

NATIONAL HOMOLOGATION FORM

Homologation N°

111H/RH



Manufacturer	BRP-POWERTRAIN GMBH & CO KG
Make	ROTAX
Model	125 MINI MAX EVO MY20
Validity of the homologation	6 years
Number of pages	24 Plus Appendix A

This Homologation Form reproduces descriptions, illustrations and dimensions of the engine at the time that Karting Australia conducted the homologation.



PHOTO OF DRIVE SIDE OF ENGINE



PHOTO OF OPPOSITE SIDE OF ENGINE

Signature and stamp of Karting Australia

National Technical Commissioner
20 March 2023



PHOTO OF DRIVE SIDE OF THE COMPLETE ENGINE



PHOTO OF OPPOSITE DRIVE SIDE OF THE COMPLETE ENGINE

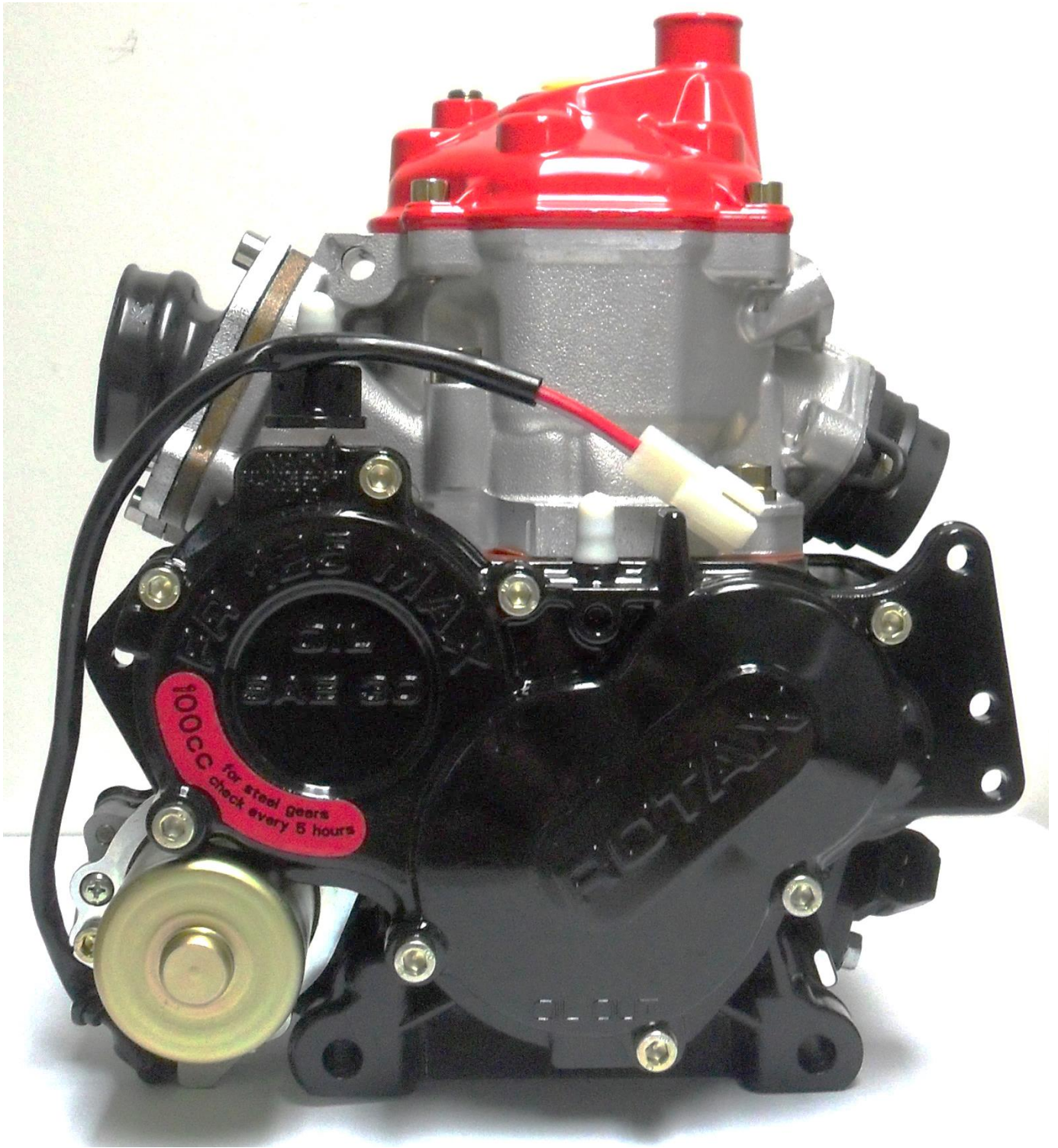


PHOTO OF THE REAR OF THE COMPLETE ENGINE



PHOTO OF THE FRONT OF THE COMPLETE ENGINE

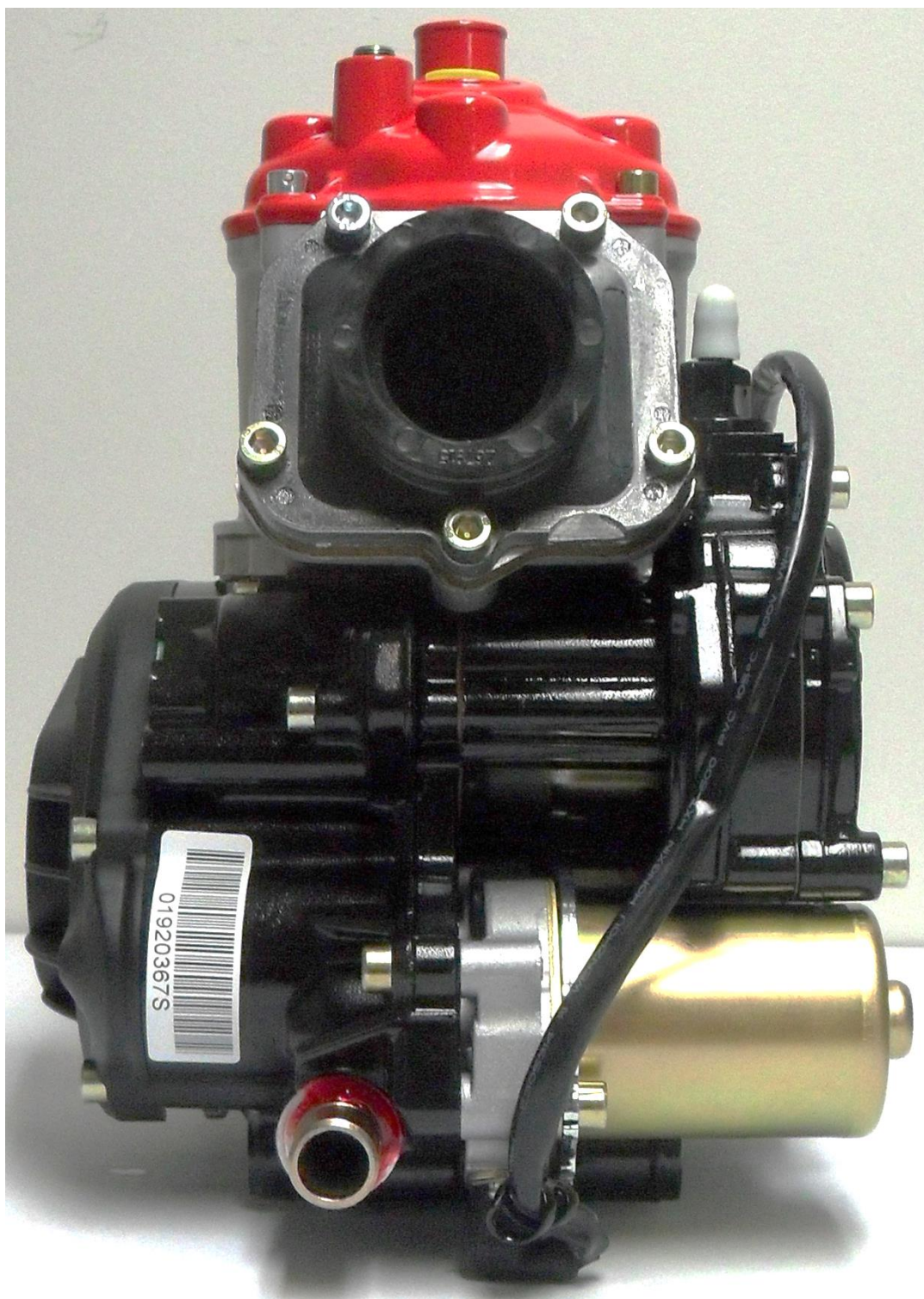


PHOTO OF THE COMPLETE ENGINE TAKEN FROM ABOVE

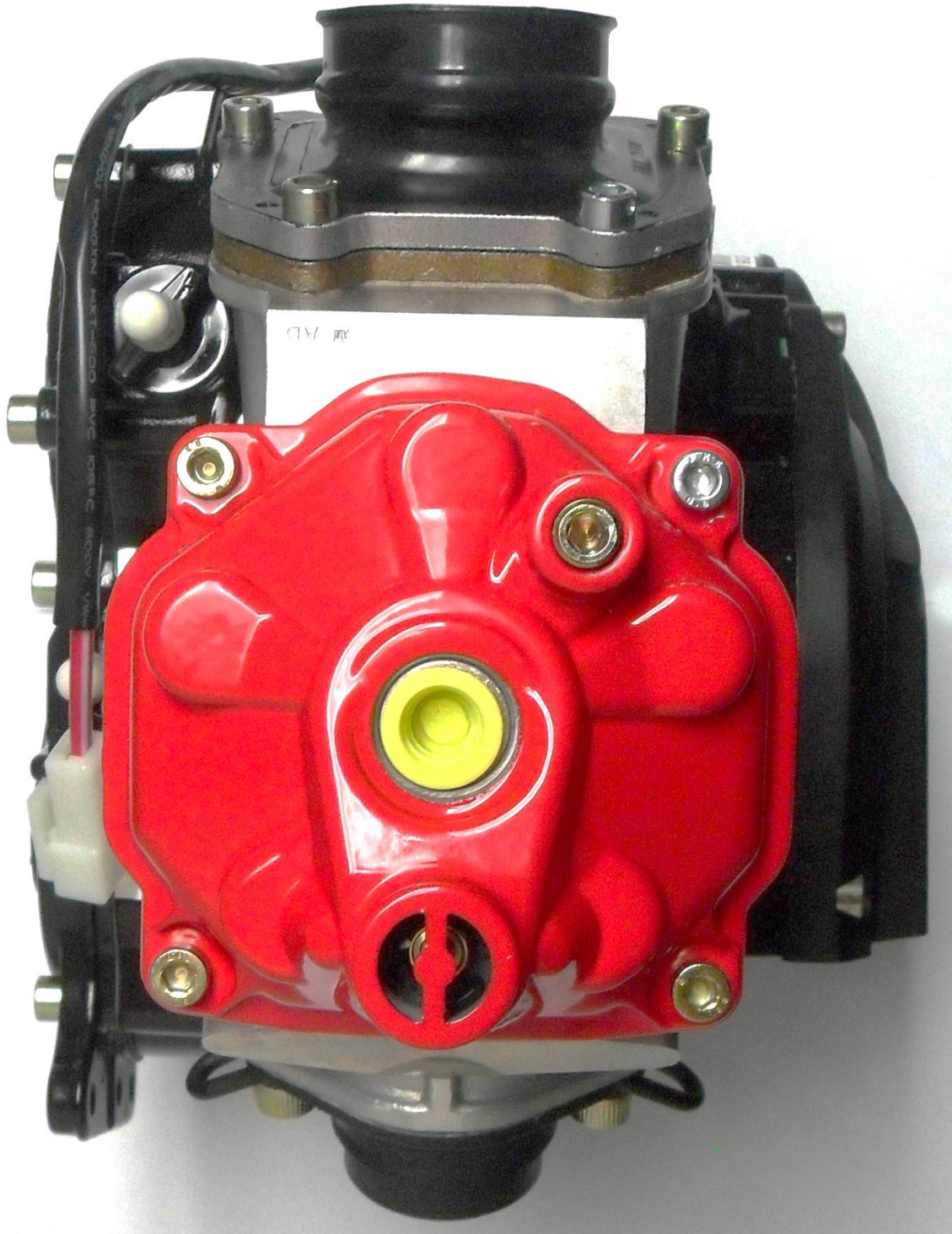
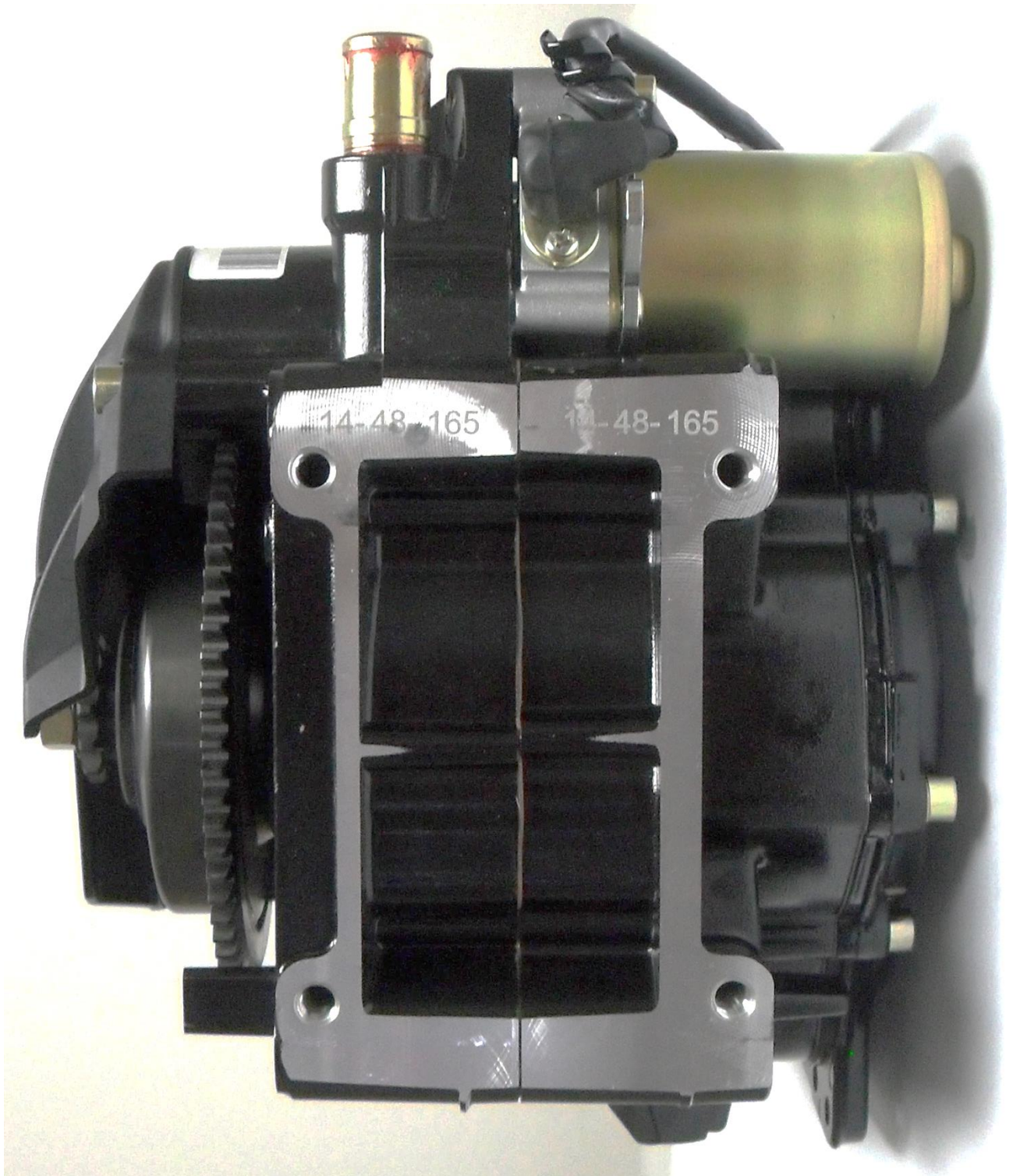


