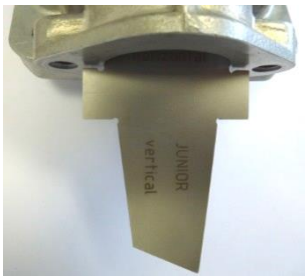
Measurement method	The squish gap must be measured with a certified slide gauge and by using a 3 mm tin wire (Rotax part no. 580 132). To achieve the defined minimum squish gap, one spacer (Rotax part no. 626 420, with same shape as cylinder base gasket) in combination with at least two (2) cylinder base gaskets (one below the spacer and one above the spacer) must be used. The crankshaft must be turned by hand slowly over top dead centre 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 engine temperature below 30 degrees Celsius The average value of the two measurements counts.
1.17 / Combustion chamber insert	Cast identification code has to be "223 389" or "223 389 1" or "223 389 2" or “223 389 2/1" or “223 389 2/2”. Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.  Height of the combustion chamber insert has to be 28,80mm +/- 0,2mm (H)  The profile of the combustion chamber insert has to be checked with a template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile. 
1.18 / Cilinder head cover	It is allowed to change the colour of the cilinderhead cover for indentification.

1.19 / Piston with ring assembly	Original, coated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" (1) and "MADE IN AUSTRIA" (2)  Machined areas are: • Top end of piston • Outside diameter • Groove for the piston ring • Bore for the piston pin • Inside diameter at bottom end of piston • Some pre-existing factory removal (3) of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface. Any mechanical treatment or rework of the piston is forbidden, (e.g. removal of carbon deposits). Cleaning without changing the original surface is allowed. If carbon is removed it must be consistently removed across the entire surface without altering the profile of the piston itself. Example: selectively removing carbon in the squish measurements areas is forbidden.
Piston ring	Original, magnetic, rectangular piston ring. Ring height: 0,98 +/- 0,02 mm. Piston ring is marked either with "Rotax 215 547", "Rotax 215 548", “Rotax 215 548 X, or “I ROTAX 215548 X”. The piston ring is legal also if just parts of the marking are still visible. 

1.20 / Piston pin	Piston pin is made out of magnetic steel. Dimensions must be according to the drawing. The minimum weight of the piston pin must not be lower than: 31,00 grams 
1.21 / Cylinder	Cylinder types >2017, Rotax part nr.: 223994 marked with the letter “J” are the **only types that are allowed. All other types are banded.** The central boost port and exhaust port may show factory machining. See pictures below: 
1.22 / Maximum bore	54,035mm (measured 10mm above the exhaust port)
1.23 / Cylinder measures	Height of cylinder should be 87mm (-0,05 / + 0,10mm)  Exhaust port timing: 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). Insert the template for Junior Max cylinder 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 (nikasil). 

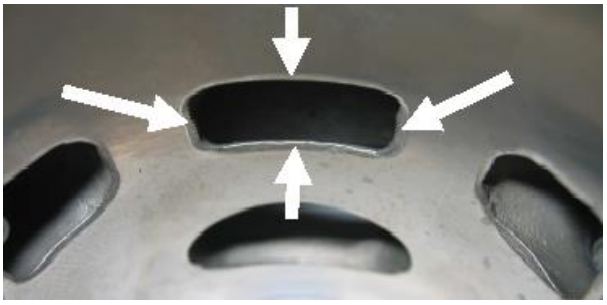
The horizontal and vertical dimensions of the exhaust port with fully CNC machined exhaust port only) have to be checked with the template (Rotax part no. 676 240).

The template has to be moved in horizontal and vertical position as far as possible into the exhaust port. In both directions the template may not touch the exhaust socket flange.



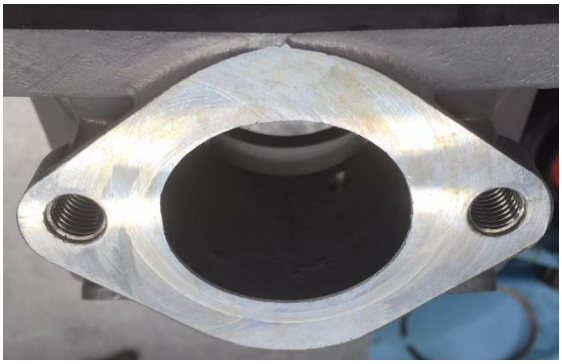
All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage, exhaust port and passages.

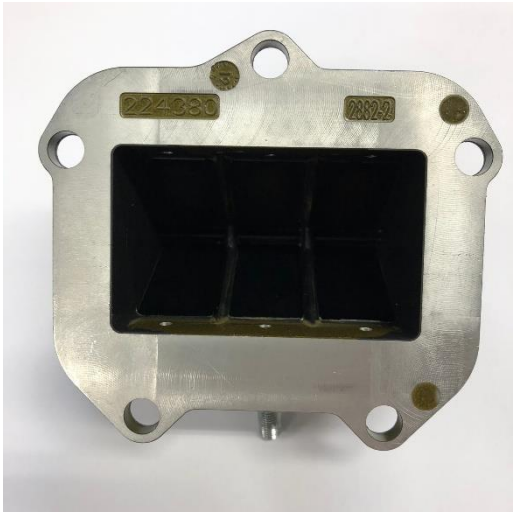
Any modification is strictly forbidden!
All ports have chamfered edges. See picture.

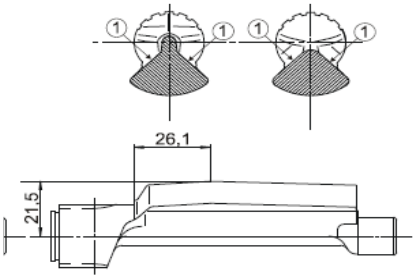
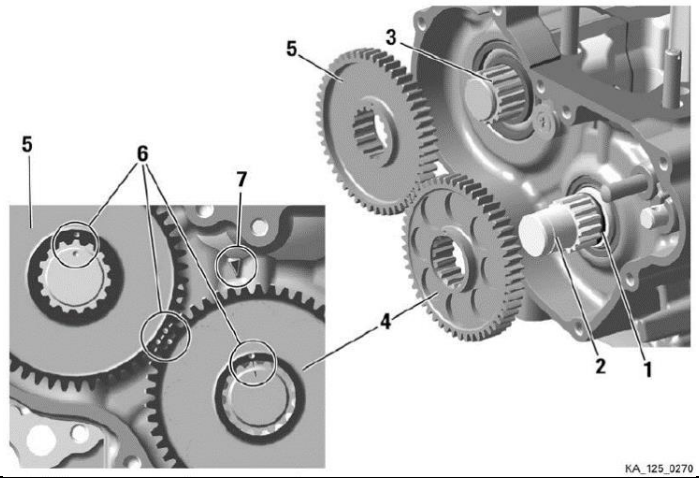


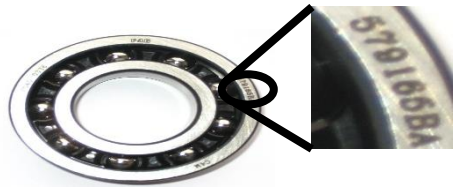
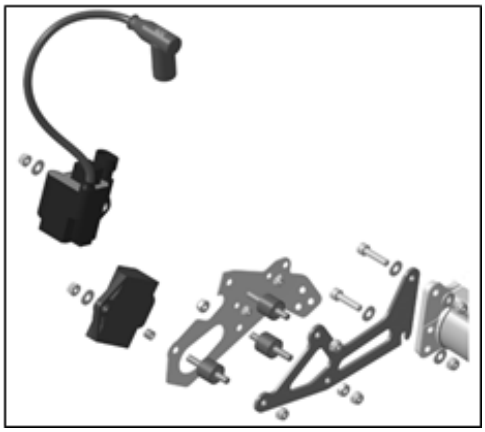
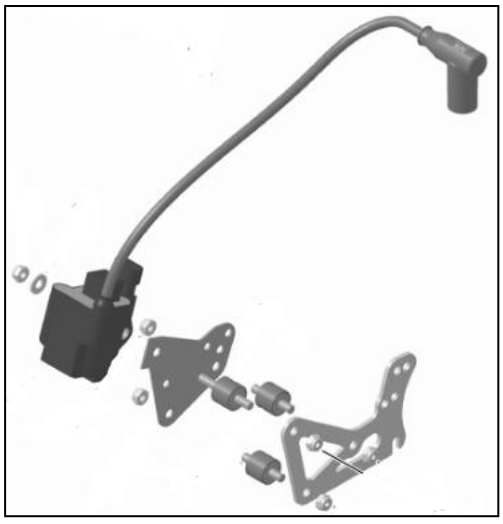
The top edge of the exhaust port may show either just a cast finish surface or signs of a CNC machining or signs of CNC machining in combination with signs of manual grinding.

The flange for the exhaust socket may show machined surface. Machined surface can be either flat or show a circular sealing bump.



1.24 / Inlet system	The inlet manifold is marked with the name ROTAX and identification code 267915 or 267916   Some factory flash removal may be present at the conjunction of the inside contour and the carburettor stop mounting face. No additional grinding or machining is permitted.
Reed valve assy	The reed valve assy. is equipped with 2 petal stops and 2 reeds, each having 3 petals. The thickness of the reeds is 0,60 mm +/- 0,10mm. Modification is not allowed.  Both reed valve assy. are legal to be used. Rotax part no. 224 380 (left picture) Rotax part no. 224 389 (right picture)
1.25 / Conrod / Crankshaft	Stroke: 54,5mm ± 0,1mm Conrod has to show forged numbers “367” or “362” (see pictures)   Shafts of conrods are not machined. Grinding or polishing of shaft of conrod is not permitted.

	Crankshaft has to be unprocessed and may not be damaged. Ignition signal on crankshaft: Fit the template (Rotax part no. 277 391) on the crankshaft. Align the hole in the template for the big end pin with the big end pin of the crankshaft. The two edges of the signal machining on the crankshaft must be in line (+/-0,5mm) with the corresponding edges (MAX) of the template. 
1.26 / Balance shaft / drive	Balance shaft and balance gears must be installed. Configuration of part (Rotax part nr. 237 949) only is legal.  Surface (1) is not machined and must show cast surface. Measurement from centre of balance shaft to outer diameter of fly weight of balance shaft at defined length must not be lower than specified: (21,50mm) see drawing. The minimum weight of the dry balance shaft must not be lower than: 255 grams for balance shaft. (Rotax part nr. 237 949) **Balance drive** Balance gears must be installed and must be aligned according to the instruction in the repair manual. Timing of the balance gears should be at any time correct as shown in the image below (see 6) Only the balance gears Rotax part nr. 234 435 (8,8mm width) are legal to be used. 

1.27 / Crankcase	As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area. Machining maybe evident in the crankcases in the area identified in the picture.  Black coated EVO crankcases must be used.
1.28 / Crankshaft main bearings	Crankshaft main bearing 6206 from FAG is only allowed to use. The bearings must be marked with 579165BA or Z-579165.11.KL or Z-579165.21.KL (see picture) 
1.29 / Ignition system	Senior EVO Dellorto ignition system. Ignition coil with separate electronic ECU box (Rotax part nr. 666 815). The ECU box is still legal to be used if the sticker is removed. Ignition coil and ECU box have to be fitted with all components according to the illustrations below. Two different mounting versions (left illustrations and right illustration) are legal:   At the mounting version as shown in the left illustration, the ground cable of the cable harness has to be connected to the lower rubber buffer of the support plate. Removing the black coating of the gearbox in specific areas, for mass connection between cable harness and engine, is a legal modification.

In case the mounting bracket is in conflict with a chassis component, the additions of 2 spacers, one per mounting hole, with a maximum thickness of 20mm between the mounting bracket and the gearbox cover is allowed.

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

Ignition coil must show two pins at the terminal. The ignition coil is labelled with two stickers : “BRP 666820” and “NIG 0105”. The ignition coil is still legal to be used if one or both stickers have disappeared.

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

The organization reserves the right at all times to exchange ignitions coils and / or ECU boxes with ignition coils and or ECU boxes from the organization.

The ECU box can be checked with the ECU box tester (Rotax part nr. 276 230)

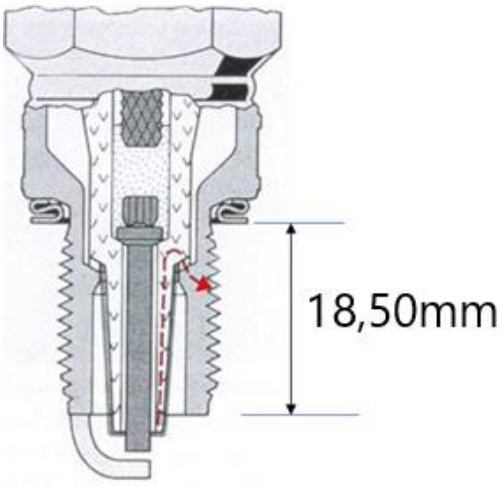
Start the test by pressing the button ✓ . After approx. 3 seconds the type of ECU box that is actually tested will be indicated in the second line of the display.
After aprrox. 30 seconds the result of the test will be indicated in the first line of the display.

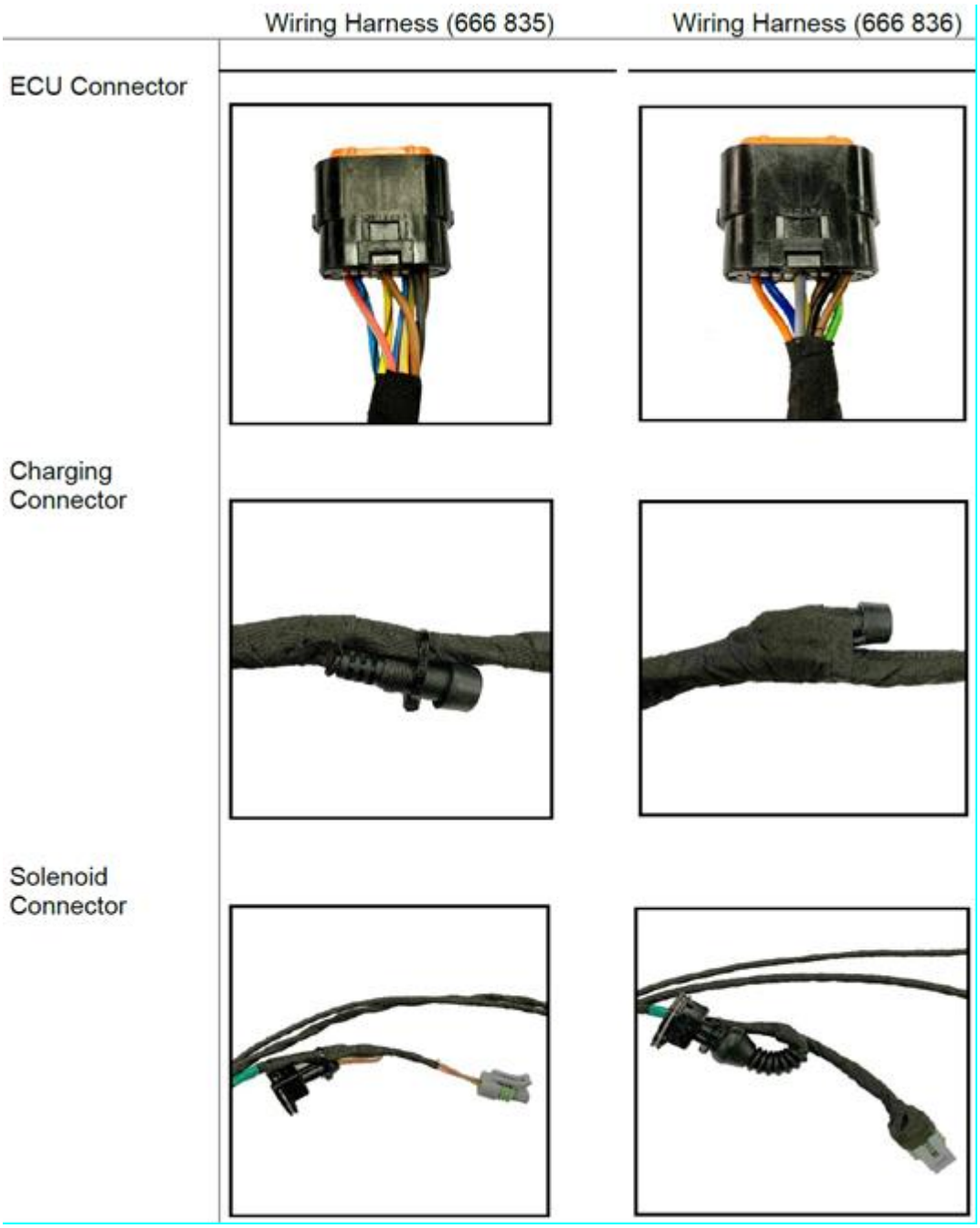
The ECU box tester has to indicate following results:

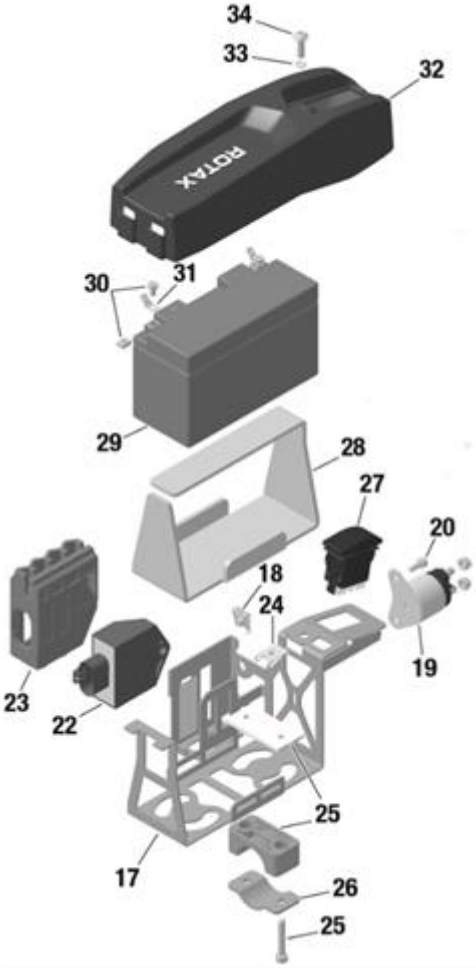
125 MAX category
1. 666815MAX
2. !! Test OK !!

The marking of the pick-up must show the following numbers in the first line : 029600-0710 followed by a variable production serial number.

Additional gasket, Rotax part no. 431 500, gasket thickness = 0,8 mm are allowed to be fitted. Maximum two.
It is not necessary to install any additional gaskets with the exception of the rubber sealing ring on crankcases with the machined sealing surface for the pick-up sensor.

1.30 / Spark plugs / caps	Following spark plugs are legal to be used: NGK GR8DI / NGK GR9DI Electrode distance: maximum 1,20 mm Maximum spark plug shaft including ring: 18,50mm.  Two versions of spark plug caps are legal to be used: Version 1. Red, marked with “NGK" Version 2. Red, marked with “ROTAX”  Version 1.  Version 2.

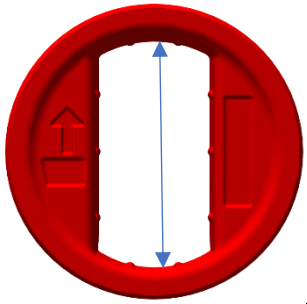
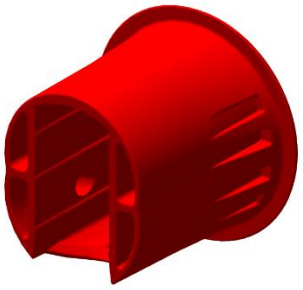
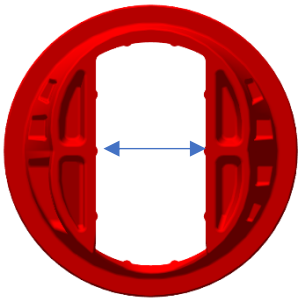
Wiring harness	Two versions of the wiring harness are allowed to be used. The differences between the two versions can easily be identified by the key points listed.  Only original plugs from the Rotax wiring harness are legal to be used.
1.31 / Battery	Original batteries with following specifications are legal to be used: • Rotax type RX7-12B • Rotax type RX7-12L (lithium iron phosphate type) • YUASA YT7B-BS Specifications of the batteries should be readable at all times. Battery must be fitted with the original battery clamp and battery cover (according to illustration) and must be fixed to the chassis with both clamps (4 screws). Battery

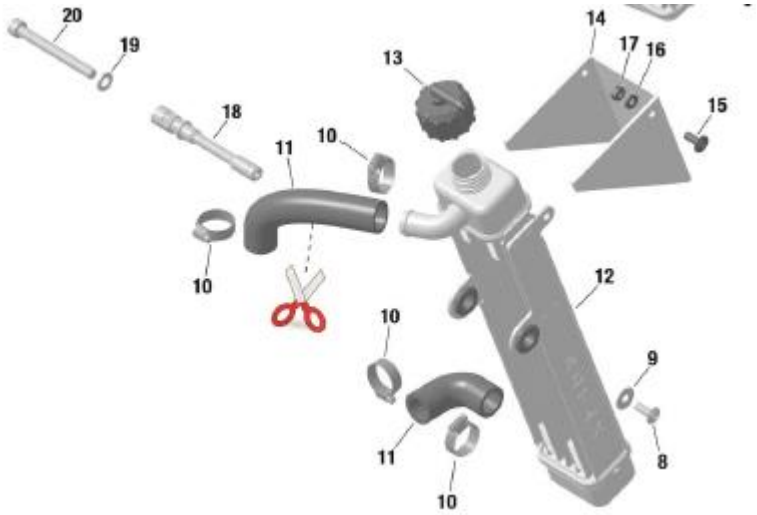
	clamp with or without cable support is legal for use. Battery clamp must be mounted on the left side of the seat.  It is an allowed option to mount rubber buffers (4 pieces) between 17 and 25. Only original plugs from the Rotax wiring harness are legal to be used.
1.32 / Carburettor	**DELLORTO Type VHSB 34**. Housing has to show the cast wording “VHSB 34”. Carburettor housing is stamped with “XS”. The complete inlet bore of the carburettor must show cast surface. Carburettor slide shows digits “45” in casting Following specifications: • Carburettor venturi insert 12,5. • Needle jet stamped with “DP267”. • Jet needle stamped with “K57”. • Start jet stamped with “60”. • Idle jet stamped with “60”. • Idle emulsion tube stamped with “45”. • Float lever according template (Rotax part nr. 277 400.) • Floats marked “4,0 gr” are legal to be used only. • Needle valve assembly stamped “150”. Needle of needle valve marked with diamond symbol “INC” only. • All jets must be correctly seated and securely fitted at any time (tightened)! • Settings of the carburettor adjustment screws (idle and idle air) are free. • Settings of main jets is free. • Optional carburettor plug (Rotax part nr. 261 030) is legal to be used. • Using the fuel sieve in the carburettor is not mandatory. (see picture)

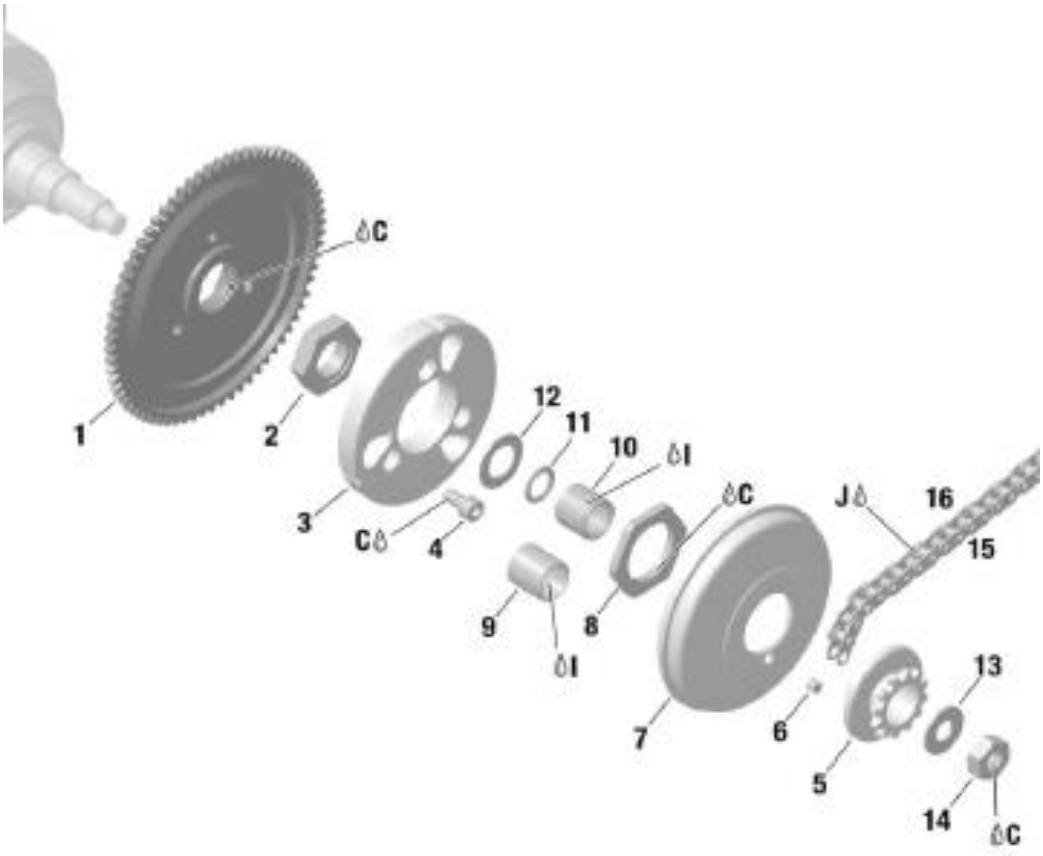
Only original Dellorto parts are legal to be used.
See checklist DELLORTO for further info.

Only the red moulded plastic throttle body restrictor (Rotax part no. 267 536) must be installed in the rear of the carburettor and in the correct orientation at all times.

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

Max distance = 35,0 mm 		
Max distance = 18,0 mm 	Min length = 35,0 mm 	

1.33 / Fuel pomp	MIKUNI fuel pump, type DF 44-210 is mandatory. Fuel pump must be mounted on the bottom side of the support bracket for the intake silencer
1.34 / Fuel filter	It is **not mandatory** to mount a fuel filter, but if a fuel filter is mounted only the version showed in the picture below is allowed. Rotax part nr. 274 161.  Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between the fuel tank and carburettor.
1.35 / Radiator	Only the original radiator (ROTAX part nr. 295 923) is legal to be used. **Cooling area:** Height: 280 mm / 300 mm Width: 58 mm / 62 mm Thickness of radiator: 30 mm / 34 mm  The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components. The removal of the radiator flap is an allowed option. To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator. Using a plate to control the air flow is not an allowed option. Tape may not be removed or loosen from the radiator during operation on the track. Any other non-original device to control the air flow through the radiator is prohibited. The radiator has to be mounted on the right side of the engine.
1.36 / Engine coolant	Plain water without any additives has to be used. The venting of the radiator should end in a reservoir.

1.37 / Clutch	Engagement speed of centrifugal clutch at maximum 4.000rpm (the kart without driver must start to move). Latest clutch version:  Only original Rotax clutch parts with Rotax logo are legal to be used. Clutch Rotax part nr. 659 907 Clutch must be mounted with bearing 15x19x17 (Rotax part nr. 632 415) including O-ring (Rotax part nr. 950 815) Signs of any emulsion from the needle/plain bearing into the clutch drum may not exceed the picture below. Contact area between clutch and clutch drum has to be dry at any time. No lubrication allowed.  

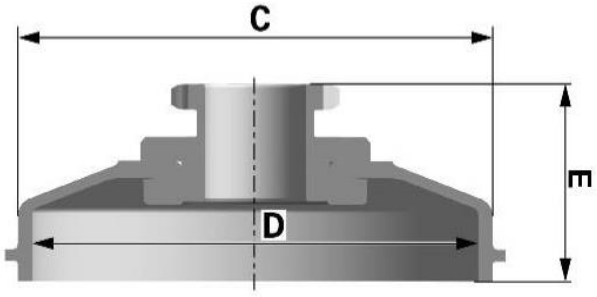
Clutch specifications at any time:

Thickness of clutch shoe (A): minimum 24,10 mm

Measurements 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).

