
KARTING NSW

Engine Technical Specification

PRD GALAXY



Revision: 4.0 Date: 06/02/2024

PREAMBLE

This document provides the Technical Specification for the PRD Galaxy engine, as approved by Karting NSW.

This engine is approved for use in the classes as defined in the KNSW Rule Book.

Unless otherwise specified below, the engine must be original in all components according to the PRD Galaxy specifications. Neither the engine nor any of its ancillary components may be modified other than in accordance with the KNSW Rule Book and this Technical Specification.

The General Technical Specification contains the manufacturer's engine specification and must be read in conjunction with the Compliance Specification which defines additional specifications as approved by KNSW.

The engine must always be presented and used in conformity with this Technical Specification and the KNSW Rule Book.

ANY ALTERATIONS / MODIFICATIONS ARE STRICTLY PROHIBITED EXCEPT AS SPECIFICALLY AUTHORISED WITHIN THESE SPECIFICATIONS.

IF THESE SPECIFICATIONS DO NOT SAY YOU CAN MAKE A MODIFICATION, THEN YOU CANNOT.


ENGINE			
Manufacturer	St George Kart Centre Wholesale Pty Ltd	Category	Including but not limited to TaG, TaG Restricted, Open
Make	PRD	Homologation Period	From 2023-2025
Model, Type	GALAXY	Pages	32
<p><i>This homologation sheet reproduces description, illustrations and dimensions of the engine at the time of the KNSW Homologation. All motors must be manufactured within these dimensions</i></p>			
ENGINE PHOTO - DRIVE SIDE		ENGINE PHOTO - OPPOSITE SIDE	
			
		AUTHORISED BY KNSW	
		<p>Approved by Graeme Abbott KNSW State Technical Officer 6th February 2024</p>	

PHOTO OF
THE ENGINE FROM THE BACK



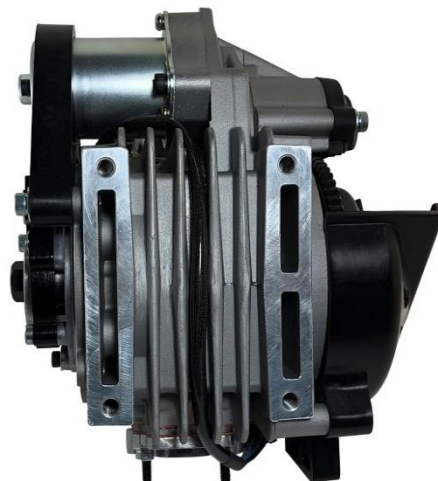
PHOTO OF
THE ENGINE FROM THE FRONT



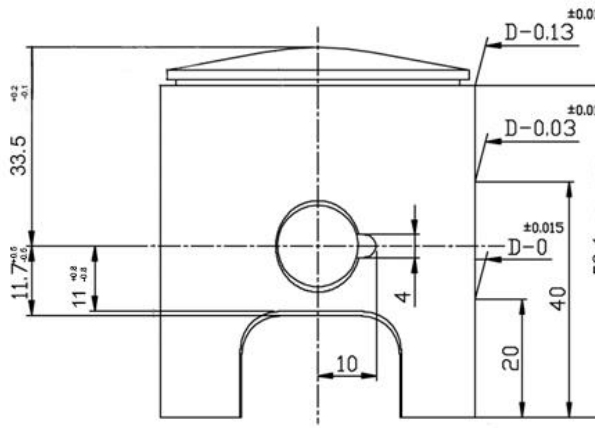
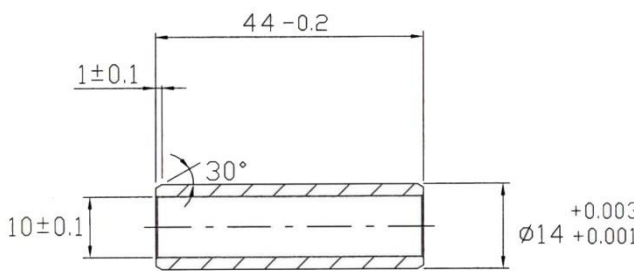
PHOTO OF THE ENGINE
FROM ABOVE



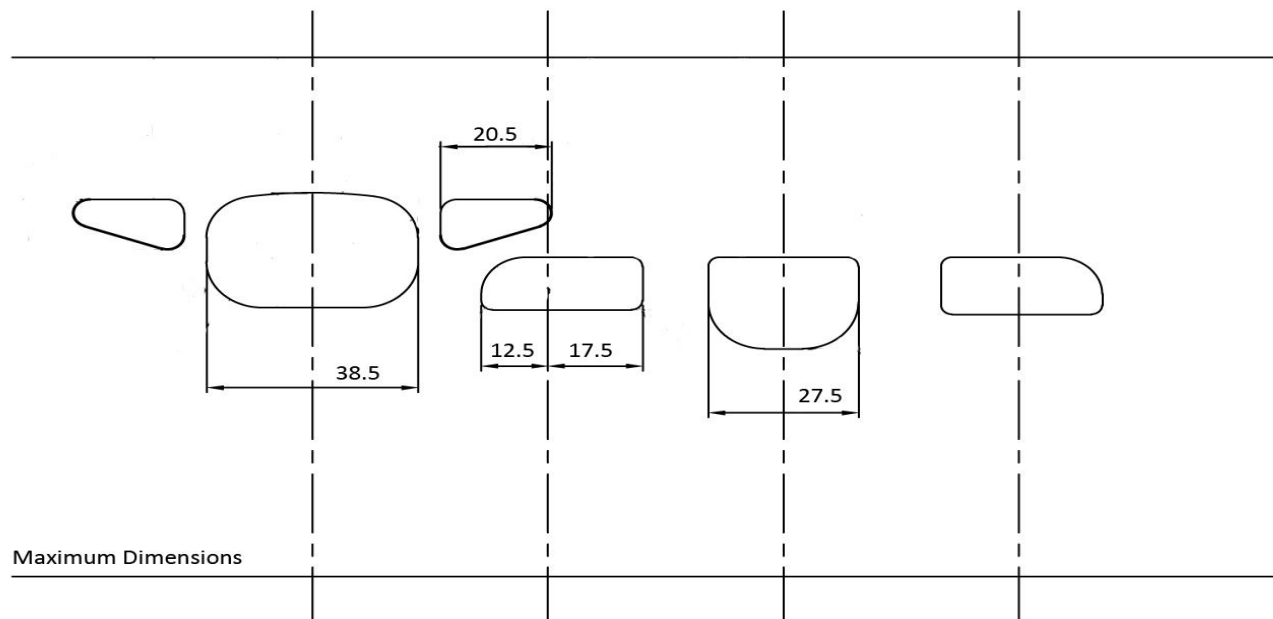
PHOTO OF THE ENGINE
FROM BELOW



<u>TECHNICAL INFORMATION</u>			
<u>Characteristics</u>		<u>Materials</u>	
Cylinder volume	123.15cm ³	Cylinder wall	IRON
Bore	53.90mm	Cylinder	ALLOY
max. bore	54.40mm	Cylinder head	ALLOY
Stroke	54mm	Crankcase / sump	ALLOY
Cooling system	Water	Connecting rod	IRON
Air admission system	Reed		
N ^o of carburation systems	1	<u>Tolerances</u>	
N ^o of transfer ports in the cylinder	3	Opening angles	+ / - 3 degrees
N ^o of exhaust ports	3	Combustion chamber volume	Min 10cc
Shape of combustion chamber	Spherical	Squish Measurement	0.8mm Minimum
Volume of the combustion chamber	10.5cc Minimum	Stroke [+/- 0.1mm]	+ / - 0.1
Length between of the axis of connecting rod	Pre 2018 – 100mm Post 2018 – 102mm	Length between axis of connecting rod [+/- 0.1mm]	= / - 0.1
Ignition make	PVL & PRD	<u>Dimensions on machined surfaces</u>	
Ignition model	PVL 590 221 & 500 222, PRD Easystart	< 25mm [+/- 0.5mm]	
		25-60mm [+/- 0.8mm]	
		> 60mm [+/- 1.5mm]	
		<u>Dimensions on rough cast surface</u>	
		< 25mm [+/- 1mm]	
		25-60mm [+/- 1.5mm]	

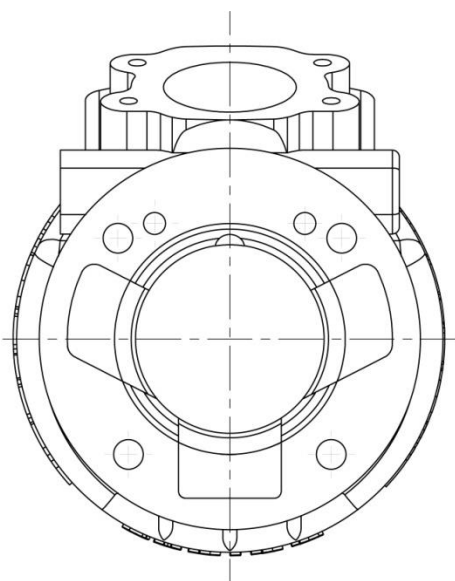
TECHNICAL INFORMATION		
<u>E – piston</u>		EXHAUST AND INLET TIMING READING LINES 
N° of piston rings	1	
Overall length	62.8 +/- 0.2	
Min. weight of the bare piston.	130 grams	
<u>E – Piston Pin</u>		
material	IRON	
Length	44mm +/- 0.15	
Inside diameter	10 +/- 0.1	
Outside diameter	14mm +/- 0.05	

