

2025



CADET TILLOTSON 105cc HOMOLOGATION



ROK CUP SOUTH AFRICA 2025

Approved by Motorsport South Africa on 9/01/2025

UPDATES TIMELINE

Updated	Date of Approval	Page

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ROK CUP SOUTH AFRICA



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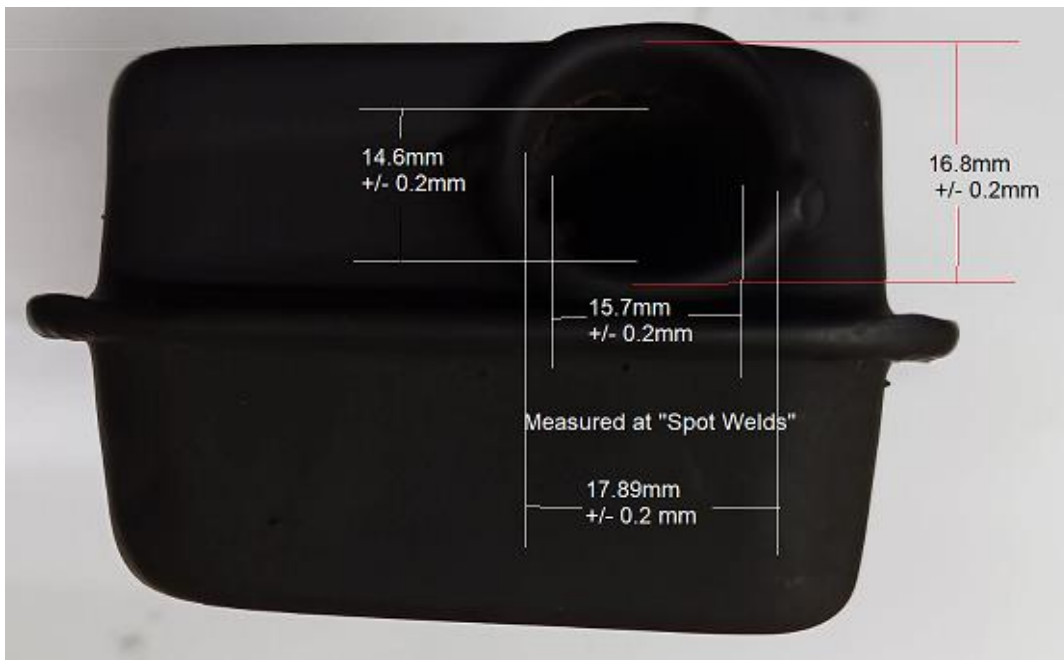
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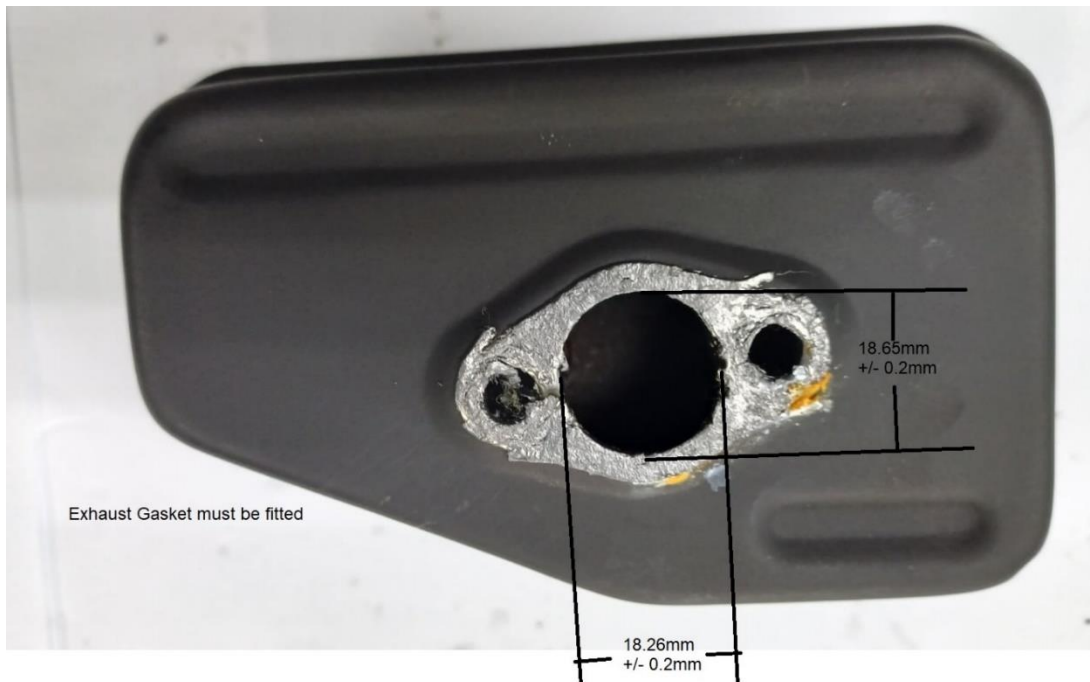
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ROK CUP SOUTH AFRICA

Exhaust Outlet



Exhaust Inlet



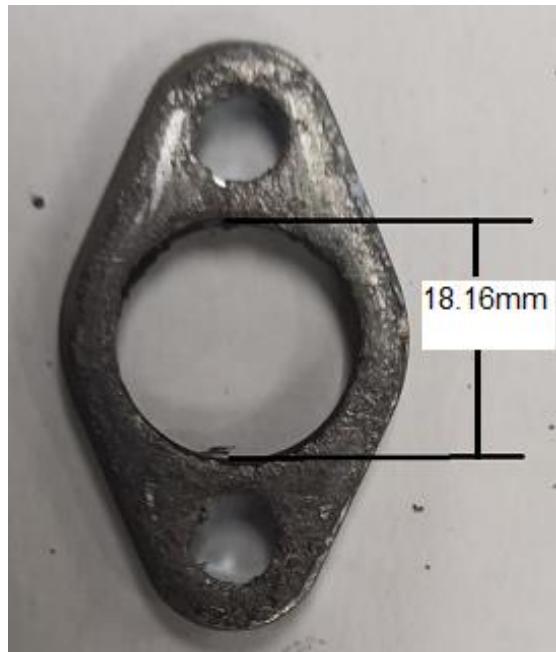
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Exhaust spacer & heat shield



Exhaust Spacer (**NOTE:** Gasket must be fitted to both sides of spacer on assembly)



Heat Sheild

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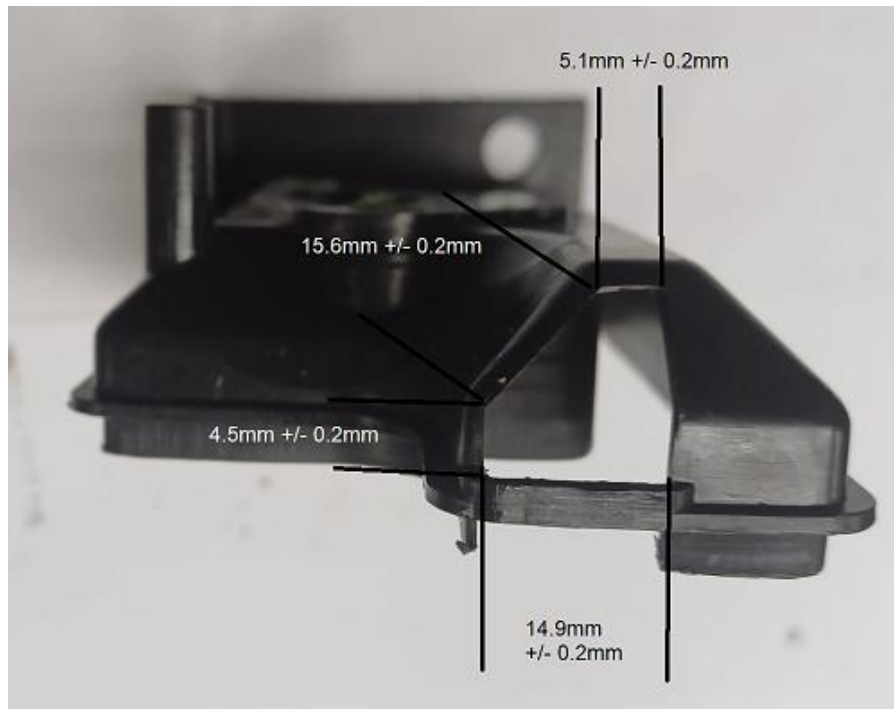
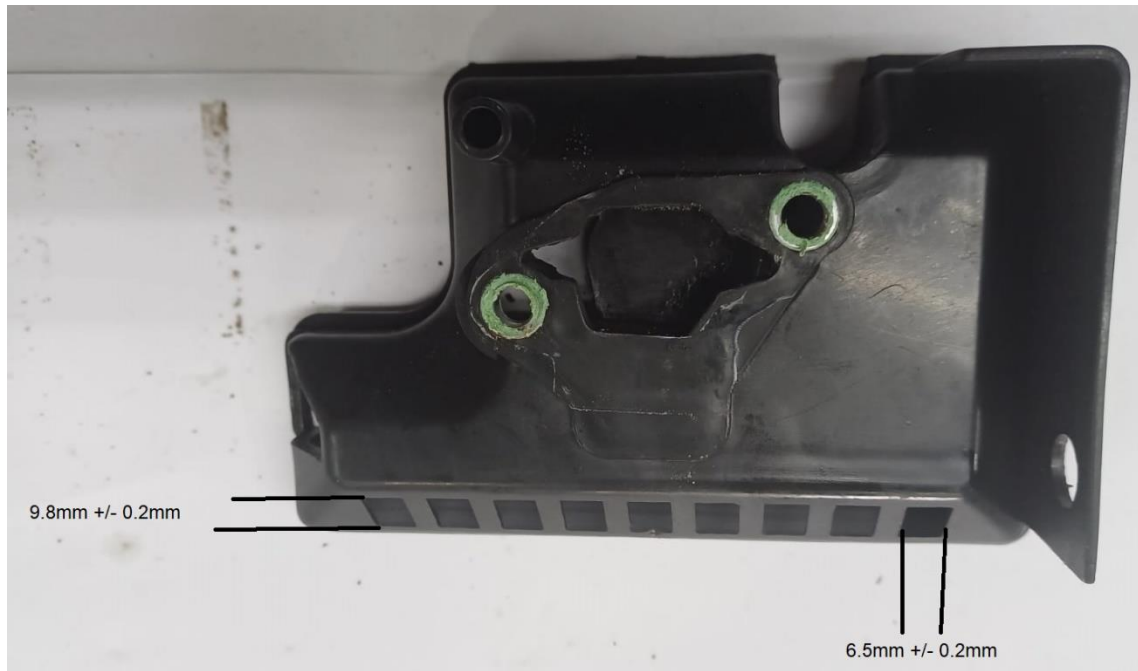
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ROK CUP SOUTH AFRICA

