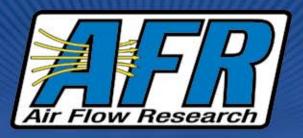


2019 Product Catalog









For Every Racing & Street Performance Application

Our mission is to manufacture the highest quality, best performing cylinder heads and intake manifolds while providing customer service beyond expectations and valuing every employee as our most important asset.















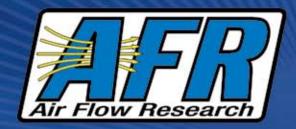




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SMALL BLOCK CHEVY 180cc – 245cc Eliminator 23° Heads
BIG BLOCK CHEVY 265cc – 300cc Oval Port 24° BBC Magnum

SMALL BLOCK FORD 165cc – 220cc Renegade 20° Heads
BIG BLOCK FORD 280cc - 315cc 14° BBF Bullitt Head
PARTS Aluminum Manifolds
MISCELLANEOUS Apparel

Note: Unless specified, no product in this catalog is legal for sale or use on pollution controlled motor vehicles in the United States.



A Company Built On Performance

For over FORTY-FIVE years Air Flow Research has been defining technological leadership in cylinder head manufacturing and flow dynamics. This complete commitment to performance has enabled Air Flow Research products to find themselves on the fastest race cars and the most powerful street machines in the country. As every engine builder will attest to, the secret to increasing horsepower and performance lies in the cylinder head. Air Flow Research's cylinder heads outflow and out horsepower everything in their league.





Street CNC Ported Chevy Head

Early Years - Innovation (1970-1980)

Air Flow Research early years were defined by their high-powered porting of cylinder heads, innovative porting techniques such as fast burning chambers, D-shaped big block Chevy exhaust ports, Hurricane chambers, and their CNC ported heads. In 1979, AFR pioneered CNC porting with their then revolutionary tape fed CNC machine. Air Flow Research quickly established itself as a premiere supplier to the fastest race teams in the country. Names like Bill Jenkins' Grumpies Toy, Bob Glidden's Fords and Chryslers, Warren Johnson, Sonny Bryant (owner Bryant Crankshafts), Joe Satmary, Richie Zul, Ed Sigmon and Frank Iaconio were getting their power from AFR.

AFR's Technological Revolution (1980-1990)

Air Flow Research became a key consultant to General Motors, designing cast iron and aluminum heads for the still-popular phase 3, 4, 5, and 6 Bowtie Small Block Chevy. AFR designed the big block D port aluminum pro-stock racing head, at that time the state-of-the-art. AFR had also branched out into NASCAR, porting heads for top drivers like Darrel Waltrip, Cale Yarbrough, Richard Childress, Junior Johnson, Richard Petty, AJ Foyt, Harry Gant, and Neil Bonnet, to name a few. Air Flow Research's pioneering use of wet-flow technology was allowing AFR cylinder heads to obtain unequaled flow and power.



One of Fifteen Haas 5 Axis CNC Porting Machines

Total Manufacturing (1990-Present)

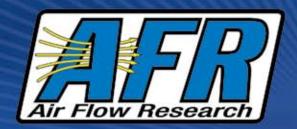
Air Flow Research advanced to full production of cylinder heads in the early 90's by incorporating advanced high density Cast Billet technology into their southern California facility. Now able to maintain full control of design and porting technology, AFR combined their 30 years of high performance racing experience into making heads available to a much broader customer base. For the first time, racers were able to obtain full 5-axis CNC ported racing heads at an affordable price. In the mid-90's, Air Flow Research was the first to offer heads for the popular Gen-2 Small Block Chevy LT-1 and LT-4 engine programs and the The first to receive a CARB EO number for emission legal street heads. AFR also introduced the patented "Hydra Rev" to eliminate Hydraulic Roller valve float. In 2004 AFR was the first to introduce the popular Gen-3 LS1 aftermarket cylinder head.

Into The Future

Air Flow Research's design, engineering, and manufacturing technology never rests. A leader today, Air Flow Research is investing in the horsepower of tomorrow with new manufacturing technology, complex dyno testing, and proprietary flow testing methods. And to assure a long standing tradition to performance, AFR is bringing up a new generation of racers and engineers to meet the demands of tomorrow's engine builders.



CAD/CAM Computer Engineered Designs



What Makes AFR Special

While Air Flow Research has a great history of success in racing, it has been their ability to bring sophisticated porting technology to their wide assortment of cylinder heads that makes them truly special. Air Flow Research pioneered the tooling and machinery necessary for true 5-axis CNC port machining, which allows total flow consistency from head to head once the optimal port design has been established. No other manufacturer incorporates this complete machining technology into their heads.





Research & Development

Cylinder head technology starts with research. That includes hundreds of hours designing and hand porting intake and exhaust ports to experiment and compare flow and horsepower characteristics. Air Flow Research has tested thousands of cylinder heads over the years, for every application from top fuel dragsters to Saturday night street rods. Understanding the application and performance requirements is where AFR starts its design criteria.

Dyno & Flow Testing

To accurately evaluate port designs, AFR spends thousands of hours on engine dynos and flow rates are all compared to determine the optimal port design for specific applications. Testing does not stop in the lab; real life testing is also required. AFR has spent more than their share of time at drag strips and circle tracks to carefully measure performance results.



Superflow 600 Flow Bench



1 of 2 Mazak Twin Pallet CNC Machines

Specialized Manufacturing/Automation

Air Flow Research uses the latest in metrology technology to bring you the finest cylinder heads available today. During the manufacturing process, cylinder head castings are mounted in the machining centers and then searched for and located using optical work coordinate probing systems. This insures the most accurate location possible to begin the machining process. This eliminates the "stacked tolerance/human error" from the equation when loading and unloading cylinder heads at each work station.

Quality Control

AFR uses state of the art metrology such as Browne & Sharp's Coordinate Measuring Machine (CMM). First and last articles are checked on all new set ups and breakdowns to ensure quality. We also use air gages to hold tight tolerances on all boring and honing operations, measuring down to tenths. Additionally, we practice in process lean principles throughout the facility to create a culture of each employee being responsible for the quality and visual appearance of his/her work, not just passing their work to the next department with little or no accountability. As well, we inspect all components we receive from vendors to complete the quality control loop. Lastly, there is complete documentation with SPA reports on all inspection processes.



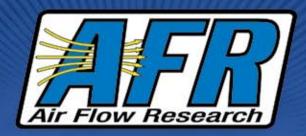
Brown & Sharpe CMM



2 Mori Seiki Twin Pallet CNC Machines Feeding a 42 Pallet Shuttle Cell

> One of three Newen CNC Controlled Valve and Seat Machine





AFR High Performance Cylinder Heads

intake p

Street Cylinder Heads

AFR offers a complete selection of street cylinder heads for Small Block Chevy and Small Block Ford engines. Whatever your application, emissions legal, street/strip trophy machine, or off-road stump puller, AFR has the perfect cylinder head for your ride. Street Heads are shipped completely assembled with 100% CNC ported intake ports, exhaust port and combustion chambers.

Race Ready Cylinder Heads

AFR Race Ready Cylinder heads offer outstanding performance on the track at a reasonable cost. Typically, Race Ready Heads give you 100% CNC ported exhaust ports, combustion chambers and intake ports with coarser machine levels than the competition package to provide terrific flow characteristics for big power gains. Of course, Race Ready Heads come complete and ready to run with AFR's proven components for maximum reliability.



Competition Package Cylinder Heads

AFR Competition Package Cylinder heads provide the next step up in power production for just a few extra dollars. In the Competition Heads, intake ports, exhaust ports and combustion chambers are all 100% CNC ported with finer machine levels and improved port shape

details over the race ready for flow characteristics that can give the power you need to win. Competition Package Heads come complete and ready to run with AFR's proven components for maximum power and reliability.

AFR Cylinder Heads FAQ



Street/Race Ready Porting



Competition Porting

Important: Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads. Mismatch does not affect engine output.

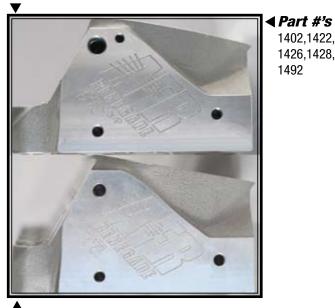


1402,1422,1420, 1426,1428,1472,

1492

SBF Emissions

- -5/8"-11 Through Hole
- Used for connecting emissions equipment (firewall side)
- Requires supplied thermactor reducer (x2) to mount alternator/accessory brackets.
- Confirm orientation of plug prior to installing cylinder head.



SBF Non-Emissions

- -7/16" Blind Hole
- -Used for Mounting Alternator/Accessory Brackets

SBF 195cc Competition/205cc/220cc

-Standard 2" spacing and 3" spacing for larger 0.D headers -Factory and Aftermarket Headers



SBF Street 165cc/185cc Exhaust Pattern

- -Standard 2" spacing
- -Factory and Aftermarket headers

180cc SBC "Eliminator" 23° Street Head

The Small Port, High Velocity



AFR's 180cc "Street" heads are a cost effective performance choice over re-worked factory heads. They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for street, towing, or street/ strip engines with displacements up to 383 cubic inches, operating up to 6000 RPM. Legal for 1994 and older emissions controlled vehicles under CARB EO #D-250-2. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve, 2.020" x 4.900" 0.A.L.	AFR #7251
8mm Bead Lock Exhaust Valve, 1.600" x 4.950" 0.A.L.	AFR #7250
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring, 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Manley Chrome Moly Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 3/8" Rocker Studs	AFR #6409
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" 0.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

180cc Street Head Flow Chart					
.200 .300 .400 .500					
Int	138	198	240	260	
Exh	110	158	190	207	

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060""; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Street CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	
Intake Port Volume	
Intake Port Dimension	2.050" H x 1.250" W x 5/16° Radius
Intake Port Location	Stock
Exhaust Port Volume	64cc
Exhaust Port Dimension	1.450" H x 1.550" W
Exhaust Port Location	100" Raised
Combustion Chamber Size	65cc or 75cc
Valve Cover Bolt Pattern	Perimeter Bolt
Valve Angle	23°
Valve Spring Pocket Diameter	
Max Valve Spring Pocket Machining	
Warning: Do not machine spring	
Deck Thickness	
Minimum Bore Diameter	4.000"
Flat Mill	006" per cc 60cc Maximum
Angle Mill	
Note: Angle mills might require a	•
Minimum Cross Sectional Area	
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
Carb E0 #	
Recommended	

Recommende	ed Components:
Intake Port Gasket	AFR #6900
Important: Do not port mate	h your intake manifold to Fel-Pro intake
gaskets as it might not precisely	fit AFR heads. See picture on page 6.
Exhaust Port Gasket	AFR #6905)
Head Gasket	350 cid Fel-Pro #1003 (AFR #6800)
Head Gasket	400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts	ARP #134-3701 (AFR #6310)
Head Studs	ARP #234-4301 (AFR #6305)
Head Bolt Washers	Manley, AFR #6320
Stud Girdle	AFR #6200
Manifold	AFR #4812
Spark Plug Starting Range	Autolite 3924

Pairs of Cylinder Heads						
Runner Volume	Plug Type	Combustion Chamber	Part #			
	CNC Street Porting					
180cc	Straight	75cc	0911			
180cc	Straight	65cc	0916			
180cc	Angle	75cc	0917			
180cc	Angle	65cc	0918			
180cc TBI/TPI*	Angle	65cc	0919			

*For 1987-1995 with 72° Bolt Angle, fits either center or perimeter bolt valve cover.

190cc Vortec "Eliminator" 23° SBC Street Head

The Small Port, High Velocity **Torque Monster**

AFR's 190cc Vortec "Street" heads are the preferred choice over re-worked factory heads. They feature 100% CNC ported intake. exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for street, towing, or street/ strip engines from 350-383 cubic inches, operating up to 6000 RPM. Not compatible with self-aligning rocker arms. They come machined for both center bolt and perimeter bolt valve covers. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts). call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve, 2.020" x 4.900" 0.A.L.	AFR #7251
8mm Bead Lock Exhaust Valve, 1.600" x 4.950" 0.A.L.	AFR #7250
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring, 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Manley Chrome Moly Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 3/8" Rocker Studs	AFR #6409
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

190cc Street Head Flow Chart						
.200 .300 .400 .500 .550						
Int	135	213	253	276	279	
Exh 110 158 190 207 211						

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Street CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A35	
Intake Port Volume	
Intake Port Dimension2.320" H x 1.297" W x	
Intake Port Location	
Exhaust Port Volume	64cc
Exhaust Port Dimension1.450" H	H x 1.550" W
Exhaust Port Location	
Combustion Chamber Size	65сс
Valve Cover Bolt Pattern Center & P	
Valve Angle	
Valve Spring Pocket Diameter	1.460" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Warning: Do not machine spring pad any deeper.	
Deck Thickness	
Minimum Bore Diameter	
Flat Mill	
Angle Mill	cc Maximum
Note: Angle mills might require a .120" thick intake gasket.	
Minimum Cross Sectional Area	2.070 sq. in.
Spark Plug Dimensions14mm x .750" w/	Gasket Seat

Recommended Components:

Intake Port Gasket ----- GM Vortec or Fel Pro #12895 (.120 Thick) Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ----- AFR #6905) Head Gasket ----- 350 cid Fel-Pro #1003 (AFR #6800) Head Bolts ----- ARP 134-3701 (AFR #6310) Head Studs ----- ARP 234-4301 (AFR #6305) Head Bolt Washers------Manley, AFR #6320 Stud Girdle------ AFR #6200 Manifold ----- GM or Aftermarket Vortec Spark Plug Starting Range------Autolite 3924

Pairs of Cylinder Heads				
Runner Volume	Plug Type	Combustion Chamber	Part #	
CNC Street Porting				
190cc	Straight	65cc	0912	

195cc SBC "Eliminator" 23° Street Head

The Ultimate Bolt-on Emissions



AFR's 195cc "Street" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for displacements up to 400 cubic inches, operating up to 6500 RPM. Legal for 1994 and older emissions controlled vehicles under CARB EO #D-250-2. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.050" x 4.900" 0.A.L.	AFR #7252
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring, 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Manley Chrome Moly Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 3/8" Rocker Studs	AFR #6409
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" O.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" O.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

195cc Street Head Flow Chart							
	.200	.300	.400	.500	.550		
Int	146	201	247	275	280		
Exh	119	166	197	213	218		

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe Street CNC Chamber, Intake, & Exhaust







Specifications & Features: Material ----- A356 Aluminum

Intake Port Volume----- 195cc

mano i ore volumo	10000
Intake Port Dimension	
Intake Port Location	Stock
Exhaust Port Volume	0.00
Exhaust Port Dimension	1.450" H x 1.550" W
Exhaust Port Location	100" Raised
Combustion Chamber Size	65cc or 75cc
Valve Cover Bolt Pattern	
Valve Angle	23°
Valve Spring Pocket Diameter	1.460" 0.D
Max Valve Spring Pocket Machining	1.750" O.D
Warning: Do not machine spring	pad any deeper.
Deck Thickness	.750"
Minimum Bore Diameter	
Flat Mill	006" per cc 60cc Maximum
Angle Mill	009" per cc 55cc Maximum
Note: Angle mills might require a .	120" thick intake gasket.
Minimum Cross Sectional Area	1.905 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
Carb EO #	
Recommended	Components:
Intake Port Gasket	AFR #6900
Important: Do not port match yo	7 11 0000
-	
gaskets as it might not precisely fit AF	
Exhaust Port Gasket	
Head Gasket	350 cid Fel-Pro #1003 (AFR #6800)
Head Gasket	400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts	
Head Studs	
Head Bolt Washers	
Stud Girdle	AFR #6200

Pairs of Cylinder Heads							
Runner Plug Combustion Part Volume Type Chamber							
CNC Street Porting							
195cc	Straight	65cc	1034				
195cc	Straight	75cc	1036				
195cc	Angle	75cc	1038				
195cc	Angle	65cc	1040				
195cc TBI/TPI*	Angle	65cc	1041				

Manifold ----- AFR #4810 or 4812 Spark Plug Starting Range------Autolite 3924

*For 1987-1995 with 72° Bolt Angle, fits either center or perimeter bolt valve cover.