DRAWING OF CYLINDER DEVELOPMENT

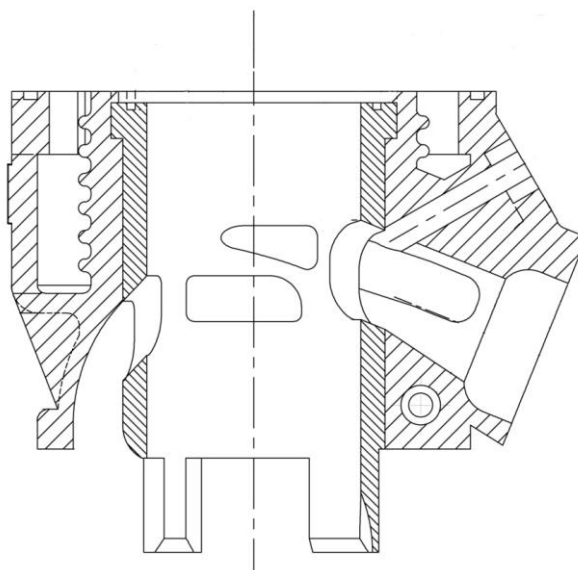


OPENING ANGLES
 OF THE INLET (MAIN TRANSFER PORTS) $126^{\circ} \pm 3^{\circ}$
 OF THE EXHAUST $193^{\circ} \pm 3^{\circ}$
 OF THE EXHAUST EARS $184^{\circ} \pm 3^{\circ}$
 OF THE BOOSTER $126^{\circ} \pm 3^{\circ}$

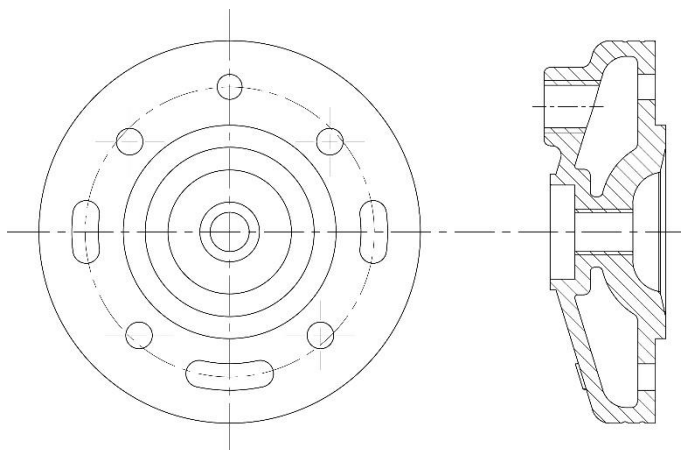
DRAWING OF THE BASE OF THE CYLINDER



DRAWING OF CYLINDER SECTION

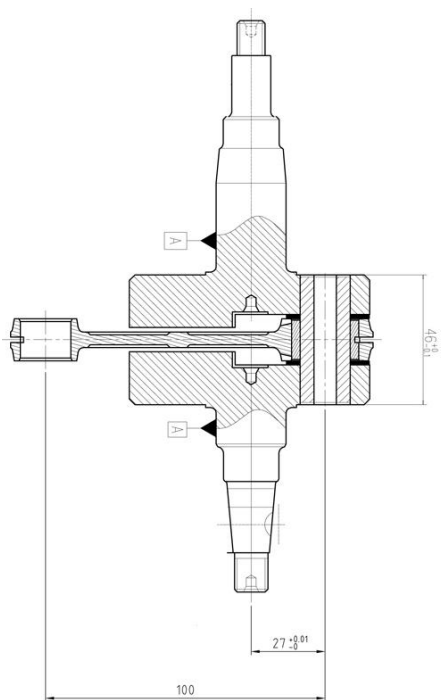


DRAWING OF THE COMBUSTION CHAMBER AND CYLINDERHEAD



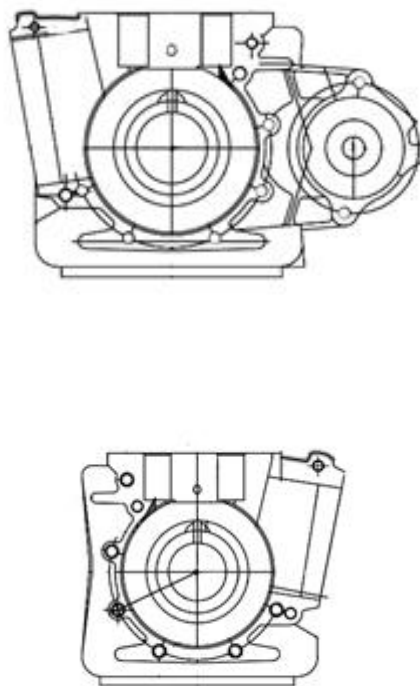
SPEC 1 PRE 2019

DRAWING OF THE
 CRANKSHAFT

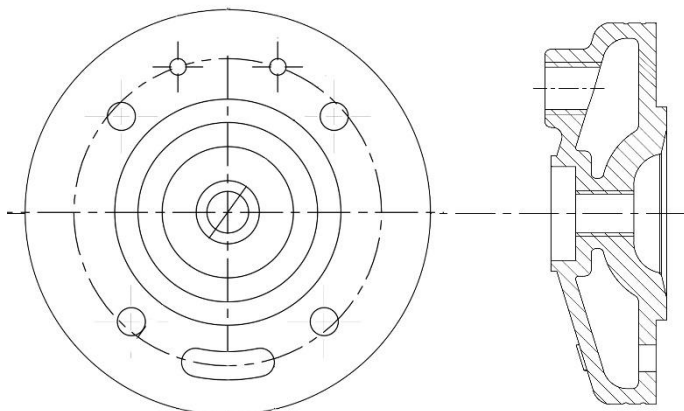


PRE 2019 – 18MM CRANK PIN
 PRE 2018 – 1880 grams

DRAWING OF THE INTERIOR
 OF THE SUMP

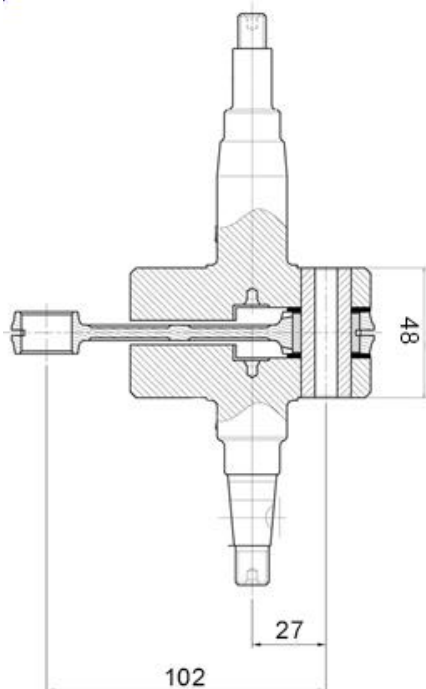


DRAWING OF THE COMBUSTION CHAMBER AND CYLINDERHEAD



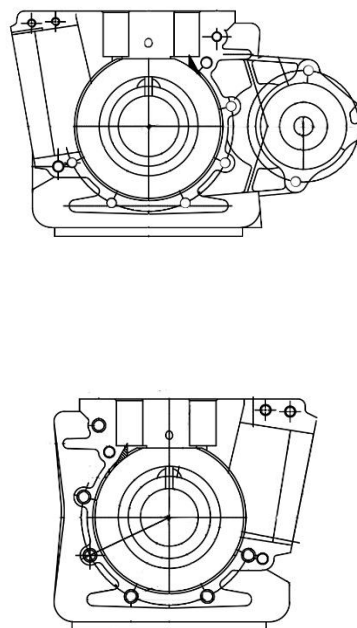
SPEC 2 POST 2019

DRAWING OF THE
 CRANKSHAFT



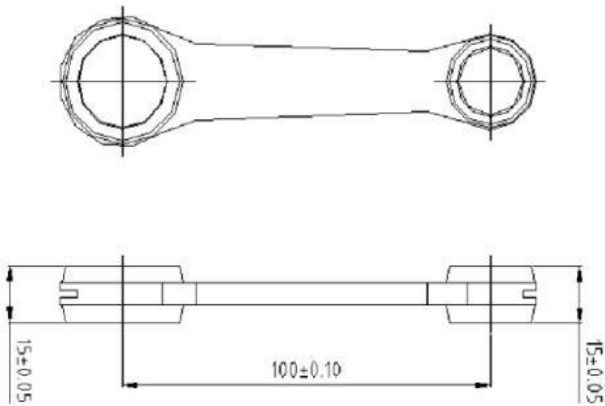
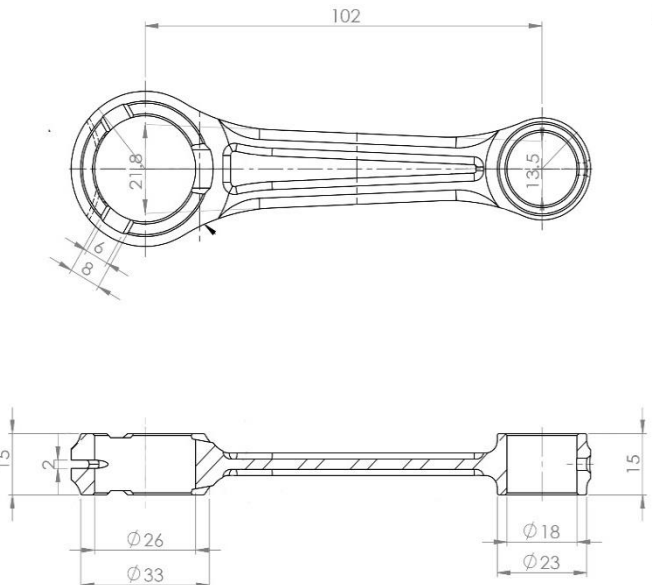


