

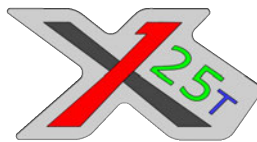
Manufacturer Address

X125

Via XXIV maggio, n 9

Cava de'Tirreni (Sa) 84013

email: engines@x125.com



Engine #

Manufacturer	X125
Make	X125T-MX
Model	TAG
Inlet type	REED VALVE
Number of pages	25

PICTURE OF ENGINE



Signature and Stamp

Importer	ITALIAN MOTORS USA
----------	--------------------



TECHNICAL INFORMATION

A CHARACTERISTICS		
	Measurement	Tolerances
Volume of cylinder	124.91cm ³	<125 cm ³
Original bore	53.90mm	
Theoretical maximum bore	54.07mm	
Stroke	54.40mm	
Cooling system	WATER	
Number of carburation systems	1	
Number of transfer ports / ducts, cylinder / sump	5/3	
Number of exhaust ports / ducts	3	
Shape of the combustion chamber	SPHERICAL	
Length between axes of the connecting rod	104mm	±0.2mm
Minimum weight of connecting rod	99g	Minimum
Volume of combustion chamber	11.0ccc	Minimum
Type of bearings and size	Big End of Con. Rod Bearing = 20/26x14.7 Little End of Con. Rod Bearing = 15/19x19.8 Crankshaft Bearing = 25x52x15 (6205C4)	6204 C4 SNR (ALSO)

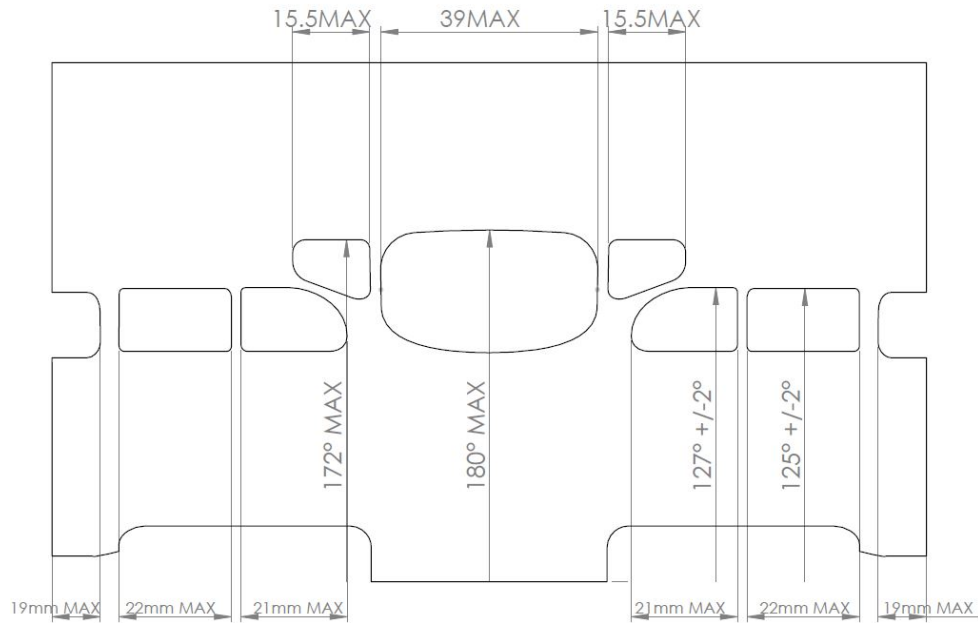
B OPENING ANGLES		
Exhaust	180°	
Of exhaust ports / ducts	3	

C LIST OF ACCESSORIES INCLUDED	
<i>(List accessories as shown below)</i>	<i>Centrifugal clutch</i>
<i>1 (Tryton HB27/Tillotson HL334AB/ Tillotson HW32A/ Tillotson HW44A)</i>	<i>Airbox with or without filter</i>
<i>Generator for battery charging</i>	<i>Cooling including Radiator</i>
<i>Electric starter</i>	
<i>Exhaust</i>	

D MATERIAL	
Cylinder	AL-SI
Connecting rod	STEEL
Crankshaft	STEEL
Head	AL-SI
Liner	STEEL
Crankcase	AL-SI
Piston	AL-SI
Piston Ring	STEEL
Piston Pin	STEEL

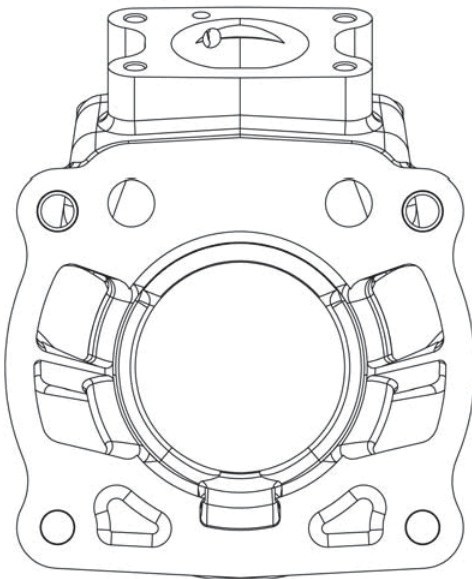


DRAWING OF THE CYLINDER DEVELOPMENT



****Port Timing to be measured with official X125T Port Timing Tool X125-IM9495****

DRAWING OF THE CYLINDER BASE



CYLINDER SECTION VIEW

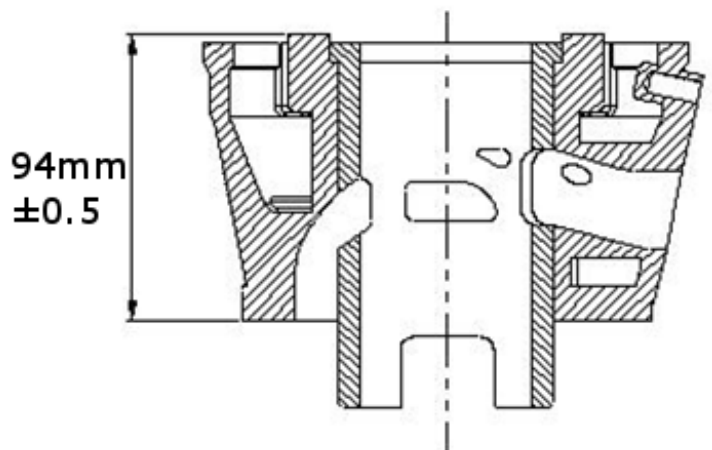
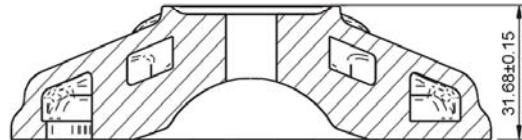