PHOTO OF THE COMPLETE ENGINE TAKEN FROM BELOW



TECHNICAL INFORMATION

A	CHARACTERISTICS	
<i>The number of decimal places must be 2 or comply with the relevant tolerance.</i>		<i>Tolerances & remarks</i>
Cylinder		
<i>Volume of cylinder</i>	<u>125cm³</u>	<u><125cm³</u>
<i>Original bore</i>	<u>54mm</u>	--
<i>Theoretical maximum bore</i>	<u>54.08mm</u>	--
<i>Original Stroke</i>	<u>54.5mm</u>	--
<i>Number of transfer ducts, cylinder/sump</i>	<u>5 / 3</u>	--
<i>Number of exhaust ports / ducts</i>	<u>1</u>	--
<i>Volume of the combustion chamber</i>	<u>8.9cm³</u>	minimum
<i>Volume of the combustion chamber in the cylinder head</i>	<u>11.6cm³</u>	minimum
Crankshaft		
<i>Number of bearings</i>	<u>2</u>	--
<i>Diameter of bearings</i>	<u>30MM</u>	±0.1mm
<i>Minimum weight of crankshaft</i>	<u>2200 g</u>	minimum
<i>All parts represented on page 17 photo</i>		
Balance shaft		
<i>Minimum weight of balance shaft</i>	<u>255g</u>	minimum
<i>Percentage of balancing</i>	<u>TBA %</u>	minimum
Connecting rod		
<i>Connecting rod centreline</i>	<u>100mm</u>	±0.2mm
<i>Diameter of big end</i>	<u>26mm</u>	±0.05mm
<i>Diameter of small end</i>	<u>19mm</u>	±0.05mm
<i>Min. weight of the connecting rod</i>	<u>100g</u>	minimum
Piston		
<i>Number of piston rings</i>	<u>1</u>	
<i>Min. weight of the bare piston</i>	<u>125g</u>	minimum
Gudgeon pin		
<i>Diameter</i>	<u>15mm</u>	±0.05mm
<i>Length</i>	<u>45.6mm</u>	±0.15mm
<i>Minimum weight</i>	<u>32.1g</u>	Minimum
Clutch		
<i>Minimum weight</i>	<u>1000g</u>	minimum
<i>Of all the parts represented on the page 21 technical drawing</i>		



B	OPENING ANGLES	
<i>Of the inlet (main transfer ports)</i>	<u>119.5°</u>	±2°
<i>Of the inlet (secondary transfer ports, for 5 transfer ducts engine)</i>	<u>120°</u>	±2°
<i>Of the exhaust</i>	<u>178°</u>	±2°
<i>Of the boosters</i>	<u>118°</u>	±2°

* Angular reading by inserting a 0.2 x 5mm gauge.

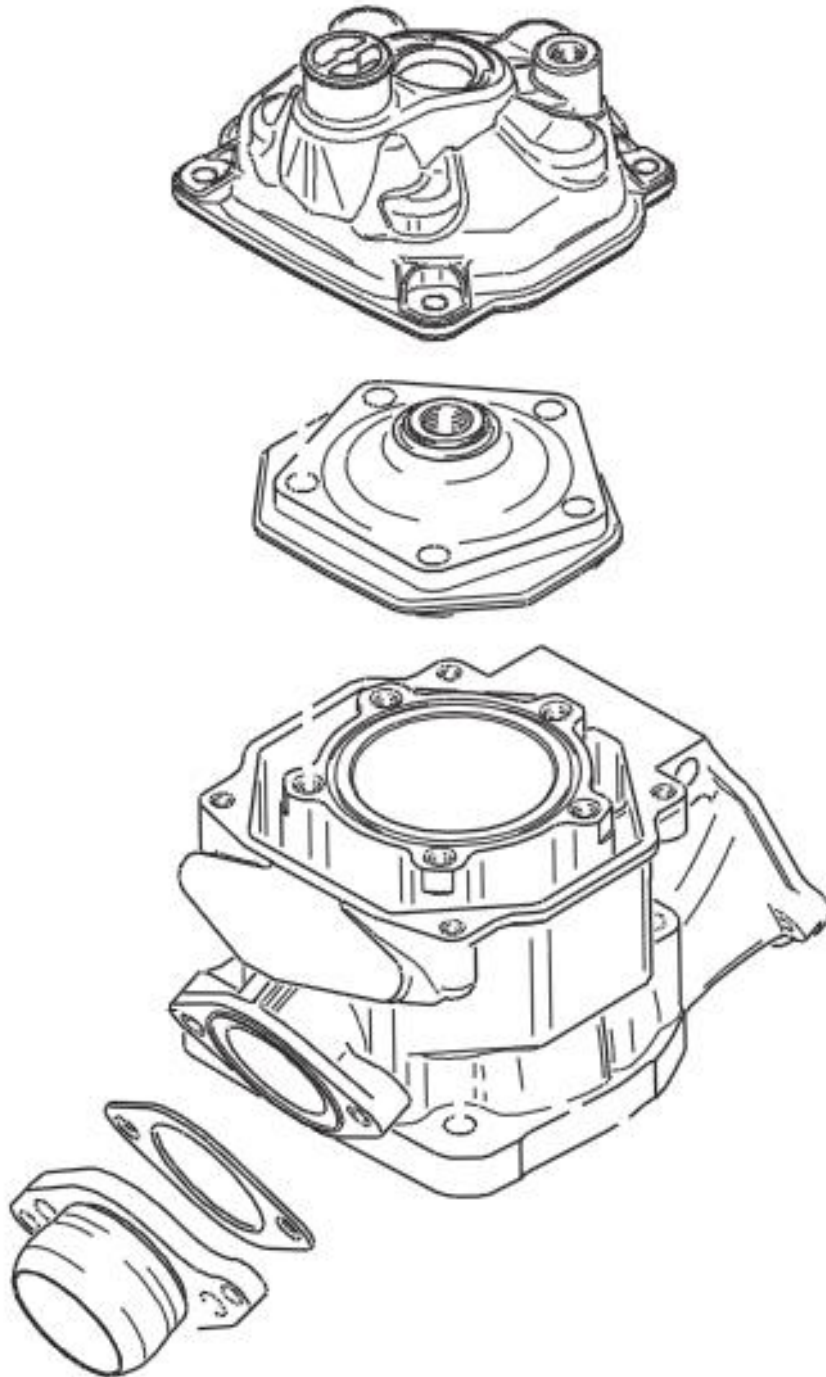
C	MATERIAL	
<i>Cylinder head</i>	<u>ALUMINIUM</u>	
<i>Cylinder</i>	<u>ALUMINIUM</u>	
<i>Cylinder wall</i>	<u>GILNISIL COATED</u>	
<i>Sump</i>	<u>ALUMINIUM</u>	
<i>Crankshaft</i>	<u>STEEL</u>	
<i>Connecting rod</i>	<u>STEEL-ALLOY</u>	
<i>Piston</i>	<u>ALUMINIUM</u>	