POST 2018 – 20MM CRANK PIN
 POST 2018 – Min. weight 2080 grams

DRAWING OF THE INTERIOR
 OF THE SUMP



POST 2018 – SUIT 20MM CRANK PIN

PHOTO OF THE PRE 2018 CONROD	PHOTO OF THE POST 2018 CONROD
	
DRAWING OF THE PRE 2018 CONROD	DRAWING OF THE POST 2018 CONROD
	
<p>MIN. WEIGHT 118 GRAMS</p>	<p>MIN. WEIGHT 113 GRAMS</p>




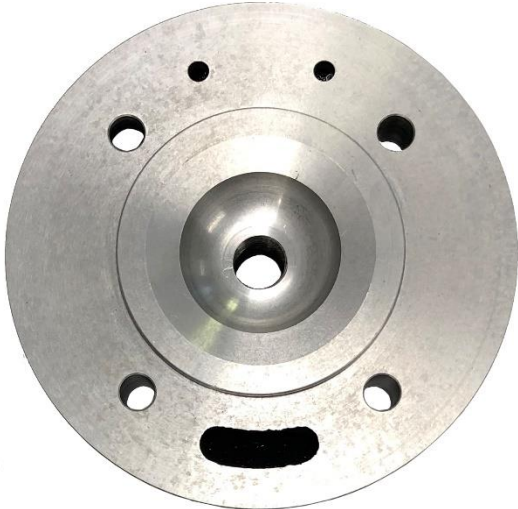
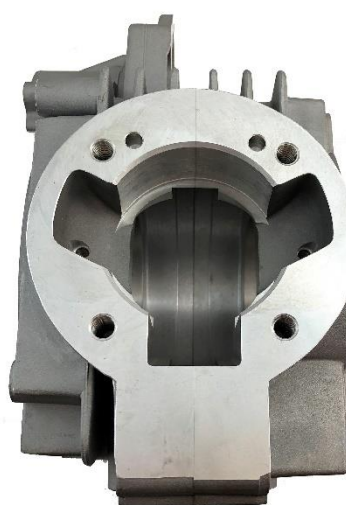
<p>PHOTO OF THE BASE OF THE CYLINDER</p>	<p>PHOTO OF THE COMBUSTION CHAMBER</p>
	 <p>SPEC 1 PRE 2019</p>
<p>PHOTO OF EXHAUST MANIFOLD</p>	<p>PHOTO OF THE COMBUSTION CHAMBER</p>
	 <p>SPEC 2 POST 2019</p>

PHOTO OF CRANKCASE
 – GASKET FACE



PRE 2018 – SUIT 18MM CRANK

PHOTO OF CRANKCASE
 – GASKET FACE



POST 2018 – SUIT 20MM CRANK

PHOTO OF CRANKCASE
 – INTERIOR (HORIZONTAL VIEW)



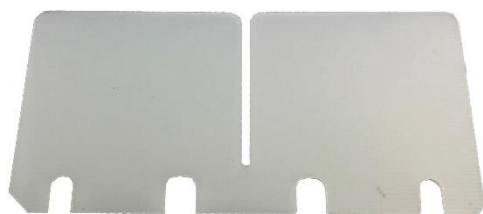
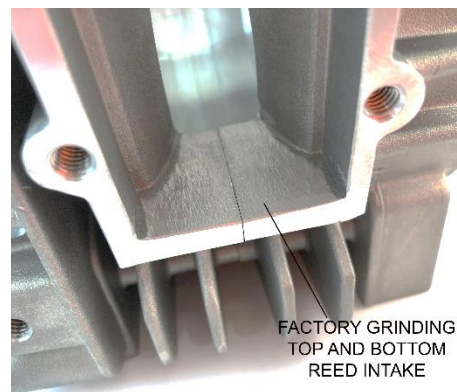
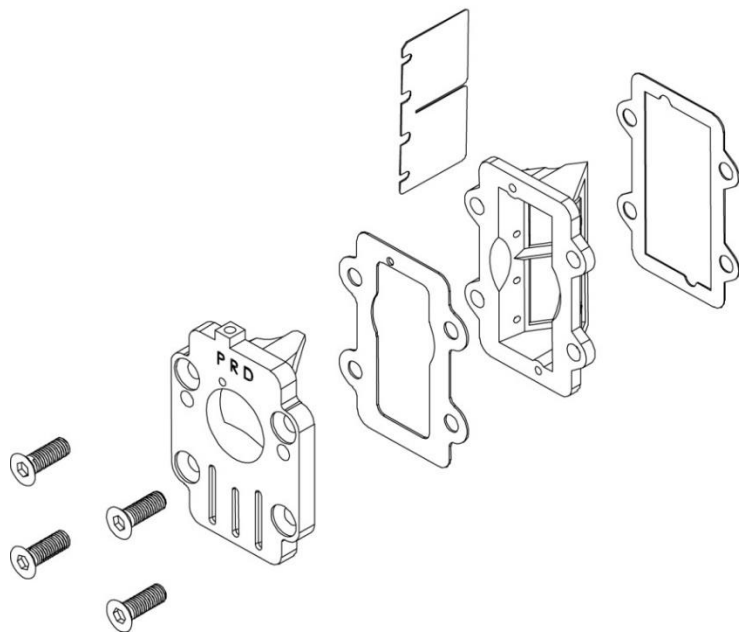
PRE 2018 – SUIT 18MM CRANK

PHOTO OF CRANKCASE
 – INTERIOR (HORIZONTAL VIEW)



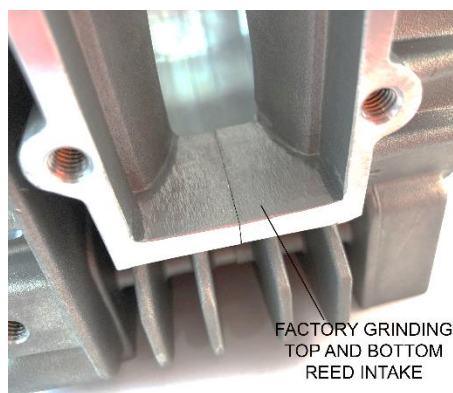
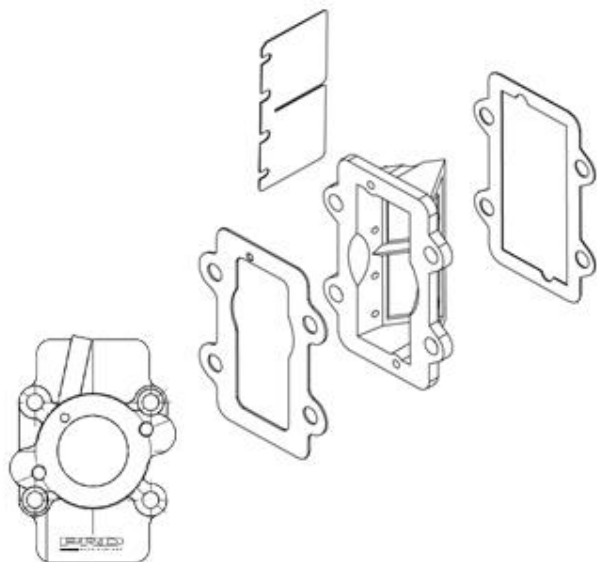
POST 2018 – SUIT 20MM CRANK