195cc SBC "Eliminator" 23° Competition Race Head

The Ultimate Bolt-on Emissions **Legal Street Weapon**

AFR's 195cc "Competition" heads are the preferred choice for a more aggressive street or street/strip build. They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for displacements up to 400 cubic inches, operating up to 6500-6800 RPM. Legal for 1994 and older emissions controlled vehicles under CARB EO #D-250-2. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.080" x 4.900" 0.A.L.	AFR #7259
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
PAC Racing Springs 1.270" OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650" maximum lift, Max RPM 7000-7200	AFR #8019
7° Manley Chrome Moly Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" O.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

195cc Competition Head Flow Chart							
	.200	.300	.400	.500	.550	.600	
Int	151	211	260	293	304	308	
Exh	125	172	207	224	229	233	

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

www.airflowresearch.com

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	
Intake Port Dimension	
Intake Port Location	
Exhaust Port Volume	
Exhaust Port Dimension	1.460" H x 1.565" W
Exhaust Port Location	
Combustion Chamber Size	
Valve Cover Bolt Pattern	
Valve Angle	23°
Valve Spring Pocket Diameter	1.460" O.D
Max Valve Spring Pocket Machining	
Warning: Do not machine spring p	
Deck Thickness	
Minimum Bore Diameter	4.00"
Flat Mill	
Angle Mill	009" per cc 55cc Maximum
Note: Angle mills might require a .1	20" thick intake gasket.
Minimum Cross Sectional Area	
Spark Plug Dimensions	
Carb EO #	D-250-2
Recommended	Components:
Intake Port Gasket	AFR #6901
Important: Do not port match you	7
gaskets as it might not precisely fit AFF	
Exhaust Port Gasket	
Head Gasket	
Head Gasket	400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts	
Head Studs	ARP #234-4301 (AFR #6305)
Head Bolt Washers	Manley ΔFR #6320
Stud Girdle	Mariey, Art #0020
Manifold	
Spark Plug Starting Range	Autolite 3924
Spaint ray olarting range	Autolito 3324

Pairs of Cylinder Heads							
Runner Volume	Plug Combustion Part						
	CNC Competition Porting						
195cc	Angle	75cc	1094-716				
195cc	Angle	65cc	1095-716				

210cc SBC "Eliminator" 23° Race Head

Powerful and Proven with Standard Valve and **Stud Locations**

AFR's 210cc "Race Ready" and "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for race applications and aggressive street/strip builds up to 400 cubic inches, operating up to 6500-6800 RPM. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.080" x 5.000" 0.A.L.	AFR #7255
8mm Bead Lock Exhaust Valve 1.600" x 5.030" O.A.L.	AFR #7254
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

210cc Race Head Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	145	199	248	285	301	309	311
Exh	110	158	192	210	214	220	222

210cc Competition Head Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	147	201	257	296	310	318	322
Exh	120	160	214	225	229	235	237

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	210cc
Intake Port Dimension2.200" H x 1	.310" W x 3/8° Radius
Intake Port Location	Stock
Exhaust Port Volume	80сс
Exhaust Port Dimension	1.420" H x 1.545" W
Exhaust Port Location	250" Raised
Combustion Chamber Size	65cc or 75cc
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	1.580" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Warning: Do not machine spring pad any deeper.	
Deck Thickness	
Minimum Bore Diameter	· 4.00"
Flat Mill	per cc 60cc Maximum
Angle Mill009"	per cc 55cc Maximum
Note: Angle mills might require a .120" thick intake	e gasket.
Minimum Cross Sectional AreaRace Ready: 2.100 sq.	in, Comp: 2.115 sq. in.
Spark Plug Dimensions14mm x	
Carb EO #No	t Emissions Compliant

Perammended Components:

necommenued	i Goniponents.
Intake Port Gasket	AFR #6901
Important: Do not port match y	our intake manifold to Fel-Pro intake
gaskets as it might not precisely fit A	AFR heads. See picture on page 6.
Exhaust Port Gasket	AFR #6905
Head Gasket	350 cid Fel-Pro #1003 (AFR #6800)
Head Gasket	400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts	ARP #134-3701 (AFR #6310)
Head Studs	ARP #234-4301 (AFR #6305)
Head Bolt Washers	Manley, AFR #6320
Stud Girdle	AFR #6200
Manifold	AFR #4810 or #4811
Spark Plug Starting Range	Autolite 3922

	Pairs of Cylinder Heads							
Runner Volume								
	CNC Race Ready Porting							
210cc	Angle	75cc	1050					
210cc	Angle	65cc	1054					
	CNC Competition Porting							
210cc	Angle	75cc	1100					
210cc	Angle	65cc	1103					

220cc SBC "Eliminator" 23° Race Head

AFR's Ultimate SBC Head With Standard Valve and **Stud Location**

AFR's 220cc "Race Ready" and "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. This is AFR's largest, best flowing head for use with conventional rocker arms. Recommended for race applications or radical "Pro Street" style builds. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.100" x 5.000" 0.A.L.	AFR #7256
8mm Bead Lock Exhaust Valve 1.600" x 5.030" O.A.L.	AFR #7254
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
10° Manley Steel Retainers 1.500" O.D x 1.120" I.D x .705" I.D	AFR #8511
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.200" O.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

	220cc Race Flow Chart								
	.200	.300	.400	.500	.550	.600	.650		
Int	155	210	260	295	304	312	318		
Exh	116	162	204	220	225	229	233		

	220cc Competition Flow Chart							
	.200	.300	.400	.500	.550	.600	.650	.700
Int	145	207	263	299	312	316	322	326
Exh	120	160	214	225	229	240	244	245

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 7/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

A356 Aluminum
220cc
220" H x 1.310" W x 3/8° Radius
Stock
80сс
1.420" H x 1.545" W
250" Raised
65cc or 75cc
Perimeter Bolt
23°
1.580" O.D
1.750" O.D
ny deeper.
· 4.00"
006" per cc 60cc Maximum
009" per cc 55cc Maximum
hick intake gasket.
2.180 sq. in.
14mm x .750" w/ Gasket Seat
Not Emissions Compliant
mnononte

Intake Port Gasket	AFR #6901
Important: Do not port match your i	intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR h	eads. See picture on page 6.
Exhaust Port Gasket	AFR #6905)
Head Gasket	- 350 cid Fel-Pro #1003 (AFR #6800)
Head Gasket	- 400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts	ARP #134-3701 (AFR #6310)
Head Studs	ARP #234-4301 (AFR #6305)
Head Bolt Washers	Manley, AFR #6320
Stud Girdle	AFR #6200
Manifold	AFR #4810 or 4811
Spark Plug Starting Range	Autolite 3922

Pairs of Cylinder Heads							
Runner Volume	1149						
CNC Race Ready Porting							
220cc	Angle	75cc	1066				
220cc	Angle	65cc	1065				
	CNC Competition Porting						
220cc	Angle	75cc	1112				
220cc	Angle	65cc	1110				



AFR's 227cc "Race Ready" and "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. This head features 60/40 valve spacing and requires shaft mount rocker arms for optimum valve train geometry (can be used with .050" offset intake rockers for drag race only applications, see footnote page for more details). Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.100" x 5.000" 0.A.L.	AFR #7256
8mm Bead Lock Exhaust Valve 1.600" x 5.030" 0.A.L.	AFR #7254
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
10° Manley Steel Retainers 1.500" O.D x 1.120" I.D x .705" I.D	AFR #8511
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

227cc Race Flow Chart									
	.200	.30	0 .40	0 .5	00 .	.550	.600	.650	.700
Int	148	21	0 26	31 2	96	304	312	315	318
Exh	116	15	5 20	14 2.	20	225	229	233	237
	227cc Competition Flow Chart								
	.200	.300	.400	.500	.550	.600	.650	.700	.750
Int	152	212	260	292	310	316	322	327	329

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 7/8" curved pipe

234

245

Competition CNC Chamber, Intake, & Exhaust







Specificat	ions & Features:
Material	A356 Aluminum 227ca
Intake Port Volume	227ca
Intake Port Dimension	2.200" H x 1.290" W x 5/16° Radius
Intake Port Location	Stocl
Exhaust Port Volume	80c
Exhaust Port Dimension	1.430" H x 1.540" V
Exhaust Port Location	250" Raised
Combustion Chamber Size	65cc or 75cc
	Perimeter Bol
Valve Angle	23
Valve Spring Pocket Diameter	1.580° 0.I
Warning: Do not machine	e spring pad any deeper.
Max Valve Spring Pocket Machining	1.680
Deck Thickness	.750
	4.00
Flat Mill	006" per cc 60cc Maximun
Angle Mill	009" per cc 55cc Maximun
Note: Angle mills might re	quire a .120" thick intake gasket.
	2.340 sa. in
Spark Plug Dimensions	14mm x .750" w/ Gasket Sea
Carb EO #	Not Emissions Complian
Recommen	ded Components:
	T&D .450" off-set; AFR #6062 & #606
	Hardland Sharp .050 off-set; AFR #6035 & #6036
	AFR #690
	natch your intake manifold to Fel-Pro intak
	ely fit AFR heads. See picture on page 6. AFR #690!
	AFR #690: 350 cid Fel-Pro #1003 (AFR #6800
neau Gaskel	400 cid Fel-Pro #1014 (AFR #6802

Spark Plug Startir	ng Range		Autolite 3922				
Pairs of Cylinder Heads							
Runner Volume	Plug Type	Combustion Chamber	Part #				
CNC Race Ready Porting							
227cc	Angle	75cc	1067				
227cc	Angle	65cc	1068				
CNC Competition Porting							
227cc	Angle	75cc	1120				
227cc	Angle	65cc	1121				

661-257-8124

Head Bolts ----- ARP #134-3701 (AFR #6310) Head Studs ------ ARP #234-4301 (AFR #6305) Head Bolt Washers------Manley, AFR #6320 Manifold ----- AFR #4810 or 4811

Exh

120

160

214

230

235cc SBC "Eliminator" 23° Race Head

Performance Like A Raised Runner Head



AFR's 235cc "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. This head features 60/40 valve spacing and requires shaft mount rocker arms for optimum valve train geometry (can be used with .050 offset intake rockers for drag race only applications, see footnote page for more details). Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.125" x 5.000" 0.A.L.	AFR #7253
8mm Bead Lock Exhaust Valve 1.600" x 5.030" O.A.L.	AFR #7254
PAC #1225 Racing Springs 1.550" OD Solid Roller Dual Drag Race Spring 250 lbs. on seat, .800" max lift Max RPM 8000-8200	AFR #8001
10° Titanium Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8505
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.200" O.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" O.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

235cc Competition Flow Chart									
	.200	.300	.400	.500	.550	.600	.650	.700	.800
Int	159	221	261	295	311	318	327	331	336
Exh	120	165	214	228	237	238	243	245	250

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 7/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	235cc
Intake Port Dimension 2.200	
Intake Port Location	
Exhaust Port Volume	80cc
Exhaust Port Dimension	
Exhaust Port Location	
Combustion Chamber Size	70cc or 80cc
Valve Cover Bolt Pattern	
Valve Angle	23°
Valve Spring Pocket Diameter	1.580" O.D
Max Valve Spring Pocket Machining	1.680"
Warning: Do not machine spring pad any	deeper.
Deck Thickness	.750"
Minimum Bore Diameter	
Flat Mill	006" per cc 65cc Maximum
Angle Mill	009" per cc 60cc Maximum
Note: Angle mills might require a .120" the	ick intake gasket.
Minimum Cross Sectional Area	2.470 sq. in.
Spark Plug Dimensions	-14mm x .750" w/ Gasket Seat
Carb EO #	Not Emissions Compliant
Decemmended Con	·

Shaft Mount Rocker Arms T&D .450" off-set; , AFR #6062 & 6063 Stud Mount Rocker Arms Hardland Sharp .050 off-set; AFR #6035 & #6036 Intake Port Gasket AFR #6901
Important: Do not port match your intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See picture on page 6.
Exhaust Port Gasket AFR #6905
Head Gasket 350 cid Fel-Pro #1004 or AFR #6801
Head Gasket 400 cid Fel-Pro #1014 (AFR #6802)
Head Bolts ARP #134-3701 (AFR #6310)
Head Studs ARP #234-4301 (AFR #6305)
Head Bolt WashersManley, AFR #6320
Stud Girdle AFR #6208
Manifold AFR #4810 or 4811
Spark Plug Starting RangeAutolite 3922

Pairs of Cylinder Heads				
Runner Plug Combustion Part #				
CNC Competition Porting				
235cc	Angle	70cc	1132-TI	
235cc	Angle	80cc	1130-TI	

245cc SBC "Eliminator" 23° NPP Race Head

Our Largest and Most Powerful 60/40 Head



AFR's 245cc "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. NPP stands for "no pushrod pinch", and this is AFR's largest 60/40 valve spacing head. These heads require shaft mount rocker arms for all applications and has extra machining for 3/8" pushrod clearance. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.125" x 5.000" 0.A.L.	AFR #7253
8mm Bead Lock Exhaust Valve 1.600" x 5.030" 0.A.L.	AFR #7254
PAC #1225 Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 250 lbs. on seat, .800" max lift Max RPM 8000-8200	AFR #8001
10° Titanium Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8505
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
Viton Valve Seals .600" O.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.696" 0.D x 1.325" I.D x .305" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

245cc Competition Flow Chart									
	.200	.300	.400	.500	.550	.600	.650	.700	.800
Int	161	224	261	301	311	320	331	337	345
Exh	128	165	214	228	237	238	243	245	250

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 7/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	
Intake Port Volume	245cc
Intake Port Dimension	2.200" H x 1.300" W x 7/16° Radius
Intake Port Location	Stock
Exhaust Port Volume	80cc
Exhaust Port Dimension	1.465" H x 1.570" W
Exhaust Port Location	250" Raised
Combustion Chamber Size	70cc or 80cc
Valve Cover Bolt Pattern	
Valve Angle	23°
Valve Spring Pocket Diameter	1.580" O.D
Max Valve Spring Pocket Machining	1.680"
Deck Thickness	.750"
Minimum Bore Diameter	
Flat Mill	006" per cc 65cc Maximum
Angle Mill	009" per cc 60cc Maximum
Note: Angle mills might require a .120	O" thick intake gasket.
Minimum Cross Sectional Area	
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
Carb FO #	

Recommended Components:

Shaft Mount Rocker Arms -T&D .450" off-set (Requires .180	offset lifters) AFR #6063
Shaft Mount Rocker Arms T&D .550" off-set (With state	ndard lifters) AFR #6064
Intake Port Gasket	AFR 6901
Important: Do not port match your intake mani	ifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See p	icture on page 6.
Exhaust Port Gasket	AFR #6905
Head Gasket 350 cid Fel-F	Pro #1004 or AFR #6801
Head Gasket 400 cid Fel-	-Pro #1014 (AFR #6802)
Head Bolts ARP	#134-3701 (AFR #6310)
Head Studs ARP	#234-4301 (AFR #6305)
Head Bolt Washers	Manley, AFR #6320
Manifold	AED #4010 or 4011

Spark Plug Starting Range------Autolite 3922

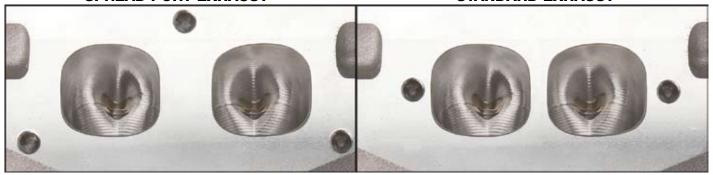
Pairs of Cylinder Heads				
Runner Volume	Plug Type	Combustion Chamber	Part #	
CNC Competition Porting				
245cc	Angle	70cc	1137-TI	
245cc	Angle	80cc	1138-TI	

0, 227, 235cc, & 245cc SBC "Eliminator" 23° SPREAD PORT Racing Heads



SPREAD PORT EXHAUST





Spread port heads have the center exhaust ports spread apart approximately 1/2" over stock GM heads. The reason for spread port heads is to achieve additional cooling in the center of the head where the heat concentration is greatest. As standard headers do not fit, spread port headers are required since the center ports are spread further apart than stock GM products. The increased spacing on the exhaust port also requires the use of exhaust gasket Fel-Pro #1409. Spread port heads only come with a Stahl bolt pattern. AFR's spread port head has all the benefits and features of AFR's standard head. As all benefits and features are the same, please review respective page for product details (i.e. for 210cc spread port, view page 12 on SBC Eliminator 210cc). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information.