D

PHOTOS, DRAWINGS & GRAPHS

D.1 CYLINDER UNIT

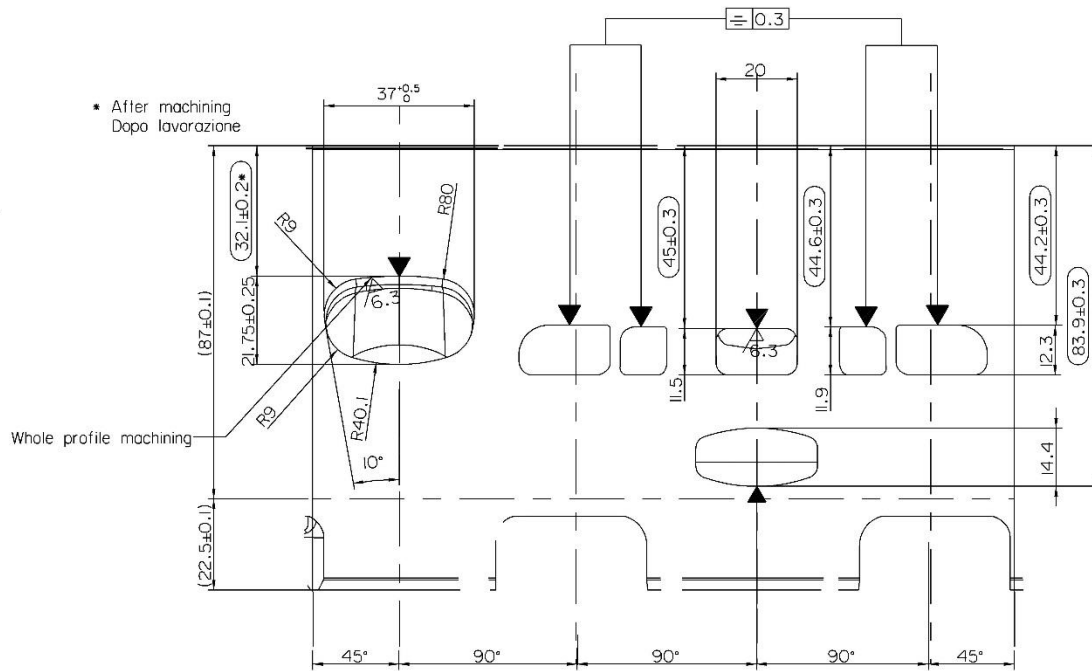
EXPLODED DRAWING OF THE CYLINDER, CYLINDER HEAD AND EXHAUST MANIFOLD UNIT



Without screws or gaskets.

The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit

DRAWING OF THE CYLINDER DEVELOPMENT



Indicate on the drawing :

- B1/B2 = minimum thickness of the inlet (transfers) ribs.
- A1/A2/A... = maximum inlet width measured at the chord.
- E1/E2 = minimum thickness of the exhaust rib (if existing).
- C1/C2/C... = maximum exhaust width measured at the chord.

DRAWING OF THE CYLINDER BASE
without dimensions

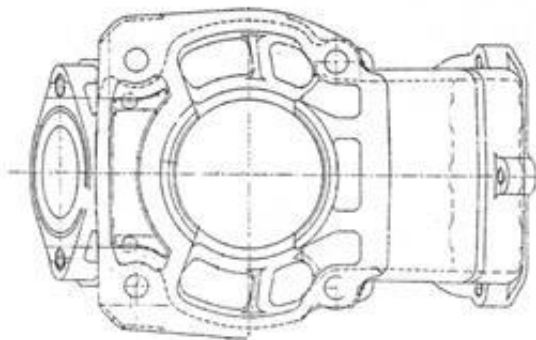
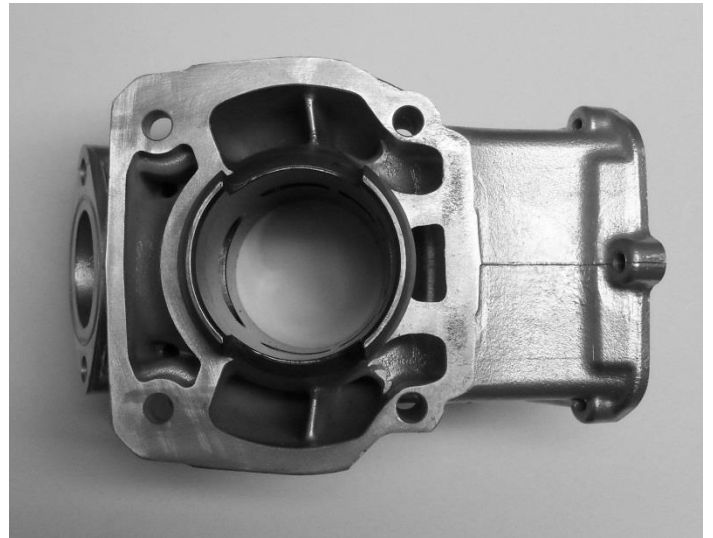


