KARTING NEW SOUTH WALES EST 1987

KARTING NSW

Engine Technical Specification

Parilla Leopard 125

Revision: 1 Date: 01/02/2021

PREAMBLE

This document provides the Technical Specification for the Parilla Leopard 125cc engine, as approved by Karting NSW.

This engine is approved for use in the classes as defined in the KNSW Rule Book.

Unless otherwise specified below, the engine must be original in all components according to the Parilla Leopard 125cc specifications. Neither the engine nor any of its ancillary components may be modified other than in accordance with the KNSW Rule Book and this Technical Specification.

The General Technical Specification contains the manufacturer's engine specification and must be read in conjunction with the Compliance Specification which defines additional specifications as approved by KNSW.

The engine must always be presented and used in conformity with this Technical Specification and the KNSW Rule Book.

ANY ALTERATIONS / MODIFICATIONS ARE STRICTLY PROHIBITED EXCEPT AS SPECIFICALLY AUTHORISED WITHIN THESE SPECIFICATIONS.

IF THESE SPECIFICATIONS DO NOT SAY YOU CAN MAKE A MODIFICATION, THEN YOU CANNOT.

KARTING NEW SOUTH WALES EST 1987

KNSW Homologation No: KNSW-004

Parilla LEOPARD 125cc RL TaG – AUS

FEATURES	
Cylinder volume	123.67 cm³
Bore	54 mm
Max. theoretical bore	54.28 mm
Stroke	54 mm
Cooling system	Water
Inlet system	Reed valve
Number of carburettors	1

Tillotson HL Carburettor	1. HL334 A 2. HL334 AB 3. HL398 A	Cylinder/crankcase transfers n°	3
Number of piston rings	1	Inlet/exhaust ports number	2
Big end conr. ball-bearing diam.	18x24x15	Combustion chamber shape	Spherical
Crankshaft ball-bearing diam.	25x52x15	Selettra ignition	4 poles
Small end conr. ball-bearing diam.	14x18x17.5	Distance between Conrod centers	102 mm

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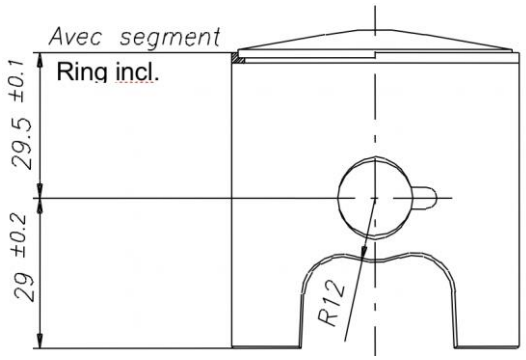
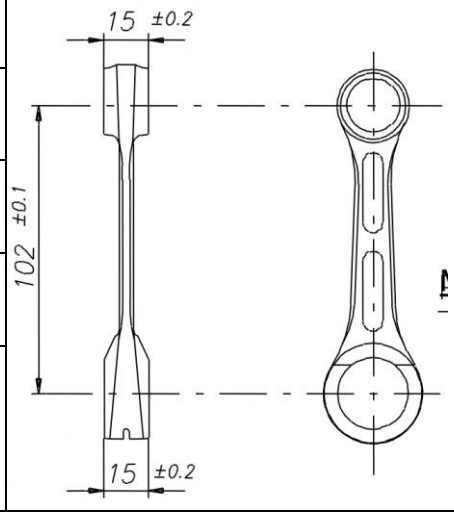
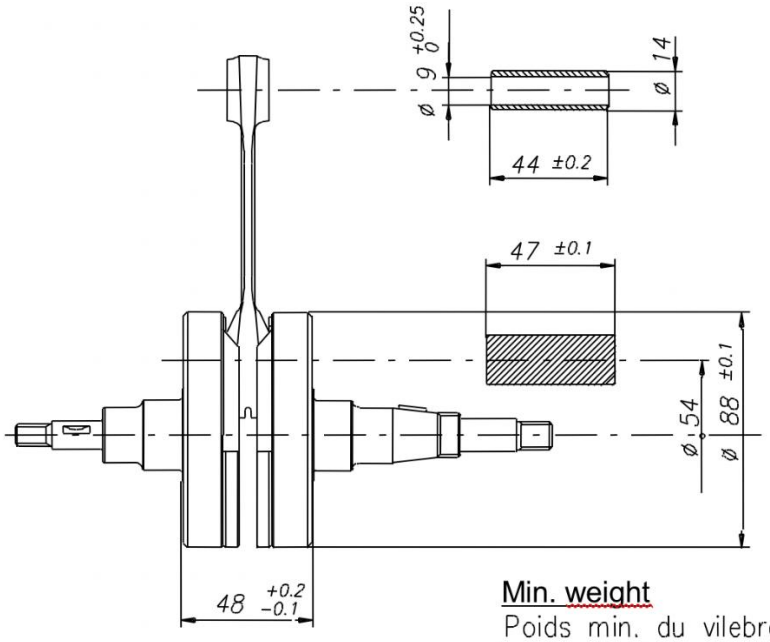
DESCRIPTION OF THE MATERIAL		PISTON
Conrod material	Steel	
Crankshaft material	Steel	
Head material	Aluminium	
Cylinder material	Aluminium	
Liner material	Iron	DISTANCE BETWEEN CONROD CENTERS
Crankcase material	Aluminium	 Min. Weight 119g
Piston material	Aluminium	
Piston rings material	Iron	
Exhaust muffler material	Sheet-steel	
Ball Bearings	6205 type	

