



Updated 15th November 2019

A0047314E

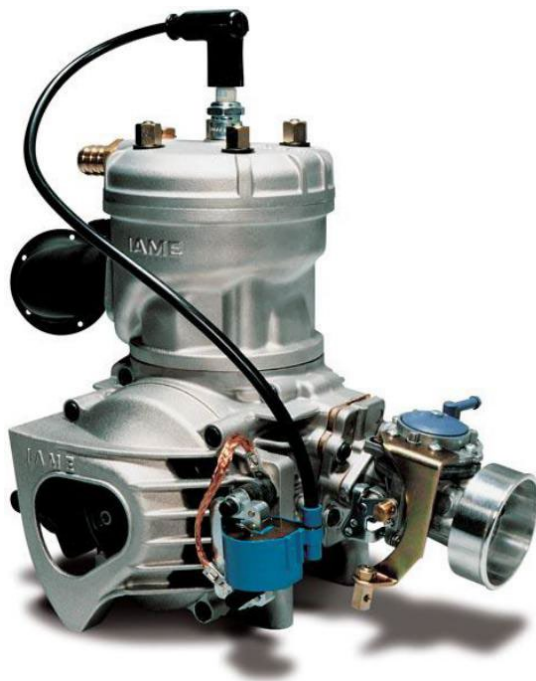
SKAA Standard 125cc Class Specifications

Minimum Weight 160KG

- A) The only eligible engines are the :
 - 1. IAME Parilla 125cc LEOPARD RL technical specifications as per Rule A.1
 - 2. ROTAX FR125 Max , technical specifications as per Rule A.2
 - 3. PRD 125cc Fireball , technical specifications as per Rule A.3
 - 4. IAME Parilla 125cc X30 , technical specifications as per Rule A.4
 - 5. PRD 125cc Galaxy , technical specifications as per rule A.5
- B) Homologation Sheets (available from www.skaa.org.au)
 - 1. IAME Parilla 125cc LEOPARD RL as per Rule B.1
 - 2. AME Parilla 125cc X30 , as per Rule B.4
 - 3. PRD 125cc Galaxy , as per Rule B.5
- C) No evolution components are permissible without approval from the SKAA technical committee.
- D) The SKAA Authorised Importers of eligible engines as details in this rule are as follows:
 - 1. Remo Racing – www.remoracing.com.au – 121 Firebrace St, Horsham, 3400

A) Technical Specifications

A.1 Parilla LEOPARD RL 125cc Specifications



Preamble:

The following are the Technical Specifications for the PARILLA LEOPARD RL 125 engine, as approved by SKAA. Unless otherwise specified, the engines must be original in all their components according to the PARILLA LEOPARD RL 125 drawings. Homologated drawings are available at www.skaa.org.au The engine must be Australian delivered and imported by an SKAA authorised importer to be eligible for competition. Neither the engine or any of its ancillaries may be modified unless specifically authorised within these rules. Only Genuine IAME components that are specifically designed and supplied for the Parilla Leopard RL 125cc engine are legal, unless otherwise specified. Any removal, addition or polishing of material is strictly forbidden. Sandblasting, glass bead blasting, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed. The use of thermal barrier coatings / ceramic coatings on or in the engine / engine components and on or in exhaust components is prohibited. The use of anti friction coatings on or in the engine / engine components is prohibited. OEM & Meteor pistons are exempt.

- A.1.1 Displacement:** 123.67cm, Stroke 54.00mm. Maximum IAME piston 54.27mm.
- A.1.2 Cylinder:** Cylinder length 89.1 +/-0.1mm. Water connections are free but must retain the homologated position and threaded sizes.
- A.1.3 Cylinder Head:** No material to be added except for spark plug thread repair. Combustion area maybe re-machined but must retain squish band. Distance from spark plug sealing face to combustion sealing face 32.8mm +/-0.25mm. The combustion chamber shall be a minimum of 9.5cc.
- A.1.4 Crankcase, Crankshaft and Conrod:**
- Crankcase may be repaired externally to repair damage around the clutch side area only. The crankcase maybe machined to allow the fitting of the new style ignition on the older style engines.
- A.1.5 Piston:** Genuine IAME Piston, or Meteor aftermarket piston allowed. **Maximum size 54.27.** No Modifications allowed.
- A.1.6 Clutch:** No modifications or re lining permitted.
- A.1.7 Reed Block and Reed Valves:** Reed block and reed valves must be of the same style as the original IAME. Reed pedal thickness 0.3mm +/-0.08mm. Carbon fibre reeds are allowable.
- A.1.8 Carburettor:** The only permissible carburettor is the TILLOTSON MODEL HL-334A, MODEL HL-334 AB or TILLOTSON HL-360A.
- 1a. TILLOTSON HL-334A & HL-334AB**
- The parallel Carburettor Venturi bore must not exceed 23.25mm at any point.
- It is permissible to enlarge only existing fuel/air holes, but they may not be deleted or relocated. Air filter adaptor must be OEM with no modifications.

1b. “B” Carburettor may be machined to “A” specs, however any machining of the carburettor convergent entry cone and any blend radius is not permitted to be machined past the front face of the dump tube. The dump tube, whilst dimensionally free in terms of internal passages must be retained and located in its supplied position. The ball and its retaining plate must remain in place.

1c. The throttle bore size has a maximum of 25.5mm. No sleeving of the throttle bore is permitted.

2a. TILLOTSON HL-360A

2b. No modifications to carburettor venturi allowable. It is permissible to enlarge only existing fuel/air holes, but they may not be deleted or relocated. Air filter adaptor must be either PRD Part Number #PRD0109 unmodified or OEM with the inlet diameter of the adapter machined parallel to a maximum bore size of 34.50mm allowable.

3. Non-Technical items will include, extension to existing low jet, plastic carburetor top, conical cable return spring and cable support bracket.