PHOTO OF THE CYLINDER HEAD AND HEAD WITH CHECK TOOL



THE EDGE OF THE SPARK PLUG, ELECTRODES EXCLUDED, MUST NEVER PROTRUDE INSIDE THE COMBUSTION CHAMBER

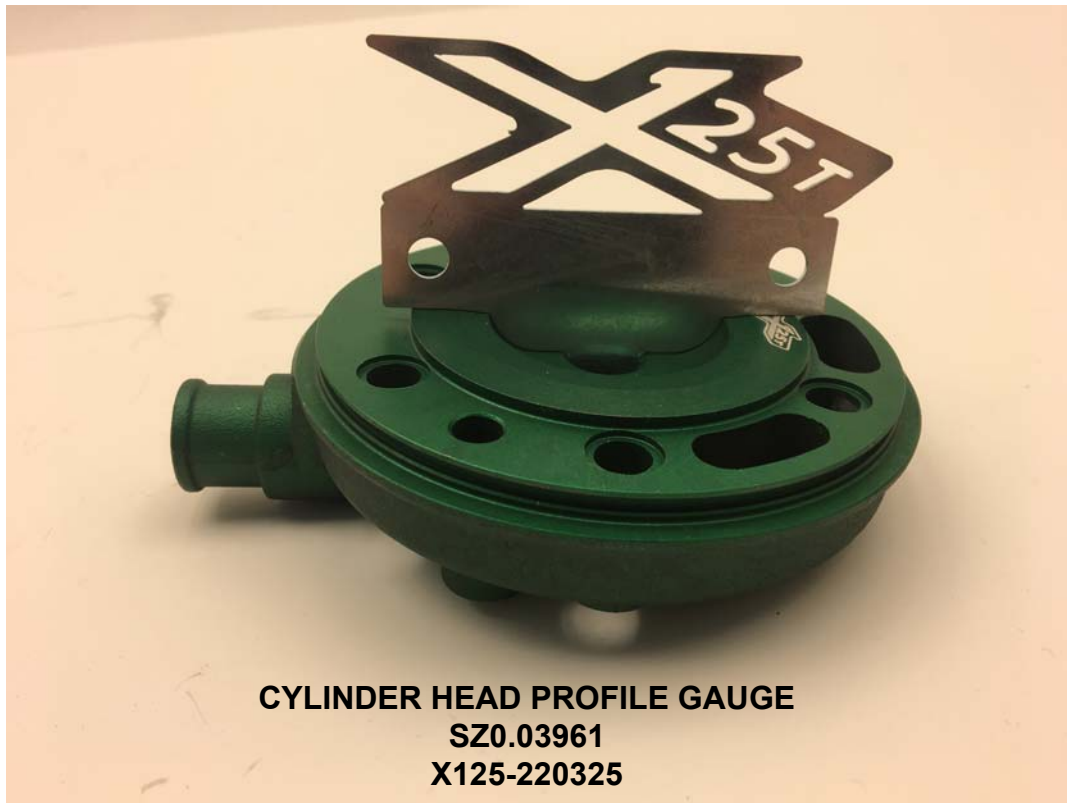


measurement in mm

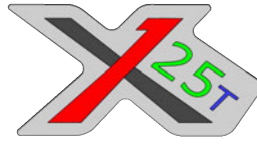
SQUISH = 0.85mm MIN.
DETECTED WITH TIN FROM Ø1,5 mm (0.06 inches) COMPARATIVELY OPPOSED ON TWO POINTS

MATERIAL = ALUMINUM

THE MINIMUM SQUISH MEASUREMENT WILL BE DETECTED WITH A TIGHTENING OF THE HEAD FROM 10 Nm



**CYLINDER HEAD PROFILE GAUGE
SZ0.03961
X125-220325**



DRAWING OF THE CRANKSHAFT

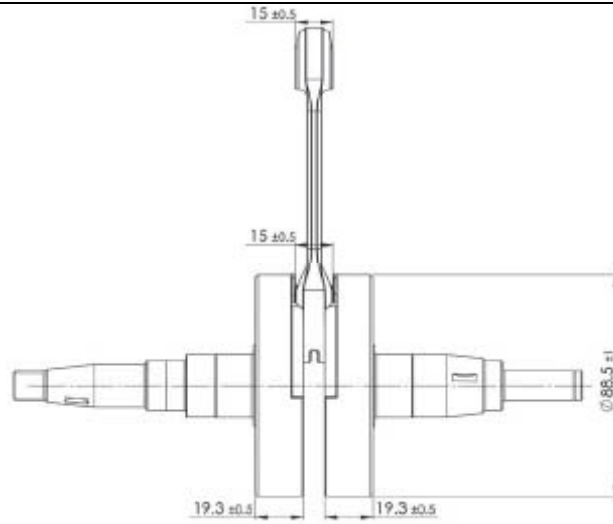
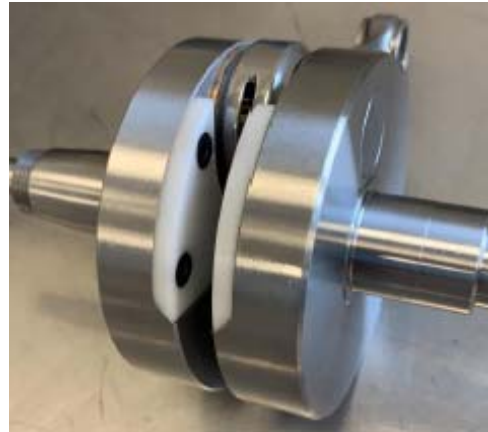


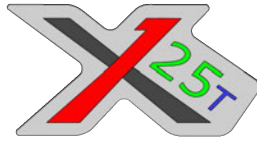
PHOTO OF THE CRANKSHAFT



Crankshaft X125-220181
Complete weight MIN 2050g

PHOTO OF THE CRANKSHAFT





IGNITION

Manufacturer PVL / SELETTRA	
Model Number 590 218	
Rotation	
Description: Refer to page 24 #13 for ignition rules	

