

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

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

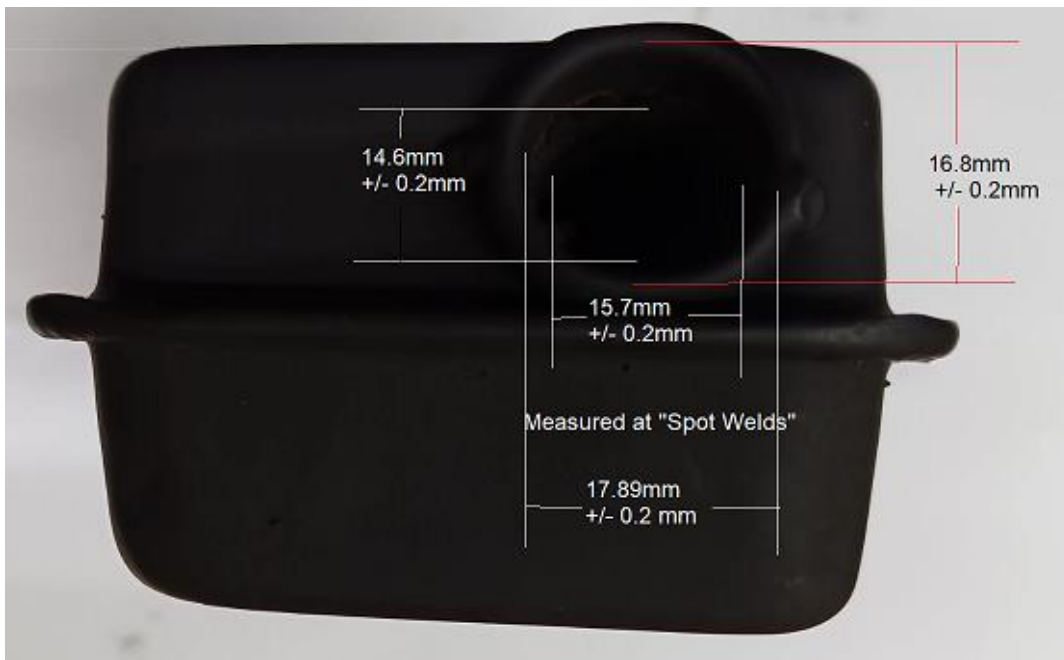
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

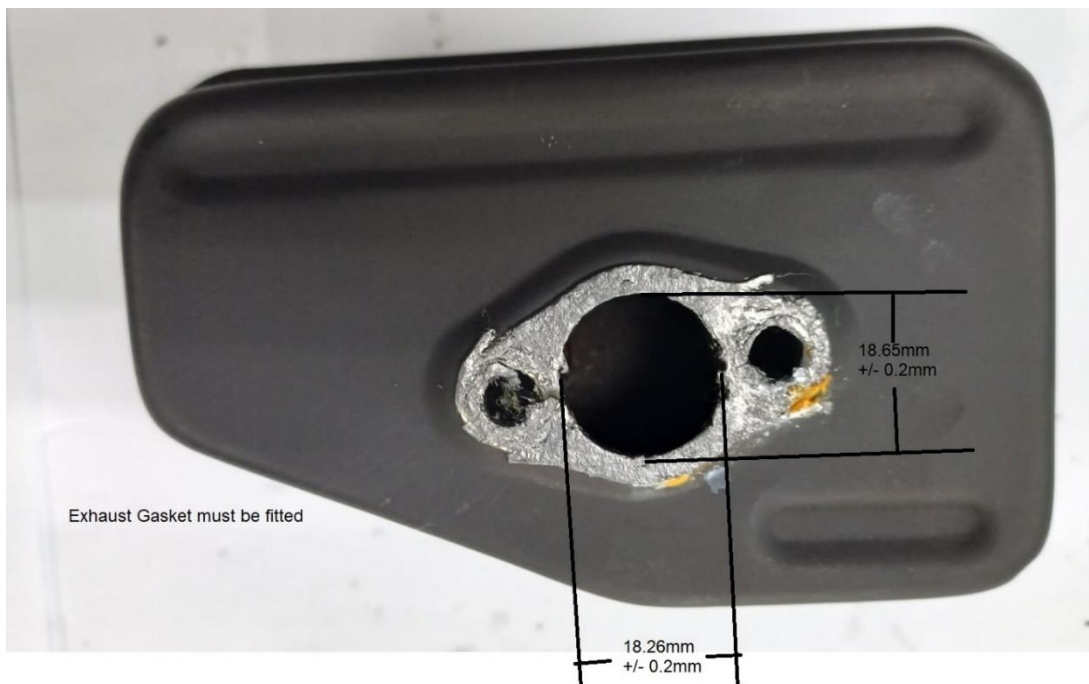
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Exhaust Outlet



Exhaust Inlet



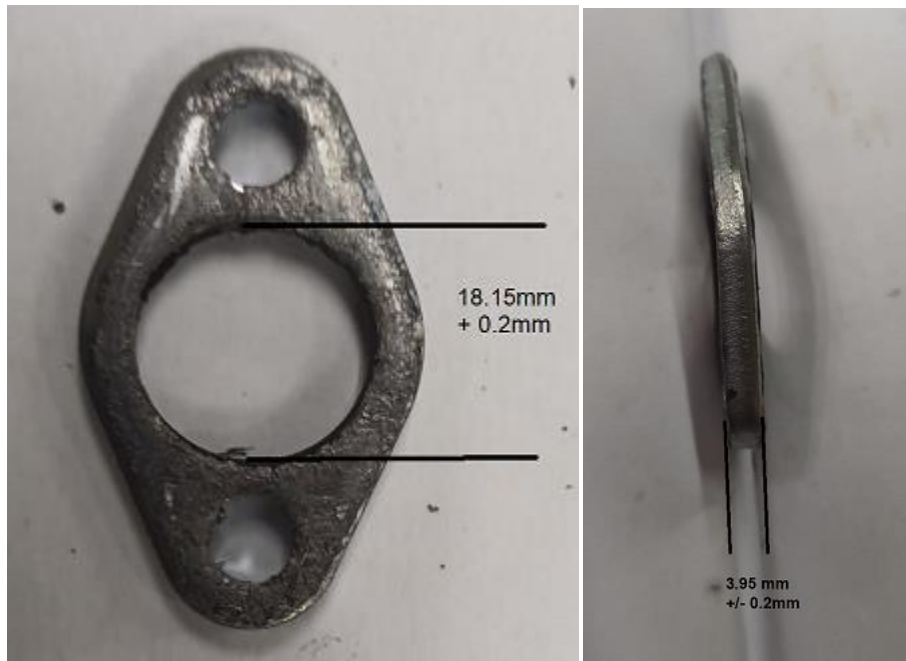
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

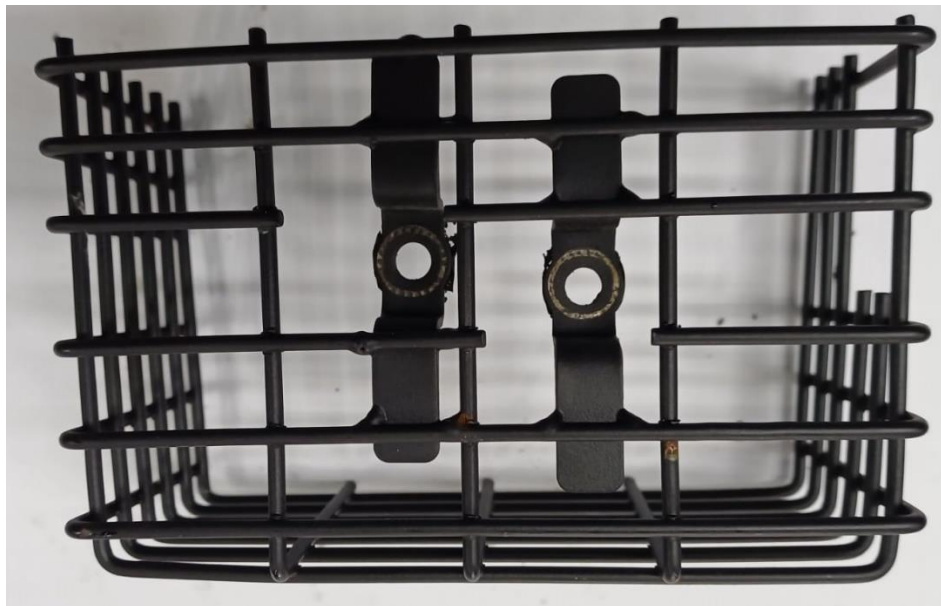
Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Exhaust spacer & heat shield