A.1.9 **Filter:** The air filter/air box is a non-tech item. -OPEN

A.1.10 **Ignition:** Both the Seletra 4 pole and IAME S.P.A Seletra Digital –K Ignition Systems are allowable. Woodruff Key must be retained and no modifying permitted. The loom plastic electrical fittings may be replaced with non-genuine fittings. All stator mounting hardware must be as per OEM.

A.1.11 **Muffler:** The only permissible exhausts allowed are those that conform to the drawings in the homologation papers or the PRD “Bubble Pipe”. Original header pipe supplied with engine must be used. It is permissible to fit an exhaust flange support bracket to the original header pipe. Any such support must not exceed 60mm in length and 40mm width. No modifications allowed.

A.1.12 **Cooling System:** Radiators are OPEN

A.1.13 **Non-Tech:** Unless specified, non-tech items are to be of the same type and style as the original. No alteration from the original manufacturers specifications is permitted to fit a non-tech item. Non-tech items for the Parilla Leopard RL engine include;

Air filter / Airbox, Clutch sprocket, Chain Guard (TT Style plastic permitted), Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead, Spark Plug Cap, Main Bearings, Water Hoses, Hose Clamps, Water Pump, Axle O-Ring, Axle Pulley, Thermostat, Exhaust Flex, Battery, Starter Motor, Carburettor gasket / diaphragm repair kit including needle and seat, plastic fittings on the electrical looms for the ignition and starter assembly.

A.1.14 **Gudgeon Pin:** Gudgeon pin to be made of magnetic steel and same style as OEM.

A.2 BOMBARDIER ROTAX FR125 MAX SPECIFICATIONS



Preamble:

The following are the Technical Specifications for the Rotax FR125 Max engine, as approved by AIDKA. Unless otherwise specified, the engines must be original in all their components according to the Rotax FR125 Max drawings. Homologated drawings are available at www.skaa.org.au The engine must be Australian delivered and imported by an SKAA authorised importer to be eligible for competition. The engine must have the official Formula Rotax Australia stamp on the crankcase and also on the reed block face of the cylinder to be eligible to compete. Neither the engine or any of its ancillaries may be modified unless specifically authorised within these rules. Only Genuine Rotax components that are specifically designed and supplied for the Rotax FR125 Max engine are legal, unless otherwise specified. Any removal, addition or polishing of material is strictly forbidden. Sandblasting, glass bead blasting, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed. The use of thermal barrier coatings / ceramic coatings on or in the engine / engine components and on or in exhaust components is prohibited. The use of anti friction coatings on or in the engine / engine components is prohibited. OEM pistons are exempt.

A.2.1 Internal and External Additions: No additional material may be added except in the case of engine repairs and shall only restore the engine or components to original specifications.

- a. The use of thermal barrier coatings/ceramic coatings on or in the engine components and on or in the exhaust system is prohibited.
- b. The use of anti-friction coatings in or on the engine/engine components is prohibited unless otherwise supplied OEM. The only exceptions to this are the gilnilsil coating of the cylinder bore and the coating to the piston skirt.

A.2.2 Legal Additions: Chain guard, motor mount, radiator mount, temperature gauge and tachometer/hour meter, exhaust gas temperature fitting.

A.2.3 Non-tech Items: Battery, Fuel Filter, Radiator Hoses, clamps pulse line, switches, ancillary mounts, fasteners, circlips, washers, bearings, spark plugs, gaskets, o-rings, piston pin, springs, seals, clutch drum, drive sprocket, rings, starter motor, clutch flywheel, thermostats and housings. No alteration from original manufactures specification is permitted to fit a non-tech item.

A.2.4 Engine Specification for 223 997 or 223 996 Cylinders

A.2.4.1 Cylinder Head Volume: Minimum of 11.0cc.

A.2.4.2 Displacement: 125.0cm³ maximum.

A.2.4.3 Combustion Chamber Insert: Identification code has to be 223 389, 223 389 1 or 223 389 2. No material may be added except to repair the spark plug thread and or spark plug seal surface. Machined surfaces may be re-machined if using cylinder 223997. Cylinder head insert must retain both the squish band and visually spherical combustion chamber. O-Ring must be fitted. The combustion chamber/squish area shall not protrude beyond the ceiling face of the head insert. "Rotax" and/or "Made in Austria" must be cast in the combustion insert.

A.2.4.4 Spark Plug Thread Length: Maximum spark plug thread length shall be 20mm.

A.2.4.5 Piston: OEM or Meteor only, uncoated or coated, aluminium cast piston with one (1) 1.0mm rectangular piston ring. The OEM piston has to show on the inside the words "ELKO" and "Made in Austria" in the casting. Machined areas are: top end of piston, outside diameter, one groove for the piston ring, bore for the piston pin, inside diameter at bottom end of piston. All other surfaces are not machined and have a cast surface.

A.2.4.6 Gudgeon Pin: Gudgeon pin to be made of magnetic steel and same style as OEM.

A.2.4.7 Cylinder: Light alloy cylinder with GILNISIL plating, configuration with one main exhaust port and pneumatic adjust valve. Any replating is not allowed. Maximum bore: 54.035mm (measured 10mm above the exhaust port). Cylinder has to be marked with the Rotax logo, identification code 223 997 or 223996. All ports and passages are cast finish except some pre-existing factory removal of flashing. All ports have chamfered edges to prevent ring snagging. Any additional machining is not permitted. Cylinder must have the official Formula Rotax stamp on the inlet face. Piston travel check using 5.0mm rod. Minimum 32.8mm, Maximum 33.8mm. If you are using cylinder 223996 or any future cylinder evolution, the cylinder must remain as supplied by the manufacturer and cannot be remachined. Height of cylinder must be 87mm with tolerance of $-.05/+0.1$ mm. Due to manufacturing procedures some cylinders may have been machined on the exhaust flange

A.2.4.8 Cylinder Base Gaskets: Must be dimensionally the same size and shape as original and cannot be designed to decrease the size of the transfer ports.

