

Yamaha Phazer II std. / Bender Pipe

M.Performance Tel: 0250-71321

Engine Basic Spec

Bore	72mm
Stroke	59.6mm
Con-Rod	109mm
Total cc	485.23cc
Bore/Stroke Ratio	1.208
Rpm Peak HP	7250rpm
HP,max	71hp
Rpm Peak Torque	7000rpm
Torque,max	52.6lb-ft
BMEP Hp Peak	129psi
BMEP Hp peak	8.90bar
Piston Speed	14.34m/s
Piston Speed	2823ft/min
Fuel Flow	44.2
Air Flow	112.9
A/F	11.7
BSFC	0.64

Head Basic Spec

Geometric CR/1	12.66
Trapped CR/1	6.71
Used Head Gasket	0.80mm
Head Gasket Bore	74.5mm
Deck Clearance	1mm
Head Step Cut	0.7mm
Total Squish Clea.	2.5mm
Head Bore	73mm
Used Cylinder gasket	0.45mm
Est. Crank Press.	147psi
Est. Octan R+M/2	92

Head Volume

Gasket Volume	3.49cc
Deck Volume	4.07cc
Port Closed Vol.	118.89cc
Head cc Flat Plate	26.5cc
Head cc Installed	20.8cc

Head Design

Type	central
Bowl Width + ble. rad.	47.6mm
Squish Width	13.7mm
Squish Angle	16 °
SAR	0.5629
Total deep	22.2mm

Head Squish Action

Squish Velocity	12.1m/s
Squish Pressure Ratio	1.039
At deg btdc	13.02°
Kinetic Energy	1.42mj

Std. Piston Spec

Skirt Length	mm
Pin c. to up length	mm
Pin c. to down length	mm
Pin c. to trans inlet	mm
Wrist-Pin diameter	mm
Thickness of Rings	2 *
Dome Height	
Dome average Radius	
Dome Ang under Sq.band	°
Dome volyme,cc	13.35cc
Weight Pist. + Ring	g
Weight wrist pin	g

Cylinder Reed Intake

Petal Material	Steel
Petal thickness	0.22
Reed natural frequency,Hz	174
Engine natural frequency,Hz	121
Required flow area, mm ²	1422
Designed flow area,mm ²	1158
Est. Carb size on area	33.7
Est. Carb size on cc/rpm	37.4
Intake gas velocity now est.	238
Estimated HP	54.76hp
Estimated BMEP,Psi	100.98

Transfers Spec

Main port roof to top	48.8mm
M-port liner width	27.8mm
M-port chordal width	24.9mm
M-port angle up	15°
5-Port roof to top	48.8mm
5-port liner width	18.1mm
5-port chordal width	15mm
5-port angle up	26°
Boost port roof to top	50mm
Boost port chordal width	23mm
Total area	1074mm ²
Time-Area	8.11
S-sg mm	1.96
Good to bmep/hp	142 / 77 hp
Opens	120°
Duration	120°
TAW T/B ratio (ch)	1.26
TAW T/B ratio liner	1.59
Trans Inlet	102.4mm

Exhaust Spec.

Dist. to top	30.2mm
Upper radius	18
Lower radius	18
Max width	44.4mm
Blowdown width	44.4mm
% of bore width	61.7%
Port Opens	81.02°
Duration	197.95°
Blowdown deg.	39°
Total Area	1072mm ²
Blowdown Area	687mm ²
Lower Area	385mm ²
Time-Area	13.14
Time-Area,blowdown	10.32
S-sg mm	3.19
Angle-Area	5.73
Estimated HP	61.6hp
Estimated BMEP	113.6psi
Est. Blowdown HP	80.2hp
Est. Blowdown BMEP	148psi
Length of port	51.3mm
I.D of port	39.5mm
I.D of port good to,rpm.	67-7300
Est. port i.d	36.9mm
Exh. gas velocity est.	156 fps

Carburetor Spec

Typ	B38-32
Stock main Jet	143.8
Mj based on baromet.	29.94
Mj based on air temp,c	20 +
Mj based on vapor pres.	0.52
Pilot Jet	95

Ignition Spec

Btdc,mm	
Btdc,deg	16°
Spark plug	BR9ES
Spark plug gap	0.7 - 0.8

MULLE Tuesday 10 October
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