Air Box and Filter



Airbox back cover

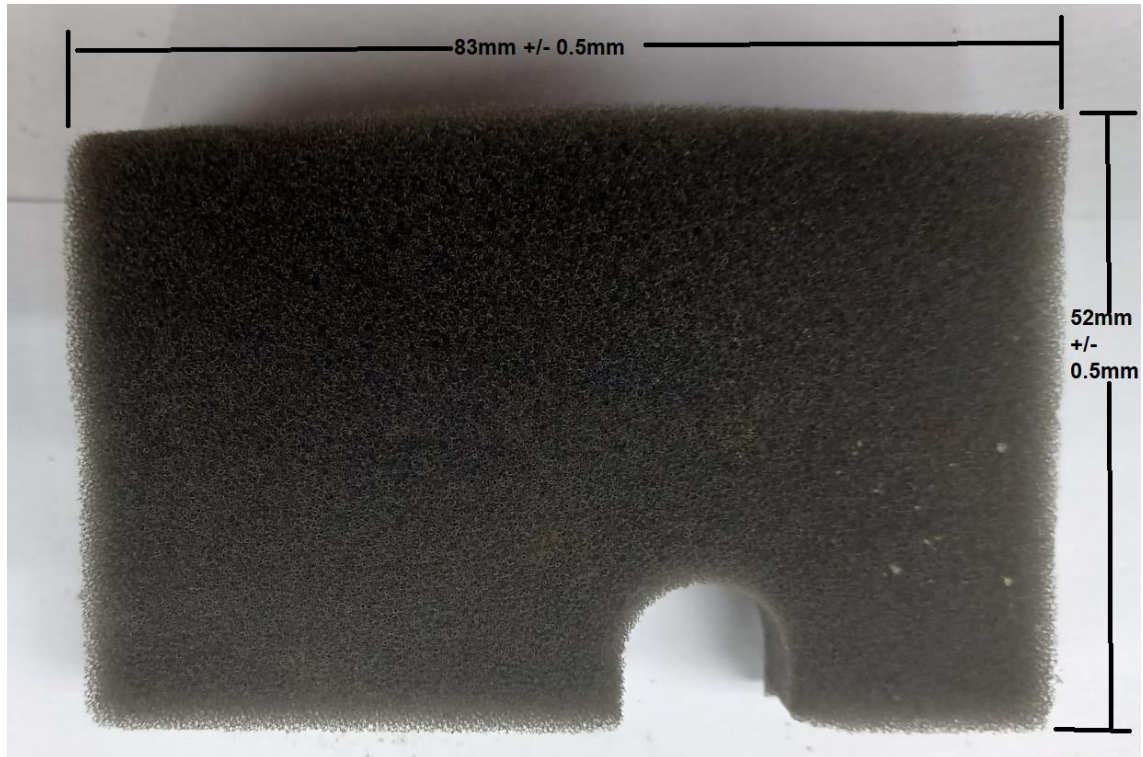
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Air Filter



Airbox Front Cover (Part No: 152F-3)



Airbox Gasket to Carburetor must be fitted.

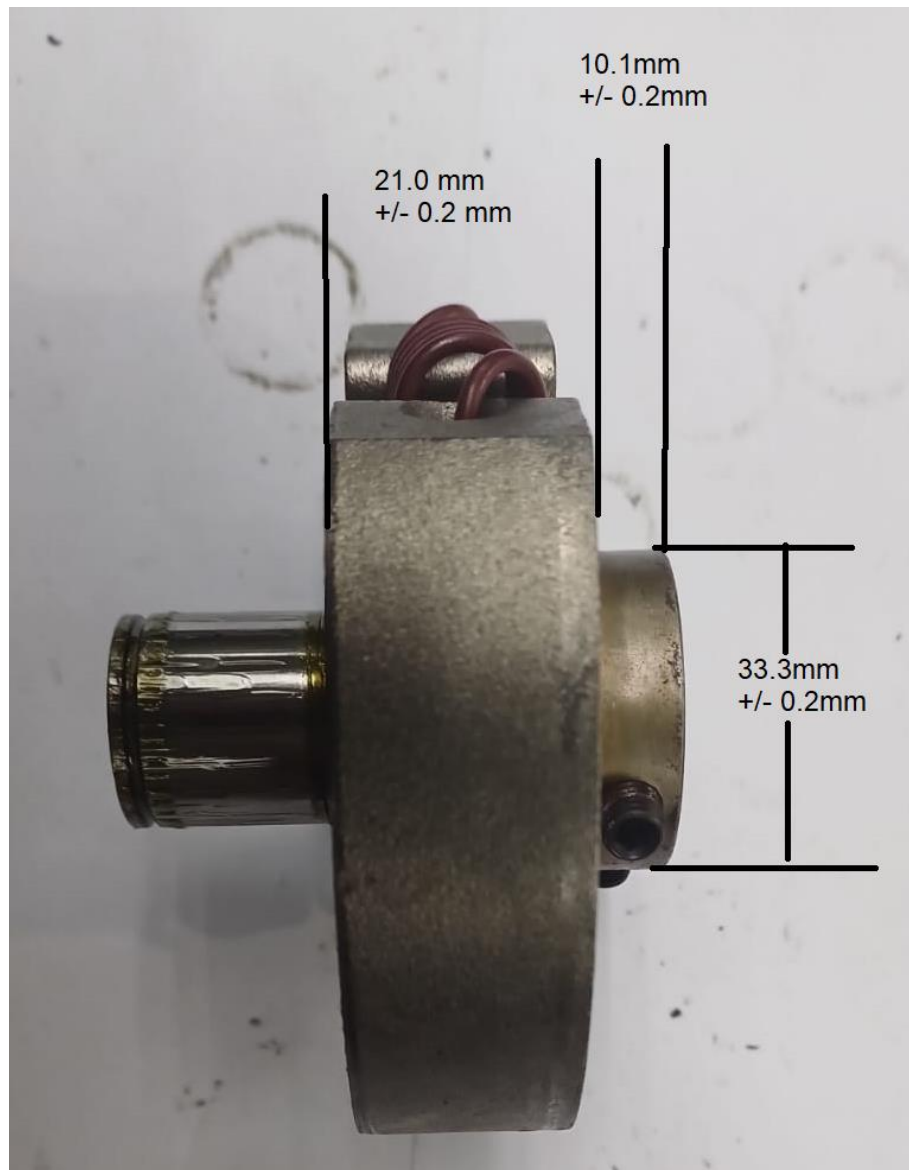
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Clutch