Height of clutch (B): minimum 11,45 mm

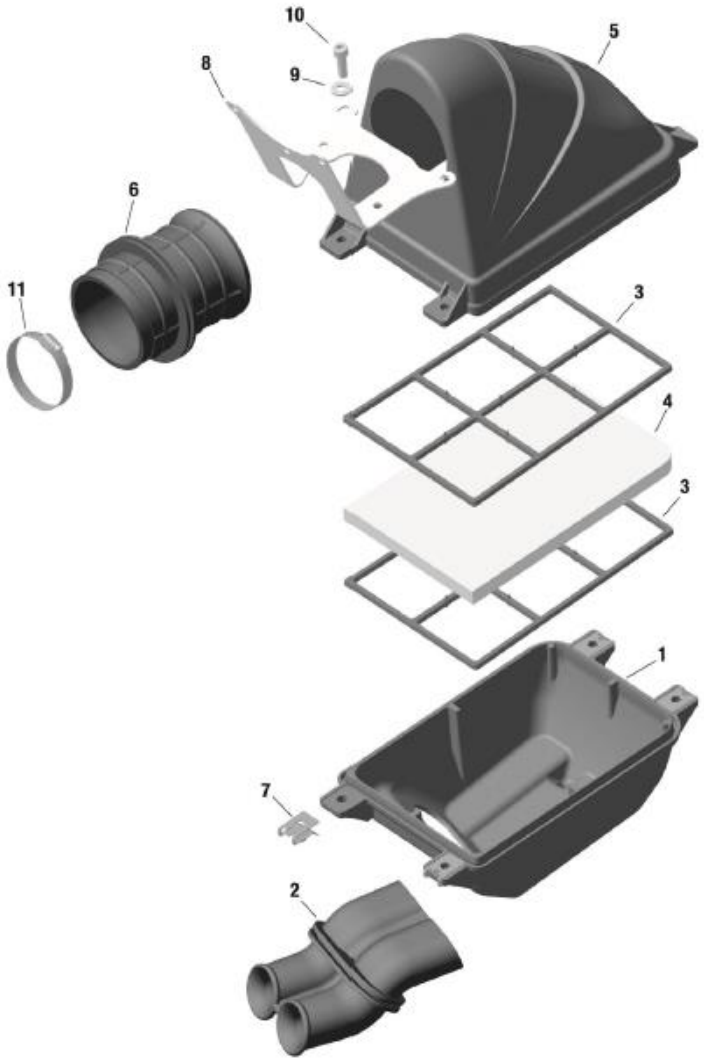
Clutch drum: (Rotax part nr. 659 930 and Rotax part nr. 659 937) are legal to be used.

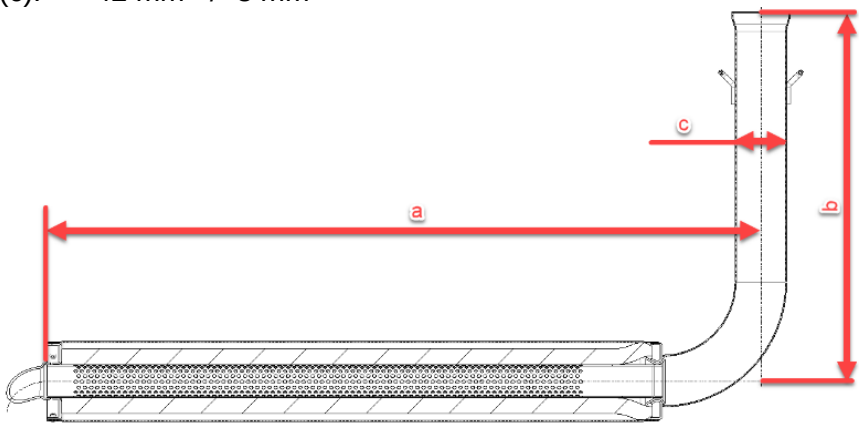
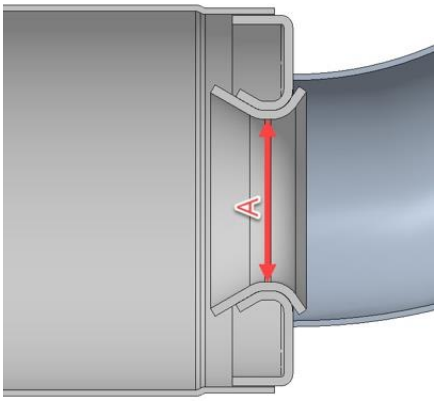
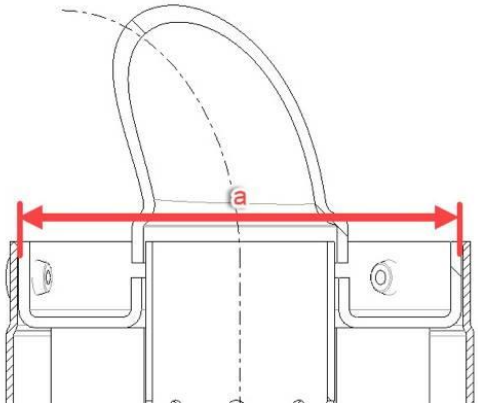


The outer diameter of the clutch drum (C): minimum 89,50 mm. Diameter has to be measured with a sliding calliper just beside the radius from the shoulder. (Not at the open end of the clutch drum).

The inner diameter of the clutch drum (D): maximum 84,90 mm. The inner diameter has to be measured with a sliding calliper. The measurement has to be done in the middle of the clutch drum (in the contact area between clutch and clutch drum).

Clutch drum height with sprocket (E): minimum 33,90 mm

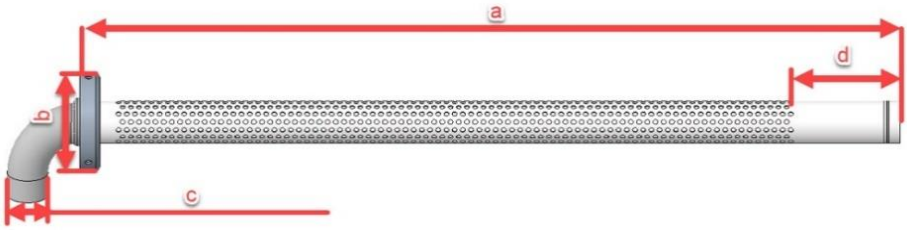
1.38 / Airbox	Intake silencer with integrated, washable air filter has to be used with all parts. and has to be mounted, in the original shape, on the support bracket with two screws (in dry and wet conditions).  Intake silencer tube (pos2) and carburettor socket (pos 6) are marked with the wording “Rotax”. Intake silencer case bottom is marked on the inside with the Rotax part nr. 225 015. Intake silencer case, top is marked on the inside with the Rotax part nr. 225 025 The ‘TWIN AIR” filter element is mandatory to use. (see picture)  Using elements with the wording “Aprillia” is not allowed!

1.39 / Exhaust system	A specific exhaust system has to be used for the 125 Micro MAX engine: Rotax part nr. 273 136 The exhaust external body is a common component to Mini MAX, but with alternative internal components (Inserts). 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. The measurements in the diagram below are as follows: (a): 580 mm +/- 5 mm (b): 299 mm +/- 5 mm (c): 42 mm +/- 3 mm  A steel ball with a 28.0mm diameter must not pass through Section “A” 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. (Internal exhaust components must first be removed)  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 mounted to rigid mounts using 2 ROTAX silent blocks. (Rotax part nr. 660 920 and/or Rotax part nr. 260 657 are 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.

Micro MAX Perforated tube:
ROTAX part nr. 273 212

The measurements in the diagram below are as follows:
(a) at least 498 mm
(b) minimum outside diameter of 61mm
(c) maximum outside diameter of 26mm
(d) minimum length 63mm



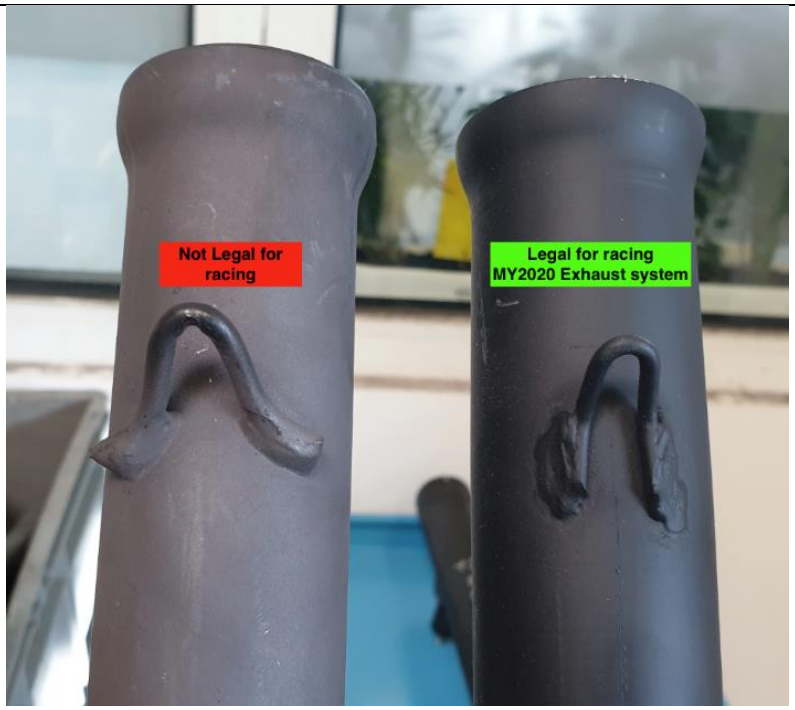
The measurements in the diagram below are as follows:
(a) : minimum outside diameter of 26.00 mm

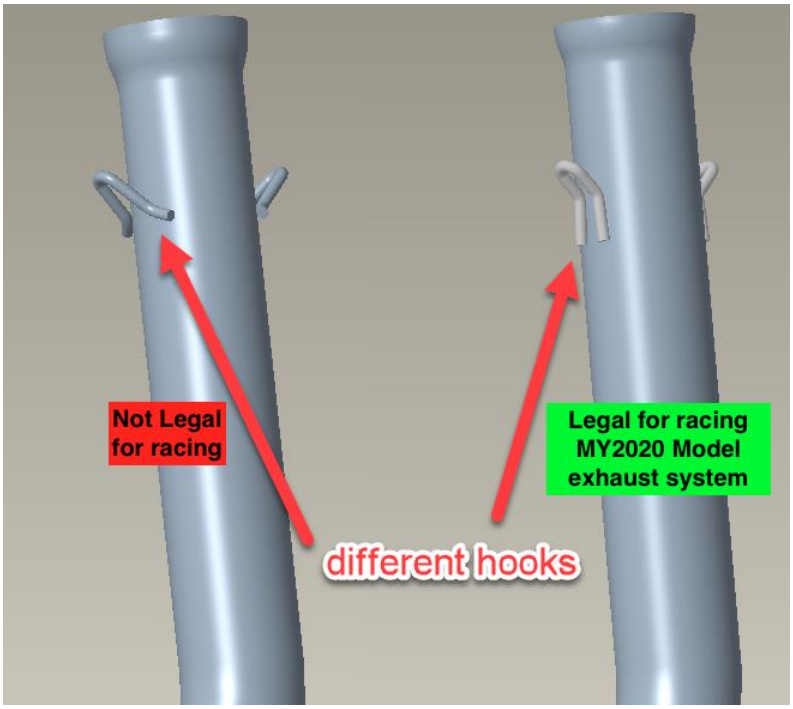
The only legal isolation matting for Micro MAX is Rotax part nr. 297 982
The steel isolation matting Rotax part nr. 297 983 is not allowed to be used.

Size minimum 480 x 270mm (+/-10mm)
Weight 207gr (176g – 238g)
Used weight minimum 140g
NOTE:
The only exhaust system allowed for racing in the Micro MAX category is the MY2020 version.
The exhaust has 3 clear visual differences to identify the MY2020 version. (see pictures below)

- Exhaust hooks
- Connecting socket / ball joint connect at manifold
- Wall thickness of the exhaust system is 1.0mm (older exhaust system which is not allowed for racing has a wall thickness of 1.5mm)

Welding a socket (in a distance of 50-80 mm from the ball joint) on the top of the exhaust system for measuring the exhaust gas temperature is an allowed option.

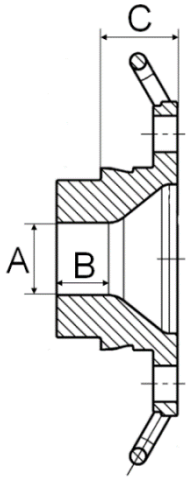
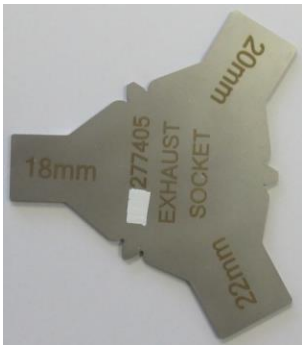




Each entrant has to buy a new isolation matting through the organization during registration (voucher system).

During scrutineering all mechanics have to come with a dismounted and disassembled, without isolation matting, exhaust to the Scrutineer.
The exhaust has to be proper and clean.

The exhaust must be fitted with this new isolation matting in the presence of the technical scrutineer. Once the isolation matting is fitted, the exhaust will be sealed with a barcode seal.
Also, the racenumber of the driver will be marked on the exhaust.
All exhausts stay in the Parc-Ferme area during the event.

1.40 / Exhaust restrictor	Only exhaust restrictor (Rotax part nr. 273 192) including seal ring is legal to be used. Gasket (Rotax part nr. 250 271) is mandatory between exhaust restrictor and cylinder and has to seal perfectly.  Diameter (A) must apply for a length (B) of at least 13,5 mm Inner diameter (A) of exhaust sockets is: 18mm +0,3 / -0,3 mm. B measurement: minimum 13,5 mm C measurement: minimum 18,5 mm Modification is not allowed. 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”) 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.
1.41 / Gear / sprocket	Rear sprocket type: 219. Engine sprocket: 14t with wording “Rotax” Rear sprocket : 72t
1.42 / Fuel test	The organization has the right to test the fuel at any time.
1.43 / Fuel	It is only allowed to use fuel with 98 octane. Checks will be done with a Digatron DT-47FT fuel tester which is calibrated in pure liquid cyclohexane. If the value (result) of the check is higher than +60 or lower than -30 the driver will be disqualified from the session. Each race the organisation will recommend a fuel station. If fuel is changed by the organisation, the driver will receive, from the designated fuel station, 98 octane fuel that is mixed with 2% Xeramic XPS DYE oil.

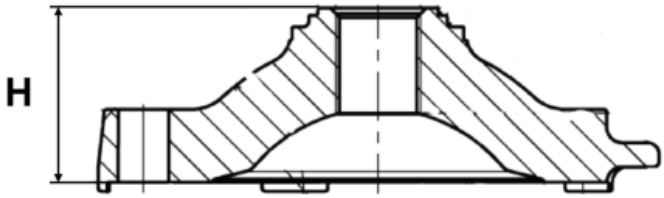
ART. 2. Technical Regulations EVO MINI MAX

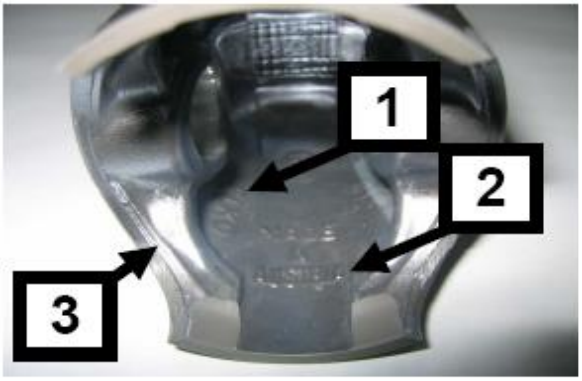
2.00 / Chassis	Maximum one chassis per competitor per event (weekend). Only CIK/FIA homologated chassis ór chassis that have been manufactured by CIK/FIA homologated factories. The homologation sheet has to be available at any time. If the chassis is CIK/FIA homologated also all parts have to be used according the CIK/FIA chassis homologation. (Art.2.00 till 2.06 including)		
Wheelbase	Minimum: 850 mm	Maximum: 950 mm	
Chassis pipe	Ø 28 mm Magnetic steel / Wall thickness 2 mm ± 0,2mm		
2.01 / Brakesystem	Mechanic or hydraulic. Between the master brake cylinder and the brake pedal an extra security brake cable is mandatory. Minimum 1,8mm thickness. Also, an extra security clip is mandatory at the brake pads. A ceramic brake disc is not allowed.		
2.02 / Rear axle	Magnetic material only.		
Diameter	Maximum Ø30 mm		
Wall thickness	Minimum 4,9 mm (entire length).		
2.03 / Rims	Aluminium or magnesium / Diameter 5 inch		
Front rim	115mm (tolerance +/- 6mm) measured to the outside of the rim.		
Rear rim	145mm (tolerance +/- 6mm) measured to the outside of the rim.		
Rim modifications	Any additions to the rims are not allowed. Except: adhesive balancing lead. Bead retaining screws are not mandatory.		
Maximum width	Maximum 120 cm / measured to the outside of the rim		
2.04 / Tyres	MOJO®		
Dry	MOJO C2 CIK with barcode	Front 10x4.00x5	Rear 11x5.00x5
Rain	MOJO CW CIK with barcode	Front 10x3.60x5	Rear 11x4.50x5
	Slick race tires must be ordered in advance through the organization. (voucher system). One set of slick tires per event is allowed. (Two front and two rear tires) Tires must be mounted according to the direction of rotation defined on the tire. If it's detected on the pre-grid area that a driver has fitted his tires incorrectly (wrong direction) then he will be moved to the repair zone. The driver has the possibility to assemble his tires correctly, with the help of one (1) mechanic. Only putting the tires in the correct direction is allowed. It is not allowed to do other technical changes. Afterwards he may start, but only when the start is given. He is not entitled to participate in the formation laps. If the observation takes place after the race, the driver will be excluded from the relevant part of the competition. It is not allowed to modify the tires. The brand name, code number, barcode and the indications always need to be visible on the tires. Only normal air is allowed to fill the tires.		
2.05 / Rear bumper	The plastic bumper must be homologated. And cover at least 2/3 of the rear wheels and may not protude the rear tires.		
2.06 / Side-pods Front panel Front fairing	Only a complete homologated plastic spoilerset is allowed. The complete spoiler set should have the same homologation number. The homologation sheet has to be available at any time. Using composite like carbon fiber is not allowed. For security reasons it is mandatory to use a front bumper with a minimum width of 82 centimeters. Only plastic frame protection parts (left, right, front) is allowed. The complete set should be free of damage. A CIK front fearing bumper is mandatory for all type of chassis and has to be mounted according the CIK regulations.		
2.07 / Fuel tank	The plastic fuel tank should be mounted in a correct way, at the appropriate place. All vents must end up in a reservoir.		

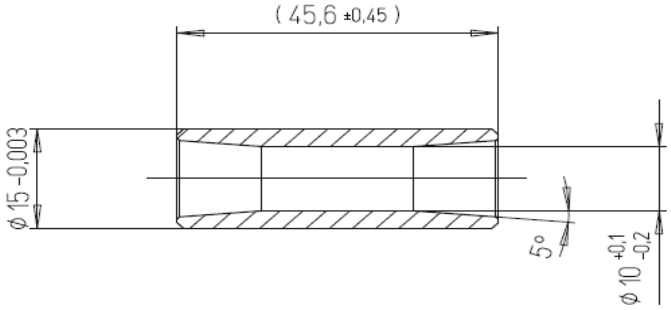
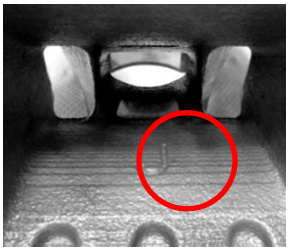
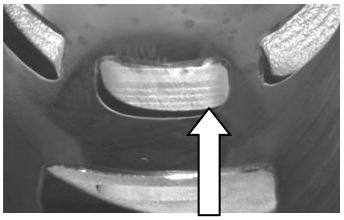
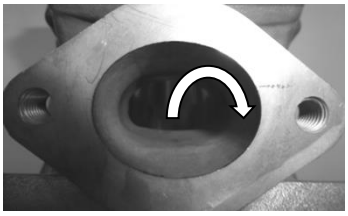
2.08 / Weights and clothing	Minimum 120 kg on each moment of the event. Kart + complete race gear. A driver must be equipped and appear for inspection with the following gear: (see timetable) Complete equipment must comply with the CIK regulations A turbo visor is allowed in case of rain Gloves which cover the entire hand High shoes that cover and protect the ankles. The responsible doctor on the event may, for safety reasons, disapprove certain types of breast, neck or rib protections. A neck protection is **mandatory.** From the moment when the driver goes on track, he must wear the mandatory race gear as described in this article.
2.09 / Race numbers	Yellow plate with black digits (Numbers 101 – 199) (Front, rear, left and right sides)
2.10 / Data systems	Data logging with or without a GPS module is allowed. Data from the GPS module may only be saved in a system which has been mounted on the kart. Every other form of telemetry or radio communication is not allowed. Transferring data during sessions to a device, other than the data logger on board is not allowed. Power to activate the data system should be taken from a separate battery. It is not allowed to take power from the battery that is meant for the engine.
2.11 / Seat	The seat has to be fixed at minimum 4 places, 2 at the top (left and right) and 2 on the bottom (left and right) All seat supports have to be fixed with washers with a minimum thickness of 1,5 mm and a diameter of 40 mm
2.12 / Ballast	Drivers who are lighter than the required minimum weight shall attach extra weight on their kart, until they reach the prescribed weight. Lest may only be installed on the chassis or on the seat. The Technical Scrutineering can force each driver to mount lest on another place. Lest shall be mounted so that everyone's security is guaranteed at all times: • Up to 3kg: at least with 2x M6 bolts including washer • Up to 6kg: at least with 2x M8 bolts including washer • Up to 10kg: at least with 4x M8 bolts including washer
2.13 / Cameras	Drivers may use a camera if mounted in an appropriate way **and accepted by the Scrutineers**. Helmet cameras are not allowed. Clips, etc, for mounting a camera may not be fit on the helmet.

Engine – Rotax EVO MINI MAX

2.14 / Foreword	These regulations will be valid as of 1st of February 2021 and will replace all previous regulations. Only original spare parts which are manufactured by Rotax BRP are legal to be used. Any modifications are not allowed. Helix reparations with heli coils and/or wire bushes are allowed.
2.15 / Engines	Each race-meeting it is allowed to enter two engines. The engines should be sealed with an official Rotax seal. The engine registration card has to be available at any time.
2.16 / Squish	Minimum 1,20 mm (including possible carbon deposits)

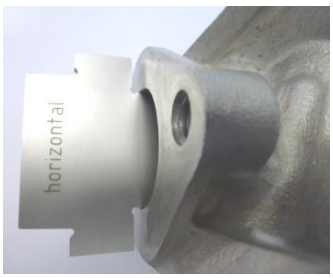
Measurement method	The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax part no. 580 130). The crankshaft must be turned by hand slowly over top dead centre to squeeze the tin wire. The squish gap must be measured on the left and right side in the direction of the piston pin. Engine temperature below 30 degrees Celsius The average value of the two measurements counts.
2.17 / Combustion chamber insert	Cast identification code has to be "223 389" or "223 389 1" or "223 389 2" or 223 389 2/1" or “223 389 2/2”. Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.  Height of the combustion chamber insert has to be **28,80mm +/- 0,2mm (H**)  The profile of the combustion chamber insert has to be checked with a template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile. 
2.18 / Cilinder head cover	It is allowed to change the colour of the cilinderhead cover for indentification.

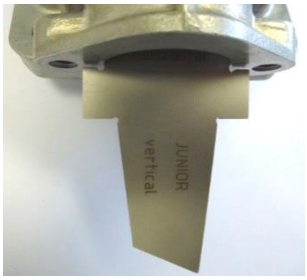
2.19 / Piston with ring assembly	Original, coated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" (1) and "MADE IN AUSTRIA" (2)  Machined areas are: • Top end of piston • Outside diameter • Groove for the piston ring • Bore for the piston pin • Inside diameter at bottom end of piston • Some pre-existing factory removal (3) of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface. Any mechanical treatment or rework of the piston is forbidden, (e.g. removal of carbon deposits). Cleaning without changing the original surface is allowed. If carbon is removed it must be consistently removed across the entire surface without altering the profile of the piston itself. Example: selectively removing carbon in the squish measurements areas is forbidden.
Piston ring	Original, magnetic, rectangular piston ring. Ring height: 0,98 +/- 0,02 mm. Piston ring is marked either with "Rotax 215 547", "Rotax 215 548", “Rotax 215 548 X”, or “I ROTAX 215548 X” The piston ring is legal also if just parts of the marking are still visible. 

2.20 / Piston pin	Piston pin is made out of magnetic steel. Dimensions must be according to the drawing. The minimum weight of the piston pin must not be lower than: 31,00 grams 
2.21 / Cylinder	Cylinder types >2017, Rotax part nr.: 223994 marked with the letter “J” are the **only types that are allowed. All other types are banded.** The central boost port and exhaust port may show factory machining. See pictures below:   
2.22 / Maximum bore	54,035 mm (measured 10mm above the exhaust port)
2.23 / Cylinder measures	Height of cylinder should be 87 mm (-0,05 / + 0,10mm)  Exhaust port timing: 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). Insert the template for Junior Max cylinder 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 (nikasil). 

The horizontal and vertical dimensions of the exhaust port with fully CNC machined exhaust port only) have to be checked with the template (Rotax part no. 676 240).

The template has to be moved in horizontal and vertical position as far as possible into the exhaust port. In both directions the template may not touch the exhaust socket flange.

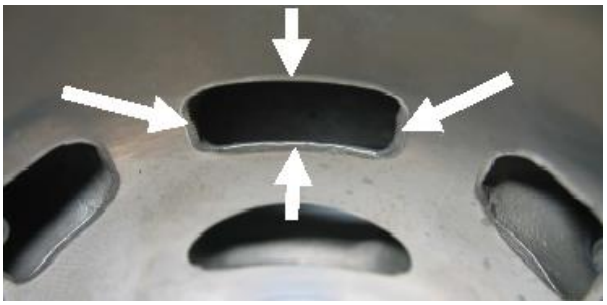




All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage, exhaust port and passages.

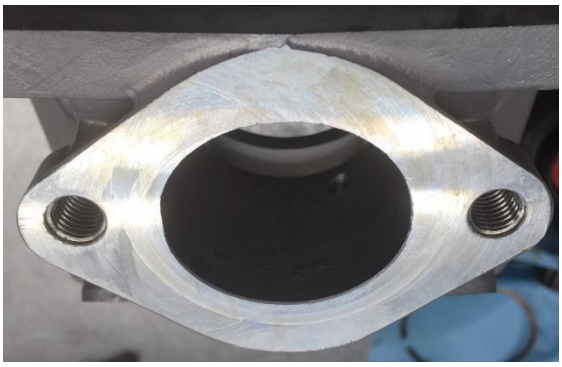
Any modification is strictly forbidden!

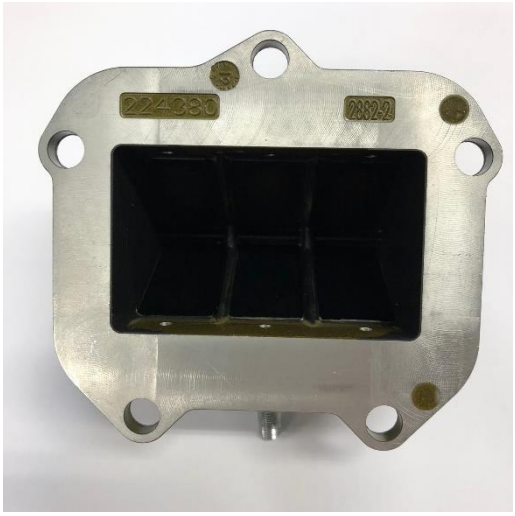
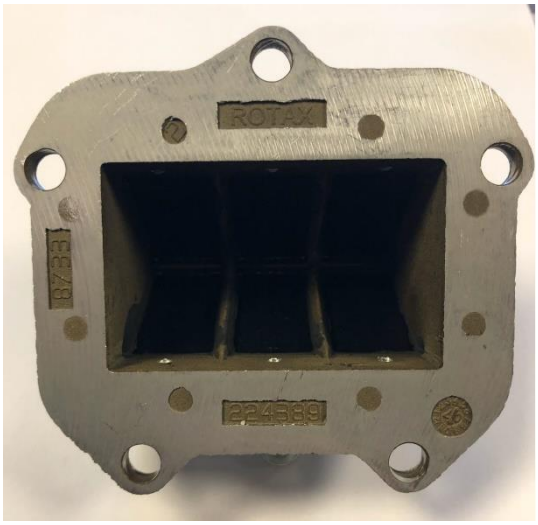
All ports have chamfered edges. See picture.

