2016 Product Catalog

AFR
Air Flow Research

Performance Parts Built for Racers...By Racers

LIFETIME WARRANTY!
AFR Cylinder Castings Only

MADE IN USA

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.








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.

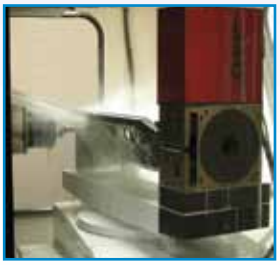
Street CNC Ported Chevy Head

• 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, 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.

Superflow 600 Flow Bench

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.

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

Mori Seiki 32 Pallet Shuttle Cell

One of two Newen CNC Controlled Valve and Seat Machine

AFR High Performance Cylinder Heads

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.

See below what factory OEM head AFR used for CAD/CAM modeling.
Please See footnotes on page 51 and the specific product page you're researching for specific variances from OEM heads.

AFR "Mongoose" LSX - Modeled after the GM LS6 #243 aluminum head.
AFR "Eliminator" Small Block Chevy 23° - Modeled after the GM L-98 aluminum head.
AFR Small Block Chevy 15° - Modeled after the GM 18° aluminum head.
AFR "Magnum" Big Block Chevy 24° - Modeled after the GM LS6 open chamberrectangle port castings.
AFR "Renegade" Small Block Ford 20° - Modeled after the Ford GT 5.0 cast iron head.
AFR "Bullitt" Big Block Ford 14° - Modeled after the SCJ aluminum head.

Porters castings are availalbe upon request, please call for more information.

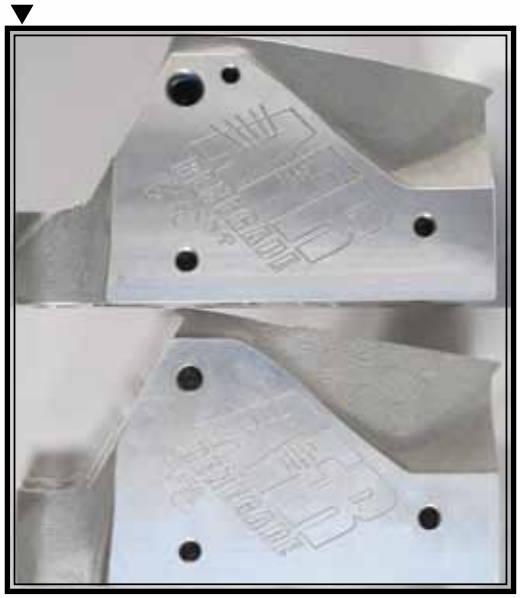
AFR Cylinder Heads FAQ

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.*

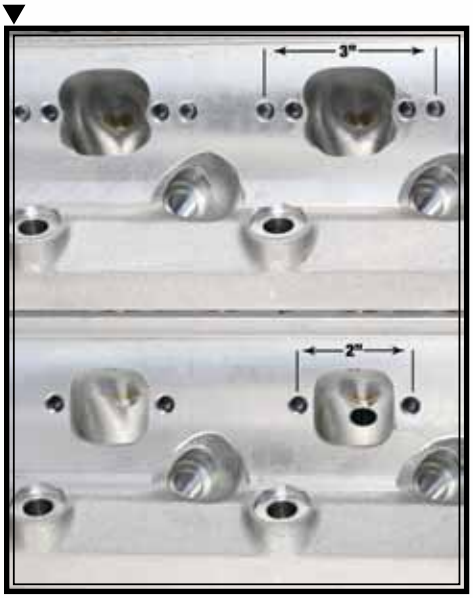
SBF Emissions
- 5/8"- 11 Through Hole
- Used for connecting emissions equipment (firewall side)
- Requires supplied thermactor reducer (x2) to mount alternator/accessory brackets.
- Confrim orientation of plug prior to installing cylinder head.