Pairs of Cylinder Heads				
Runner Volume	Plug Type	Exhaust Type/ Combustion Chamber	Part #	
	Race Read	dy CNC Strip Porting		
210cc	Angle	Spread Port 65cc	1059	
210cc	Angle	Spread Port 75cc	1055	
227cc	Angle	Spread Port 65cc	1074	
227сс	Angle	Spread Port 75cc	1075	
Competition CNC Strip Porting				
210cc	Angle	Spread Port 65cc	1106	
210cc	Angle	Spread Port 75cc	1105	
220cc	Angle	Spread Port 65cc	1114	
220cc	Angle	Spread Port 75cc	1115	
227cc	Angle	Spread Port 65cc	1124	
227cc	Angle	Spread Port 75cc	1125	
235cc	Angle	Spread Port 70cc	1134-TI	
235сс	Angle	Spread Port 80cc	1136-TI	
245cc	Angle	Spread Port 70cc	1139-TI	
245cc	Angle	Spread Port 80cc	1140-TI	

180, 195, 210 & 227cc SBC Gen II LT1/ LT4 "Eliminator" 23° Heads



AFR's LT1/LT4 heads are designed for the Gen II reverse cooled SBC engine from 1992-1997. They feature all the same benefits and quality components as AFR's Gen I SBC Heads. Additionally they are machined to accept both center bolt and perimeter bolt valve covers. Not compatible with self-aligning rocker arms.

Please view the corresponding pages for product details and flow charts. EX: for 195 LT Street Port view page 11 on SBC 195cc Eliminator. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Recommended Components: SBC 180-195cc LT Street Porting

Intake Port Gasket	GM #12524653 LI1 / FeI-Pro #1284
Important: Do not port match	your intake manifold to Fel-Pro/GM LT1
gasket as it does not precisely fit A	AFR heads. See picture on page 6.
Exhaust Port Gasket	AFR #6905
Head Gasket	350cid Fel-Pro #1074, AFR #6803
Head Bolts	ARP #134-3701, AFR #6310
Head Studs	ARP #234-4301, AFR #6305
Head Bolt Washers	Manley, AFR #6320
Stud Girdle (AFR Specific)	AFR #6200
Manifold	GM LT1 or LT4
Spark Plug Starting Range	Autolite 3924

SBC 195-227cc LT Competition/Race Ready Porting

Intake Port Gasket	AFK #6860
Important: Do not port match you	ur intake manifold to Fel-Pro/GM LT1
gasket as it does not precisely fit AFR	R heads. See picture on page 6.
Exhaust Port Gasket	AFR #6905
Head Gasket	350cid Fel-Pro #1074, AFR #6803
Head Bolts	ARP #134-3701, AFR #6310
Head Studs	ARP #234-4301, AFR #6305
Head Bolt Washers	Manley, AFR #6320
Stud Girdle (AFR Specific)	AFR #6200
Manifold	GM LT4 or Edelbrock LT4
Spark Plug Starting Range	Autolite 3922







Pairs of Cylinder Heads							
Runner Volume Combustion Chamber		Plug Type	Part #				
	SBC LT Street CNC Port	ted Head					
*180cc	54cc	GM LT1	0909				
*195cc	54cc	GM LT1	1032				
*180cc	65cc	GM LT1	0908				
*195cc	65cc	GM LT1	1031				
	SBC LT Race Ready CNC P	Ported Head					
210cc	210cc 65cc		1057				
227cc	227cc 65cc		1076				
	SBC LT Competition CNC Ported Head						
*195cc	65cc	GM LT4	1039				
210cc	65cc	GM LT4	1101				
227cc	65cc	GM LT4	1126				

^{*} Heads marked with Asterick are emissions legal

17

220, 227, 235cc, & 245cc SBC "Eliminator" 23° SMALL HEAD BOLT Racing Heads





Includes 4 special ARP Studs AFR P/N 6404



Small head bolt hole heads are specifically designed for severe endurance, high compression, high cylinder pressure, alcohol fuel applications. Two head bolts in Small Block Chevy heads are inherently thin with the OEM design. These smaller head bolts add an extra 1/16" of material to thin areas increasing the strength of the head. The heads are supplied with four special ARP 3/8" X 7/16" head stud that must be used in this head. AFR's small head bolt heads has all the same features and benefits of AFR standard heads. As all the features and benefits are the same, please review the respective page for product details. To ensure trouble free operation of AFR cylinder heads & parts please view footnotes on pg 51 for additional information.

	Pairs of Cylinder Heads				
Runner Volume	Part #				
	Competiti	on CNC Strip Porting			
220cc	Angle	Std Exhaust 65cc	1200		
220cc	Angle	Std Exhaust 75cc	1201		
220cc	Angle	Spd Port 65cc	1203		
220cc	Angle	Spd Port 75cc	1204		
227cc	Angle	Std Exhaust 65cc	1205		
227cc	Angle	Std Exhaust 75cc	1206		
227cc	Angle	Spd Port 65cc	1207		
227cc	Angle	Spd Port 75cc	1208		
235cc	Angle	Std Exhaust 70cc	1209-TI		
235cc	Angle	Std Exhaust 80cc	1210-TI		
235cc	Angle	Spd Port 70cc	1211-TI		
235cc	Angle	Spd Port 80cc	1212-TI		
245cc	Angle	Std Exhaust 70cc	1214-TI		
245cc	Angle	Std Exhaust 80cc	1215-TI		
245cc	Angle	Spd Port 70cc	1216-TI		
245cc	Angle	Spd Port 80cc	1217-TI		

210cc LSx Cathedral Port "Mongoose"
15° Competition Head Competition CNC Cham

Competition CNC Chamber, Intake, & Exhaust





AFR's emission legal (CARB #D-250-4) 210cc LSX heads are the cost effective performance choice over re-worked factory heads. They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers and high quality components throughout. Recommended for street, towing, or street/strip engines with displacements up to 383 cubic inches, operating up to 6300 RPM. Requires minimum 3.900" bore size for intake valve clearance. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.020" x 4.900" 0.A.L.	AFR #7207
8mm Bead Lock Exhaust Valve 1.600" x 4.900" O.A.L.	AFR #7228
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Titanium Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8512
7° Bead Locks Valve Keepers	AFR #9007*
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" O.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

*LS1 bead locks and aftermarket bead locks are not interchangeable. GM made their bead lock radius and depth different, AFR locks are the same as GM LS1.

210cc Competition Flow Chart						
	.200 .300 .400 .500 .550 .600					
Int	147	214	249	284	296	301
Exh	111	150	209	225	230	233

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 3.900"; intake 3/4" radius plate exhaust 1 3/4" curved pipe





Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	210cc
Intake Port Dimension	3.275" H x 1.120" W x 5/16° top 3/8° Bottom
Intake Port Location	Stock
Exhaust Port Volume	84cc
Exhaust Port Dimension	1.415" H x 1.710" W
	Stock
Combustion Chamber Size	66cc
Valve Cover Bolt Pattern	Center Bolt
Valve Angle	15°
	1.510" 0.D
	1.525" O.D
Minimum Bore Diameter	3.900"
Flat Mill	006" per cc, 58cc Maximum
Minimum Cross Sectional Area	2.185 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Tapered Seat

Intake Port Gasket	GM or FAST
Exhaust Port Gasket	GM #12558573
Head Gasket	Cometic 3.930 .040" or AFR #6846
Head Bolts (97-03)	ARP 134-3609 or AFR #6330
Head Studs (97-03)	ARP 234-4110 or AFR #6331
Head Bolts (04+)	ARP 134-3610 or AFR #6334
Head Studs (04+)	ARP 234-4317 or AFR #6335
Head Bolt Washers	Manley, AFR #6320
Manifold	FAST 90mm, 92mm or 102mm
Spark Plug Starting Range	NGK TR55

Pairs of Cylinder Heads					
Runner Combustion Part #					
CNC Competition Porting					
210cc CNC Ported w/parts 66cc 1510					

Competition CNC Chamber,

The Medium Sized, High Velocity **Torque Monster**



AFR's 215cc LSX heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers and high quality components throughout. Recommended for moderate street or street/strip builds with displacements up to 408 cubic inches. operating up to 6500 RPM. Requires minimum 3.900" bore size for intake valve clearance. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.020" x 4.900" 0.A.L.	AFR #7207
8mm Bead Lock Exhaust Valve 1.600" x 4.900" O.A.L.	AFR #7228
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Titanium Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8512
7° Bead Locks Valve Keepers	AFR #9007*
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" O.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

^{*}LS1 bead locks and aftermarket bead locks are not interchangeable. GM made their bead lock radius and depth different, AFR locks are the same as GM LS1.

215cc Competition Flow Chart						
	.200	.300	.400	.500	.550	.600
Int	149	215	259	293	300	303
Exh	111	150	209	225	230	233

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe



Intake, & Exhaust





Specifications & Features:

	A356 Aluminum
	215cc
Intake Port Dimension	3.275" H x 1.120" W x 5/16° top 3/8° Bottom
Intake Port Location	Stock
Exhaust Port Volume	85cc
Exhaust Port Dimension	1.415" H x 1.710" W
Exhaust Port Location	Stock
Combustion Chamber Size	65cc
	Center Bolt
Valve Angle	15°
Valve Spring Pocket Diameter	1.510" O.D
Max Valve Spring Pocket Machining	1.525" 0.D
Deck Thickness	750°
Minimum Bore Diameter	3.900"
Flat Mill	
Minimum Cross Sectional Area	2.260 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Tapered Seat

Intake Port Gasket	GM or FAST
Exhaust Port Gasket	GM #12558573
Head Gasket	Cometic 4.160 .040" or AFR #6848
Head Bolts (97-03)	ARP 134-3609 or AFR #6330
Head Studs (97-03)	ARP 234-4110 or AFR #6331
Head Bolts (04+)	ARP 134-3610 or AFR #6334
Head Studs (04+)	ARP 234-4317 or AFR #6335
Head Bolt Washers	Manley, AFR #6320
Manifold	FAST 90mm, 92mm or 102mm
Spark Plug Starting Range	NGK TR55

Pairs of Cylinder Heads				
Runner Combustion Part #				
CNC Competition Porting				
215cc	CNC Ported w/parts 65cc	1530		

230cc LSx Cathedral Port "Mongoose
15° Competition Head

Competition CNC Charles & Expansion
Intake & Expansion Competition CNC Chamber,

Intake, & Exhaust





AFR's emission legal (CARB #D-250-4) 230cc LSX heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers and high quality components throughout. Recommended for aggressive street or street/strip builds with displacements up to 427 cubic inches, operating up to 6500 RPM. Requires minimum 3.900" bore size for intake valve clearance. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.080" x 4.900" 0.A.L.	AFR #7208
8mm Bead Lock Exhaust Valve 1.600" x 4.900" O.A.L.	AFR #7228
PAC Racing Springs 1.270" OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650" maximum lift Max RPM 7000-7200	AFR #8019
7° Titanium Retainers 1.245" O.D x .885" I.D x .655" I.D	AFR #8512
7° Bead Locks Valve Keepers	AFR #9007*
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" O.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051

*LS1 bead locks and aftermarket bead locks are not interchangeable. GM made their bead lock radius and depth different, AFR locks are the same as GM LS1.

2	230cc Small Bore Competition Flow Chart							
	.200	.300	.400	.500	.550	.600		
Int	157	224	272	311	320	324		
Exh	129	183	225	244	248	252		
230cc Large Bore Competition Flow Chart								
7	230cc La	rge Bor	e Compe	tition FI	ow Char	t		
2	230cc La .200	rge Bor .300	e Compe .400	tition FI .500	ow Char .550	t .600		
Int	1			1	ī	1		

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 3.900" SM, 4.155" LG; intake 3/4" radius plate exhaust 1 3/4" curved pipe





Specifications & Features:

	A356 Aluminum
	230cc
Intake Port Dimension	3.250" H x 1.115" W x 5/16° top 3/8° Bottom
Intake Port Location	Stock
Exhaust Port Volume	86cc
Exhaust Port Dimension	1.385" H x 1.695" W
Exhaust Port Location	Stock
Combustion Chamber Size	62cc, 65cc, or 72cc
Valve Cover Bolt Pattern	Center Bolt
Valve Angle	15°
Valve Spring Pocket Diameter	1.510" O.D
Max Valve Spring Pocket Machining	1.525" 0.D
Deck Thickness	
Minimum Bore Diameter	3.900"
Flat Mill - 62cc Chamber	
Flat Mill - 72cc Chamber	
Minimum Cross Sectional Area	2.425 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Tapered Seat

Intake Port Gasket	GM or FAST
Exhaust Port Gasket	GM #12558573
Head Gasket for Small Bore	Cometic 3.930 .040" or AFR #6846
Head Gasket for Large Bore	Cometic 4.160 .040" or AFR #6848
Head Bolts (97-03)	ARP 134-3609 or AFR #6330
Head Studs (97-03)	ARP 234-4110 or AFR #6331
Head Bolts (04+)	ARP 134-3610 or AFR #6334
Head Studs (04+)	ARP 234-4317 or AFR #6335
Head Bolt Washers	Manley, AFR #6320
Manifold	FAST 90mm, 92mm or 102mm
Spark Plug Starting Range	NGK TR55

Pairs of Cylinder Heads				
Runner Volume	Part #			
CNC C	CNC Competition Porting - Large Bore (4.000+)			
230сс	Emission Legal CNC Ported w/parts 62cc	1610		
230сс	1630			
CNC C	CNC Competition Porting - Small Bore (3.900+)			
230cc	CNC Ported w/parts 65cc	1660		

245cc LSx Cathedral Port "Mongoose
15° Competition Head
Competition CNC Charles & Exhaustical Port "Mongoose
Intake & Exhaustical Port "Mongoose
Competition CNC Charles & Competition CNC Charles & Exhaustical Port "Mongoose
Competition CNC Charles & Competition CNC Charles Competition CNC Chamber,

Intake, & Exhaust



AFR's 245cc LSX "Competition" ported heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers and high quality components throughout. Recommended for race applications or radical "Pro Street" style builds with displacements up to 454 cubic inches, operating up to 6800 RPM. Requires minimum 4.000 bore size for intake valve clearance. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.165" x 4.900" O.A.L.	AFR #7211
8mm Bead Lock Exhaust Valve 1.600" x 4.900" 0.A.L.	AFR #7228
PAC Racing Springs 1.270" OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650" maximum lift Max RPM 7000-7200	AFR #8019
7° Titanium Retainers 1.245" 0.D x .885" I.D x .655" I.D	AFR #8512
7° Bead Locks Valve Keepers	AFR #9007*
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring 0.D Locator 1.380" 0.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" 0.D x 1.750" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

*LS1 bead locks and aftermarket bead locks are not interchangeable. GM made their bead lock radius and depth different, AFR locks are the same as GM LS1.

	245cc Large Bore Competition Flow Chart						
	.200	.300	.400	.500	.550	.600	.650
Int	164	233	290	332	347	356	360
Exh	131	185	227	247	249	257	267

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 3/4" curved pipe





Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	245cc
Intake Port Dimension 3.315" H x 1.145" W x	11/32° top 13/32° Bottom
Intake Port Location	Stock
Exhaust Port Volume	
Exhaust Port Dimension	1.495" H x 1.730" W
Exhaust Port Location	
Combustion Chamber Size	
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	1.510" O.D
Max Valve Spring Pocket Machining	1.525" O.D
Deck Thickness	
Minimum Bore Diameter	
Flat Mill - 65cc00	
Flat Mill - 73cc00	•
Minimum Cross Sectional Area	•
Spark Plug Dimensions14m	m x .750" w/ Tapered Seat

Intake Port Gasket	GM or FAST
Exhaust Port Gasket	GM #12558573
Head Gasket	Cometic 4.200 .040" or AFR #6845
Head Bolts (97-03)	ARP 134-3609 or AFR #6330
Head Studs (97-03)	ARP 234-4110 or AFR #6331
Head Bolts (04+)	ARP 134-3610 or AFR #6334
Head Studs (04+)	ARP 234-4317 or AFR #6335
Head Bolt Washers	Manley, AFR #6320
Manifold	FAST 90mm, 92mm or 102mm
Spark Plug Starting Range	NGK TR55

Pairs of Cylinder Heads				
Runner Volume	Part #			
CNC	CNC Competition Porting - Large Bore			
245cc	CNC Ported w/parts 65cc	1680		
245cc	CNC Ported w/parts 73cc	1690		

260cc LS3 Rectangle Port "Mongoose" 12° Competition Head Competition CNC Chambe

Competition CNC Chamber, Intake, & Exhaust



AFR's 260cc LS3 "Mongoose" heads feature 100% CNC ported intake, exhaust and chambers using our advanced engineering and flow techniques to produce the ultimate Rectangle Port head available today. Featuring A356 aluminum castings, titanium retainers and the highest quality components, throughout. They're designed for 4.000 or larger bore applications up to 454 CI, operating up to 7000 RPM. Emmisons legal for 2008 to 2015 vehicles under CARB #D-250-5. To ensure trouble free operation please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details. Includes new rocker arm stands for use with LS3 1.7 ratio rocker arms. OEM rocker arm stands will not work with these heads. Aftermarket rocker arms designed for OEM LS3 applications will not work (see recommended components for rocker options).