PHOTO OF THE CYLINDER BASE



DRAWING OF THE CYLINDER HEAD AND OF THE COMBUSTION CHAMBER without dimensions

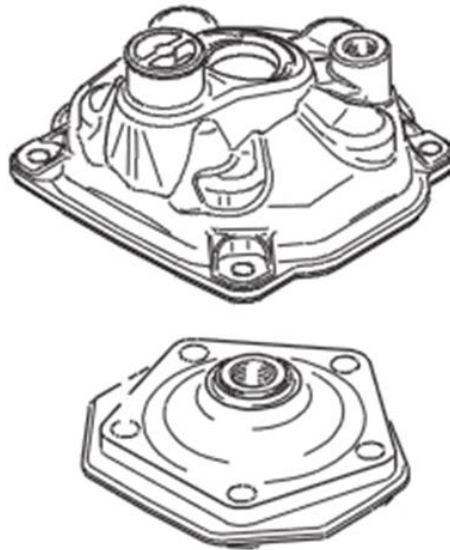


PHOTO OF THE CYLINDER HEAD

PHOTO OF THE COMBUSTION CHAMBER IN THE CYLINDER HEAD



VERTICAL CROSS SECTION VIEW OF CYLINDER WITH LINER, without dimensions

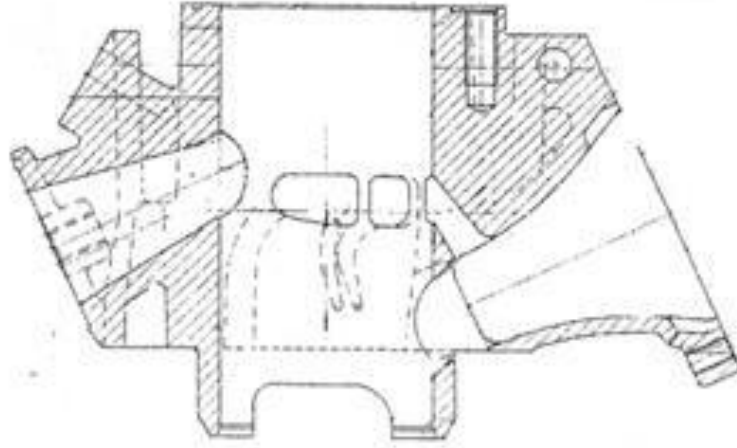
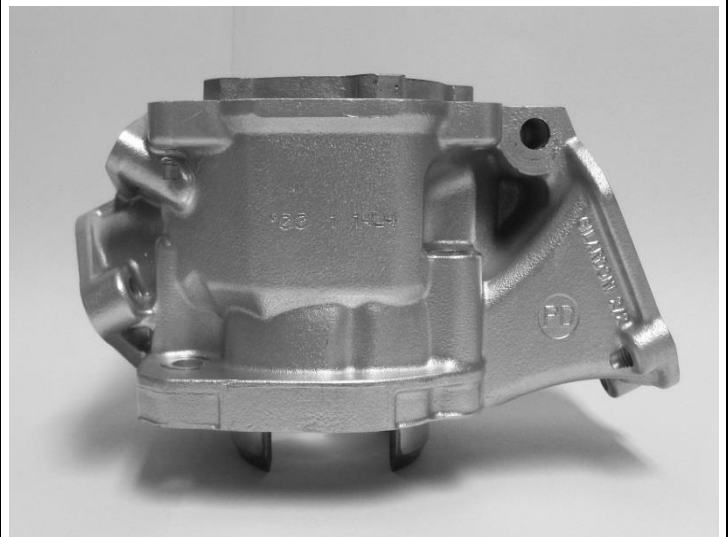


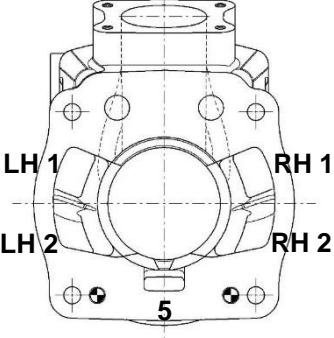
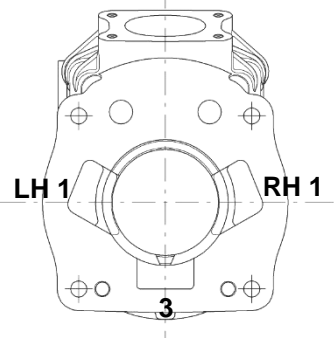
PHOTO OF THE CYLINDER FROM ABOVE



PHOTO OF THE CYLINDER FROM RH SIDE



... Section D.1

<i>TRANSFER DUCTS VOLUME</i>			
<i>Transfer position on 5-transfer cylinder</i>	<i>Transfer position on 3-transfer cylinder</i>	<i>TRANSFER No.</i>	<i>VOLUME in cm³</i>
		<i>Transfer No. 1 LH</i>	--.-- +/- 5 %
		<i>Transfer No. 2 LH</i>	--.-- +/- 5 %
		<i>Transfer No. 3 or 5</i>	--.-- +/- 8 %
		<i>Transfer No. 2 RH</i>	--.-- +/- 5 %
		<i>Transfer No. 1 RH</i>	--.-- +/- 5 %

<i>EXHAUST DUCT LENGTH</i>		
	ANGLE α in °	Minimum in mm
	--° +/-1°	-- mm
<i>The L min. dimension will be the result of the value taken on the reference engine minus 5 mm.</i>		

INTERNAL PROFILE OF THE EXHAUST DUCT

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



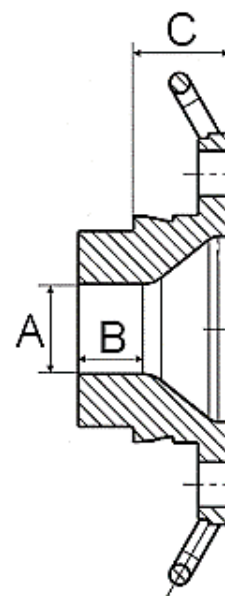
Exhaust Socket (restrictor)

Just exhaust sockets with gasket ring are legal to be used.
Diameter (A) must apply for a length (B) of at least 12 mm.

Maximum inner diameter (A) of exhaust sockets are:

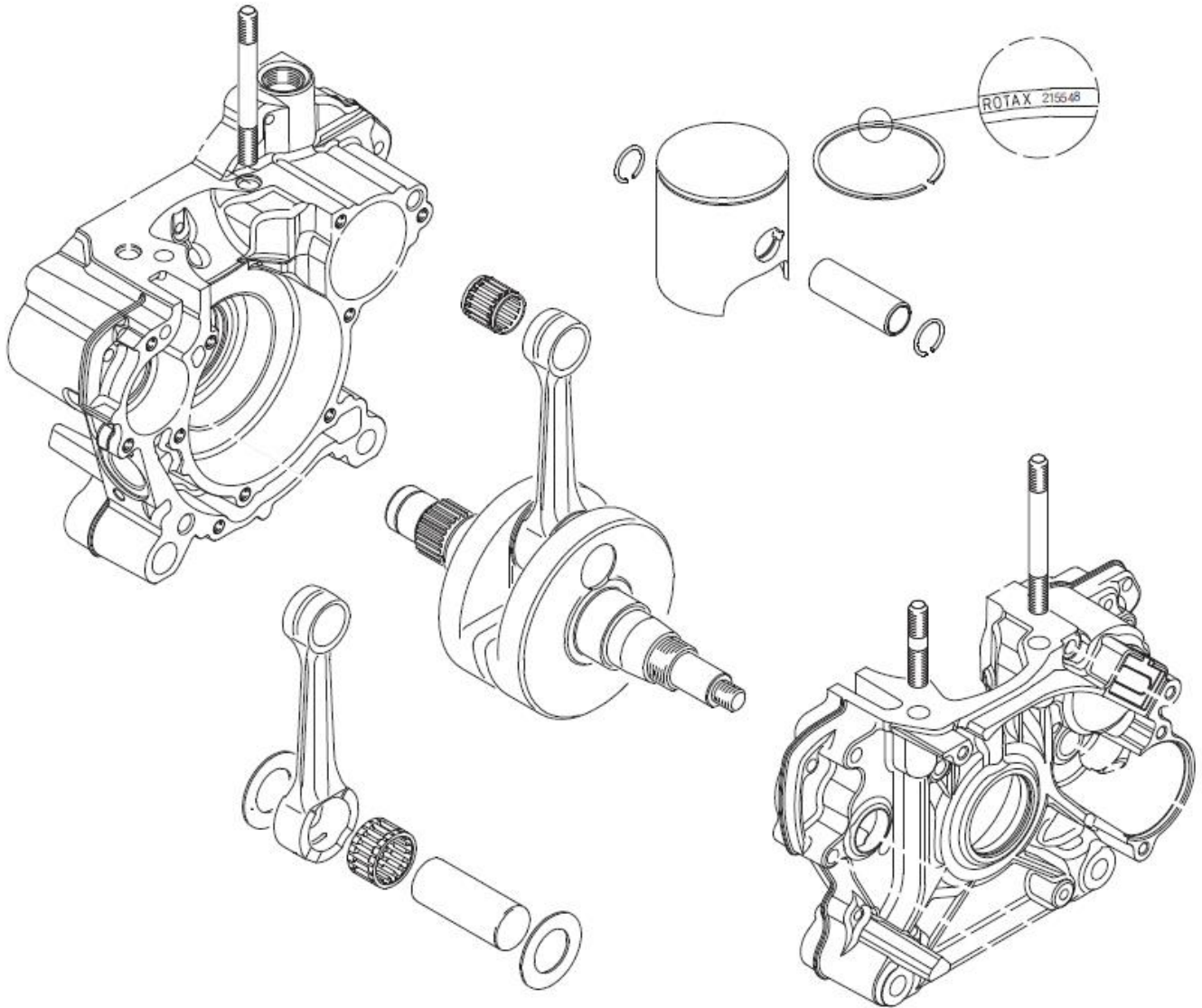
22,20 mm (Rotax part no. 273 196)