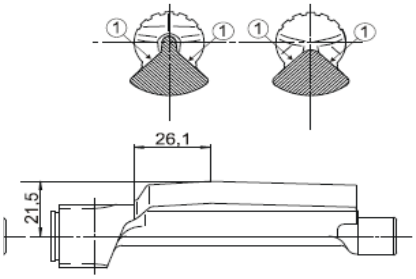
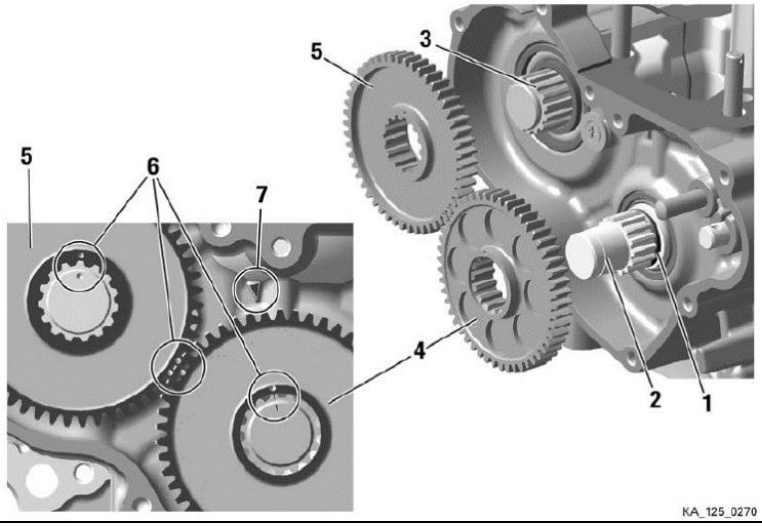


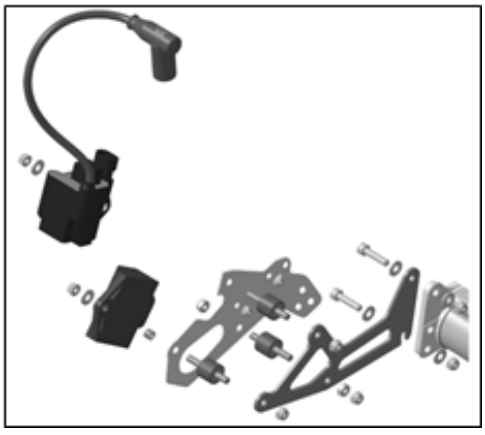
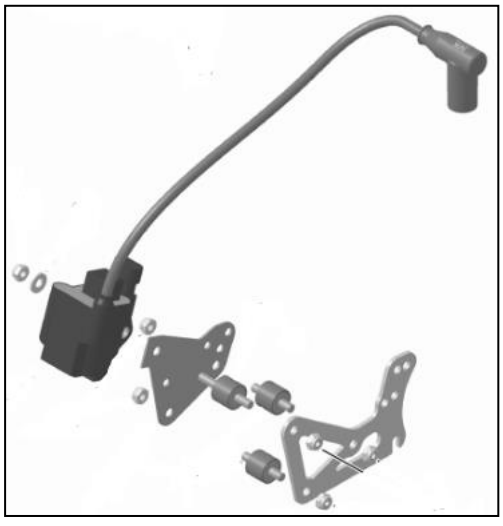
The top edge of the exhaust port may show either just a cast finish surface or signs of a CNC machining or signs of CNC machining in combination with signs of manual grinding.

The flange for the exhaust socket may show machined surface. Machined surface can be either flat or show a circular sealing bump.



2.24 / Inlet system	The inlet manifold is marked with the name ROTAX and identification code 267915 or 267916   Some factory flash removal may be present at the conjunction of the inside contour and the carburettor stop mounting face. No additional grinding or machining is permitted.
Reed valve assy	The reed valve assy. is equipped with 2 petal stops and 2 reeds, each having 3 petals. The thickness of the reeds is 0,60 mm +/- 0,10mm. Modification is not allowed.   Both reed valve assy are legal to be used. Rotax part no. 224 380 (left picture) Rotax part no. 224 389 (right picture)
2.25 / Conrod / Crankshaft	Stroke: 54,5 mm ± 0,1mm Conrod has to show forged numbers “367” or “362” (see pictures)   Shafts of conrods are not machined. Grinding or polishing of shaft of conrod is not permitted.

	Crankshaft has to be unprocessed and may not be damaged. Ignition signal on crankshaft: Fit the template (Rotax part no. 277 391) on the crankshaft. Align the hole in the template for the big end pin with the big end pin of the crankshaft. The two edges of the signal machining on the crankshaft must be in line (+/-0,5mm) with the corresponding edges (MAX) of the template. 
2.26 / Balance shaft / drive	Balance shaft and balance gears must be installed. Configuration of part (Rotax part nr. 237 949) only is legal.  Surface (1) is not machined and must show cast surface. Measurement from centre of balance shaft to outer diameter of fly weight of balance shaft at defined length must not be lower than specified: (21,50 mm) see drawing. The minimum weight of the dry balance shaft must not be lower than: 255 grams for balance shaft. (Rotax part nr. 237 949) **Balance drive** Balance gears must be installed and must be aligned according to the instruction in the repair manual. Timing of the balance gears should be at any time correct as shown in the image below (see 6) Only the balance gears Rotax part nr. 234 435 (8,8mm width) are legal to be used. 

2.27 / Crankcase	As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area. Machining maybe evident in the crankcases in the area identified in the picture.  Black coated EVO crankcases must be used.
2.28 / Crankshaft main bearings	Crankshaft main bearing 6206 from FAG is only allowed to use. The bearings must be marked with 579165BA or Z-579165.11.KL or Z-579165.21.KL (see picture) 
2.29 / Ignition system	Ignition coil with separate electronic ECU box (Rotax part nr. 666 818). The ECU box is still legal to be used if the sticker is removed. Ignition coil and ECU box have to be fitted with all components according to the illustrations below. Two different mounting versions (left illustrations and right illustration) are legal:   At the mounting version as shown in the left illustration, the ground cable of the cable harness has to be connected to the lower rubber buffer of the support plate. Removing the black coating of the gearbox in specific areas, for mass connection between cable harness and engine, is a legal modification. In case the mounting bracket is in conflict with a chassis component, the additions of 2 spacers, one per mounting hole, with a maximum thickness of 20mm between the mounting bracket and the gearbox cover is allowed.

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

Ignition coil must show two pins at the terminal. The ignition coil is labelled with two stickers : “BRP 666820” and “NIG 0105”. The ignition coil is still legal to be used if one or both stickers have disappeared.

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

The organization reserves the right at all times to exchange ignitions coils and / or ECU boxes with ignition coils and or ECU boxes from the organization.

The ECU box can be checked with the ECU box tester (Rotax part nr. 276 230)

Start the test by pressing the button ✓ . After approx. 3 seconds the type of ECU box that is actually tested will be indicated in the second line of the display.
After aprrox. 30 seconds the result of the test will be indicated in the first line of the display.

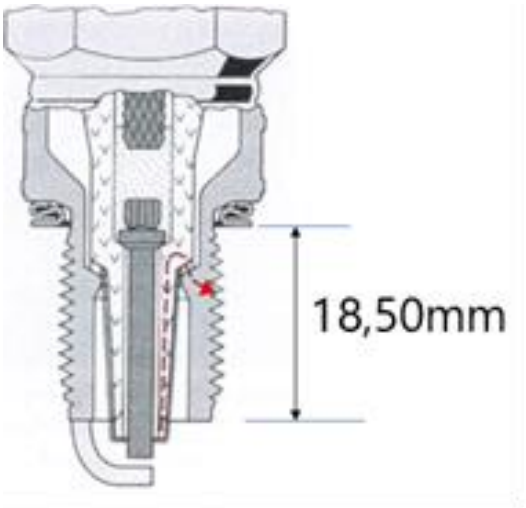
The ECU box tester has to indicate following results:

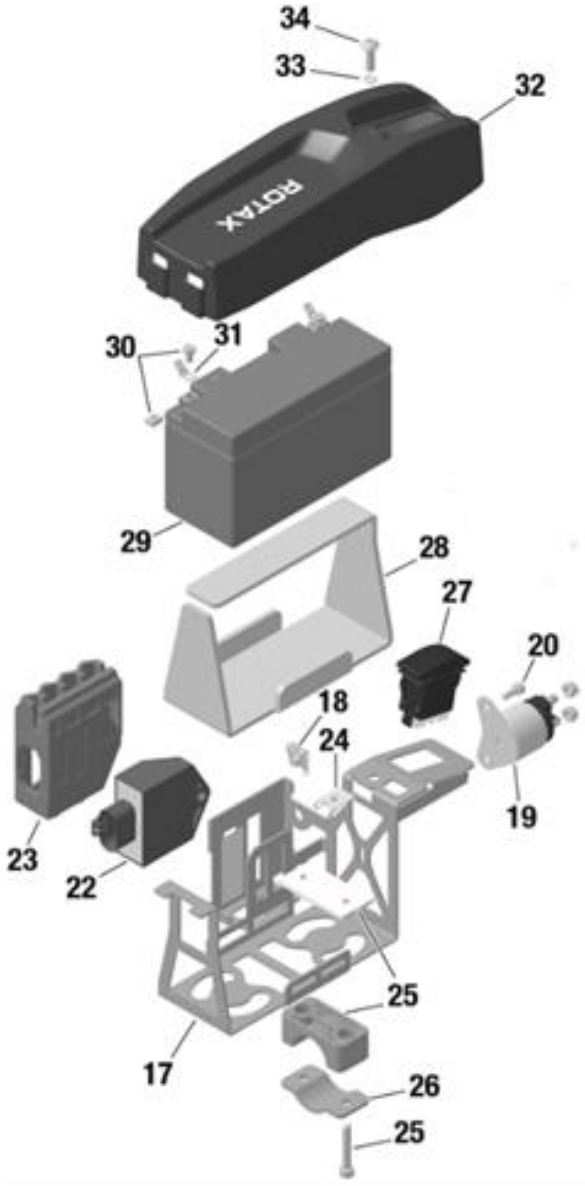
125 MINI MAX category
1. 666818MINI
2. !! Test OK !!

The marking of the pick-up must show the following numbers in the first line : 029600-0710 followed by a variable production serial number.

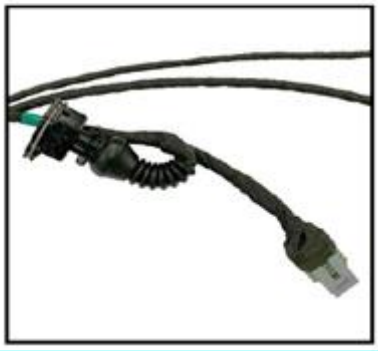
Maximum two (2) additional gaskets, Rotax part no. 431 500, gasket thickness = 0,8 mm are allowed to be fitted.

It is not necessary to install any additional gaskets with the exception of the rubber sealing ring on crankcases with the machined sealing surface for the pick-up sensor.

2.30 / Spark plugs / caps	Following spark plugs are legal to be used: NGK GR8DI / NGK GR9DI Electrode distance: maximum 1,20 mm Maximum spark plug shaft including ring : 18,50 mm.  Two versions of spark plug caps are legal to be used: Version 1. Red, marked with “NGK” Version 2. Red, marked with “ROTAX”  Version 1.  Version 2.

2.31 / Battery	Original batteries with following specifications are legal to be used: • Rotax type RX7-12B • Rotax type RX7-12L (lithium iron phosphate type) • YUASA YT7B-BS Specifications of the batteries should be readable at all times. Battery must be fitted with the original battery clamp and battery cover (according to illustration) and must be fixed to the chassis with both clamps (4 screws). Battery clamp with or without cable support is legal for use. Battery clamp must be mounted on the left side of the seat.  It is an allowed option to mount rubber buffers (4 pieces) between 17 and 25.

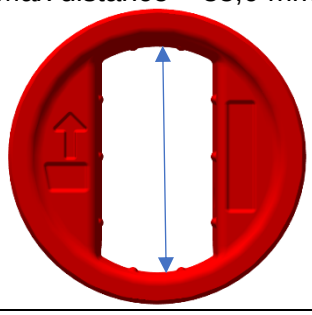
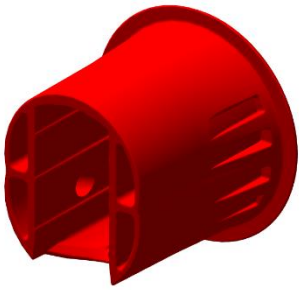
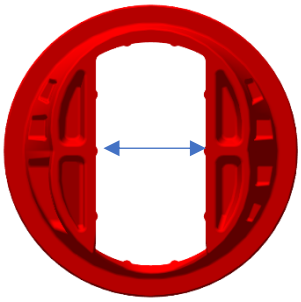
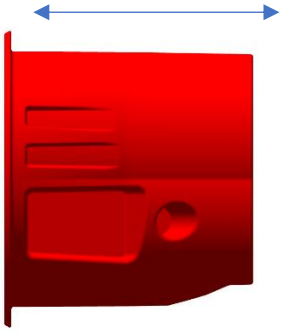
Wiring harness	Two versions of the wiring harness are allowed to be used. The differences between the two versions can easily be identified by the key points listed.

	Wiring Harness (666 835)	Wiring Harness (666 836)
ECU Connector		
Charging Connector		
Solenoid Connector		

Only original plugs from the Rotax wiring harness are legal to be used.

2.32 / Carburettor	**DELLORTO Type VHSB 34**. Housing has to show the cast wording “VHSB 34”. Carburettor housing is stamped with “XS”. The complete inlet bore of the carburettor must show cast surface. Carburettor slide shows digits “45” in casting Following specifiacations: • Carburettor venturi insert 12,5. • Needle jet stamped with “DP267”. • Jet needle stamped with “K57”. • Start jet stamped with “60”. • Idle jet stamped with “60”. • Idle emulsion tube stamped with “45”. • Float lever according template (Rotax part nr. 277 400.) • Floats marked “4,0 gr” are legal to be used only. • Needle valve assembly stamped “150”. Needle of needle valve marked with diamond symbol “INC” only. • All jets must be correctly seated and securely fitted at any time (tightened)! • Settings of the carburettor adjustment screws (idle and idle air) are free. • Settings of main jets is free. • Optional carburettor plug (Rotax part nr. 261 030) is legal to be used. • Using the fuel sieve in the carburettor is not mandatory. (see picture)  Only original Dellorto parts are legal to be used. **See checklist DELLORTO for further info.** Only the red moulded plastic throttle body restrictor (Rotax part no. 267 536) must be installed in the rear of the carburettor and in the correct orientation at all times. 

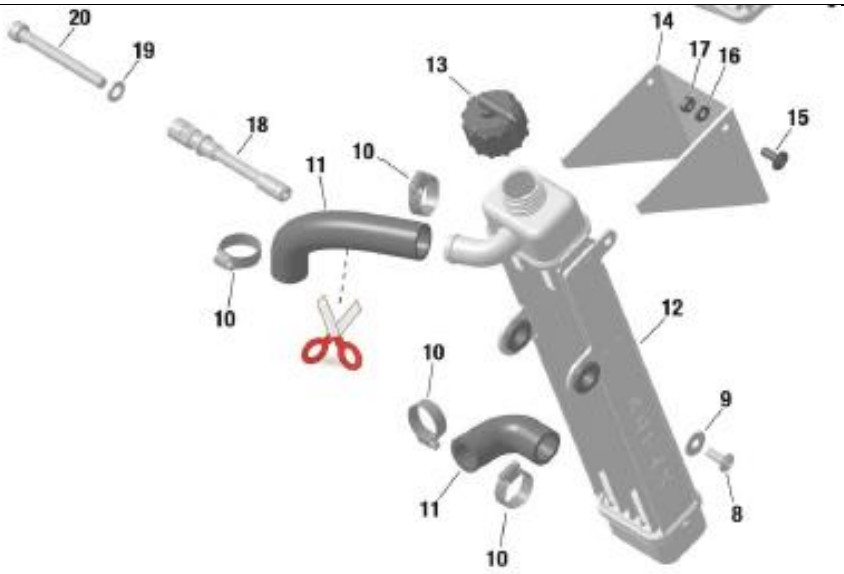
<table>
<tr><td></td><td>No modifications are allowed. The ribbed surface on the inlet is to help ensure dimensions have not been modified.

<table>
<tr><td>Max distance = 35,0 mm
  </td><td>  </td><td>  </td></tr>
<tr><td>Max distance = 18,0 mm
  </td><td>Min length = 35,0 mm
  </td><td>  </td></tr>
</table>
</td></tr>
<tr><td>2.33 / Fuel pomp</td><td>MIKUNI fuel pump, type DF 44-210 is mandatory. Fuel pump must be mounted on the bottom side of the support bracket for the intake silencer</td></tr>
<tr><td>2.34 / Fuel filter</td><td>It is not mandatory to mount a fuel filter, but if a fuel filter is mounted only the version showed in the picture below is allowed. Rotax part nr. 274 161.

Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between the fuel tank and carburettor.</td></tr>
<tr><td>2.35 / Radiator</td><td>Only the original radiator (ROTAX part nr. 295 923) is legal to be used.

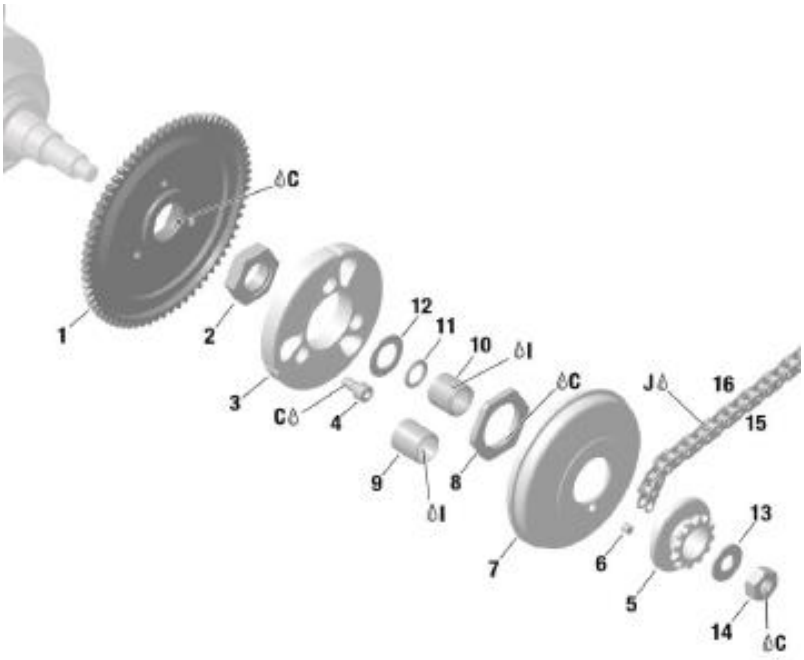
Cooling area:
Height: 280 mm / 300 mm
Width: 58 mm / 62 mm
Thickness of radiator: 30 mm / 34 mm</td></tr>
</table>



The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components.
The removal of the radiator flap is an allowed option.

To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator.
Using a plate to control the air flow is not an allowed option.

Tape may not be removed or loosen from the radiator during operation on the track.
Any other non-original device to control the air flow through the radiator is prohibited.
The radiator has to be mounted on the right side of the engine.

2.36 / Engine coolant	Plain water without any additives has to be used. The venting of the radiator should end in a reservoir.
2.37 / Clutch	Engagement speed of centrifugal clutch at maximum 4.000rpm (the kart without driver must start to move). Latest clutch version:  Only original Rotax clutch parts with Rotax logo are legal to be used. Clutch Rotax part nr. 659 907

Clutch must be mounted with bearing 15x19x17 (Rotax part nr. 632 415) including O-ring (Rotax part nr. 950 815)

Signs of any emulsion from the needle/plain bearing into the clutch drum may not exceed the picture below. Contact area between clutch and clutch drum has to be dry at any time. No lubrication allowed.

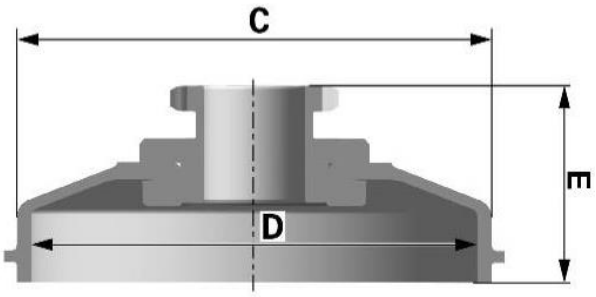
Clutch specifications at any time:

Thickness of clutch shoe (A): minimum 24,10 mm

Measurements 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).

Height of clutch (B): minimum 11,45 mm

Clutch drum: (Rotax part nr. 659 930 and Rotax part nr. 659 937) are legal to be used.



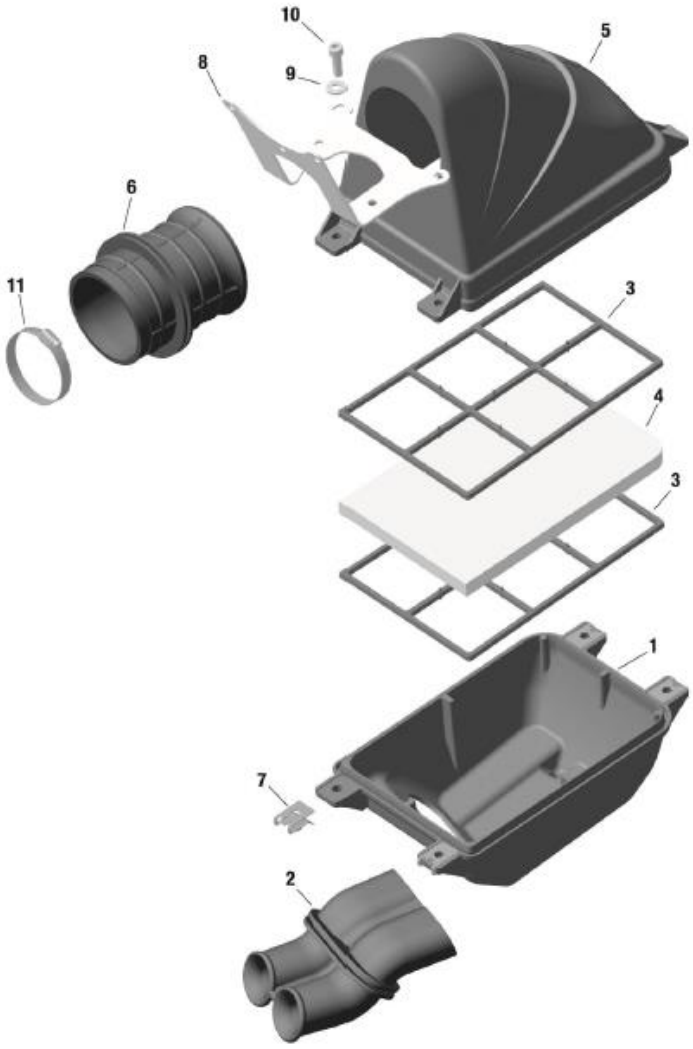
The outer diameter of the clutch drum (C): minimum 89,50 mm. Diameter has to be measured with a sliding calliper just beside the radius from the shoulder. (Not at the open end of the clutch drum).

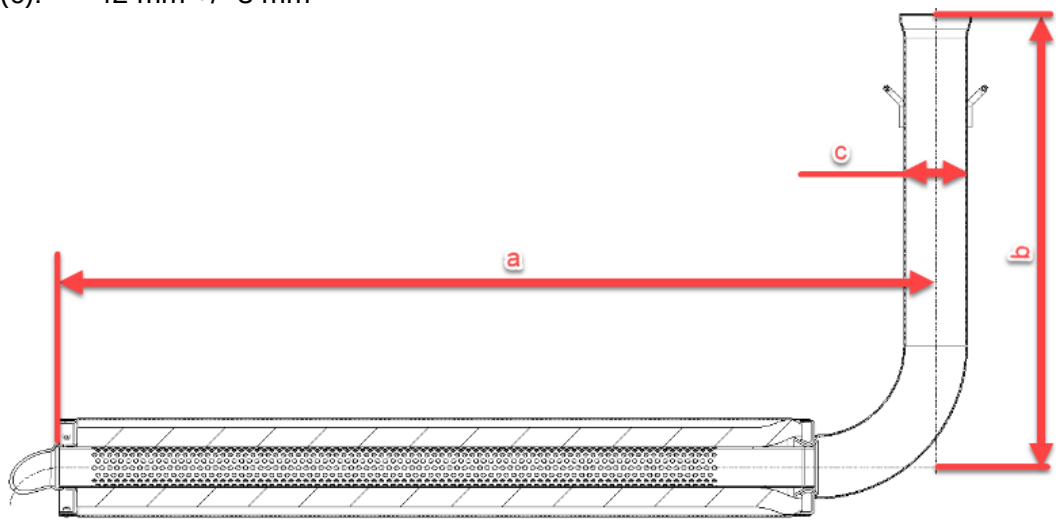
The inner diameter of the clutch drum (D): maximum 84,90 mm. The inner diameter has to be measured with a sliding calliper. The measurement has to be done in the middle of the clutch drum (in the contact area between clutch and clutch drum).

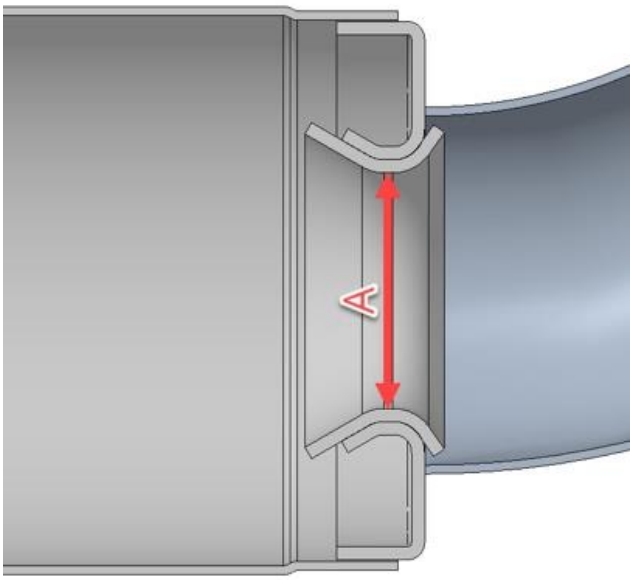
Clutch drum height with sprocket (E): minimum 33,90 mm

2.38 / Airbox

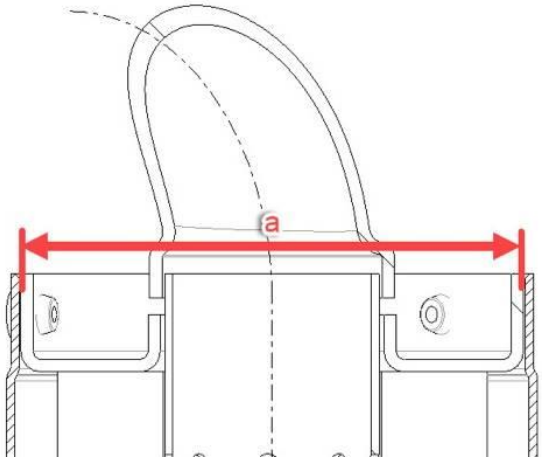
Intake silencer with integrated, washable air filter has to be used with all parts. and has to be mounted, in the original shape, on the support bracket with two screws (in dry and wet conditions).



	Intake silencer tube (pos2) and carburettor socket (pos 6) are marked with the wording “Rotax”. Intake silencer case bottom is marked on the inside with the Rotax part nr. 225 015. Intake silencer case, top is marked on the inside with the Rotax part nr. 225 025 The ‘TWIN AIR” filter element is mandatory to use. (see picture)  Using elements with the wording “Aprillia” is not allowed!
2.39 / Exhaust system	A specific exhaust system has to be used for the 125 Mini MAX engine: Rotax part nr. 273 137 The exhaust external body is a common component to Micro MAX, but with alternative internal components (Inserts). 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. The measurements in the diagram below are as follows: (a): 580 mm +/- 5 mm (b): 299 mm +/- 5 mm (c): 42 mm +/- 3 mm  A steel ball with a 28.0mm diameter must not pass through Section “A” 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. (Internal exhaust components must first be removed)



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

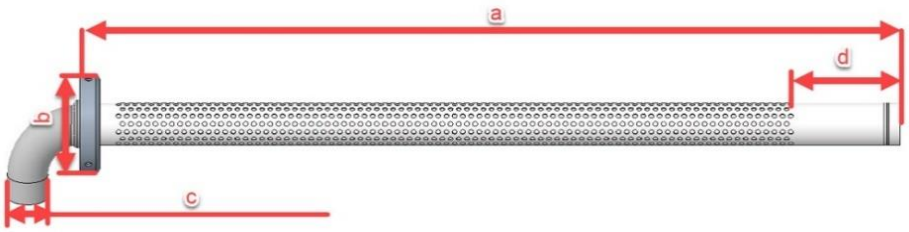


(Note: this is not a measurement of the perforated tube)

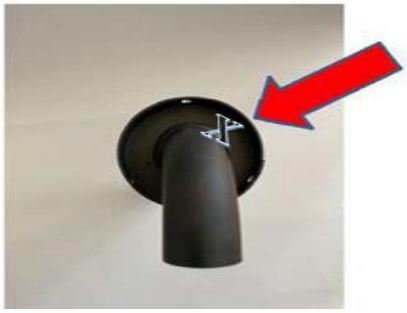
The exhaust must be mounted to rigid mounts using 2 ROTAX silent blocks. (Rotax part nr. 660 920 and/or Rotax part nr. 260 657 are allowed).
The deflection of the 2 silent blocks is the only exhaust movement allowed.
The exhaust must be mounted in a neutral position with no stress on the 2 silent blocks.