A.2.4.9 Inlet System: Intake manifold is marked with the name Rotax and the identification code 267915, No grinding or machining is permitted, however some factory flash removal may be present at the junction of the inside contour and the carburettor stop mounting face. This is a manual trimming operation consisting of a small corner break of less than 1mm in width. Reed valve assembly is marked with the name Rotax and the identification code 22438 or 224389. The reed valve assembly is equipped with two (2) pedal stops and two (2) reeds, each having three (3) pedals. The maximum allowable width between the inside faces of the two (2) metal reed valve stops is 22.0mm. The thickness of the reeds is $0.6\text{mm} \pm 0.08\text{mm}$. Maximum reed block gasket thickness is 4.0mm. The addition of one Rotax reed block gasket, maximum of 1.0mm between the carburettor manifold and the reed block is permitted.

A.2.4.10 Exhaust Power Valve: As supplied by the manufacturer with no modifications allowed, maximum thickness of Power Valve gasket/s is 2.0mm. Original spring must be fitted. Any external adjustment or blocking to this once the engine is running is illegal. Additional fasteners or securing devices may be fitted/added. Length of exhaust valve is $36.5\text{mm} \pm 0.2\text{mm}/-0.3\text{mm}$, Width of collar is $4.8\text{mm} \pm 0.3\text{mm}$.

A.2.4.11 Crankshaft: As supplied by the manufacturer with no modifications permissible. Stroke 54.5mm +/- 0.02mm.

A.2.4.12 Balance Shaft: No modification allowed. Must be installed and operational. Minimum weight of the dry balance shaft must be not less than 355 grams for balance shaft, Rotax par number 237 945 and 255grams for balance shaft, Rotax part number 237 949. Balance gears must be installed and must be correctly aligned according to the instruction in the repair manual.

A.2.4.13 Conrod: As supplied by the manufacturer. Any grinding/ polishing or modification is not permitted. Conrod has to be marked with number "213" or "365" or "367" on shaft,

A.2.4.14 Crankcase: As supplied by the manufacturer. Zero grinding/polishing in the two main transfer passages. Must have the official Formula Rotax Australia stamp on the crankcase deck.

A.2.4.15 Ignition: DENSO digital ignition only, no adjustment permitted or possible. Ignition coil has the following marks close to the outlet of the high-tension cable, cast in the case. DENSO and 129000. The ignition coil must have 3 pins at the terminal. The only allowable spark plug cap is NGK Type TB05EMA. Any modification to any part of the ignition system and/or crank-shaft to alter ignition timing or rev limiter is illegal. The ignition pickup must be marked with the numbers 029600-0710, followed by a variable production code in the second line.

A.2.4.16 Carburettor - DELL'ORTO: The carburettor body, slide, needle, atomiser tube and atomiser insert (either spec 1 or spec 2 is permissible) to remain as originally supplied and cannot be subject to any modification. No additions or additional machining filing, drilling or polishing etc is permitted to these items; this includes the bore/throat. "VHSB 34" cast in the housing of the carburettor. "QD" or "QS" stamped in the housing of the carburettor. Atomiser tube stamped with "266 FN". Needle stamped with "K 54" or "K 27" or "K98" or others as nominated in the future. Slide marked #40 only. The size of any hole or any of the following is unregulated: main jet, needle and seat, pilot jet, pilot jet emulsion insert choke jet. The position of the float/float arms and the weight of the floats are unregulated. All items (jets, needles etc) referred too must be present and operational. With the exception of the choke, no changes or adjustments can be made to the carburettor once the engine is running.

A.2.4.17 Fuel Pump: Original MIKUNI diaphragm pump only. Place of fixing is free.

A.2.4.18 Radiator: Radiators are OPEN.

A.2.4.19 Clutch: Dry Centrifugal Clutch - using genuine components only. Whilst on level ground the kart (with Driver in kart) must start to move under its own power, when the engine speed reaches 3000 rpm or less. The use of a PRD clutch drum and sprocket as supplied by manufacturer is optional.

A.2.4.20 Intake Silencer: The original intake silencer must be fitted. The original foam air filter may be replaced with either a flat style or cylindrical style filter providing all air to the engine passes through the air box intake tube.

A.2.4.21 Exhaust System: Must be supplied by Rotax and cannot be modified except for, a) the replacement of the silence absorption material and/or b) the addition of an exhaust gas temperature fitting. Standard engine/pipe coupling must be used. Exhaust pipe with after muffler. Length of inlet cone: type a and type b: 592mm+/- 5mm (measured along the body of the exhaust pipe, not the seam,

from the beginning of the exhaust to the start of the cylindrical part). Length of the cylindrical part of the exhaust pipe: type a and type b: 125mm +/- 5mm. Length of end cone: type a: 250mm +/- 5mm type b: 225mm +/- 5mm. Outside diameter of 180 bent tube: type a: 30mm +/-

3mm type b: 41mm + 1.5mm -1.0mm (measured at beginning end of bend). Hole diameter of end cap of silencer 21mm +0.2mm -0.5mm. Painting/plating of the exhaust muffler is permitted with the exception of thermal barriers/coatings/paint. NOTE: Any accidental damage to the unit will not incur a technical breach of these Rules of Racing, however any attempt to modify or alter the exhaust system by cutting, or fabrication will automatically remove eligibility of the exhaust system. Welding of the exhaust system to repair a crack, hole or to fit a patch etc. is permitted. Only one exhaust gasket is permitted, maximum thickness of 2mm.

A.2.4.22 Exhaust Muffler: Noise isolating mat can only be replaced by an original Rotax spare part.

End cap rivets may be replaced with bolts/cap-screws etc.