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5-Angle Valve Job	
8mm Bead Lock Intake Valve 2.165 X5.200 O.A.L.	AFR #7214
8mm Bead Lock Exhaust Valve 1.600 X 5.205 O.A.L.	AFR #7212
PAC Racing Springs 1.270 OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650 maximum lift Max RPM 7000 to 7200	AFR #8019
7° Titanium Retainers 1.245" O.D X .885" I.D X .655" I.D	AFR #8512
7 ° Bead Lock Valve Keepers	AFR #9007
Viton Valve Seal .600" O.D X .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380 O.D X .570 I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.200" O.D X 1.750" I.D X.375" deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.650" O.D X 1.350" I.D X .375" deep	AFR #9069
8mm Bronze Valve Guides .502" O.D X 2.550" O.A.L.	AFR #9053
Rocker Rail Stand	AFR #6040

	260cc Large Bore Competition Flow Chart						
	0.200	0.300	0.400	0.500	0.600	0.650	0.700
Int	159	234	293	336	366	377	384
Exh	112	158	207	235	248	251	255

Test conducted at 28" of water (pressure) on Superflow 600 Bore Size: 4.060", intake 3/4" radius plate ,exhaust 2" curved pipe







Specifications & Features:

Material	
Intake Port Volume	260cc
Intake Port Dimension 2.6	10" H X 1.300" W X 7/16° Radius
Intake Port Location	Stock
Exhaust Port Volume	95cc
Exhaust Port Dimension	1.540" H X 1.760" W
Exhaust Port Location	Stock
Combustion Chamber Size	69cc
Valve Cover Bolt Pattern	Center Bolt
Valve Angle	12°
Valve Spring Pocket Diameter	1.490° 0.D
Max Valve Spring Pocket Machining	1.51
Warning: Do not machine spring pad any deeper.	
Deck Thickness	
Minimum Bore Diameter	·4.000"
Flat Mill	006 per cc, 62cc Maximum
Minimum Cross Sectional Area	2.875
Spark Plug Dimensions	- 14mm X .750" W/ Tapered Seat
Carb EO#	D-250-5
Recommended Co.	mnonents:

Intake Port Gasket	Factory GM or Aftermarket
Recommend Rockers - OEM w/ trunion upgrade Yella Terra 6733 w/ 5132 Valve Cover gasket	Scorpion 1162
Exhaust Port Gasket	•
Head Gasket	Cometic 4.160 Bore Size
Head Bolt Kit	ARP #134-3610 AFR #6334
Head Stud Kit 2004 & Later B	locks ARP #234-4317 (AFR #6335),
Pre 2004 Block	s ARP #234-4316
Head Bolt Washers	AFR #6320
Suggested Manifold	Fast 92 or 102mm MSD
Spark Plug Starting Range	NGK TR55
Pushrods: Longer than Stock (see instructions for	details)

	Pairs of Cylinder H	eads		
Runner Size	Description		Part #	
	As Cast w/ Partial CNC Po	rting		
260cc	CNC Ported w/parts 6 BOLT	69cc	1840	
260cc	CNC Ported w/parts	69cc	1845	

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265cc Oval Port "Magnum" BBC 24° Small Port, High Velocity, Partial CNO Chamber, Int



AFR's 265cc "As Cast" heads are the cost effective performance choice over re-worked factory heads. They feature partially CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for street, towing, or street/strip engines with displacements up to 468 cubic inches, operating up to 6200 RPM. Also available with 100% CNC chambers for increased air flow (see chart). Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #	
75% CNC Ported Exhaust Ports (Bowl Blend), 75% CNC 80% CNC Ported Intake Ports (Bowl Blend) Competition 5 Angle Valve Job	Chambers	
11/32" Intake Valve 2.190" x 5.460" 0.A.L.	AFR #7601	
11/32" Nail Head Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7630	
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000	
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift Max RPM 6500-6700	AFR #8002	
10° Manley Steel Retainers 1.500" O.D x 1.120" I.D x .705" I.D	AFR #8511	
10° 11/32" Valve Keepers with lashcap recess	AFR #9005	
ARP 7/16" Rocker Studs Intake	AFR #6407	
ARP 7/16" Rocker Studs Exhaust	AFR #6406	
Adjustable 3/8" Guide Plates	AFR #6109	
11/32" Viton Valve Seals	AFR #6613	
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048	
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065	
Exhaust Valve Seats 2.000" 0.D x 1.580" I.D x .375" Deep	AFR #9064	
11/32" Intake Bronze Valve Guides .502" 0.D x 2.10" 0.A.L	AFR #9041	
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042	

Note: 1" longer head bolts needed on four bottom exhaust bolt holes.

265cc As Cast Flow Chart									
	.200	.550	.600	.650					
Int	t 154 2		154 218	218	278	323	339	347	354
Exh 127 164		200	230	230 250		260			
	265cc	w/ 100	% CNC	Chamb	er Flow	V Chart			
.200 .30			.400	.500	.550	.600	.650		
Int	164 236	236	291	326	335	342	345		
Exh	135	135 190 23		258	265	274	280		

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.310"; intake 3/4" radius plate exhaust 1 7/8" curved pipe







Specifications & Features:

Material	
Intake Port Volume	
Intake Port Dimension2.030" H	
Intake Port Location	
Exhaust Port Volume	
Exhaust Port Dimension	
Exhaust Port Location	
Combustion Chamber Size (Partial CNC)	109сс
Combustion Chamber Size (Full CNC)	112cc
Valve Cover Bolt Pattern	Perimeter
Valve Angle	24°/4° Int, 15°/4° Exh
Valve Spring Pocket Diameter	1.725" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	
Minimum Bore Diameter	
Flat Mill006" Per CC / Maximum 102cc	
Angle Mill009" Per CC / Maximum 97cc	
Note: Angle mills might require a .120" thick int	
Minimum Cross Sectional Area	
Spark Plug Dimensions14mi	
Recommended Compo	onents:
Intake Port Gasket	AFR #6863
Important: Do not port match your intake ma	nifold to Fel-Pro intake
gaskets as it might not precisely fit ΔFR heads. See	

Intake Port Gasket	AFR #6863
	ch your intake manifold to Fel-Pro intake
-	
0 0 1	fit AFR heads. See picture on page 6.
Exhaust Port Gasket	AFR #6858
Head Gasket	Felpro 1017-1 (Mark IV) or AFR #6850
Head Gasket	Felpro 1047 (Mark V & VI) or AFR #6849
Head Bolts	ARP 135-3703 (Mark IV) or AFR #6306
Head Bolts	ARP 135-3707 (Mark V) or ARP #6308
Head Studs	ARP 235-4713 or AFR #6307
Head Bolt Washers	Manley, AFR #6320
Stud Girdle (AFR Specific)	AFR #6202
Stud Mount Rocker Arms (for optimized	d geometry) AFR Part #6043
Shaft Mount Rocker Arms	Crower, Jesel Pro Series only, T&D AFR #6065
Suggested Manifold	Performer RPM, Air Gap #7561 or Victor Jr
Spark Plug Starting Range	Autolite 3924

	Pairs of Cylinder H	leads	
Runner Size	Description	Combustion Chamber	Part #
	As Cast w/ Partial CNC Po	rting	
265cc	CNC bowl blend, Partially CNC Chamber w/ Hydraulic Roller Springs	109cc	3610
265cc	CNC bowl blend, Partially CNC Chamber w/ Solid Roller Springs	109cc	3620
265cc	CNC bowl blend, Fully CNC Chambers w/ Hydraulic Roller Springs	112cc	3610-1
265cc	CNC bowl blend, Fully CNC Chambers w/ Solid Roller Springs	112cc	3620-1

290cc Oval Port "Magnum" BBC 24°



AFR's 290cc Oval Port heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for moderate street, or street/strip builds with displacements up to 509 cubic inches, operating up to 6500 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.250" x 5.500" 0.A.L.	AFR #7620
11/32" Nail Head Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7630
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift Max RPM 6500-6700	AFR #8002
10° Manley Steel Retainers 1.500" O.D x 1.120" I.D x .705" I.D	AFR #8511
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.000" 0.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" 0.D x 2.25" 0.A.L	AFR #9042

290cc Competition Flow Chart								
	.200	.300	.400	.500	.550	.600	.650	.700
Int	163	235	289	330	346	360	368	375
Exh	135	180	230	262	271	278	286	292

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.310"; intake 3/4" radius plate exhaust 1 7/8" curved pipe Competition CNC Chamber, Intake, & Exhaust







Specifications & Features: Material ----- A356 Aluminum

Intake Port Volume------ 290cc

IIILAKE FUIT VUIUIIIE	20000
Intake Port Dimension2.	
Intake Port Location	
Exhaust Port Volume	
Exhaust Port Dimension	
Exhaust Port Location	375" Raised
Combustion Chamber Size (Full CNC)	112cc
Valve Cover Bolt Pattern	Perimeter
Valve Angle	
Valve Spring Pocket Diameter	1.725" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	.750"
Minimum Bore Diameter	
Flat Mill	006" Per CC / Maximum 102cc
Angle Mill	
Note: Angle mills might require a .120" t	hick intake gasket.
Minimum Cross Sectional Area	2.895 sq. in.
0 1 01 01 1	
Spark Plug Dimensions	14mm x ./50" w/ Gasket Seat
Spark Plug Dimensions	
Recommended Co.	mponents:
Recommended Co.	mponents: AFR #6863
Intake Port Gasket	mponents: AFR #6863 ake manifold to Fel-Pro intake
Intake Port Gasket	mponents: AFR #6863 ke manifold to Fel-Pro intake ds. See picture on page 6.
Intake Port Gasket Important: Do not port match your inta gaskets as it might not precisely fit AFR head Exhaust Port Gasket	mponents:
Intake Port Gasket	mponents:
Intake Port Gasket	mponents:
Intake Port Gasket	mponents:
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Intake Port Gasket	mponents:
Intake Port Gasket	mponents:
Intake Port Gasket	Imponents:
Intake Port Gasket	Imponents:
Intake Port Gasket	Imponents:

Pairs of Cylinder Heads						
Runner Volume Description Combustion Chamber						
Competition CNC Ported Heads						
290сс	CNC Ported w/ 1.550 OD Hydraulic Roller Springs	112cc	3640			
290сс	CNC Ported w/ 1.550 OD Solid Roller Springs	112cc	3650			

300cc Oval Port "Magnum" BBC 24°

The Ultimate Street/ **Race Weapon**

AFR's 300cc Oval Port heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for aggressive street, street/strip or race builds with displacements up to 540 cubic inches, operating up to 6800 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" O.A.L.	AFR #7626
11/32" Nailhead Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7630
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift, Max RPM 7400-7600 <u>Uses #8518 Steel Retainer</u> (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" O.D x 1.168" I.D x .844" I.D	AFR #8518
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift, Max RPM 6500-6700; Uses #8511 Steel Retainer and #8048 Spring Cup	AFR #8002
10° Manley Steel Retainers 1.500" O.D x 1.120" I.D x .705" I.D	AFR #8511
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" 0.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042

300cc Competition Flow Chart								
.200 .300 .400 .500 .550 .600 .650 .700								
Int	165	240	300	345	369	380	390	394
Exh	135	185	234	266	285	295	301	314

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.500"; intake 3/4" radius plate exhaust 1 7/8" curved pipe Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

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Material	A356 Aluminum
Intake Port Volume	300cc
Intake Port Dimension	
Intake Port Location	
Exhaust Port Volume	135cc
Exhaust Port Dimension	
Exhaust Port Location	
Combustion Chamber Size (Full CNC)	112cc
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	1.725" 0.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	.750"
Minimum Bore Diameter	4.250"
Flat Mill	006" Per CC / Maximum 102cc
Angle Mill	009" Per CC / Maximum 97cc
Note: Angle mills might require a .12	20" thick intake gasket.
Minimum Cross Sectional Area	
Spark Plug Dimensions	•

AFR #6863 or GM #12366985
natch your intake manifold to Fel-Pro intake
ely fit AFR heads. See picture on page 6.
AFR #6858
Felpro 1017-1 (Mark IV) or AFR #6850
Felpro 1047 (Mark V & VI) or AFR #6849
ARP 135-3703 (Mark IV) or AFR #6306
ARP 135-3707 (Mark V) or ARP #6308
ARP 235-4713 or AFR #6307
Manley, AFR #6320
AFR #6202
ized geometry) AFR Part #6043
Crower, Jesel Pro Series only, T&D AFR #6065
Performer RPM, Air Gap #7561 or Victor Jr
Autolite 3924

Note: 1" longer head bolt needed on four bottom exhaust bolt holes.

Pairs of Cylinder Heads							
Runner Volume Description Combustion Chamber							
	Competition Package Ported Heads						
300cc	Fully CNC Ported - Hydraulic Roller	112cc	3670				
300сс	Fully CNC Ported - Solid Roller	112cc	3680				

305cc Rectangle Port "Magnum" BBC 24°

AFR #6109

AFR #6613

AFR #8046

AFR #9065

AFR #9064

AFR #9041

AFR #9042

AFR's Torque Monster

Partial CNC Chamber, Intake, & Exhaust





AFR's 305cc rectangle port heads feature partially CNC ported intake. exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for moderate street, or street/ strip builds with displacements up to 509 cubic inches, operating up to 6500 RPM. Also available with 100% CNC chambers for increased air flow (see chart). Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components

Adjustable 3/8" Guide Plates

11/32" Viton Valve Seals

Hardened Spring Cup 1.740" O.D / 1.650" I.D

Intake Valve Seats 2.450" O.D x 2.00" I.D x .375" Deep

Exhaust Valve Seats 2.00" 0.D x 1.580" I.D x .375" Deep

11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L

11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L

morauda demperierra	7 617 0 11
50% CNC Ported Combustion Chambers 20% CNC Ported Exhaust Ports 30% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.250" x 5.500" 0.A.L.	AFR #7620
11/32" Nail Head Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7630
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" 0.D x 1.168" I.D x .844" I.D	AFR #8518
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406

305cc As Cast Flow Chart							
.200 .300 .400 .500 .600 .700							
Int	154	223	287	335	363	368	
Exh	133	175	210	239	261	268	

305cc w/ 100% CNC Chamber Flow Chart								
.200 .300 .400 .500 .600 .700								
Int	168	242	303	339	360	362		
Exh	142	187	225	252	271	274		

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.310"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Specifications & Features:

Material A356 Aluminum
Intake Port Volume 305cc
Intake Port Dimension 2.380" H x 1.680" W x 11/32° Radius
Intake Port Location Stock
Exhaust Port Volume 132cc
Exhaust Port Dimension 1.720" H x 1.920" W
Exhaust Port Location
Combustion Chamber Size (As Cast) 117cc
Combustion Chamber Size (Full CNC) 121cc
Valve Cover Bolt PatternPerimeter
Valve Angle 24°/4° Int, 15°/4° Exh
Valve Spring Pocket Diameter 1.725" O.D
Max Valve Spring Pocket Machining 1.750" O.D
Deck Thickness
Minimum Bore Diameter4.250"
Flat Mill
Angle Mill009" Per CC / Maximum 104cc As Cast or CNC Chamber
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area2.993 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ----- AFR #6855 (.060" Thick) or AFR #6853 (.120" Thick) Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ------ AFR #6858 Head Gasket ------Felpro 1017-1 (Mark IV) or AFR #6850 Head Gasket -----Felpro 1047 (Mark V & VI) or AFR #6849 Head Bolts ------ ARP 135-3703 (Mark IV) or AFR #6306 Head Bolts ------ARP 135-3707 (Mark V) or ARP #6308 Head Studs ----- ARP 235-4713 or AFR #6307 Head Bolt Washers------Manley, AFR #6320 Stud Girdle (AFR Specific) ------ AFR #6202 Stud Mount Rocker Arms (for optimized geometry) ------ AFR Part #6043 Shaft Mount Rocker Arms ----- Crower, Jesel Pro Series only, T&D AFR #6065 Suggested Manifold ------Victor Jr or Super Victor Spark Plug Starting Range------Autolite 3924

Pairs of Cylinder Heads					
Runner Volume Description Combustion Chamber Part #					
	As cast w/ Partial CNC Porting				
305cc	CNC Bowl Blend & Partial Chamber	117cc	2100		
305сс	CNC Bowl Blend & Fully CNC Chamber	121cc	2100-1		