Mini MAX Perforated tube:
ROTAX part nr. 273 211

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



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



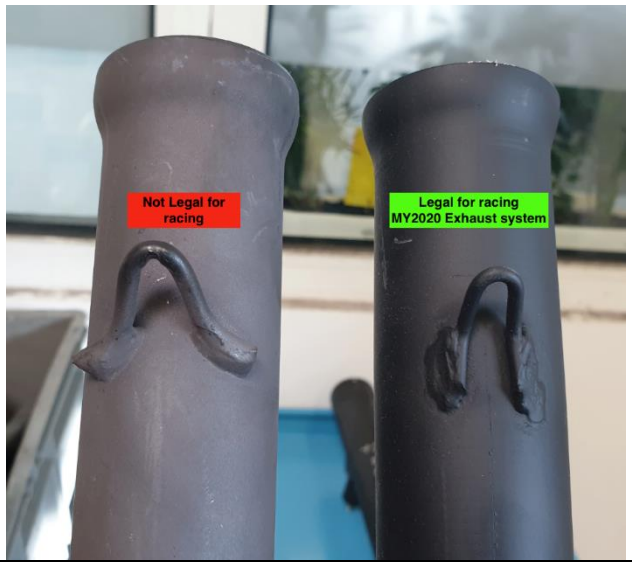
The only legal isolation matting for Mini MAX is Rotax part nr. 297 985
The steel isolation matting Rotax part nr. 297 983 is not allowed to be used.

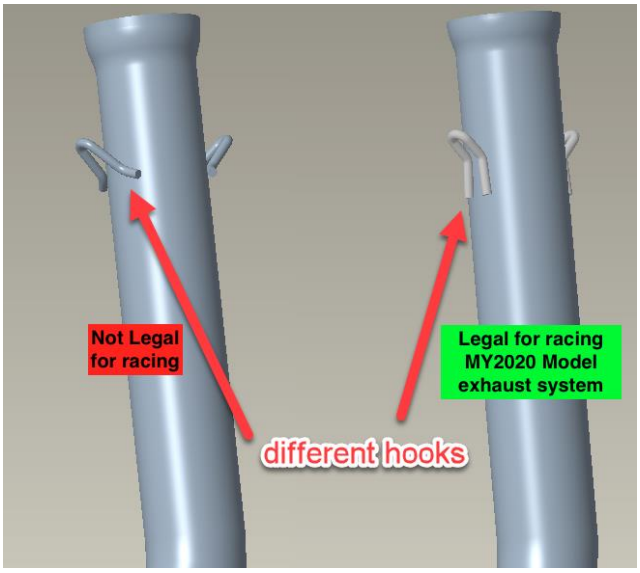
New size minimum 490x180 mm (+/-10mm)
New weight 141 gr (119 gr – 163 gr)
Used weight minimum 110 gr

NOTE:
The only exhaust system allowed for racing in the Mini MAX category is the MY2020 version.
The exhaust has 3 clear visual differences to identify the MY2020 version. (see pictures below)

- Exhaust hooks
- Connecting socket / ball joint connect at manifold
- Wall thickness of the exhaust system is 1.0mm (older exhaust system which is not allowed for racing has a wall thickness of 1.5mm)

Welding a socket (in a distance of 50-80 mm from the ball joint) on the top of the exhaust system for measuring the exhaust gas temperature is an allowed option.





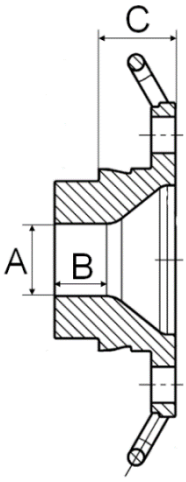
Each entrant has to buy a new isolation matting through the organization during registration (voucher system).

During scrutineering all mechanics have to come with a dismounted and disassembled, without isolation matting, exhaust to the Scrutineer.
The exhaust has to be proper and clean.

The exhaust must be fitted with this new isolation matting in the presence of the technical scrutineer. Once the isolation matting is fitted, the exhaust will be sealed with a barcode seal.
Also, the race number of the driver will be marked on the exhaust.
All exhausts stay in the Parc-Fermé area during the event.

2.40 / Exhaust restrictor

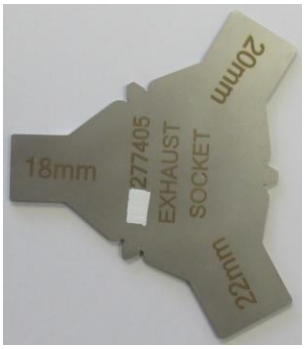
Only exhaust restrictor (Rotax part nr. 273 196) including seal ring is legal to be used. Gasket (Rotax part nr. 250 271) is mandatory between exhaust restrictor and cylinder and has to seal perfectly.



Diameter (A) must apply for a length (B) of at least 16,80 mm
Inner diameter (A) of exhaust sockets is: 22 mm +0,3 / -0,3 mm.

B measurement: minimum 16,80 mm
C measurement: minimum 18,50 mm

Modification is not allowed.

	The internal profile of the exhaust socket has to be checked with the template, Rotax 277 405.  Fit the template (**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.
2.41 / Gear / sprocket	Rear sprocket type: 219. Engine sprocket: 13t with original Rotax logo Rear sprocket : 80t
2.42 / Fuel test	The organization has the right to test the fuel at any time.
2.43 / Fuel	It is only allowed to use fuel with 98 octane. Checks will be done with a Digatron DT-47FT fuel tester which is calibrated in pure liquid cyclohexane. If the value (result) of the check is higher than +60 or lower than -30 the driver will be disqualified from the session. Each race the organisation will recommend a fuel station. If fuel is changed by the organisation, the driver will receive, from the designated fuel station, 98 octane fuel that is mixed with 2% Xeramic XPS DYE oil.

ART. 3. Technical Regulations EVO MAX JUNIOR

3.00 / Chassis	Maximum one chassis per competitor per event (weekend). Only CIK/FIA homologated chassis after 2006 are allowed. The homologation sheet has to be available at any time.		
3.01 / Brakesystem	Only hydraulic, CIK/FIA homologated brakes are allowed. The homologation sheet has to be available at any time. Front brakes are not allowed. Between the master brake cylinder and the brake pedal an extra security brake cable is mandatory. Minimum 1,8mm thickness. Also, an extra security clip is mandatory at the brakepads. A ceramic brake disc is not allowed.		
3.02 / Rear axle			
Diameter	Ø40mm of Ø50mm magnetic material, in a whole.		
Wall thickness	(40mm) minimum 2,9 mm / (50mm) minimum 1,9 mm (entire length)		
3.03 / Rims	Aluminium or magnesium / Diameter 5 inch		
Dry	Maximum 135/215mm / measured to the outside of the rim		
Rain	Maximum 130/180mm +/- 5mm / measured to the outside of the rim		
Rear width	Maximum 140cm / measured to the outside of the rim Minimum: see 3.05 “rear bumper”		
Rim modifications	Any additions to the rims are not allowed. Except: adhesive balancing lead. Bead retaining screws are mandatory.		
3.04 / Tyres	MOJO®		
Dry	MOJO D2xx CIK with barcode	Front: 4,5x10x5	Rear: 7,1x11x5
Rain	MOJO W5 CIK with barcode	Front: 4,5x10x5	Rear: 6,0x11x5
	Slick race tyres must be ordered in advance through the organisation (voucher system) Two sets of slick tyres are allowed for each meeting. It is allowed to mix the tyres during the event. (BNL Karting Series championship). One set of slick tyres is allowed for the BNL Kick-Off. Tires must be mounted according to the direction of rotation defined on the tire. If it’s detected on the pre-grid area that a driver has fitted his tires incorrectly (wrong direction) then he will be moved to the repair zone. The driver has the possibility to assemble his tires correctly, with the help of one (1) mechanic. Only putting the tires in the correct direction is allowed. It is not allowed to do other technical changes. Afterwards he may start, but only when the start is given. He is not entitled to participate in the formation laps. If the observation takes place after the race, the driver will be excluded from the relevant part of the competition. It is not allowed to modify the tires. The brand name, code number, barcode and the indications always need to be visible on the tires. Only normal air is allowed to fill the tires.		
3.05 / Rear bumper	The plastic rear bumper must be CIK homologated and cover at least 2/3 of the rear wheels and may not protrude the rear tyres.		
3.06 / Side-pods Front panel Front fairing	Only a complete CIK homologated spoiler set is allowed. The complete spoiler set should have the same homologation number. The homologation sheet has to be available at any time. Using composite like carbon fiber is not allowed. Only plastic frame protection parts (left, right, front) is allowed. The complete set should be free of damage. A CIK front fearing bumper is mandatory for all type of chassis and has to be mounted according the CIK regulations.		

3.07 / Fuel tank	The plastic fuel tank should be mounted in a correct way, at the appropriate place. All vents must end up in a reservoir.
3.08 / Weights and clothing	Minimum 145 kg on each moment of the event. Kart + complete race gear. A driver must be equipped and appear for inspection with the following gear: (see timetable) Complete equipment must comply with the CIK regulations A turbo visor is allowed in case of rain Gloves which cover the entire hand High shoes that cover and protect the ankles. The responsible doctor on the event may, for safety reasons, disapprove certain types of breast, neck, or rib protections. A neck protection is not required yet recommended From the moment when the driver goes on track, he must wear the mandatory race gear as described in this article.
3.09 / Race numbers	Yellow plate with black digits (Numbers 201 – 299) (Front, rear, left and right sides)
3.10 / Data systems	Data logging with or without a GPS module is allowed. Data from the GPS module may only be saved in a system which has been mounted on the kart. Every other form of telemetry or radio communication is not allowed. Transferring data during sessions to a device, other than the data logger on board is not allowed. Power to activate the data system should be taken from a separate battery. It is not allowed to take power from the battery that is meant for the engine.
3.11 / Seat	The seat has to be fixed at minimum 4 places, 2 at the top (left and right) and 2 on the bottom (left and right) All seat supports have to be fixed with washers with a minimum thickness of 1,5mm and a diameter of 40mm
3.12 / Ballast	Drivers who are lighter than the required minimum weight shall attach extra weight on their kart, until they reach the prescribed weight. Lest may only be installed on the chassis or on the seat. The Technical Scrutineering can force each driver to mount lest on another place. Lest shall be mounted so that everyone's security is guaranteed at all times: • Up to 3kg: at least with 2x M6 bolts including washer • Up to 6kg: at least with 2x M8 bolts including washer • Up to 10kg: at least with 4x M8 bolts including washer •
3.13 / Cameras	Drivers may use a camera if mounted in an appropriate way **and accepted by the Scrutineers**. Helmet cameras are not allowed. Clips, etc, for mounting a camera may not be fit on the helmet.

Engine – Rotax EVO MAX JUNIOR

3.14 / Foreword	These regulations will be valid as of 1st of February 2021 and will replace all previous regulations. Only original spare parts which are manufactured by Rotax BRP are legal to be used. Any modifications are not allowed. Helix reparations with heli coils and/or wire bushes are allowed.

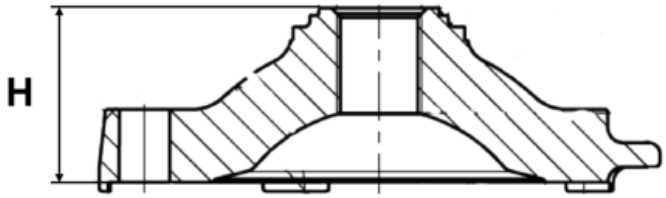
<table>
<tr><td>3.15 / Engines</td><td>Each race-meeting it is allowed to enter two engines. The engines should be sealed with an official Rotax seal. The engine registration card has to be available at any time.</td></tr>
<tr><td>3.16 / Squish</td><td>Minimum 1,20 mm (including possible carbon deposits)</td></tr>
<tr><td>Measurement method</td><td>The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax part no. 580 130).

The crankshaft must be turned by hand slowly over top dead centre to squeeze the tin wire.

The squish gap must be measured on the left and right side in the direction of the piston pin.
Engine temperature below 30 degrees Celsius

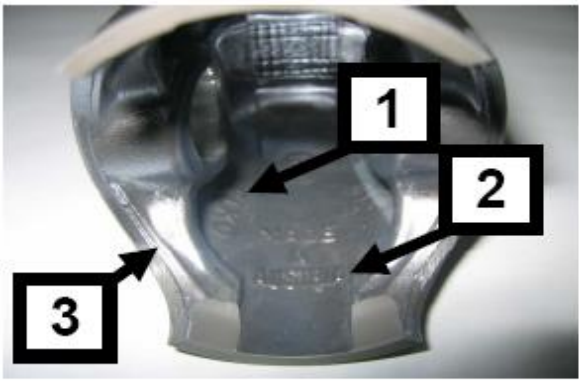
The average value of the two measurements counts.</td></tr>
<tr><td>3.17 / Combustion chamber insert</td><td>Cast identification code has to be "223 389" or "223 389 1" or "223 389 2" or “223 389 2/1" or “223 389 2/2”.
Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.
 

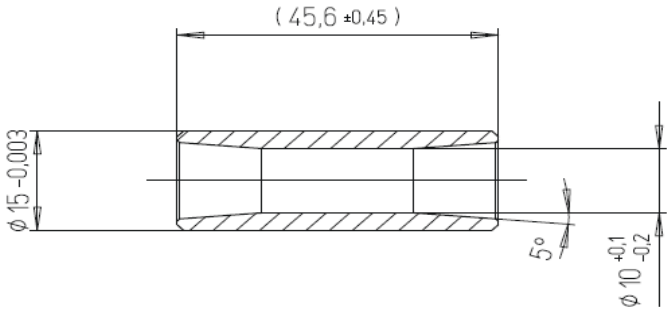
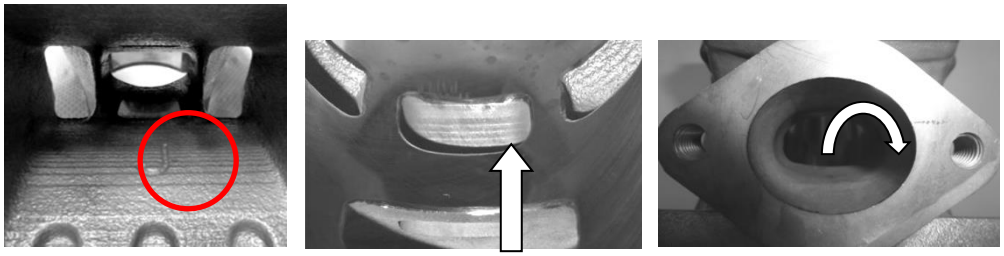
Height of the combustion chamber insert has to be 28,80mm +/- 0,2mm (H)

The profile of the combustion chamber insert has to be checked with a template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile.

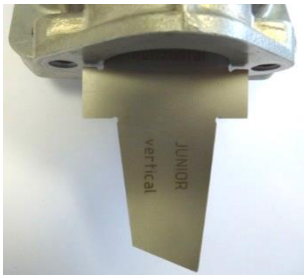
  </td></tr>
<tr><td>3.18 / Cilinder head cover</td><td>It is allowed to change the colour of the cilinderhead cover for indentification.</td></tr>
</table>

3.19 / Piston with ring assembly	Original, coated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" (1) and "MADE IN AUSTRIA" (2)  Machined areas are: • Top end of piston • Outside diameter • Groove for the piston ring • Bore for the piston pin • Inside diameter at bottom end of piston • Some pre-existing factory removal (3) of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface. Any mechanical treatment or rework of the piston is forbidden, (e.g. removal of carbon deposits). Cleaning without changing the original surface is allowed. If carbon is removed it must be consistently removed across the entire surface without altering the profile of the piston itself. Example: selectively removing carbon in the squish measurements areas is forbidden.
Piston ring	Original, magnetic, rectangular piston ring. Ring height: 0,98 +/- 0,02 mm. Piston ring is marked either with "Rotax 215 547", "Rotax 215 548", “Rotax 215 548 X”, or “I ROTAX 215548 X” The piston ring is legal also if just parts of the marking are still visible. 

3.20 / Piston pin	Piston pin is made out of magnetic steel. Dimensions must be according to the drawing. The minimum weight of the piston pin must not be lower than: 31,00 grams 
3.21 / Cylinder	Cylinder types >2017, Rotax part nr.: 223994 marked with the letter “J” are the **only types that are allowed. All other types are banded.** The central boost port and exhaust port may show factory machining. See pictures below: 
3.22 / Maximum bore	54,035mm (measured 10mm above the exhaust port)
3.23 / Cylinder measures	Height of cylinder should be 87mm (-0,05 / + 0,10mm)  Exhaust port timing: 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). Insert the template for Junior Max cylinder 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 (nikasil). 

The horizontal and vertical dimensions of the exhaust port with fully CNC machined exhaust port only) have to be checked with the template (Rotax part no. 676 240).

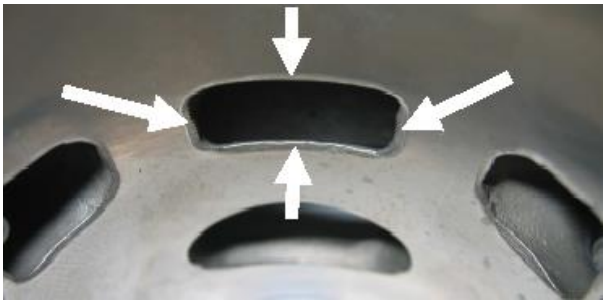
The template has to be moved in horizontal and vertical position as far as possible into the exhaust port. In both directions the template may not touch the exhaust socket flange.



All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage, exhaust port and passages.

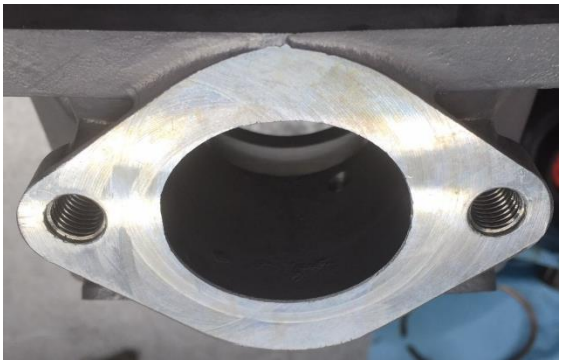
Any modification is strictly forbidden!

All ports have chamfered edges. See picture.



The top edge of the exhaust port may show either just a cast finish surface or signs of a CNC machining or signs of CNC machining in combination with signs of manual grinding.

The flange for the exhaust socket may show machined surface. Machined surface can be either flat or show a circular sealing bump.

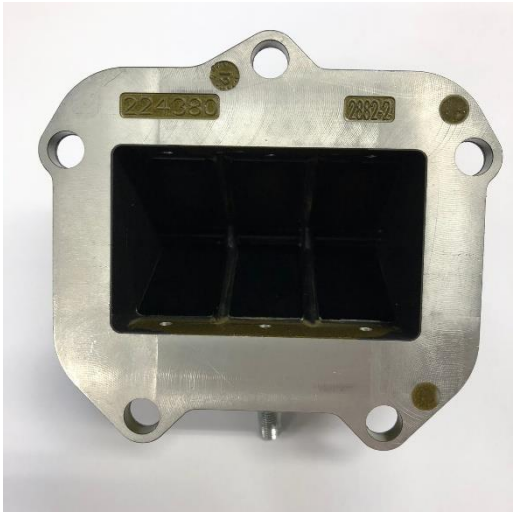


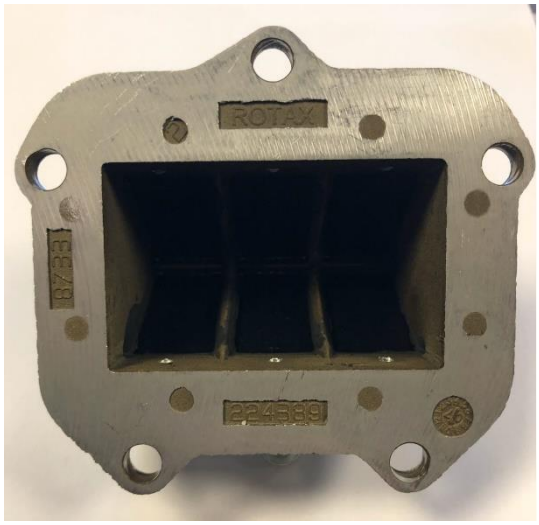
<table>
<tr><td>3.24 / Inlet system & Reed valve assembly</td><td>The inlet manifold is marked with the name ROTAX and identification code 267915 or 267916

Some factory flash removal may be present at the conjunction of the inside contour and the carburettor stop mounting face. No additional grinding or machining is permitted.</td></tr>
<tr><td>Reed valve assy</td><td>The reed valve assy. is equipped with 2 petal stops and 2 reeds, each having 3 petals. The thickness of the reeds is 0,60 mm +/- 0,10mm.

Modification is not allowed.

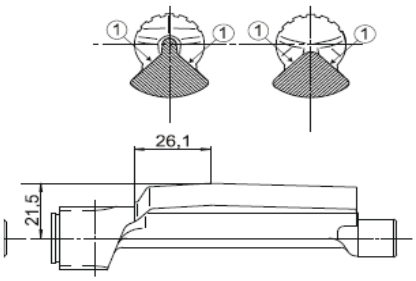
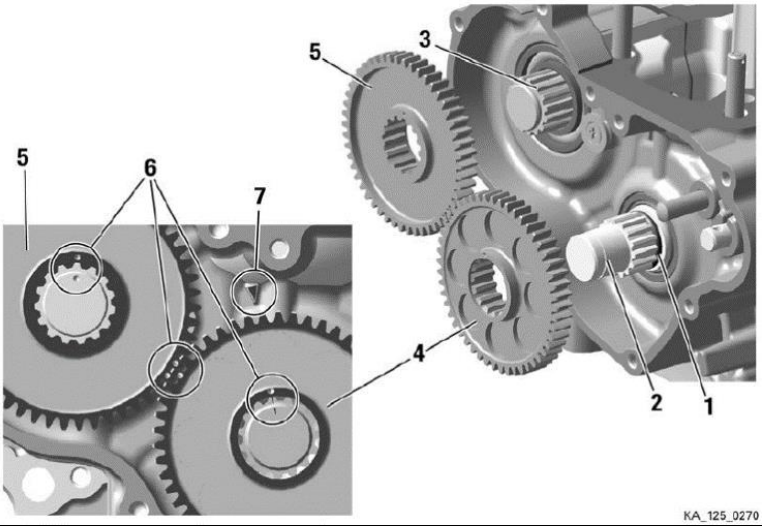


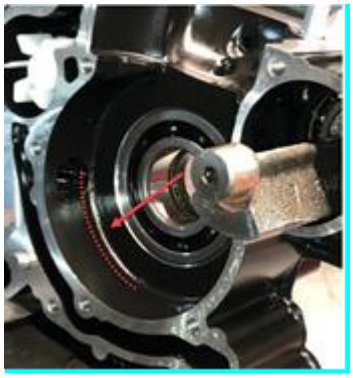
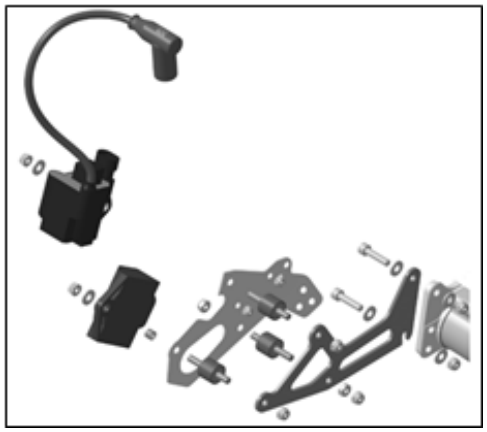
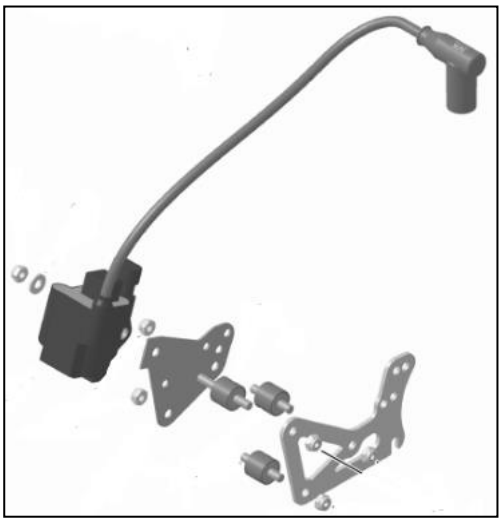
Both reed valve assy are legal to be used.

Rotax part no. 224 380 (left picture)
Rotax part no. 224 389 (right picture)</td></tr>
<tr><td>3.25 / Conrod / Crankshaft</td><td>Stroke: 54,5mm ± 0,1mm
Conrod has to show forged numbers “367” or “362” (see pictures)

Shafts of conrods are not machined. Grinding or polishing of shaft of conrod is not permitted.</td></tr>
</table>

	Crankshaft has to be unprocessed and may not be damaged. Ignition signal on crankshaft: Fit the template (Rotax part no. 277 391) on the crankshaft. Align the hole in the template for the big end pin with the big end pin of the crankshaft. The two edges of the signal machining on the crankshaft must be in line (+/-0,5mm) with the corresponding edges (MAX) of the template. 
3.26 / Balance shaft / drive	Balance shaft and balance gears must be installed. Configuration of part (Rotax part nr. 237 949) only is legal.  Surface (1) is not machined and must show cast surface. Measurement from centre of balance shaft to outer diameter of fly weight of balance shaft at defined length must not be lower than specified: (21,50mm) see drawing. The minimum weight of the dry balance shaft must not be lower than: 255 grams for balance shaft. (Rotax part nr. 237 949) **Balance drive** Balance gears must be installed and must be aligned according to the instruction in the repair manual. Timing of the balance gears should be at any time correct as shown in the image below (see 6) Only the balance gears Rotax part nr. 234 435 (8,8 mm width) are legal to be used. 

3.27 / Crankcase	As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area. Machining maybe evident in the crankcases in the area identified in the picture.  Black coated EVO crankcases must be used.
3.28 / Crankshaft main bearings	Crankshaft main bearing 6206 from FAG is only allowed to use. The bearings must be marked with 579165BA or Z-579165.11.KL or Z-579165.21.KL (see picture) 
3.29 / Ignition system	Ignition coil with separate electronic ECU box (Rotax part nr. 666 813). The ECU box is still legal to be used if the sticker is removed. Ignition coil and ECU box and magnet valve have to be fitted with all components according to the illustrations below. Two different mounting versions (left illustrations and right illustration) are legal:   At the mounting version as shown in the left illustration, the ground cable of the cable harness has to be connected to the lower rubber buffer of the support plate. Removing the black coating of the gearbox in specific areas, for mass connection between cable harness and engine, is a legal modification. In case the mounting bracket is in conflict with a chassis component, the additions of 2 spacers, one per mounting hole, with a maximum thickness of 20mm between the mounting bracket and the gearbox cover is allowed.

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

Ignition coil must show two pins at the terminal. The ignition coil is labelled with two stickers : “BRP 666820” and “NIG 0105”. The ignition coil is still legal to be used if one or both stickers have disappeared.

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

The organization reserves the right at all times to exchange ignitions coils and / or ECU boxes with ignition coils and or ECU boxes from the organization.

The ECU box can be checked with the ECU box tester (Rotax part nr. 276 230)

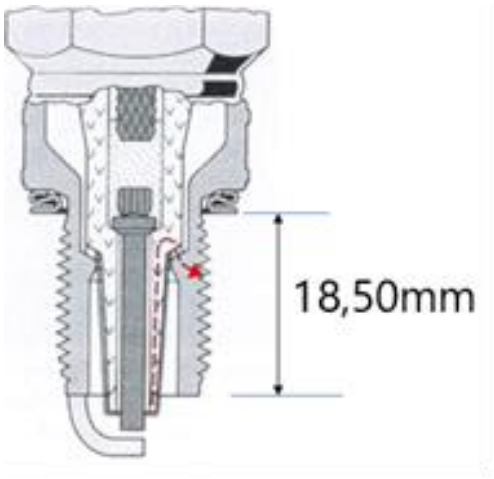
Start the test by pressing the button ✓ . After approx. 3 seconds the type of ECU box that is actually tested will be indicated in the second line of the display.
After aprrox. 30 seconds the result of the test will be indicated in the first line of the display.