REED INTAKE ASSEMBLY



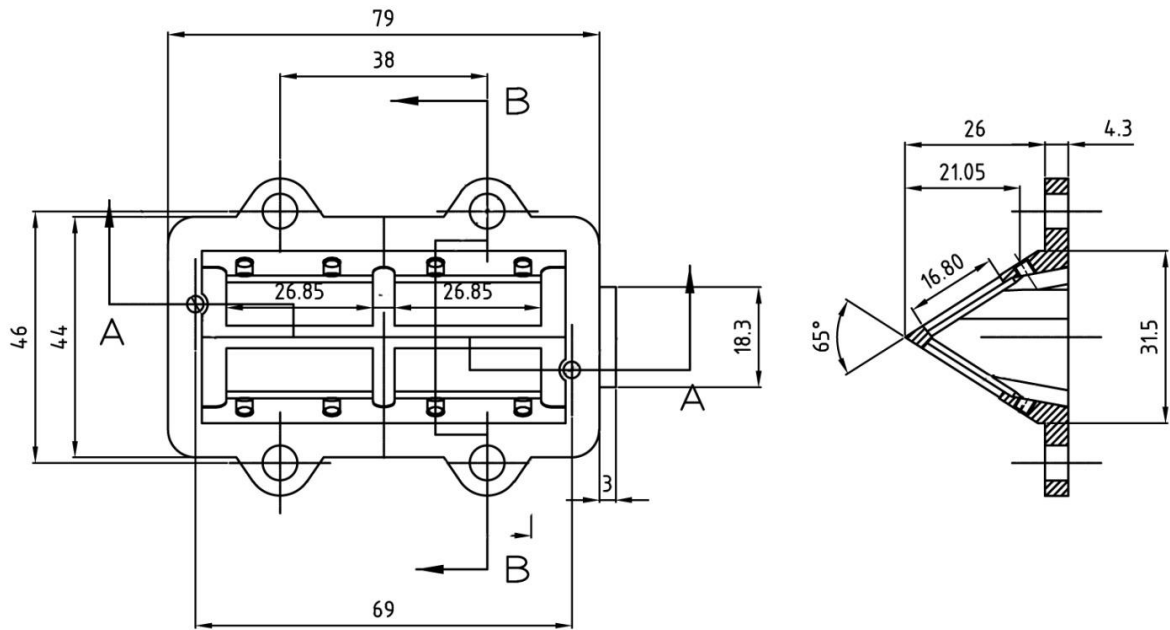
PRE 2018 - REED BLOCK

REED INTAKE ASSEMBLY



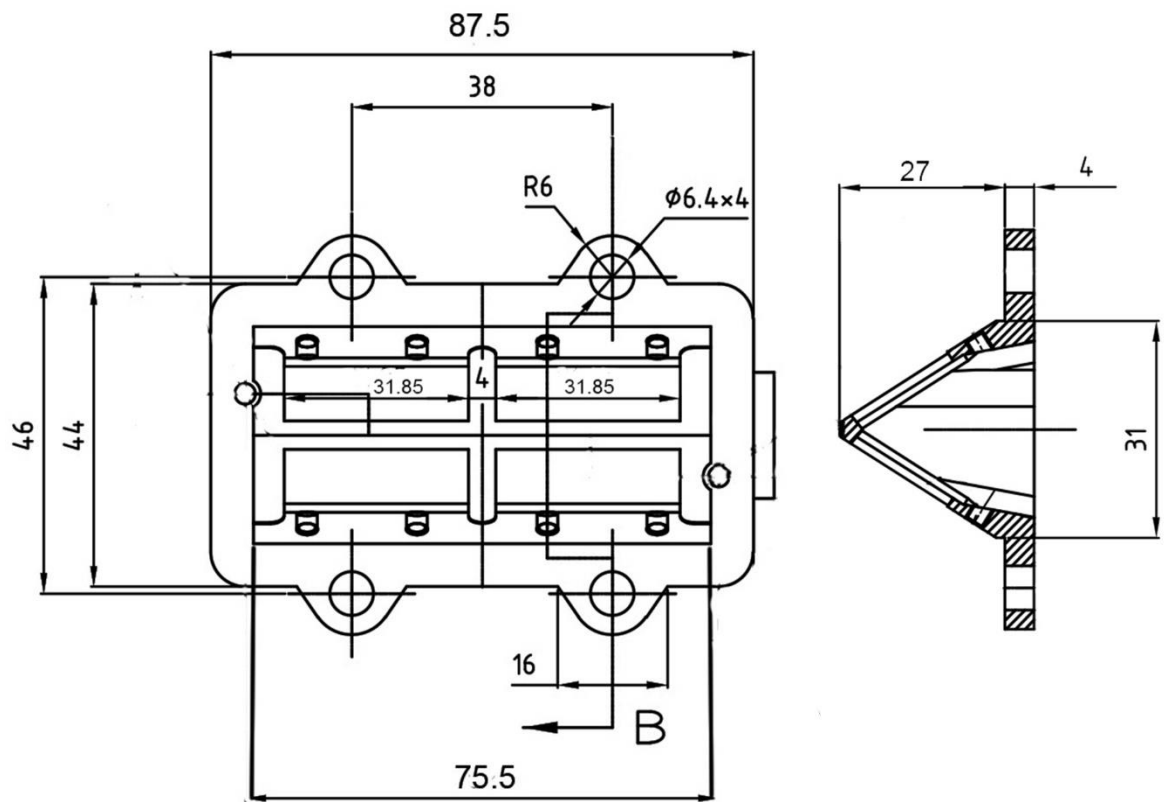
POST 2018 - LARGE REED BLOCK

DRAWING OF THE REED BLOCK



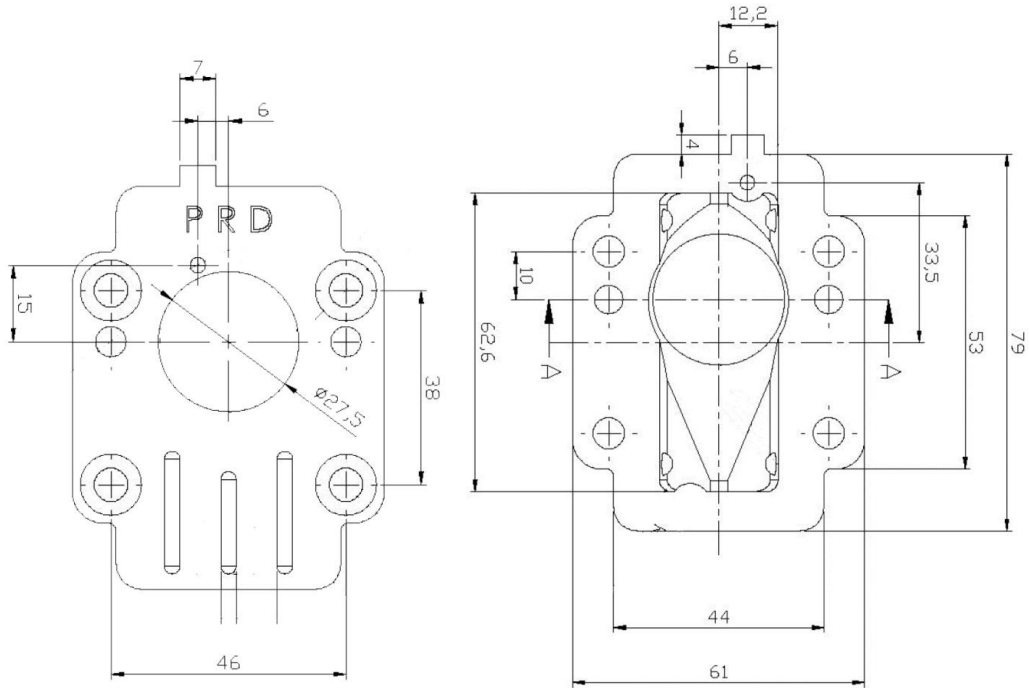
PRE 2018

DRAWING OF THE REED BLOCK



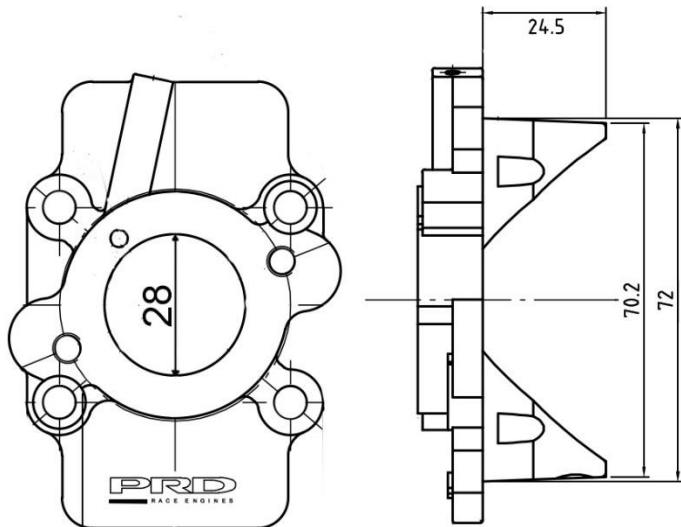
POST 2018

DRAWING OF THE REED MANIFOLD

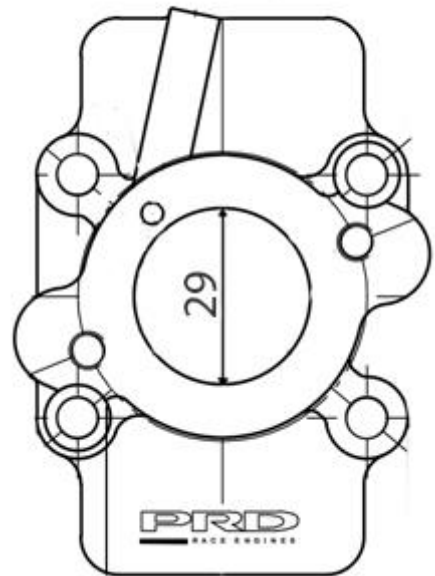


PRE 2018

DRAWING OF THE REED MANIFOLD

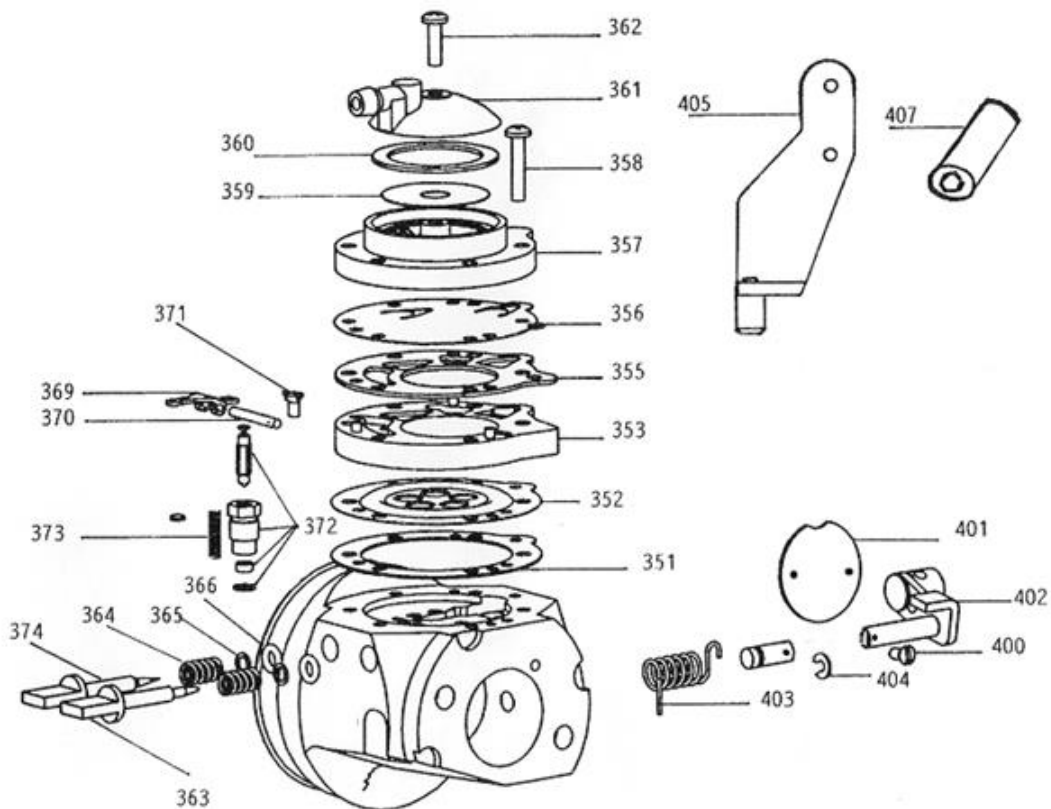