315cc Rectangle Port "Magnum" BBC 24°



AFR's 315cc heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for aggressive street, or street/strip builds with displacements up to 540 cubic inches, operating up to 6800 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.250" x 5.500" 0.A.L.	AFR #7620
11/32" Nail Head Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7630
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" 0.D x 1.168" I.D x .844" I.D	AFR #8518
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042

315cc Competition Flow Chart							
	.200	.300	.400	.500	.600	.700	.800
Int	169	249	312	353	380	386	387
Exh	146	184	238	271	296	310	315

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.600"; intake 3/4" radius plate exhaust 2 1/8" curved pipe Competition CNC Chamber, Intake, & Exhaust



Specifications & Features:

Material	
Intake Port Volume	315cc
Intake Port Dimension 2.450)" H x 1.755" W x 13/32° Radius
Intake Port Location	Stock
Exhaust Port Volume	135сс
Exhaust Port Dimension	1.780" H x 2.025" W
Exhaust Port Location	
Combustion Chamber Size (Full CNC)	121cc
Valve Cover Bolt Pattern	
Valve Angle	24°/4° Int, 15°/4° Exh
Valve Spring Pocket Diameter	
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	.750"
Minimum Bore Diameter	4.250"
Flat Mill	.006" Per CC / Maximum 114cc
Angle Mill	.009" Per CC / Maximum 104cc
Note: Angle mills might require a .120" thic	k intake gasket.
Minimum Cross Sectional Area	3.151 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
: =	

Recommended Components:

Intake Port Gasket ----- AFR #6855 (.060" Thick) or AFR #6853 (.120" Thick) Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ------ AFR #6858 Head Gasket -----Felpro 1017-1 (Mark IV) or AFR #6850 Head Gasket ------Felpro 1047 (Mark V & VI) or AFR #6849 Head Bolts ----- ARP 135-3703 (Mark IV) or AFR #6306 Head Bolts ------ARP 135-3707 (Mark V) or ARP #6308 Head Studs ----- ARP 235-4713 or AFR #6307 Head Bolt Washers------Manley, AFR #6320 Stud Girdle (AFR Specific) ------ AFR #6202 Stud Mount Rocker Arms (for optimized geometry) ----- AFR Part #6043 Shaft Mount Rocker Arms ----- Crower, Jesel Pro Series only, T&D AFR #6065 Suggested Manifold ------Victor Jr or Super Victor Spark Plug Starting Range----- Autolite 3924 (Pump Gas) / 3922 (Race Gas)

Pairs of Cylinder Heads						
Runner Volume	Description	Combustion Chamber	Part #			
Competition Package Ported Heads						
315cc Fully CNC Ported 121cc		2000				

325cc Rectangle Port "Magnum" BBC 24°
AFR's Best of Both Solution

Partial CNC Chamber



Partial CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 325cc
Intake Port Dimension2.360" H x 1.685" W x 3/8° Radius
Intake Port Location Stock
Exhaust Port Volume 132cc
Exhaust Port Dimension 1.720" H x 1.920" W
Exhaust Port Location375" Raised
Combustion Chamber Size (As Cast) 117cc
Combustion Chamber Size (Full CNC) 121cc
Valve Cover Bolt PatternPerimeter
Valve Angle 24°/4° Int, 15°/4° Exh
Valve Spring Pocket Diameter 1.725" O.D
Max Valve Spring Pocket Machining1.750" 0.D
Deck Thickness750"
Minimum Bore Diameter4.250"
Flat Mill006" Per CC / Maximum 108cc As Cast or 114cc CNC Chamber
Angle Mill009" Per CC / Maximum 104cc As Cast or CNC Chamber
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area3.111 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat
December ded Components

Recommended Components:
Intake Port Gasket AFR #6855 (.060" Thick) or AFR #6853 (.120" Thick)
Important: Do not port match your intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See picture on page 6.
Exhaust Port Gasket AFR #6858
Head GasketFelpro 1017-1 (Mark IV) or AFR #6850
Head GasketFelpro 1047 (Mark V & VI) or AFR #6849
Head Bolts ARP 135-3703 (Mark IV) or AFR #6306
Head BoltsARP 135-3707 (Mark V) or ARP #6308
Head Studs ARP 235-4713 or AFR #6307
Head Bolt WashersManley, AFR #6320
Stud Girdle (AFR Specific) AFR #6202
Stud Mount Rocker Arms (for optimized geometry) AFR Part #6043
Shaft Mount Rocker Arms Crower, Jesel Pro Series only, T&D AFR #6065
Suggested ManifoldVictor Jr or Super Victor
Spark Plug Starting RangeAutolite 3924

NOTE: 1" longer nead bolt needed on tour dottom exhaust bolt noies.							
Pairs of Cylinder Heads							
Runner Volume	Description	Combustion Chamber	Part #				
As cast w/ Partial CNC Porting							
325cc	CNC Bowl Blend & Partial Chamber	117cc	2101				
325cc	CNC Bowl Blend & Fully CNC Chamber	121cc	2101-1				

AFR's 325cc heads are designed feature partially CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for more aggressive street, or street/strip builds with displacements up to 540 cubic inches, operating up to 6800 RPM. Also available with 100% CNC chambers for increased air flow (see chart). Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
50% CNC Ported Combustion Chambers 20% CNC Ported Exhaust Ports 30% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" 0.A.L.	AFR #7626
11/32" Tulip Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" O.D x 1.168" I.D x .844" I.D	AFR #8518
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042

325cc As Cast Flow Chart							
	.200 .300 .400 .500 .600 .700						
Int	150	220	286	337	372	385	
Exh	Exh 131 176 214 248 270 280						

;	325cc w/ 100% CNC Chamber Flow Chart						
	.200 .300 .400 .500 .600 .700						
Int	170	242	304	342	372	390	
Exh	145	195	244	266	274	280	

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.310"; intake 3/4" radius plate exhaust 2 1/8" curved pipe 335cc Rectangle Port "Magnum" BBC 24°



AFR's 335cc heads are designed feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for radical street/strip or "Pro Street" builds with displacements up to 572 cubic inches, operating up to 7000 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" 0.A.L.	AFR #7626
11/32" Tulip Exhaust Valve, 1.880" x 5.450" 0.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" 0.D x 1.168" I.D x .844" I.D	AFR #8518
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" 0.D x 2.25" 0.A.L	AFR #9042

	335cc Competition Flow Chart								
	.200 .300 .400 .500 .600 .700 .800								
Int	164	240	304	352	385	404	410		
Exh	142	193	244	278	310	321	327		

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.600"; intake 3/4" radius plate exhaust 2 1/8" curved pipe Competition CNC Chamber, Intake, & Exhaust



Specifications & Features:

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Material	
Intake Port Volume	
Intake Port Dimension	
Intake Port Location	
Exhaust Port Volume	135cc
Exhaust Port Dimension	1.780" H x 2.025" W
Exhaust Port Location	
Combustion Chamber Size (Full CNC)	121cc
Valve Cover Bolt Pattern	Perimeter
Valve Angle	
Valve Spring Pocket Diameter	1.725" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	
Minimum Bore Diameter	4.250°
Flat Mill	006" Per CC / Maximum 114cc
Angle Mill	009" Per CC / Maximum 104cc
Note: Angle mills might require a .1	20" thick intake gasket.
Minimum Cross Sectional Area	· ·
Spark Plug Dimensions	•

Recommended Components:

Pairs of Cylinder Heads							
Runner Volume Description Combustion Chamber							
Competition Package Ported Heads							
335cc Fully CNC Ported 121cc							

345cc Rectangle Port "Magnum" BBC 24°
AFR's Magnum Series



AFR's 345cc heads are designed feature partially CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for more radical street/strip, "Pro Street", or racing builds with displacements up to 572 cubic inches, operating up to 7000 RPM. Also available with 100% CNC chambers for increased air flow (see chart). Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
50% CNC Ported Combustion Chambers 20% CNC Ported Exhaust Ports 30% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" 0.A.L.	AFR #7626
11/32" Tulip Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" O.D x 1.168" I.D x .844" I.D	AFR #8518
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" O.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" O.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" 0.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" 0.D x 2.25" 0.A.L	AFR #9042

345cc As Cast Flow Chart						
	.200 .300 .400 .500 .600 .700					
Int	150	222	290	340	380	401
Exh	131	171	210	244	267	280

345cc w/ 100% CNC Chamber Flow Chart						
	.200	.300	.400	.500	.600	.700
Int	172	246	312	356	390	397
Exh	148	193	240	265	274	279

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.500; intake 3/4" radius plate exhaust 2 1/8" curved pipe Partial CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	345cc
Intake Port Dimension 2.43	
Intake Port Location	
Exhaust Port Volume	
Exhaust Port Dimension	1.720" H x 1.920" W
Exhaust Port Location	375" Raised
Combustion Chamber Size (As Cast)	
Combustion Chamber Size (Full CNC)	
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	
Minimum Bore Diameter	
Flat Mill006" Per CC / Maximum 108c	
Angle Mill009" Per CC / Maximur	n 104cc As Cast or CNC Chamber
Note: Angle mills might require a .120" thi	ck intake gasket.
Minimum Cross Sectional Area	3.263 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ----- AFR #6856 (.060" Thick) or AFR #6854 (.120" Thick) Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ------ AFR #6858 Head Gasket -----Felpro 1017-1 (Mark IV) or AFR #6850 Head Gasket -----Felpro 1047 (Mark V & VI) or AFR #6849 Head Bolts ----- ARP 135-3703 (Mark IV) or AFR #6306 Head Bolts -----ARP 135-3707 (Mark V) or ARP #6308 Head Studs ------ ARP 235-4713 or AFR #6307 Head Bolt Washers------Manley, AFR #6320 Stud Girdle (AFR Specific) ------ AFR #6202 Stud Mount Rocker Arms (for optimized geometry) ------ AFR Part #6043 Shaft Mount Rocker Arms ----- Crower, Jesel Pro Series only, T&D AFR #6065 Suggested Manifold ------Victor Jr or Super Victor Spark Plug Starting Range------Autolite 3924

Pairs of Cylinder Heads					
Runner Volume	Description	Part #			
	As cast w/ Partial CNC	Porting			
345cc	CNC Bowl Blend & Partial Chamber	117cc	2110		
345cc	CNC Bowl Blend & Fully CNC Chamber	121cc	2110-1		

357cc Rectangle Port "Magnum" BBC 24°







AFR's 357cc heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for race applications or radical "Pro Street" builds with displacements up to 605 cubic inches. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" 0.A.L.	AFR #7626
11/32" Tulip Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Titanium Retainers 1.500" O.D x 1.180" I.D x .765" I.D	AFR #8507
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042

357cc Competition Flow Chart							
	.200	.300	.400	.500	.600	.700	.800
Int	167	242	307	354	393	415	425
Exh	142	193	244	278	310	321	327

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.600"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust



Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	
Intake Port Dimension	2.515" H x 1.780" W x 11/32° Radius
Intake Port Location	Stock
Exhaust Port Volume	135cc
Exhaust Port Dimension	1.780" H x 2.025" W
Exhaust Port Location	
Combustion Chamber Size (Full CNC)	121cc
Valve Cover Bolt Pattern	Perimeter
Valve Angle	
Valve Spring Pocket Diameter	1.725" 0.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	.750"
Minimum Bore Diameter	
Flat Mill	
Angle Mill	009" Per CC / Maximum 104cc
Note: Angle mills might require a .	120" thick intake gasket.
Minimum Cross Sectional Area	
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
. 5	

Recommended Components:

Pairs of Cylinder Heads						
Runner Volume	Description	Combustion Chamber	Part #			
	Competition Package Port	ed Heads				
357cc	Fully CNC Ported	121cc	2010-TI			

377cc Rectangle "Magnum" 24° BBC







AFR's 377cc heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers, and high quality components throughout. These heads are best suited for large displacement (540+) Big Block Chevrolet racing engines. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.300" x 5.500" 0.A.L.	AFR #7626
11/32" Tulip Exhaust Valve, 1.880" x 5.450" O.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Titanium Retainers 1.500" O.D x 1.180" I.D x .765" I.D	AFR #8507
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" 0.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" O.D x 2.25" O.A.L	AFR #9042

	377cc Competition Flow Chart							
	.200	.300	.400	.500	.600	.700	.800	.900
Int	176	260	328	382	415	427	434	437
Exh	148	205	263	302	316	330	340	345

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.600"; intake 3/4" radius plate exhaust 2 1/8" curved pipe Competition CNC Chamber, Intake, & Exhaust



Specifications & Features:

Material A356 Aluminum
Intake Port Volume 377cc
Intake Port Dimension 2.450" H x 1.755" W x 13/32° Radius
Intake Port Location Stock
Exhaust Port Volume 135cc
Exhaust Port Dimension 1.780" H x 2.025" W
Exhaust Port Location
Combustion Chamber Size (Full CNC) 121cc
Valve Cover Bolt PatternPerimeter
Valve Angle 24°/4° Int, 15°/4° Exh
Valve Spring Pocket Diameter 1.725" O.D
Max Valve Spring Pocket Machining 1.750" O.D
Deck Thickness750"
Minimum Bore Diameter4.250"
Flat Mill006" Per CC / Maximum 114cc
Angle Mill009" Per CC / Maximum 104cc
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area3.860 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ----- AFR #6856 (.060" Thick) or AFR #6854 (.120" Thick) Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ------ AFR #6858 Head Gasket -----Felpro 1017-1 (Mark IV) or AFR #6850 Head Gasket ------Felpro 1047 (Mark V & VI) or AFR #6849 Head Bolts ----- ARP 135-3703 (Mark IV) or AFR #6306 Head Bolts -----ARP 135-3707 (Mark V) or ARP #6308 Head Studs ----- ARP 235-4713 or AFR #6307 Head Bolt Washers------Manley, AFR #6320 Stud Girdle (AFR Specific) ------ AFR #6202 Stud Mount Rocker Arms (for optimized geometry) ------ AFR Part #6043 Shaft Mount Rocker Arms ----- Crower, Jesel Pro Series only, T&D AFR #6065 Suggested Manifold ------Victor Jr or Super Victor Spark Plug Starting Range------Autolite 3932

	Pairs of Cylinder He	ads			
Runner Volume Description Combustion Chamber					
	Competition Package Ported Heads				
377сс	Fully CNC Ported	122cc	2015-TI		

385cc Rectangle "Magnum" 24° BBC



The 385cc heads are AFR's largest and best flowing BBC heads! They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, Titanium retainers, and high quality components throughout. These heads are best suited for large displacement (540+) high RPM Big Block Chevrolet racing engines. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Intake Valve, 2.350" x 5.500" 0.A.L.	AFR #7627
11/32" Tulip Exhaust Valve, 1.880" x 5.450" 0.A.L.	AFR #7631
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift Max RPM 7400-7600 (upgrades available)	AFR #8031
10° Titanium Retainers 1.500" O.D x 1.180" I.D x .765" I.D	AFR #8507
10° 11/32" Valve Keepers with lashcap recess	AFR #9005
ARP 7/16" Rocker Studs Intake	AFR #6407
ARP 7/16" Rocker Studs Exhaust	AFR #6406
Adjustable 3/8" Guide Plates	AFR #6109
11/32" Viton Valve Seals	AFR #6613
Hardened Spring Cup 1.740" O.D / 1.650" I.D	AFR #8046
Intake Valve Seats 2.450" 0.D x 2.00" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .502" O.D x 2.10" O.A.L	AFR #9041
11/32" Exhaust Bronze Valve Guides .502" 0.D x 2.25" 0.A.L	AFR #9042

385cc Competition Flow Chart .200 .300 .400 .500 .600 .700 .800 .900 256 327 176 386 421 444 452 456 Int Exh 149 205 267 302 322 334 344 350

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.600"; intake 3/4" radius plate exhaust 2 1/8" curved pipe Competition CNC Chamber, Intake, & Exhaust



Specifications & Features:

Оробиновно	a i cataroo.
Material	
Intake Port Volume	
Intake Port Dimension	
Intake Port Location	
Exhaust Port Volume	135cc
Exhaust Port Dimension	1.780" H x 2.025" W
Exhaust Port Location	
Combustion Chamber Size (Full CNC)	121cc
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	1.725" 0.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	
Minimum Bore Diameter	4.250°
Flat Mill	006" Per CC / Maximum 114cc
Angle Mill	009" Per CC / Maximum 104cc
Note: Angle mills might require a .1	20" thick intake gasket.
Minimum Cross Sectional Area	8
Spark Plug Dimensions	·
and a second	

Recommended Components:

	Pairs of Cylinder He	ads				
Runner Volume Description Combustion Chamber						
	Competition Package Ported Heads					
385cc	Fully CNC Ported	121cc	2020-TI			

57cc Rectangle Port Magnum" 18° BBC Head

Competition CNC Chamber, Intake, & Exhaust





AFR's new 457cc 18° Big Block Chevy heads is our best performing highest flowing head in our BB Chevy lineup. They come standard with stainless steel 2.400 intake valves and 1.800 exhaust valves. The intake port is raised .500 with the valves rolled to 18° resulting in unparelled under the curve flow numbers..... don't be fooled by just peak flow numbers. The combustion chamber come in at 90cc. This head is ideal for 540Cl or larger race engines. This head requires specific pistons, valves covers, shaft mount rockers and readily available intake manifolds. AFR offers a wide range of options and upgrades for this head like titanium valves and Copper seats. To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5-Angle Valve Job	
11/32" Bead Lock Stainless Steel Intake Valve, 2.400" X 6.035" O.A.L.	AFR #7420
11/32" Bead Lock Stainless Steel Exhaust Valve, 1.800" X 5.935" O.A.L.	AFR #7422
PAC Racing #1258 1.645" OD Solid Roller Triple Spring, 350 lbs. on seat, .950" maximum lift Max RPM 8300 to 8500	AFR #8014
10° Titanium Retainer 1.500" O.D X1.180"I.D X .765" I.D	AFR #8517
10° 11/32" Bead Lock Valve Keepers with recess lashcaps	AFR #9010
11/32" Viton Valve Seal	AFR #6613
Hardened Spring Cup 1.740 0.D X 1.677 I.D X .570	AFR #9170
Intake Valve Seats 2.500" 0.D X 2.000" I.D X .375" Deep	AFR #9162
Exhaust Valve Seats 1.900" 0.D X 1.400" I.D X .375" Deep	AFR #9066
11/32" Bronze Valve Guides .502" O.D X 2.700 O.A.L.	AFR #9055

	457cc Competition Flow Chart								
	.200	.300	.400	.500	.600	.700	.800	.900	1.000
Int	161	254	331	389	439	479	492	495	498
Exh	134	201	251	286	305	315	332	337	342

Test conducted at 28" of water (pressure) on Superflow 600 Bore Size: 4.625", intake 3/4" radius plate, exhaust 2 1/8" curved pipe





Specifications & Features:

Material	A356 Aluminum
Intake Port Volume	
Intake Port Dimension	2.490"H X 1.750" W X 1/2" Radius
Exhaust Port Volume	143cc
Exhaust Port Dimension	1.850" H X 2.090" W
Exhaust Port Location	
Combustion Chamber Size	90сс
Valve Cover Bolt Pattern	Standard
Valve Angle	18°/4° Int, 11°/4° Exh
Valve Spring Pocket Diameter	1.750" OD
Max Valve Spring Pocket Machining	1.750" OD
Warning: Do not machine spring pad any deeper	r
Deck Thickness	0.75
Minimum Bore Diameter	
Flat Mill	005 Per cc
Angle Mill	0066 Per cc
Note: Angle mills might require a .12	20" thick intake gasket.
Minimum Cross Sectional Area	3.699
Spark Plug Dimensions	

Recommended Components:
Intake Port Gasket AFR #6880
Important: Do not port match your intake manifold to Fel-Pro gasket as it does not precisely fit AFR heads.
Exhaust Port Gasket AFR #6858
Head Gasket Fel Pro #1057 Cometic C5434
12 pt Head Stud KitARP #135-4305 AFR #6345
Suggested Manifold 10.2" Block AFR #4901
Suggested Manifold9.8" Block AFR #4902
Spark Plug Starting RangeAutolite 3932
Shaft Mount RockersT&D or Jesel Pro Series only
Distributor Standard Deck MSD #84697 or 8489
Distributor Tall Deck MSD #85561 or 8547

	Pairs of Cylinder Heads					
Runner Size	Description Combustion Chamber Part #					
	As Cast w/ Partial CNC Po	rting				
457cc	Fully CNC Ported NO PARTS	90cc	3707			
457cc	Fully CNC Ported With Parts	90cc	3708			
N/A	Porters Casting With Seats & Guides N/A 3					

35

165cc SBF "Renegade" 20° Street Head

The Small Port, High Velocity, Emission Legal Torque Monster











AFR's 165cc "Street" heads are the cost effective performance choice over re-worked factory heads. They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout, in addition these are the only AFR heads that are compatible with the OEM piston valve relief.* Recommended for street, towing, or street/strip engines with displacements up to 351 cubic inches, operating up to 6000 RPM. Legal for 1995 and older emissions controlled vehicles under CARB EO #D-250-3. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers, 100% CNC Ported Exhaust Ports, 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 1.900" x 4.900" 0.A.L.	AFR #7249
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
Pedastal 8mm Bead Lock Intake Valve 1.900" x 5.080" 0.A.L	AFR #7262
Pedastal 8mm Bead Lock Exhaust Valve 1.600" x 5.100" 0.A.L	AFR #7264
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Manley Steel Retainers 1.245" 0.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 3/8" Rocker Studs	AFR #6409
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" O.D x 1.680" I.D x .375" Deep	AFR #9060
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9070
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051
Thermactor Air Injector Reducer Bushing (5/8"-11 x 7/16"-14)	AFR #6226

165cc Street Head Flow Chart						
.200 .300 .400 .500 .550 .0						.600
Int	135	135 200 240	240	251	255	260
Exh	122	163	192	208	212	215

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Specifications & Features:

-	
Material	A356 Aluminum
Intake Port Volume	
Intake Port Dimension	2.060" H x 1.250" W x 3/8° Radius
Intake Port Location	Stock
Exhaust Port Volume	68cc
Exhaust Port Dimension	
Exhaust Port Location	Stock
Combustion Chamber Size	58cc
Valve Cover Bolt Pattern	
Valve Angle	
Valve Spring Pocket Diameter	1.460" O.D
Max Valve Spring Pocket Machining	1.625" O.D
Deck Thickness	
Minimum Bore Diameter	
Flat Mill	006" per cc 54cc Max
Angle Mill	009" per cc 48cc Max
Note: Angle mills might require a .120" ti	hick intake gasket.
Minimum Cross Sectional Area	1.935 sa. in.
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
CARB EO#	D-250-3
Head Bolt Diameter 1402 & 1472	7/16"
Head Bolt Diameter 1399	1/2"

Recommended Components:

Pairs of Cylinder Heads			
Runner Volume	Stud or Pedestal	Combustion Chamber	Part #
CNC Street Porting - Emission Legal			
165cc	Stud	58cc	1402
165cc	Pedestal	58cc	1472
CNC Street Porting - Non Emissions			
165cc	Stud	58cc	1399

185cc SBF "Renegade" 20° Street Head The Ultimate Bolt-On Emission

Legal Street/Strip Weapon











AFR's 185cc "Street" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for engines from 302-393 cubic inches, operating up to 6000-6500 RPM. Legal for 1995 and older emissions controlled vehicles under CARB EO #D-250-3. Not compatible with OEM pistons. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers, 100% CNC Ported Exhaust Ports, 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.020" x 4.900" 0.A.L.	AFR #7251
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
Pedastal 8mm Bead Lock Intake Valve 2.020" x 5.080" 0.A.L	AFR #7263
Pedastal 8mm Bead Lock Exhaust Valve 1.600" x 5.100" O.A.L	AFR #7264
PAC Racing Springs 1.290" OD Hydraulic Roller Dual Valve Spring 140 lbs. on seat, .600" maximum lift Max RPM 6300-6500 (upgrades available)	AFR #8017
7° Manley Steel Retainers 1.245" 0.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 3/8" Rocker Studs	AFR #6409
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" 0.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" 0.D x 2.100" 0.A.L	AFR #9051
Thermactor Air Injector Reducer Bushing (5/8"-11 x 7/16"-14)	AFR #6226

185cc Street Head Flow Chart							
	.200	.300	.400	.500	.550	.600	
Int	142	200	255	285	295	297	
Exh	118	164	200	210	213	215	

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Specifications & Features: Material ----- A356 Aluminum

Intake Port Volume 185cc
Intake Port Dimension2.045" H x 1.205" W x 3/8° Radius
Intake Port Location Stock
Exhaust Port Volume70cc
Exhaust Port Dimension 1.355" H x 1.360" W
Exhaust Port Location Stock
Combustion Chamber Size58cc or 72cc
Valve Cover Bolt PatternPerimeter
Valve Angle 20°
Valve Spring Pocket Diameter 1.460" 0.D
Max Valve Spring Pocket Machining 1.625" O.D
Deck Thickness750"
Minimum Bore Diameter4.000"
Flat Mill006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area2.025 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat
CARB EO# (Emissions Legal Only) D-250-3
Head Bolt Diameter 1/2"
Recommended Components:
Intake Port Gasket AFR #6911
Important: Do not port match your intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See picture on page 6.
Exhaust Port Gasket AFR #6915
Head Gasket 302/351W, Fel-Pro #1011-1 or AFR #6808
1/2" Head Bolts ARP 154-3603 or AFR #6318
1/2" Head Studs ARP 254-4503 or AFR #6317
1/2" Bolt - 7/16" Thread Head Bolts 289/302W: ARP 254-3708 or AFR #6319

Pairs of Cylinder Heads						
Runner Volume	Stud or Pedestal	Combustion Chamber	Part #			
CN	C Street Portin	g - Emission L	egal			
185cc	Stud	58cc	1422			
185cc	Pedestal	58cc	1492			
CN	C Street Portin	g - Non Emissi	ons			
185cc	Stud	72cc	1387			
185cc	Stud	58cc	1388			
185cc	Stud	72cc	1420			

Head Bolt Washers------Manley, AFR #6320 Stud Girdle (AFR Specific) ------ AFR #6207 Manifold ------Performer or Performer RPM Spark Plug Starting Range------Autolite 3924

195cc SBF "Renegade" 20° Competition Head

The Maximum Bolt-On Emission Legal Street/Strip Weapon



AFR's 195cc "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for displacements up to 408 cubic inches, operating up to 6500-6800 RPM. Not compatible with OEM pistons. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers, 100% CNC Ported Exhaust Ports, 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.050" x 4.900" 0.A.L.	AFR #7252
8mm Bead Lock Exhaust Valve 1.600" x 4.950" 0.A.L.	AFR #7250
PAC Racing Springs 1.270" OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650" maximum lift Max RPM 7000-7200 (upgrades available)	AFR #8019
7° Manley Steel Retainers 1.245" 0.D x .885" I.D x .655" I.D	AFR #8514
7° Bead Locks Valve Keepers	AFR #9007
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring O.D Locator 1.380" O.D x .570" I.D	AFR #8042
Ductile Iron Intake Valve Seats 2.131" 0.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" O.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051
Thermactor Air Injector Reducer Bushing (5/8"-11 x 7/16"-14)	AFR #6226

195cc Competition Head Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	152	206	260	287	298	308	315
Exh	126	171	207	222	227	231	235

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

CompetitionCNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 195cc
Intake Port Dimension 2.060" H x 1.220" W x 11/32° Radius
Intake Port Location Stock
Exhaust Port Volume70cc
Exhaust Port Dimension1.405" H x 1.400" W
Exhaust Port Location Raised .125"
Combustion Chamber Size58cc or 72cc
Valve Cover Bolt PatternPerimeter
Valve Angle 20°
Valve Spring Pocket Diameter 1.460" O.D
Max Valve Spring Pocket Machining 1.625" O.D
Deck Thickness
Minimum Bore Diameter4.000"
Flat Mill006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area2.075 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat
Head Bolt Diameter 1/2"

Recommended Components:

Pairs of Cylinder Heads					
Runner Volume	Stud or Pedestal	Par			
	CNC Compet	tition Porting			
195cc	Stud	58cc	1426-716		
195cc	Stud	72cc	1428-716		
CNC Competition Porting					
195cc	Stud	58cc	1381-716		
195cc	Stud	72cc	1383-716		

205cc SBF "Renegade" 20° Competition Head

The Most Powerful Standard Street/Strip Head Ever



AFR's 205cc "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. Recommended for race applications and very aggressive street/strip builds. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers, 100% CNC Ported Exhaust Ports, 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.080" x 5.000" 0.A.L.	AFR #7255
8mm Bead Lock Exhaust Valve 1.600" x 5.030" 0.A.L.	AFR #7254
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" 0.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.131" 0.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" 0.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

205cc Competition Head Flow Chart								
	.200	.300	.400	.500	.550	.600	.700	.750
Int	149	205	260	291	302	315	327	331
Exh	126	170	210	219	227	231	234	235

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.060"; intake 3/4" radius plate exhaust 1 3/4" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 205cc
Intake Port Dimension2.115" H x 1.300" W x 3/8° Radius
Intake Port Location Stock
Exhaust Port Volume70cc
Exhaust Port Dimension 1.400" H x 1.400" W
Exhaust Port Location Raised .125"
Combustion Chamber Size58cc or 72cc
Valve Cover Bolt PatternPerimeter
Valve Angle 20°
Valve Spring Pocket Diameter 1.580" O.D
Max Valve Spring Pocket Machining 1.625" O.D
Deck Thickness750"
Minimum Bore Diameter4.000"
Flat Mill006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area2.165 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat
Head Bolt Diameter 1/2"
Recommended Components:

Recommended Components:
Intake Port Gasket AFR #6911
Important: Do not port match your intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See picture on page 6.
Exhaust Port Gasket AFR #6916
Head Gasket 302/351W, Fel-Pro #1011-1 or AFR #6808
1/2" Head Bolts ARP 154-3603 or AFR #6318
1/2" Head Studs ARP 254-4503 or AFR #6317
1/2" Bolt - 7/16" Thread Head Bolts 289/302W: ARP 254-3708 or AFR #6319
Head Bolt WashersManley, AFR #6320
Stud Girdle (AFR Specific) AFR #6207
Manifold Vic Jr. or Super Vic
Spark Plug Starting Range(Pump gas) Autolite 3924 / (Race gas) 3922

Pairs of Cylinder Heads							
Runner Volume	Dart #						
Competition CNC Ported Heads							
205cc	Stud	58cc	1450				
205cc	Stud	72cc	1458				

220cc SBF "Renegade" 20° Competition Head



AFR's 220cc "Competition" heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout. This is AFR's largest, best flowing head for the small block Ford. Recommended for race applications or radical "Pro Street" style builds. Component upgrade and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Included Components	Part #
100% CNC Ported Combustion Chambers, 100% CNC Ported Exhaust Ports, 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
8mm Bead Lock Intake Valve 2.100" x 5.000" 0.A.L.	AFR #7256
8mm Bead Lock Exhaust Valve 1.570" x 5.030" 0.A.L.	AFR #7248
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .710" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° Bead Lock Valve Keepers with lashcap recess	AFR #9009
ARP 7/16" Rocker Studs	AFR #6405
Adjustable 5/16" Guide Plates	AFR #6103
Viton Valve Seals .600" O.D x .495" I.D	AFR #6612
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Ductile Iron Intake Valve Seats 2.131" 0.D x 1.680" I.D x .375" Deep	AFR #9059
Ductile Iron Exhaust Valve Seats 1.650" 0.D x 1.350" I.D x .375" Deep	AFR #9069
8 mm Bronze Valve Guides .502" O.D x 2.100" O.A.L	AFR #9051

220cc Competition Head Flow Chart							
	.200	.300	.400	.500	.600	.700	.800
Int	149	205	264	296	318	334	338
Exh	126	173	220	246	251	255	258

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.155"; intake 3/4" radius plate exhaust 1 7/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 220cc
Intake Port Dimension2.265" H x 1.325" W x 3/8° Radius
Intake Port Location Stock
Exhaust Port Volume70cc
Exhaust Port Dimension 1.445" H x 1.595" W
Exhaust Port Location Raised .375'
Combustion Chamber Size58cc or 72cc
Valve Cover Bolt PatternPerimeter
Valve Angle 20°
Valve Spring Pocket Diameter 1.580" O.D.
Max Valve Spring Pocket Machining 1.580" O.D.
Deck Thickness
Minimum Bore Diameter4.00'
Flat Mill006" per cc 55cc Max (from 58cc); 69cc Max (from 72cc);
Angle Mill009" per cc 52cc Max (from 58cc); 66cc Max (from 72cc)
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area2.345 sq. in
Spark Plug Dimensions14mm x .750" w/ Gasket Seat
Head Bolt Diameter 1/2'

Recommended Components:

Intake Port Gasket	AFR #6912
Important: Do not port match yo	ur intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AF	R heads. See picture on page 6.
Exhaust Port Gasket	Fel-Pro #1487 or AFR #6839
Head Gasket 30	02/351W, Fel-Pro #1011-1 or AFR #6808
1/2" Head Bolts	ARP 154-3603 or AFR #6318
1/2" Head Studs	ARP 254-4503 or AFR #6317
1/2" Bolt - 7/16" Thread Head Bolts	289/302W: ARP 254-3708 or AFR #6319
Head Bolt Washers	Manley, AFR #6320
Stud Girdle (AFR Specific)	AFR #6207
Manifold	Vic Jr. or Super Vic
Spark Plug Starting Range(Pu	mp gas) Autolite 3924 / (Race gas) 3922

Pairs of Cylinder Heads						
Runner Rocker Combustion Part #						
(Competition CNC Ported Heads					
220cc	Stud	58cc	1451			
220cc	Stud	72cc	1456			

280cc "Bullitt" BBF 14° Street Head

Small Port, High Torque Street/Strip Heads

AFR's 280cc heads feature partially CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout with standard exhaust port locations. Recommended for street, towing, or street/strip engines with displacements up to 477 cubic inches, operating up to 6200 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Please note that due to AFR's valve angle and location, custom pistons or notching your existing pistons will be required.