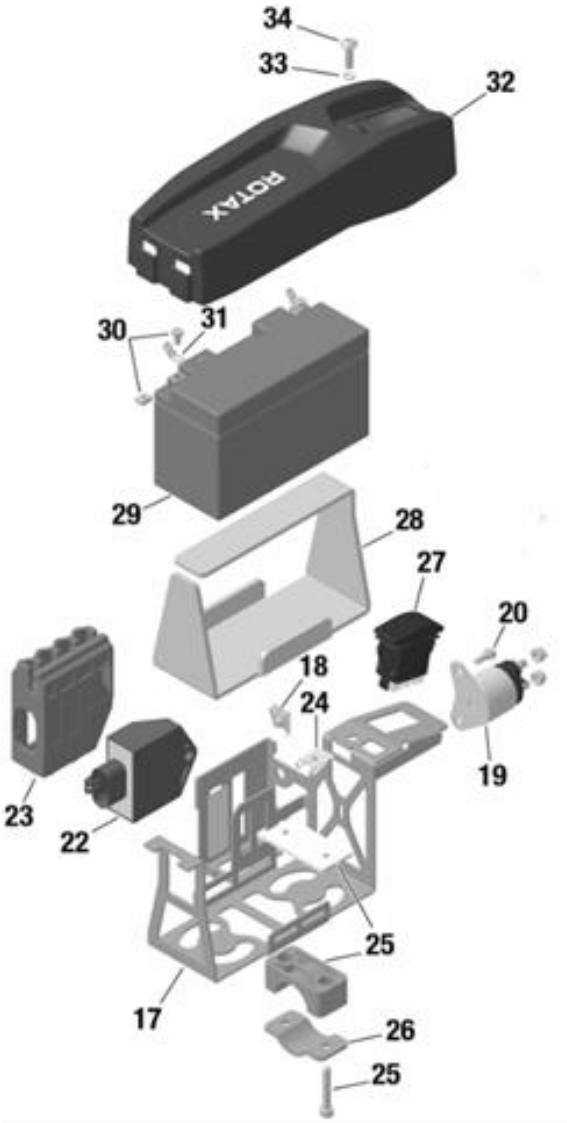
The ECU box tester has to indicate following results:

125 Junior MAX category
1. 666813JNRMAX
2. !! Test OK !!

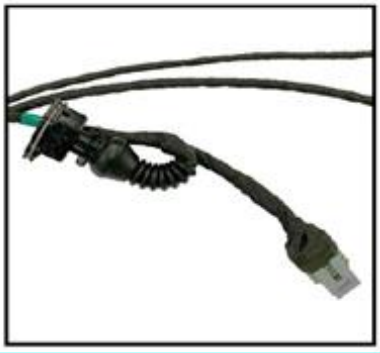
The marking of the pick-up must show the following numbers in the first line : 029600-0710 followed by a variable production serial number.

Maximum two (2) additional gaskets, Rotax part no. 431 500, gasket thickness = 0,8 mm are allowed to be fitted.
It is not necessary to install any additional gaskets with the exception of the rubber sealing ring on crankcases with the machined sealing surface for the pick-up sensor.

3.30 / Spark plugs / caps	Following spark plugs are legal to be used: NGK GR8DI / NGK GR9DI Electrode distance: maximum 1,00 mm Maximum spark plug shaft including ring: 18,50mm.  Two versions of spark plug caps are legal to be used: Version 1. Red, marked with “NGK” Version 2. Red, marked with “ROTAX”  Version 1. Version 2.

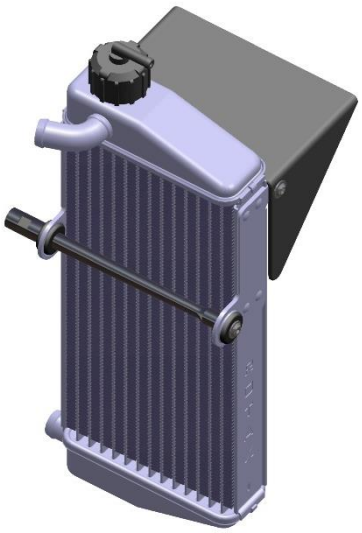
3.31 / Battery	Original batteries with following specifications are legal to be used: • Rotax type RX7-12B • Rotax type RX7-12L (lithium iron phosphate type) • YUASA YT7B-BS Specifications of the batteries should be readable at all times. Battery must be fitted with the original battery clamp and battery cover (according to illustration) and must be fixed to the chassis with both clamps (4 screws). Battery clamp with or without cable support is legal for use. Battery clamp must be mounted on the left side of the seat.  It is an allowed option to mount rubber buffers (4 pieces) between 17 and 25.

Wiring harness	Two versions of the wiring harness are allowed to be used. The differences between the two versions can easily be identified by the key points listed.

	Wiring Harness (666 835)	Wiring Harness (666 836)
ECU Connector		
Charging Connector		
Solenoid Connector		

Only original plugs from the Rotax wiring harness are legal to be used.

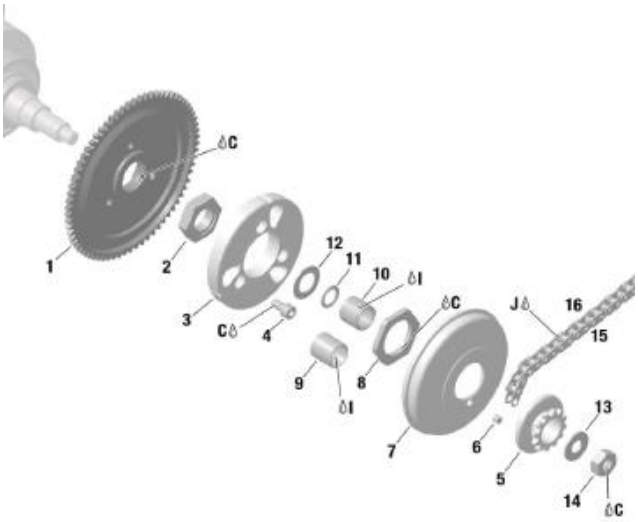
3.32 / Carburettor	**DELLORTO Type VHSB 34**. Housing has to show the cast wording “VHSB 34”. Carburettor housing is stamped with “XS”. The complete inlet bore of the carburettor must show cast surface. Carburettor slide shows digits “45” in casting Following specifiacations: • Carburettor venturi insert 12,5. • Needle jet stamped with “DP267”. • Jet needle stamped with “K57”. • Start jet stamped with “60”. • Idle jet stamped with “60”. • Idle emulsion tube stamped with “45”. • Float lever according template (Rotax part nr. 277 400) • Floats marked “4,0 gr” are legal to be used only. • Needle valve assembly stamped “150”. Needle of needle valve marked with diamond symbol “INC” only. • All jets must be correctly seated and securely fitted at any time (tightened)! • Settings of the carburettor adjustment screws (idle and idle air) are free. • Settings of main jets is free. • Optional carburettor plug (Rotax part nr. 261 030) is legal to be used. • Using the fuel sieve in the carburettor is not mandatory. (see picture)  Only original Dellorto parts are legal to be used. **See checklist DELLORTO for further info.**
3.33 / Fuel pomp	MIKUNI fuel pump, type DF 44-210 is mandatory. Fuel pump must be mounted on the bottom side of the support bracket for the intake silencer
3.34 / Fuel filter	It is **not mandatory** to mount a fuel filter, but if a fuel filter is mounted only the version showed in the picture below is allowed. Rotax part nr. 274 161.  Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between the fuel tank and carburettor.
3.35 / Radiator	Only the original radiator (ROTAX part nr. 295 928) is legal to be used. **Cooling area:** Height: 290 mm Width: 138 mm Thickness of radiator: 34 mm



The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components.
The removal of the radiator flap is an allowed option.

To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator.
Using a plate to control the air flow is not an allowed option.

Tape may not be removed or loosen from the radiator during operation on the track.
Any other non-original device to control the air flow through the radiator is prohibited.
The radiator has to be mounted on the right side of the engine.

3.36 / Engine coolant	Plain water without any additives has to be used. The venting of the radiator should end in a reservoir.
3.37 / Clutch	Engagement speed of centrifugal clutch at maximum 4.000 rpm (the kart without driver must start to move). Latest clutch version:  Only original Rotax clutch parts with Rotax logo are legal to be used. Clutch Rotax part nr. 659 907 Clutch must be mounted with bearing 15x19x17 (Rotax part nr. 632 415) including O-ring (Rotax part nr. 950 815)

Signs of any emulsion from the needle/plain bearing into the clutch drum may not exceed the picture below. Contact area between clutch and clutch drum has to be dry at any time. No lubrication allowed.

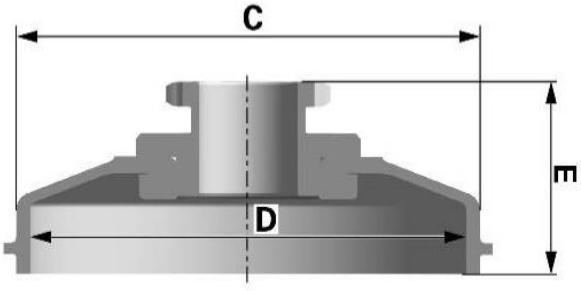
Clutch specifications at any time :

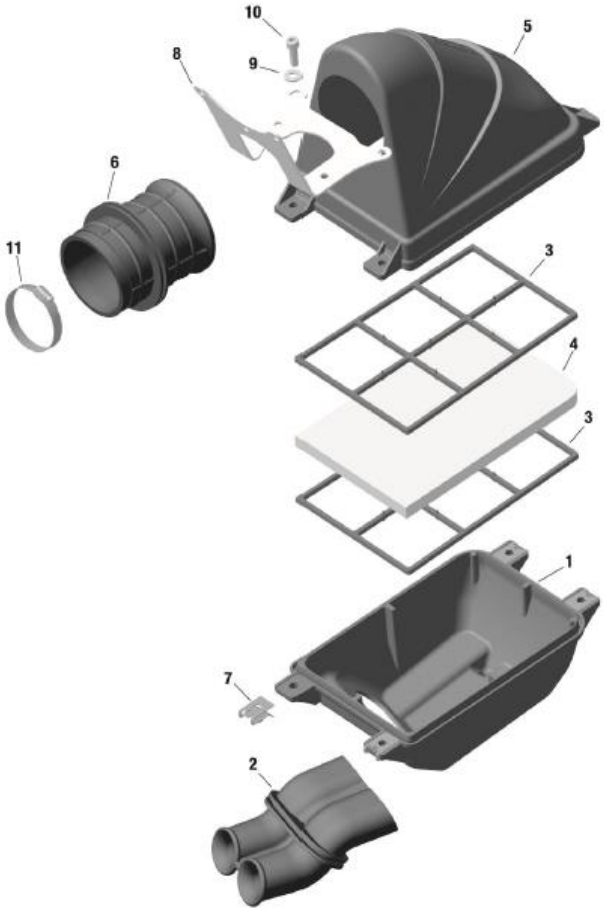
Thickness of clutch shoe (A): minimum 24,10 mm

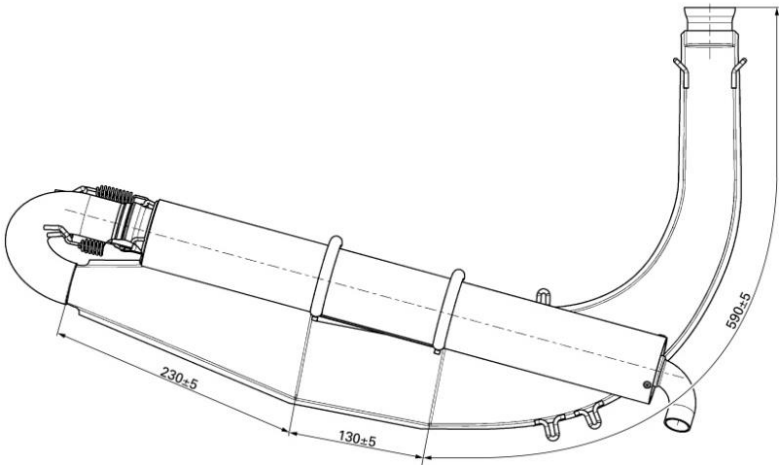
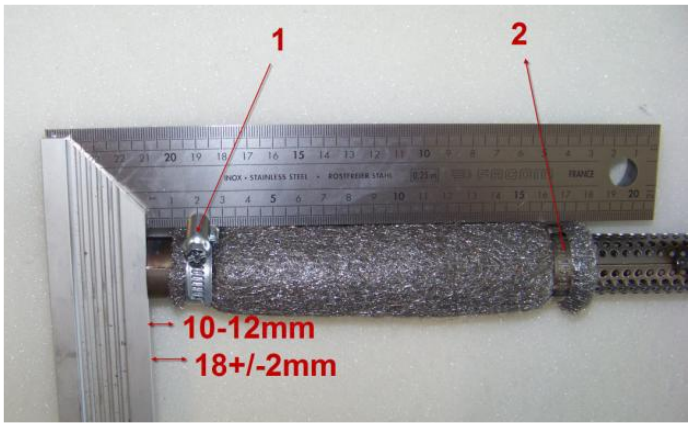
Measurements must be done at the 3 open ends of the clutch, 5 – 10 mm from the machined groove (all clutch shoes must be completely closed at measurement – no gap).

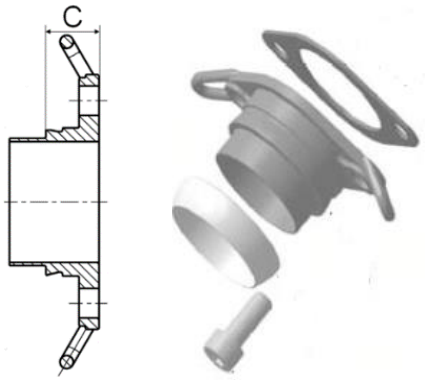
Height of clutch (B): minimum 11,45 mm

Clutch drum: (Rotax part nr. 659 930 and Rotax part nr. 659 937) are legal to be used.



	The outer diameter of the clutch drum (C): minimum 89,50 mm. Diameter has to be measured with a sliding calliper just beside the radius from the shoulder. (Not at the open end of the clutch drum). The inner diameter of the clutch drum (D): maximum 84,90 mm. The inner diameter has to be measured with a sliding calliper. The measurement has to be done in the middle of the clutch drum (in the contact area between clutch and clutch drum). Clutch drum height with sprocket (E): minimum 33,90 mm
3.38 / Airbox	Intake silencer with integrated, washable air filter has to be used with all parts. and has to be mounted, in the original shape, on the support bracket with two screws (in dry and wet conditions).  Intake silencer tube (pos2) and carburettor socket (pos 6) are marked with the wording “Rotax”. Intake silencer case bottom is marked on the inside with the Rotax part nr. 225 015. Intake silencer case, top is marked on the inside with the Rotax part nr. 225 025 The ‘TWIN AIR” filter element is mandatory to use. (see picture)  Using elements with the wording “Aprillia” is not allowed!

3.39 / Exhaust system	Original exhaust system as supplied by Rotax is mandatory to be used. Exhaust system, Rotax EVO (Rotax part nr. 273 078) is mandatory.  Turned pipe with 180° elbow and silencer are two separate pieces. The silencer is fixed with two springs to the 180° elbow and two springs to the tuned pipe. To fit a 3rd original spring (crosswise at the ball joint connection between 180° elbow and silencer) is an allowed option. The silencer has to be mounted in a position where the direction of the 90° elbow outlet (direction of the hot exhausts gasses) does not harm any component of the chassis. The original design silencer end cap with 90° elbow is mandatory to be used. The original Rotax isolating mat (Rotax part nr. 297 981) is mandatory. Replacing the perforated cover and isolating mat are legal to be replaced by original Rotax parts. The isolating mat should cover the perforated cover at any time. Replacing the original rivets of the silencer end cap by 4mm metric screws and corresponding locking nuts is an allowed modification. Additional to the standard isolation mat a steel isolation mat (Rotax part nr. 297 983) of the square dimension of 165 (+10mm) is legal (not mandatory) to be assembled underneath the standard isolating mat according to the illustration below:  Clamp (1) must be fitted at a distance of 18 (+/-2mm), measured from the end of the tube. Clamp (2) must be fitted at the end of the perforated tube to the beginning of the steel isolating mat is a specification for assembly purpose only. Both clamps (1 and 2) are mandatory to be fitted and tightened.

	The exhaust system should be mounted to the chassis by using the two original mounting brackets. Rubber buffers are mandatory to be placed between the system and chassis. The use of maximum 4 pieces of original Rotax exhaust springs, to fix the exhaust system to the cylinder is allowed. Any other item is not allowed. Welding a socket on the top of the exhaust system for measuring the exhaust gas temperature is an allowed modification. Distance: 50-80mm from the ball joint. It should be able that a steal ball with dimension of 27,5mm can roll through the 180 degrees exhaust curve. The silencer has to fitted. Welding at the exhaust system is only allowed in case of a repair. Modifications are not allowed. The organization reserves the right at all times to change exhaust systems from the organization.
Length of inlet cone	590 mm +/- 5mm
Lenght of cyndrical part of exhaust pipe	130 mm +/- 5mm
Length of cone	230 mm +/- 5 mm (measured outside)
Outside diameter 180° elbow pipe	Maximum Ø 41 mm
Diameter hole end of tube	Maximum 22,5 mm
Total length of exhaust pipe	Minimum 500 mm +/- 1 mm
3.40 / Exhaust restrictor	Only restrictor Rotax.nr. 273 190 including seal ring is legal to be used. The measurement (C) must be at least 15,5mm. 
3.41 / Gear	Rear sprocket type: 219. Ratio is free Engine sprocket: 11t, 12t, 13t or 14t with wording “Rotax”
3.42 / Fuel test	The organization has the right to test the fuel at any time.
3.43 / Fuel	It is only allowed to use fuel with 98 octane. Checks will be done with a Digatron DT-47FT fuel tester which is calibrated in pure liquid cyclohexane. If the value (result) of the check is higher than +60 or lower than -30 the driver will be disqualified from the session. Each race the organisation will recommend a fuel station. If fuel is changed by the organisation, the driver will receive, from the designated fuel station, 98 octane fuel that is mixed with 2% Xeramic XPS DYE oil.

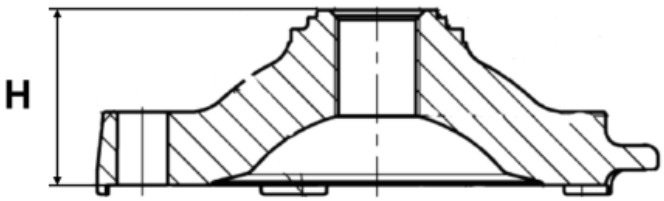
ART. 4. Technical Regulations EVO MAX SENIOR

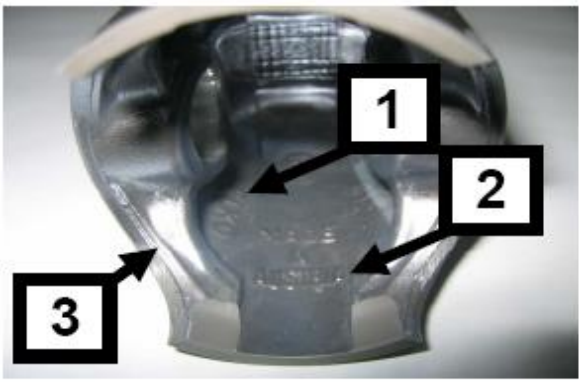
4.00 / Chassis	Maximum one chassis per competitor per event (weekend). Only CIK/FIA homologated chassis after 2006 are allowed. The homologation sheet has to be available at any time.		
4.01 / Brakesystem	Only hydraulic, CIK/FIA homologated brakes are allowed. The homologation sheet has to be available at any time. Front brakes are not allowed. Between the master brake cylinder and the brake pedal an extra security brake cable is mandatory. Minimum 1,8mm thickness. Also an extra security clip is mandatory at the brakepads. A ceramic brake disc is not allowed.		
4.02 / Rear axle			
Diameter	Ø40mm of Ø50mm magnetic material, in a whole.		
Wall thickness	(40mm) minimum 2,9 mm / (50mm) minimum 1,9 mm (entire length)		
4.03 / Rims	Aluminium or magnesium / Diameter 5 inch		
Dry	Maximum 135/215mm / measured to the outside of the rim		
Rain	Maximum 130/180mm +/- 5mm / measured to the outside of the rim		
Rear width	Maximum 140cm / measured to the outside of the rim Minimum: see 4.05 “rear bumper”		
Rim modifications	Any additions to the rims are not allowed. Except: adhesive balancing lead. Bead retaining screws are mandatory.		
4.04 / Tyres	MOJO®		
Dry	MOJO D5 CIK with barcode	Front: 4,5x10x5	Rear: 7,1x11x5
Rain	MOJO W5 CIK with barcode	Front: 4,5x10x5	Rear: 6,0x11x5
	Slick race tyres must be ordered in advance through the organisation (voucher system) Two sets of slick tyres are allowed for each meeting. It is allowed to mix the tyres during the event. (BNL Karting Series championship). One set of slick tyres is allowed for the BNL Kick-Off. Tires must be mounted according to the direction of rotation defined on the tire. If it’s detected on the pre-grid area that a driver has fitted his tires incorrectly (wrong direction) then he will be moved to the repair zone. The driver has the possibility to assemble his tires correctly, with the help of one (1) mechanic. Only putting the tires in the correct direction is allowed. It is not allowed to do other technical changes. Afterwards he may start, but only when the start is given. He is not entitled to participate in the formation laps. If the observation takes place after the race, the driver will be excluded from the relevant part of the competition. It is not allowed to modify the tires. The brand name, code number, barcode and the indications always need to be visible on the tires. Only normal air is allowed to fill the tires.		
4.05 / Rear bumper	The plastic rear bumper must be CIK homologated and cover at least 2/3 of the rear wheels and may not protrude the rear tyres.		
4.06 / Side-pods Front panel Front fairing	Only a complete CIK homologated spoiler set is allowed. The complete spoiler set should have the same homologation number. The homologation sheet has to be available at any time. Using composite like carbon fiber is not allowed. Only plastic frame protection parts (left, right, front) is allowed. The complete set should be free of damage. A CIK front fearing bumper is mandatory for all type of chassis and has to be mounted according the CIK regulations.		

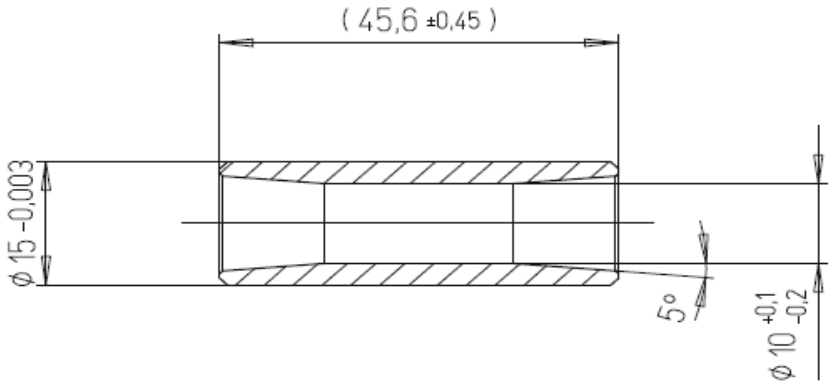
4.07 / Fuel tank	The plastic fuel tank should be mounted in a correct way, at the appropriate place. All vents must end up in a reservoir.
4.08 / Weights and clothing	Minimum 163 kg on each moment of the event. Kart + complete race gear. A driver must be equipped and appear for inspection with the following gear: (see timetable) Complete equipment must comply with the CIK regulations A turbo visor is allowed in case of rain Gloves which cover the entire hand High shoes that cover and protect the ankles. The responsible doctor on the event may, for safety reasons, disapprove certain types of breast, neck, or rib protections. A neck protection is not required yet recommended From the moment when the driver goes on track, he must wear the mandatory race gear as described in this article.
4.09 / Race numbers	Yellow plate with black digits (Numbers 301 – 399) (Front, rear, left and right sides)
4.10 / Data systems	Data logging with or without a GPS module is allowed. Data from the GPS module may only be saved in a system which has been mounted on the kart. Every other form of telemetry or radio communication is not allowed. Transferring data during sessions to a device, other than the data logger on board is not allowed. Power to activate the data system should be taken from a separate battery. It is not allowed to take power from the battery that is meant for the engine.
4.11 / Seat	The seat has to be fixed at minimum 4 places, 2 at the top (left and right) and 2 on the bottom (left and right) All seat supports have to be fixed with washers with a minimum thickness of 1,5 mm and a diameter of 40 mm
4.12 / Ballast	Drivers who are lighter than the required minimum weight shall attach extra weight on their kart, until they reach the prescribed weight. Lest may only be installed on the chassis or on the seat. The Technical Scrutineering can force each driver to mount lest on another place. Lest shall be mounted so that everyone's security is guaranteed at all times: • Up to 3kg: at least with 2x M6 bolts including washer • Up to 6kg: at least with 2x M8 bolts including washer • Up to 10kg: at least with 4x M8 bolts including washer •
4.13 / Cameras	Drivers may use a camera if mounted in an appropriate way **and accepted by the Scrutineers**. Helmet cameras are not allowed. Clips, etc, for mounting a camera may not be fit on the helmet.

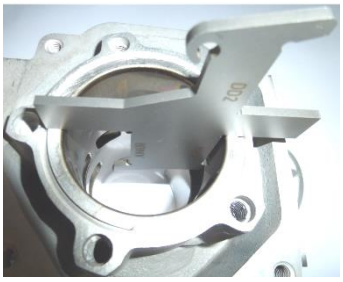
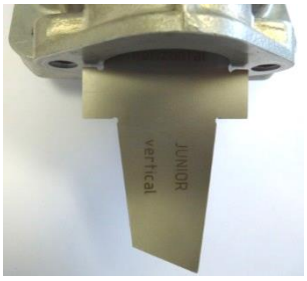
Engine – Rotax EVO MAX SENIOR

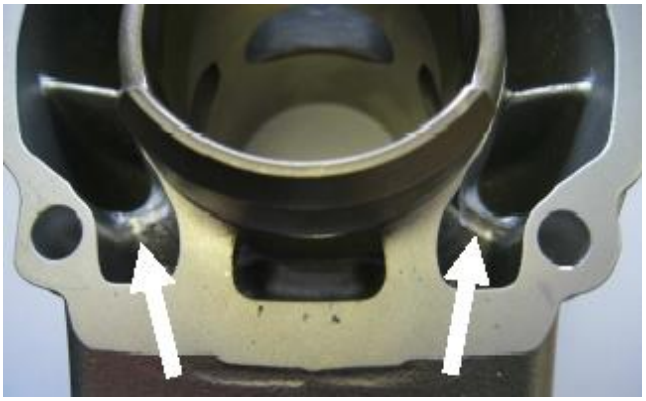
4.14 / Foreword	These regulations will be valid as of 1st of February 2021 and will replace all previous regulations. Only original spare parts which are manufactured by Rotax BRP are legal to be used. Any modifications are not allowed. Helix reparations with heli coils and/or wire bushes are allowed.

4.15 / Engines	Each race-meeting it is allowed to enter two engines. The engines should be sealed with an official Rotax seal. The engine registration card has to be available at any time.
4.16 / Squish	Minimum 1,00 mm (including possible carbon deposits)
Measurement method	The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax part no. 580 130). The crankshaft must be turned by hand slowly over top dead centre to squeeze the tin wire. The squish gap must be measured on the left and right side in the direction of the piston pin. Engine temperature below 30 degrees Celsius The average value of the two measurements counts.
4.17 / Combustion chamber insert	Cast identification code has to be "223 389" or "223 389 1" or "223 389 2" or “223 389 2/1" or “223 389 2/2”. Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.  Height of the combustion chamber insert has to be **28,80mm +/- 0,2mm (H**)  The profile of the combustion chamber insert has to be checked with a template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile. 
4.18 / Cilinder head cover	It is allowed to change the colour of the cilinderhead cover for indentification.

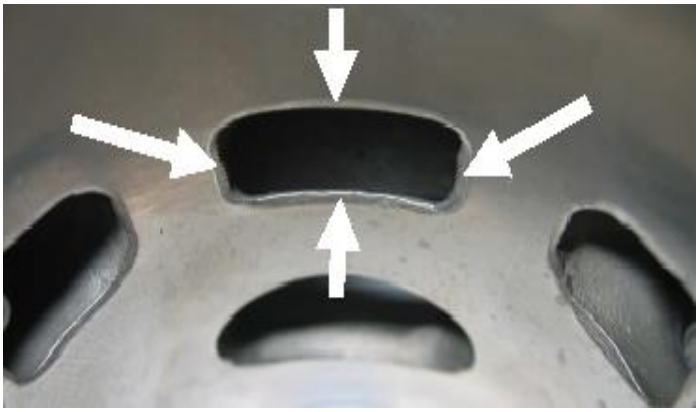
4.19 / Piston with ring assembly	Original, coated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" (1) and "MADE IN AUSTRIA" (2)  Machined areas are: • Top end of piston • Outside diameter • Groove for the piston ring • Bore for the piston pin • Inside diameter at bottom end of piston • Some pre-existing factory removal (3) of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface. Any mechanical treatment or rework of the piston is forbidden, (e.g. removal of carbon deposits). Cleaning without changing the original surface is allowed. If carbon is removed it must be consistently removed across the entire surface without altering the profile of the piston itself. Example: selectively removing carbon in the squish measurements areas is forbidden.
Piston ring	Original, magnetic, rectangular piston ring. Ring height: 0,98 +/- 0,02 mm. Piston ring is marked either with "Rotax 215 547", "Rotax 215 548", “Rotax 215 548 X”, or “I ROTAX 215548 X” The piston ring is legal also if just parts of the marking are still visible. 

