



Port Flow Analyzer v3.0 Performance World
 Test: PW SBF 60170-194 www.performance-world.com
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Head #: Bore Adapter Diameter: 4.00"
 Customer: Int Port Adapter: Radiused Inlet
 Operator: Exh Port Adapter: Short "stub stack"

Test Comments:
 PW 60170-194 SB Ford aluminum head as cast. Note:

Report of:	Int:	Exh:	Tested at	Corr to	# Vlvs	Vlv Dia	Stem Dia	Port Area
Comparing			28"	28.0"	1	1.94"	.341"	0.00 sq in
1 Cylinders			28"	28.0"	1	1.60"	.341"	0.00 sq in

Port	Lift	L/D	Avg CFM	Cyl 1 CFM
Intake	0.100	0.050	62.0	62.0
Intake	0.200	0.099	118.9	118.9
Intake	0.300	0.149	166.8	166.8
Intake	0.400	0.198	214.3	214.3
Intake	0.500	0.248	247.8	247.8
Intake	0.600	0.297	267.6	267.6
Intake	0.650	0.322	267.7	267.7
Exhaust	0.100	0.063	50.0	50.0
Exhaust	0.200	0.125	99.6	99.6
Exhaust	0.300	0.188	136.3	136.3
Exhaust	0.400	0.250	156.8	156.8
Exhaust	0.500	0.313	168.2	168.2
Exhaust	0.600	0.375	171.7	171.7
Exhaust	0.650	0.406	172.8	172.8

NOTE: ALL FLOWBENCHES ARE NOT CREATED EQUAL!
Data from one bench to the next can be vastly different.
If you are modifying this head, it is important to "baseline" first to ensure accuracy.
The data on this sheet is for reference only.

Head File: 60170-194
 Head Comments:
 PW 60170-194 SB Ford aluminum head as cast.

Head Number	Customer
Intake	Exhaust
Layout: 1 valve & 1 port	Layout: 1 valve & 1 port
Valve Diameter, in 1.94"	Valve Diameter, in 1.60"
Stem Diameter, in .341"	Stem Diameter, in .341"
Throat Diameter, in	Throat Diameter, in
Avg Seat Angle, deg 45	Avg Seat Angle, deg 45
Port Shape: Rectangular	Port Shape: Square
Port Volume, ccs 175cc	Port Volume, ccs 66cc
Avg Port Diameter, in	Avg Port Diameter, in
Avg Port Height, in	Avg Port Height, in
Port Length, in	Port Length, in

Specifications 60170

Material	A356 Aluminum
Combustion Chamber CC	61cc
Intake Port Volume CC	175cc
Intake Port Dimension	2.00" H x 1.18" W
Exhaust Port Volume CC	66cc
Exhaust Port Design	1.32" H x 1.27" W
Spark Plug Location	Angle
Intake Valve Diameter	1.94"
Exhaust Valve Diameter	1.60"
Valve Stem Diameter	11/32" (.343")
Valve Spring Pocket I.D.	1.49"
Valve Guide Material	Manganese Bronze
Valve Guide O.D.	0.530" (.570" at base)
Rocker Stud Thread Size	7/16"x14
Valve Cover Mounting	OEM
Valve Angle	20 Degree
Valve Seat Machining	Intake=4-Angle Exhaust=2-Angle
Oiling	Through Pushrod

Hyd Flat Tappet (up to .525" lift) (Check Cam Manufacturer Recommendation)

Suggested Components	Size	Brand
Intake Valves	1.94" x 4.91" x 11/32"	PEP #P211194 (or equivalent)
Exhaust Valves	1.60" x 4.93" x 11/32"	PW #360016
Valve Spring Spec	1.26" Single w/damper	PEP #053-574-700 (16pcs)
Valve Retainers	1.25" 7-Degree 11/32"	Manley #23651-1 (16pcs)
Valve Locks	7-Degree 11/32"	PEP #059-117-060 (32pcs)
Valve Seals	11/32" x .530" Viton	PW #360480
Valve Spring Cups		PW #360112
Rocker Arm Studs	7/16"-14 x 3/8"-24	PW #360338
Pushrod Guide Plates	5/16" Flat	PW #360210
Spark Plugs	Champion RC12YC or Equivalent	



Cylinder Head Checklist

All PWHEADS “bare” cylinder heads are sold ready for assembly.

What this means is the heads are ready for the assembly process, but still **MUST** be checked per the following list below. This includes a visual inspection. Check all cylinders and measurements as you normally would for any engine assembly.

It is the responsibility of the assembly technician/installer to:

- 1) Check valves for proper seating. Lap them and check surfaces.
- 2) Check guide to valve stem clearance. Clearance as required.
- 3) Check valve guide O.D. and ensure you have the correct seals.
- 4) Check valve springs for coil bind height and ensure they are correct for your camshaft.
- 5) Check for correct installed height on valve springs. Do this with inserts installed. Shim as necessary.
- 6) Check for retainer to top of guide clearance. Do this with inserts installed.
- 7) Use a non-hardening sealer on the rocker arm studs for applications where the threads run into a port such as the Small Block Chevrolet intake.
- 8) After setting the guideplates in place, torque the rocker studs down to 45 lb-ft in three stages.
- 9) Install sensors or pipe plugs in any open external water jacket holes if applicable.
- 10) Don't forget to check for proper pushrod length after heads are installed.

Any questions, please contact your engine builder or e-mail sales@performance-world.com