TAG Racing International™

HOMOLOGATION FORM

ENGINE

X125T 125cc TaG

Manufacturer	**MX**
Make	**X125**
Model	**TAG**
Number of pages	**21**

TECHNICAL INFORMATION

A CHARACTERISTICS

	Tolérances / Remarques Tolerances and Remarks	
Cylinder		
Volume of cylinder	**124.91 CM3**	**< 125cm³**
Original Bore	**53.90 MM**	
Theoretical maximum bore	**54.07 MM**	
Original Stroke	**54.40 MM**	
Number of transfer ducts, cylinder/sump	**5/3**	
Number of exhaust ports / ducts	**3**	
Shape of the combustion chamber	**SPHERICAL**	
Cylinder wall material	**CAST IRON**	
Volume of combustion chamber	**11.0 CC**	Minimum
Squish (JR.3, Senior)	**0.84 MM**	
Cylinder Development - CC (JR.3, Senior)	**180**	
Connecting Rod		
Length between the axes of the connecting rod	**104 MM**	±0.2mm
Diameter of big end	**26 MM**	±0.5mm
Diameter of small end	**19 MM**	±0.5mm
Min. weight of the connecting rod	**99 G**	Minimum
Crankshaft		
Number of bearings	**2**	
Diameter of bearings	**25 MM**	±0.1mm
Minimum weight of crankshaft	**2120 G**	

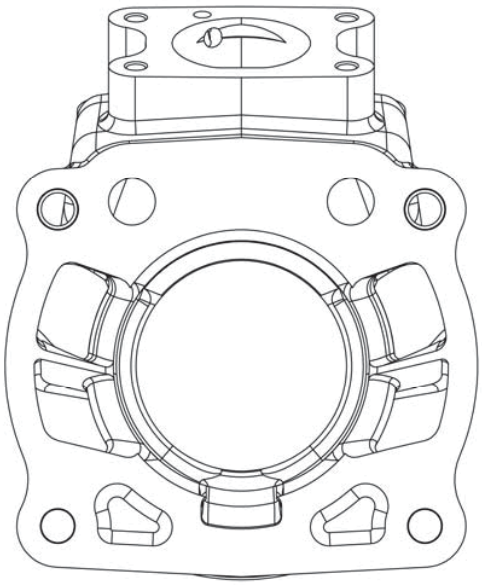
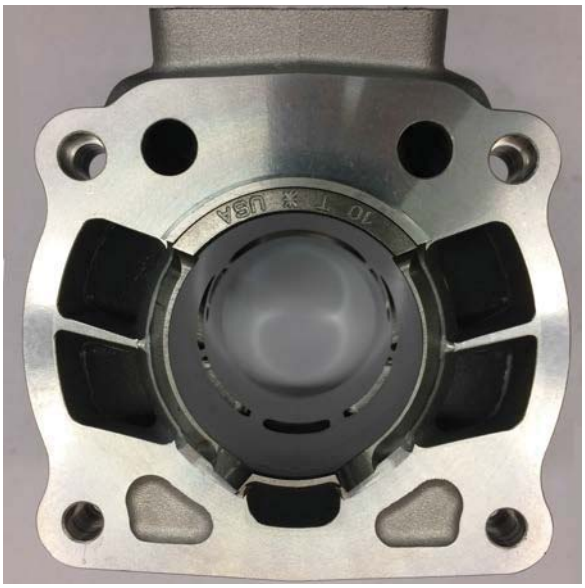
A CHARACTERISTICS (continued)		
	Tolerances and Remarks	
Balance Shaft		
Minimum weight of balance shaft	**399 G**	Minimum
Percentage of balancing	**25%**	Minimum
Other		
Number of piston rings	**1**	
Cooling system	**WATER**	
Modification allowed according to the Technical Regulations. Only the dimensions and readings which may not be changed must be mentioned on the Homologation Form.		

B OPENING ANGLES		
Of the inlet (main transfer ports)	**127°**	**±2°**
Of the inlet (secondary transfer ports, for 5 transfer ducts engine)	**125°**	**±2°**
Of the boosters	**172°**	Maximum
Exhaust	**180°**	Maximum

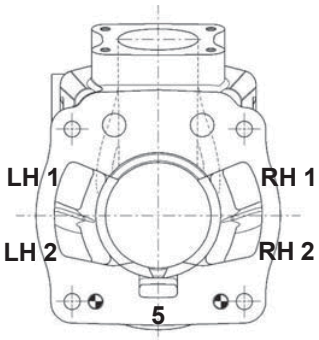
C MATERIAL	
Cylinder	**AL-SI**
Cylinder head	**AL-SI**
Cylinder wall	**CAST IRON**
Connecting rod	**STEEL**
Sump	**AL-SI**
Crankshaft	**STEEL**
Piston	**AL-SI**

D PHOTOS, DRAWINGS & GRAPHS

D.1 *CYLINDER UNIT*

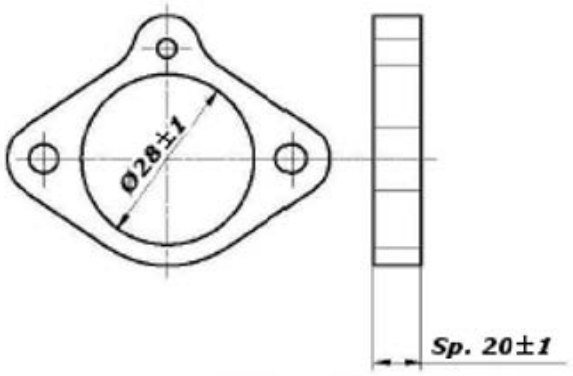
DRAWING OF THE CYLINDER BASE without dimensions	*PHOTO OF THE CYLINDER BASE*
	
Control with templates only	

TRANSFER DUCTS VOLUME

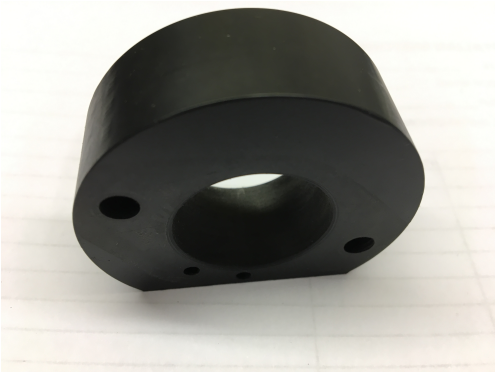
Transfer position on 5-transfer cylinder		*TRANSFER No.*	*VOLUME en cm^3 / in cc +/- 5%*
		*Transfer No. 1 LH*	32.1
		Transfer No. 2 LH	
		Transfer No. 3 or 5	5.0 +/- 8%
		Transfer No. 1 RH	32.1
		Transfer No. 2 RH	