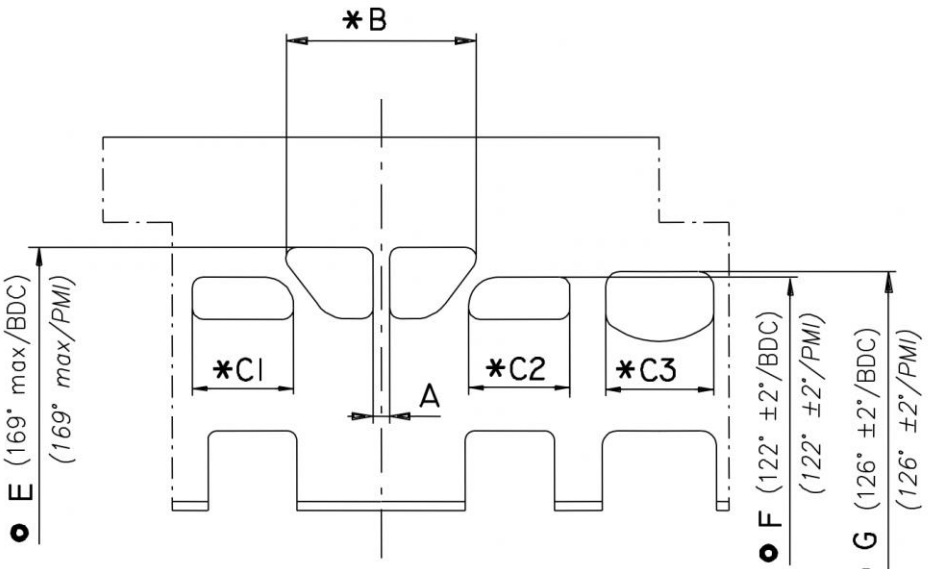
CRANKSHAFT



Min. weight
Poids min. de l'axe de piston 28 g

Min. weight
Poids min. du vilebrequin complet 1875 g

CYLINDER DEVELOPMENT

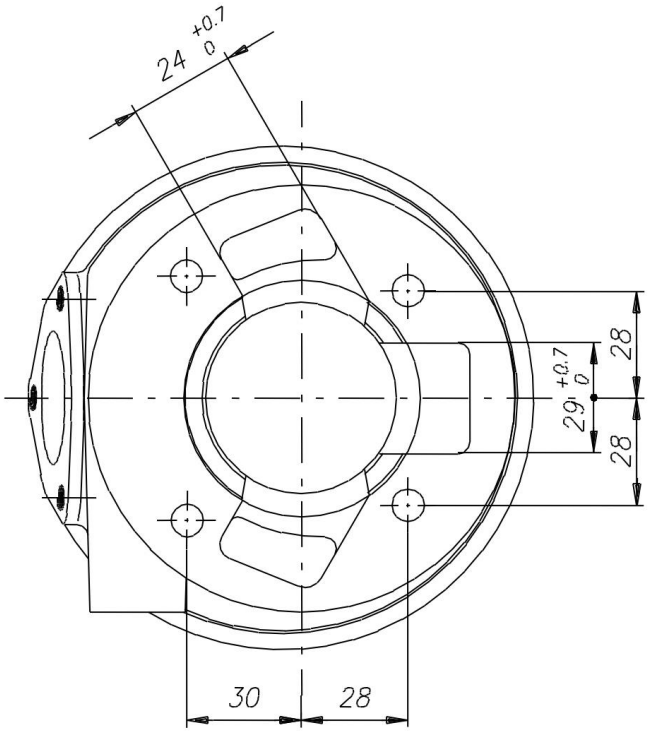


A	≥ 4 mm
B	≤ 50.2 mm
C1 = C2	≤ 25.5 mm
C3	≤ 28.3 mm
E	169° max
F	122° ± 2°
G	126° ± 2°

