

CYLINDER HEADS FLOW TECH & VALVESPRING INFO

COMPARING FLOW DATA

When comparing airflow numbers between heads, there are several things to consider. These are general guidelines... not absolutes... but guidelines that should be considered when purchasing cylinder heads.

1. You may not be getting "apples-to-apples" comparison.

Flow bench measurements are only useful and accurate when done carefully and on a **calibrated** bench. Proper alignment of the head with the bore is required to simulate exact geometry of the engine. Accurate lift measurements are also required. Finally, atmospheric conditions are needed to interpret the data. As a result, you may not be getting an "apples-to-apples" comparison when comparing numbers from different benches.

2. Bigger is not always better!

A large port doesn't always mean more power. This is especially true with street heads and in some cases, race heads. Velocity is just as important as flow. A smaller port volume generally equates to higher velocity for better street performance. The speed of the mixture determines how tightly the combustion chamber is packed. The more tightly packed the combustion chamber, the more pressure is developed when the mixture is ignited, pushing the piston with more force for more power. For example: A large port and a big flow number at 0.600" lift means low velocity (especially off-idle to 3500 rpm) and results in less throttle response. For the street, velocity is the key to overall performance.

3. Compare peak flow and low lift flow.

Cylinder head buyers have a tendency to only consider peak flow numbers. It's important to look at all the flow numbers, from .100" to peak, in order to determine the performance level of a head.

4. Type of valve influences flow.

The type of valves used will influence how well a port flows. A valve with an undercut stem is less of a restriction to flow and will allow a port to flow more, filling the cylinder better and producing more power.

5. Consider this fact for street applications.

Generally, in a street application, the smaller the valve diameter, the better the velocity and flow will be with the correctly sized port. This holds true for both the intake and the exhaust ports. When you can equal the flow of a larger port and larger valve with a smaller port and smaller valve, you have a much more efficient port, which will generally make more power and use less fuel.

6. What's the pressure differential?

The pressure differential that a head is flowed at dramatically affects the results. All Edelbrock heads are flowed at 28" of water, which more closely represents what an engine will see. Beware of companies flowing heads at anything less than 28" of water, because that is not a valid comparison with Edelbrock heads.

Edelbrock engineers test a cylinder head "flow box" on our SuperFlo SF-1020 flow bench

The flow box is a plastic model of one intake port, one exhaust port and one combustion chamber.

This cross section is created using 3-dimensional computer software and then produced using Stereolithography.

Testing a flow box allows our engineers to make the changes needed for optimum performance before taking the next step to more costly and time consuming aluminum prototypes.

AN IMPORTANT NOTE ABOUT VALVE SPRING RATES

Valve spring rates and camshafts must be compatible to avoid valve float and severe engine damage. Edelbrock Performer and Performer RPM complete cylinder heads are equipped with valve springs that are compatible with Edelbrock camshafts for safe operations within the specified RPM ranges. When using other camshafts, consult the cam manufacturer for recommended spring rates.

PLEASE NOTE:

Valve springs supplied on Performer & Performer RPM heads are designed for use with Performer RPM cams up to 6500 rpm. Valve lifts exceeding Performer RPM specs or engine speeds greater than 6500 rpm require springs that match your cam. Excessive valve lift or engine speeds higher than 6500 rpm will void the warranty on these heads.

Cylinder Heads	Installed Height	Rates	Coil Bind	Maximum RPM
60179, 60229, 60259 60269, 60279, 60289 60299, 60329, 60359 60379, 60399, 60519 60579, 60599, 60709 60719, 60739, 60759 60779, 60859, 60879 60899, 60909, 60979 60989, 60999, 61779	1.800"	1.800" = 120 lbs. 1.219" = 320 lbs.	1.130"	Performer cams: 5500 rpm Performer RPM cams: 6500 rpm
60069, 60079, 60119 60149, 60929, 60139 61629, 61909	1.885"	1.900" = 115 lbs. 1.400" = 280 lbs.	1.160"	Performer cams: 5500 rpm Performer RPM cams: 6500 rpm
60459, 60479, 60499 60559, 60669, 60679	1.975"	1.975" = 125 lbs. 1.475" = 310 lbs.	1.160"	Performer cams: 5500 rpm Performer RPM cams: 6500 rpm
77189, 77589 77619	1.900"	1.900" = 145 lbs. 1.300" = 380 lbs.	1.130"	8000 rpm
77199, 77599 77629	1.900"	1.900" = 210 lbs. 1.300" = 490 lbs.	1.170"	8000 rpm
61669	1.950"	1.950" = 235 lbs. 1.250" = 610 lbs.	1.170"	7500 rpm
61409, 77409, 77459	2.000"	2.000" = 250 lbs. 1.150" = 800 lbs.	1.070"	8000 rpm