... Section D.1

INLET SPACER
PART# P12.0854192



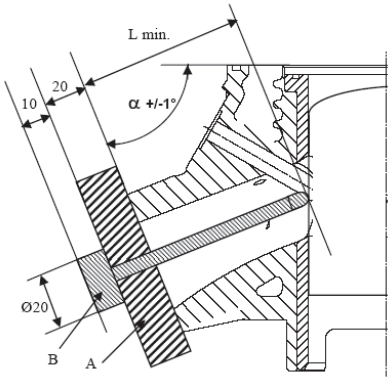
MATERIAL = ALUMINUM OR PLASTIC



EXHAUST DUCT LENGTH		
	ANGLE α *in* **°**	**minimum** *in* **mm**
	68° +/-1°	55 mm

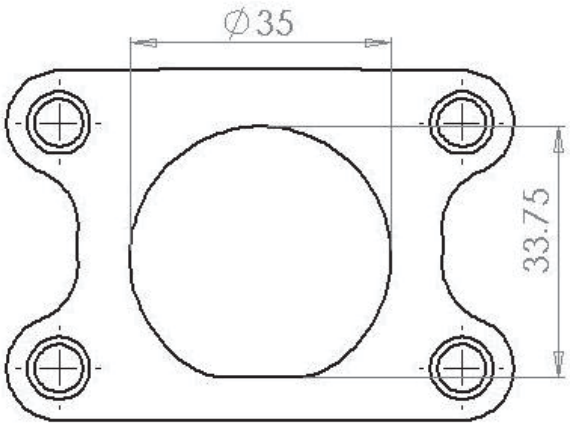
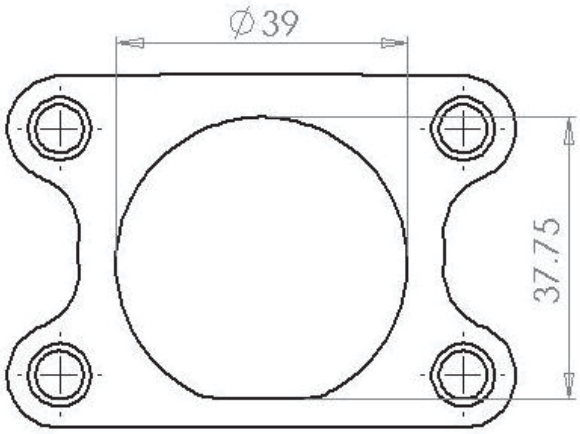
The L min. dimension will be the result of the value taken on the reference engine minus 5 mm.

Technical Drawing No.13

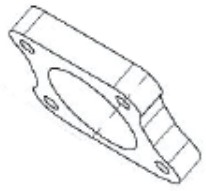


- *A: Centring guide centred in relation to the exhaust duct by the exhaust manifold fixation screws, with a total thickness of 20 +/- 0.05 mm and being drilled in its centre by a hole with a 5 mm diameter, H7 bore.*
- *B: Control gauge composed of a shaft with a 5g6 diameter having a 2.5 mm radius at its end and a length = L min + 20+10.*

... Section D.1

INTERNAL PROFILE OF THE EXHAUST DUCT	
Templates of the internal dimensions of the exhaust duct: gasket plane of the manifold.	
FRONT VIEW DRAWING – with dimensions	
Gabarit minimum */ Minimum template*	Gabarit maximum */ Maximum template*
	

- *Maximum template: internal profile of the gasket plane of the manifold of the original cylinder minus 1 mm*
- *Minimum template: internal profile of the gasket plane of the manifold of the original cylinder minus 1 mm*