PHOTO OF PVL IGNITION



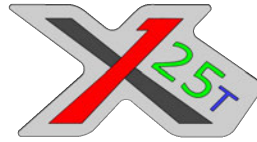
PHOTO OF PVL COIL



PHOTO OF SELETTRA IGNITION AND COIL

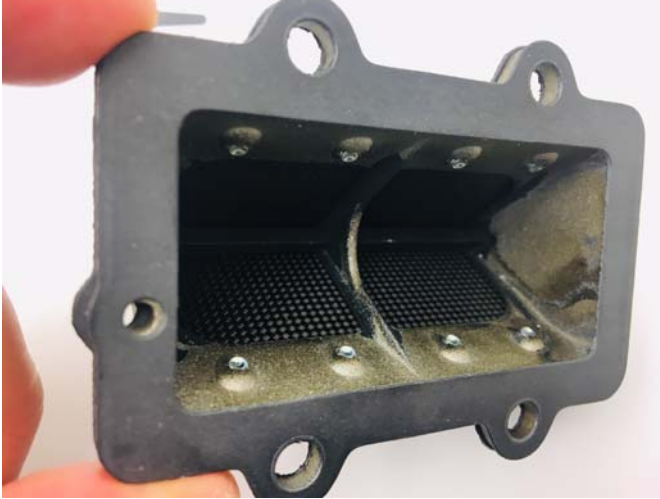


STATOR X125-220227 / ROTOR X125-220226 / COIL X-220228

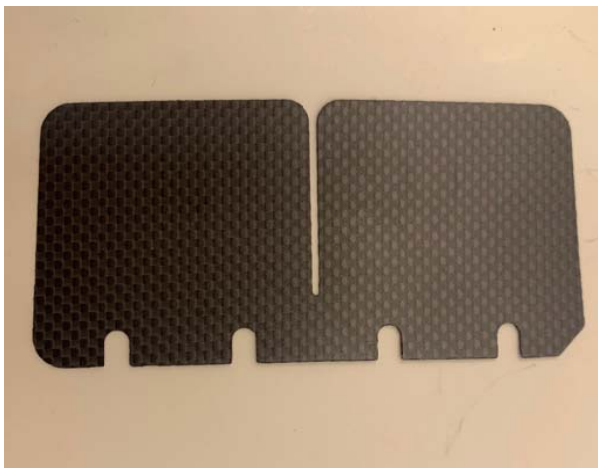


INTAKE

PHOTOS OF REED ASSEMBLY X125-220064

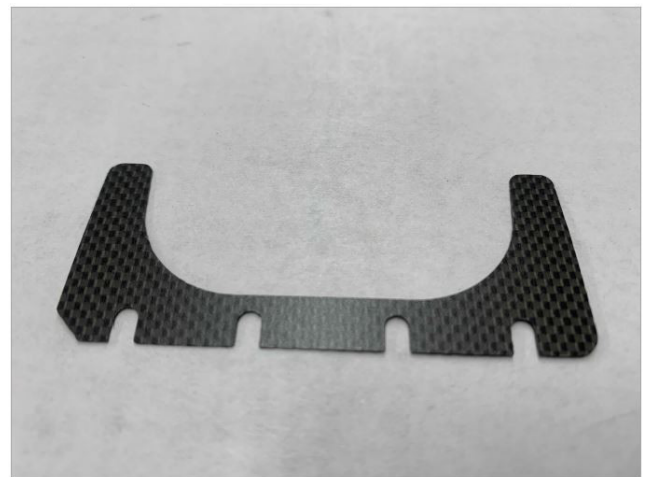


CARBON REED PETAL X125-220135



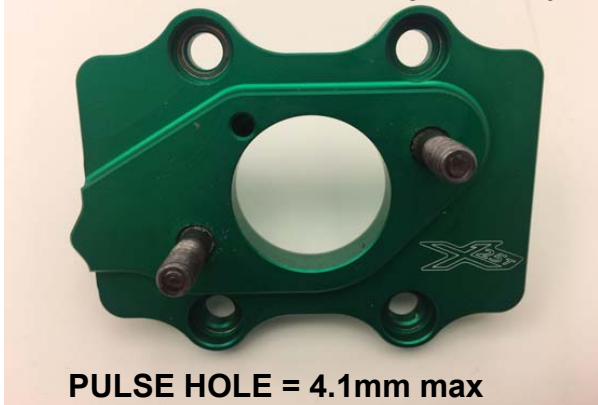
MIN. THICKNESS 0.22mm

REED STIFFENER X125-220136



INTAKE MANIFOLD X125-220140

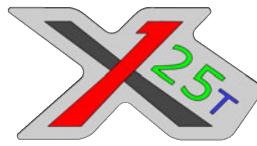
INTERNAL DIAMETER= 29.2mm max



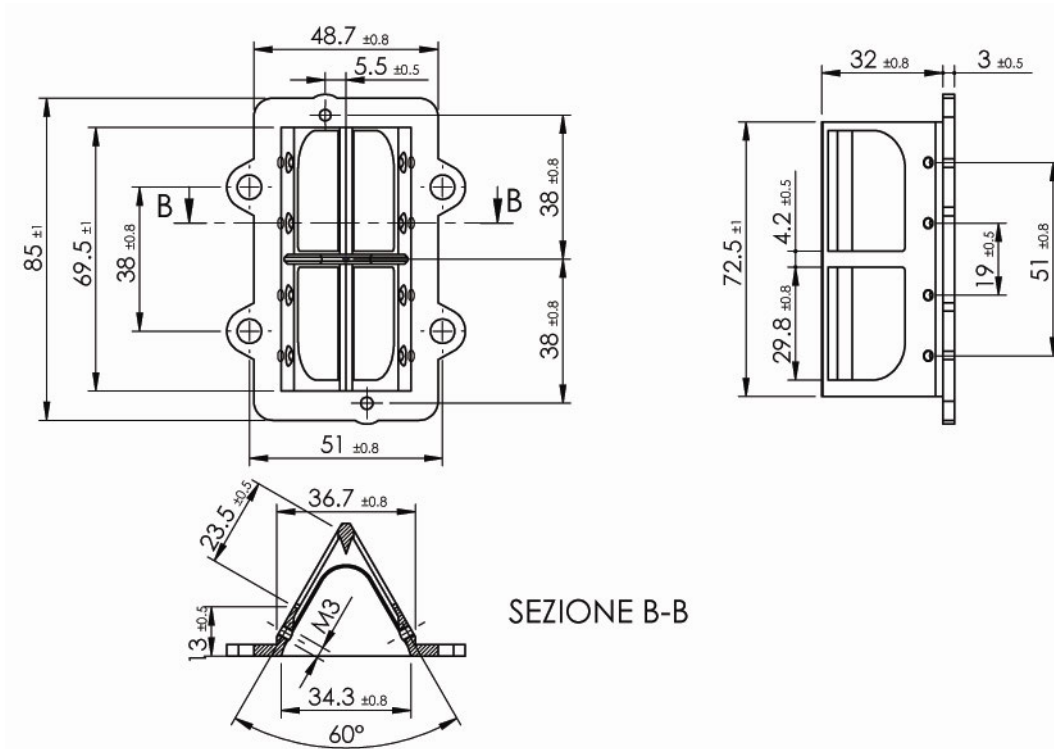
PULSE HOLE = 4.1mm max

THICKNESS = 8mm +/- 0.1mm





DRAWING OF THE REED VALVE (DIMENSIONS incl. tolerances)

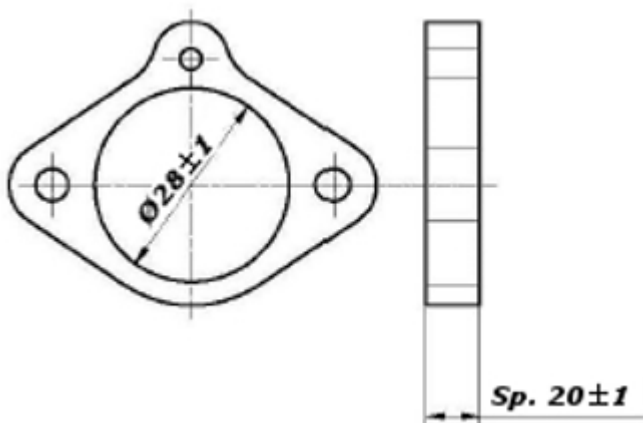


SEZIONE B-B

***Minimum one stiffener (X125-220136) required and a maximum of two TOTAL. Stiffeners are not to be double stacked.**

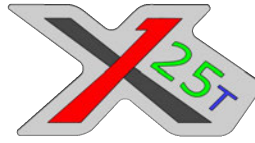
INTAKE SPACER P12.0854192

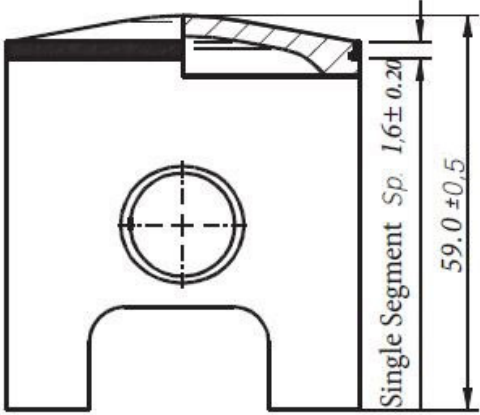
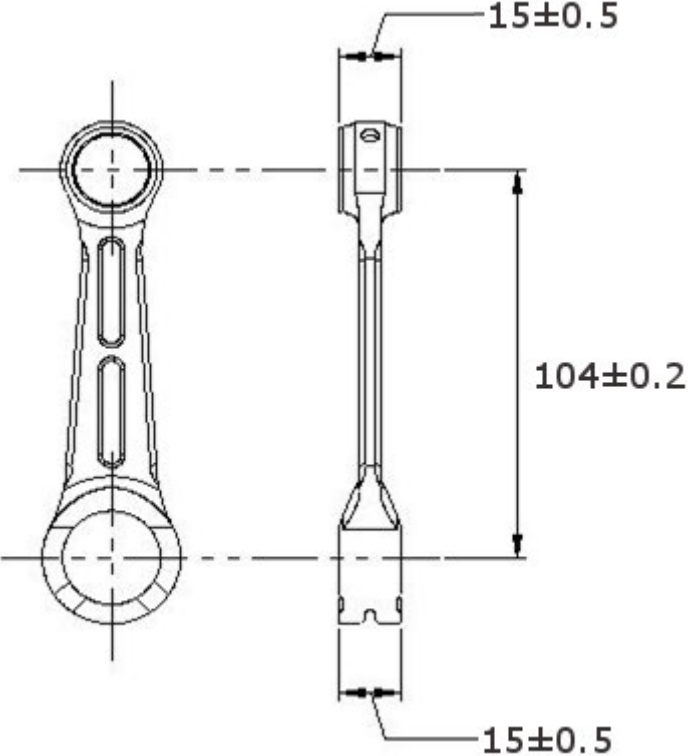