Included Components	Part #
50% CNC Ported Combustion Chambers 80% CNC Bowl Blend Intake & Exhaust Competition 5 Angle Valve Job	
11/32" Bead Lock Intake Valve 2.250" x 5.245" 0.A.L.	AFR #7551
11/32" Bead Lock Tulip Exhaust Valve, 1.760" x 5.050" O.A.L.	AFR #7553
PAC Racing Springs 1.550" OD Solid Roller Dual Valve Drag Race Spring 220 lbs. on seat, .680" maximum lift Max RPM 7200-7400 (upgrades available)	AFR #8000
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift Max RPM 6500-6700	AFR# 8002
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° 11/32" Beadlock Valve Keepers with lashcap recess	AFR #9010
ARP 7/16" Rocker Studs	AFR #6407
Adjustable 3/8" Guide Plates	AFR #6108
11/32" Viton Valve Seals	AFR #6610
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 1.900" 0.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .502" 0.D x 2.250" 0.A.L	AFR #9042

280cc Partial CNC Flow Chart								
	.200 .300 .400 .500 .600							
Int	169	244	309	354	385			
Exh	238	254						

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.380"; intake 3/4" radius plate exhaust 2 1/8" curved pipe Street CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 280cc
Intake Port Dimension 2.230" H x 1.815" W x .525° Radius
Intake Port Location Stock
Exhaust Port Volume 132cc
Exhaust Port Dimension 1.830" H x 1.600" W
Exhaust Port Location Stock
Combustion Chamber Size75cc or 85cc
Valve Cover Bolt PatternPerimeter
Valve Angle14° Intake/ 8° Exhaust, cant 4.04 Intake/ 4.12 Exhaust
Valve Spring Pocket Diameter 1.750" O.D
Max Valve Spring Pocket Machining 1.750" O.D
Deck Thickness750"
Minimum Bore Diameter4.360"
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area3.225 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ----- AFR # 6893 Important: Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6. Exhaust Port Gasket ------Fel Pro # 1420, AFR # 6891 Head Gasket ------ 4.500 Bore, Fel Pro #1018, AFR # 6892 Head Bolts ------ARP# 155-3603, AFR# 6340 Head Studs -----ARP# 155-4203 12 Point, AFR# 6341 Head Bolt Washers------Manley, AFR #6320 Stud Girdle------ AFR# 6209 Shaft Mount Rocker Arms ------T&D AFR #6067 Suggested Manifolds ------AFR Single Plane, AFR# 4992 or #4993 Spark Pluq Starting Range-----(Pump gas) Autolite 3924 / (Race gas) 3922

Pairs of Cylinder Heads						
Runner Volume Description		Combustion Chamber	Part #			
	CNC Partial Portin	g				
280cc	CNC bowl & Partial CNC chamber w/ Hydraulic Roller Springs	78cc	3802			
280cc	CNC bowl & Partial CNC chamber w/ Solid Roller Springs	78cc	3803			
280cc	CNC bowl & Partial CNC chamber w/ Hydraulic Roller Springs	85cc	3805			
280cc	CNC bowl & Partial CNC chamber w/ Solid Roller Springs	85cc	3806			



AFR's 295cc heads feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings and high quality components throughout with standard or .250" raised exhaust port locations. Recommended for more aggressive street/strip or racing builds with displacements up to 512 cubic inches, operating up to 6500 RPM. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Please note that due to AFR's valve angle and location, custom pistons or notching your existing pistons will be required.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Bead Lock Intake Valve 2.250" x 5.245" O.A.L.	AFR #7551
11/32" Bead Lock Tulip Exhaust Valve, 1.760" x 5.050" 0.A.L.	AFR #7553
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift, Max RPM 7400-7600 Uses #8518 Steel Retainer & #8046 Spring Cup (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" O.D x 1.168" I.D x .844" I.D	AFR #8518
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift, Max RPM 6500-6700; Uses #8511 Steel Retainer	AFR #8002
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° 11/32" Beadlock Valve Keepers with lashcap recess	AFR #9010
ARP 7/16" Rocker Studs	AFR #6407
Adjustable 3/8" Guide Plates	AFR #6108
11/32" Viton Valve Seals	AFR #6610
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 1.900" 0.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .502" 0.D x 2.250" 0.A.L	AFR #9042

295cc w/ Stock Exhaust Race Ready Flow Chart								
	.200	.300	.400	.500	.600	.650	.700	
Int	168	245	313	357	396	404	411	
Exh	128	171	215	247	267	273	276	
295cc w/ .250 Raised Exhaust Competition Flow Chart								

295cc	295cc w/ .250 Raised Exhaust Competition Flow Chart						
	.200 .300 .400 .500 .600 .650 .700						
Int	168	245	313	357	396	404	411
Exh	127	172	218	252	274	279	284

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.380"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust





Material --



Specifications & Features:

Intake Port Volume	
Intake Port Dimension	2.275" H x 1.850" W x .575° Radius
Intake Port Location	Stock
Exhaust Port Volume	142cc
Exhaust Port Dimension	1.850" H x 1.600" W
Exhaust Port Location	Stock or .250" Raised
Combustion Chamber Size	75cc or 85cc
Valve Cover Bolt Pattern	Perimeter
Valve Angle 14° Intake/ 8° E	Exhaust, cant 4.04 Intake/ 4.12 Exhaust
Valve Spring Pocket Diameter	1.750" O.D
Max Valve Spring Pocket Machining	1.750" O.D
Deck Thickness	.750"
Minimum Bore Diameter	4.360"
Note: Angle mills might require a .120	O" thick intake gasket.
Minimum Cross Sectional Area	
Spark Plug Dimensions	14mm x .750" w/ Gasket Seat
Recommended	
	-
Intake Port Gasket	
Important: Do not port match you	r intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFF	R heads. See picture on page 6.
Exhaust Port Gasket	Fel Pro # 1420, AFR # 6891
Head Gasket	4.500 Bore, Fel Pro #1018, AFR # 6892
Head Bolts	ARP# 155-3603, AFR# 6340
Head Studs	ARP# 155-4203 12 Point, AFR# 6341
Head Bolt Washers	
Stud Girdle	
Shaft Mount Rocker Arms	
Suggested Manifolds	AFR Single Plane, AFR# 4992 or #4993

Pairs of Cylinder Heads						
Runner Volume	Description	Combustion Chamber	Part #			
Race	Race Ready CNC Ported Heads - Stock Exhaust					
295сс	Hydraulic Roller	75cc	3816			
295сс	Solid Roller	75cc	3817			
295сс	Hydraulic Roller	85cc	3819			
295сс	Solid Roller	85cc	3820			
Comp	etition CNC Ported Heads -	.250" Raised	Exh			
295сс	Hydraulic Roller	75cc	3822			
295сс	Solid Roller	75cc	3823			
295сс	Hydraulic Roller	85cc	3825			
295сс	Solid Roller	85cc	3826			

Spark Plug Starting Range-----(Pump gas) Autolite 3924 / (Race gas) 3922

315cc "Bullitt" BBF 14° The Ultimate BBF Race **Heads**

The 315cc heads are AFR's largest and best flowing BBF heads! They feature 100% CNC ported intake, exhaust & chambers, A356 aluminum castings, and high quality components throughout with .250" raised exhaust port location. These heads are best suited for large displacement high RPM Big Block Ford racing engines or radical "Pro Street" style builds. Component upgrades and machining options are available to customize AFR Heads to your specific build (see pg. 47). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 51 for additional information. AFR heads are available bare (without parts), call our tech line for details.

Please note that due to AFR's valve angle and location, custom pistons or notching your existing pistons will be required.

Included Components	Part #
100% CNC Ported Combustion Chambers 100% CNC Ported Exhaust Ports 100% CNC Ported Intake Ports Competition 5 Angle Valve Job	
11/32" Bead Lock Intake Valve 2.300" x 5.245" 0.A.L.	AFR #7552
11/32" Bead Lock Tulip Exhaust Valve, 1.760" x 5.050" O.A.L.	AFR #7553
PAC Racing #1224 1.625" OD Solid Roller Dual Valve Spring 275 lbs. on seat, .850" maximum lift, Max RPM 7400-7600 Uses #8518 Steel Retainer & #8046 Spring Cup (upgrades available)	AFR #8031
10° Manley Steel Retainers 1.500" 0.D x 1.168" I.D x .844" I.D	AFR #8518
PAC Racing #1940 1.550" OD Hydraulic Roller Dual Valve Spring 175 lbs. on seat, .725" maximum lift, Max RPM 6500-6700; <u>Uses #8511 Steel Retainer</u>	AFR #8002
10° Manley Steel Retainers 1.500" 0.D x 1.120" I.D x .705" I.D	AFR #8511
10° 11/32" Beadlock Valve Keepers with lashcap recess	AFR #9010
ARP 7/16" Rocker Studs	AFR #6407
Adjustable 3/8" Guide Plates	AFR #6108
11/32" Viton Valve Seals	AFR #6610
Hardened Valve Spring I.D Locator 1.550" O.D x .780" I.D	AFR #8048
Intake Valve Seats 2.450" O.D x 1.950" I.D x .375" Deep	AFR #9065
Exhaust Valve Seats 1.900" 0.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .502" O.D x 2.250" O.A.L	AFR #9042

315 w/ .250 Raised Exh Competition Flow Chart								
	.200	.300	.400	.500	.600	.650	.700	.750
Int	162	241	309	360	405	415	423	427
Exh	127	172	218	252	274	279	284	284

Test conducted at 28" of water (pressure) on Superflow 600 Bore size: 4.380"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust







Specifications & Features:

Material A356 Aluminum
Intake Port Volume 315cc
Intake Port Dimension 2.275" H x 1.850" W x .575° Radius
Intake Port Location Stock
Exhaust Port Volume 142cc
Exhaust Port Dimension 1.850" H x 1.600" W
Exhaust Port Location
Combustion Chamber Size75cc or 85cc
Valve Cover Bolt PatternPerimeter
Valve Angle14° Intake/ 8° Exhaust, cant 4.04 Intake/ 4.12 Exhaust
Valve Spring Pocket Diameter 1.750" O.D
Max Valve Spring Pocket Machining 1.750" O.D
Deck Thickness
Minimum Bore Diameter4.360"
Note: Angle mills might require a .120" thick intake gasket.
Minimum Cross Sectional Area3.440 sq. in.
Spark Plug Dimensions14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket AFR # 6893
Important: Do not port match your intake manifold to Fel-Pro intake
gaskets as it might not precisely fit AFR heads. See picture on page 6.
Exhaust Port GasketFel Pro # 1420, AFR # 6891
Head Gasket 4.500 Bore, Fel Pro #1018, AFR # 6892
Head Bolts ARP# 155-3603, AFR# 6340
Head StudsARP# 155-4203 12 Point, AFR# 6341
Head Bolt WashersManley, AFR #6320
Stud Girdle AFR# 6209
Shaft Mount Rocker Arms T&D AFR #6067
Suggested ManifoldsAFR Single Plane, AFR #4992 or #4993
Spark Plug Starting Range(Pump gas) Autolite 3924 / (Race gas) 3922

Pairs of Cylinder Heads						
Runner Volume	Description	Combustion Chamber	Part #			
Comp	Competition CNC Ported Heads250" Raised Exh					
315cc	Hydraulic Roller	75cc	3834			
315cc	Solid Roller	75cc	3835			
315cc	Hydraulic Roller	85cc	3837			
315cc	Solid Roller	85cc	3838			

Aluminum Manifolds



AFR is excited to announce their new line of aluminum manifolds. We're starting out by pairing our new BBF and BBC 18° Cylinder Heads with custom designed manifolds to ensure you get the most out of your AFR Cylinder Heads.

*AFR 4992 4150 Carb. Carb Height 6.300 Fits AFR #6893 *AFR 4993Dominator 4500 Carb. Carb Height 6.300 Fits AFR gasket #6893



SB Chevy Manifolds



SB Ford Manifolds





AFR offers a complete selection of high quality stainless steel 21-4N valves to suit virtually any application. For the street, AFR's superb 1-piece, swirl polished valves with chromed stems offer long life and great flow characteristics to help your ride be the killer machine it should be. For racing use, AFR's premium stainless steel 21-4N, 1-piece, swirl polished valves with chromed stems are the perfect choice. If ultra-high RPM is your goal, you should consider AFR's lightweight titanium valves which help reduce valve float and improve valvetrain stability for more power.

*Titanium Valves

Description	Part Number
Ferrea Titanium Valve, 1.880 + .100 w/ Tip	7500
Ferrea Titanium Valve, 2.250 + .250 w/ Tip	7501
Ferrea Titanium Valve, 2.300 + .250 w/ Tip	7502

*8MM Valves

Description	Part Number
SBC/SBF 8mm 1.600 Street Exhaust Valve	7250
SBC/SBF 8mm 2.020 Street Intake Valve	7251
SBC/SBF 8mm 2.050 Street Intake Valve	7252
SBC/SBF 8mm 1.600 X .100L Race Exhaust Valve	7254
SBC/SBF 8mm 2.080 X .100L Race Intake Valve	7255
SBC/SBF 8mm 2.100 X .100L Race Intake Valve	7256
SBC/SBF 8mm 2.020 X .100L Race Intake Valve	7257
SBC/SBF 8mm 2.050 X .100L Race Intake Valve	7258
SBC/SBF 8mm 2.080 Race Intake Valve	7259
SBC/SBF 8mm 1.600 X .100L Inconel Exhaust Valve	7260

*11/32 Stainless Steel, 1-Piece, Swirl Polished Street Valves With Chromed Stems

Description	Part Number
Chevy Small Block, 1.600", Std. Length, AFR Custom	7219
Chevy Small Block, 1.600", Stock Length	7220
Chevy Small Block, 1.600", .100" Over Stock Length	7225
Chevy Small Block, 2.020", Stock Length	7204

*11/32 Stainless Steel, 1-Piece, Swirl Polished High Performance Valves With Chromed Stems

Description	Part Number
Chevy Small Block, 1.600", .050" Over Stock Length	7057
Chevy Small Block, 1.600", .100" Over Stock Length	7056
Chevy Small Block, 1.600", .200" Over Stock Length	7058
Chevy Small Block, 2.020", .050" Over Stock Length	7002
Chevy Small Block, 2.020", .100" Over Stock Length	7006
Chevy Small Block 2.080", .050" Over Stock Length	7018
Chevy Small Block, 2.080", .100" Over Stock Length	7026
Chevy Small Block, 2.100", .050" Over Stock Length	7031
Chevy Small Block, 2.100", .100" Over Stock Length	7037
Chevy Big Block, 1.880", 11/32" Stem, +.100" Long	7630
Chevy Big Block, 2.190", 11/32" Stem, Stock Length	7601
Chevy Big Block, 2.250", 11/32" Stem, +.250" Long	7620
Chevy Big Block, 2.300", 11/32" Stem, +.250" Long	7626

See price list for complete list of services



Cylinder Head and Valvetrain Components

> **AFR Offers** a Complete Selection of:

*Valve Seats and Guides

*Valve Seals

Components

Description	Part Number
AFR Rubber Valve Stem Seal, .530" x 11/32" (BBC & BBF 2016 and	older) 6611
AFR 8mm Valve Stem Seal	6612
AFR 11/32 Viton Valve Stem Seal (BBC/BBF 2017 - present)	6613

*Retainers

Description	Part Number
CHE 10° Titanium Retainer, 1.550" O.D	8505
Manley 10° Chrome Moly Retainer, 1.450" O.D	8510
Manley 7° Chrome Moly Retainer, 1.250" O.D	8514
Manley 10° Chrome Moly Retainer, 1.550" O.D	8511

*Valve Locks

Description	Part Number
AFR 10° Valve Locks, 11/32" standard, set of 16	9005
AFR 7º Valve Locks, 8mm - Bead Lock Style	9007
AFR 10° Valve Locks, 8mm - Bead Lock Style	9009

*Lash Caps

Description	Part Number
AFR Lash Cap, 11/32"	6608
AFR Lash Cap, 8mm	6609



AFR Hydraulic Valve Springs

AFR Roller Valve **Springs**



Description	Part Number
AFR Ductile Iron Intake Valve Seat, 2.200" O.D	9060
AFR Ductile Iron Oversize Intake Valve Seat, +.010	9065
AFR Ductile Iron Intake Valve Seat, Big Block Chevy	9062
AFR Ductile Iron Exhaust Valve Seat, 1.695" 0.D	9070
AFR Ductile Iron Oversize Exhaust Valve Seat, +.010	9066
AFR Bronze Valve Guide, .502" O.D	9050
AFR Bronze Valve Guide, .505" O.D	9056
AFR Bronze Big Block Valve Guide, .545 O.D	9055



AFR 4140 **Chrome Moly** Steel Retainers and Locks











*Valve Springs

Our supplied Valve Springs are wound with the finest quality spring steel to provide all the muscle you need to control those wild cam profiles.