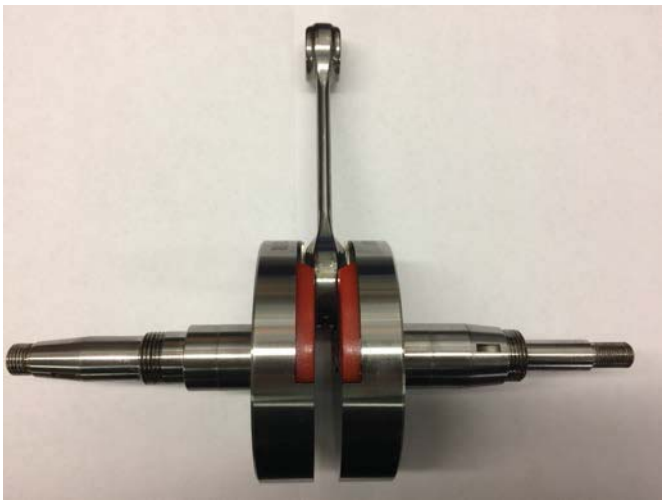


Alum. Exhaust Spacer - Max. 5mm

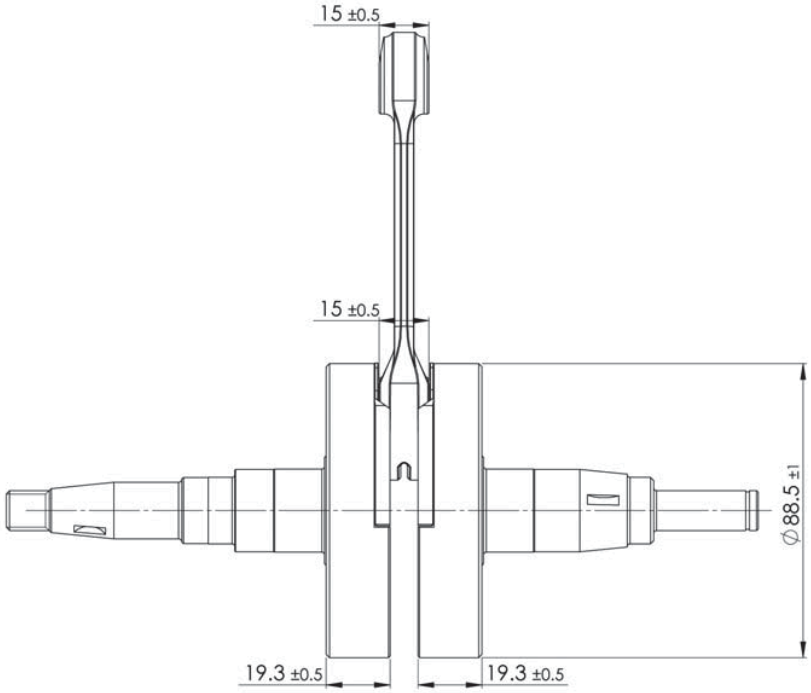
PHOTO OF EXHAUST RESTRICTOR

EXHAUST RESTRICTOR = 30mm or 31mm AS DESIGNATED BY SANCTIONING BODY

D.2 *CONROD & CRANKSHAFT*

PHOTO OF THE CRANKSHAFT & CONROD	*PHOTO OF THE CONROD*
	

DRAWING OF THE CRANKSHAFT - CON ROD UNIT
(DIMENSIONS incl. tolerances, big & small ends thickness, crank mass thickness & Diameter)

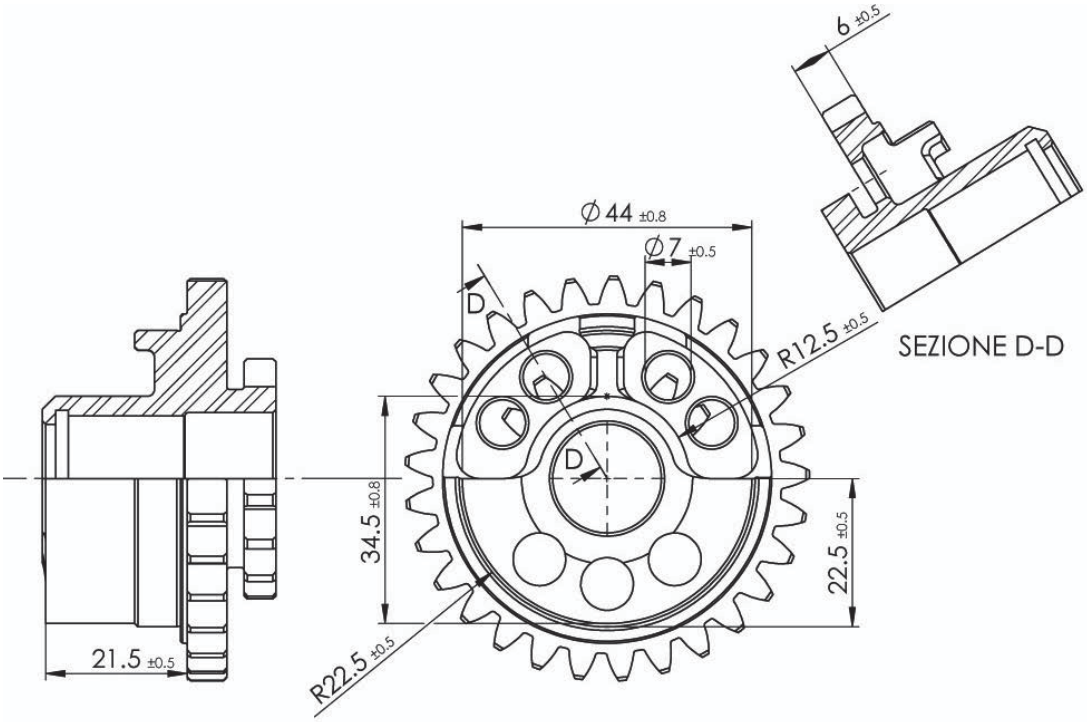


BEARING 6202 C4 WITH POLYAMIDE CAGE / TEFLON DOUBLE LIPPED SEAL 40X25X7 WITH OPTIONAL ROLLER BEARING UPGRADE AVAILABLE.

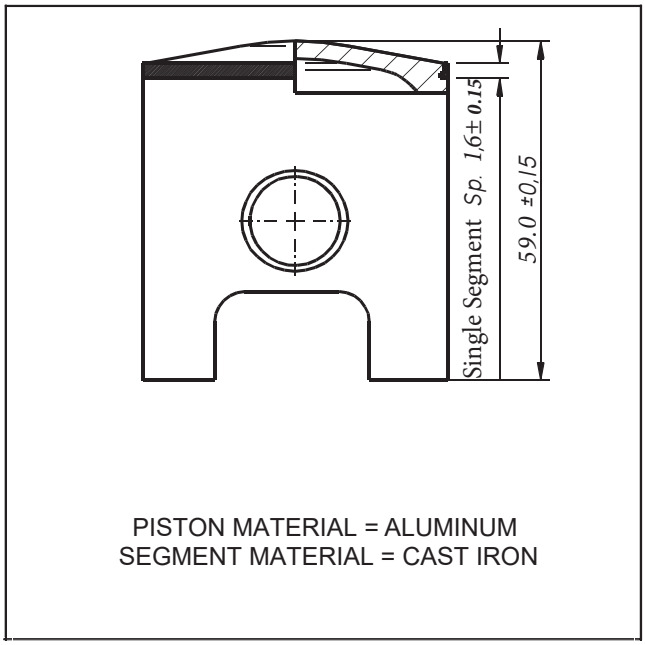
D.3 *BALANCE SHAFT*

PHOTOS OF THE BALANCE SHAFT

DRAWING OF THE BALANCE SHAFT
(DIMENSIONS incl. tolerances)