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



Heat Shield

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

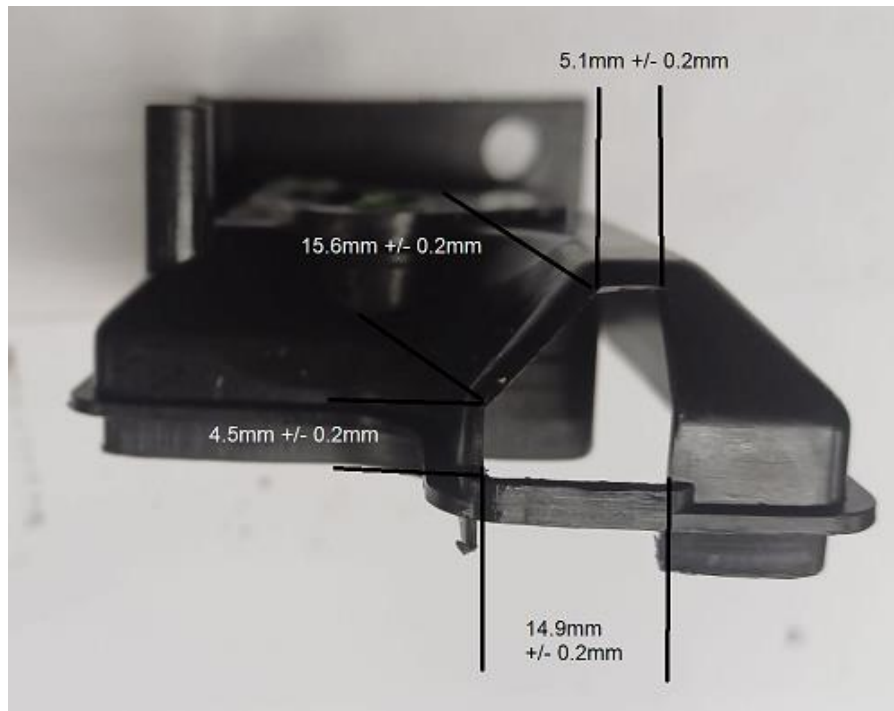
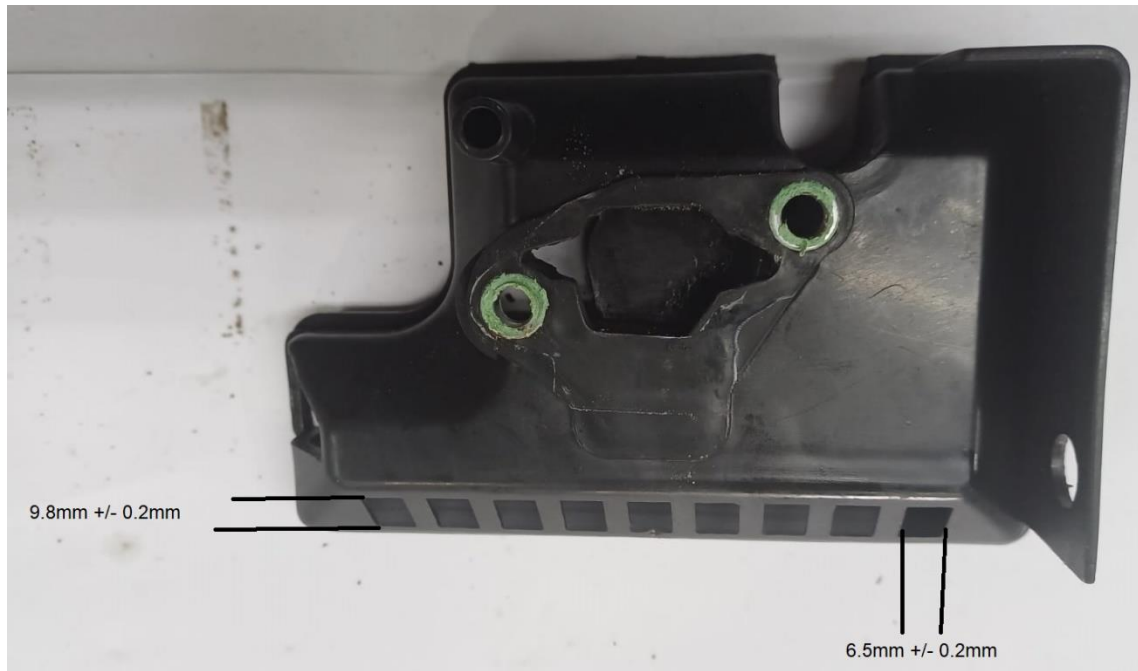
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Air Box and Filter



Airbox back cover

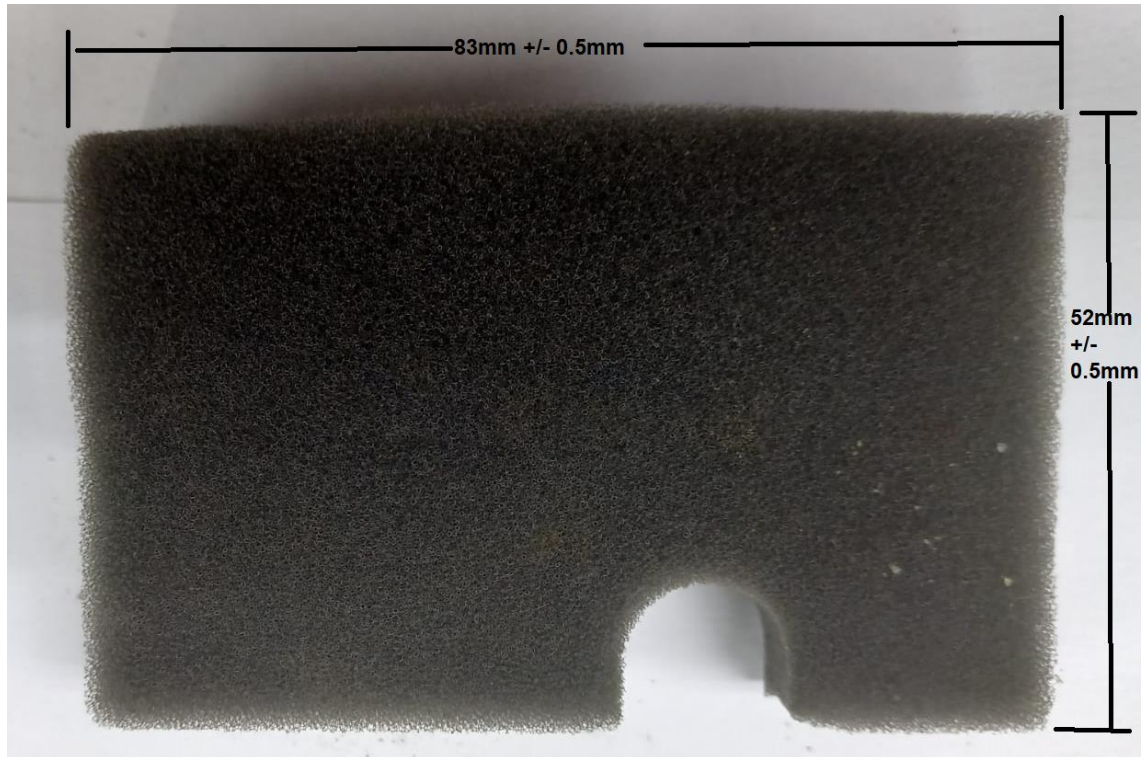
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Air Filter



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



Airbox Gasket to Carburetor must be fitted.