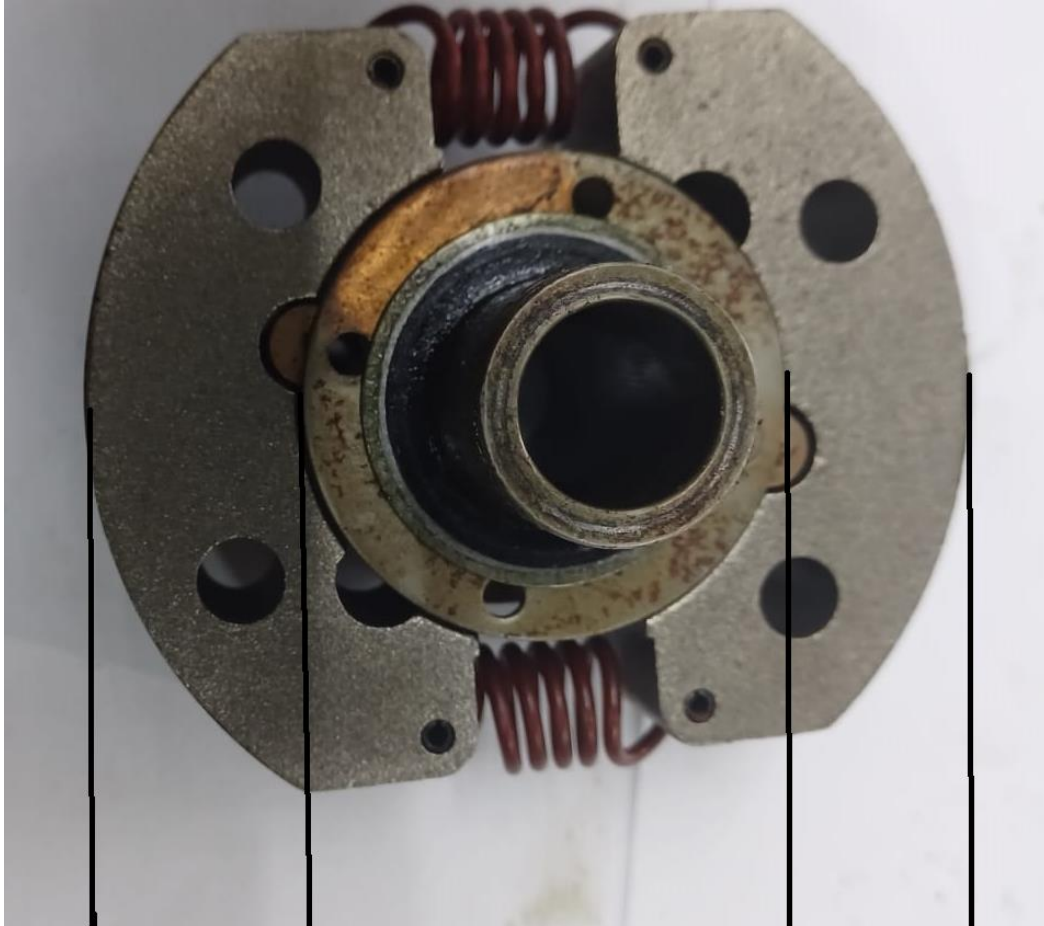
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Clutch Cont.



46.0 mm
+/- 0.2 mm

84.95 mm
+/- 0.2 mm

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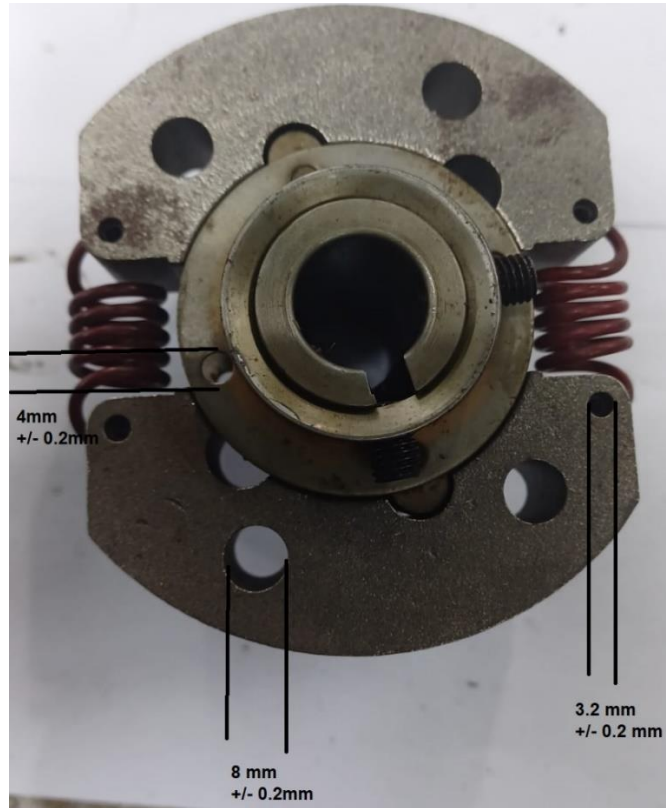
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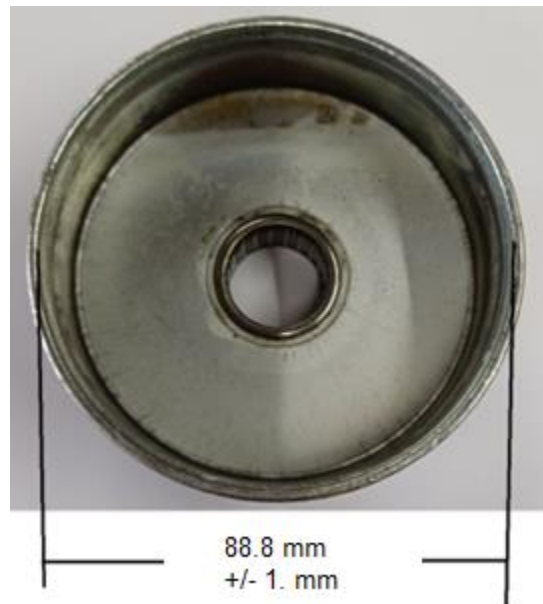
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ROK CUP SOUTH AFRICA

Clutch Cont.



Clutch Drum



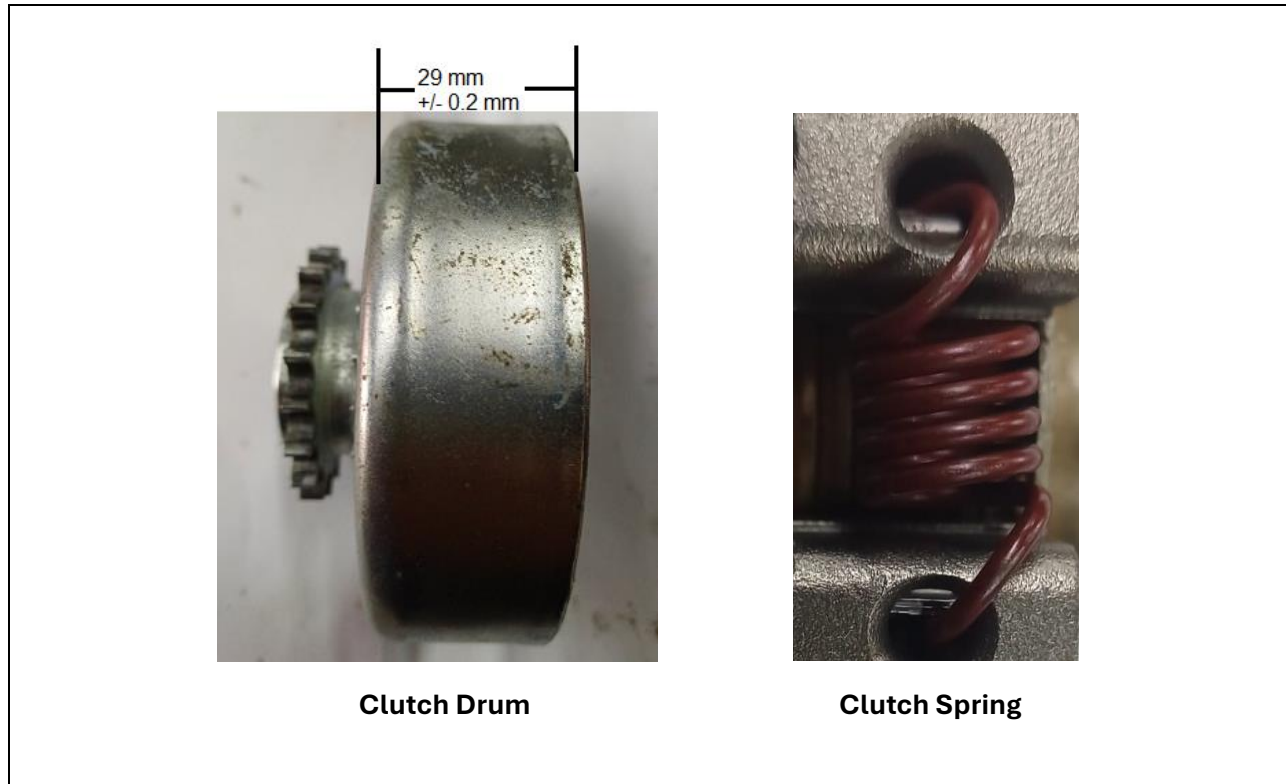
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Description	Measurement
Weight of Clutch incl. key, spacer washer & Circlip	633 gram +/- 10 gram
Weight of Clutch drum incl. needle roller bearing	335 gram +/- 10 gram
Pinion Size	18 teeth
Clutch Spring wire thickness	2.0 mm +/- 0.15 mm
Clutch Spring number of coils	4 & 3/4