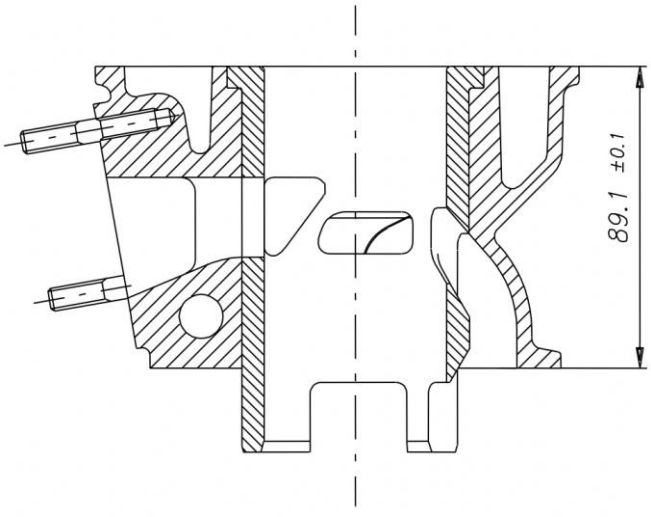
* CHORDAL READING / LECTURE CORDALE

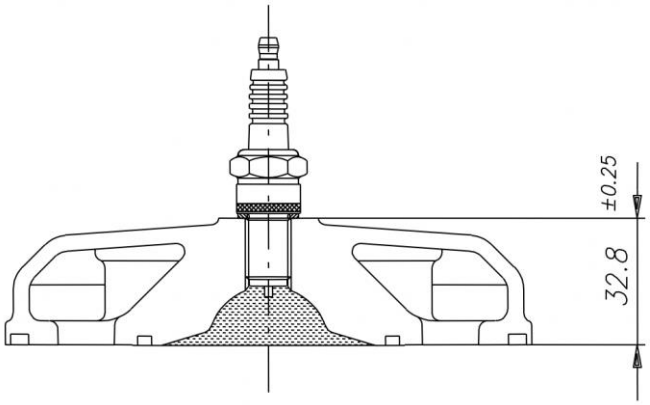
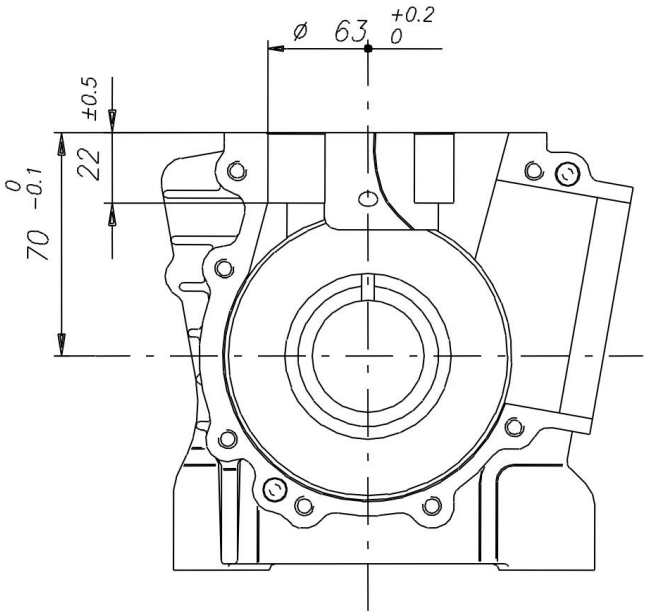
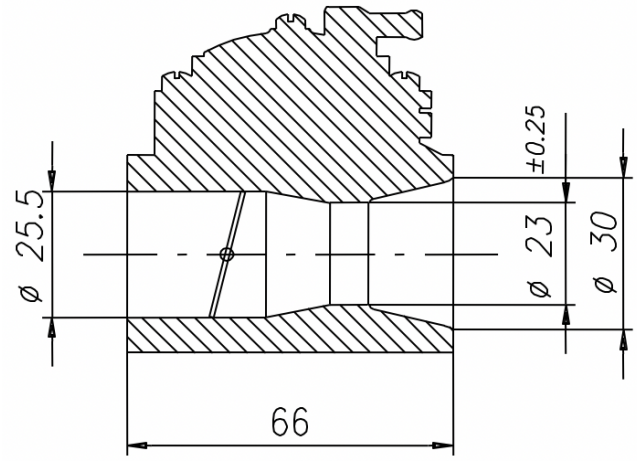
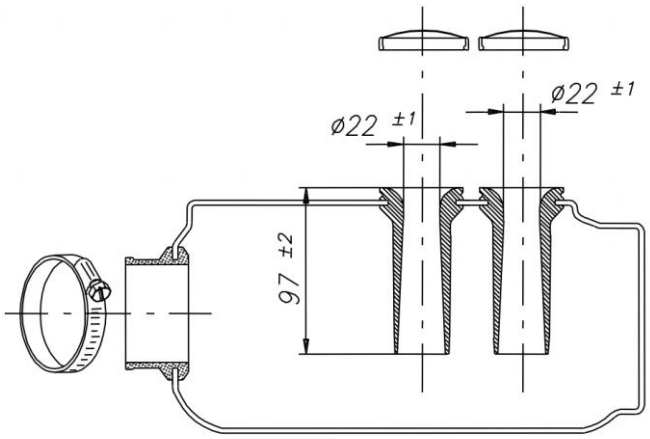
o ANGULAR READING BY INSERTING A 0.2 mm GAUGE / LECTURE ANGULAIRE PAR INSERTION D'UNE CALE DE 0.2 mm