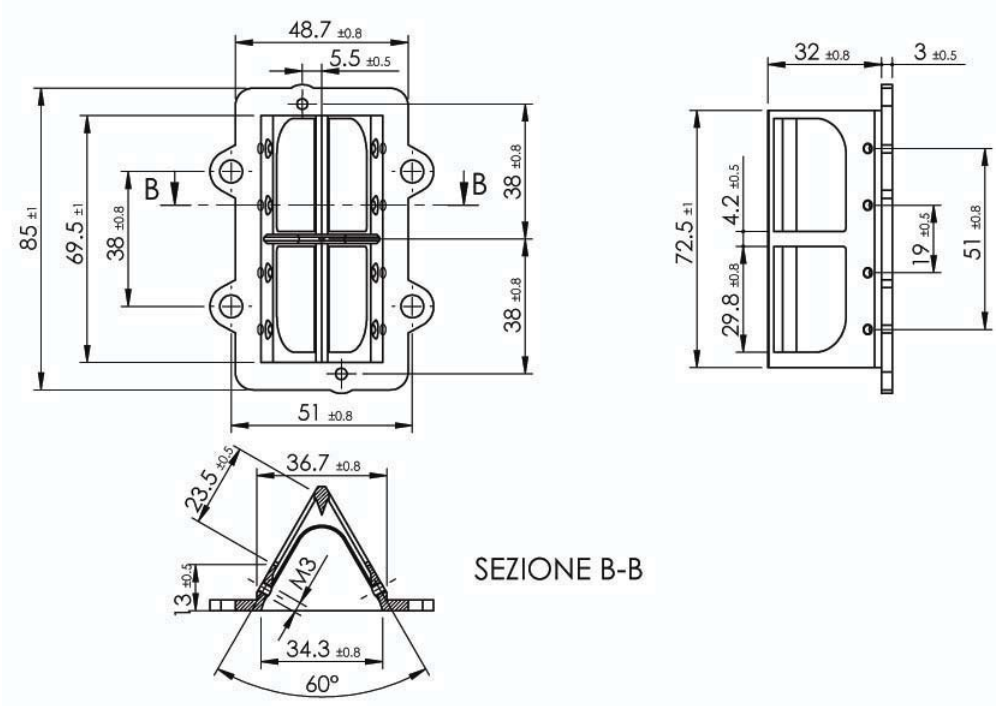
D.2 *PISTON*



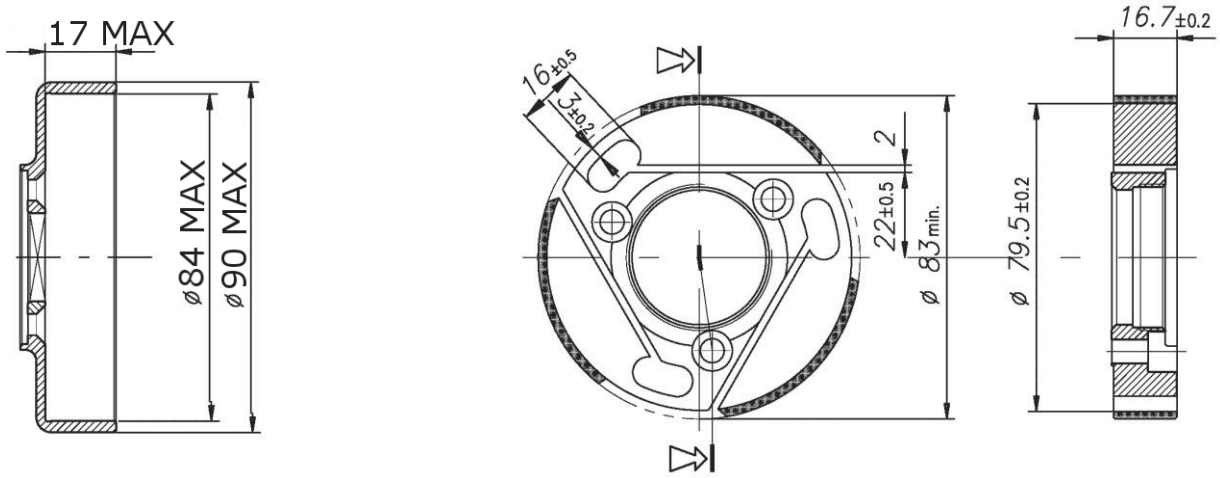
PISTON MATERIAL = ALUMINUM
SEGMENT MATERIAL = CAST IRON

D.4 *REED VALVE*

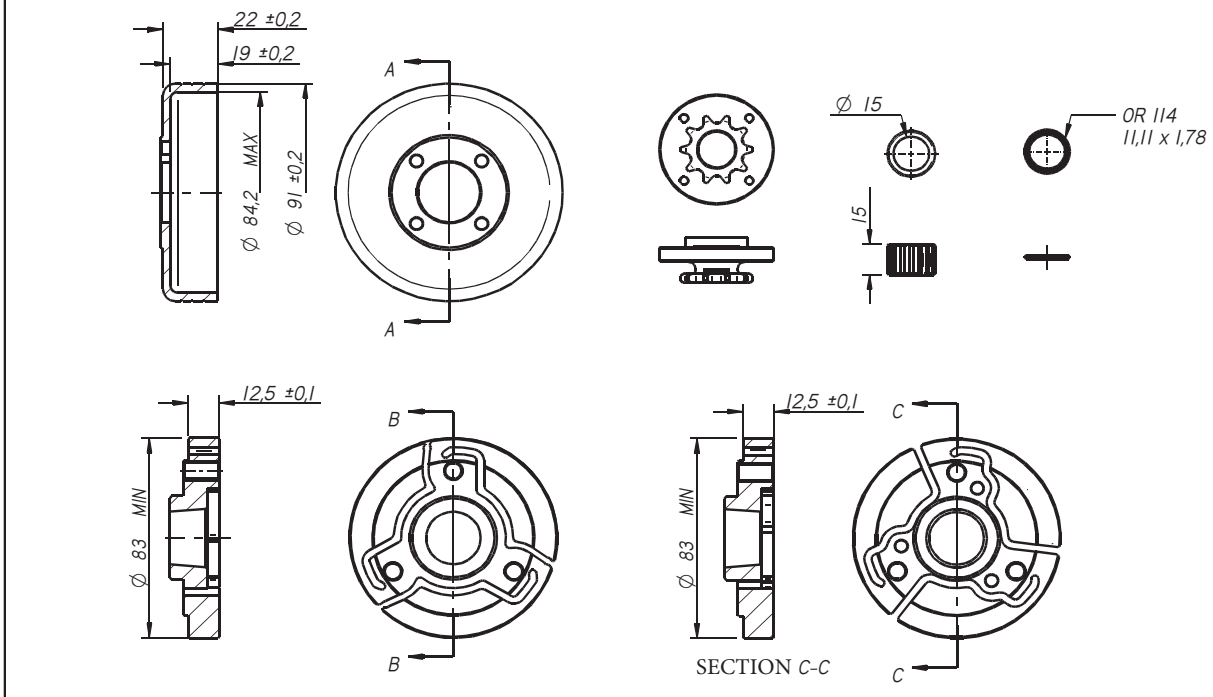
DRAWING OF THE REED VALVE
(DIMENSIONS incl. ***tolerances****)*