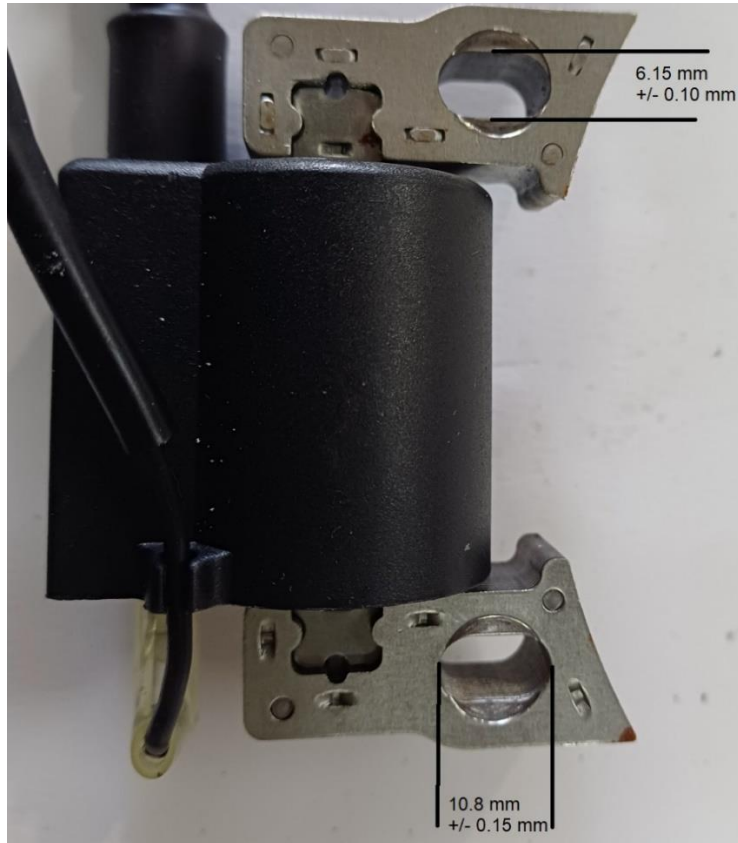
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Ignition Coil



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Flywheel and attachments



Cooling fan with 22 blades

Weight = 70 (+/- 5) grams



Pull Start Pulley

Weight = 99 (+/- 5) grams



Weight = 1475 (+/- 10) grams

Keyway Slot width = 3 mm (+/- 0.1 mm)

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Coil Pick up on flywheel



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Rockers/Tappets



Push Rod



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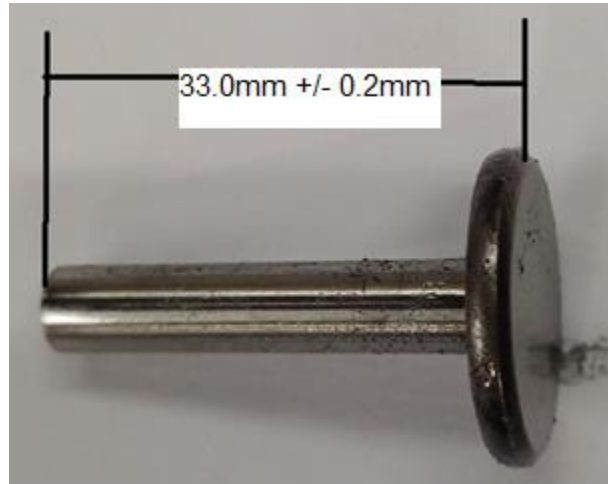
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ROK CUP SOUTH AFRICA

Camshaft follower



Camshaft



Camshaft Gear – 44 teeth

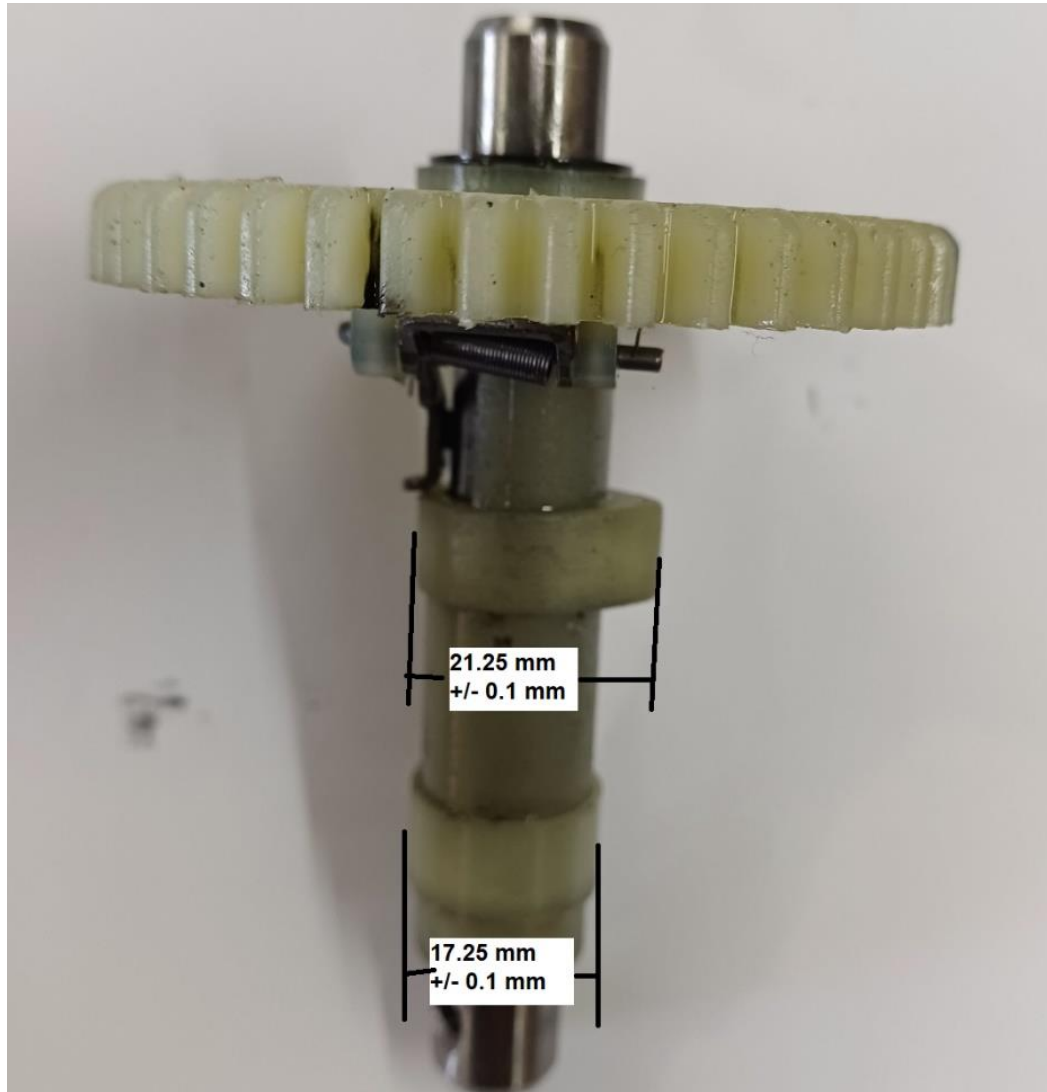
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Camshaft Cont.



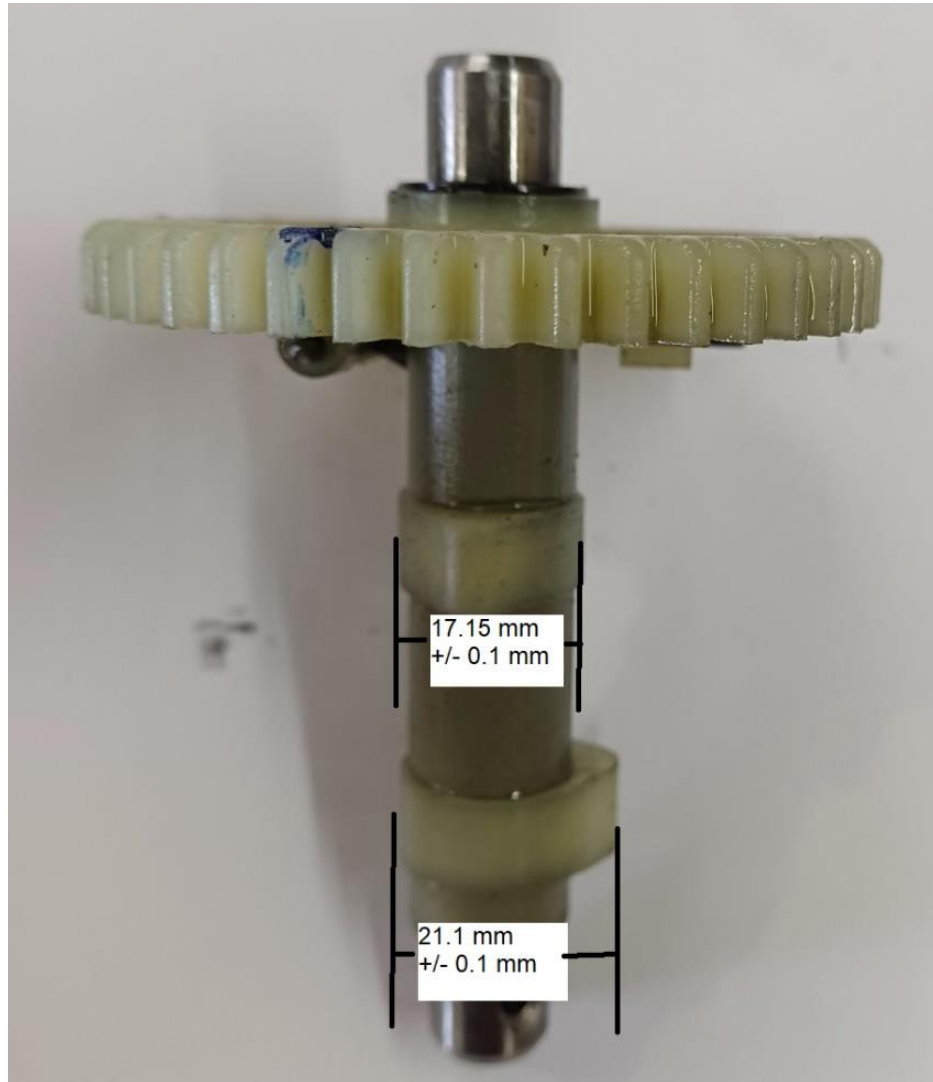
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Camshaft Governor component