The measurement (C) must be at least 18,5 mm.



D.2 CONROD, CRANKCASE, CRANKSHAFT & PISTON

EXPLODED DRAWING OF THE PISTON, CRANKSHAFT, CONNECTING ROD AND CRANKCASES UNIT (exploded crankshaft)



Without screws or gaskets.

The aim of the exploded drawings is to identify the principles, the functioning, and the whole mechanical unit

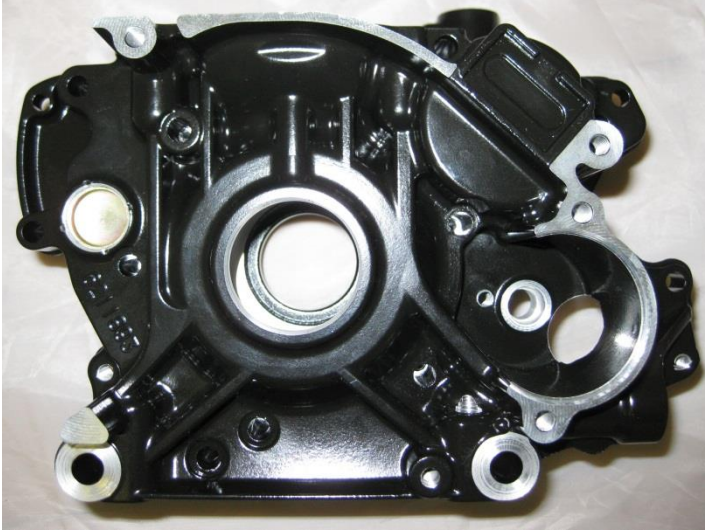
...Section D.2

<i>PHOTO OF THE CRANKSHAFT & CONROD</i>	<i>PHOTO OF THE CONROD</i>
	
<i>DRAWING OF THE PISTON</i>	
	

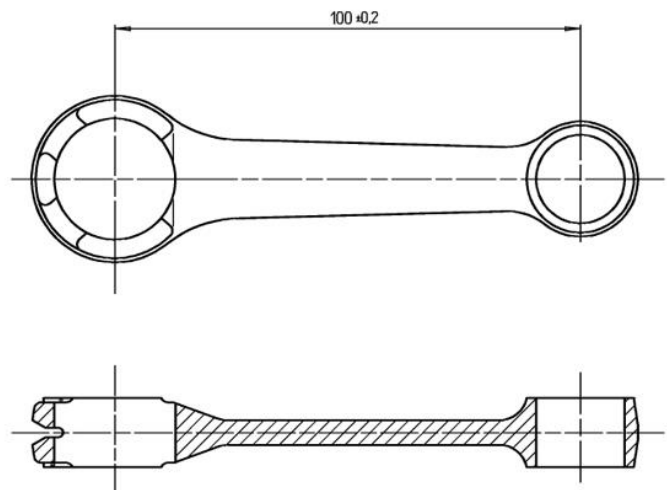
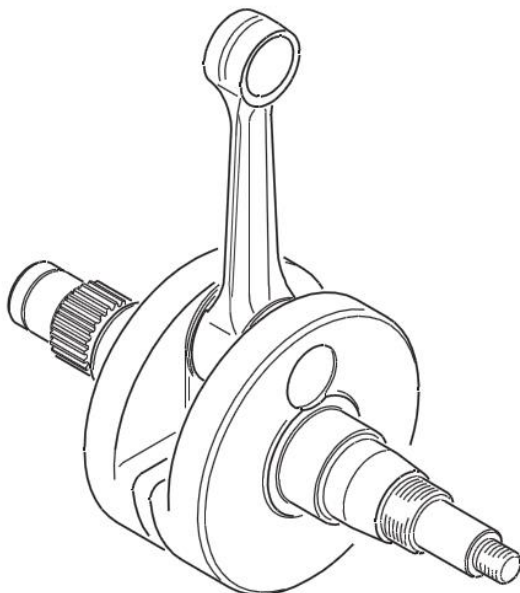
...Section D.2