CYLINDER BASE VIEW

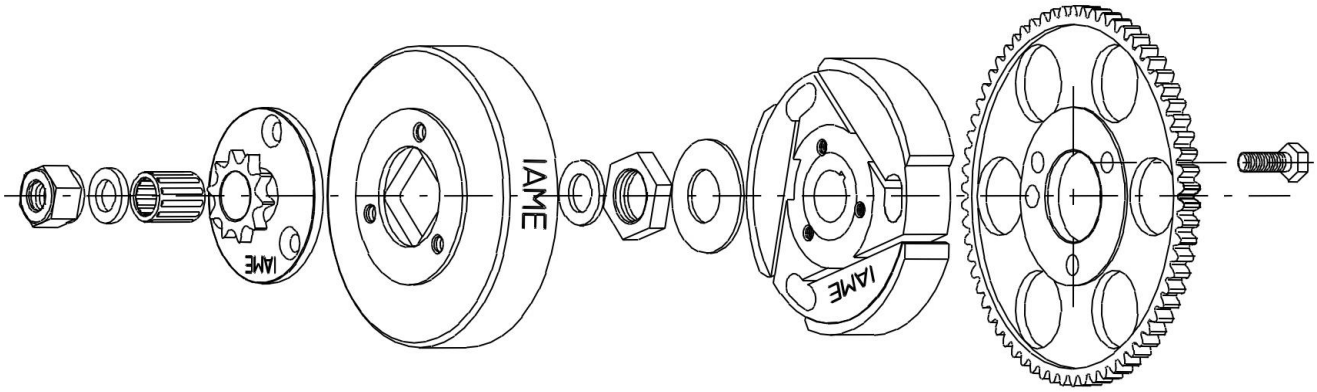


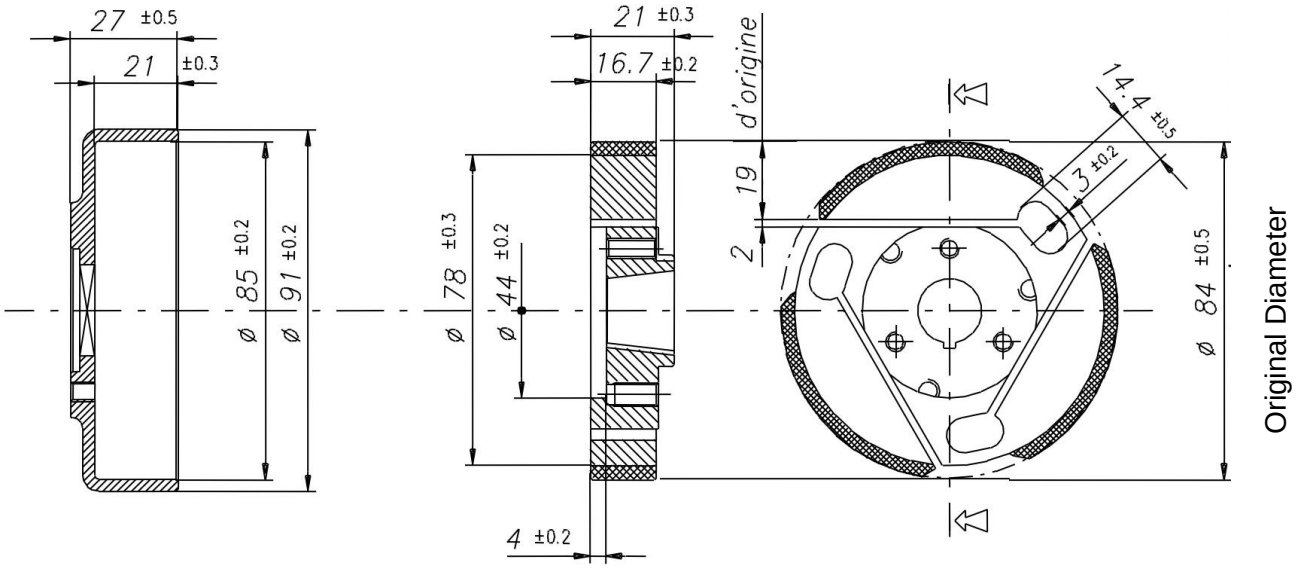
CYLINDER CROSS SECTION VIEW



COMBUSTION CHAMBER VIEW	CRANKCASE INSIDE VIEW
	
VENTURI CARB. DIMENSIONS	INLET SILENCER
Tillotson HL334A *Tillotson HL334AB* *Tillotson HL398A* 	