Governor Lever mechanism on Camshaft		
Description	Measurement	Tolerance
Spring Wire Diameter	0,29 mm	0,05 mm
Pin Diameter	0,80 mm	0,05 mm
A	2,55 mm	0,05 mm
B	27,5 mm	0,05 mm

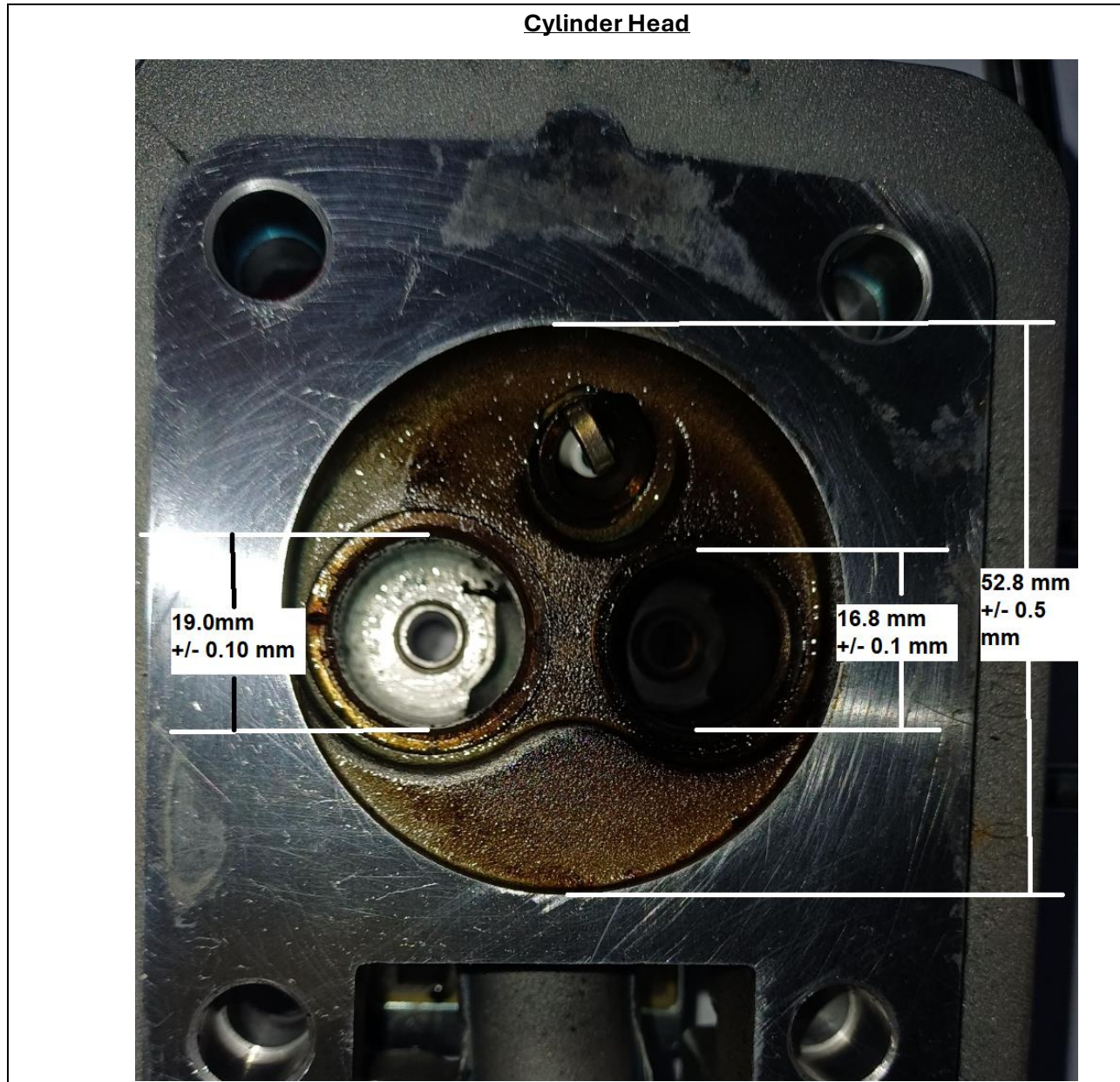
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Cylinder Head



Cylinder Head & Piston volume - measured with 50/50 petrol & 2 Stroke oil mix		
Description	Measurement	Tolerance
Cylinder Head volume	12,7 cc	0,3cc +/-
Block Volume with Piston at TDC	2,0 cc	0,3cc +/-

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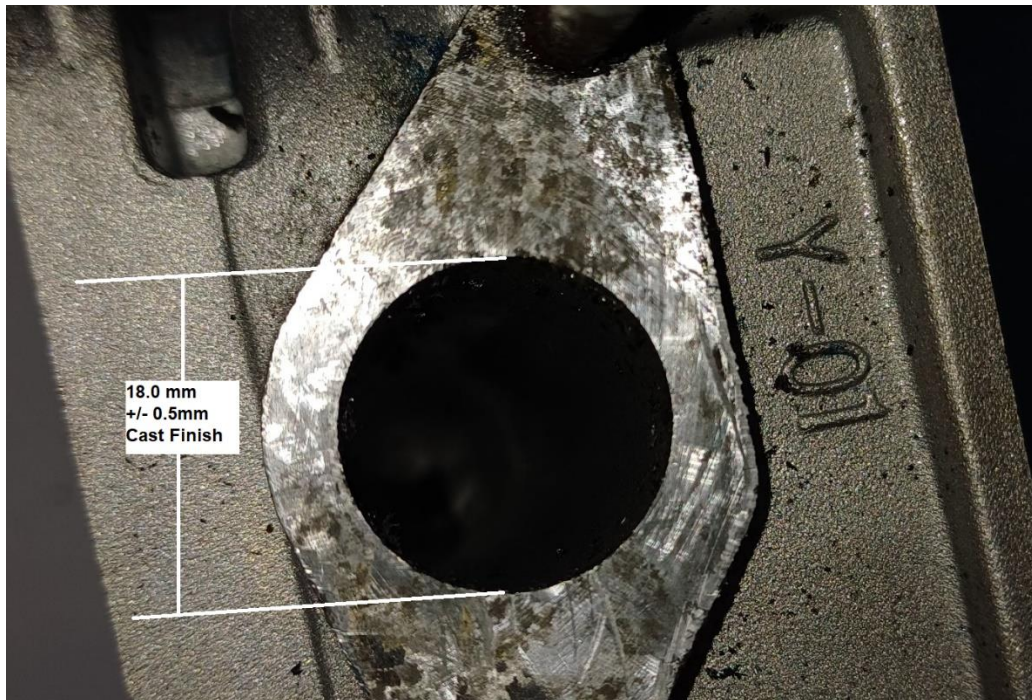
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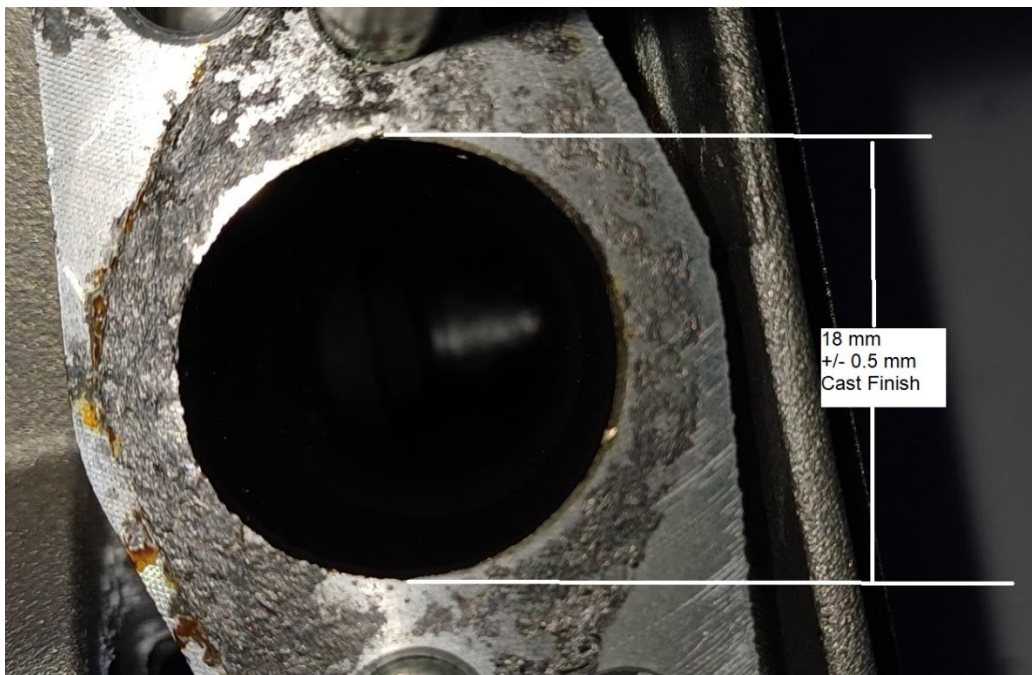
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ROK CUP SOUTH AFRICA