POST 2018



POST 2024

CARBURETTOR



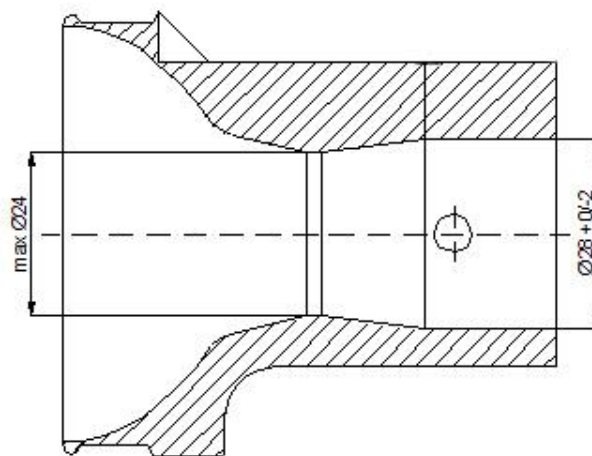
IBEA PRD L9

**PHOTO OF
CARBURETTOR**

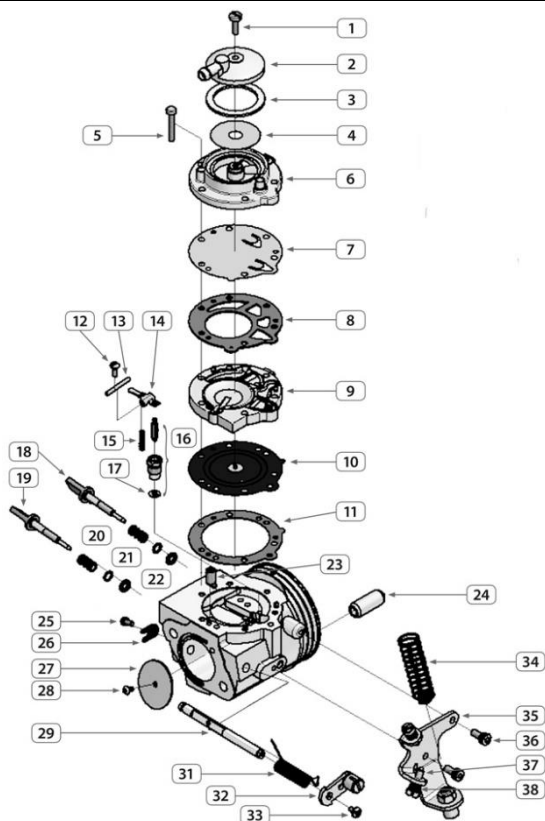
**DRAWING OF THE CROSS
SECTION**



MARKED PRD L9



CARBURETTOR



Tillotson HW 30A PRD



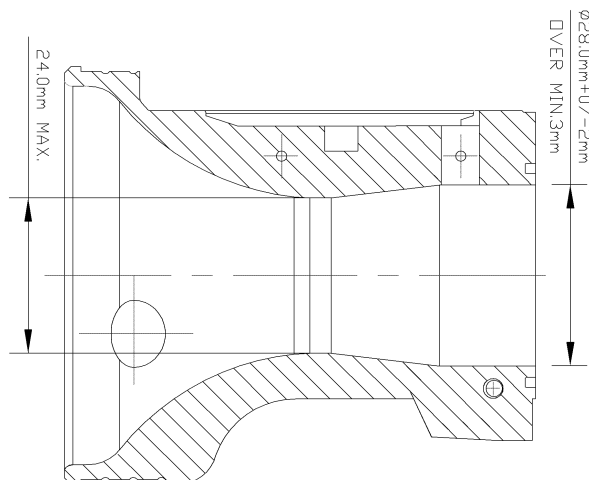
SPEC 2 DUMP TUBE WITH ATOMISER HOLES

**PHOTO OF
 CARBURETTOR**

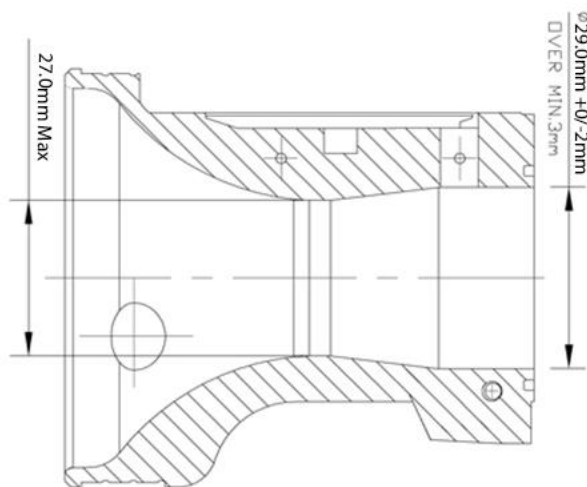
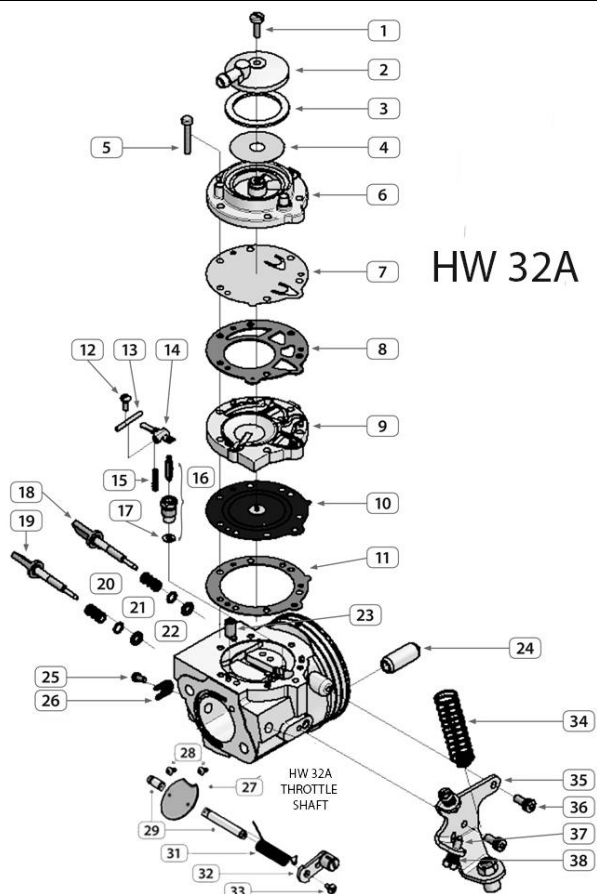
**DRAWING OF THE CROSS
 SECTION**