Part Number
8000
8001
8002
8016
8017
8019
8031

Cylinder Head and Valvetrain Components

AFR Roller Rockers





*Disclaimer: Color and style of girdle may vary.

*Rocker Studs

Description	Part Number
ARP Rocker Studs, 3/8", set of 16, ARP #134-7104	6409
ARP Rocker Studs, 7/16", set of 16, ARP #234-7206	6405

*Rocker Arms

NUCKEI AIIIIS	
Description Part Number	
High quality rocker arms can help you get the power, control, and reliability that you need from your valvetrain.	
Scorpion Roller Rockers, 3/8"x1.5, set of 16	
Scorpion Roller Rockers, 3/8"x1.6, set of 16 6026	
Scorpion Roller Rockers, 7/16"x1.5, set of 16	
Scorpion Roller Rockers, 7/16"x1.6, set of 166028 AFR BB Chevy HS Rocker Arms, 7/16 X 1.7 (Max lift .790, 7400 RPM & 760 lbs open pressure)6043	
T&D SBC 227 - 245cc Shaft Mount Rocker, .450 Offset, 1.5 - 1.5 Ratio 6062	
T&D SBC 227 - 245cc Shaft Mount Rocker, .450 Offset, 1.6 - 1.6 Ratio 6063	
T&D SBC 245cc Shaft Mount Rocker, .550 Offset, 1.6 - 1.6 Ratio 6064	
T&D BBC 265 - 385cc Shaft Mount Rocker, 1.7 - 1.7 Ratio 6065	
T&D BBF 280 - 315cc Shaft Mount Rocker, 1.75 - 1.75 Ratio 6067	

*Stud Girdles

Part Number

Description	rait Nuilibei
AFR Chevy Small Block Eliminator Stud Girdle Bars, Standard, Pair	6200
AFR Big Block Chevy Stud Girdle 2013+ (V-2 head)	6202
AFR Chevy Small Block Eliminator Stud Girdle Bars, Offset, Pair	6208
AFR Stud Girdle Adjusting Nuts, 3/8", set of 16	6216
AFR Stud Girdle Adjusting Nuts, 7/16", set of 16	6214
AFR Small Block Ford Stud Girdle	6207
AFR Big Block Ford Stud Girdle	6209
AFR Big Block Chevy Stud Girdle (2006 to 2012)	6210
SBC/SBF 3/8" Adjusting Nut	6216
AFR BBC 7/16" Adjusting Nut (2.600" O.A.L)	6215
AFR SBC/SBF/BBC/BBF 7/16" Adjusting Nut (2.000" O.A.L)	6214
AFR BBF 7/16" Adjusting Nut (2.200" 0.A.L)	6213
*Guide Plates	
Description	Part Number

AFR SBC/SBF 5/16" Adjustable Guide Plate, set of 8------ 6103 AFR BBF 3/8" Adjustable Guide Plate, set of 8 ----- 6108 AFR BBC 3/8" Adjustable Guide Plate, set of 8 ------ 6109

Cylinder Head Machining Options and Component Upgrades

Machining Options

Description	Part Number
Machine for Stahl Exhaust bolt pattern	4027
Machine Steam holes for factory GM 400 Block	4028
Hard Anodized for marine applications	4029
Angle Mill heads and correct intake surface (SBC/SBF/BBC/BBF)	4038
Flat Mill heads (LSX/BBC)	4039
Flat Mill Heads and correct intake surface SBC/SBF	4040
Machine SBC for Centerbolt Valve covers	4057

^{*}Installation hardware may vary and machining may be required.

See Price List and website for a complete list of comprehensive services and available options.

Component Upgrades

Description Part Number *All Products Upgrade from ARP 3/8 to ARP 7/16 rocker studs------ 6411 *180cc/195cc SBC & 165cc/185cc SBF 8017 spring upgrade to higher lift/rpm 8019 hydraulic roller spring ------ 8605 8017 spring exchange for 8020 hydraulic flat tappet ------ 8064* *210cc-245cc SBC & 205cc/220cc SBF 8000 Solid roller spring upgrade to high lift/rpm 8001 solid roller spring------ 8027 8000 solid roller spring exchange to 8019 hydraulic roller spring ----- 8049* *Rectangular Port BBC 8031 solid roller spring upgrade to high lift/high rpm 8014 solid roller spring--- 8038 8031 solid roller spring exchange to 8002 hydraulic roller spring ------ 8061* *Valve Upgrades for Power Adder Applications Upgrade to 2.100 Heavy Duty valve (Thicker Valve face) ----- 7515 Upgrade to 2.125 Heavy Duty Valve (Thicker Valve face) ----- 7516 Upgrade to 1.600 Inconel Exhaust valve------ Call for Part Numbers Upgrade to 1.880 Inconel Exhaust valve-----7634

Cylinder Head and Valvetrain Components

AFR Offers a Complete Selection of:





AFR

1	Description F	Part Number
7	Head Gasket, Chevy Small Block, Fel Pro #1034	6807
	Head Gasket, Chevy Small Block, 4.166" bore, Fel Pro #1003	6800
	Head Gasket, Chevy Small Block, 4.125" bore, Fel Pro #1074	6803
	Head Gasket, Chevy Small Block, 4.190" bore, Fel Pro #1004	6801
	Head Gasket, Chevy Small Block, 4.200" bore, Fel Pro #1014	6802
	Head Gasket, Chevy Big Block, 4.540" bore, Fel Pro #1017	
	Head Gasket, Chevy Big Block, 4.630" bore, Fel Pro #1057	6852
	Head Gasket, Ford Small Block, 1962-93, 4.100" bore, Fel Pro #1011-	1 6808
	AFR SBC Intake Gasket 180cc-195cc Street, 2.130 x 1.30	6900
	AFR SBC Intake Gasket 195cc comp - 245cc, 2.23 x 1.33	
	AFR Intake Gasket, Chevy Big Block, 1.820"x2.540"	6855
	AFR SBF Intake Gasket 165cc, 2.100 x 1.29	6910
	Exhaust Gasket, Chevy Small Block 180cc & 195cc Heads, Fel Pro #14	104 6834
	AFR SBC Exhaust Gasket 180cc - 245cc, 1.50 x 1.60	6905
	AFR Exhaust Gasket, Chevy Big Block Aluminum Heads	6858
	AFR SBF Exhaust Gaskets 165cc - 185cc, 1.40 x 1.39	
	Valve Cover Gasket, Chevy Small Block, Fel Pro #1604	6838

*Head Studs, Head Bolts, Head Bolt Sleeves, and Head Bolt Washers

Part Number
6305
6306
6307
6310
6308
6320

AFR Head Bolts, Nuts, and Washers

See price list for complete list of services

Valve Covers



Available in a Gloss Black Powder Coat or Polished Aluminum Finish*



CNC Engraved Valve Covers to make your SBC, SBF, BBC, or BBF shine

Includes: All valve covers include rubber grommets and baffles for breather and/or PCV systems. Some valve cover baffles will require clearance for proper fitment

** Tall Valve Covers Description	Part Number
AFR SBC Tall Valve Covers 4.75" inside height, Black Powder Coat	6705
AFR SBC Tall Valve Covers 4.75" inside height, Polished Aluminum	6704
AFR SBF Tall Valve Covers 4.125" inside height, Black Powder Coat	: 6715
AFR SRF Tall Valve Covers 4 125" inside height Polished Aluminum	6714

**Standard Valve Covers Description Part Number AFR SBC Standard Valve Covers 2.5" inside height, Black Powder Coat ----- 6707 AFR SBC Standard Valve Covers 2.5" inside height, Polished Aluminum, ----- 6706 AFR BBC Standard Valve Covers, Black Powder Coat----- 6723 AFR BBC Standard Valve Covers, Polished Aluminum ------ 6722 AFR BBF Standard Valve Cover, Black Powder Coat ----- 6727



#6714



**#6731-Breather



**#6732-PCV Valve

*NOTE: Although extremely beautiful, this is not a perfect/show quality peice. There may be minor imperfections.



Apparel



*Womens Black T-Shirt V-Neck

S, M, L, XLAFR #9736-9739



*Mens T-Shirt

Available in black or white S, M, L, XL, XXL, 3XL Black: AFR #9699-9704 White: AFR #9707-9712



*AFR Can Koozie AFR #9742

*AFR License Plate Frame

(Get A Pair) AFR #9741



*Hat Black w/AFR Logo AFR #9721



Footnotes

Bar Codes: Please keep your bar code or labels on your box, these numbers contain all the specs for your heads for easy reference when calling AFR. **High Volume/Pressure Oil Pumps -** If you are using a high volume or high pressure oil pump it can submerge the valve seals in oil causing smoking or oil consumption. Your block manufacturer or engine builder can recommend oil restrictions to the top end/valve train components.

Boosted/Nitrous Applications - We strongly recommend considering Inconel exhaust valves and AFR's optional heavy duty intake valve for power adder applications. Since boosted or nitrous oxide applications accelerate RPM quickly, additional spring pressure is required. We strongly recommend upgrading your valve springs or increasing your valve spring pressures since boost pressure on the valve reduces spring tension. For example, 15lbs boost on a 2.125 OD valve reduces the springs closed seat pressure by approximately 40-45lbs.

All MARINE Applications - We strongly recommend Inconel exhaust valves & also offer a hard anodized coating to slow the effects of corrosion. Please see note on valve clearance below.

Valve Guide Clearance - Your AFR Heads come with proper guide clearance (.0012"-.0016") for most applications. Boosted/Nitrous or marine applications might require additional clearance and it is the customer's responsibility to verify proper clearance in these applications.

Valve Springs - AFR's standard valve springs are very high quality and sufficient for most applications. However, forced induction, nitrous oxide and cams with aggressive ramp rates (some cam manufacturers offer very fast/aggressive ramp designs and lobe profiles) may require additional spring pressure. We offer optional valve springs for these types of applications. AFR also recommends the use of billet cam cores and short travel Hydraulic Roller lifters which tolerate higher spring loads. Please don't hesitate to contact us directly if you question which spring is correct for your application.

AFR Small Block Chevy & Ford - We strongly recommend using 7/16" rocker studs with todays fast cam rates and RPM capabilities as 3/8" Rocker Studs can occasionally break.

AFR TITANIUM VALVES MIGHT REQUIRE LASH CAPS AND DIFFERENT LENGTH PUSHRODS. ADDITIONALLY, TITANIUM VALVES ARE COATED WITH Crn. DO NOT GRIND VALVES BECAUSE IT REMOVES THE PROTECTIVE Crn Coating.

Piston to Valve - AFR assumes no responsibility for damage if the end user builds an engine without properly verifying he has enough piston to valve clearance (depth and radial clearance both checked). We recommend a minimum depth of .080" on the intake valve and .100" on the exhaust with a radial clearance of .020" minimum around the perimeter of each valve. Clay is recommended to visually verify both depth as well as radial clearance. Just checking depth is not enough, the position of the valve pocket must also be addressed. It is the customers responsibility to verify proper piston to valve clearance.

AFR SBC LT-1 / LT-4/Vortec & Late Model TBI/TPI Heads - Your factory accessory bolts and center bolt valve covers need to be shortened 3/16" or they will bottom out. Additionally these cylinder heads are machined for both center and perimeter bolt valve covers, please see your instructions to avoids oil leaks. **AFR LS1** - Does not have provisions for 1997-1998 perimeter bolt valve covers, conversion kits availabe.

LS1 & LS3 Heads - Stock GM rocker arms are not designed/engineered to accommodate aftermarket cams or higher spring pressures. At a minimum AFR recommends using Yella Terra or Scorpion. Without the proper parts you will experiences accelerated quide wear.

AFR SBC 227/235cc Heads - Due to the "60/40" stud and valve locations, shaftmount rockers are highly recommended, however if you're ONLY Drag Racing you can run a .050" offset intake studmount rocker with the AFR supplied guideplate (exhaust will use a standard rocker). Please note that with the .050" offest rocker arms the roller tip of the studmount rocker will not be perfectly centered and will not sit squarely on the valve causing increased side loading and wear. This option is not recommended for race/endurance applications and/or street engines that see a lot of miles.

Comp. Cam Pro Magnum Roller Rockers - Typically these rocker arms do not clear a 1.500" O.D. retainer. A lash cap is required to space up the rocker arm. **Shaft Mount Rockers -** Shaft mount rockers might require additional clearance for proper pushrod fitment. **Do not** clearance the push rod area as the wall is .060" thick. If you use Jesel, AFR only recommends their Pro Series.

BBC Domed Pistons - With some domed aftermarket pistons, it may be necessary to slightly clearance or modify the piston due to our more efficient heart shaped combustion chamber design. Most of the newer designed dome profiles will clear. AFR strongly recommends material be removed from the piston and not the cylinder head. Our combustion chamber shapes are very critical to flow and altering the cylinder head can adversly affect flow and power production. It is the customers responsibility to verify proper piston to head clearance.

BBC Stud Mount Rockers - For optimized geometry and proper wipe pattern we highly recommend AFR custom fitted stud mount rocker arms part #6043 for applications below .790 lift, 7400 RPM and 760 lbs open pressure . For applications above these limits typically shaft mount rockers are advised.

Pushrods - AFR SB Chevy and Ford heads are designed for 5/16" pushrods. AFR BB Chevy and Ford heads are designed for 3/8" pushrods. Larger pushrods will not fit without clearancing and is not recommended since some areas are very thin. AFR recommends the use of .120 thick-wall pushrods.

General Recommendations for All Aftermarket Heads:

- Check pushrod clearance with heads placed on the block before final assembly.
- Check pushrod length, different length pushrod might be required.
- Flat or angle mills could affect flow numbers and might require a thicker intake gasket.
- Due to many available factory OEM and aftermarket style/variations your existing stud girdle may not fit (AFR heads require AFR Stud Girdles)
- To ease installation with 1.550" 0.D or larger springs, 12 pt head bolt or studs are recommended for extra clearance. Beveled or ground washers might be needed (ARP #200-8504 comes with smaller 0.D and doesn't need to be ground)
- SB Chevy or SB Ford heads with 1.625" 0.D springs will require some springs to be removed for access to some head bolts when installing the heads.
- Use full roller rocker arms, roller tip rockers with stock style bodies are **NOT** recommended.

Intake Runner & Chamber Volumes - Intake runner volumes can vary 2-3cc from advertised specs. The reason for this is different combustion chamber volumes require different intake runner lengths for proper alignment with the intake manifold. Combustion Chamber volumes can also vary by 1cc due to production tolerances.

CNC Porting - Occasionally a 100% CNC ported head might have a very small area left "as cast", this in no way affects performance.

Valve Spring Installed Heights - AFR valve spring installed height specs is plus or minus .015 which is the smallest shim available for adjustment.

Just Go Fast!



Family Owned & Operated **3 Generations of Racers**

28611 W. INDUSTRY DRIVE **VALENCIA, CALIFORNIA, USA 91355**

> 661-257-8124 FAX 661-257-4462

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