Inlet Port



Exhaust Port



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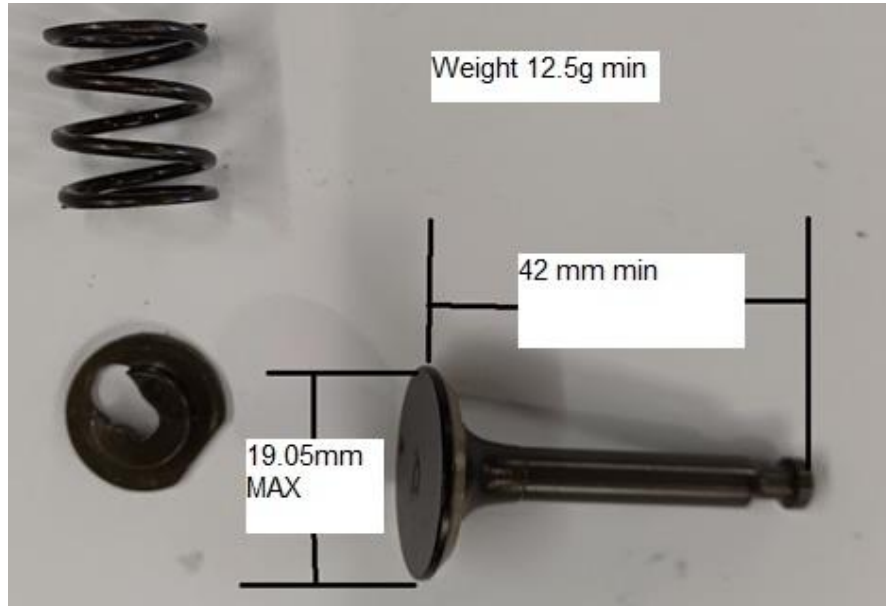
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Inlet Valve



Exhaust Valve



Description	Measurement	Tolerance
Valve spring number of coils	4,5	NA
Valve Spring Wire Diameter	1,6 mm	0,05 mm +/-

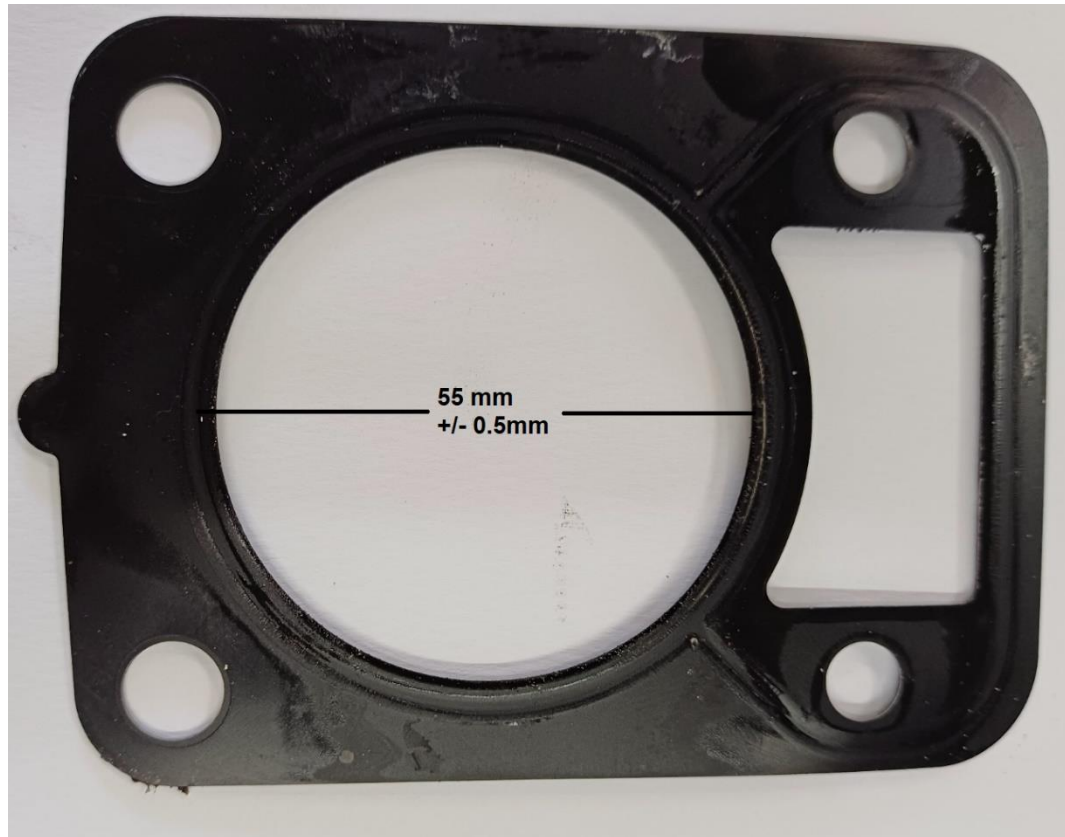
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Cylinder head gasket



Thickness of Head Gasket = 1.26 mm (+/- 0.3 mm)

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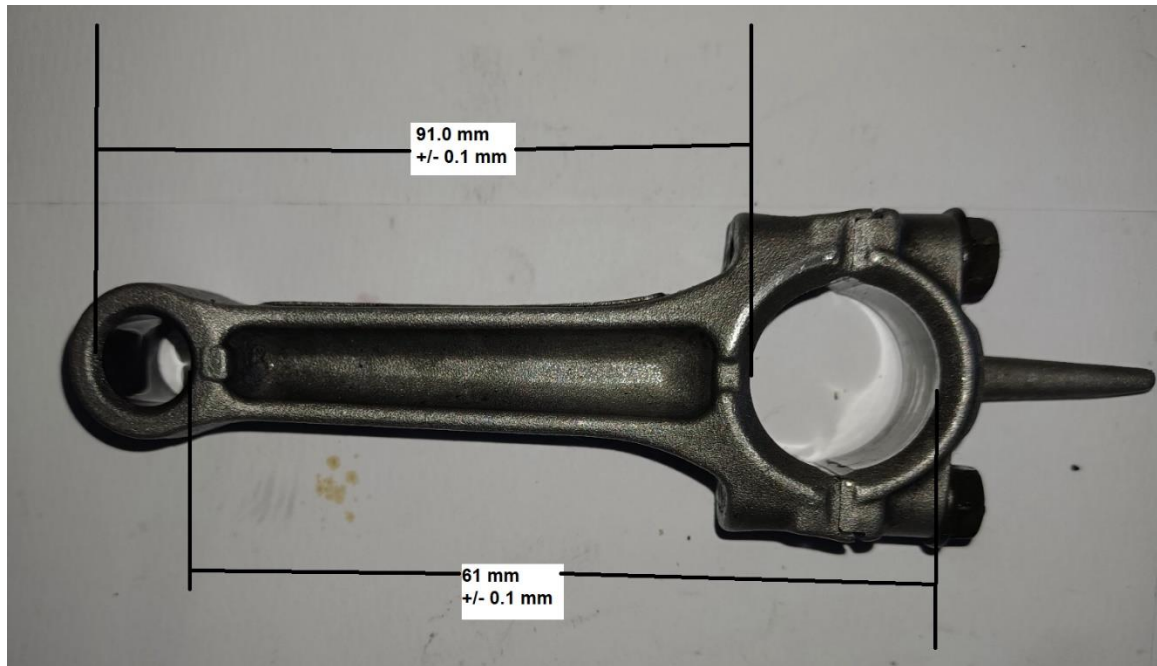
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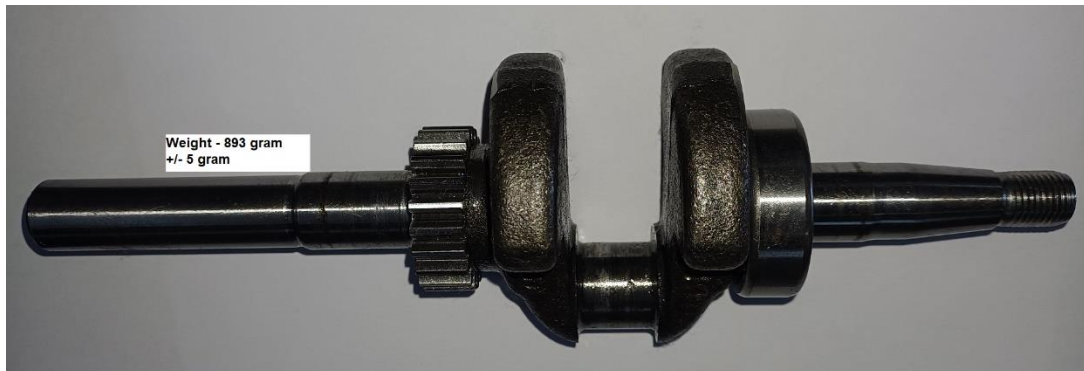
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Conrod