***INTAKE SPACER IS AN OPTIONAL PART**



X125T INLET SPACER - P12.0854192

Pulse Hole = 4.3mm max
 **Plastic Inlet Spacer Also



PISTON	CONNECTING ROD	
 <p>PISTON MATERIAL = ALUMINUM SEGMENT MATERIAL = CAST IRON</p> <p>Weight= 108g Tolerance= ± 2g</p>	 <p>Weight= 107g Tolerance= ± 2g</p>	
<p>PISTON X125-220073 (refer to manual for sizes)</p>	<p>PISTON PIN X125-220143</p>	
 <p>SIDE</p>	 <p>TOP</p>	 <p>MIN WEIGHT 25g</p>

**Measurements are in mm



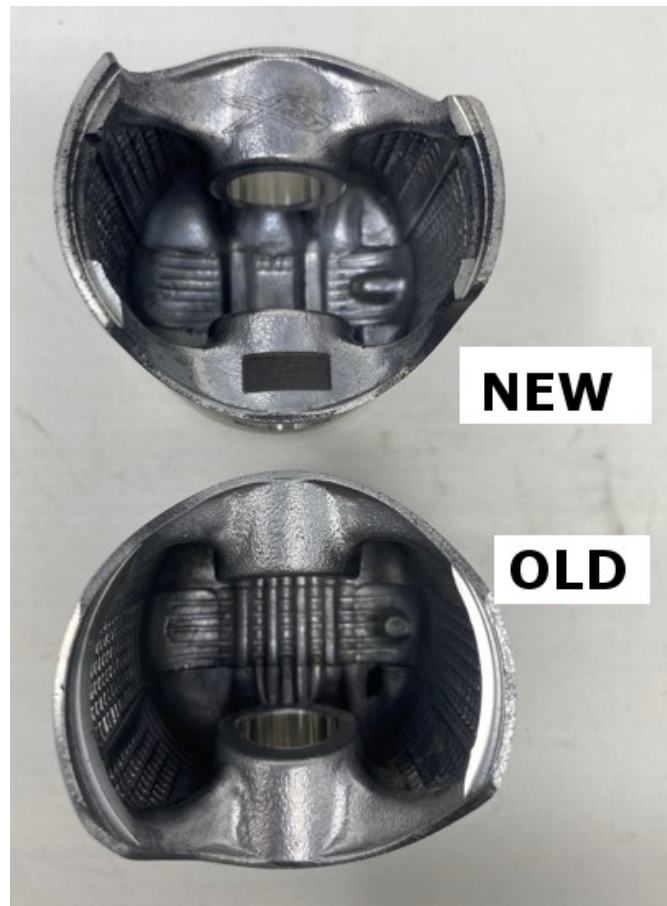
PISTON X125-220073 (refer to manual for sizes)



SIDE

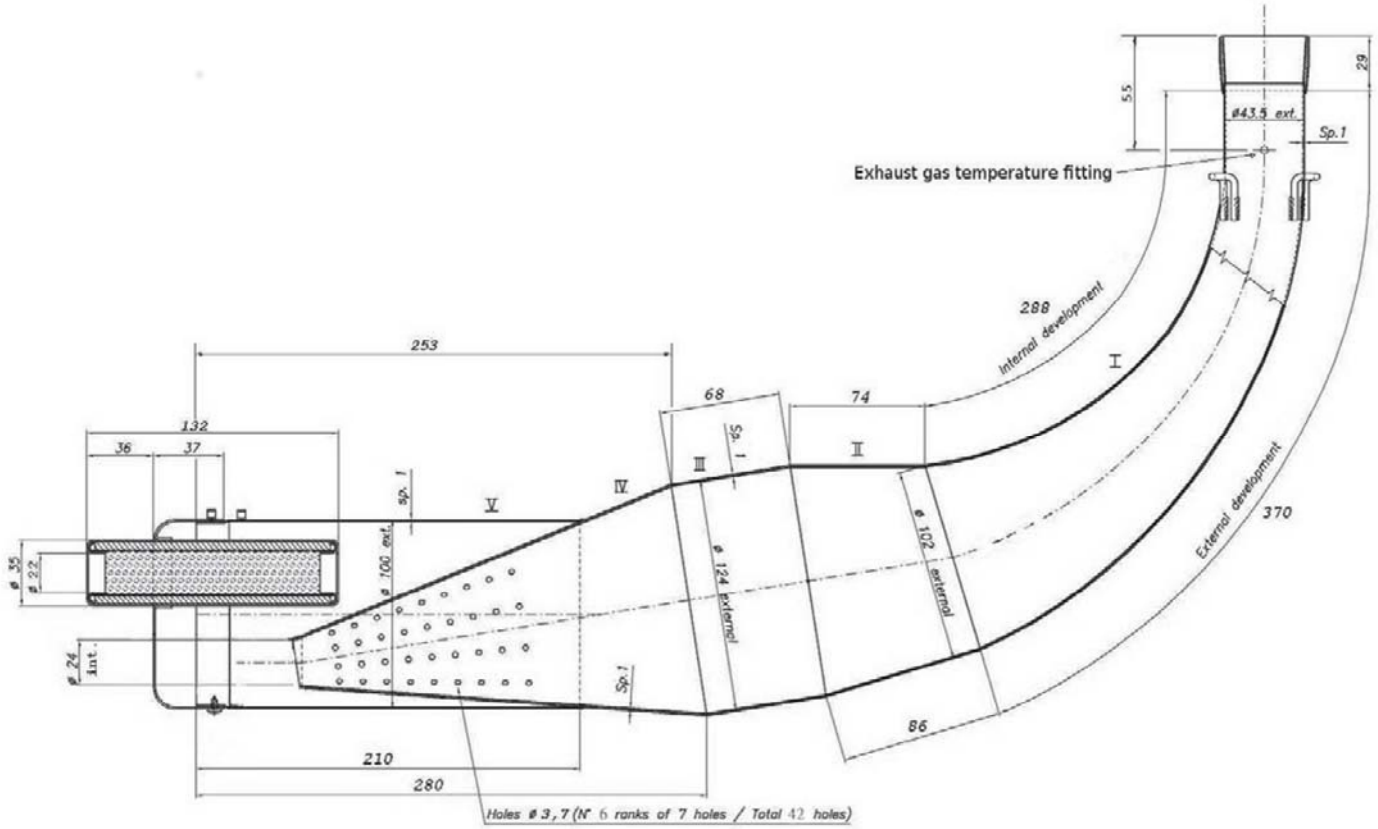


TOP





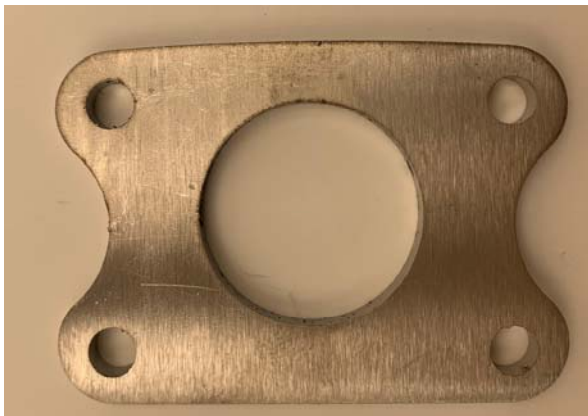
DRAWING OF THE EXHAUST X125-220025



GENERAL TOLERANCE +/- 5mm except exhaust flange +/- 10mm

The end parts of the silencer must have two soldered pairs of lugs (one pair at the top and one pair at the bottom) to allow for fixing of seals by the Organizer so that the silencer may be opened during the competition