D.4 *CLUTCH A*

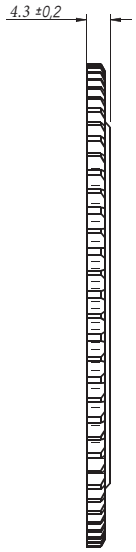


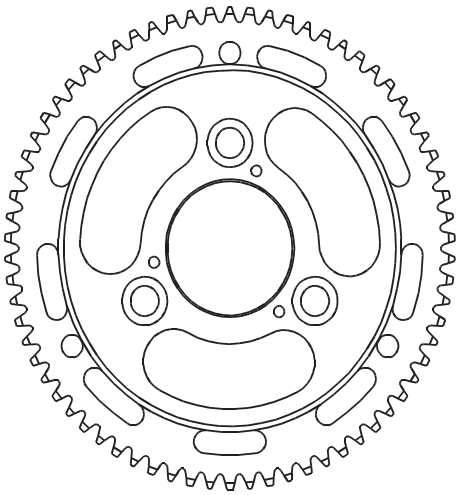
D.4 *CLUTCH B*



NOTE: UPDATED CLUTCH HUB AND STARTER WHEEL FOR X125WC ALSO ALLOWED

D.4 *STARTER GEAR A*

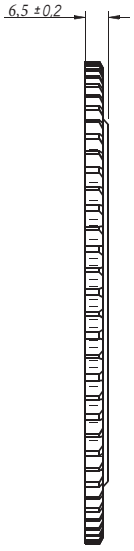


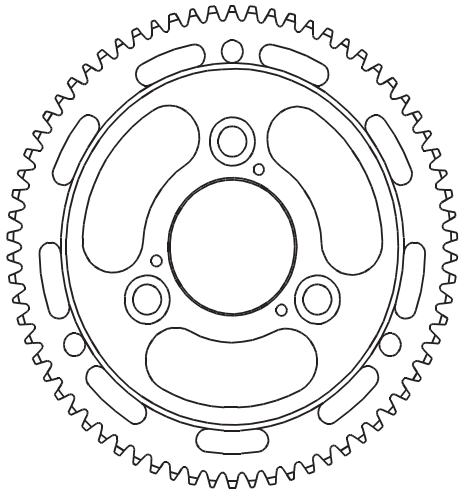


STARTER GEAR Z=70

GEAR MATERIAL = STEEL / WEIGHT = 402 g.+/-10g

D.4 *STARTER GEAR B*





STARTER GEAR Z=70

GEAR MATERIAL = STEEL / WEIGHT = 260 g.+/-10g

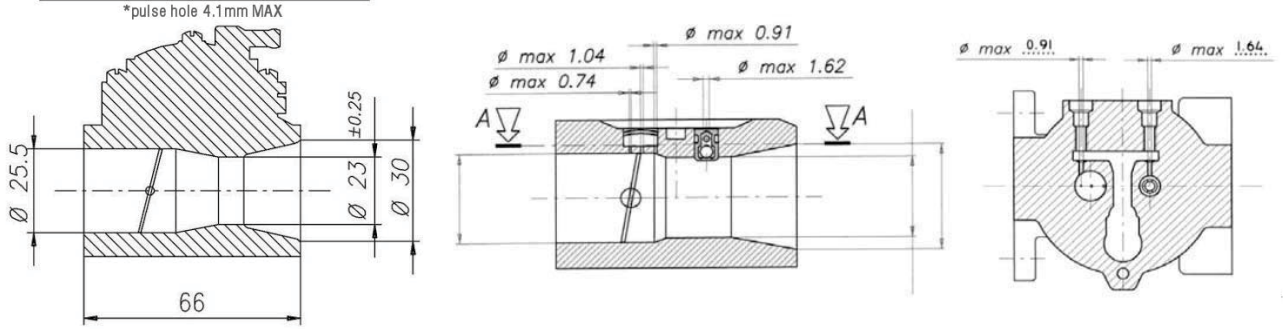
NOTE: UPDATED CLUTCH HUB AND STARTER WHEEL FOR X125 ALSO ALLOWED

D.5 *Carburetor*

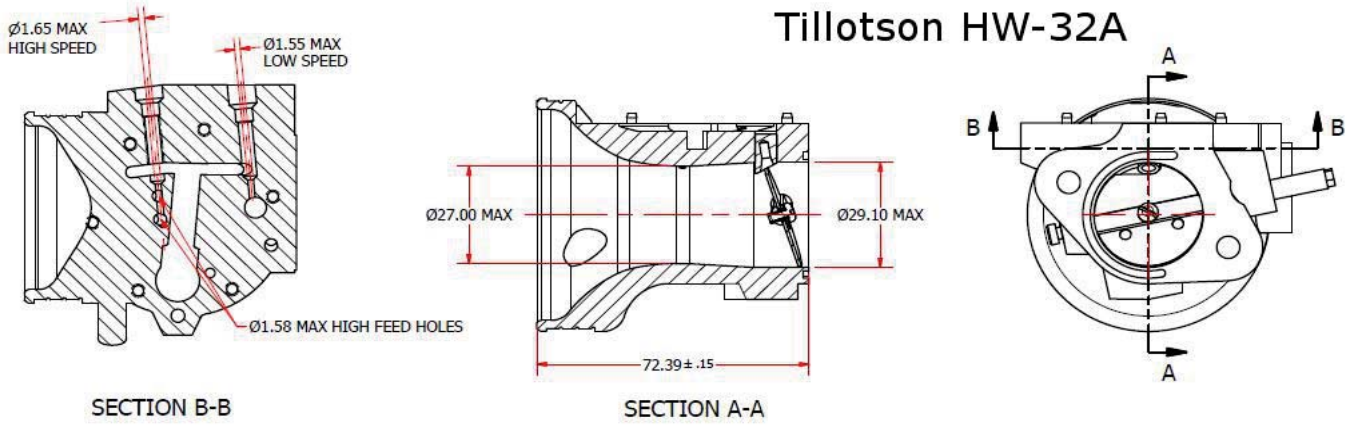