DESCRIPTION OF THE CLUTCH

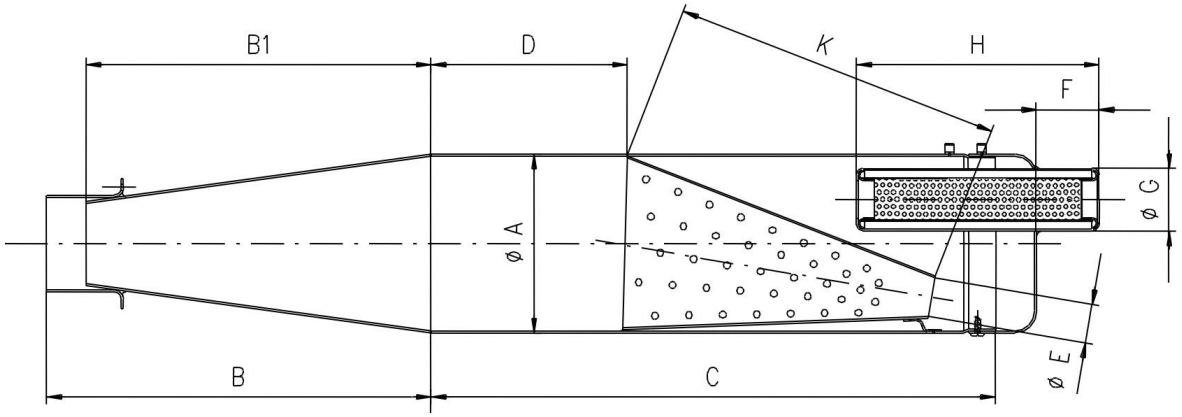




Min. Weight 292g

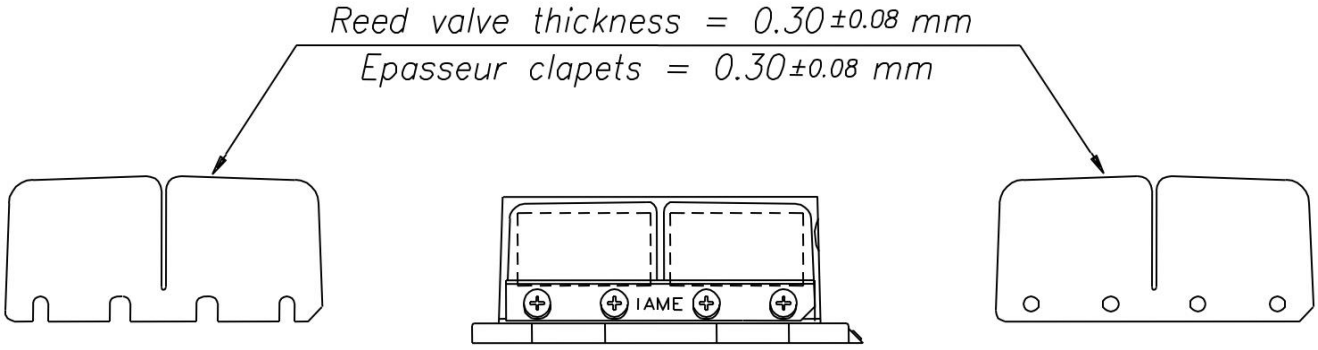
Min. Weight 460g

EXHAUST MUFFLER VIEW AND DIMENSIONS



A:	100	C:	315	F:	36		
B:	215	D:	110	G:	35		
B1:	193	E:	24	H:	134	K:	185

REED VALVES



Appendix to the Parilla RL Leopard 125 Homologation Documents

The following notes are additional to the details contained in these homologation documents for the Parilla RL Leopard 125 engine (the "**Engine**") and are to be read in conjunction with the specifications and details contained therein; they form part of the Homologation Documents for the Engine.

The Engine must at all times be used and presented in strict conformity with the specifications detailed in the homologation documents. All engines must be imported into Australia by Remo Racing Pty Ltd; engine numbers will be recorded.

Unless otherwise expressly permitted by KNSW, the Engine must use only IAME OEM parts in accordance with this Homologation Document.

Neither the Engine nor any of its ancillary components may be modified other than in accordance with the rules and these homologation documents.
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).

UNLESS IN THE KNSW RULES AND/OR THESE HOMOLOGATION DOCUMENTS IT SAYS THAT YOU CAN, THEN YOU CANNOT.

A. Displacement

1. 123.67cm3, BORE 54.00mm, STROKE 54.00mm, MAX BORE 54.40mm

B. Cylinder

1. All ports must be of original design conforming to the homologation drawings, no modifications or grinding is permitted to the ports.
2. Cylinder length 89.1mm +/- 0.1mm.
3. Water connections to the cylinder are free but must retain the homologated position and threaded sizes.