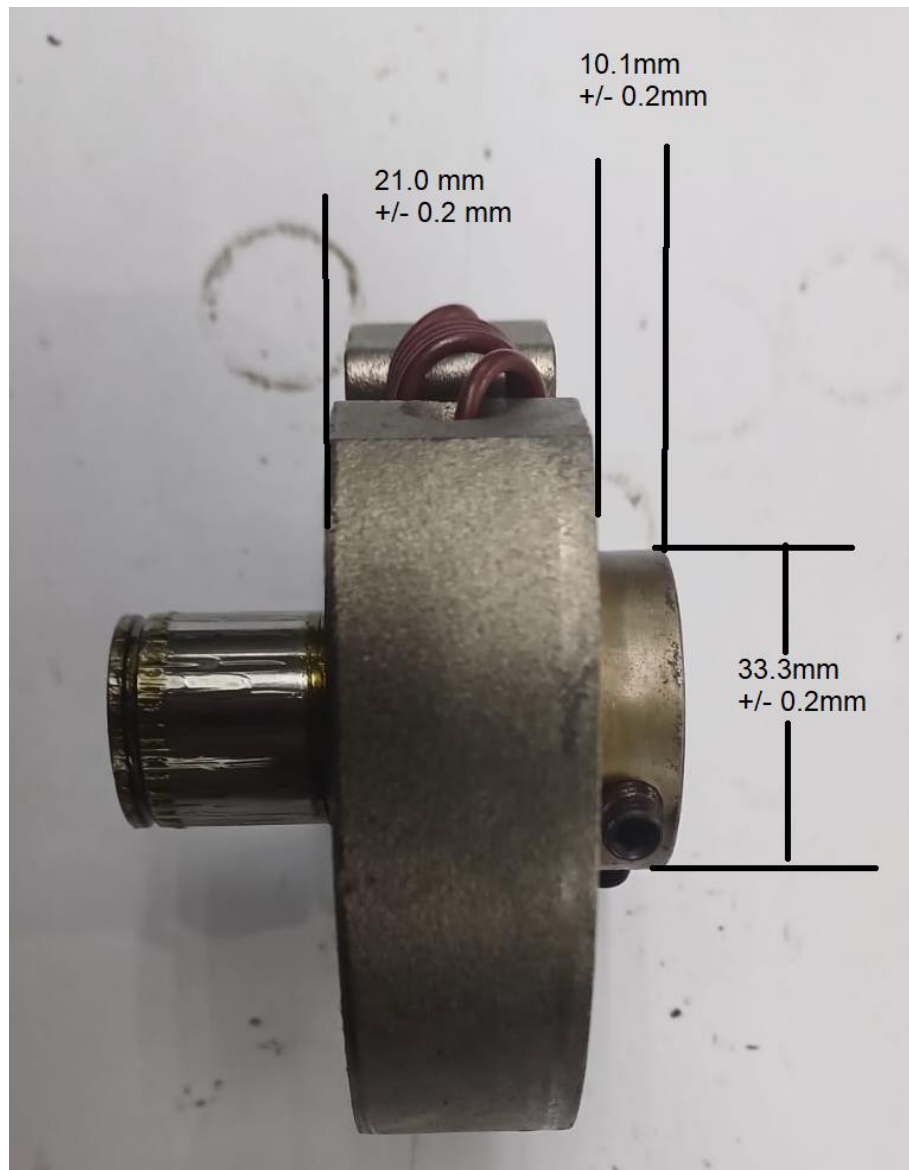
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Clutch



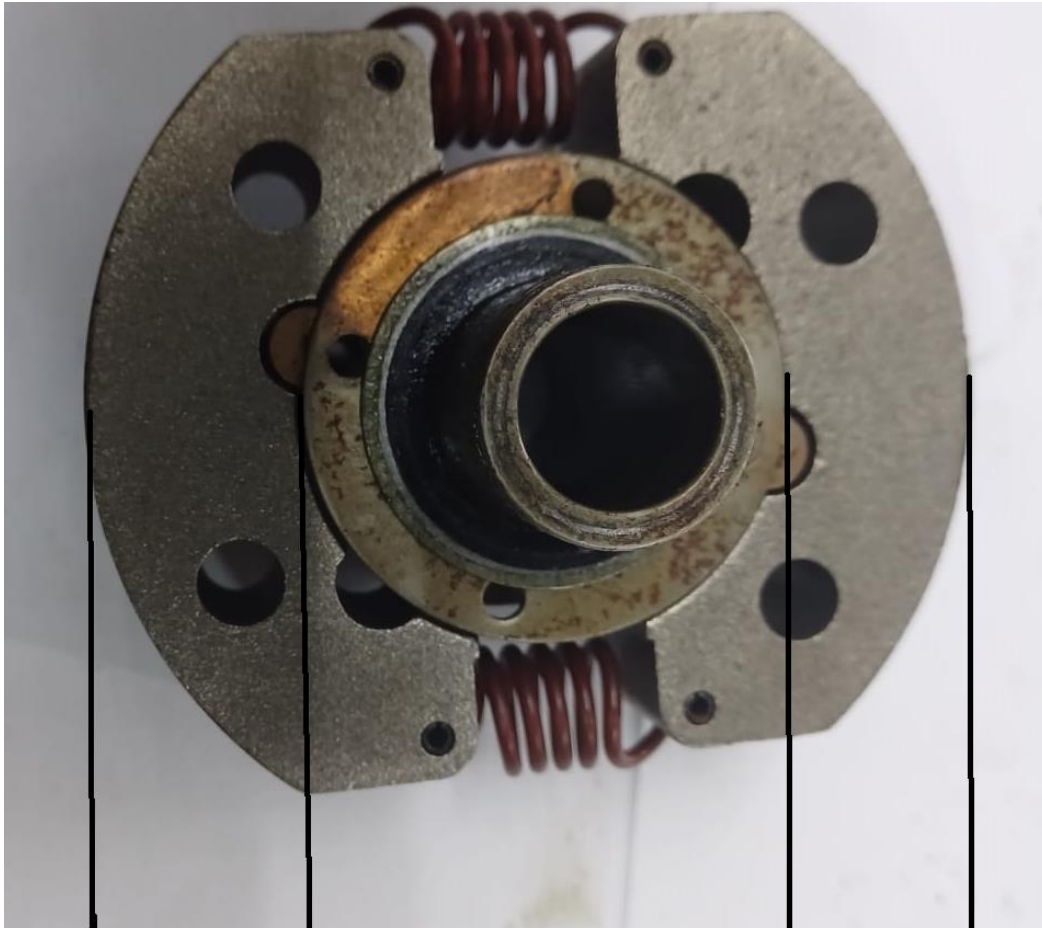
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Clutch Cont.



46.0 mm
+/- 0.2 mm

84.95 mm
+/- 0.2 mm

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

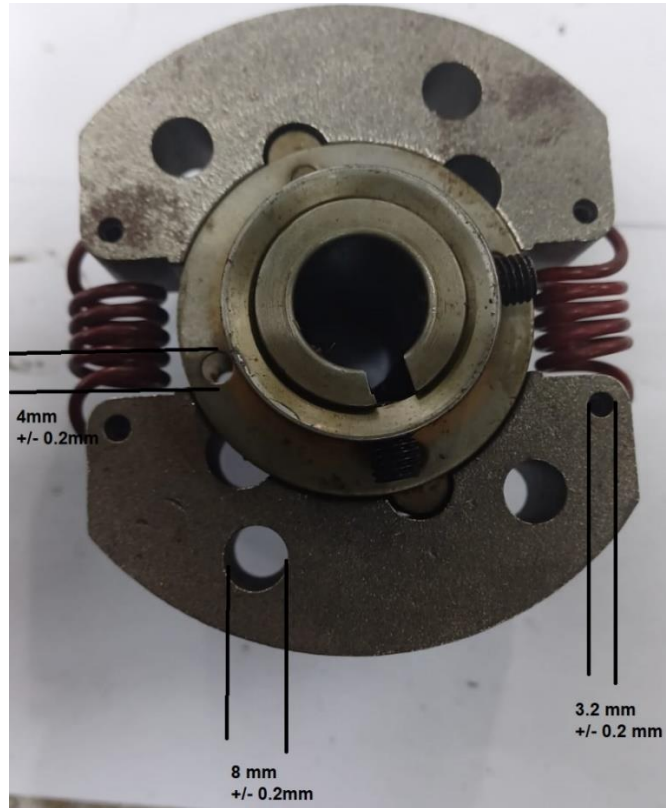
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Clutch Cont.



Clutch Drum



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA



Clutch Drum



Clutch Spring

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

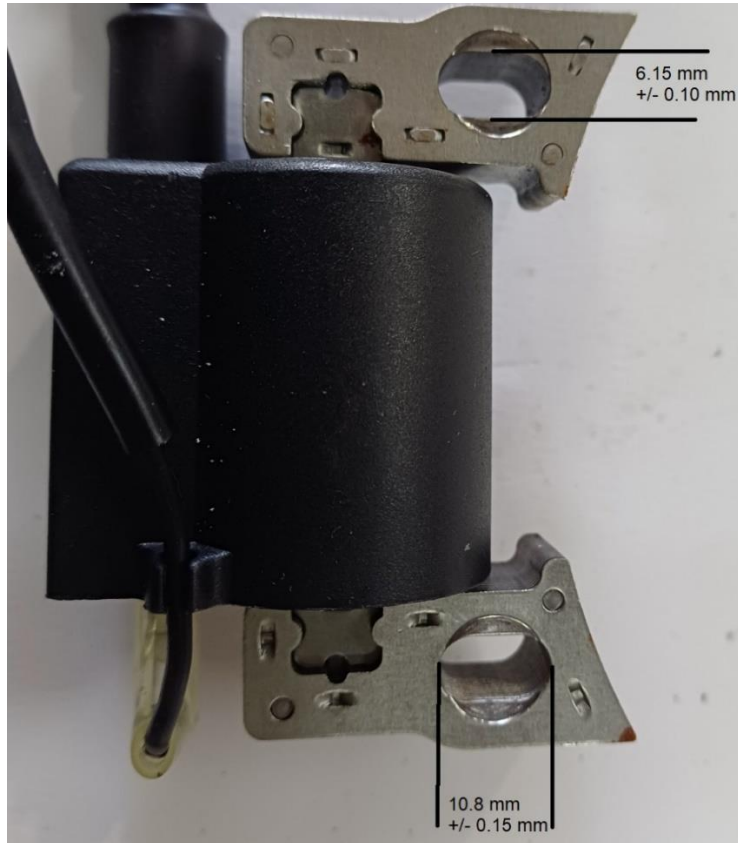
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Ignition Coil