A.2.5 Engine Specification for 223 993 Cylinders

BRP-ROTAX FR 125 MAX

A.2.5.1 Squish Gap

a) FR 125 Max 1.00 mm – 1.50 mm

b) The squish gap must be measured with a certified slide gauge and by using a 2 mm tin wire. The crankshaft must be turned by hand slowly over TDC (top dead center) to squeeze the tin wire. The squish gap must be measured on the left and right side in the direction of the piston pin. The average value of the two measurements counts. Recommended 2mm tin wire : part no. 580 130

A.2.5.2 Combustion Chamber Insert

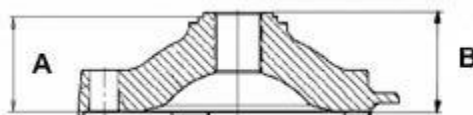
a) Cast identification code has to be "223 389" or "223 389 1" or "223 389 2"

b) Casted wording "ROTAX" and/or "MADE IN AUSTRIA" must be shown.

c) Heights of combustion chamber insert have to be 27.55 mm with a tolerance of +0.0/-0.1 mm (A) and 28.80 mm with a tolerance of +/- 0.2 mm (B).

d) 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. **NOTE:** This check is just for reference. In case of doubt detailed measurements have to be performed to define conformity or non conformity.

278



A.2.5.3 Piston with Ring Assembly.

a) Original, coated or uncoated, aluminium, cast piston with one piston ring. The piston has to show on the inside the cast wording "ELKO" and "MADE IN AUSTRIA" .

b) 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 and some pre-existing factory removal of flashing at the cut out of the piston skirt. All other surfaces are not machined and have cast surface.

c) Original, 1 mm, magnetic, rectangular piston ring. Piston ring is marked either with "E CRY K" or "ROTAX 215 547" or "ROTAX 215 548".

A.2.5.4 Gudgen Pin

a) Gudgen pin is made out of magnetic steel.

b) Dimensions must be according to the homologation drawing.

c) The minimum weight of the gudgen pin must be no lower than 32.10 grams.

A.2.5.5 Cylinder

a) Light-alloy-cylinder with GILNISIL-plating. Any re-plating of cylinder is not allowed.

b) 2.Cylinder with one main exhaust port.

c) Maximum bore of cylinder = 54,035 mm (measured 10 mm above the exhaust port)

d) Cylinder has to be marked with the "ROTAX" logo (see pictures below).

e) FR 125 MAX Cylinder with pneumatic timed exhaust valve. Cylinder has to be marked with identification code 223 993

f) Height of cylinder has to be 87 mm $-0.05/+0.1$ mm.

g) All transfer ports and passages have cast finish surface except some removal (done by the manufacturer) of cast burr at the inlet passage and exhaust port and passages. All ports have chamfered edges to prevent ring snagging. Any additional machining is not permitted. The top edge of exhaust port may show some pre-existing machining from the manufacturer. The sealing flange for the exhaust socket may show signs of machining from the manufacture.

h) All ports have chamfered edges. Any additional machining is not permitted. On cylinders marked

i) 993 the upper edge of the central boost port may show factory machining.

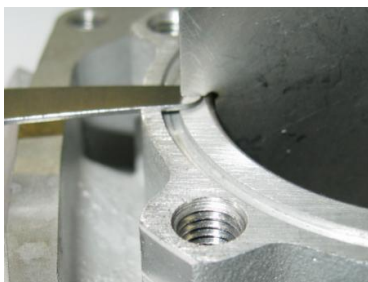
j) The sealing flange for the exhaust socket may show either cast finish surface or signs of machining from the manufacturer.

k) 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.

l) The exhaust port may show partial manual grinding done by the manufacturer to eliminate minor casting defects and to eliminate the NIKASIL burr at the end of the NIKASIL plating.

m) At cylinders 223 993 exhaust port may show factory machining all around

n) 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. 277 397) Insert the template into the cylinder, that the template is touching the cylinder wall and that the finger of the template is located in the middle of the exhaust port (highest point). Move the template upwards, until the finger is touching the top edge of the exhaust port. Insert a filler gauge between the top of the cylinder and the template. It must not be possible to fit the feeler gauge specified below. FR 125 MAX: 0.75 mm. At cylinders 223 993 it is also legal if the template doesn't fit in at all.



- o) Exhaust valve. If the piston is moved in direction top of cylinder and first time covering completely the exhaust port, it must be possible to insert the exhaust valve gauge (ROTAX part no.277 030) until it stops at the surface of the cylinder (a feeler gauge of 0.05 mm must not be possible to fit in).



A.2.5.6 Inlet system

- a) Inlet manifold is marked with the name "ROTAX" and the identification code "267 915"
- b) Some factory flash removal may be present at the conjunction of the inside contour and the carburetor stop mounting face. This is a manual trimming operation consisting of a small corner break of less than 3 mm in width. No additional grinding or machining is permitted.
- c) The reed valve assembly part no. 224389 is equipped with 2 pedal stops and 2 reeds, each having
- d) pedals.
- e) The thickness of the reeds is 0.6mm +/-0.08mm.

A.2.5.7 Stroke

- a) 54,5 mm +/-0,1 mm

b) Con rod has to show forged numbers "213", "365" or "367" on shaft. Shaft of con rod is not machined (copper plated). Grinding or polishing of shaft of con rod is not permitted.

A.2.5.8 Balance Shaft

- a) Balance shaft and balance gears must be installed.
- b) Configurations of part no. 237 949 (equal with 237 948) only is legal.
- c) Surface (1) is not machined and must show cast surface.
- d) Measurement from centre of balance shaft to outer diameter of fly weight of balance shaft at defined length must not be lower than specified.
- e) The minimum weigh of the dry balance shaft must not be lower than:- 255 grams for balance shaft ROTAX part no. 237 949 (equal with 237 948).

A.2.5.9 Crankcase

As supplied by the manufacturer. No grinding/polishing is permitted in the two main transfer passages as well as in the crank area.

A.2.5.10 Balance Drive

- a) Only steel balance gears are legal to be used.
- b) Balance gears must be installed and must be aligned according to the instruction in the repair manual. Mixing of steel balance gears of different width (6.0 and 9.0 mm) is strictly forbidden.