Part #'s
1402,1422,1420,
1426,1428,1472,
1492

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 O.D headers
-Factory and Aftermarket Headers



SBF Street 165cc/185cc Exhaust Pattern
-Standard 2" spacing
-Factory and Aftermarket headers

AFR 2016
New and Upcoming Products

New Products

BBF Cylinder Head
Pages 39-42

AFR TXD Domintor Flange

BBF Manifold

Upcoming Products

LS3 Cylinder Head

BBC 18° Race Head

180cc SBC "Eliminator" 23° Street Head

The Small Port,High Velocity Torque Monster

Street CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.A.L.	AFR #7251
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" O.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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 180cc
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 ---------- 1.460" O.D
Max Valve Spring Pocket Machining ---------- 1.750" O.D
Warning: *Do not machine spring pad any deeper.*
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.000"
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 ---------- 1.810 Sq. In
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- D-250-2

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1256 or AFR #6817
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 #1404 (AFR #6834)
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 DPR #4804
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**

190cc Vortec "Eliminator" 23° SBC Street Head

The Small Port,High Velocity Torque Monster

Street CNC Chamber, Intake, & Exhaust

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. 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. 50 for additional information.

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" O.A.L.	AFR #7251
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
7º 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" O.D x 2.100" O.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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 190cc
Intake Port Dimension ---------- 2.320" H x 1.297" W x 3/8° 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
Valve Cover Bolt Pattern ---------- Center & Perimeter Bolt
Valve Angle ---------- 23°
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 ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 ---------- 2.070 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ---------- GM Vortec

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 #1404 (AFR #6834)
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 Legal Street Weapon

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" O.D x 2.100" O.A.L	AFR #9051

Street CNC Chamber, Intake, & Exhaust

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 195cc
Intake Port Dimension ---------- 2.110" H x 1.265" 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 ---------- 1.460" O.D
Max Valve Spring Pocket Machining ---------- 1.750" O.D

Warning: *Do not machine spring pad any deeper.*

Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 # ---------- D-250-2

Recommended Components:

Intake Port Gasket ---------- AFR #6810 or Fel-Pro #1205

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 #1404 (AFR #6834)
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 TXS #4802 or DPR #4804
Spark Plug Starting Range ---------- Autolite 3924

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

Pairs of Cylinder Heads			
Runner Volume	*Plug Type*	*Combustion Chamber*	*Part #*
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

*For 1987-1995 with 72° Bolt Angle

195cc SBC "Eliminator" 23° Competition Head

The Ultimate Bolt-on Emissions Legal Street Weapon

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.A.L.	AFR #7259
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
PAC Racing Springs 1.260" OD Hydraulic Roller Dual Valve Spring 155 lbs. on seat, .650" maximum lift, Max RPM 7000-7200	AFR #8019
7º 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" 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" O.D x 2.100" O.A.L	AFR #9051

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 195cc
Intake Port Dimension ---------- 2.185" H x 1.265" W x 5/16° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 64cc
Exhaust Port Dimension ---------- 1.460" H x 1.565" 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 ---------- 1.460" O.D
Max Valve Spring Pocket Machining ---------- 1.750" O.D

Warning: *Do not machine spring pad any deeper.*

Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 ---------- 1.920 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- D-250-2

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

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 #1404 (AFR #6834)
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 TXS #4802 or TXR #4801
Spark Plug Starting Range ---------- Autolite 3924

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

Pairs of Cylinder Heads			
Runner Volume	***Plug Type***	***Combustion Chamber***	***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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" 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" 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" 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

210cc Race Head Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	145	199	255	292	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	166	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 Dimension ---------- 2.200" H x 1.310" W x 3/8° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 80cc
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 ---------- Perimeter Bolt
Valve Angle ---------- 23°
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 ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 -------- Race Ready: 2.100 sq. in, Comp: 2.115 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- Not Emissions Compliant

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

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 #1405 or AFR #6835
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 TXR #4801 or TXS #4802
Spark Plug Starting Range ---------- Autolite 3922

Pairs of Cylinder Heads			
Runner Volume	Plug Type	Combustion Chamber	Part #
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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" 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" 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	324	328	329
Exh	120	166	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:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 220cc
Intake Port Dimension ---------- 2.220" H x 1.310" W x 3/8° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 80cc
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 ---------- Perimeter Bolt
Valve Angle ---------- 23°
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 ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 ---------- 2.180 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- Not Emissions Compliant

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

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 #1405 (AFR #6835)
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 TXR #4801 or TXS #4802
Spark Plug Starting Range ---------- Autolite 3922

Pairs of Cylinder Heads			
Runner Volume	**Plug Type**	**Combustion Chamber**	**Part #**
CNC Race Ready Porting			
220cc	Angle	75cc	1066
220cc	Angle	65cc	1065
CNC Competition Porting			
220cc	Angle	75cc	1112
220cc	Angle	65cc	1110