TILLOTSON mod. HL–334 AB

TILLOTSON mod. HL–334 A

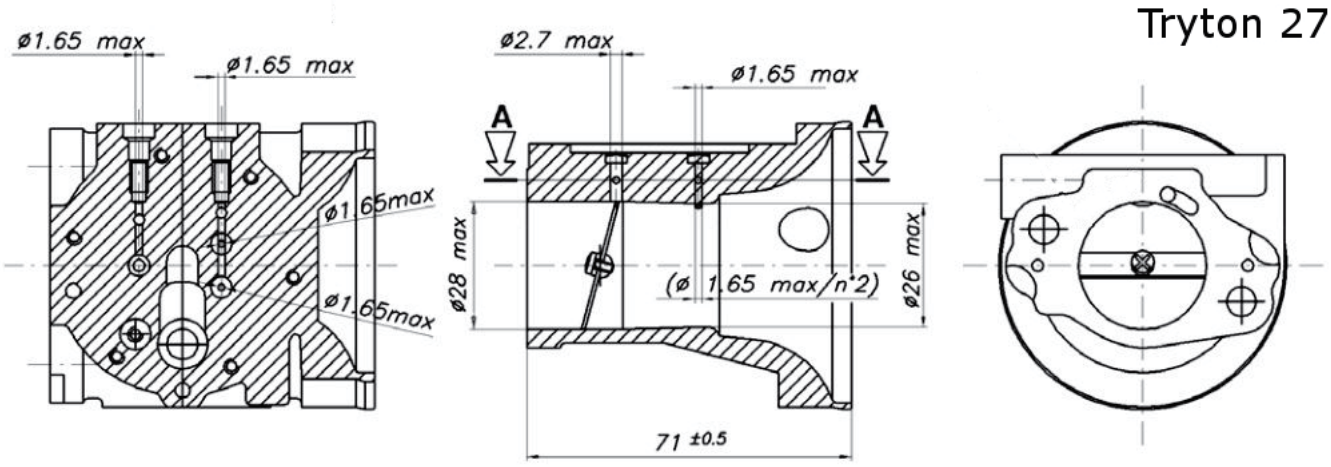
*pulse hole 4.1mm MAX



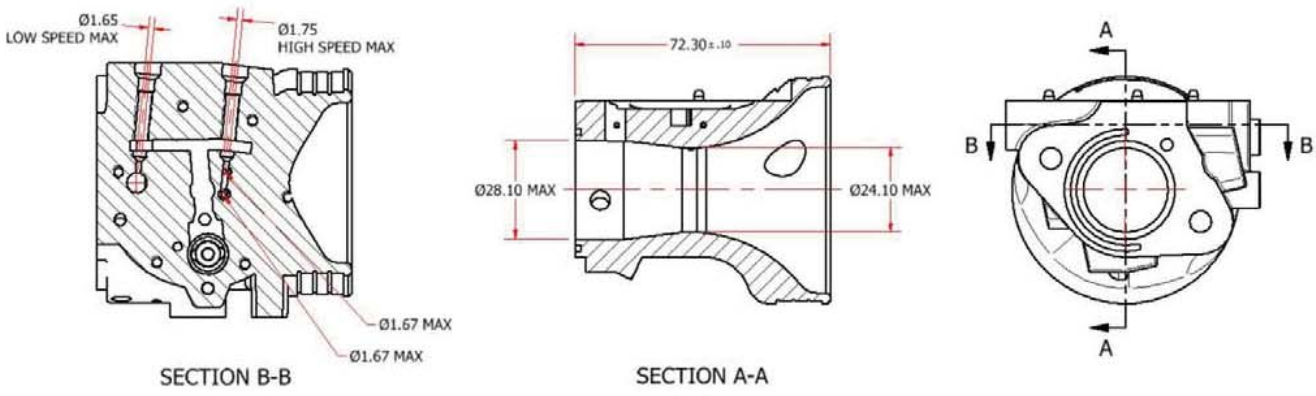
Tillotson HW-32A



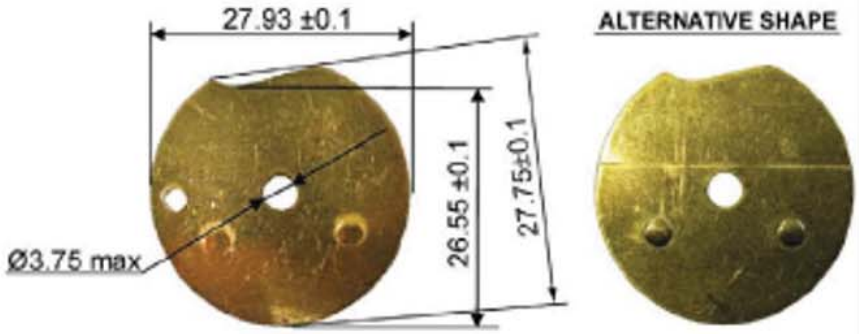
Tryton 27-C



Tillotson HW-44A 24mm Carburetor

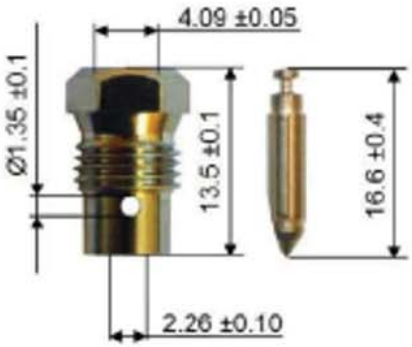


REF.37 - P. N° 14-A118
THROTTLE SHUTTER



Thickness = 0.84 ±0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



REF.21A - P. N° 43-1029
NEEDLE LOW SPEED

REF.30A - P. N° 43-1030
NEEDLE HIGH SPEED

ALTERNATIVE FUEL NEEDLE

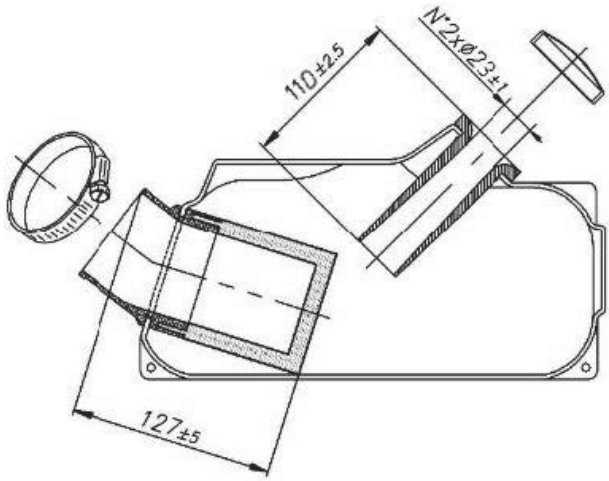
Carburetor Notes (see preceding page for diagrams)