4.20 / Piston pin	Piston pin is made out of magnetic steel. Dimensions must be according to the drawing. The minimum weight of the piston pin must not be lower than: 31,00 grams 
4.21 / Cylinder	Only cylinders marked (cast or machined) with identification code 223 993 + Rotax logo are legal to be used. Type Senior with power-valve. Cylinder with one head exhaust port. Light-alloy-cylinder with nikasil plating. Replating or modification is not allowed.   Cylinder types >2018, Rotax part nr.: 223 993 marked with the letter "**V**" into the inlet port are also allowed. The upper edge of the central boost port may show factory machining. See pictures below:   

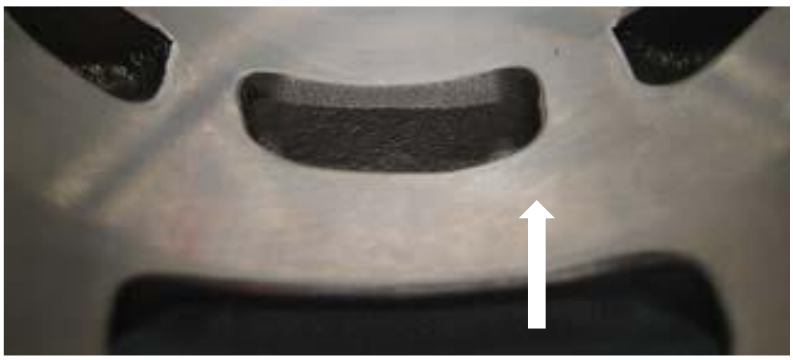
4.22 / Maximum bore	54,035mm (measured 10mm above the exhaust port)
4.23 / Cylinder measures	Height of cylinder should be 87mm (-0,05 / + 0,10mm)  Exhaust port timing: The "exhaust port timing" (distance from the top of the cylinder to the top of the exhaust port) has to be checked by means of the template (Rotax part no. 277 402). Insert the template for Senior Max cylinder 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 (nikasil).  The horizontal and vertical dimensions of the exhaust port (cylinder 223 993 with fully CNC machined exhaust port only) have to be checked with the template (Rotax part no. 676 245). The template has to be moved in horizontal and vertical position as far as possible into the exhaust port. In both directions the template may not touch the exhaust socket flange.   All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage, exhaust port and passages.



All ports have chamfered edges to prevent ring snagging. Any additional machining is not permitted. (see picture).

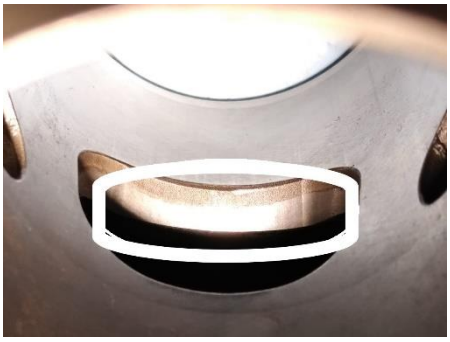
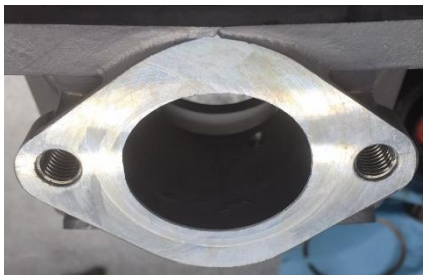


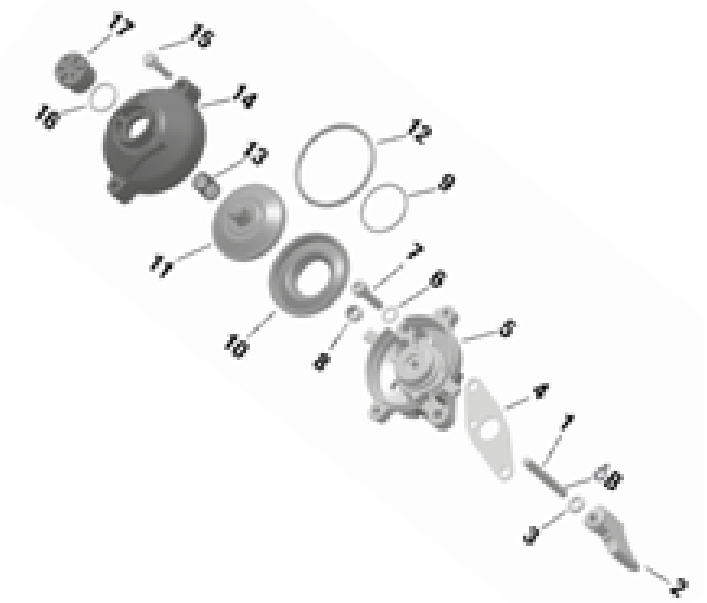
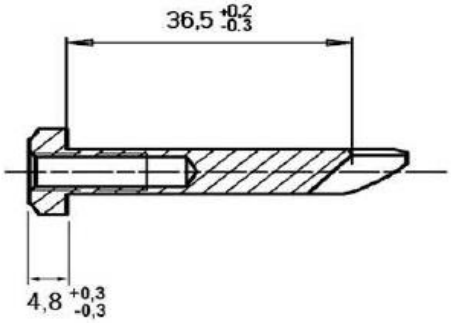
The upper edge of the central boost port may show factory machining.



The top edge of exhaust port may show some pre-existing machining from the manufacturer.

Any modification is strictly forbidden!

Single core / No single core	**<u>No single core cylinder:</u>** **The exhaust port is CNC machined, but not the entire length.**   White surrounded: CNC machined Red surrounded: NOT CNC machined **<u>Single core cylinder:</u>** **The exhaust port is CNC machined over the entire length.** The flange for the exhaust socket may show either cast finish or machined surface. Machined surface can be either flat or show a circular sealing bump.   Any modification is strictly forbidden.

4.24 / Power Valve	Electronic timed system must be used only. System has to be used with all components fitted as shown in the illustration below. Only green coloured exhaust below (item 10) (Rotax part nr. 260 723) is legal to be used. The original compression spring has to be used.  Fitting an original impulse nozzle (picture below) into the pressure hose in an allowed adjustment. The direction of the impulse nozzle inside the pressure hose is free.  Length of the exhaust valve: 36,50 mm + 0,20/ -0,30mm (see picture) Width of collar 4,80 mm ± 0,30mm (see picture) Any modification is not allowed. 

<table>
<tr><td></td><td>If the piston closes the exhaust port totally it has to able to put a special template (Rotax part nr. 277 030) into the powervalve port.

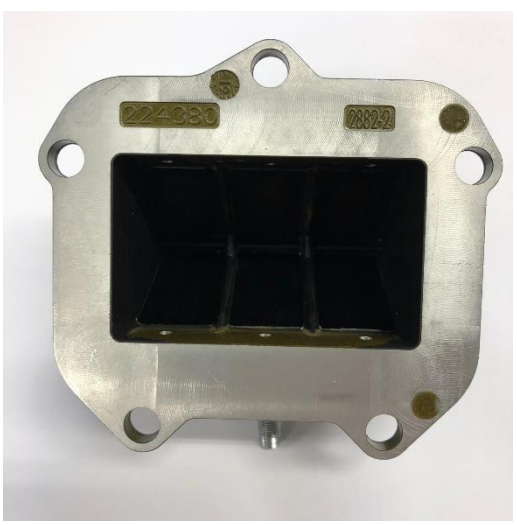
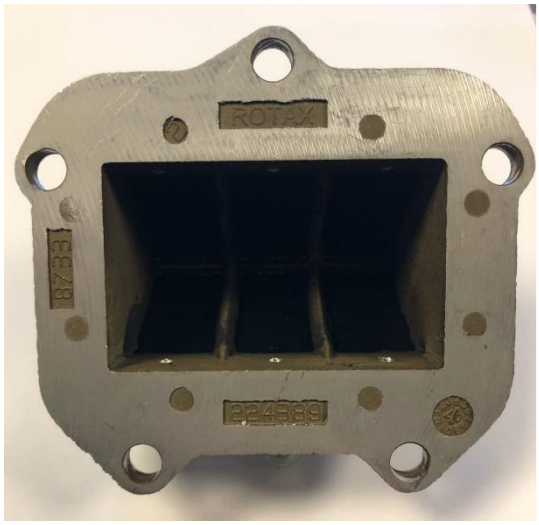
This template must be at all times fully connected to the cylinder surface.
It should not be possible to put a filler gauge of 0.25mm between.

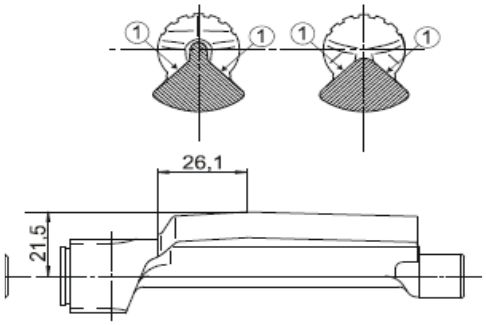
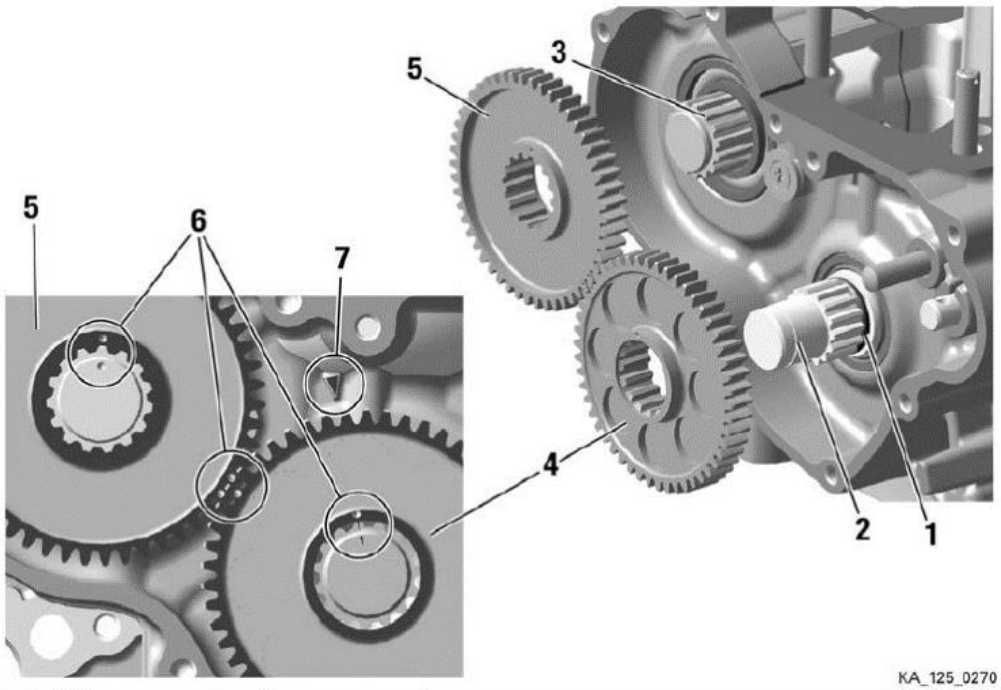
 

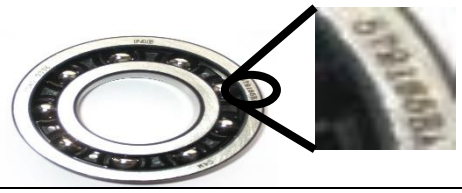
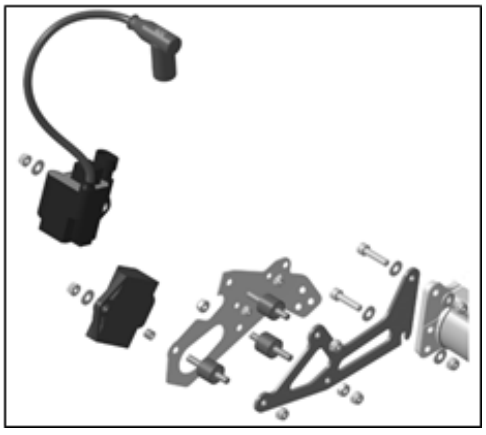
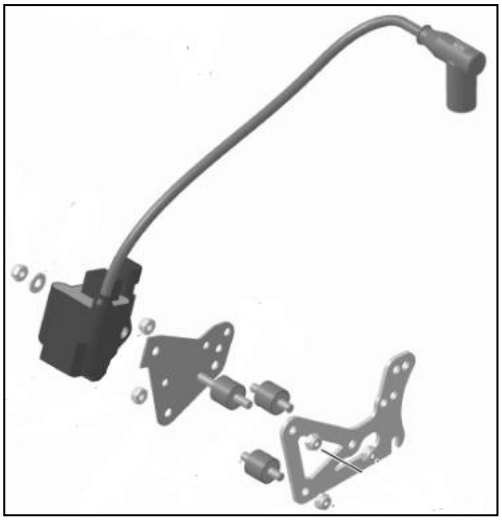
Only the original gasket between cylinder and powervalve house is allowed.
Modifications are not allowed.</td></tr>
<tr><td>4.25 / Inlet system & Reed valve assembly</td><td>The inlet manifold is marked with the name ROTAX and identification code 267 915 or 267 916

Some factory flash removal may be present at the conjunction of the inside contour and the carburettor stop mounting face. No additional grinding or machining is permitted.</td></tr>
<tr><td>Reed valve assy</td><td>The reed valve assy. is equipped with 2 petal stops and 2 reeds, each having</td></tr>
</table>

	3 petals. The thickness of the reeds is 0,60 mm +/- 0,10mm. Modification is not allowed.   Both reed valve assy are legal to be used. Rotax part no. 224 380 (left picture) Rotax part no. 224 389 (right picture)
4.26 / Conrod / Crankshaft	Stroke: 54,5mm ± 0,1mm Conrod has to show forged numbers “367” or “362” (see pictures)   Shafts of conrods are not machined. Grinding or polishing of shaft of conrod is not permitted. Crankshaft has to be unprocessed and may not be damaged. Ignition signal on crankshaft: Fit the template (Rotax part no. 277 391) on the crankshaft. Align the hole in the template for the big end pin with the big end pin of the crankshaft. The two edges of the signal machining on the crankshaft must be in line (+/-0,5mm) with the corresponding edges (MAX) of the template. 

4.27 / Balance shaft / drive	Balance shaft and balance gears must be installed. Configuration of part (Rotax part nr. 237 949) only is legal.  Surface (1) is not machined and must show cast surface. Measurement from centre of balance shaft to outer diameter of fly weight of balance shaft at defined length must not be lower than specified: (21,50mm) see drawing. The minimum weight of the dry balance shaft must not be lower than: 255 grams for balance shaft. (Rotax part nr. 237 949) **Balance drive** Balance gears must be installed and must be aligned according to the instruction in the repair manual. Timing of the balance gears should be at any time correct as shown in the image below (see 6) Only the balance gears Rotax part nr. 234 435 (8,8 mm width) are legal to be used. 

4.28 / Crankcase	As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area. Machining maybe evident in the crankcases in the area identified in the picture.  Black coated EVO crankcases must be used.
4.29 / Crankshaft main bearings	Crankshaft main bearing 6206 from FAG is only allowed to use. The bearings must be marked with 579165BA or Z-579165.11.KL or Z-579165.21.KL (see picture) 
4.30 / Ignition system	Senior EVO Dellorto ignition system. Ignition coil with separate electronic ECU box (Rotax part nr. 666 815). The ECU box is still legal to be used if the sticker is removed. Ignition coil and ECU box and magnet valve have to be fitted with all components according to the illustrations below. Two different mounting versions (left illustrations and right illustration) are legal:   At the mounting version as shown in the left illustration, the ground cable of the cable harness has to be connected to the lower rubber buffer of the support plate. Removing the black coating of the gearbox in specific areas, for mass connection between cable harness and engine, is a legal modification. In case the mounting bracket is in conflict with a chassis component, the additions of 2 spacers, one per mounting hole, with a maximum thickness of 20mm between the mounting bracket and the gearbox cover is allowed.

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

Ignition coil must show two pins at the terminal. The ignition coil is labelled with two stickers : “BRP 666820” and “NIG 0105”. The ignition coil is still legal to be used if one or both stickers have disappeared.

The 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 organization reserves the right at all times to exchange ignitions coils and / or ECU boxes with ignition coils and or ECU boxes from the organization.

The ECU box can be checked with the ECU box tester (Rotax part nr. 276 230)

Start the test by pressing the button ✓ . After approx. 3 seconds the type of ECU box that is actually tested will be indicated in the second line of the display.
After aprrox. 30 seconds the result of the test will be indicated in the first line of the display.

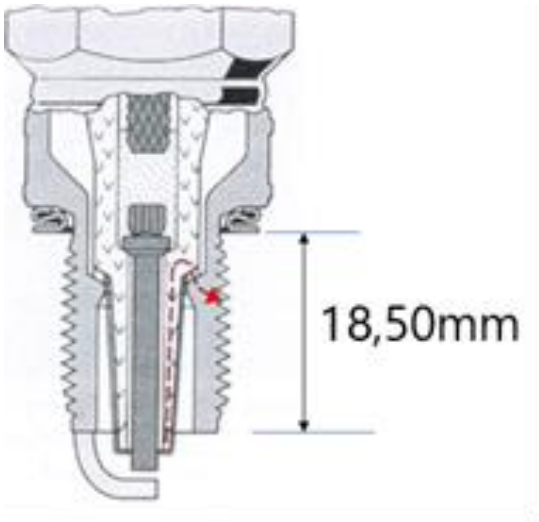
The ECU box tester has to indicate following results:

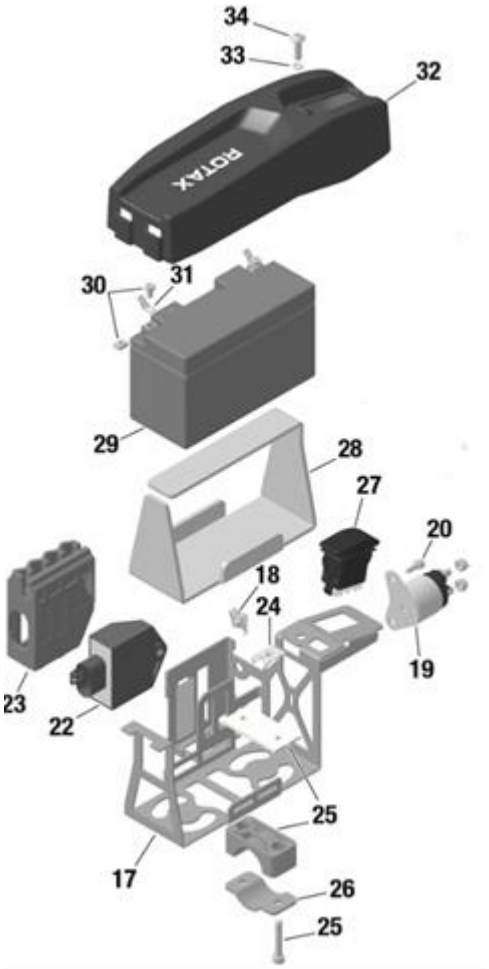
125 MAX category
1. 666815MAX
2. !! Test OK !!

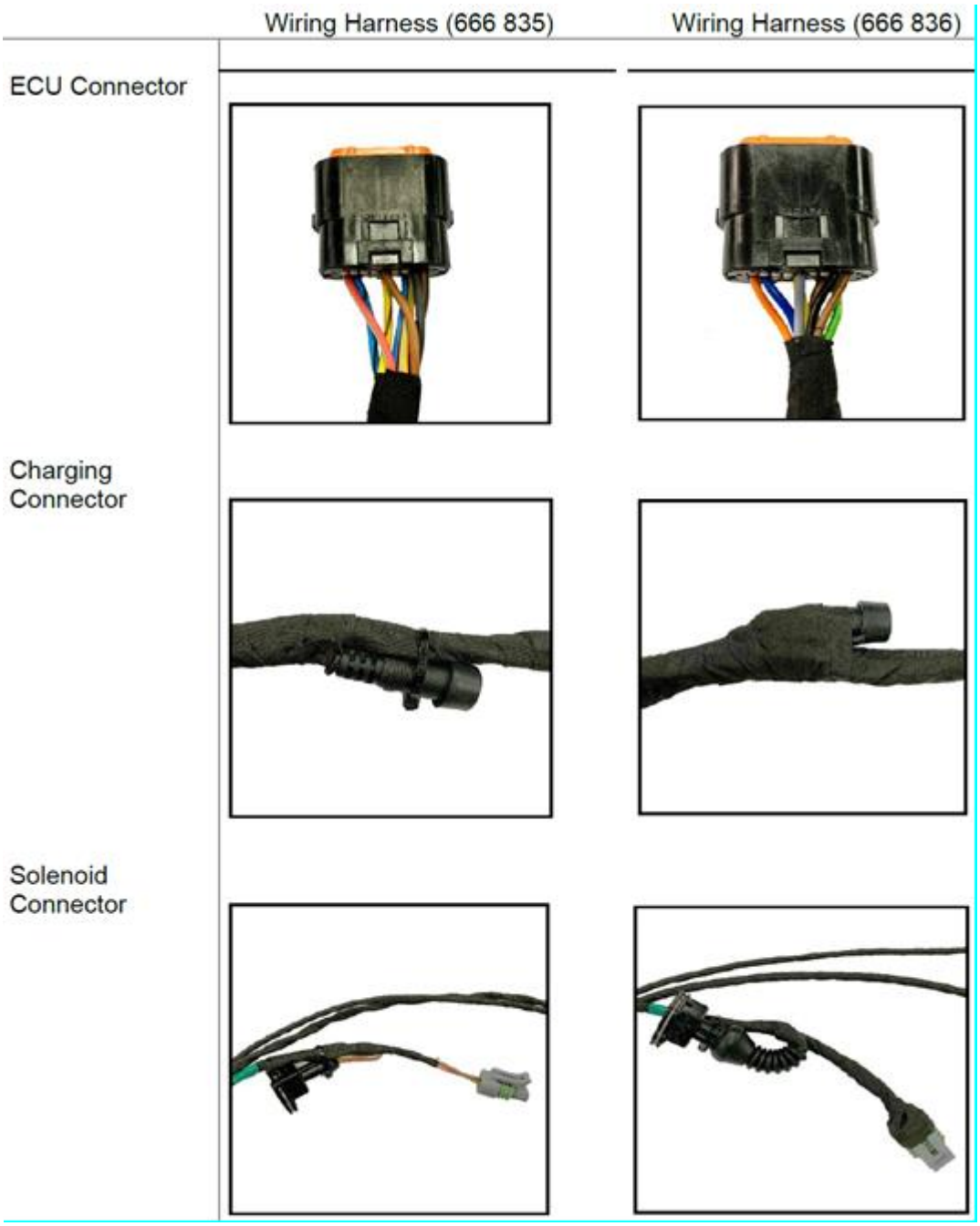
The marking of the pick-up must show the following numbers in the first line : 029600-0710 followed by a variable production serial number.

Maximum two (2) additional gaskets, Rotax part no. 431 500, gasket thickness = 0,8 mm are allowed to be fitted.

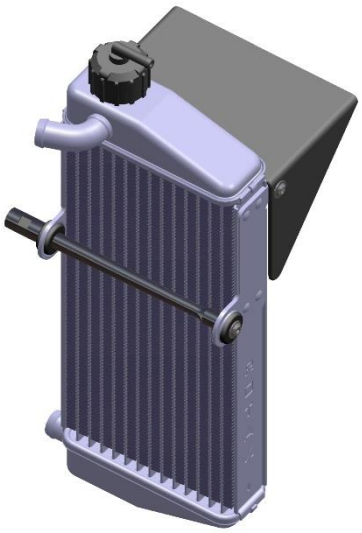
It is not necessary to install any additional gaskets with the exception of the rubber sealing ring on crankcases with the machined sealing surface for the pick-up sensor.

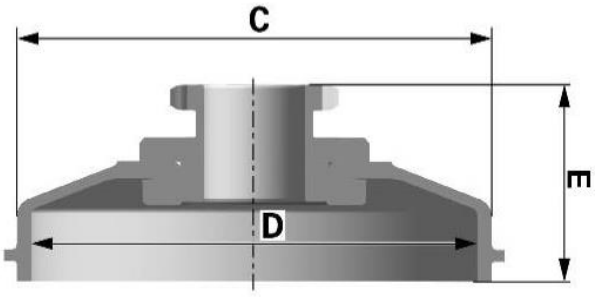
4.31 / Spark plugs / caps	Following spark plugs are legal to be used: NGK GR8DI / NGK GR9DI Electrode distance: maximum 1,00 mm Maximum spark plug shaft including ring: 18,50mm.  Two versions of spark plug caps are legal to be used: Version 1. Red, marked with “NGK” Version 2. Red, marked with “ROTAX”  Version 1.  Version 2.

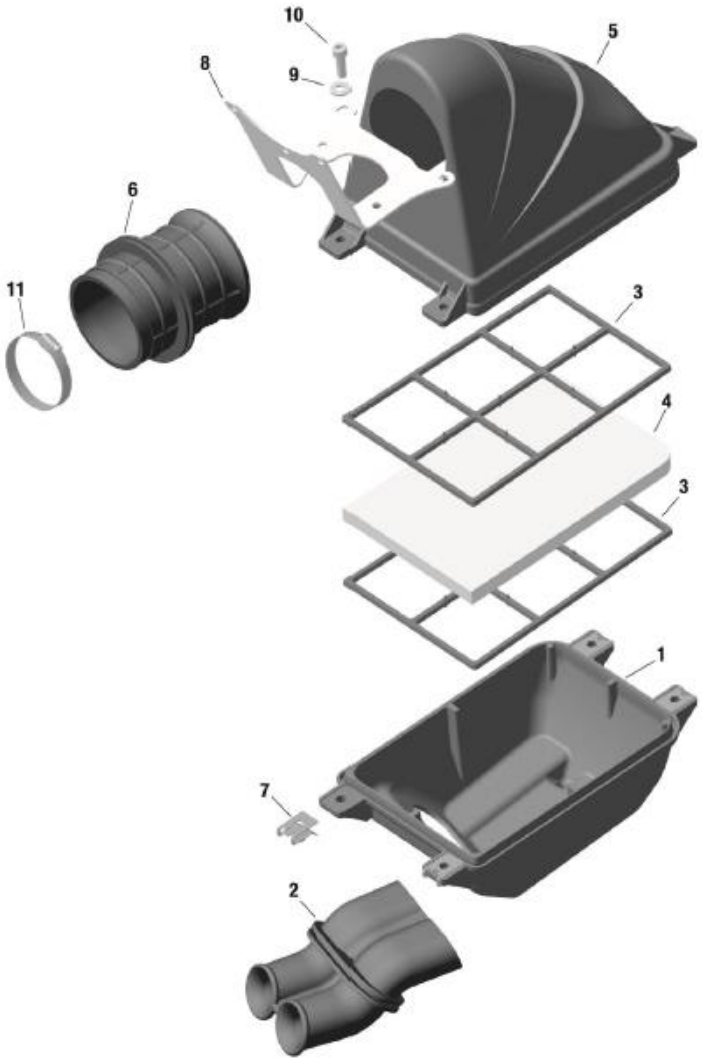
4.32 / Battery	Original batteries with following specifications are legal to be used: • Rotax type RX7-12B • Rotax type RX7-12L (lithium iron phosphate type) • YUASA YT7B-BS Specifications of the batteries should be readable at all times. Battery must be fitted with the original battery clamp and battery cover (pictures below) and must be fixed to the chassis with both clamps (4 screws). Battery clamp with or without cable support is legal for use. Battery clamp must be mounted on the left side of the seat.  It is an allowed option to mount rubber buffers (4 pieces) between 17 and 25.

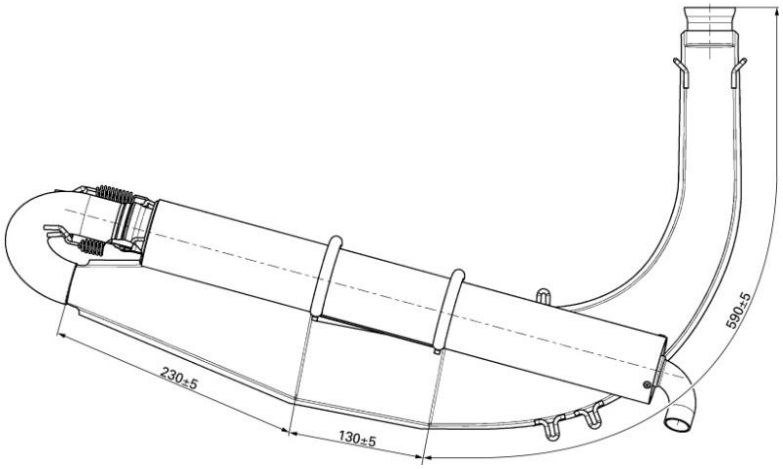
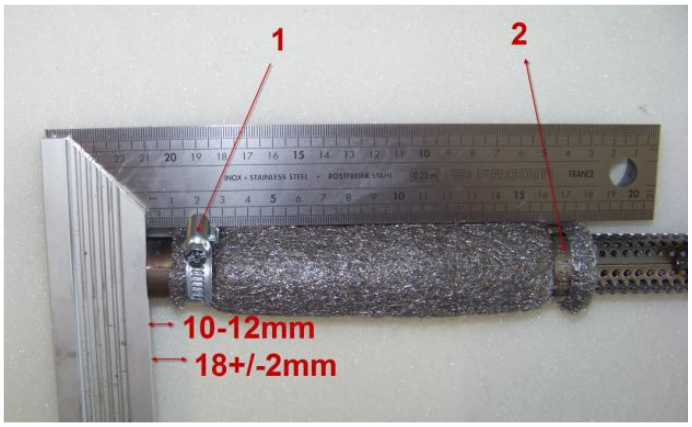
Wiring harness	Two versions of the wiring harness are allowed to be used. The differences between the two versions can easily be identified by the key points listed.  Only original plugs from the Rotax wiring harness are legal to be used.