227cc SBC "Eliminator" 23° Race Head

60/40 Valve Spacing for Improved Performance

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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
10º 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" 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" 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

227cc Race Flow Chart

	.200	.300	.400	.500	.550	.600	.650	.700
Int	148	210	261	296	304	312	315	318
Exh	116	162	204	220	225	229	233	237

227cc Competition Flow Chart

	.200	.300	.400	.500	.550	.600	.650	.700	.750
Int	152	212	265	300	312	319	324	327	329
Exh	120	167	214	230	234	238	241	243	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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 227cc
Intake Port Dimension ---------- 2.200" H x 1.290" W x 5/16° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 80cc
Exhaust Port Dimension ---------- 1.430" H x 1.540" W
Exhaust Port Location ---------- .250" Raised
Combustion Chamber Size ---------- 65cc or 75cc
Valve Cover Bolt Pattern ---------- Perimeter Bolt
Valve Angle ---------- 23°
Valve Spring Pocket Diameter ---------- 1.580" O.D

Warning: *Do not machine spring pad any deeper.*

Max Valve Spring Pocket Machining ---------- 1.680"
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
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 ---------- 2.340 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- Not Emissions Compliant

Recommended Components:

Shaft Mount Rocker Arms ---------- T&D .450" off-set; AFR #6055
Stud Mount Rocker Arms ---------- Hardland Sharp .050 off-set; AFR #6035 & #6036
Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

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 #1405 or AFR #6835
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 #6208
Manifold ---------- AFR TXR #4801 or TXS #4802
Spark Plug Starting 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

235cc SBC "Eliminator" 23° Race Head

Performance Like A Raised Runner Head

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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 Valve Drag Race Spring 250 lbs. on seat, .800" max lift Max RPM 8000-8200	AFR #8001
10° Titanium Retainers 1.500" O.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" 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" 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	270	305	316	324	330	334	340
Exh	120	175	214	235	242	247	251	254	256

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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 235cc
Intake Port Dimension ---------- 2.200" H x 1.290" W x 5/16° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 80cc
Exhaust Port Dimension ---------- 1.430" H x 1.540" W
Exhaust Port Location ---------- .250" Raised
Combustion Chamber Size ---------- 70cc or 80cc
Valve Cover Bolt Pattern ---------- Perimeter Bolt
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 ---------- 4.00"
Flat Mill ---------- .006" per cc 65cc Maximum
Angle Mill ---------- .009" per cc 60cc Maximum

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 2.470 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- Not Emissions Compliant

Recommended Components:

Shaft Mount Rocker Arms ---------- T&D .450" off-set; AFR #6055
Stud Mount Rocker Arms ---------- Hardland Sharp .050 off-set; AFR #6035 & #6036
Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

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 #1405 or AFR #6835
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 Washers ---------- Manley, AFR #6320
Stud Girdle ---------- AFR #6208
Manifold ---------- AFR TXR #4801 or TXS #4802
Spark Plug Starting Range ---------- Autolite 3922

Pairs of Cylinder Heads			
Runner Volume	Plug Type	Combustion Chamber	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

Competition CNC Chamber, Intake, & Exhaust

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 have extra machining for 3/8" pushrod clearance. 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. 50 for additional information.

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" O.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 Valve Drag Race Spring 250 lbs. on seat, .800" max lift Max RPM 8000-8200	AFR #8001
10º Titanium Retainers 1.500" O.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" 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

245cc Competition Flow Chart

	.200	.300	.400	.500	.550	.600	.650	.700	.800
Int	165	232	278	310	321	330	336	341	350
Exh	128	181	214	235	242	247	251	254	256

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

Specifications & Features:

Material ---------- A356 Aluminum
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 ---------- Perimeter Bolt
Valve Angle ---------- 23°
Valve Spring Pocket Diameter ---------- 1.580" O.D
Max Valve Spring Pocket Machining ---------- 1.680"
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
Flat Mill ---------- .006" per cc 65cc Maximum
Angle Mill ---------- .009" per cc 60cc Maximum

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 2.730 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Carb EO # ---------- Not Emissions Compliant

Recommended Components:

Shaft Mount Rocker Arms ---------- T&D .450" off-set (Requires .180 offset lifters)
Shaft Mount Rocker Arms ---------- T&D .550" off-set (With standard lifters)
Intake Port Gasket ---------- Fel-Pro #1206 or AFR #6820