A.2.5.11 Ignition System

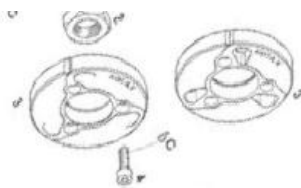
- a) DENSO digital battery ignition, variable ignition timing, no adjustment necessary and possible. Race officials may request at any time that the competitor replace the ignition coil with a new unit provided by the race administration.
- b) The casting of the ignition coil has to show the following in casting "129000-" and "DENSO".
- c) Ignition coil must show 3 pins at the terminal.
- d) Connector housing of ignition coil must have either black or green colour.
- e) The ignition coil has to be fixed by means of 2 original silent blocks to the gearbox cover. Only in case of chassis component interference with the original mounting location of the ignition coil, a supplementary extension bracket, rigidly constructed and fabricated of solid metal, of minimum dimensions and attached to the original case mounting holes, is permitted for mounting of the coil.
- f) Minimum length of ignition wire (high tension wire) is 210 mm from outlet of cable at
- g) ignition coil to outlet of cable at spark plug connector (= the visible length of wire) Ignition coil must be in working condition (to be tested in case of doubt) The pick up must be marked with the numbers 029600- 0710, followed by a variable production code in the 2nd line. HINT: In case of doubt an easy check is to place a steel ball (3-5 mm in diameter) on the pickup (engine side), the steel ball must stay in the centre of the pickup surface.
- h) Spark plug cap must be marked with "NGK TB05EMA"
- i) Battery to be of type and fitment as per Section 3.2 of SKAA Rule Book.
- j) The earth strap may be fitted with a connector for ease of removal of the engine. Rotax Wiring Harness to be OEM only, no fittings, no repairs. The ignition coil can be relocated from the crankcase as far as the OEM harness will permit.

A.2.5.12 Exhaust Valve

- a) As supplied by the manufacturer with no modification allowed. Compression spring must be fitted.
- b) Length of the exhaust valve is 36,5 mm +0.20 mm /-0.30 mm.
- c) Width of collar is 4.8 mm +/-0.3 mm
- d) Any adjustment or blocking to this valve once the engine is running is illegal.
- e) Exhaust power valve stud part no. 441355 Exhaust power valve piston part no. 854440 Exhaust power valve bellow part no. 260723 Exhaust power valve bellow spring part no. 939280 Exhaust power valve adjustment screw part no. 641890 Lower exhaust power valve spring part no. 838255

A.2.5.13 Centrifugal Clutch

- a) Dry centrifugal clutch, engagement maximum at 4.000 r.p.m. That means, that the kart (without driver) must start to move latest at an engine speed of maximum 4.000 r.p.m. There are two versions of the clutch shoe (element part # 3 on the diagram) and both are legal to be used. The older version of the clutch shoe can be either untreated or nitrated configuration.



- b) Engines must be fitted the new needle cage bearing 15X19X17 (item 9) as well as new O-Ring 12X2,5 (item 10) only. Except if the plain bearing 15X17X20 (item 9) designed for 11teeth sprocket is used, in this case no O-ring must be used.
- c) No extra lubrication or additional substance allowed inside the clutch drum additional to the grease that originates from lubrication of the needle cage bearing and enters the clutch area.
- d) Only fixation nut as well as inside of drum show signs of grease, running surface of clutch is completely dry. In case Plain bearing for 11teeth sprocket is used clutch area must be absolutely free grease or any additional substance.
- e) Steel clutch (both versions) and clutch drum must be within following specifications.
- f) Height of clutch Minimum: 11.45 mm.
- g) Thickness of clutch shoe Measurement has to be done at the 3 open ends of the clutch shoes, 5 -
- h) mm from the machined groove (all clutch shoes must be completely closed at measurement - no gap). No measurement may be below 24.10 mm.
- i) Outer diameter of clutch drum. Diameter has to be measured with a sliding caliper just beside the radius from the shoulder (not at the open end of the clutch drum). Minimum diameter: 89.50 mm.
- j) Inner diameter of clutch drum. 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 of the clutch drum). Maximum diameter: 84.90 mm.
- k) Height of sprocket with clutch drum assembly. Minimum height: 33.90 mm.
- l) The original Rotax clutch (3 spring) is eligible to be used until further notice at any event.

A.2.5.14 Intake Silencer: Intake Silencer is OPEN.

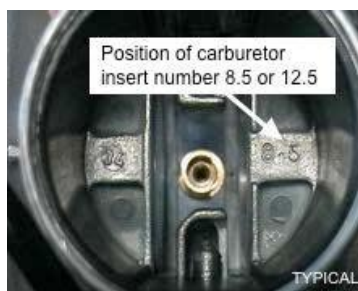
A.2.5.15 Carburettor

- a) DELL'ORTO carburettor. VHSB 34" cast in the housing of the carburettor.
- b) "QD" or "QS" stamped in the housing of the carburettor.
- c) The complete inlet bore in the casting of the carburettor must show cast surface.
- d) The carburettor slide must show with size "40" in casting and the bottom end of the slide must show cast surface.
- e) Jet needle stamped with "K98" only
- f) Settings of the carburetor adjustment screws are free.
- g) Following two combinations of floats and idle jets are legal:

Combination 1: For carburettor insert 12.5, Floats are marked with "5.2gr" Idle jet and Idle jet insert are stamped with the digits "30"

Combination 2: For carburetor insert 8.5 Floats are marked with "3.6gr" Idle jet and Idle jet insert are stamped with the digits "60"
- h) All jets must be correctly seated and securely fitted
- i) Needle valve assembly stamped "150"
- j) Needle of needle valve marked with diamond symbol "INC" only.
- k) Start jet is stamped with digits "60"