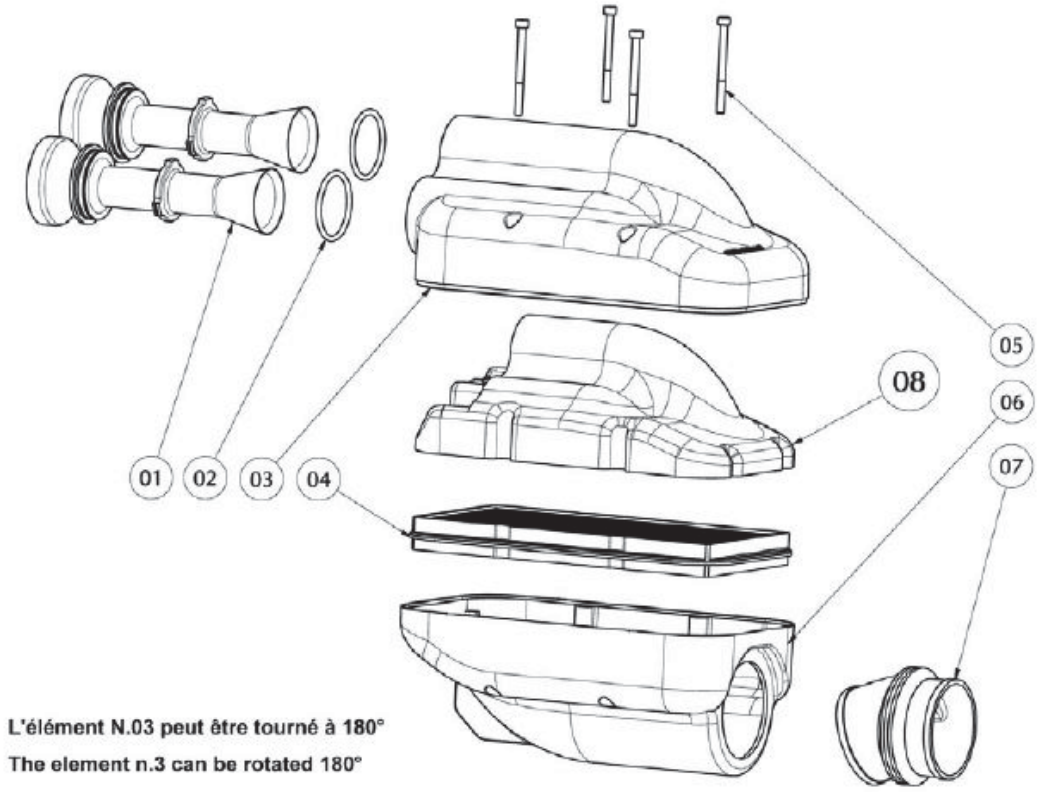
·Junior 1,2,3 and Senior uses Tillotson HL-334A / HL-334AB or HW-44A 24mm carb is approved
·Master/Heavy uses Tillotson HW-27A or Tryton 27HB

No modifications allowed. Specifications included in drawing supplied by manufacturer. All parts to be as supplied with the following exceptions:

1. Plastic cap may be Tillotson or Ibea equivalent with no modification allowed.
2. The external brass fitting on the throttle linkage may be changed but the throttle shaft, butterfly and butterfly screw must be stock as supplied.
3. Only the top cover screws may be replaced - all other fasteners must be supplied.
4. The only induction silencer adapter allowed are by specification in manufacturer's drawing
5. A washer may be welded onto the original Low Jet to allow for easier adjustment
6. The pulse hole on the Tillotson HL-334 (A or AB) cannot exceed 4.1mm

INLET SILENCER





N°	DESIGNATION	Catalogue reference number
01	Suction Tubes D.23mm	ZZKE012
02	O-Ring	KE067
03	Upper body filter	ZZKE006
04	Filter	ZZKE011
05	Screw M5	KVP05050S
06	Engine side body filter	ZZKE007
07	Rubber Connector	K070
08	Noise-absorbing parts	KE062

Inlet Silencer Note: All current and previous CIK approved Inlet Silencers or Airboxes with 23mm diameter suction tubes are appoved