PHOTO OF EXHAUST RESTRICTOR



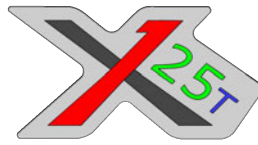
Refer to page 24 #15 for exhaust restrictor part numbers



PHOTO OF THE EXHAUST



Exhaust Pipe X125-220025



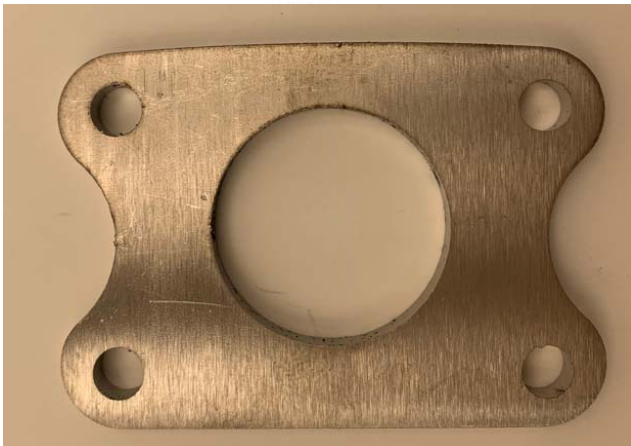
INTERNAL PROFILE OF THE EXHAUST DUCT

Templates of the internal dimensions of the exhaust duct: gasket plane of the manifold.

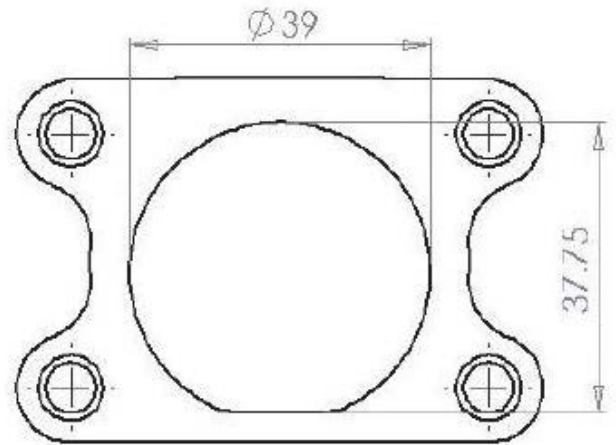
FRONT VIEW DRAWING – with dimensions

Gabarit maximum / Maximum template

PHOTO OF EXHAUST SPACER

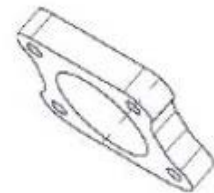


A-101323311-SPACER



- *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*

***A maximum of 1 x 5mm exhaust spacer is allowed, spacer must conform to drawing**



Alum. Exhaust Spacer - Max. 5mm

EXHAUST DUCT LENGTH

ANGLE α en / in ° 68° +/-1°

L minimum en / in mm 65 mm



EXHAUST DUCT LENGTH CHECK

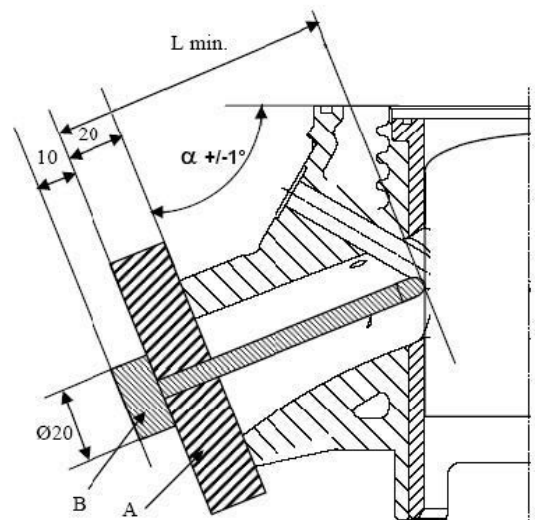


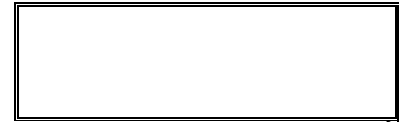
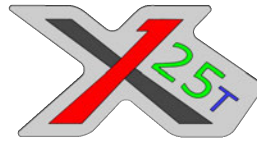


PHOTO OF EXTERNAL WATERPUMP



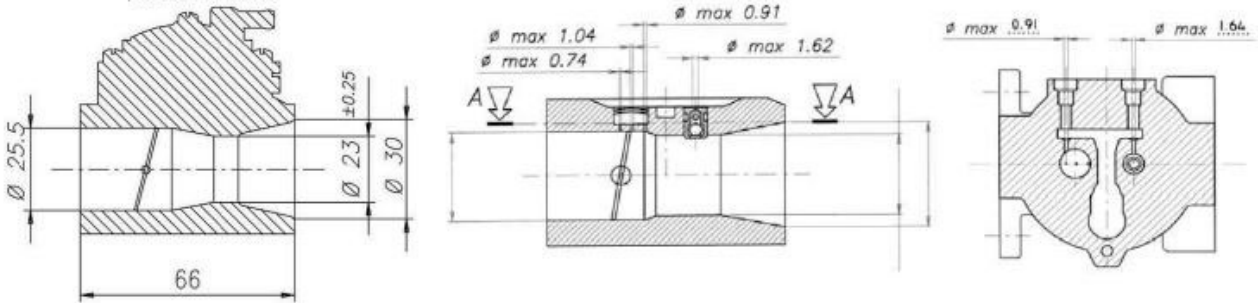
PHOTO OF INTERNAL WATERPUMP





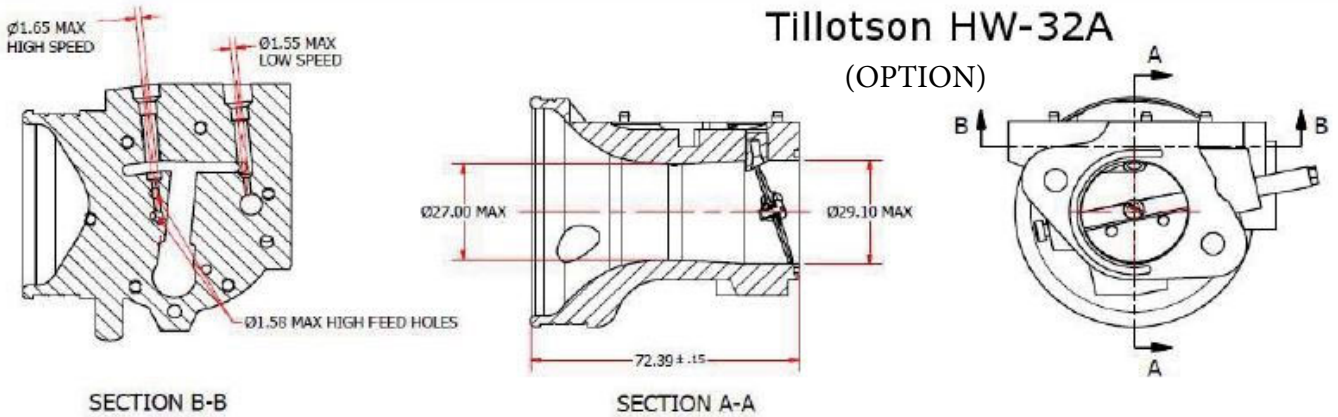
TILLOTSON mod. HL-334 AB - for Junior 1, Junior 2
 TILLOTSON mod. HL-334 A