MARKED HW 30A PRD



CARBURETTOR



TILLOTSON HW-32A PRD

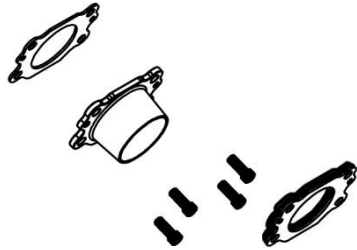
PHOTO OF CARBURETTOR

DRAWING OF THE CROSS SECTION

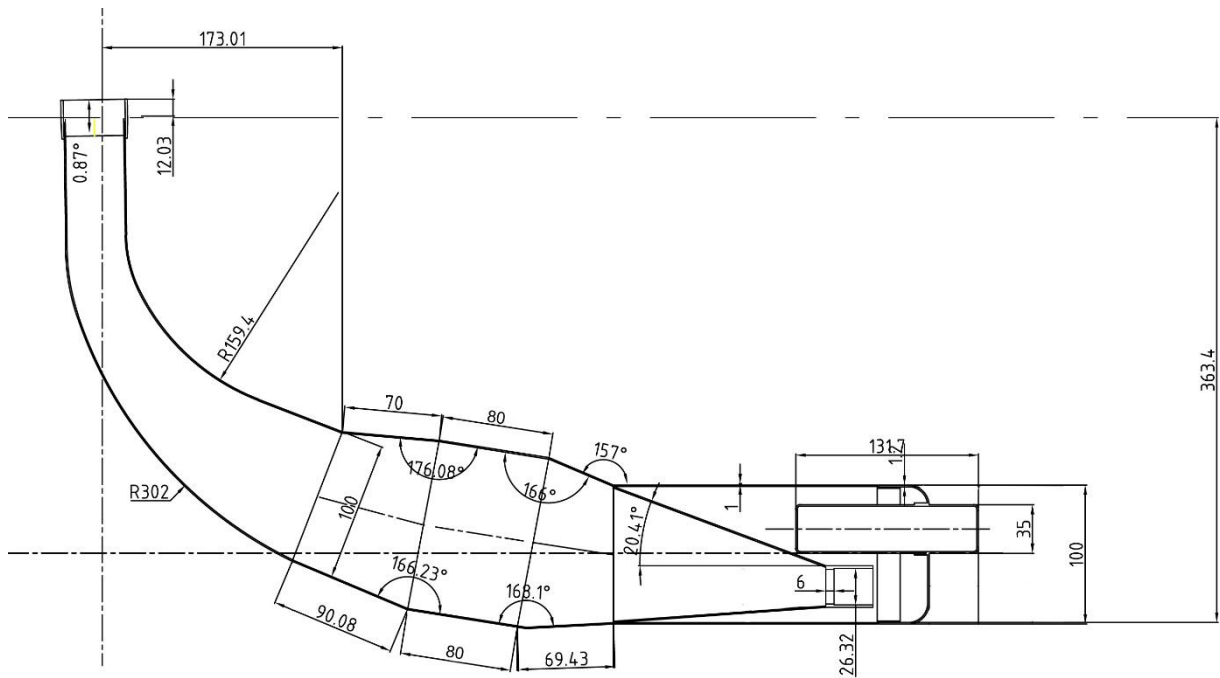
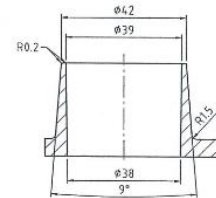
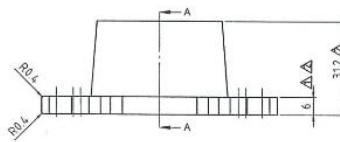
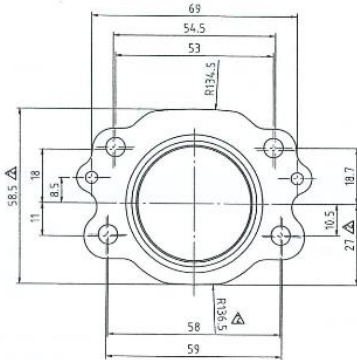
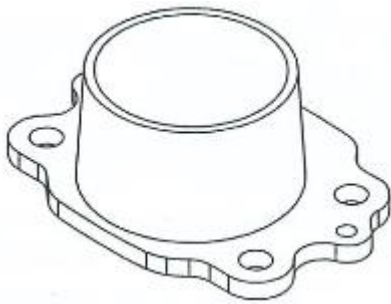


MARKED HW-32A PRD

DRAWING OF SILENCER AND COMPONENTS

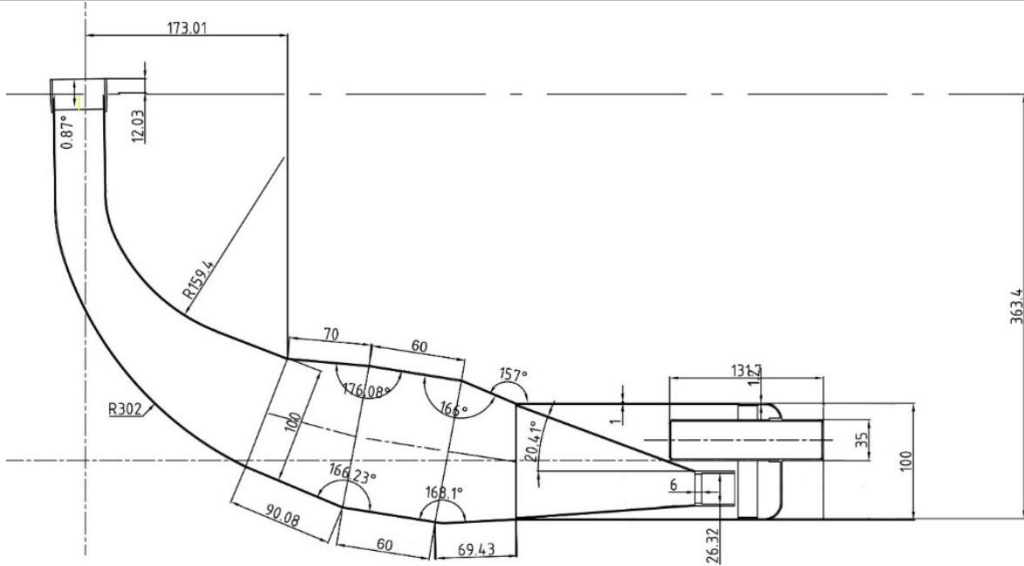


Exhaust Header and Spacers. Multiple spacers can be used.