Crankshaft



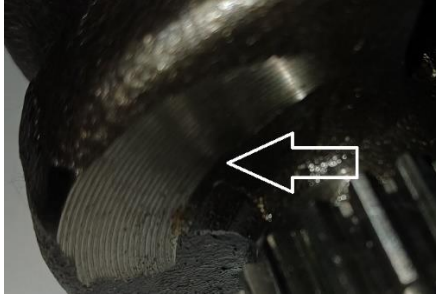
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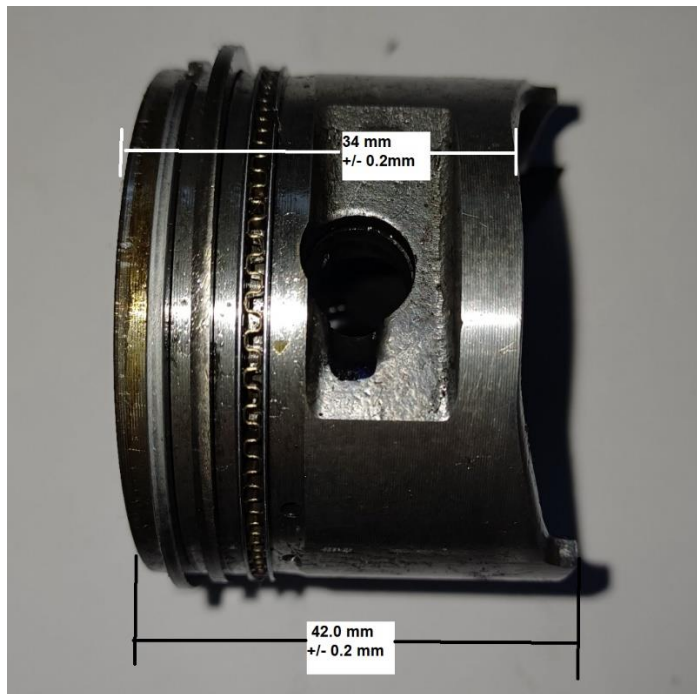
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ROK CUP SOUTH AFRICA



NOTE: Machining for balancing on both sides

Piston



Piston Small End Pin

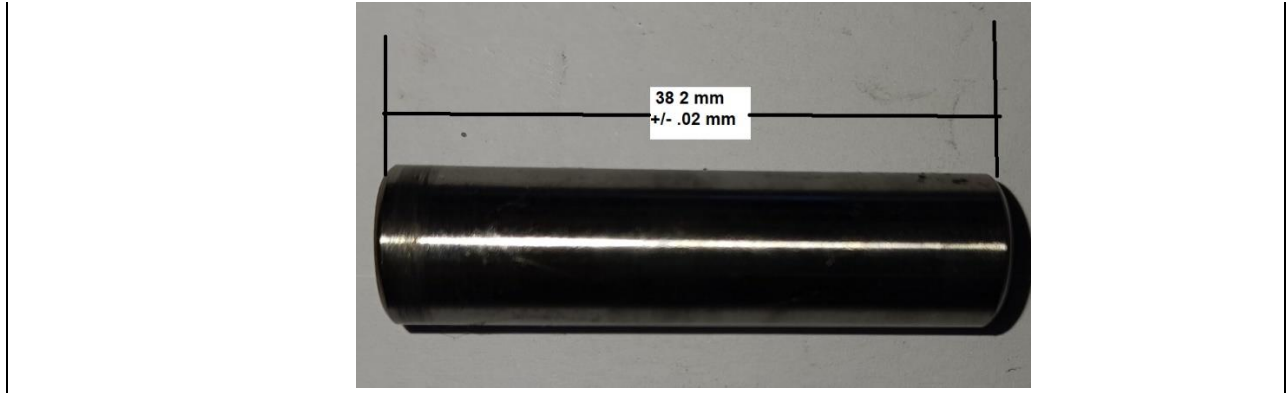
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Piston, Conrod & Crankshaft Weights		
Description	Measurement	Tolerance
Piston, rings, Small End pin, Conrod, big end bolts incl	170 gram	5 gram +/-
Piston, Rings and Circlips	99 gram	3 gram +/-
Piston Small End Pin	15 gram	3 gram +/-
Conrod with Big End cap bolts	57 gram	3 gram +/-
Crankshaft with 1 (one) Main bearing & Flywheel Key	893 gram	9 gram +/-

Spark Plug



Model: 255

or



Model: BMR7A

Brand: Autolite or NGK

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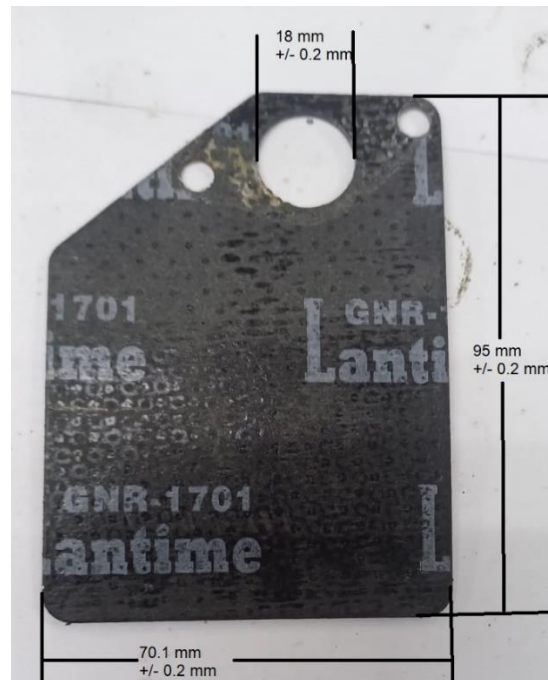
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Inlet Port Gaskets & Spacer



NOTE: Gaskets and spacer plate to be fitted at all times

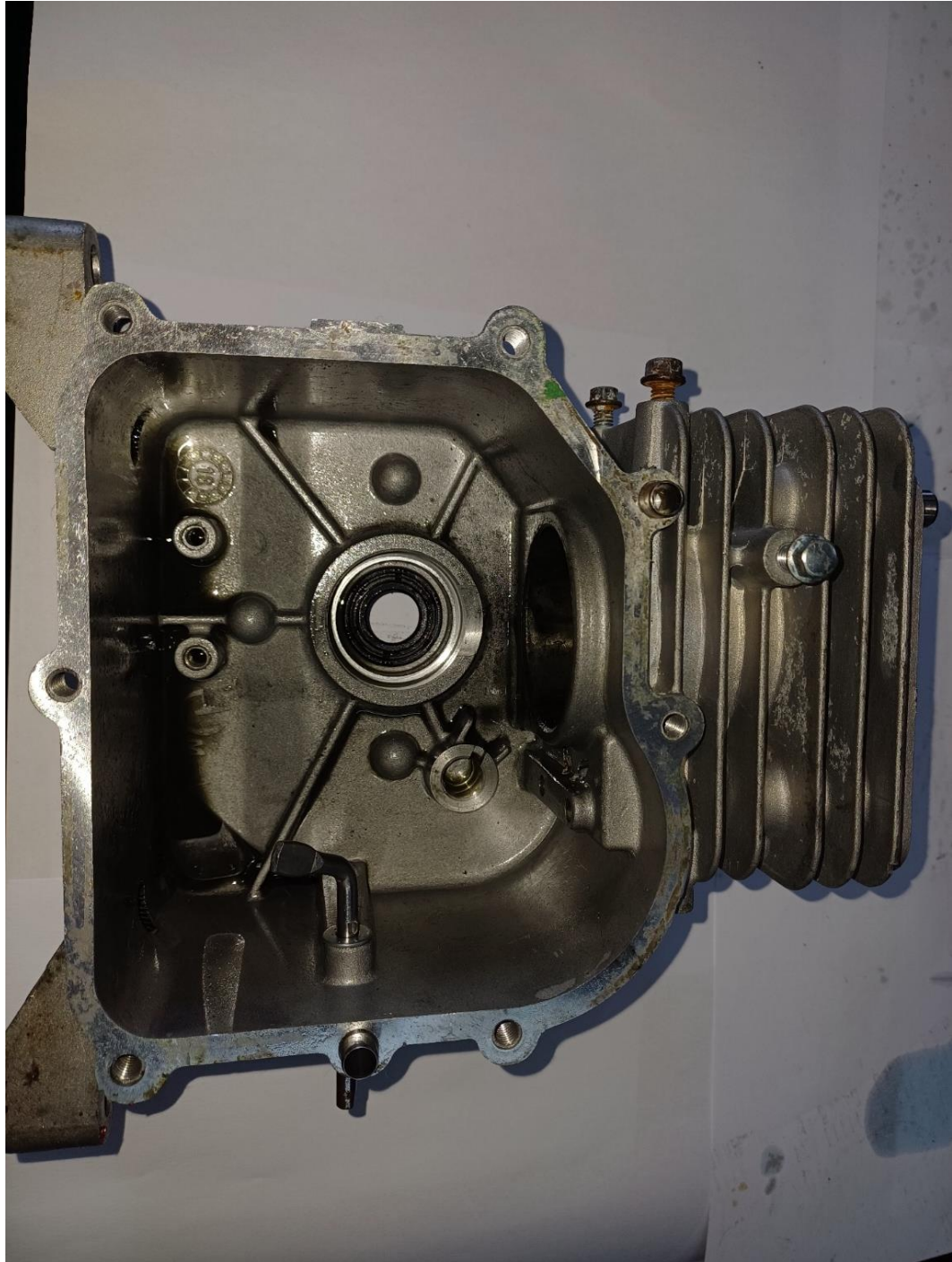
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Cylinder & Casing