C. Cylinder Head

1. Cylinder Head must be of original manufacturer and conform to drawings supplied by manufacturer.
2. No material to be added except for spark plug thread repair.
3. Distance from spark plug sealing face to combustion chamber sealing face 32.8mm+/-0.25mm.
4. The combustion chamber volume shall be a minimum of 10 cc.
5. Water connections to the cylinder head are free but must retain the homologated position and threaded sizes.

D. Crankcase, Crankshaft & Conrod

1. Must be of original manufacturer and conform to the homologation drawings.

E. Piston

1. Piston must be of original manufacturer with “IAME sud” marking on dome and conform to homologation drawings, no modifications are permitted.

F. Clutch

1. Must be of original manufacturer and conform to homologation drawing with part number A-120840 marked, no modifications permitted.

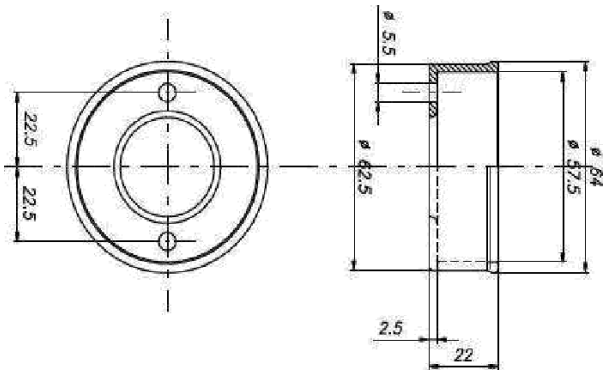
G. Reed Block and Reed Valves

1. The only permissible Reed petals are the genuine type and style that are supplied with the leopard engine. These are genuine IAME “Fibreglass” reed petals with “IAME etching/marking on the reed petals.
2. Reed petal thickness 0.3mm +/- 0.08mm.
3. Carbon fibre reed petals are not permitted.
4. Reed petals may be slotted at the mounting holes and corner edges may be radiused, no other modifications are permitted.
5. Reed block must be of the same style as the original IAME.
6. The only permissible carburettor Reed manifold is the IAME stuffer block that is supplied with the Leopard engine and conforms to the identification photographs below.