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

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)

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Coil Pick up on flywheel



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

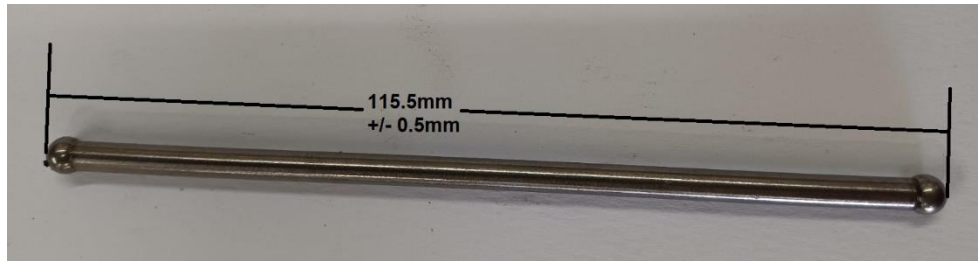
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Rockers/Tappets



Push Rod



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

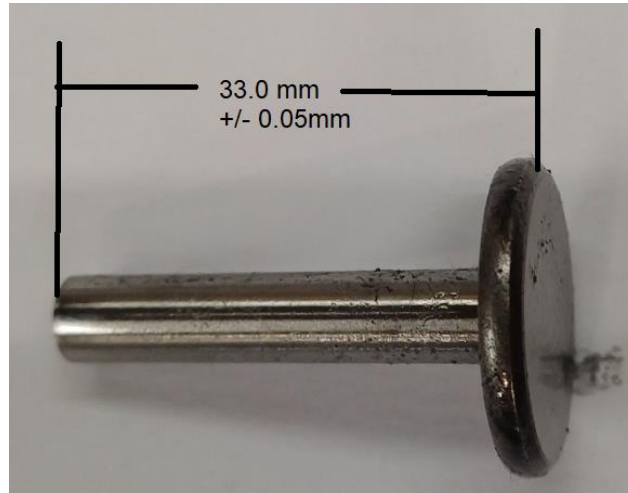
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Camshaft follower



Camshaft



Camshaft Gear – 44 teeth

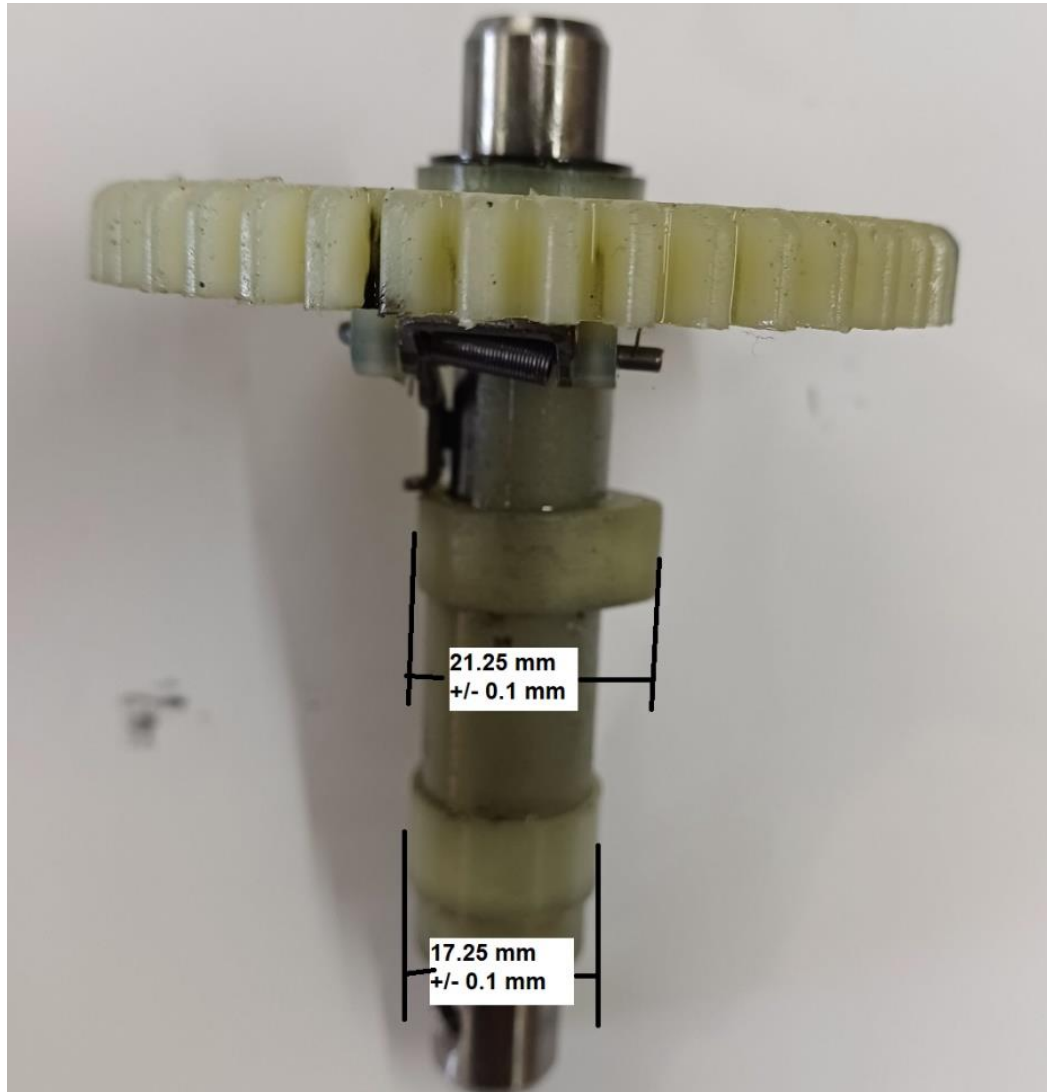
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Camshaft Cont.



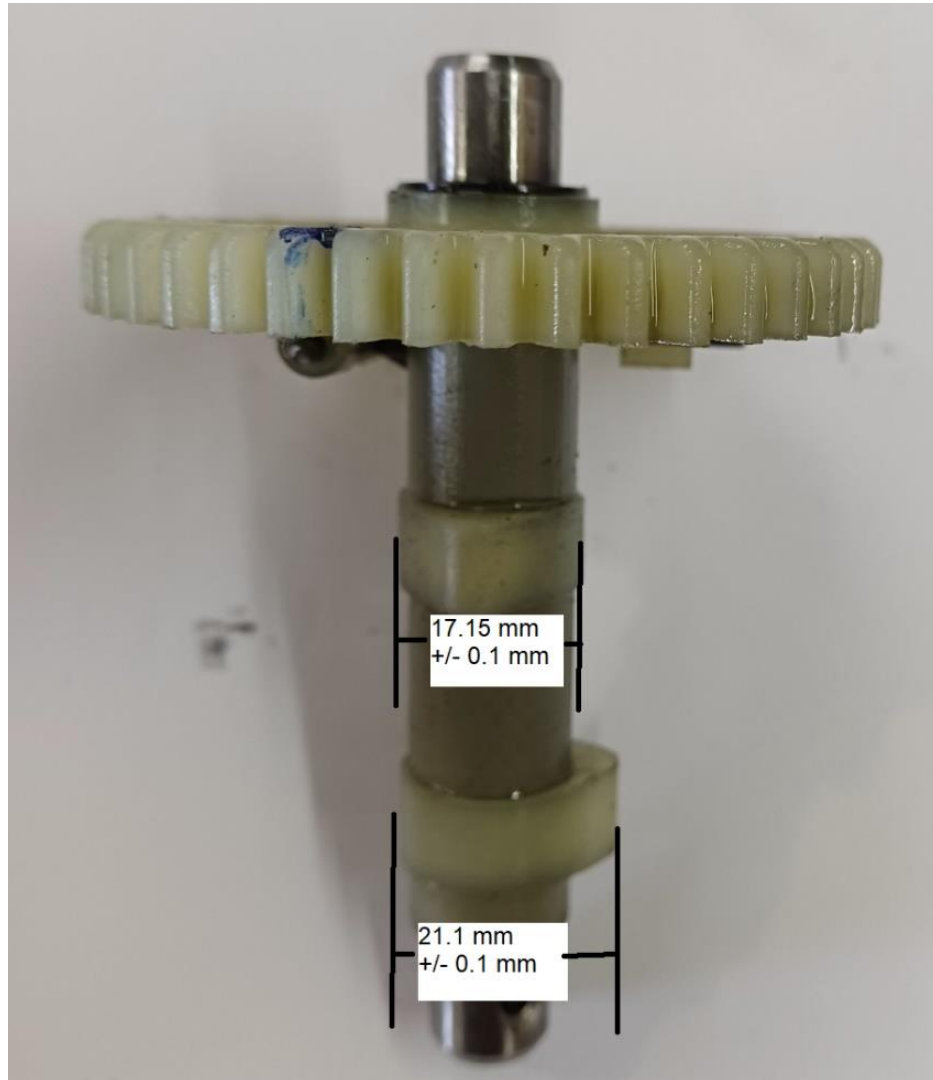
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Camshaft Cont.