*pulse hole 4.1mm MAX



Tillotson HW-32A

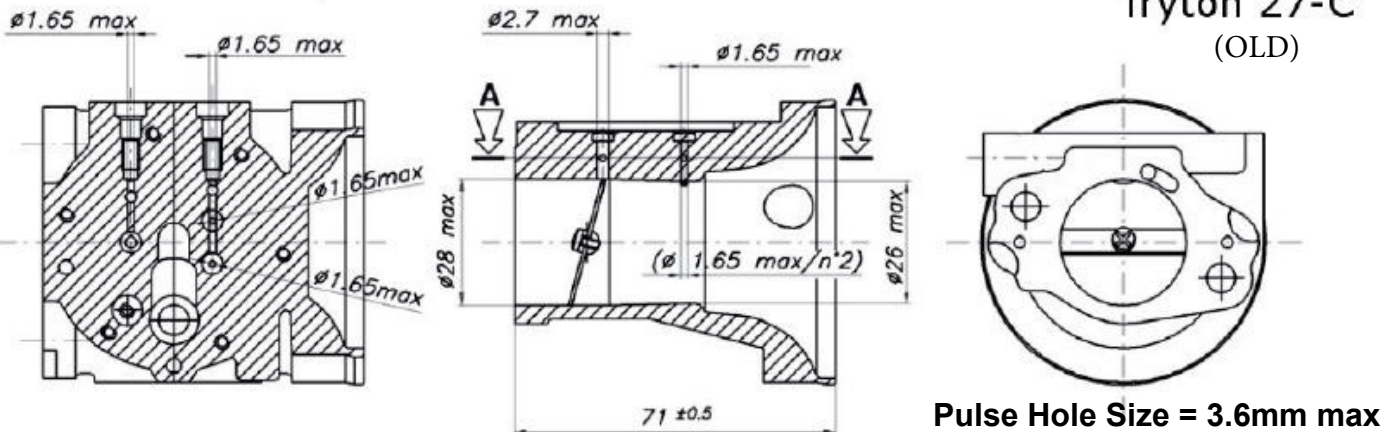
(OPTION)



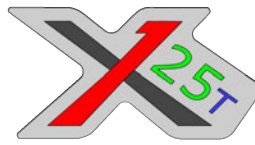
Pulse Hole Size = 3.6mm max

Tryton 27-C

(OLD)

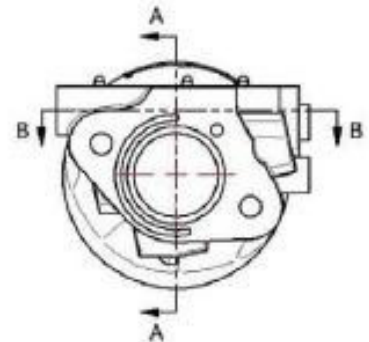
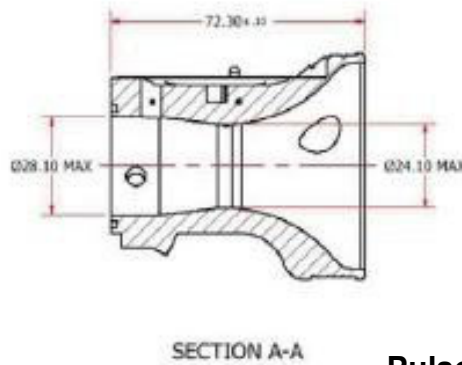
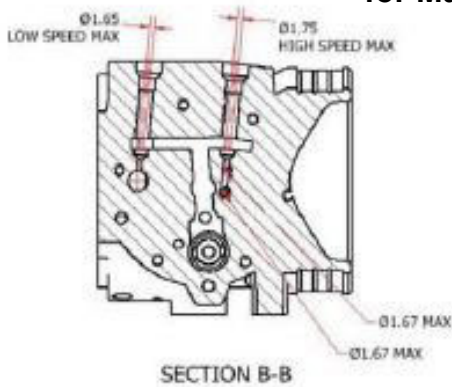


Pulse Hole Size = 3.6mm max



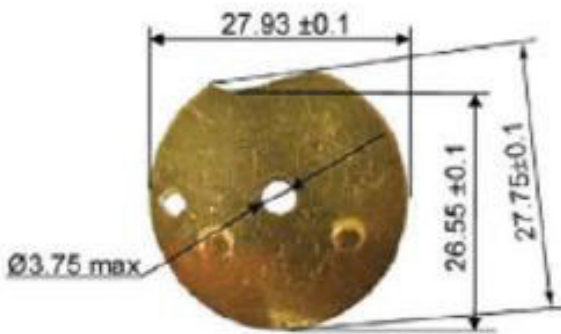
Tillotson HW-44A 24mm Carburetor

for Masters, Heavy, Senior and Junior



Pulse Hole Size = 3.6mm max

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

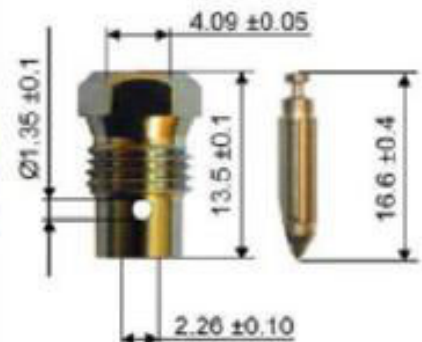


ALTERNATIVE SHAPE



Thickness = 0.84 ± 0.1 mm

REF.27 - P. N° 233-721P
SEAT + NEEDLE



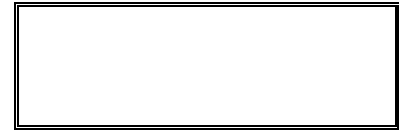
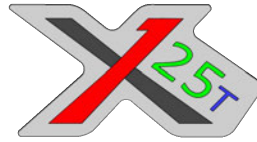
REF.21A - P. N° 43-1029
NEEDLE LOW SPEED



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

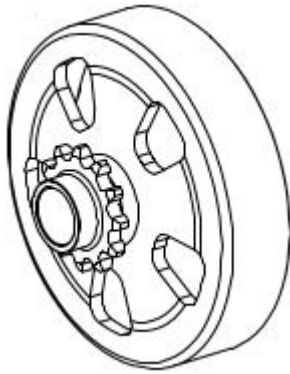


ALTERNATIVE FUEL NEEDLE



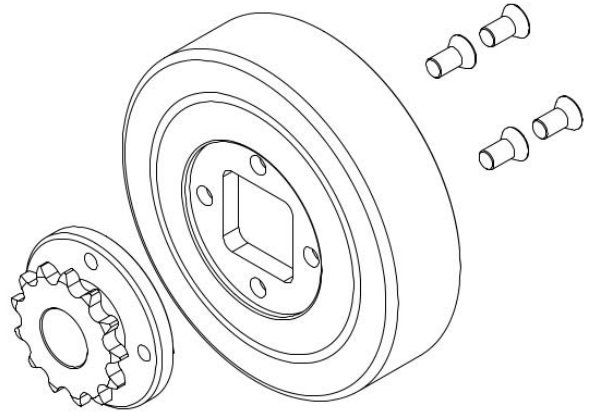
DRAWING OF THE CLUTCH

OLD



One-Piece Drum C10.3503412 - Min. weight 300g

NEW



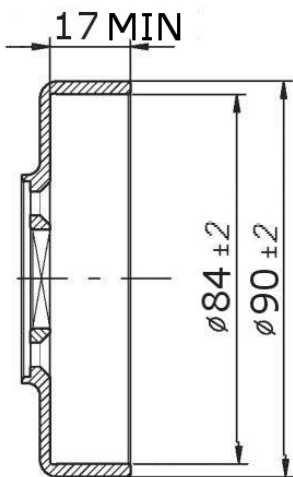
Two-Piece Drum X125-CLUTCHKIT-11T
Min. weight 315g (weighed as pictured above)

Part number shown for stock driver size - other sizes determined by respective part numbers.