- l) Needle jet stamped with "FN 266".
- m) Total length of needle jet: 54.00 +/- 0.3mm
- n) Length of bottom section of needle jet: 11.50 +/- 0.2mm
- o) Top bore diameter of needle jet 2.60 +/- 0.15mm
- p) 4 x 4 cross holes diameter: Plug gauge 0.90mm may not enter one of the 16 cross holes of the needle jet. (Use jet gauge set ROTAX part no. 281 920)
- q) Idle jet 30 and Idle jet insert 30 must be used with carburettor insert stamped 12.5. Plug gauge 0.40mm may **NOT** enter the bore of the idle jet 30. (Use jet gauge set ROTAX part no. 281 920)
- r) Plug gauge 0.40mm may NOT enter the bore of the idle jet insert 30. (Use jet gauge set ROTAX part no. 281 920.
- s) Plug gauge 0.40mm may NOT enter one of the 4 cross bores of the idle jet insert 30. (Use jet gauge set ROTAX part no. 281 920)
- t) Idle jet 60 and Idle jet insert 60 must be use with carburettor insert stamped 8.5.
- u) Plug gauge 0.65mm may **NOT** enter the bore of the idle jet 60. (Use jet gauge set ROTAX part no.920)
- v) Plug gauge 0.65mm may NOT enter the bore of the idle jet insert 60. (Use jet gauge set ROTAX part no. 281 920.
- w) Plug gauge 0.65mm may NOT enter one of the 4 cross bores of the idle jet insert 60. (Use jet gauge set ROTAX part no. 281 920)
- x) Carburettor insert must show number stamping of either 8.5 or 12.5 as illustrated below.



- y) Angular bore: Plug gauge 0.60 may not fit. (8.5 Carburettor Insert only) (Use jet gauge set ROTAX part no. 281 920)
- z) Vertical bore: Plug gauge 0.90 may not fit. (8.5 Carburettor Insert only) (Use jet gauge set ROTAX part no. 281 920)
- aa) Position of atomizer: venturi tool set (ROTAX part no. 676034): control pin \varnothing 3.6mm must enter atomizer.
- bb) Remove atomizer from carburettor body using venturi tool set (ROTAX part no.676034): Atomizer, total length: 23.75 +/- 0.45mm
- cc) Atomizer, length of cylindrical part: 15.75 +/- 0.25mm
- dd) Atomizer, dimension of cutaway: 6.00 +/- 0.15mm
- ee) Atomizer, diameter of cross bore: 4.05 +/- 0.15mm
- ff) Optional carburettor plug screw marked "ROTAX"(ROTAX part no 261 030) is legal to be used.
- gg) The two vent fittings must be connected with the original air vent hose 180mm (ROTAX part no 260).

A.2.5.16 Fuel Pump

The original MIKUNI Fuel Pump part no 994482 (diaphragm type) must be used.

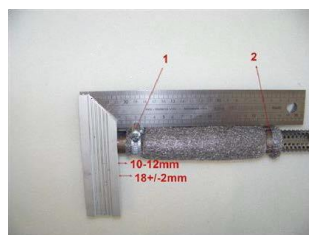
A.2.5.17 Radiator: Radiator is OPEN.

A.2.5.18 Exhaust System

- a) Must be as supplied by BRP-POWERTRAIN and cannot be modified except for the replacement of the silencer absorption material and the use of threaded fasteners in place of the rivets for securing the silencer end cap. Standard exhaust socket must be used.
- b) Exhaust pipe with after muffler as shown in illustrations.



- c) Both versions (version with welded on after muffler and version with after muffler fixed by 2 springs) are legal to be used.
- d) Diameter of hole of end cap of (pos 6, illustration above): Max. 21,0 mm.
- e) Length of inlet cone: 592 mm +/-5 mm (measured on outside from beginning of exhaust pipe until beginning of cylindrical part).
- f) Length of cylindrical part of exhaust pipe: 125 mm +/-5 mm.
- g) Length of end cone: 225 mm, +/-5 mm
- h) Outside diameter of 180° bent tube: 41mm +1,5 mm/-1,0 mm (measured at beginning and end of bend).
- i) Just one piece of original isolating mat is allowed to be used. The original exhaust system (tuned pipe and silencer) may not be modified. Additional to the standard isolation mat a special steel isolation mat of the square dimension of 165 +10 mm is legal (not mandatory) to be assembled underneath the standard isolation mat as in following illustration (ROTAX part no. of kit 297983). Clamp (1) must be fitted at a distance of 18+/-2mm, measured from the end of the tube.
- j) Clamp (2) must be fitted at the end area of the steel isolation mat. 10-12mm is a specification for assembly purpose only! Both clamps are mandatory.



- k) For measuring the exhaust gas temperature, it is allowed to weld on a socket on top of the exhaust, 50 mm from the ball joint. The use of a maximum 4 pieces of exhaust springs to fix the exhaust to the cylinder, are allowed.

A.2.5.19 Noise emissions

Noise isolating mat (see illustration exhaust system) has to be replaced by a original BRP-POWERTRAIN spare part

A.3 PRD FIREBALL 125CC SPECIFICATIONS



Preamble:

The following are the Technical Specifications for the PRD Fireball 125 engine, as approved by SKAA. Unless otherwise specified, the engines must be original in all their components according to the PRD Fireball 125 drawings. Homologated drawings are available at www.skaa.org.au The engine must be Australian delivered and imported by an SKAA authorised importer to be eligible for competition. Neither the engine or any of its ancillaries may be modified unless specifically authorised within these rules. Only Genuine IAME components that are specifically designed and supplied for the PRD Fireball 125 engine are legal, unless otherwise specified. Any removal, addition or polishing of material is strictly forbidden. Sandblasting, glass bead blasting, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed. The use of thermal barrier coatings / ceramic coatings on or in the engine / engine components and on or in exhaust components is prohibited. The use of anti friction coatings on or in the engine / engine components is prohibited. OEM pistons are exempt

A.3.1 Cylinder: Must be OEM, All ports and passages are cast finish except some pre-existing factory removal of flashing. No modifications to the ports accepted. Maximum bore 54.28mm

A.3.2 Cylinder Head: Must be OEM, Minimum volume of 9.5cc, Modification to the cylinder head to achieve minimum ccs is acceptable. Must retain both squish band and spherical combustion chamber.