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

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

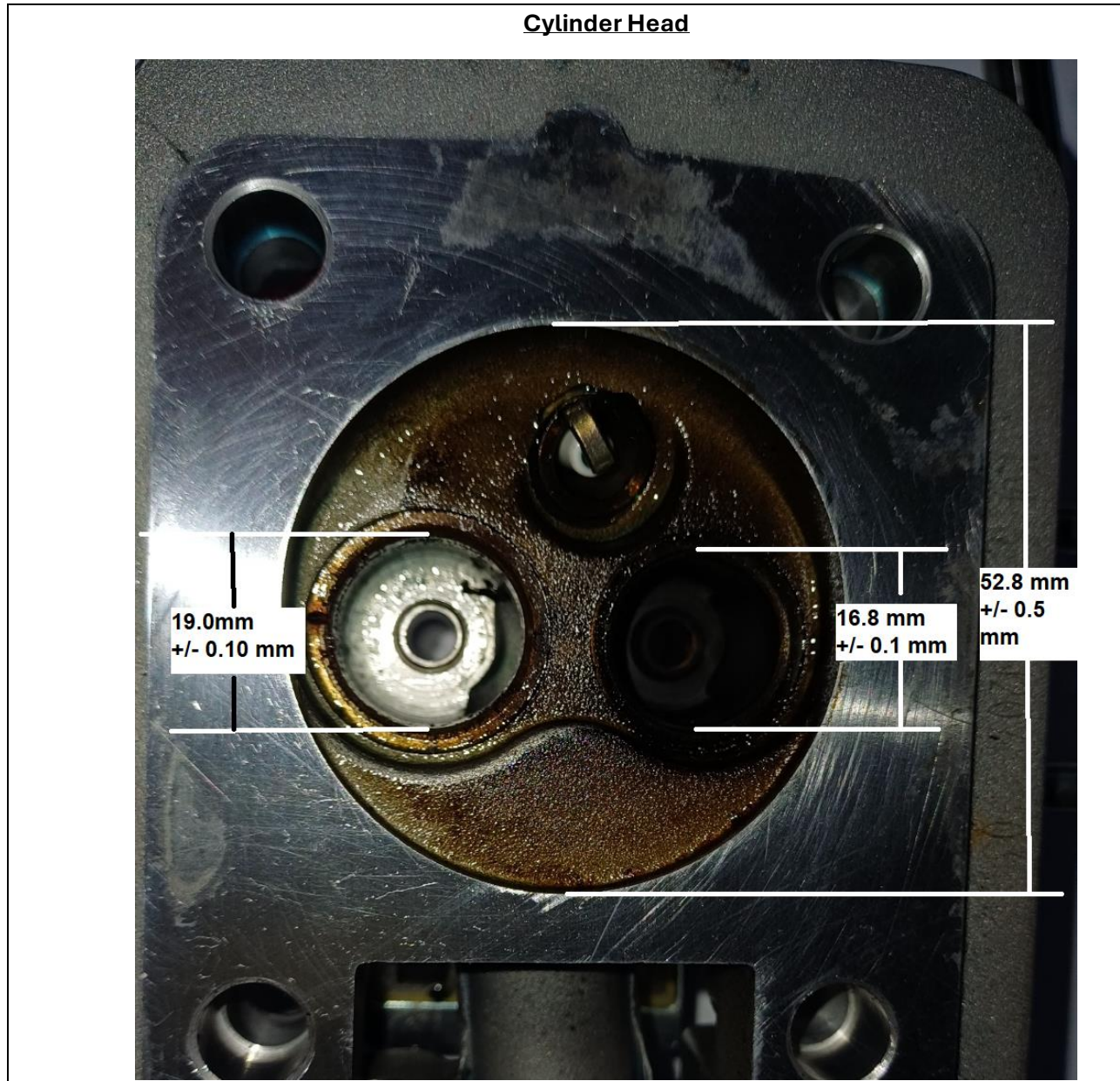
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

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 +/-

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

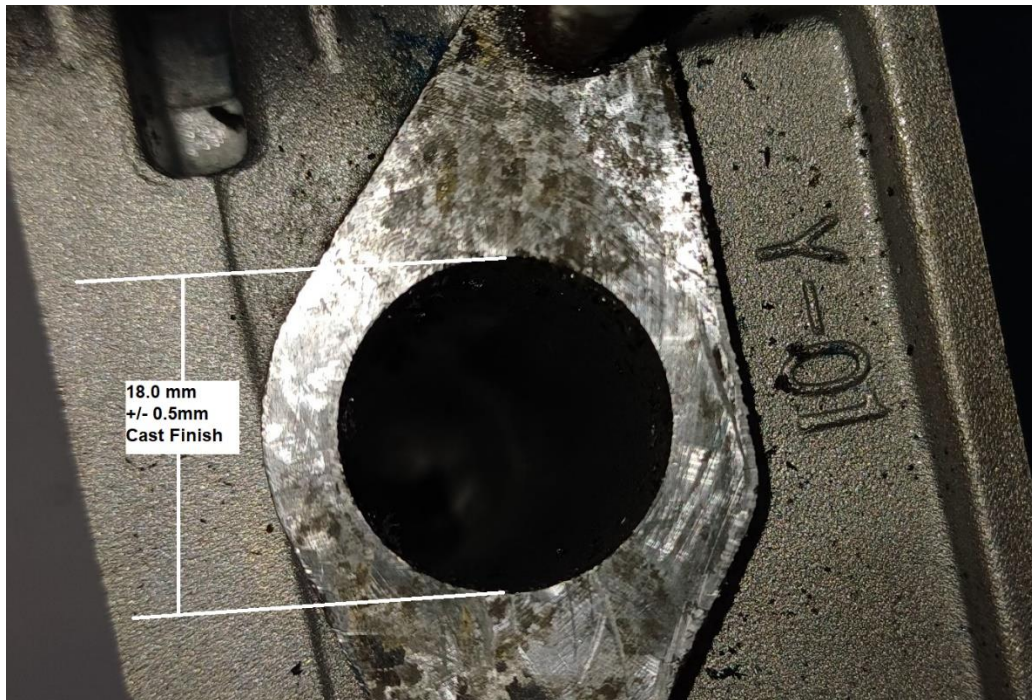
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

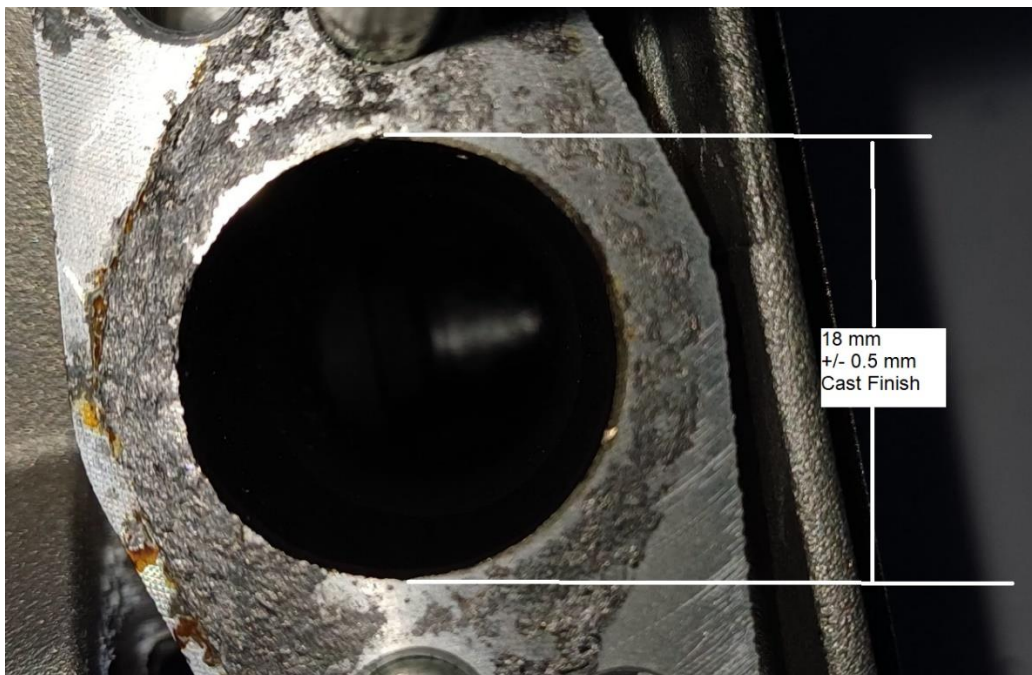
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Inlet Port