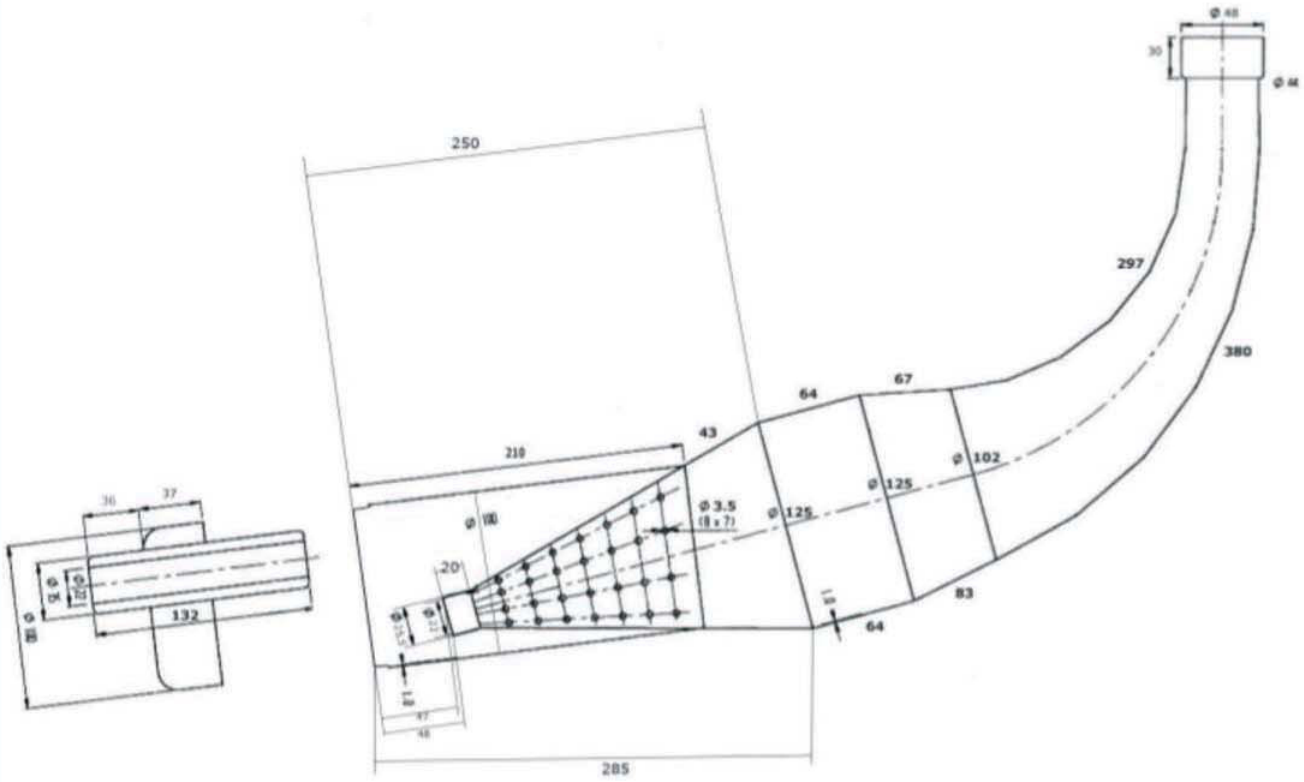
PHOTO OF THE EXHAUST

TECHNICAL DESCRIPTIONS OF THE EXHAUST

Weight in g	**1990**	Minimum
Volume in cc	**4700**	+/-5 %

TECHNICAL DRAWING

It must include all the information necessary to build this exhaust.



X125T 125cc TaG Notes

1.	Displacement	124.91 cm3 (Max. 125 cm3), Bore 53.90mm (Max 54.07mm), Stroke 54.40mm.
2.	Cylinder	Cylinder is of aluminium with iron liner. All ports must be of intended design, conforming to drawings supplied by manufacturer. No modification or grinding permitted.
3.	Cylinder Head	Cylinder head is aluminium and shall conform to drawing supplied by manufacturer. No modification allowed. Cylinder head volume is measured using the standard procedure except for the following notes. * The CIK cc tool is used(CIK Technical Drawing 6)
4.	Crankcase	Crankcase is aluminium and shall conform to drawing supplied by manufacturer. Optional roller bearing upgrade available.
5.	Crankshaft and Conrod	Crankshaft and conrod are of steel and shall be of original as supplied by original manufacturer. Parts must conform to drawings supplied by manufacturer. No modification allowed.
6.	Piston	Piston is aluminium, supplied by original manufacturer with manufacture's marking on dome and conforms to drawing supplied by manufacturer. No modification allowed.
7.	Piston Ring	Must be magnetic material.

8.	Clutch	Dry centrifugal in design, as supplied by original manufacturer as specified in manufacturer's drawings. No modification allowed. Updated versions of clutch and starter wheel allowed.
9.	Carburetor	**JR.1,2,3 & Senior** -Tillotson HL-334A / HL-334AB or HW-44A 24mm carb is approved. **Master/Heavy** - Tillotson HW-27A or Tryton 27HB No modification allowed. Specifications included in drawing supplied by manufacturer. All parts to be as supplied with the following exceptions: 1. Plastic cap may be Tillotson or IBEA equivalent no modifications allowed 2. The external brass fitting on the throttle linkage may be changed but the throttle shaft, butterfly and butterfly screw must be stock as supplied. 3. Only the top cover screws may be replaced all other fasteners must be as supplied 4. The only Induction Silencer adapters allowed are by specification in manufacturer's drawing. 5. A washer may be welded onto the original "Low jet" to allow for easier adjustment. **Intake Restrictor** - As outlined on page 5 "Junior Class Modification Update", Inlet Restrictor are used as follows: JR.1=17mm and JR.2=19mm (No restrictor used for JR.3)
10.	Inlet Silencer	The induction silencer must comply with the dimensions shown in the drawing. All current and previous CIK approved inlet silencers or airboxes with 23mm diameter suction tubes are approved. New CIK homologated airbox allowed.
11.	Cooling	External water pumps are allowed to be used.

12.	Spark Plug	Spark Plug make is free. The spark plug must retain the original washer and the body of the plug (electrodes not included). When tightened on the cylinder head, must not extend beyond the upper part of the dome and combustion chamber. *The Spark Plug Boot is a NON-TECH item
13.	Ignition	PVL ignition at 15.5 max. RPM (with built in hourmeter-PVL tool required). The orginal un-modified key must be installed in the keyway for the ignition. Ignition mounting holes must be as supplied.
14.	Battery	12V battery - not supplied with engine, open manufacturer.
15.	Muffler/Header	Must be supplied by original manufacturer - No modifications allowed. JR.1=22mm, JR.2=25mm, JR.3=31mm *Shim - 5mm shims are allowed to a max. of two shims (10mm total). MUST BE UNMODIFIED. *Exhaust springs are a NON-Tech item.
16.	Remaining Parts	All parts to be original as supplied by the original manufacturer. No grinding, polishing or modification of **any part** allowed. Following exceptions: 1.Radiator and Mounting Hardware is NON-TECH 2. Water Hoses and Clamps are NON-TECH 3. Data Acquisition Systems and installation of sensors is considered NON-TECH
NON-TECH		The term "NON-TECH" shall mean that the item has no technical specifications. Items that are deemed "NON-TECH" can not be used to disqualify a competitor. These items however must comply with any rules from the governing federation that are applicable.

NOTE		If you are unsure as to whether or not a "non-stock" or modified part can be used, ask the technical representative at the event. If you are unable to get an answer then assume that you can not use it and the part in question must remain as a "stock" part as supplied by the original manufacturer.