A.3.3 Crankcase & Crankshaft: Must be OEM with no modifications. Maximum stroke 54.004mm

A.3.4 Conrod: Must be OEM, PRD Medium Weight 122grams +/- 4g, modifications.

A.3.5 Piston: Must be OEM, coated and uncoated pistons allowed as supplied by the manufacture.

No modifications.

A.3.6 Clutch: PRD/Horstman/FX-100 clutch, No modifications allowed.

A.3.7 Reed Valve: Reed valves must be of the same style as the manufacture. Reed pedal thickness 0.3mm +/- 0.08mm Carbon Fibre reeds are allowable.

A.3.8 Carburettor: Only permissible carburettor is the Tillotson model HL-360A or Enzo 24mm. Carburettor venturi must remain as supplied from manufacture. Non-Technical items will include, extension to existing low jet, plastic carburetor top, conical cable return spring and cable support bracket

A.3.9 Ignition: Must be OEM, PRD or PRD Opama or PRD Easystart.

A.3.10 Exhaust System: OEM Header only, Muffler must be OEM Straight PRD9037/95A, IAME Leopard 10718, or PRD "Bubble Type". No modifications allowed except the addition of an Exhaust Gas Temperature fitting.

A.3.11 Radiator: Radiator is OPEN.

A.3.12 Non-tech Items: Unless specified, non-tech items are to be of the same type and style as the original. No alteration from the original manufacturers specifications is permitted to fit a non-tech item. Non-tech items for the PRD Fireball 125 engine include; Air filter / Airbox, Clutch sprocket, Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead, Spark Plug Resistor Cap, Main Bearings, Water Hoses, Hose Clamps, Water Pump, Axle O-Ring, Axle Pulley, Thermostat, Exhaust Flex, Battery, Starter Motor, Carburettor gasket / diaphragm repair kit including needle and seat, plastic fittings on the electrical looms for the ignition and starter assembly.

A.4 IAME Parilla X30 125



Preamble:

The following are the Technical Specifications for the PARILLA LEOPARD X30 125 engine, as approved by SKAA. Unless otherwise specified, the engines must be original in all their components according to the PARILLA LEOPARD X30 125 drawings. Homologated drawings are available at www.skaa.org.au. The engine must be Australian delivered and imported by an SKAA authorised importer to be eligible for competition. Neither the engine or any of its ancillaries may be modified unless specifically authorised within these rules. Only Genuine IAME components that are specifically designed and supplied for the Parilla Leopard X30 125cc engine are legal, unless otherwise specified.

Any removal, addition or polishing of material is strictly forbidden. Sandblasting, glass bead blasting, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed. The use of thermal barrier coatings / ceramic coatings on or in the engine / engine components and on or in exhaust components is prohibited. The use of anti friction coatings on or in the engine / engine components is prohibited. OEM pistons are exempt.

A.4.1 Displacement

123.67cm³, BORE 54.00mm, STROKE 54.00mm, MAX BORE 54.28 mm

A.4.2 Cylinder

- a) All ports must be of intended design conforming to drawings supplied by the manufacturer.
- b) No modifications or grinding to the ports is allowed.
- c) Cylinder length 86.6 +0.1 -0.2
- d) Water connections to the cylinder are free but must retain the homologated position and threaded sizes.

A.4.3 Base Gaskets

- a) The type of material is a non tech item
- b) The minimum base gasket/gaskets must be a minimum of 0.30mm and a maximum of 0.45mm. More than 1 base gasket can be used.

A.4.4 Cylinder Head

- a) Aluminium Cylinder Head must be of original engine manufacturer and conform to drawings supplied by manufacturer.
- b) No material to be added except for spark plug thread repair.
- c) Distance from spark plug sealing face to combustion chamber ceiling face 29.3mm+/- 0.25mm.
- d) The combustion chamber volume shall be a minimum of 10.3cc, Refer Appendix F.
- e) Water connections to the cylinder head are free but must retain the homologated position and threaded sizes.
- f) Cylinder head profile must not vary from the original profile and will be checked with the IAME Cylinder Head. Profile Gauge (part number 8TT-025/1).

A.4.5 Squish Gap

- a) The Cylinder Head Squish clearance shall be a minimum of 0.9mm as per the homologation paperwork.
- b) Shall be measured using a 2mm solder wire (tin).
- c) When inserted in the cylinder the engine shall be rotated until the solder is squeezed between the head and piston crown.
- d) Process shall be conducted on both the right and left hand side of the engine.
- e) Measurements shall be averaged out.

A.4.6 Crankcase, Crankshaft and Con Rod

Must be of original engine manufacturer and conform to drawings supplied by manufacturer.

A.4.7 Piston

Piston must be of original manufacturer, supplied by and conform to drawing supplied by manufacturer. No modifications are permitted.

A.4.8 Gudgeon Pins

No special alloys allowed, must be of magnetic material and comply with the drawing as supplied by the manufacturer.

A.4.9 Clutch

Must be of original manufacturer and conform to manufacturers drawings with original IAME markings on it. No modifications permitted.

A.4.10 Reed Block and Reed Valves

- a) Reed valves must be the same style as the original, Carbon Fibre reeds are allowable
- b) Reed thickness 0.30mm +/- 0.08mm
- c) Reed block must be the original IAME one as supplied with the engine.

A.4.11 Carburettor

- a) The only permissible carburettor is the Tryton Hobby 27/C and must conform to the IAME –X30 Tryton homologation documents and must carry IAME markings on the back face of the carburettor as supplied.
- b) The throttle bore size has a maximum of 28.00 mm. No sleeving of the throttle bore is permitted.
- c) Adjustment of carburetor jet needles must be done by manually turning the jet needle (or its extension) only.
- d) Carburettor throttle cannot be actuated by electro mechanical means.
- e) It is permissible to fit a mechanical stop to limit the range of carburetor jet needle movement, however no modifications to the carburetor are permitted to mount such a stop.