H. Carburettor

1. The only permissible carburettors are the TILLOTSON HL-334A, HL-334AB and HL398A.
2. The parallel Carburettor Venturi bore must not exceed 23.25 mm maximum at any point.
3. It is permissible to enlarge only existing fuel/air holes, but they may not be deleted or relocated.
4. “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.
5. The progression discharge jet to remain in the “as cast area” this is the transition area between the venturi and throttle bore. This area is machined from the factory
6. The throttle bore size has a maximum of 25.5 mm. No sleeving of the throttle bore is permitted.

7. The only permissible noise induction (airbox) adapter is the one that conforms to the drawing below. All dimensions include a +/- tolerance.



IAME Parilla Leopard 125cc RL TaG Airbox Adaptor

8. Adjustment of carburetor jet needles must be done by manually turning the jet needle (or its extension) only.
9. Carburettor throttle cannot be actuated by electro mechanical means.
10. 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.

I. Induction Silencer

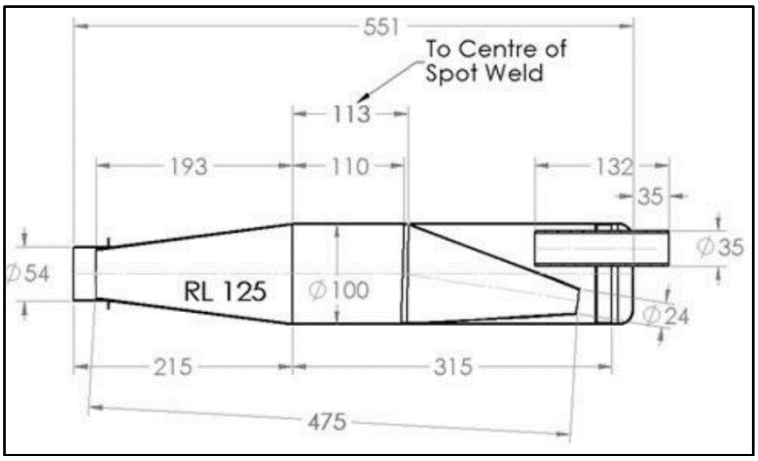
1. The only permissible induction silencers are:
    1. AKA43 Airbox with AKA43 Filter.
    2. Square style Socorem — Minimum tube length 94.5mm. The only internal filter that may be used in this Induction Silencer/Air Box is the genuine IAME red or green filter. Use of a filter is optional.
    3. Righetti Rodolfi K560/22 as supplied with the engine. Internal filters that may be used in this Induction Silencer/Air Box are the IAME red or green filter or the AKA 43 filter. Use of a filter is optional.

J. Ignition

1. The IAME S.p.a Selettra Digital-K “Key Start” Ignition system is the only eligible ignition system.
2. The AKA20L green ignition module is the only eligible ignition module to be used.
3. The woodruff key must be retained and no modifying is permitted.
4. 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.

K. Exhausts

1. The Only permissible exhausts allowed are those that conform to the drawings in the homologation papers and conform to the image below:



L. Header Pipe

1. Original header pipe supplied with engine must be used, it is permissible to fix a maximum of three separate exhaust 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.
2. Exhaust temperature and lambda probe/fittings are allowed.

M. Cooling System

1. Maximum core size 330mm by 200mm by 35mm thick, having no more than 16 tubes and must carry the IAME markings when using the maximum size radiator.

N. Non-Tech Items

Gaskets, Seals, Big & Little End Roller Cages, Fasteners, Washers, Spark Plug, Spark Plug Lead and Cap, Main Bearings, Engine Sprockets, Water hoses, Hose Clamps, Water Pump, Axle O-ring and Axle pulley, thermostat, exhaust Flex.