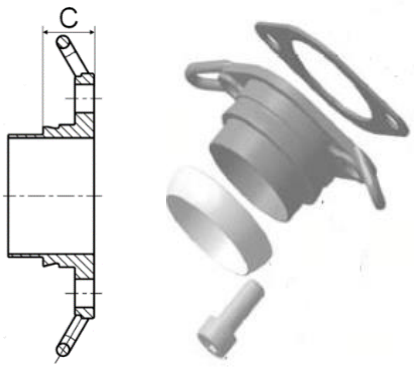
4.33 / Carburettor	**DELLORTO Type VHSB 34**. Housing has to show the cast wording “VHSB 34”. Carburettor housing is stamped with “XS”. The complete inlet bore of the carburettor must show cast surface. Carburettor slide shows digits “45” in casting Following specifiacations: • Carburettor venturi insert 12,5. • Needle jet stamped with “DP267”. • Jet needle stamped with “K57”. • Start jet stamped with “60”. • Idle jet stamped with “60”. • Idle emulsion tube stamped with “45”. • Float lever according template (Rotax part nr. 277 400) • Floats marked “4,0 gr” are legal to be used only. • Needle valve assembly stamped “150”. Needle of needle valve marked with diamond symbol “INC” only. • All jets must be correctly seated and securely fitted at any time (tightened)! • Settings of the carburettor adjustment screws (idle and idle air) are free. • Settings of main jets is free. • Optional carburettor plug (Rotax part nr. 261 030) is legal to be used. • Using the fuel sieve in the carburettor is not mandatory. (see picture)  Only original Dellorto parts are legal to be used. **See checklist DELLORTO for further info.**
4.34 / Fuel pomp	MIKUNI fuel pump, type DF 44-210 is mandatory. Fuel pump must be mounted on the bottom side of the support bracket for the intake silencer.
4.35 / Fuel filter	It is **not mandatory** to mount a fuel filter, but if a fuel filter is mounted only the version showed in the picture below is allowed. Rotax part nr. 274 161.  Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between the fuel tank and carburettor.

4.37 / Radiator	Only the original radiator (ROTAX part nr. 295 928) is legal to be used. **Cooling area:** Height: 290 mm Width: 138 mm Thickness of radiator: 34 mm  The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components. The removal of the radiator flap is an allowed option. To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator. Using a plate to control the air flow is not an allowed option. Tape may not be removed or loosen from the radiator during operation on the track. Any other non-original device to control the air flow through the radiator is prohibited. The radiator has to be mounted on the right side of the engine.
4.37 / Engine coolant	Plain water without any additives has to be used. The venting of the radiator should end in a reservoir.

4.38 / Clutch	Clutch specifications at any time :  Thickness of clutch shoe (A): minimum 24,10 mm Measurements 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). Height of clutch (B): minimum 11,45 mm Clutch drum: (Rotax part nr. 659 930 and Rotax part nr. 659 937) are legal to be used.  The outer diameter of the clutch drum (C): minimum 89,50 mm. Diameter has to be measured with a sliding calliper just beside the radius from the shoulder. (Not at the open end of the clutch drum). The inner diameter of the clutch drum (D): maximum 84,90 mm. The inner diameter has to be measured with a sliding calliper. The measurement has to be done in the middle of the clutch drum (in the contact area between clutch and clutch drum). Clutch drum height with sprocket (E): minimum 33,90 mm.

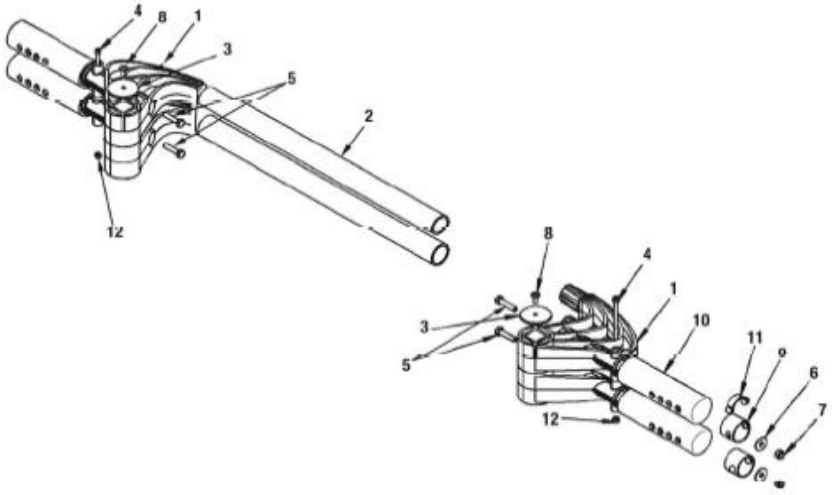
4.39 / Airbox	Intake silencer with integrated, washable air filter has to be used with all parts. and has to be mounted, in the original shape, on the support bracket with two screws (in dry and wet conditions).  Intake silencer tube (pos2) and carburettor socket (pos 6) are marked with the wording “Rotax”. Intake silencer case bottom is marked on the inside with the Rotax part nr. 225 015. Intake silencer case, top is marked on the inside with the Rotax part nr. 225 025 The ‘TWIN AIR” filter element is mandatory to use. (see picture)  Using elements with the wording “Aprillia” is not allowed!

4.40 / Exhaust system	Original exhaust system as supplied by Rotax is mandatory to be used. Exhaust system, Rotax EVO (Rotax part nr. 273 078) is mandatory.  Turned pipe with 180° elbow and silencer are two separate pieces. The silencer is fixed with two springs to the 180° elbow and two springs to the tuned pipe. To fit a 3rd original spring (crosswise at the ball joint connection between 180° elbow and silencer) is an allowed option. The silencer has to be mounted in a position where the direction of the 90° elbow outlet (direction of the hot exhausts gasses) does not harm any component of the chassis. The original design silencer end cap with 90° elbow is mandatory to be used. The original Rotax isolating mat (Rotax part nr. 297 981) is mandatory. Replacing the perforated cover and isolating mat are legal to be replaced by original Rotax parts. The isolating mat should cover the perforated cover at any time. Replacing the original rivets of the silencer end cap by 4mm metric screws and corresponding locking nuts is an allowed modification. Additional to the standard isolation mat a steel isolation mat (Rotax part nr. 297 983) of the square dimension of 165 (+10mm) is legal (not mandatory) to be assembled underneath the standard isolating mat according to the illustration below:  Clamp (1) must be fitted at a distance of 18 (+/-2mm), measured from the end of the tube. Clamp (2) must be fitted at the end of the perforated tube to the beginning of the steel isolating mat is a specification for assembly purpose only. Both clamps (1 and 2) are mandatory to be fitted and tightened.

	The exhaust system should be mounted to the chassis by using the two original mounting brackets. Rubber buffers are mandatory to be placed between the system and chassis. The use of maximum 4 pieces of original Rotax exhaust springs, to fix the exhaust system to the cylinder is allowed. Any other item is not allowed. Welding a socket on the top of the exhaust system for measuring the exhaust gas temperature is an allowed modification. Distance: 50-80mm from the ball joint. It should be able that a steal ball with dimension of 27,5mm can roll through the 180 degrees exhaust curve. The silencer has to fitted. Welding at the exhaust system is only allowed in case of a repair. Modifications are not allowed. The organization reserves the right at all times to change exhaust systems from the organization.
Length of inlet cone	590 mm +/- 5mm
Lenght of cyndrical part of exhaust pipe	130 mm +/- 5mm
Length of cone	230mm +/- 5 mm (measured outside)
Outside diameter 180° elbow pipe	Maximum Ø 41 mm
Diameter hole end of tube	Maximum 22,5 mm
Total length of exhaust pipe	Minimum 500 mm +/- 1 mm
4.41 / Exhaust restrictor	Only restrictor Rotax.nr. 273 190 including seal ring is legal to be used. The measurement (C) must be at least 15,5mm. 
4.42 / Gear	Rear sprocket type: 219. Ratio is free Engine sprocket: 11t, 12t, 13t or 14t with wording “Rotax”
4.43 / Fuel test	The organization has the right to test the fuel at any time.
4.44 / Fuel	It is only allowed to use fuel with 98 octane. Checks will be done with a Digatron DT-47FT fuel tester which is calibrated in pure liquid cyclohexane. If the value (result) of the check is higher than +60 or lower than -30 the driver will be disqualified from the session. Each race the organisation will recommend a fuel station. If fuel is changed by the organisation, the driver will receive, from the designated fuel station, 98 octane fuel that is mixed with 2% Xeramic XPS DYE oil.

ART. 5. Technical Regulations ROTAX DD2/Master

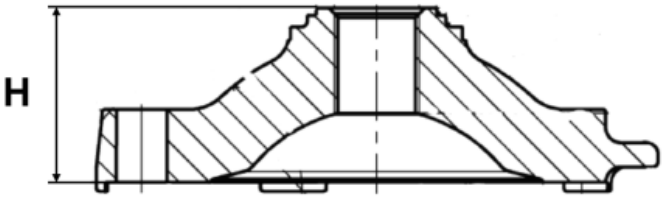
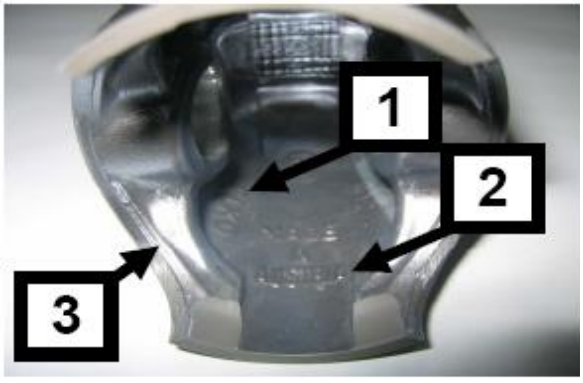
5.00 / Chassis	Maximum one chassis per competitor per event (weekend). CIK-FIA homologated chassis and DD2 certificated chassis are allowed. Check www.rotax-kart.com / approved chassis DD2. If the chassis is CIK/FIA homologated also all parts have to be used according the CIK/FIA chassis homologation. (Art.6.00 till 6.06 including)		
5.01 / Brakesystem	Only hydraulic, CIK/FIA homologated brakes are allowed. The homologation sheet has to be available at any time. Front brakes are mandatory. Between the master brake cylinder and the brake pedal an extra security brake cable is mandatory. Minimum 1,8mm thickness. Also, an extra security clip is mandatory at the brakepads. A ceramic brake disc is not allowed.		
6.02 / Rear axle	Magnetic material, in a whole.		
Diameter	Ø40 mm		
Wall thickness	Minimum 2,9 mm (entire length)		
5.03 / Rims	Aluminium or magnesium / Diameter 5 inch		
Dry	Maximum 135/215mm / measured to the outside of the rim		
Rain	Maximum 130/180mm +/- 5mm / measured to the outside of the rim		
Rear width	Maximum 140 cm / measured to the outside of the rim Minimum: see 5.05 “rear bumper”		
Rim modifications	Any additions to the rims are not allowed. Except: adhesive balancing lead. Bead retaining screws are mandatory.		
5.04 / Tyres	MOJO®		
Dry	MOJO D5 CIK with barcode	Front: 4,5x10x5	Rear: 7,1x11x5
Rain	MOJO W5 CIK with barcode	Front: 4,5x10x5	Rear: 6,0x11x5
	Slick race tyres must be ordered in advance through the organisation (voucher system) Two sets of slick tyres are allowed for each meeting. It is allowed to mix the tyres during the event. (BNL Karting Series championship). One set of slick tyres is allowed for the BNL Kick-Off. Tires must be mounted according to the direction of rotation defined on the tire. If it’s detected on the pre-grid area that a driver has fitted his tires incorrectly (wrong direction) then he will be moved to the repair zone. The driver has the possibility to assemble his tires correctly, with the help of one (1) mechanic. Only putting the tires in the correct direction is allowed. It is not allowed to do other technical changes. Afterwards he may start, but only when the start is given. He is not entitled to participate in the formation laps. If the observation takes place after the race, the driver will be excluded from the relevant part of the competition. It is not allowed to modify the tires. The brand name, code number, barcode and the indications always need to be visible on the tires. Only normal air is allowed to fill the tires.		

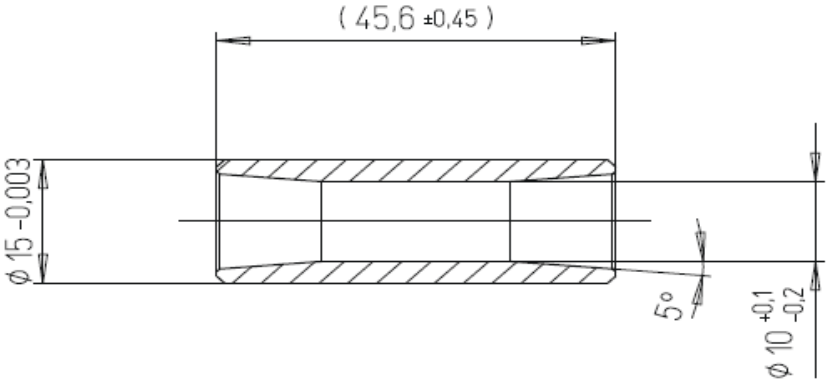
5.05 / Rear bumper	Rotax rear bumper and CIK-FIA homologated rear bumper is legal to be used. Rotax rear bumper: Rollers orange or red are allowed to be used.  **All** parts from the rear bumper should be mounted. No part shall be added or removed from original content (except safety wire or bolt connection 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. CIK rear bumper: cover at least 2/3 of the rear wheels and may not protrude the rear tyres.
5.06 / Side-pods Front panel Front fairing	Only a complete CIK homologated spoiler set is allowed. The complete spoiler set should have the same homologation number. The homologation sheet has to be available at any time. Using composite like carbon fiber is not allowed. Only plastic frame protection parts (left, right, front) is allowed. The complete set should be free of damage. A CIK front fearing bumper is mandatory for all type of chassis and has to be mounted according the CIK regulations.
5.07 / Fuel tank	The plastic fuel tank should be mounted in a correct way, at the appropriate place. All vents must end up in a reservoir.
5.08 / Weights and clothing	DD2: 175 kg. Kart + complete race gear. DD2 Master: 175 kg + complete race gear. Complete equipment must comply with the CIK regulations: A turbo visor is allowed in case of rain Gloves which cover the entire hand High shoes that cover and protect the ankles. The responsible doctor on the event may, for safety reasons, disapprove certain types of breast, neck or rib protections. A neck protection is not required yet recommended From the moment when the driver goes on track, he must wear the mandatory race gear as described in this article.
5.09 / Race numbers	DD2: Yellow plate with black digits (Range : 401 – 499) DD2 Master: Yellow plate with black digits, or Green plate with white digits

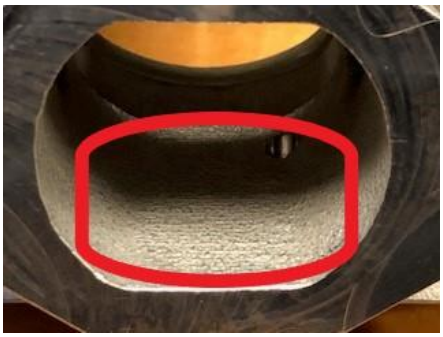
	(Range : 501 – 599) (Front, rear, left and right sides)
5.10 / Data systems	Data logging with or without a GPS module is allowed. Data from the GPS module may only be saved in a system which has been mounted on the kart. Every other form of telemetry or radio communication is not allowed. Transferring data during sessions to a device, other than the data logger on board is not allowed. Power to activate the data system should be taken from a separate battery. It is not allowed to take power from the battery that is meant for the engine.
5.11 / Seat / Extra seat support	The seat has to be fixed at minimum 4 places, 2 at the top (left and right) and 2 on the bottom (left and right). All seat supports have to be fixed with washers with a minimum thickness of 1,5mm and a diameter of 40 mm. On the engine side maximum one additional seat support is allowed to be used. The additional seat support must be fastened to the engine using the threaded hole designed for this purpose.
5.12 / Ballast	Drivers who are lighter than the required minimum weight shall attach extra weight on their kart, until they reach the prescribed weight. Lest may only be installed on the chassis or on the seat. The Technical Scrutineering can force each driver to mount lest on another place. Lest shall be mounted so that everyone's security is guaranteed at all times: • Up to 3kg: at least with 2x M6 bolts including washer • Up to 6kg: at least with 2x M8 bolts including washer • Up to 10kg: at least with 4x M8 bolts including washer
5.13 / Cameras	Drivers may use a camera if mounted in an appropriate way **and accepted by the Scrutineers**. Helmet cameras are not allowed. Clips, etc, for mounting a camera may not be fit on the helmet.

Engine – Rotax DD2 EVO

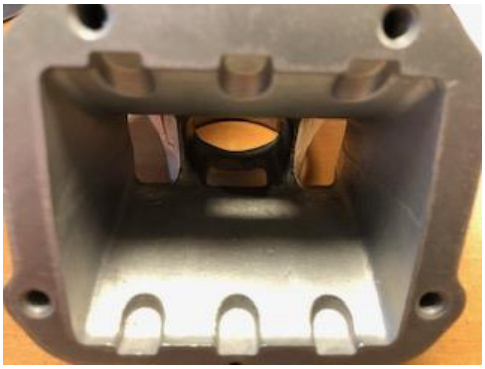
5.14 / Foreword	These regulations will be valid as of 1st of February 2021 and will replace all previous regulations. Only original spare parts which are manufactured by Rotax BRP are legal to be used. Any modifications are not allowed. Helix reparations with heli coils and/or wire bushes are allowed.
5.15 / Engines	Each race-meeting it is allowed to enter two engines. The engines should be sealed with an official Rotax seal. The engine registration card has to be available at any time.
5.16 / Squish	Minimum 1,30 mm (including possible carbon deposits)
Measurement method	The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire (Rotax part no. 580 130). The crankshaft must be turned by hand slowly over top dead centre to squeeze the tin wire. The squish gap must be measured on the left and right side in the direction of the piston pin. Engine temperature below 30 degrees Celsius The average value of the two measurements counts.

5.17 / Combustion chamber insert	Cast identification code has to be "223 389" or "223 389 1" or "223 389 2" or “223 389 2/1" or “223 389 2/2”. Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.   Height of the combustion chamber insert has to be **28,80mm +/- 0,2mm (H**)  The profile of the combustion chamber insert has to be checked with a template (ROTAX part no. 277 390). The crack of light between the template and the profile of the combustion chamber insert has to be the same over the whole profile. 
5.18 / Cilinder head cover	It is allowed to change the colour of the cilinderhead cover for indentification.
5.19 / Piston with ring assembly	Original, coated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" (1) and "MADE IN AUSTRIA" (2) 

	Machined areas are: • Top end of piston • Outside diameter • Groove for the piston ring • Bore for the piston pin • Inside diameter at bottom end of piston • Some pre-existing factory removal (3) of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface. Any mechanical treatment or rework of the piston is forbidden, (e.g. removal of carbon deposits). Cleaning without changing the original surface is allowed. If carbon is removed it must be consistently removed across the entire surface without altering the profile of the piston itself. Example: selectively removing carbon in the squish measurements areas is forbidden.
Piston ring	Original, magnetic, rectangular piston ring. Ring height: 0,98 +/- 0,02 mm. Piston ring is marked either with "Rotax 215 547", "Rotax 215 548", “Rotax 215 548 X”, or “I ROTAX 215548 X” The piston ring is legal also if just parts of the marking are still visible. 
5.20 / Piston pin	Piston pin is made out of magnetic steel. Dimensions must be according to the drawing. The minimum weight of the piston pin must not be lower than: 31,00 grams 

5.21 / Cylinder	Cylinder with one main exhaust port and two side exhaust ports and exhaust valve. Cylinder has to be marked with identification code 613 933 and ROTAX logo. Any additional machining or re-plating is not permitted.  Type >2018 DD2 cylinder 613 933 marked with capital “X” in the inlet port is **allowed**, but not mandatory. **<u>Single core cylinder:</u>**  Red surrounded picture below: NOT CNC machined  White surrounded picture below: CNC machined  The exhaust port is CNC machined but not over the entire length.

No single core cylinder:

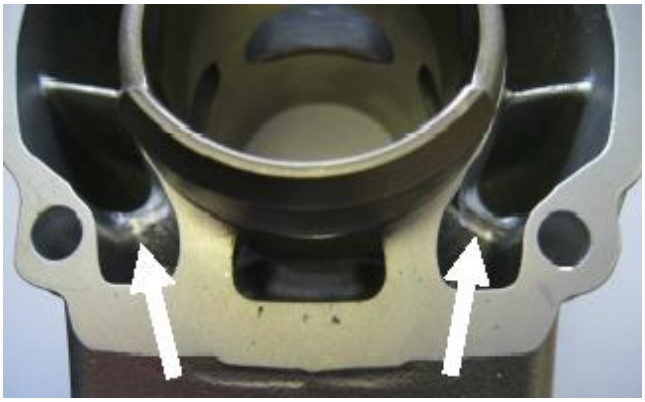


Red surrounded picture below: NOT CNC machined.

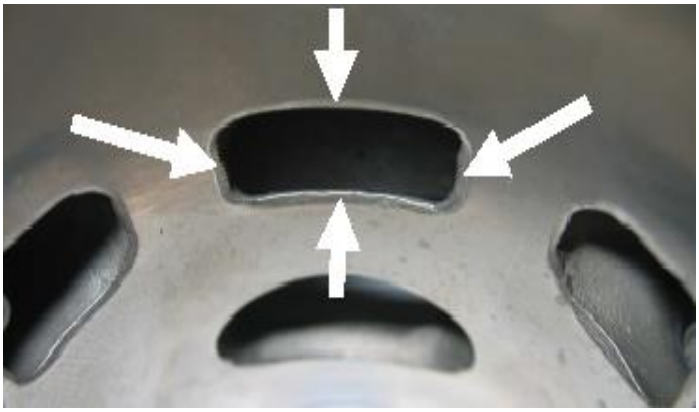
White surrounded picture below : CNC machined

The exhaust port is CNC machined but not over the entire length

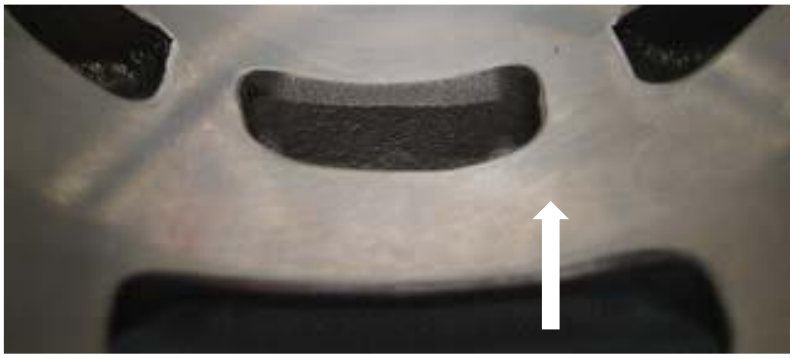
All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage, exhaust port and passages.



<table>
<tr><td></td><td>All ports have chamfered edges to prevent ring snagging. Any additional machining is not permitted. (see picture below).

The upper edge of the central boost port may show factory machining. (see picture below).

The top edge of exhaust port may show some pre-existing machining from the manufacturer.

Any modification is strictly forbidden.</td></tr>
<tr><td>5.22 / Maximum bore</td><td>54,035mm (measured 10mm above the exhaust port)</td></tr>
<tr><td>5.23 / Cylinder measurements</td><td>Height of cylinder should be 86,70 mm (-0,05 / + 0,10mm)

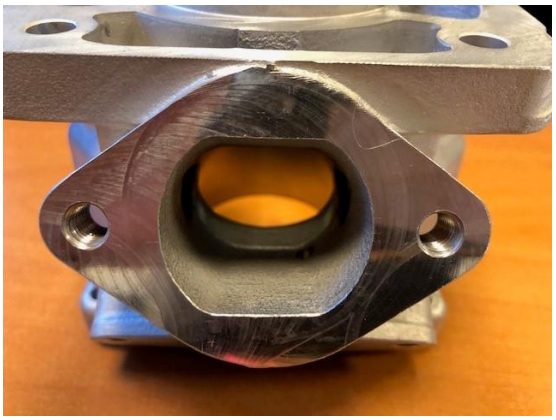
 

Exhaust port timing:
The "exhaust port timing" (distance from the top of the cylinder to the top of the exhaust port) has to be checked by means of the template (Rotax part no. 277 402).

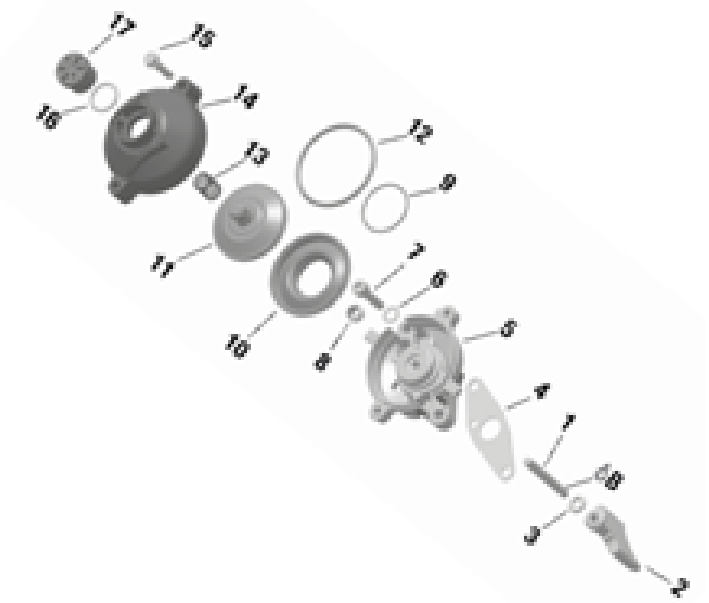
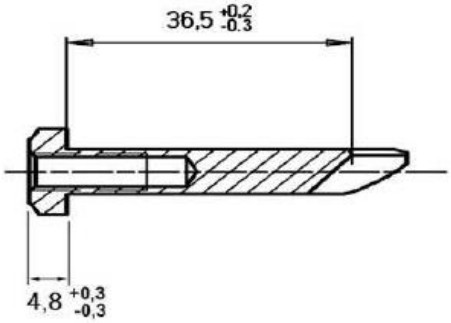
Insert the template for DD2 Max cylinder into the cylinder and move the template (at the highest point of the exhaust port) as far as possible into the exhaust port.

In this position the template may not touch the cylinder wall.</td></tr>
</table>

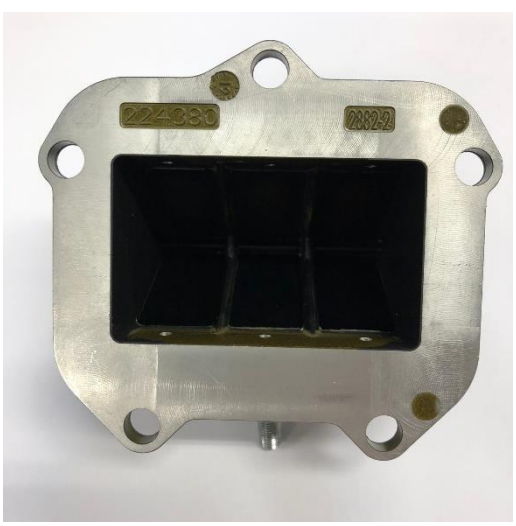
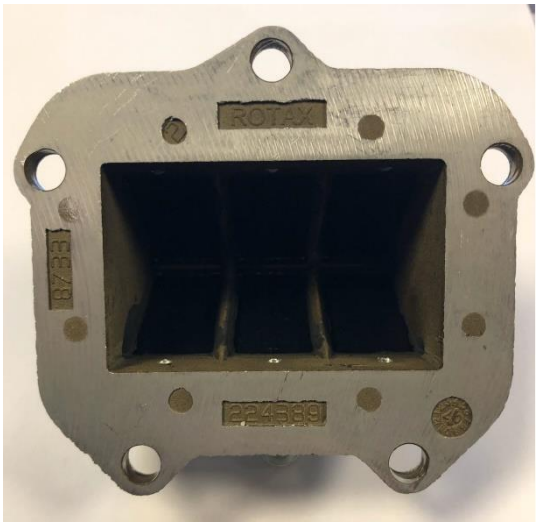
The flange for the exhaust socket may show either cast finish or machined surface. Machined surface can be either flat or show a circular sealing bump (see images below).