A.4.12 Ignition

- a) IAME SPA Selettra or PVL Digital-K Ignition System –Key type Ignition, woodruff Key must be retained and no modifying permitted. Spark plug cap must have a resistor.
- b) The only eligible ignition module to be used is a green module marked with AKA20L.
- c) In the event of required repairs the plastic fittings registered and homologated as parts of the electrical looms for the ignition and starter assembly are permitted to be replaced with non-supplied fittings.
- d) All stator mounting hardware must be as per OEM.

A.4.13 Exhausts

The only permissible exhaust allowed is as supplied from IAME SPA, must carry the IAME identification and conform to the drawings in the homologation papers

A.4.14 Header Pipe

The only permissible header pipe is the one as supplied by IAME SPA and must carry the IAME identification. It is permissible to fit a maximum of three separate flange support brackets to the original header, any such support flange must not exceed 60mm maximum in total length, and not exceed 40mm maximum in total width. An exhaust probe / fitting is allowed.

A.4.15 Cooling System: Radiator is OPEN.

A.4.16 Non-Tech Items

Unless specified, non-tech items are to be of the same type and style as the original. No alteration from the original manufacturers specifications is permitted to fit a non-tech item.

Non-tech items for the Parilla Leopard X30 engine include;

Air filter / Airbox, Clutch sprocket, Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead, Spark Plug Resistor Cap, Main Bearings, Water Hoses, Hose Clamps, Water Pump, Axle O-Ring, Axle Pulley, Thermostat, Exhaust Flex, Battery, Starter Motor, Carburettor gasket / diaphragm repair kit including needle and seat, plastic fittings on the electrical looms for the ignition and starter assembly.

A.5 PRD Galaxy 125 Specifications



Preamble:

The following are the Technical Specifications for the PRD GALAXY 125 engine, as approved by SKAA. Unless otherwise specified, the engines must be original in all their components according to the PRD GALAXY 125 drawings. Homologated drawings are available at www.skaa.org.au. The engine must be Australian delivered and imported by an SKAA authorised importer to be eligible for competition. Neither the engine or any of its ancillaries may be modified unless specifically authorised within these rules. Only Genuine PRD components that are specifically designed and supplied for the PRD Galaxy engine are legal, unless otherwise specified. Any removal, addition or

polishing of material is strictly forbidden. Sandblasting, glass bead blasting, peening, acid etching, spark eroding and/or any other method of metal removal or displacement is not allowed. The use of thermal barrier coatings / ceramic coatings on or in the engine / engine components and on or in exhaust components is prohibited. The use of anti friction coatings on or in the engine / engine components is prohibited. OEM pistons are exempt.

A.5.1 Displacement

Bore 53.90, Stroke 54.00 +/- 0.004, Max Bore 54.40

A.5.2 Cylinder Head

- a) Aluminium Cylinder Head must be of original engine manufacturer and conform to drawings supplied by manufacturer with no modifications.
- b) Minimum 10.5cc
- c) Repairing the spark plug thread is permissible.

A.5.3 Cylinder

- a) Must be OEM with no modifications.
- b) All passages are cast finish except some pre-existing factory removal of flashing
- c) No modifications to the ports accepted.
- d) A base gasket must be retained.

A.5.4 Piston & Piston Ring

- a) Must be original PRD OEM,
- b) Must be marked with PRD inside the casting.
- c) No modifications

A.5.5 Piston Pin

- a) Must be PRD OEM
- b) No Modifications

A.5.6 Conrod

- a) Must be PRD OEM as marked.
- b) No Modifications

A.5.7 Crank Pin

- a) Must be PRD OEM
- b) No Modifications

A.5.8 Crankshaft

- a) Must be PRD OEM
- b) No material can be removed or added.

A.5.9 Reed Manifold

- a) Must be PRD Top Mount OEM
- b) No modifications

A.5.10 Reed Block & Reed Petals

- a) Reed Block must be PRD OEM with no modifications
- b) Reed valves must be the same style as the original, Carbon Fibre reeds are allowable
- c) Reed thickness 0.30mm +/- 0.08mm

A.5.11 Carburettor

- a) Must carry PRD markings as supplied by PRD.
- b) No adding or removing material is permitted apart from repairing threads

A.5.12 Ignition

- a) Coil / CDI - PVL model 590 221 only
- b) Stator - PVL Ident Nr 1045 only
- c) Rotor - PVL only
- d) Spark Plug Cap 401 222 only

A.5.13 Power valve Assembly

Must be OEM

A.5.14 Exhaust Header & Spacers

- a) Must be OEM
- b) The fitting of PRD OEM exhaust spacers between the header and cylinder is permitted to adjust the exhaust length.
- c) Maximum thickness of Exhaust Spacers & gaskets 35mm

A.5.15 Exhaust Muffler

- a) Must be OEM
- b) No modifications

A.5.16 Clutch Assembly

- a) Must be OEM
- b) PRD Metal Clutch assembly or PRD Clutch with linings assembly is acceptable. Parts are interchangeable.

A.5.17 Radiator: Radiator is OPEN.

A.5.18 Crankcase

- a) Must be OEM with no modifications.
- b) Engine number must start with 'AU'.

A.5.19 Wire loom

- a) Must be OEM.
- b) Wire loom plugs and fittings can be repaired or replaced with non genuine parts.

A.5.20 Airbox

Airbox/Airfilter is a non-tech item.

A.5.21 Non Tech Items

No alterations from original manufacturers specification is permitted to fit a non tech item.

Unless specified, non-tech items are to be of the same type and style as the original. No alteration from the original manufacturers specifications is permitted to fit a non-tech item. Non-tech items for the PRD Galaxy125 engine include;

Air filter / Airbox, Clutch sprocket, Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead, Main Bearings, Water Hoses, Hose Clamps, Water Pump, Axle O-Ring,

Axle Pulley, Thermostat, Exhaust Flex, Battery, Starter Motor, Carburettor gasket / diaphragm repair kit including needle and seat, plastic fittings on the electrical looms for the ignition and starter assembly.