Exhaust Port



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

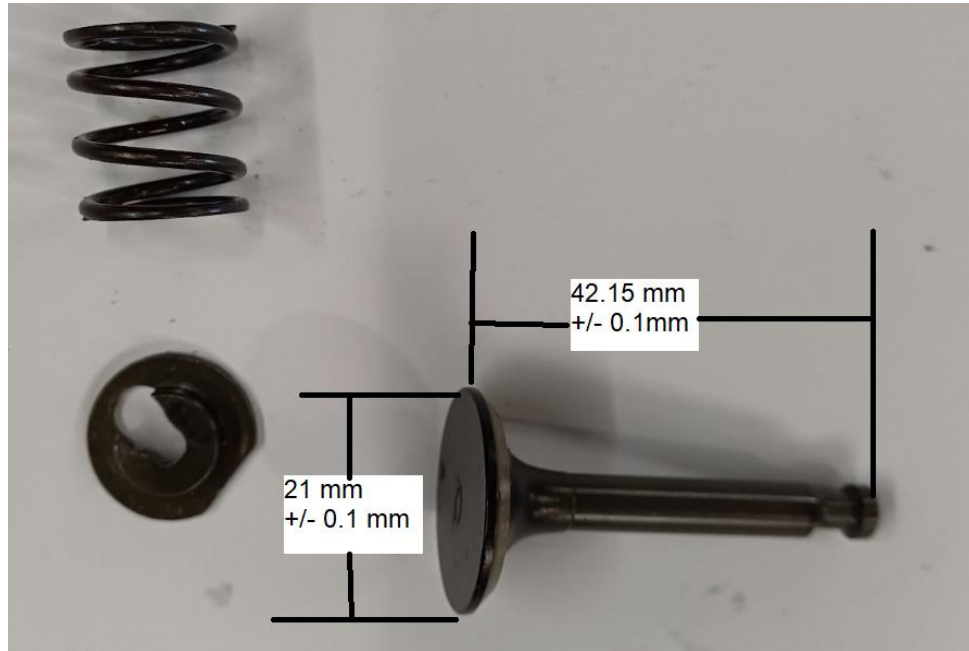
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

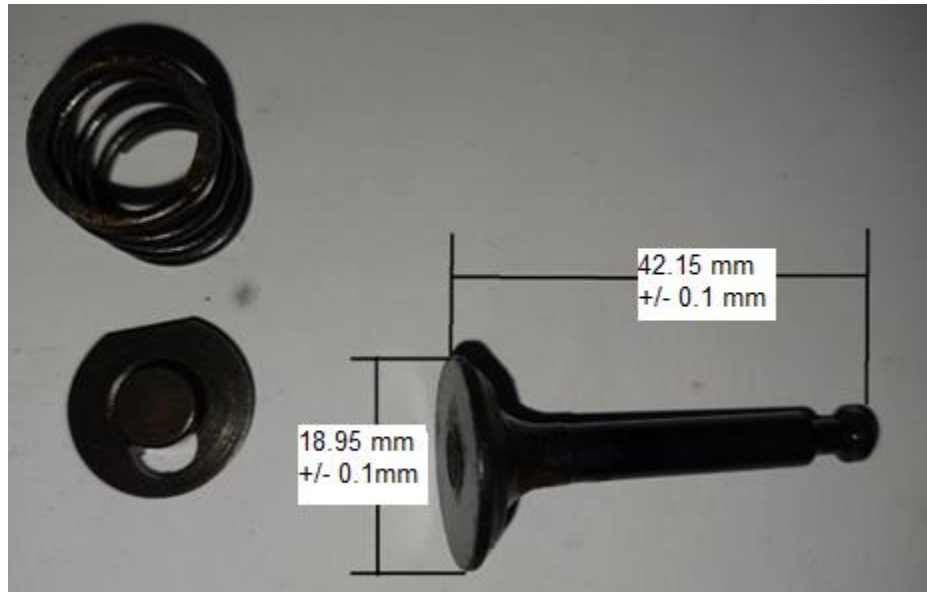
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

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 +/-

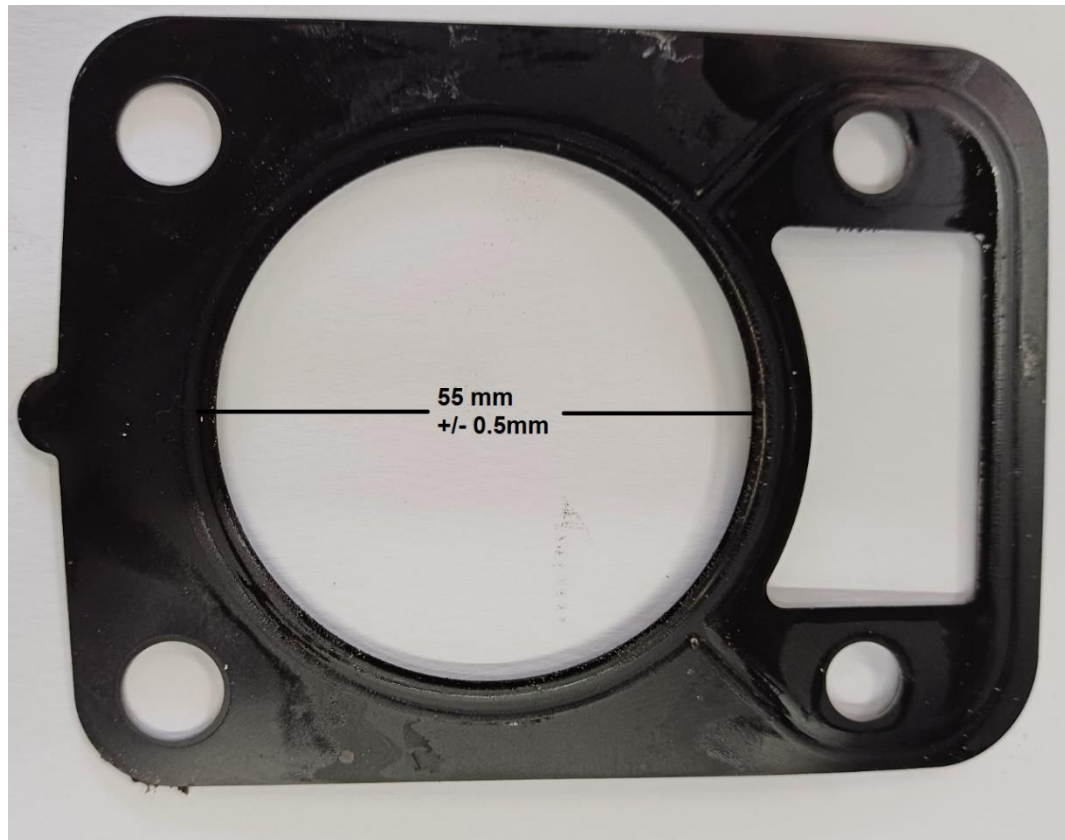
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Cylinder head gasket



Thickness of Head Gasket = 0.35 mm (+/- 0.05 mm) compressed

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

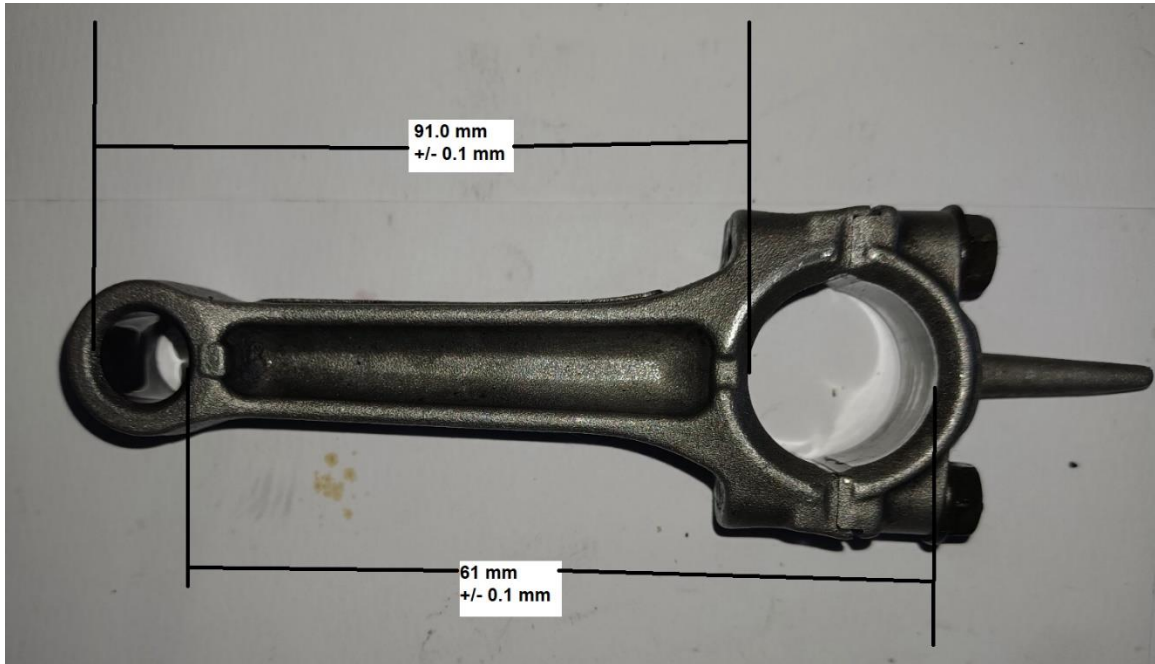
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