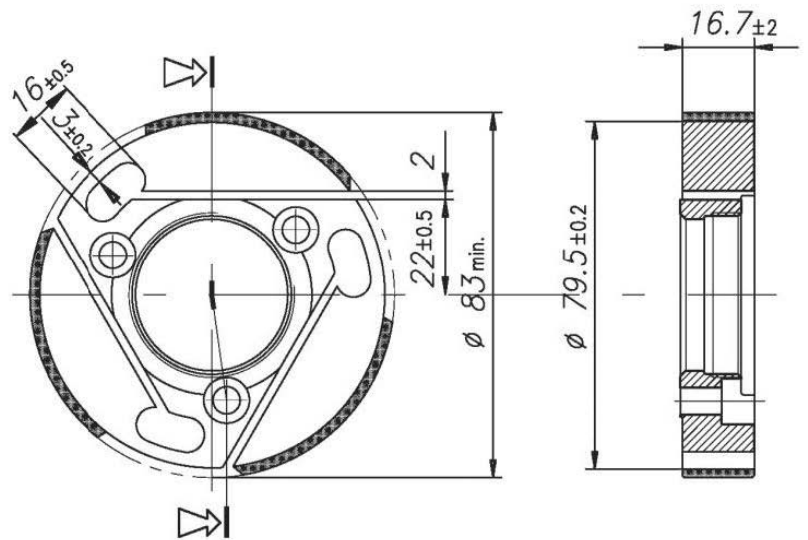
C10.3503414 (One-Piece Drum 11T) - minimum weight 300g

X125-220191 (Two-Piece Drum) - minimum weight 240g

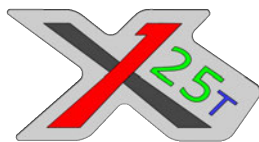
X125-220193 (Two-Piece 11T Driver) - minimum weight 55g



Drum X125-220191



Padded Clutch Hub X125-220128



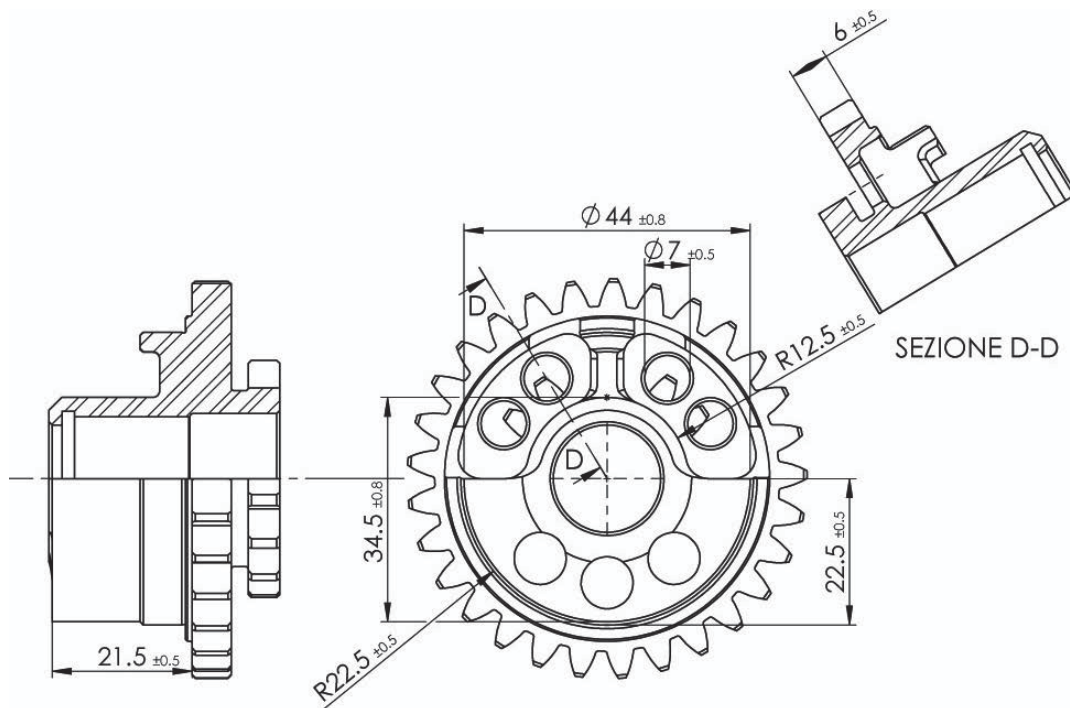
BALANCE SHAFT WITH WATER PUMP GEAR

P12.0640091

PHOTOS OF THE BALANCE SHAFT



DRAWING OF THE BALANCE SHAFT





BALANCE SHAFT WITHOUT WATER PUMP GEAR

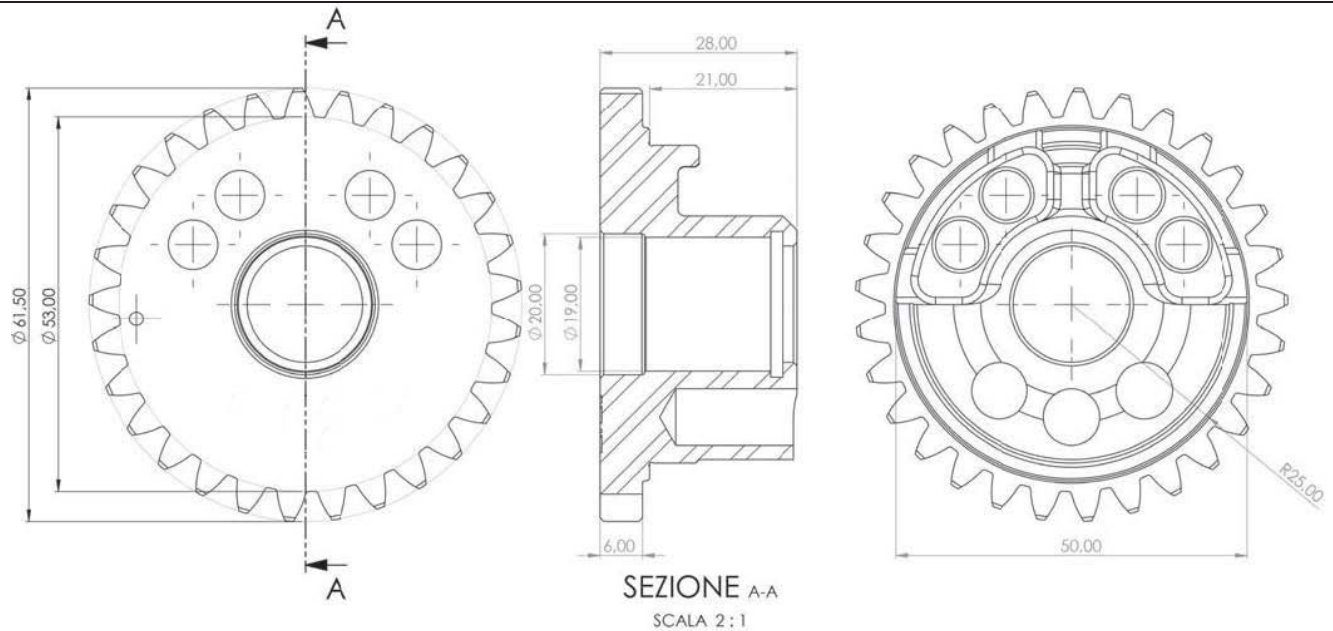
X125-220061

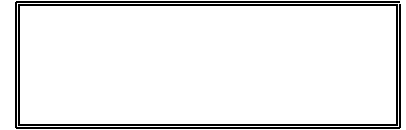
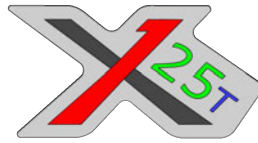
PHOTOS OF THE BALANCE SHAFT