Any modification is strictly forbidden!

5.24 / Power Valve	Electronic timed system must be used only. System has to be used with all components fitted as shown in the illustration below. Only green coloured exhaust below (item 10) (Rotax part nr. 260 723) is legal to be used. The original compression spring has to be used.  Fitting an original impulse nozzle (picture below) into the pressure hose in an allowed adjustment. The direction of the impulse nozzle inside the pressure hose is free.  Length of the exhaust valve: 36,50mm + 0,20/ -0,30mm (see picture) Width of collar 4,80mm ± 0,30mm (see picture) Any modification is not allowed. 

	If the piston closes the exhaust port totally it has to able to put a special template (Rotax part nr. 277 030) into the powervalve port. This template must be at all times fully connected to the cylinder surface. It should not be possible to put a filler gauge of 0.25mm between.  Only the original gasket between cylinder and powervalve house is allowed. Modifications are not allowed.
5.25 / Inlet system & Reed valve assembly	The inlet manifold is marked with the identification code 267 410 of 267 411   Rotax part nr.: 267 410 (left image) Rotax part nr.: 267 411 (right image) Some factory flash removal may be present at the conjunction of the inside contour and the carburettor stop mounting face. No additional grinding or machining is permitted.

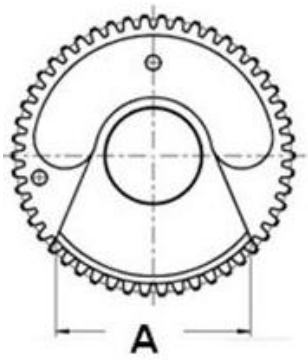
Reed valve assy	The reed valve assy. is equipped with 2 petal stops and 2 reeds, each having 3 petals. The thickness of the reeds is 0,60 mm +/- 0,10mm. Modification is not allowed.   Both reed valve assy are legal to be used. Rotax part no. 224 380 (left picture) Rotax part no. 224 389 (right picture)
5.26 / Conrod / Crankshaft	Stroke: 54,5mm ± 0,1mm Conrod has to show forged numbers “367” or “362” (see pictures)   Shafts of conrods are not machined. Grinding or polishing of shaft of conrod is not permitted. Crankshaft has to be unprocessed and may not be damaged. Ignition signal on crankshaft: Fit the template (Rotax part no. 277 391) on the crankshaft. Align the hole in the template for the big end pin with the big end pin of the crankshaft. The two edges of the signal machining on the crankshaft must be in line (+/-0,5mm) with the corresponding edges (MAX) of the template. 
5.27 / 2-speed gearbox	Primary shaft with 19 teeth for 1st gear and 24 teeth for 2nd gear Idle gear for 1st gear has to have 81 teeth Idle gear for 2nd gear has to have 77 teeth

5.28 / Balance Drive	Balance drive gear must be fitted on crank shaft. Balance gear must be fitted on primary shaft and must be aligned with the balance drive gear according the picture below:  Starter gear: Rotax part nr.: 434 844 (see picture below) is allowed to be used. Balancing gear: engraved with nr. 635 745 00 (see picture below) is allowed to be used.  Starter gear: Rotax part nr. 434 843 (see picture below) is allowed to be used. Balance gear: Rotax part nr. 635 748 (see picture below) is allowed to be used. 

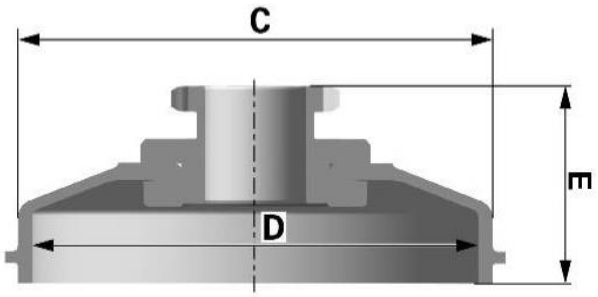
Balance gear:
Image below : balance gear with Rotax part nr. 635 745 00 engraved.
The fly weight of balance gear may show machined surfaces.
The minimum weight including cage may not be lower than 255,00 gr

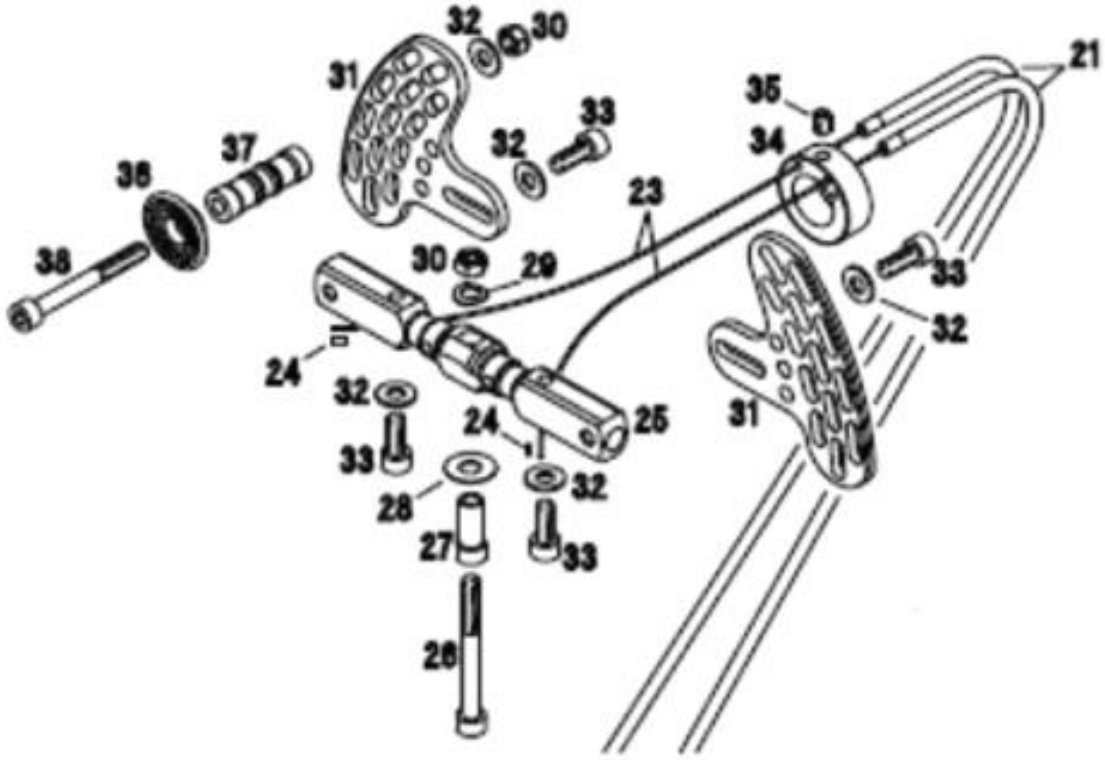
Image below: balance without engraving
The fly weight of balance gear may show machined surfaces.
The minimum weight including cage may not be lower than 250,00 gr

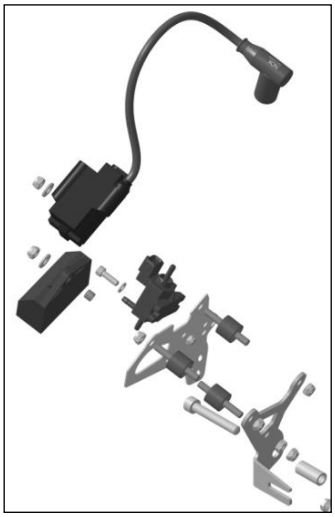
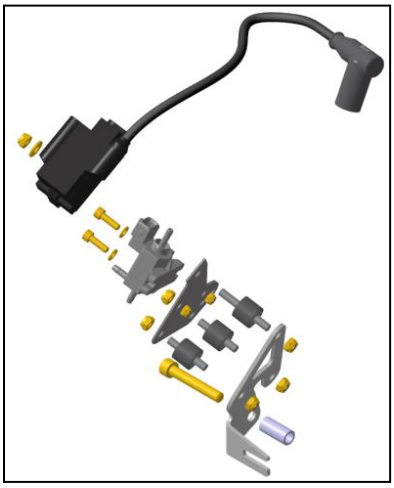
Both types of balance gears are legal to be used.



Dimension A (widest part of balance weight) must be 57,0 mm +/- 0,5 mm.

5.29 / Clutch	Clutch specifications at any time:  Thickness of clutch shoe (A): minimum 24,10 mm Measurements 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). Height of clutch (B): minimum 14,45 mm  The outer diameter of the clutch drum (C): minimum 89,50 mm. Diameter has to be measured with a sliding calliper just beside the radius from the shoulder. (Not at the open end of the clutch drum). The inner diameter of the clutch drum (D): maximum 84,90 mm. The inner diameter has to be measured with a sliding calliper. The measurement has to be done in the middle of the clutch drum (in the contact area between clutch and clutch drum). Clutch drum height with sprocket (E): minimum 39,50 mm
5.30 / Primary drive	Original primary drive gears (4 & 5) of following gear ratio options must be used only. Following combinations are legal to be used: 32 / 65 33 / 64 34 / 63 35 / 62 36 / 61 37 / 60 38 / 59 

5.31 / Gear shifting	The 2-speed gearbox has to be operated from the steering wheel via two bowden cables. Aluminum shift paddles. Cutting of the original aluminium paddles or adding of non-original parts is not allowed. Mounting the shift paddles (item 31) on the bottom or top side of the whip (item 25) is an allowed adjustment. Optional parts (item 36 – 38) can be mounted on the shift paddle (item 31) in any position. Bending the aluminium shift paddles to align them to the steering wheel is an allowed option. 
5.32 / Crankcase	As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area. Machining maybe evident in the crankcases in the area identified in the picture.  Black coated EVO crankcases must be used.

5.33 / Crankshaft main bearings	Crankshaft main bearing 6206 from FAG is only allowed to use. The bearings must be marked with 579165BA or Z-579165.11.KL or Z-579165.21.KL (see picture) 
5.34 / Ignition system	DD2 EVO Dellorto ignition system. Ignition coil with separate electronic ECU box (Rotax nr. 666820). The ECU box is still legal to be used if the sticker is removed. At the mounting versions as shown in the left illustrations, the ground cable of the cable harness has to be connected to the lower rubber buffer of the support plate.   The visual appearance of the ignition coil must be identical with the pictures below:   Ignition coil must show two pins at the terminal. The ignition coil is labelled with two stickers : “BRP 666820” and “NIG 0105”. The ignition coil is still legal to be used if one or both stickers have disappeared. The 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) It is allowed to fit a rubber buffer between the coil and the support. The organization reserves the right at all times to exchange ignitions coils and / or ECU boxes with ignition coils and or ECU boxes from the organization. The ECU box can be checked with the ECU box tester (Rotax part nr. 276 230)

Start the test by pressing the button ✓ . After approx. 3 seconds the type of ECU box that is actually tested will be indicated in the second line of the display.
After aprrox. 30 seconds the result of the test will be indicated in the first line of the display.

The ECU box tester has to indicate following results:

125 MAX DD2 category
1. 666816 MAX DD2
2. !! Test OK !!

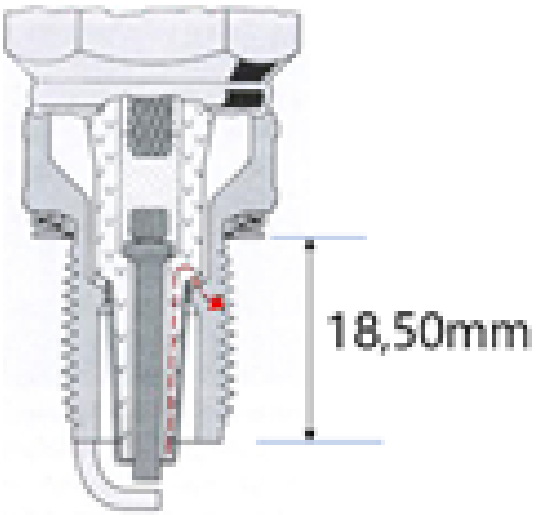
The marking of the pick-up must show the following numbers in the first line 029600-0710.
A steel ball (diameter 3-5 mm) placed on circular surface of the sensor must stay in the center of the circular surface.

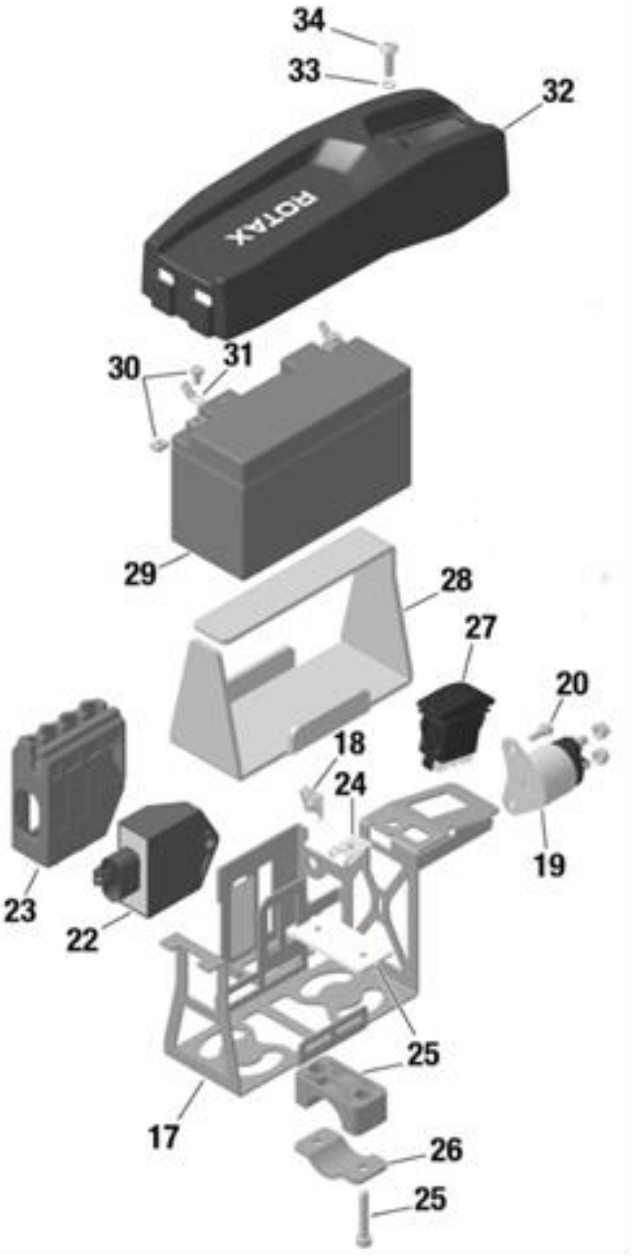
Mounting the pick up to the crankcase with a gasket additional to the original rubber sealing ring of the pick-up, is a legal specification.

Maximum two additional gaskets (Rotax 431 500), gasket thickness = 0,8 mm, are allowed to be fitted.

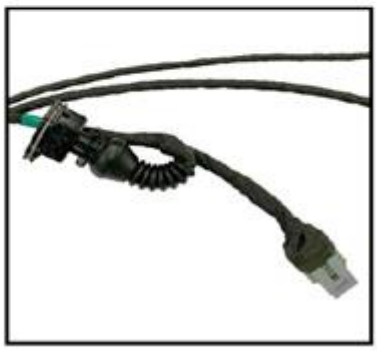
Fitting position of the additional gaskets:
Crankcase – rubber sealing ring – additional gaskets – pick-up.

It is not necessary to install any additional gasket/s with the exception of the rubber sealing ring on crankcases with the machined sealing surface for the pick-up sensor.

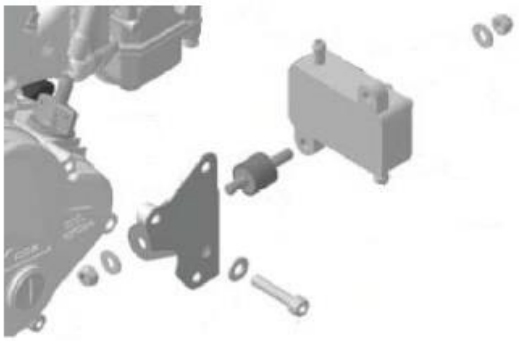
5.35 / Spark plugs / caps	Following spark plugs are legal to be used: NGK GR8DI / NGK GR9DI Electrode distance: maximum 1,00 mm Maximum spark plug shaft including ring: 18,50mm.  Two versions of spark plug caps are legal to be used: Version 1. Red, marked with “NGK” Version 2. Red, marked with “ROTAX”  Version 1.  Version 2.

5.36 / Battery	Original batteries with following specifications are legal to be used: • Rotax type RX7-12B • Rotax type RX7-12L (lithium iron phosphate type) • YUASA YT7B-BS Specifications of the batteries should be readable at all times. Battery must be fitted with the original battery clamp and battery cover (pictures below) and must be fixed to the chassis with both clamps (4 screws). Battery clamp with or without cable support is legal for use. Battery clamp must be mounted on the left side of the seat.  It is an allowed option to mount rubber buffers (4 pieces) between 17 and 25.

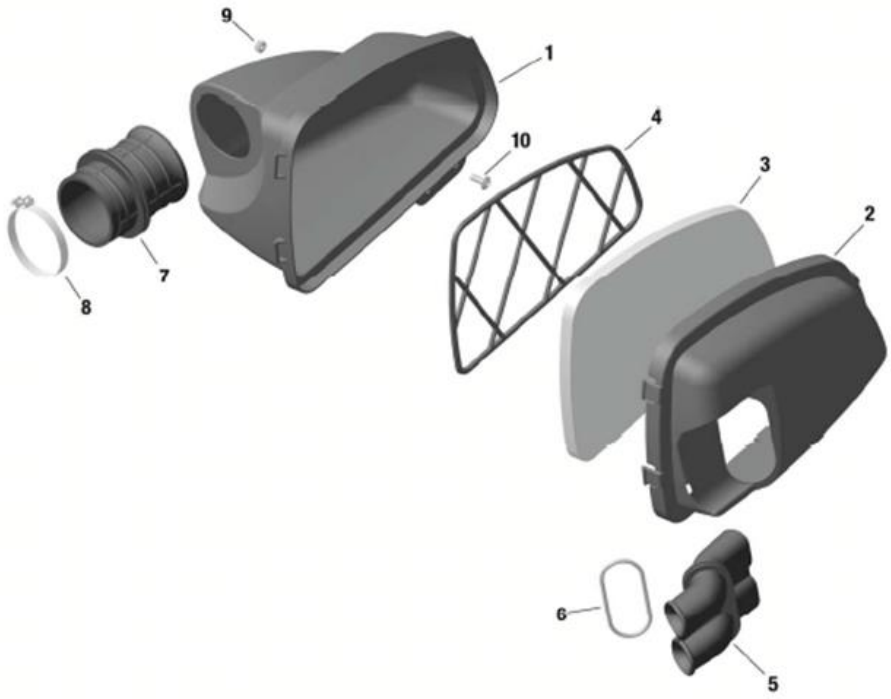
Wiring harness	Two versions of the wiring harness are allowed to be used. The differences between the two versions can easily be identified by the key points listed.

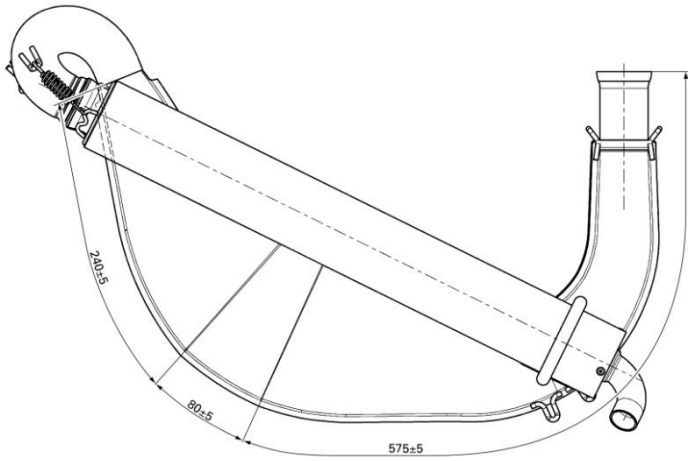
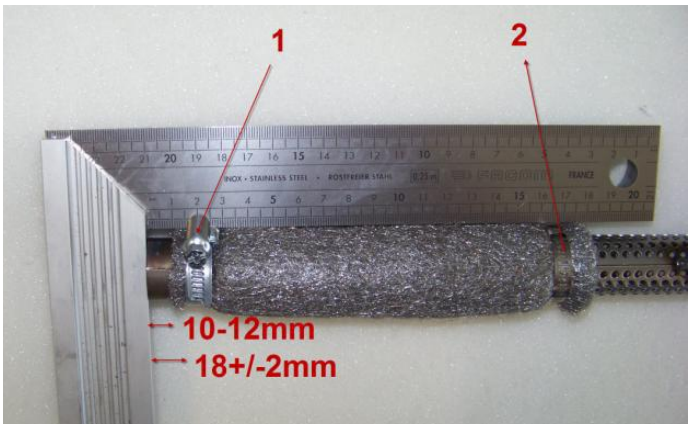
	Wiring Harness (666 835)	Wiring Harness (666 836)
ECU Connector		
Charging Connector		
Solenoid Connector		

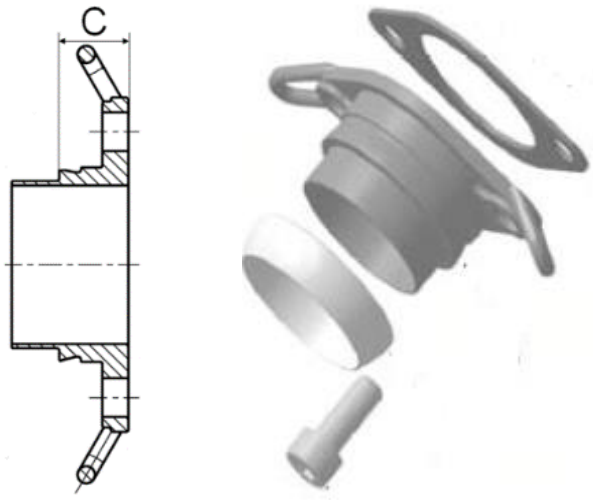
Only original plugs from the Rotax wiring harness are legal to be used.

5.37 / Carburettor	**DELLORTO Type VHSB 34**. Housing has to show the cast wording “VHSB 34”. Carburettor housing is stamped with “XS”. The complete inlet bore of the carburettor must show cast surface. Carburettor slide shows digits “45” in casting Following specifiacations: • Carburettor venturi insert 12,5. • Needle jet stamped with “DP267”. • Jet needle stamped with “K57”. • Start jet stamped with “60”. • Idle jet stamped with “60”. • Idle emulsion tube stamped with “45”. • Float lever according template (Rotax part nr. 277 400) • Floats marked “4,0 gr” are legal to be used only. • Needle valve assembly stamped “150”. Needle of needle valve marked with diamond symbol “INC” only. • All jets must be correctly seated and securely fitted at any time (tightened)! • Settings of the carburettor adjustment screws (idle and idle air) are free. • Settings of main jets is free. • Optional carburettor plug (Rotax part nr. 261 030) is legal to be used. • Using the fuel sieve in the carburettor is not mandatory. (see picture)  Only original Dellorto parts are legal to be used. **See checklist DELLORTO for further info.**
5.38 / Fuel pomp	MIKUNI fuel pump, type DF 44-210 is mandatory. Fuel pump must be mounted on the support bracket, Rotax part nr. 651 055 or 651 056, attached to the clutch cover (see image). Mounting the fuel pump with the two original rubber buffers to the chassis is an allowed option. In this case the fuel pump must be mounted below the inlet center line of the carburettor. 

5.39 / Fuel filter	It is **not mandatory** to mount a fuel filter, but if a fuel filter is mounted only the version showed in the picture below is allowed. Rotax part nr. 274 161.  Except the fuel line, the fuel pump and the original fuel filter no additional parts are legal to be mounted between the fuel tank and carburettor.
5.40 / Radiator	Only the original radiator ROTAX part nr. 295 926 is legal to be used. **Cooling area:** Height: 290 mm Width: 196 mm Thickness of radiator: 34 mm  The removal of the thermostat from the cylinder head cover is an allowed modification. Radiator must be mounted with all components. The removal of the radiator flap is an allowed option. To apply tape (neutral tape without advertising only) around the radiator is an allowed modification to control the air flow through the radiator. Using a plate to control the air flow is not an allowed option. Tape may not be removed or loosen from the radiator during operation on the track. Any other non-original device to control the air flow through the radiator is prohibited. The radiator has to be mounted on the right side of the engine.
5.41 / Engine coolant	Plain water without any additives has to be used. The venting of the radiator should end in a reservoir.

5.42 / Airbox	Intake silencer with integrated, washable air filter has to be used with all parts. and has to be mounted, in the original shape, on the support bracket with two screws (in dry and wet conditions). Only original Rotax parts are legal to be used. The intake silencer case (pos 1) is marked on the inside with the Rotax part no. 225 012 (4 clips) or 225 013 (5 clips). The intake silencer cover (pos 2) is marked on the inside with the Rotax part no. 225 022 (4 clips) or 225 023 (5 clips). Two versions of air filters (pos 3) are legal to be used: Version 1, with integrated steel frame. Version 2, with separate plastic frame (pos 4). At intake silencer cover (pos. 2, Rotax part no. 225 022), it is mandatory to fit the O-ring (pos. 6) on the intake silencer tube (pos. 5)  The air filter must be assembled between the intake silencer case and the intake silencer cover that the whole area of the intake silencer case is covered. Sealing the top of the intake silencer using adhesive tape is an allowed modification. At wet condition it is not allowed to attach anything to the air box to protect the air inlet from water spray.

5.43 / Exhaust system	Exhaust system, Rotax EVO (Rotax part nr. 273 180) is mandatory to be used.  Turned pipe with 180° elbow and silencer are two separate pieces. The silencer is fixed with two springs to the 180° elbow and two springs to the tuned pipe. To fit a 3rd original spring (crosswise at the ball joint connection between 180° elbow and silencer) is an allowed option. The silencer has to be mounted in a position where the direction of the 90° elbow outlet (direction of the hot exhausts gasses) does not harm any component of the chassis. The original design silencer end cap with 90° elbow is mandatory to be used. The original Rotax isolating mat (Rotax nr. 297981) is mandatory. Replacing the perforated cover and isolating mat are legal to be replaced by original Rotax parts. The isolating mat should cover the perforated cover at any time. Replacing the original rivets of the silencer end cap by 4mm metric screws and corresponding locking nuts is an allowed modification. Additional to the standard isolation mat a steel isolation mat (Rotax part nr. 297983) of the square dimension of 165 (+10mm) is legal (not mandatory) to be assembled underneath the standard isolating mat according to the illustration below:  Clamp (1) must be fitted at a distance of 18 (+/-2mm), measured from the end of the tube. Clamp (2) must be fitted at the end of the perforated tube to the beginning of the steel isolating mat is a specification for assembly purpose only. Both clamps (1 and 2) are mandatory to be fitted and tightened.

	The exhaust system should be mounted to the chassis by using the two original mounting brackets. Rubber buffers are mandatory to be placed between the system and chassis. The use of maximum 4 pieces of original Rotax exhaust springs, to fix the exhaust system to the cylinder is allowed. Any other item is not allowed. Welding a socket on the top of the exhaust system for measuring the exhaust gas temperature is an allowed modification. Distance: 50-80mm from the ball joint. Welding at the exhaust system is only allowed in case of a repair. Modifications are not allowed. The organization reserves the right at all times to change exhaust systems from drivers with exhaust systems from the organization.
Length of inlet cone	575 mm +/- 5mm
Lenght of cyndrical part of exhaust pipe	80 mm +/- 5mm
Length of cone	240mm +/- 5 mm (measured outside)
Diameter hole end of tube	Maximum 22,5 mm
Total length of exhaust pipe	Minimum 500 mm +/- 1 mm
5.44 / Exhaust restrictor	Only restrictor Rotax.nr. 273 190 including seal ring is legal to be used. The measurement (C) must be at least 15,5mm. 
5.45 / Fuel test	The organization has the right to test the fuel at any time.
5.46 / Fuel	It is only allowed to use fuel with 98 octane. Checks will be done with a Digatron DT-47FT fuel tester which is calibrated in pure liquid cyclohexane. If the value (result) of the check is higher than +60 or lower than -30 the driver will be disqualified from the session. Each race the organisation will recommend a fuel station. If fuel is changed by the organisation, the driver will receive, from the designated fuel station, 98 octane fuel that is mixed with 2% Xeramic XPS DYE oil.