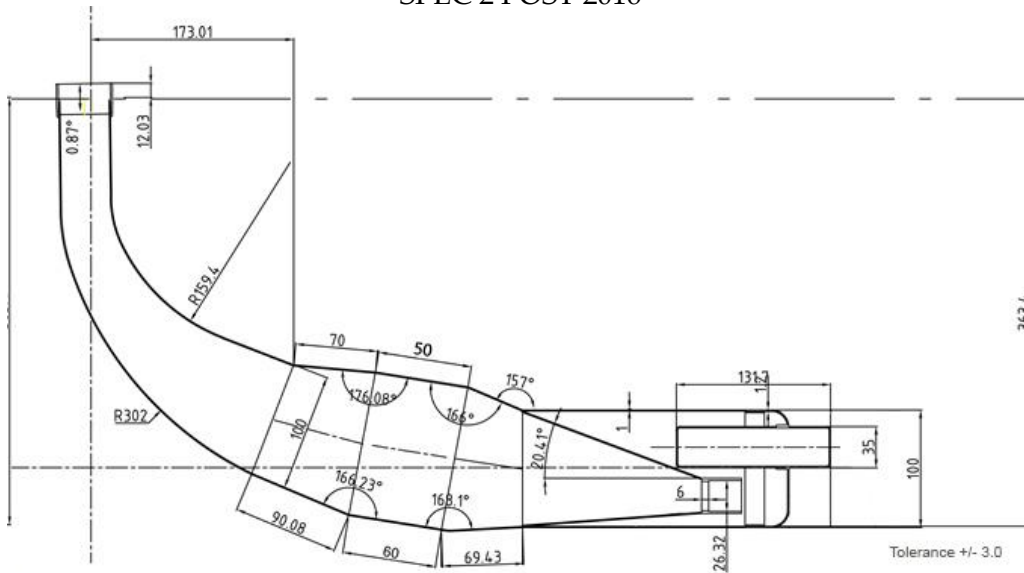


SPEC 1 PRE 2016

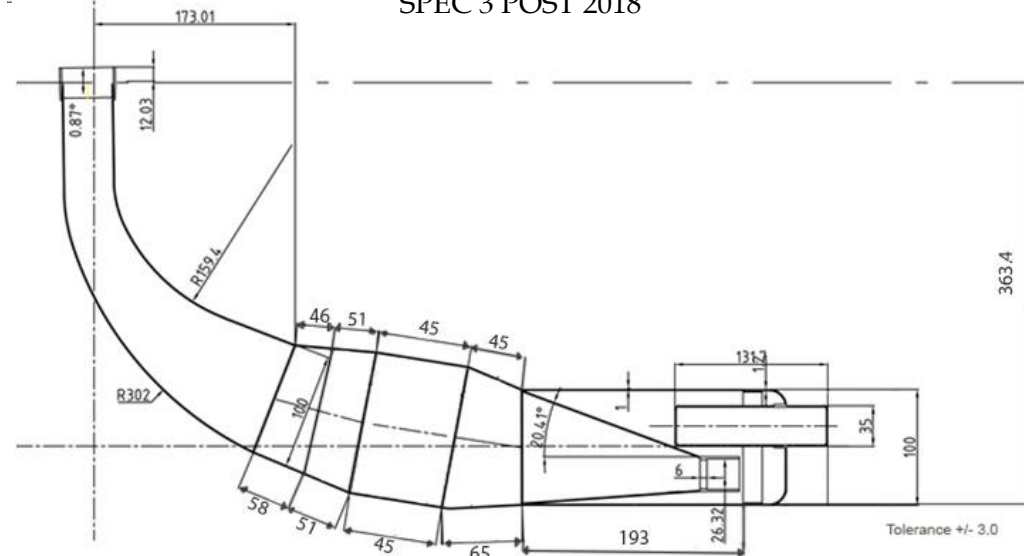
DRAWING OF SILENCER AND COMPONENTS



SPEC 2 POST 2016

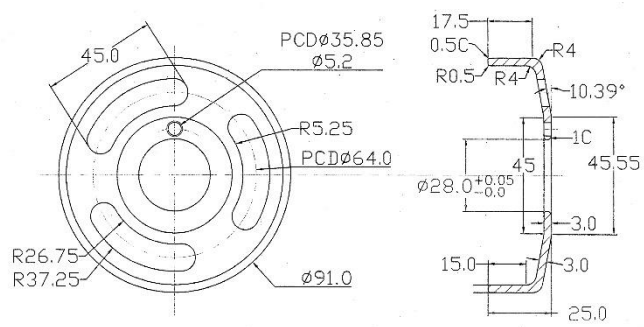
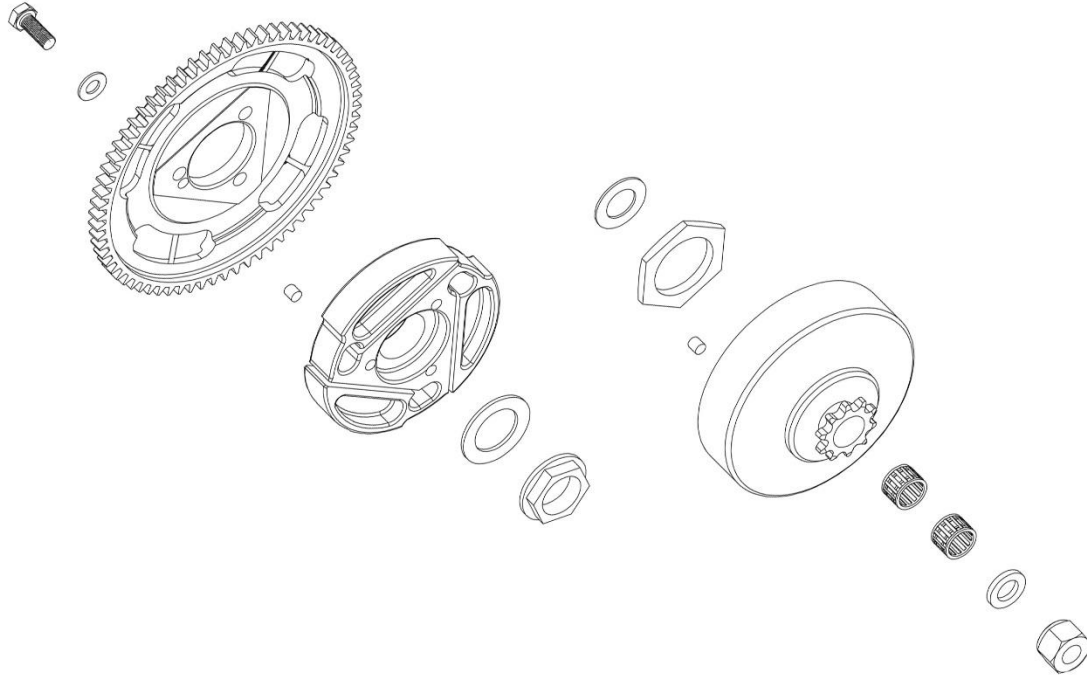


SPEC 3 POST 2018

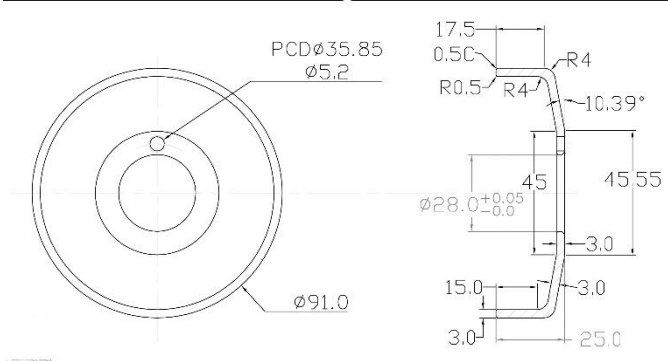


SPEC 4 POST 2024

CLUTCH SKETCH OF PARTS

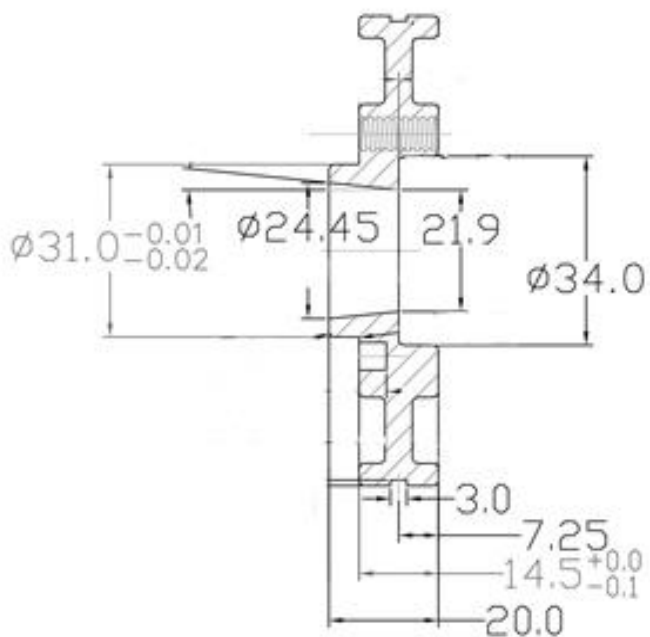
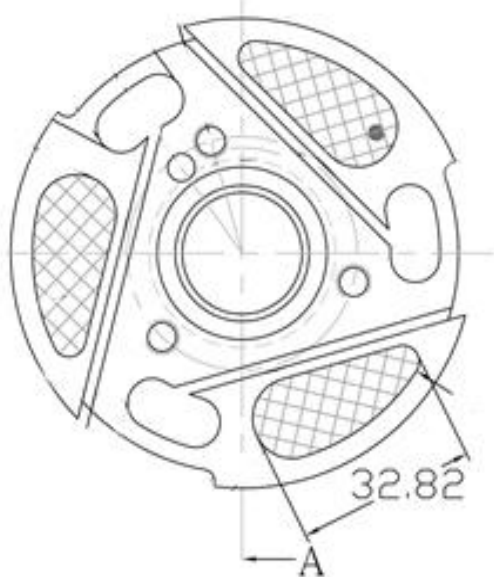


SPEC 1 DRUM

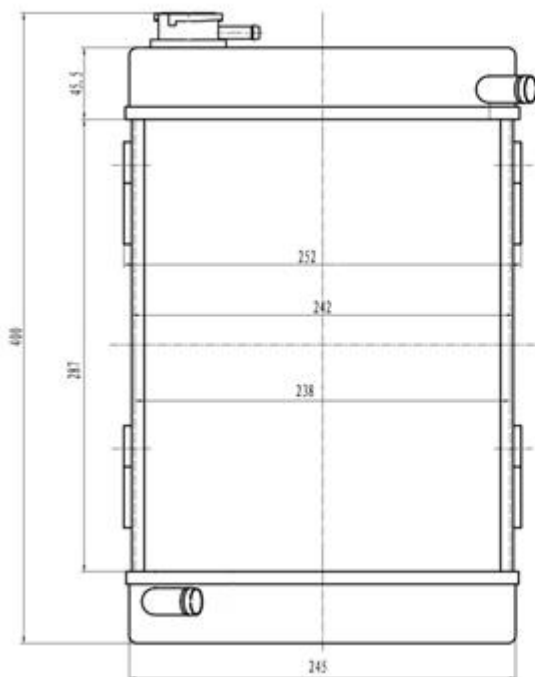


SPEC 2 DRUM NO HOLES

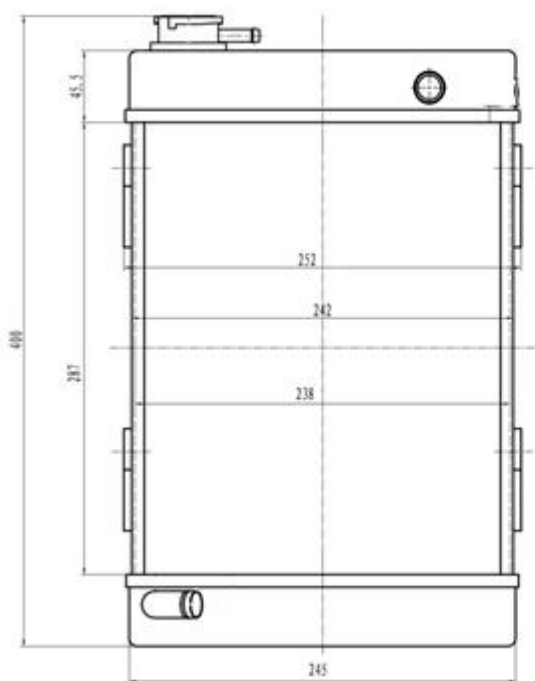
PHOTO OF THE CLUTCH CENTRE



RADIATOR DESCRIPTION AND SKETCH OF PARTS



SPEC 1



SPEC 2 STRAIGHT TOP WATER FITTING.