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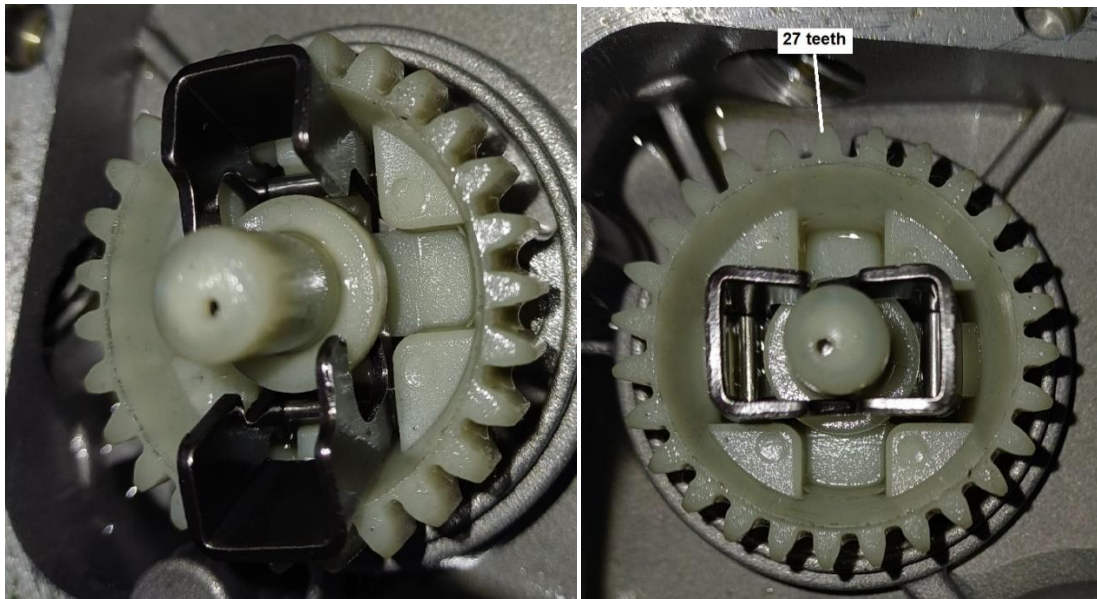
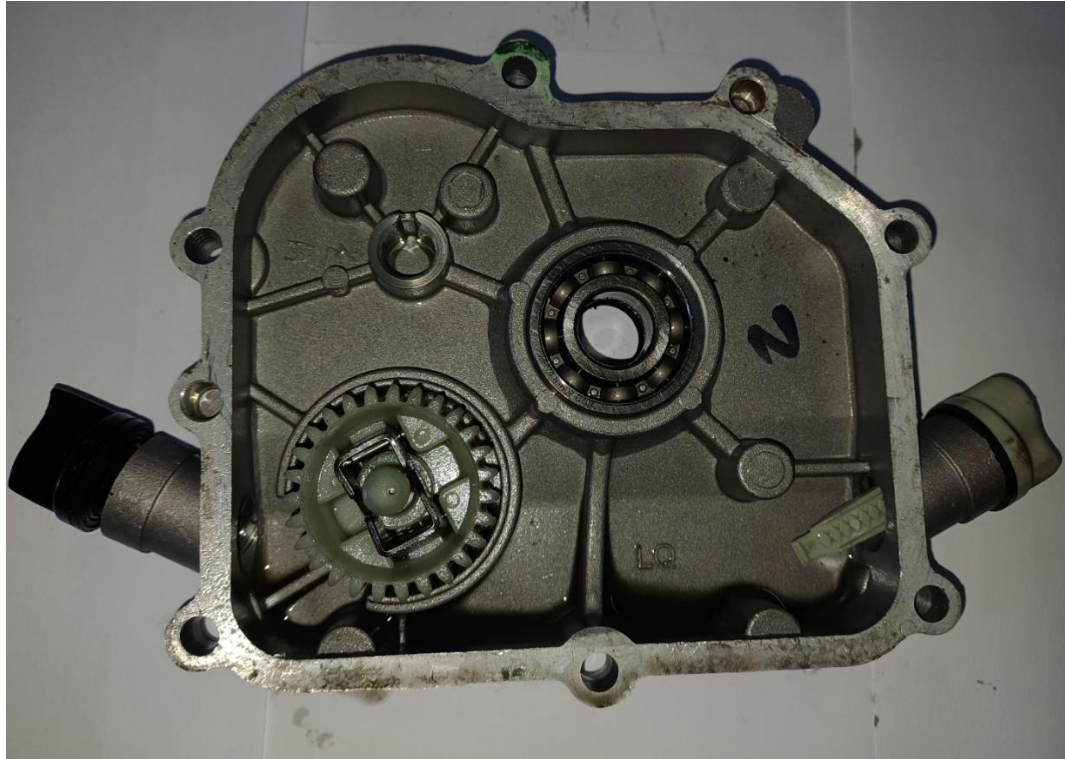
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Cover Casing with governor gear & tabs



Gear - 27 teeth

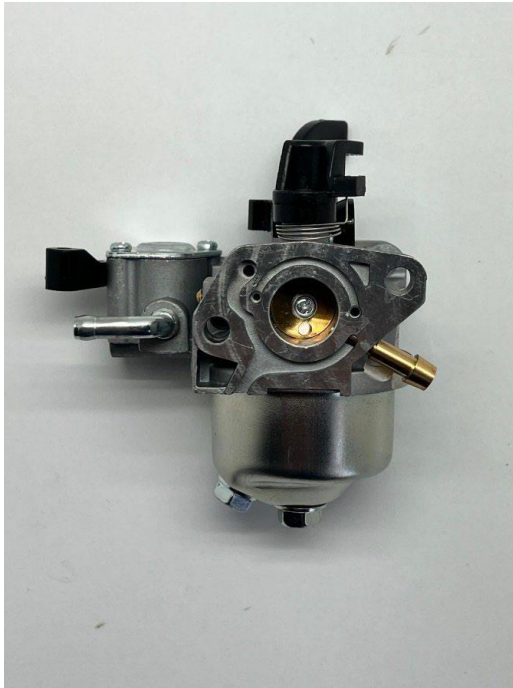
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Carburetor



Manufacturer
Make
Model

TILLOTSON LTD.
TILLOTSON
FM10-1A

NOTE: Governor Spring is to be connected at all times

Measurements & Tolerance Index

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ITEM	DESCRIPTION	TOLERANCE	METRIC
1	Venturi Max Measurement	0.421" Max	10.7mm Max
2	Throttle Bore Diameter	0.594" Max	15.1mm Max
3	Air Jet for Idle	0.048 +/- 0.004"	1.22 +/- 0.1mm
4	Air Jet for Main Jet	0.033 +/- 0.004"	0.85mm +/- 0.1mm
5	Emulsion Tube Drilling Dia. (x 16)	0.024" Max	0.62mm Max
6	Emulsion Tube Drilling Dia. Top (x 2)	0.029" Max	0.75mm Max
7	Emulsion Tube Dia. at Top	0.061" Max	1.55mm Max
8	Emulsion Tube Dia.at Bottom through centre	0.067" Max	1.7mm Max
9	Emulsion Tube Length	1.063 +/- 0.006"	27.02mm +/- 0.15mm
10	Main Jet Orifice	0.019" +/- 0.002"	0.5mm +/- 0.05mm
11	Inlet Seat Diameter	0.051 +/- 0.004"	1.3mm +/- 0.1mm
N/A	Float Weight (W/O Needle attached)	0.141 +/- 0.017Oz	4g +/- 0.5g
N/A	Feedhole for Air Jet (under plastic cover)	0.087 +/- 0.004"	2.23mm +/- 0.1mm
12	Butterfly Diameter	0.59 +/- 0.004"	15mm +/- 0.1mm
N/A	Butterfly Thickness	0.039 +/- 0.004"	1mm +/- 0.05mm
13	Insulation Block Diameter	0.7 +/- 0.004"	17.76mm +/- 0.1mm
N/A	Insulation Block Thickness	0.226 +/- 0.004"	5.76mm +/- 0.1mm

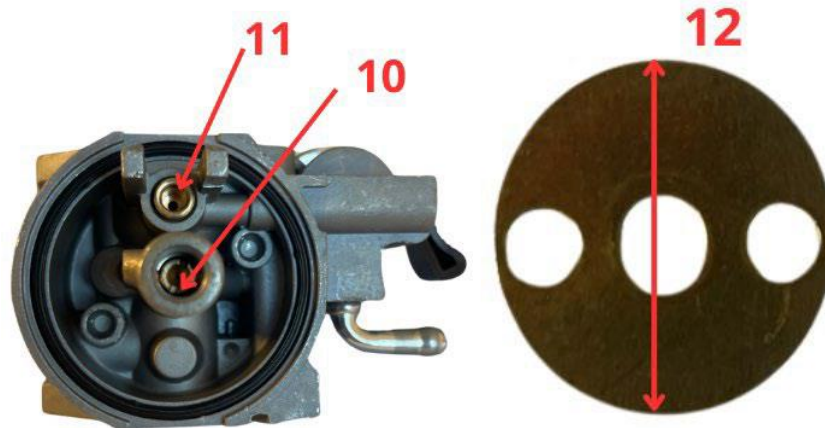
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Fuel Pump



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