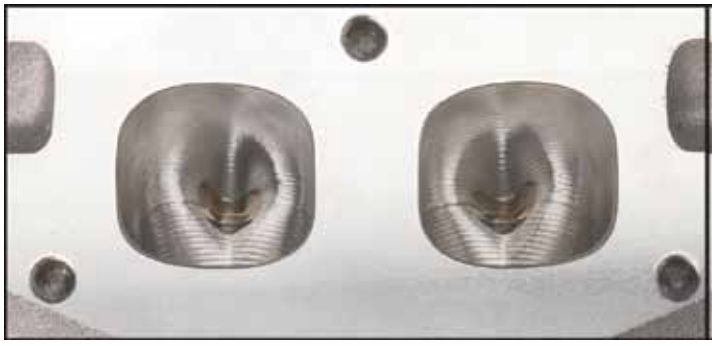
Important: *Do not port match your intake manifold to Fel-Pro intake gaskets as it might not precisely fit AFR heads. See picture on page 6.*

Exhaust Port Gasket ---------- Fel-Pro #1405 or AFR #6835
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 Washers ---------- Manley, AFR #6320
Manifold ---------- AFR TXR #4801 or TXS #4802
Spark Plug Starting Range ---------- Autolite 3922

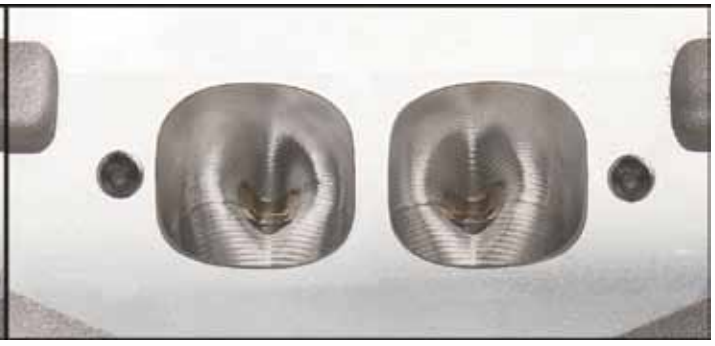
Pairs of Cylinder Heads			
Runner Volume	**Plug Type**	**Combustion Chamber**	**Part #**
CNC Competition Porting			
245cc	Angle	70cc	1137-TI
245cc	Angle	80cc	1138-TI

210, 220, 227, 235cc, & 245cc SBC "Eliminator" 23° SPREAD PORT Racing Heads

SPREAD PORT EXHAUST



STANDARD 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. 50 for additional information.

Pairs of Cylinder Heads			
Runner Volume	***Plug Type***	***Exhaust Type/ Combustion Chamber***	***Part #***
Race Ready CNC Strip Porting			
210cc	Angle	Spread Port 65cc	1059
210cc	Angle	Spread Port 75cc	1055
227cc	Angle	Spread Port 65cc	1074
227cc	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
235cc	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 in addition to dual pattern valve cover mounting holes and Titanium Retainers as standard equipment. 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

Recommended Components:

SBC 180-195cc LT Street Porting

Intake Port Gasket ---------- GM #12524653 LT1 / Fel-Pro #1284
Important: *Do not port match your intake manifold to Fel-Pro/GM LT1 gasket as it does not precisely fit AFR heads. See picture on page 6.*
Exhaust Port Gasket ----------Fel-Pro #1404, AFR #6834
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 ---------- AFR #6860
Important: *Do not port match your intake manifold to Fel-Pro/GM LT1 gasket as it does not precisely fit AFR heads. See picture on page 6.*
Exhaust Port Gasket ----------Fel-Pro #1405, AFR #6835
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

Competition CNC Chamber, Intake, & Exhaust

Pairs of Cylinder Heads			
Runner Volume	***Combustion Chamber***	***Plug Type***	***Part #***
SBC LT Street CNC Ported Head			
*180cc	Specify 55cc to 65cc	GM LT1	908
*195cc	Specify 55cc to 65cc	GM LT1	1031
SBC LT Race Ready CNC Ported Head			
210cc	Specify 55cc to 65cc	GM LT4	1057
227cc	Specify 55cc to 65cc	GM LT4	1076
SBC LT Competition CNC Ported Head			
*195cc	Specify 55cc to 65cc	GM LT4	1039
210cc	Specify 55cc to 65cc	GM LT4	1101
227cc	Specify 55cc to 65cc	GM LT4	1126

** Heads marked with Asterick are emissions legal*

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

The Small Port, High Velocity Torque Monster

Competition CNC Chamber, Intake, & Exhaust

AFR's 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. Legal for 2005 and older emissions controlled vehicles under CARB EO #D-250-4. 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. 50 for additional information.