POWER VALVE COMPONENTS



IGNITION



PVL GREEN COIL 590 221



PVL RED COIL 500 222



PRD PVL STATOR



PRD PVL ROTOR

IGNITION



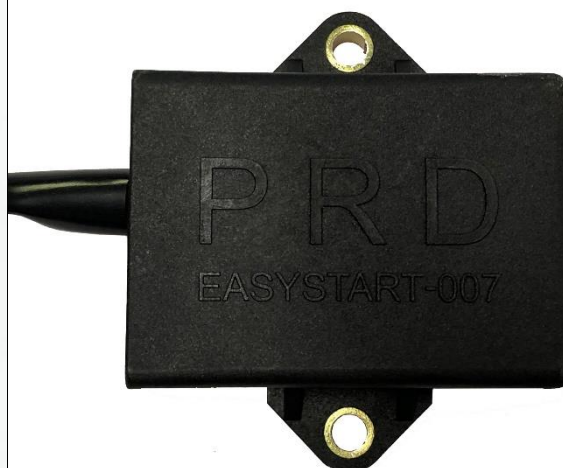
PRD EASY START CRANK SENSOR
WITH IGNITION PLATE



PRD EASY START COIL

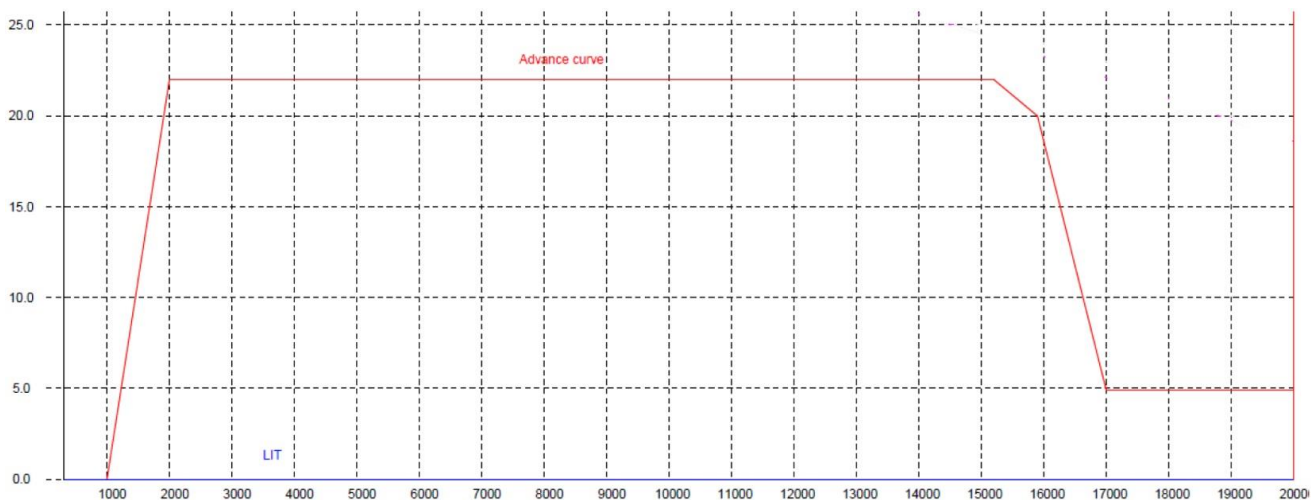


PRD EASY START ROTOR



PRD EASY START CDI MODULE 007

IGNITION SYSTEM ADVANCE CURVE



<i>Ignition Coil No.</i>	PVL 590 221 & 500 222														
<i>Ignition Stator No.</i>	PVL 1045														
<i>Ignition Rotor No.</i>	PVL 500 990														
<i>Ignition Plug Cap No.</i>	PVL 401 222														
<i>Or PRD Easy Start Ignition</i>	PRD0073ES19														
Tr/ min ° adv	1000	2000	3000	4000	5000	6000	7000	8000	10000	12000	14000	15200	15900	17000	
	0	22	22	22	22	22	22	22	22	22	22	22	20	5	

ADJUSTMENT OF IGNITION TIMING IS PERMITTED.

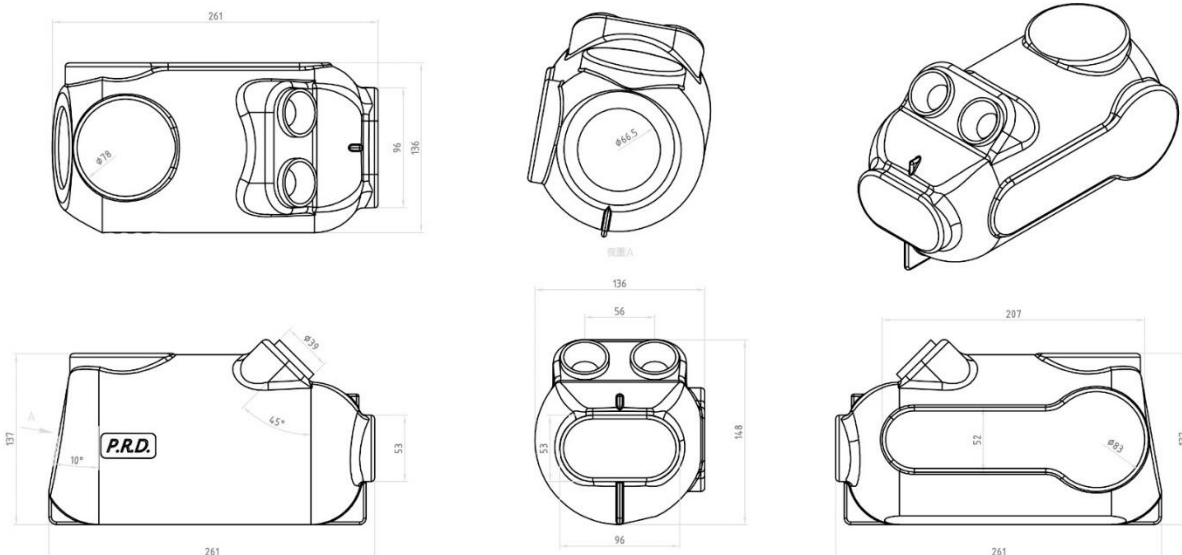
AIRBOX



Red & Yellow Dirt Filter approved for bitumen and dirt racing. Air Filter oil is permitted to be used.

AIR FILTER

AIR BOX



AIRBOX

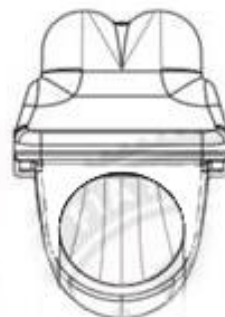
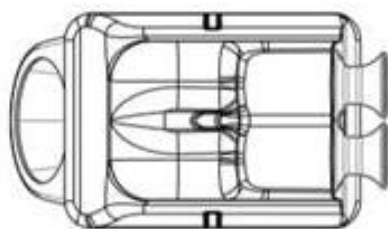
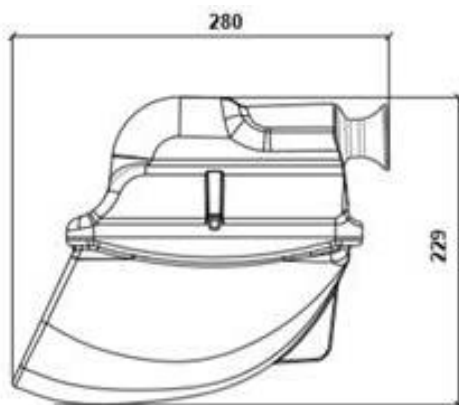


Red & Yellow Dirt Filter approved for bitumen and dirt racing. Air Filter oil is permitted to be used.



AIR FILTER TAR

AIR FILTER DIRT



Blocking of one airbox hole is permitted.
 Fitting of an airbox mounting bracket is permitted.

CARBURETTOR CHECKING TOOL



CARBURETTOR CHECKING TOOL



HEAD CHECKING TOOL



Non- Technical Items

Non-Technical Items for the PRD Galaxy include:
Seals, O Rings, Circlips, Fasteners, Washers, Water Hoses, Hose Clamps, Water Pump, Water Pump Pulley, Water Pump Drive Belt, Radiator Brackets, Radiator Overflow Bottle, Thermostats, Switches, Bearings, Exhaust Springs, Airbox Rain Cover.