PHOTO OF THE INSIDE OF THE RH CRANKCASE

PHOTO OF THE INSIDE OF THE LH CRANKCASE

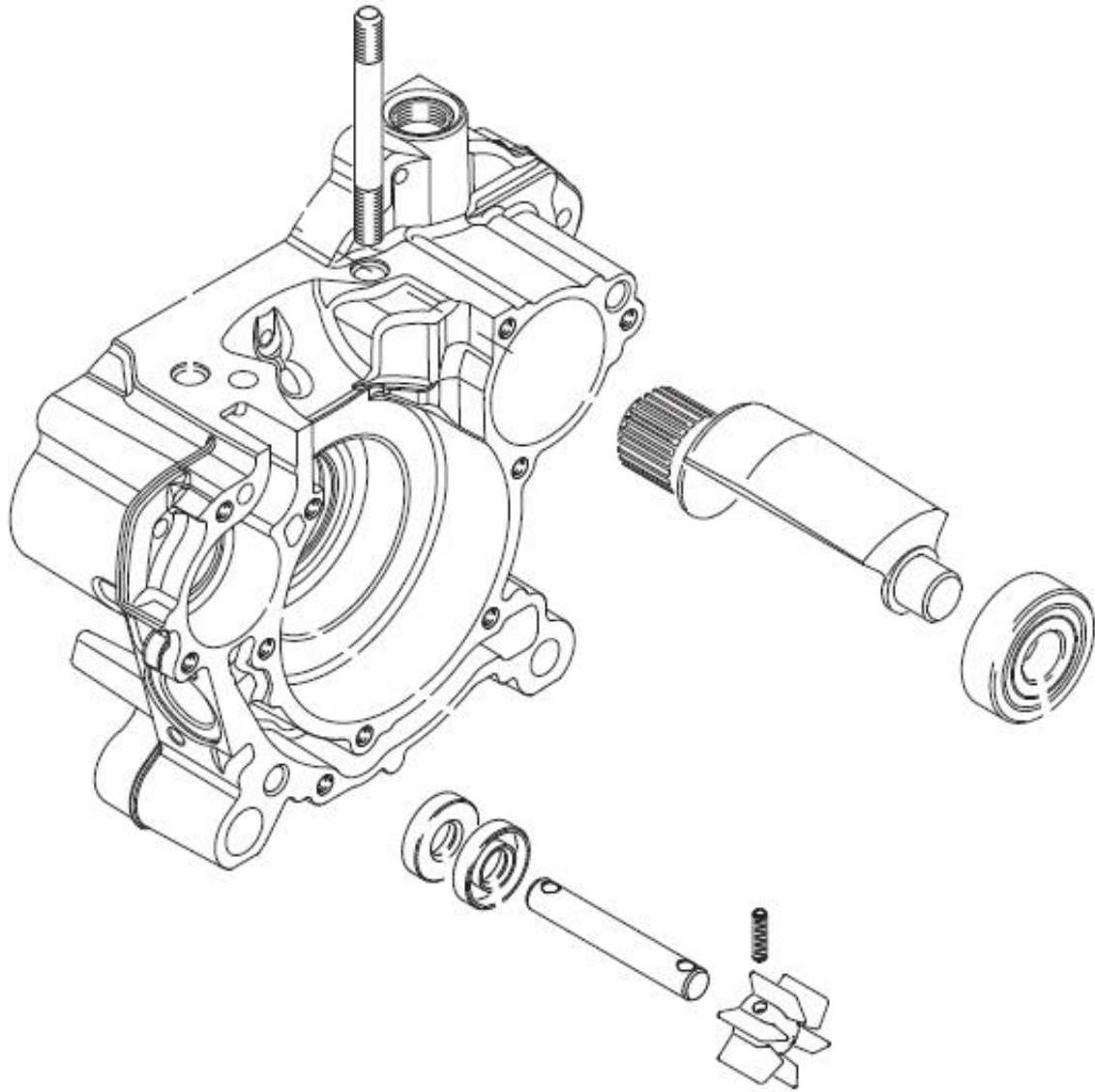


DRAWING OF THE CRANKSHAFT - CON ROD UNIT (DIMENSIONS incl. tolerances, big & small ends thickness, crank mass thickness & diameter)



D.3 BALANCE SHAFT & WATER PUMP

EXPLODED DRAWING OF THE BALANCE SHAFT, WATER PUMP INCLUDING HOUSING



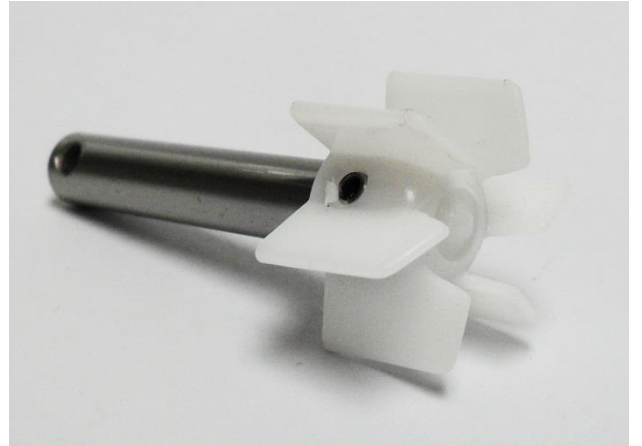
Without screws or gaskets.

The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit

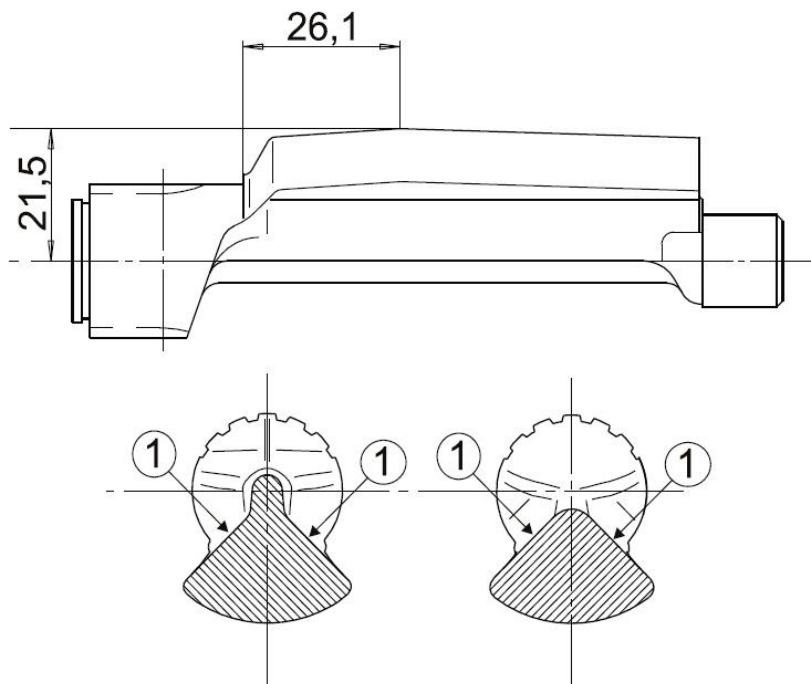
...Section D.3

PHOTO OF THE BALANCE SHAFT

PHOTO OF THE WATER PUMP IMPELLER

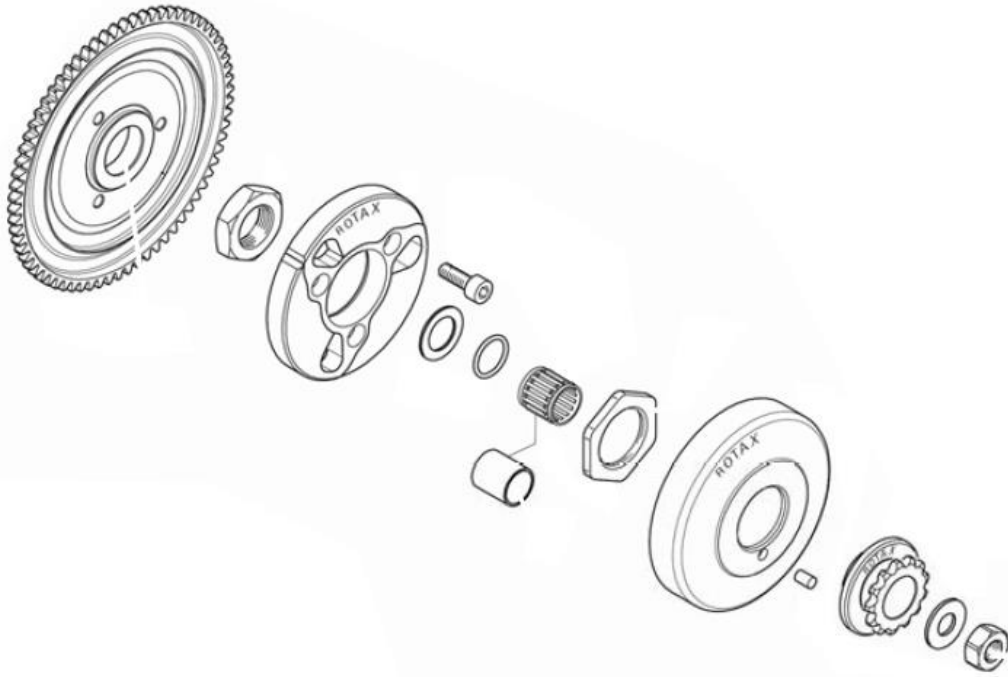


DRAWING OF THE BALANCE SHAFT
(DIMENSIONS incl. tolerances)