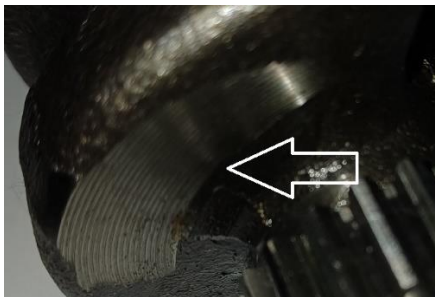
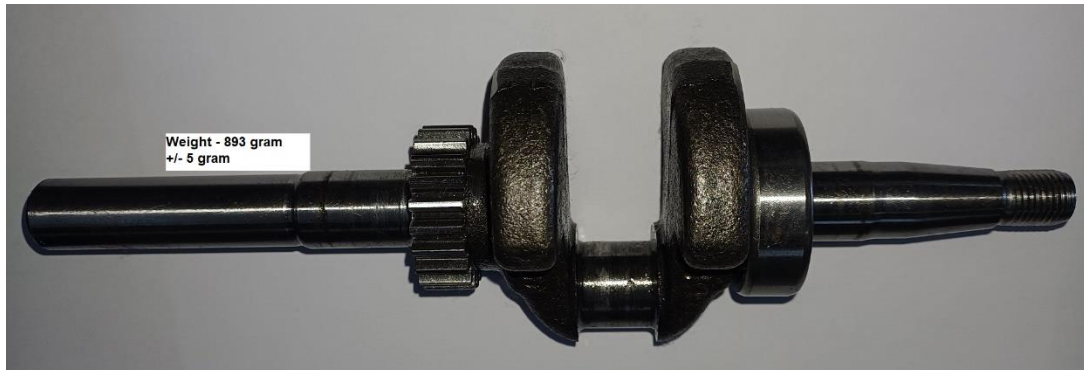
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Conrod



Crankshaft



NOTE: Machining for balancing on both sides

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

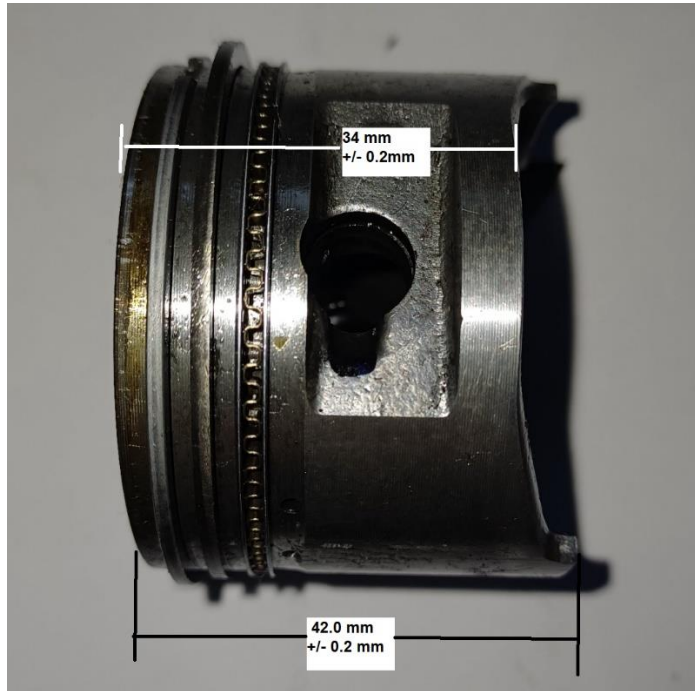
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

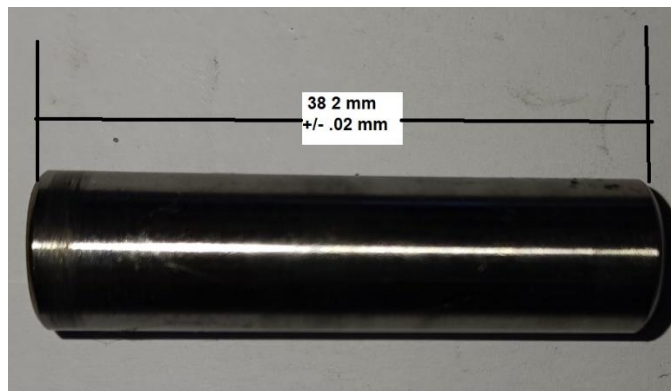
All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Piston



Piston Small End Pin



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 +/-

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

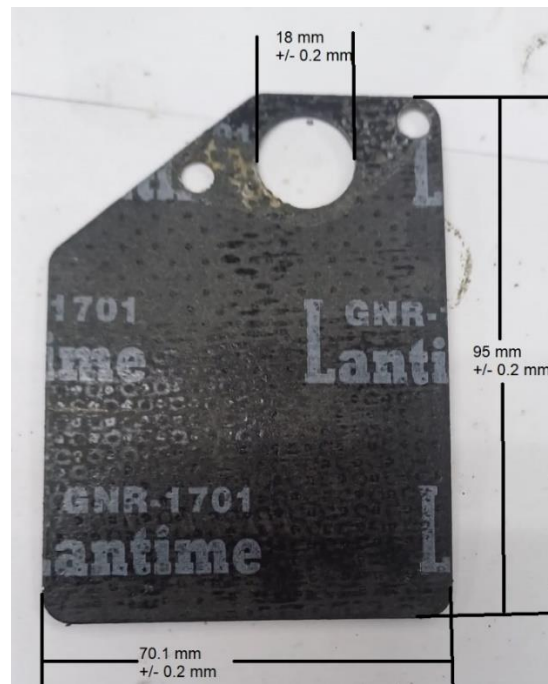
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Inlet Port Gaskets & Spacer



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

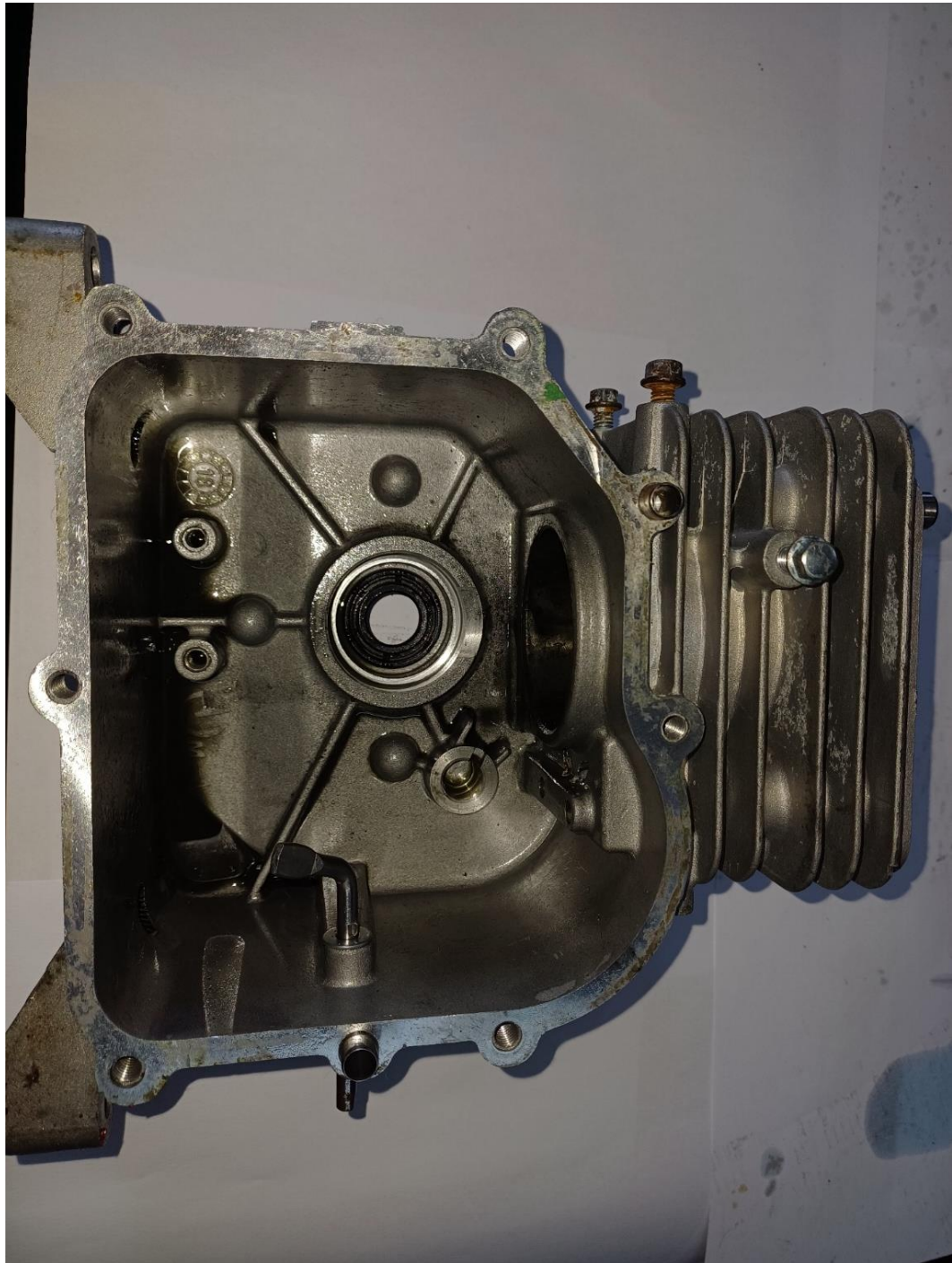
ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Cylinder & Casing