*Balancing shaft without water pump gear MINIMUM WEIGHT 220g (external water pump)

DRAWING OF THE BALANCE SHAFT





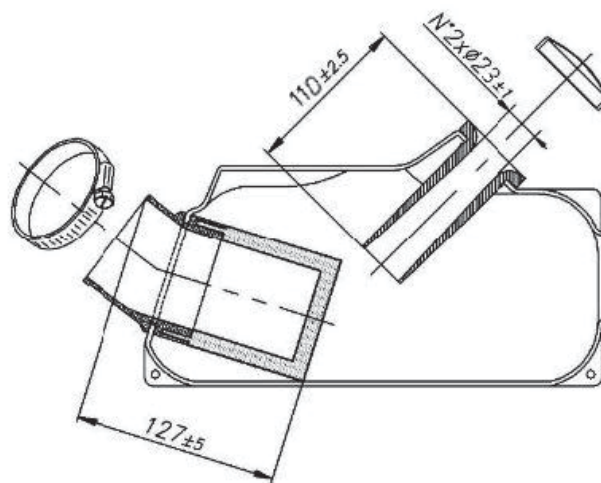
Carburetor Notes (see preceding page for diagrams)

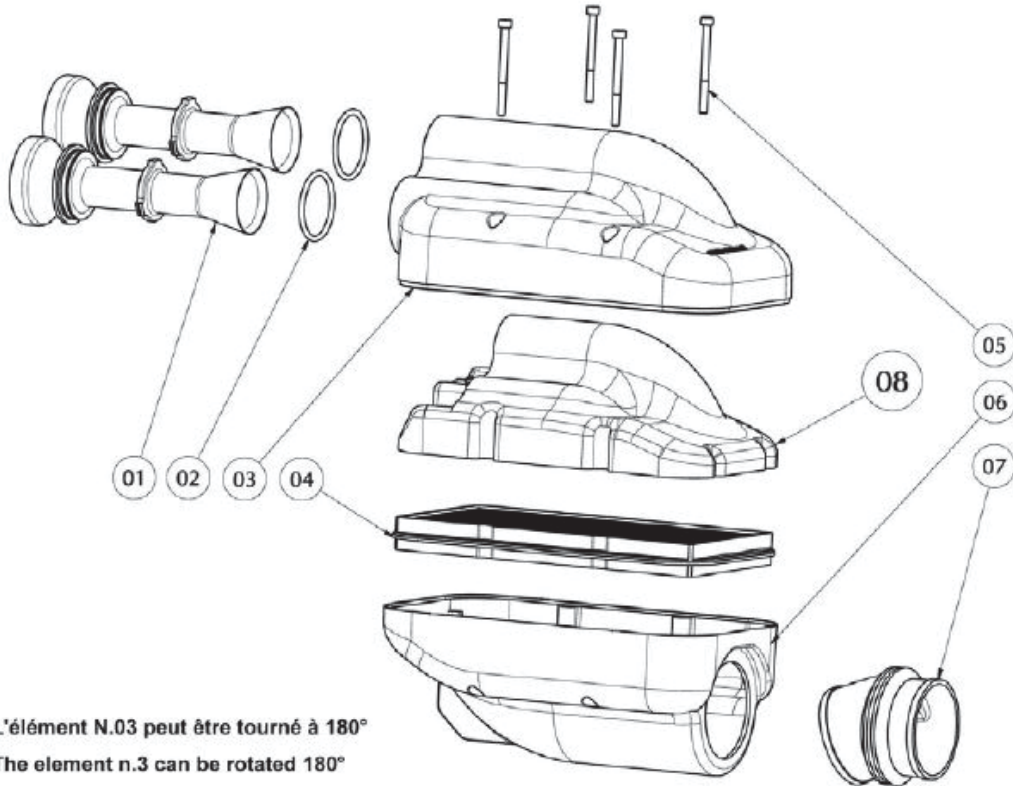
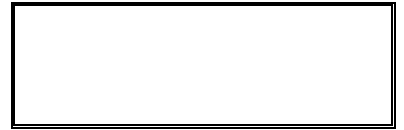
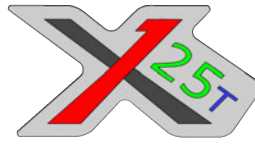
- Junior 1, Junior 2 uses 22mm Tillotson HL-334AB with Intake
- Masters/Heavy and Senior uses Tillotson HW-44A

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 - K560

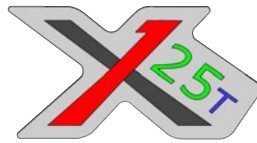




L'élément N.03 peut être tourné à 180°
 The element n.3 can be rotated 180°

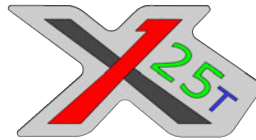
N°	DESIGNATION	Catalogue reference number
01	Suction Tubes D.23mm	ZZKE012
02	O-Ring	KE067
03	Upper body filter	ZZKE006
04	Filter	ZZKE011
05	Screw M5	KVPJ5050S
06	Engine side body filter	ZZKE007
07	Rubber Connector	K070
08	Noise-absorbing parts	KE062


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



X125T 125cc TaG Notes

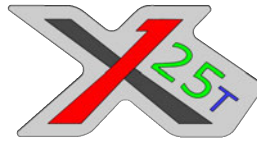
1.	Displacement	124.91 cm ³ (Max. 125 cm ³), Bore 53.90mm (Max 54.07mm), Stroke 54.40mm.
2.	Cylinder	Cylinder is of aluminium with iron liner. All ports must be of intended design, conforming to drawings supplied by manufacturer. No modification or grinding permitted.
3.	Cylinder Head	Cylinder head is 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 X125-110281 (6204 C4 SNR)
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. Both versions of clutch and starter wheel allowed.
9.	Carburetor	<p>Junior 1, Junior 2 uses 22mm Tillotson HL-334AB with Intake. Masters, Heavy, Senior and Junior uses Tillotson HW-44A</p> <p>No modification allowed. Specifications included in drawing supplied by manufacturer. All parts to be as supplied with the following exceptions:</p> <ol style="list-style-type: none"> 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.
<p>INTAKE RESTRICTOR IM111-17</p>  <p>Diameter = 17mm MAX Thickness = 5.9 +/- 1mm Pulse Hole = 2.90 mm</p>		<ol style="list-style-type: none"> 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. <p>Intake Restrictor - Inlet Restrictor are used as follows: JR.1=17mm (IM111-17) and JR.2=19mm (IM111-19). *No restrictor used for JR.3</p>
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 permitted. Radiators must be mounted on the left hand side of the kart in a vertical position with original unmodified mounting brackets as provided from radiator manufacturer.



12.	Spark Plug	Spark Plug make is free except that the electrode must be present. 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 and superseded Selettra MAX RPM is 15500. Unmodified key must be installed in the keyway for the ignition. Mounting holes must be as supplied. Both versions of coil and stator allowed as per page 6. PVL timing is not adjustable and stator pins must be unmodified. Selettra must not exceed 5.5mm.
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(X125-220082-22), JR.2=25mm(X125-22082-25), JR.3=30mm (x125-220082-30) *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.



<p>NOTE</p>		<p>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.</p>
-------------	--	--