FLOW DATA @ 28" H₂O **CYLINDER HEADS**

Engine & Part Number	.100" Intake/Exhaust	.200" Intake/Exhaust	.300" Intake/Exhaust	.400" Intake/Exhaust	.500" Intake/Exhaust	.600" Intake/Exhaust	.700" Intake/Exhaust
AMC							
#60119, #60139	65/52	130/96	192/127	235/163	258/182	260/190	-
Buick							
#60049	68/58	127/108	190/150	241/173	274/183	273/190	-
Chevrolet							
#60409, #60419	86/64	163/121	244/169	296/206	323/236	332/258	341/276
#60429, #60439	86/64	160/121	236/169	285/206	307/236	312/258	315/276
#60459, #60479, #60499, #61459	74-73/71	143-143/128	207-208/153	250-251/178	284-284/200	309-299/218	-
#60559, #61559	76-76/70	146-146/132	210-212/156	255-255/181	294-284/207	314-297/228	-
#60719, #60739, #60759	73/61	140/108	200/144	238/163	244/175	244/183	-
#60859, #60879	64/54	122/96	177/124	217/147	229/166	232/175	-
#60899, #60909, #60999	67/58	130/108	183/144	226/169	229/175	232/182	-
#60979	64/54	130/104	186/140	220/169	232/183	238/190	-
#60989	67/57	122/110	175/153	223/182	252/196	259/204	265/207
#61409	-	149-148/122	227-220/164	301-290/196	351-346/225	375-385/248	389-405/268 (C)
#61909	61/52	117/100	174/140	220/167	242/184	232/192	-
#61939	65/54	119/107	173/145	255/181	267/187	270/190	-
#61949	64/57	134/107	193/147	239/180	274/200	285/210	-
#61969	-	141/114	200/162	245/196	282/208	300/217	-
#77569, #77579, #77589, #77599	67/64	119/112	177/153	226/188	265/207	281/217	285/220
#77409, #77429	80-75/62	159-153/123	234/232-164	295-295/197	343-330/223	369-343/241	380-352/255 (A)
#77459, #77479, #77489	72-70/64	140-139/122	213-210/167	273-267/199	318-297/223	342-307/240	346-309/251 (B)
#77619, #77629, #77639, #77649	67/64	119/112	177/153	226/188	265/207	281/217	285/220
#77659	85/62	156/135	229/198	287/242	328/278	362/300	380/312
Chrysler							
#60179, #60779	69/64	129/108	188/142	232/171	249/183	251/190	-
#60929, #60189	79/70	143/126	207/160	256/188	278/206	291/217	292/223
#61779	62/52	119/105	175/142	225/169	251/185	260/190	-
#77929, #77949	85/63	150/118	211/160	261/189	298/207	322/219	325/226
Ford							
#51309	77/60	147/115	212/165	259/192	284/203	293/207	285/209
#51319	72/60	140/115	203/165	247/192	260/203	261/207	-
#60229, #60329,	72/57	132/104	183/142	216/159	245/170	249/174	244/175
#60259, #60359, #60399	70/57	128/104	183/142	219/163	251/170	255/174	246/175
#60289, #60379	72/57	131/105	185/131	214/156	223/168	226/175	-
#60299, #60399	70/57	130/104	185/142	219/163	229/172	226/175	-
#60069	88/64	153/113	195/148	233/171	265/183	270/200	-
#60079	88/64	153/113	195/148	233/171	265/183	270/200	-
#60669, #60679	76/67	140/118	207/153	260/180	300/200	319/207	326/207
#61099	72/57	144/98	211/130	266/163	313/206	343/225	364/234
#61269	67/51	141/110	209/174	254/207	287/218	309/221	321/224
#61279	67/52	141/110	209/173	254/210	287/221	309/224	321/227
#61299	70/53	141/105	212/166	273/204	315/227	343/237	355/242
#61309	65/56	142/112	207/176	260/207	296/221	312/226	318/228
#61629, #61699	58/54	120/105	180/138	227/151	260/161	265/165	-
#61649, #61659, #61669	76/67	140/118	207/153	260/180	300/200	319/207	326/207
#77169, #77179, #77189, #77199	64/54	127/108	186/140	234/167	268/189	291/195	285/199
#77389	64/54	127/108	186/140	234/167	268/189	291/195	285/199
Pontiac							
#60579	72/56	138/106	198/141	239/163	264/175	275/185	-
#60599	71/69	143/120	208/151	253/173	272/191	286/199	-
Oldsmobile							
#60519	67-67/54	131-131/102	195-195/137	245-247/163	278-256/179	268-259/188	-

Note: All flow numbers are in cfm. Intake flow numbers are long and short ports for B/B Chevys, right & left ports for Olds.

(A) Flow numbers @ .800" — 378-364/262,
@ .900" — 379-370/265
(B) Flow numbers @ .800" — 331-317/257,
@ .900" — 336-324/260

(C) Flow numbers @ .800" — 402-409/284,
@ .900" — 409-414/297



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