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

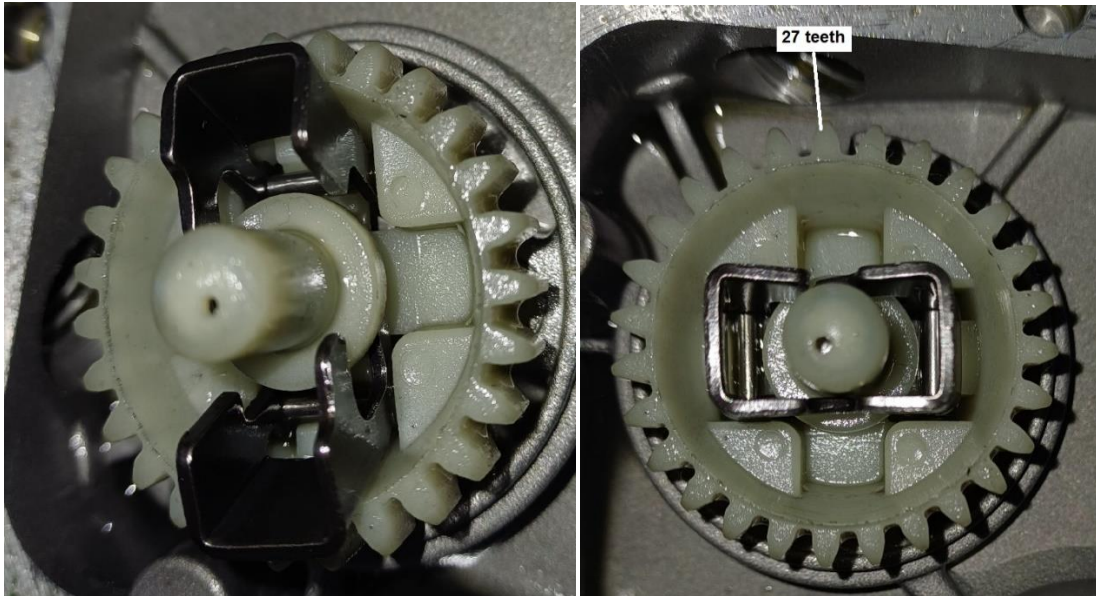
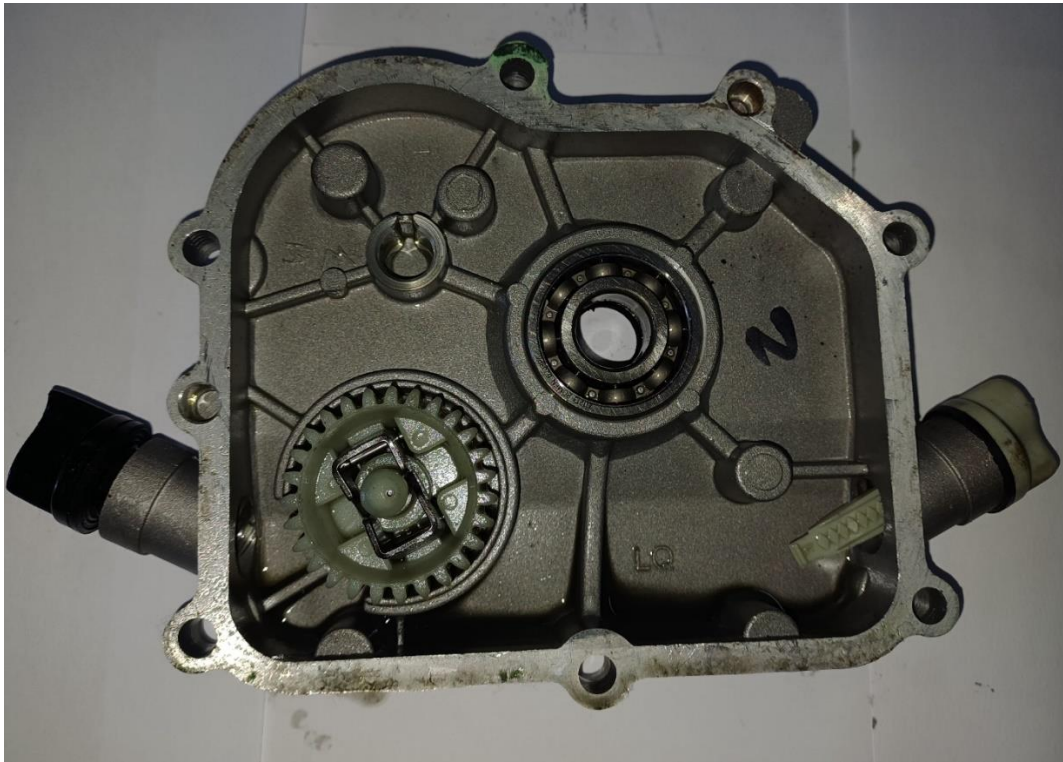
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Cover Casing with governor gear & tabs



Gear – 27 teeth

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

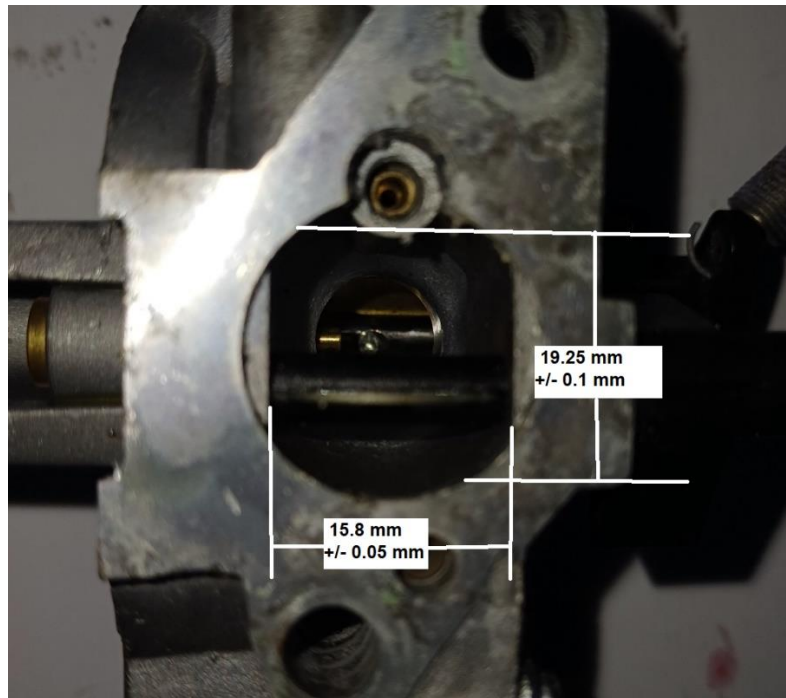
Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

ROK CUP SOUTH AFRICA

Carburetor



NOTE: Governor Spring is to be connected at all times

ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm

Fuel Pump



ALL THE ENGINE PARTS MUST BE ORIGINAL BY TILLOTSON.

Neither engines nor accessories can be modified. By this we mean any shape, content or function changes which may differ from what originally produced (manufactured and assembled).

Furthermore, this includes any addition and /or removal of material.

All dimensions in the technical drawings are in mm