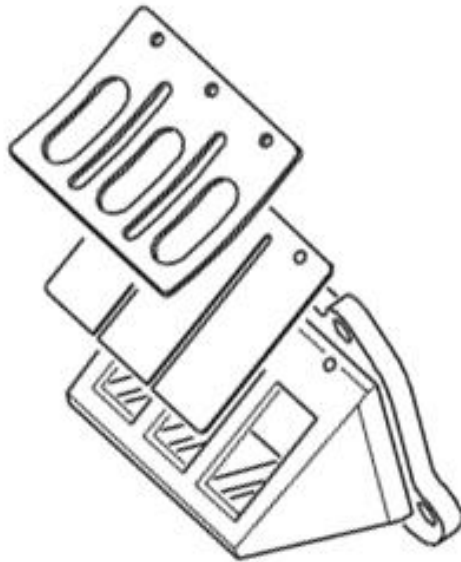


D.4 REED VALVE & CLUTCH

TECHNICAL DRAWING (exploded view) OF THE CLUTCH ASSEMBLY



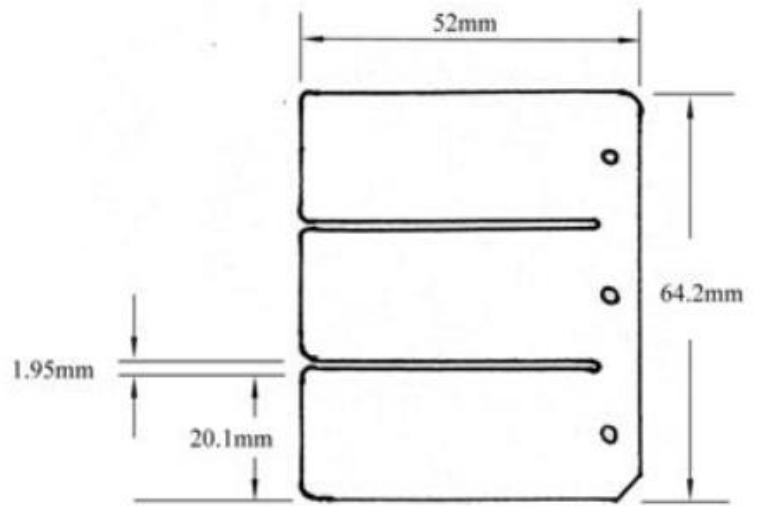
TECHNICAL DRAWING (exploded view) OF THE REED VALVE



The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit

... Section D.4

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



*DRAWING OF THE REED VALVE COVER
(only basic engine)*



D.5 EXHAUST SYSTEM

PHOTO OF THE EXHAUST MANIFOLD



**Maximum inner diameter of exhaust socket is:-
- 22.2MM (125 Mini Max)**

PHOTO OF THE EXHAUST



Exhaust for 125 Mini Max

*TECHNICAL DESCRIPTIONS
OF THE EXHAUST (Art. 8.9.3 of HR)*

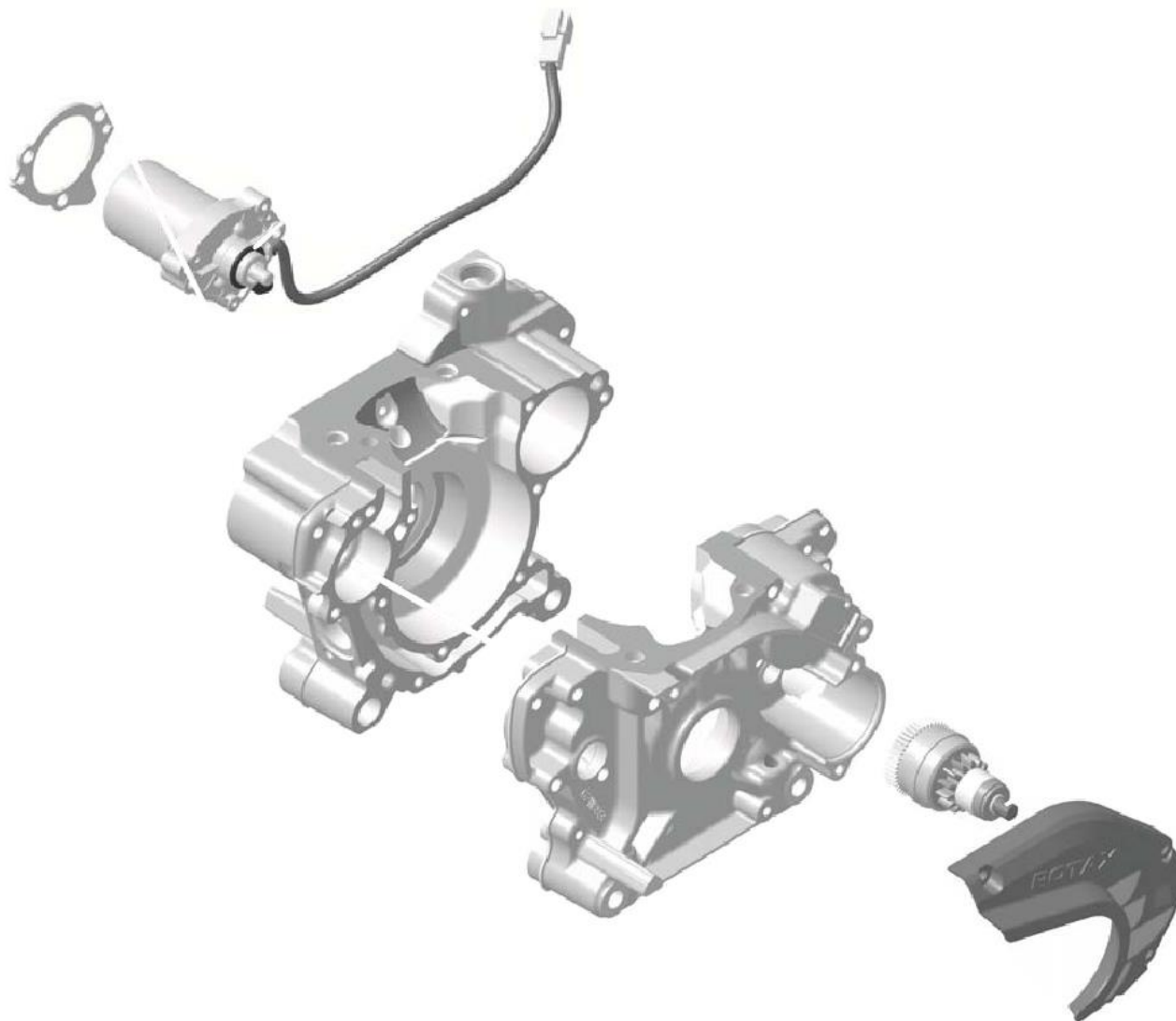
Weight in g

- 125 Mini MAX EVO: 2000gr

Minimum

D.6 STARTER

EXPLODED DRAWING OF THE STARTING UNIT AND OF ITS HOUSING



Without screws or gaskets.

The aim of the exploded drawings is to identify the principles, the functioning and the whole mechanical unit

D.8 ELECTRICAL SYSTEM

IGNITION SYSTEM

<i>Ignition homologation No.</i>	Dellorto Ignition System
<i>Ignition homologation No.</i>	Ignition Coil is labelled with two stickers " BRP 666820 " & " NIG0105 "
<i>Ignition homologation No.</i>	Electronic box is labelled with sticker " 666818, 125 MAX evo "

Code

F125 --/M/18

Color yellow

Tr/min	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000
° adv														