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" O.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
7º 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" 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 2.131" 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	153	214	262	293	300	302
Exh	124	178	214	227	233	237

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
Exhaust Port Location ---------- Stock
Combustion Chamber Size ---------- 66cc
Valve Cover Bolt Pattern ---------- Center Bolt
Valve Angle ---------- 15°
Valve Spring Pocket Diameter ---------- 1.510" O.D
Max Valve Spring Pocket Machining ---------- 1.525" O.D
Deck Thickness ---------- .750"
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
Emissions Legal ---------- Carb EO #D-250-4

Recommended Components:

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 Volume	Combustion Chamber	Part #
CNC Competition Porting		
210cc	CNC Ported w/parts 66cc	1510

215cc LSx Cathedral Port "Mongoose" 15° Competition Head

The Medium Sized, High Velocity Torque Monster

Competition CNC Chamber, Intake, & Exhaust

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. Legal for 2005 and older emissions controlled vehicles under CARB EO #D-250-4. 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. 50 for additional information.

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" O.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" 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 2.131" 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.*

215cc Competition Flow Chart						
	.200	.300	.400	.500	.550	.600
Int	154	219	264	297	307	312
Exh	132	180	221	239	242	246

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 ---------- 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
Valve Cover Bolt Pattern ---------- Center Bolt
Valve Angle ---------- 15°
Valve Spring Pocket Diameter ---------- 1.510" O.D
Max Valve Spring Pocket Machining ---------- 1.525" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 3.900"
Flat Mill ---------- .006" per cc, 58cc Maximum
Minimum Cross Sectional Area ---------- 2.260 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Tapered Seat
Emissions Legal ---------- Carb EO #D-250-4

Recommended Components:

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 Volume	Combustion Chamber	Part #
CNC Competition Porting		
215cc	CNC Ported w/parts 65cc	1530

230cc LSx Cathedral Port "Mongoose" 15° Competition Head

The Ultimate Bolt-On Emission Legal Street/Strip Weapon

Competition CNC Chamber, Intake, & Exhaust

AFR's 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. Legal for 2005 and older emissions controlled vehicles under CARB EO #D-250-4. 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. 50 for additional information.

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" O.A.L.	AFR #7208
8mm Bead Lock Exhaust Valve 1.600" x 4.900" O.A.L.	AFR #7228
PAC Racing Springs 1.260" 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" 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 2.131" 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.*

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						
	.200	.300	.400	.500	.550	.600
Int	158	230	282	320	325	328
Exh	129	183	225	244	248	252

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:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 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" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 3.900"
Flat Mill - 62cc Chamber ---------- .006" per cc, 58cc Maximum
Flat Mill - 72cc Chamber ---------- .006" per cc, 67cc Maximum
Minimum Cross Sectional Area ---------- 2.425 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Tapered Seat
Emissions Legal ---------- Carb EO #D-250-4

Recommended Components:

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	Combustion Chamber	Part #
CNC Competition Porting - Large Bore (4.000+)		
230cc	CNC Ported w/parts 62cc	1610
230cc	CNC Ported w/parts 72cc	1630
CNC Competition Porting - Small Bore (3.900+)		
230cc	CNC Ported w/parts 65cc	1660

245cc LSx Cathedral Port "Mongoose" 15° Competition Head

Our Max Effort Cathedral Port Offering

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. Part numbers with an asterisk are legal for 2005 and older emissions controlled vehicles under CARB EO #D-250-4. 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. 50 for additional information.

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" O.A.L.	AFR #7228
PAC Racing Springs 1.260" 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" 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
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	88cc
Exhaust Port Dimension	1.495" H x 1.730" W
Exhaust Port Location	Stock
Combustion Chamber Size	65cc or 73cc
Valve Cover Bolt Pattern	Center Bolt
Valve Angle	15°
Valve Spring Pocket Diameter	1.510" O.D
Max Valve Spring Pocket Machining	1.525" O.D
Deck Thickness	.750"
Minimum Bore Diameter	4.000"
Flat Mill - 65cc	.006" per cc, 58cc Maximum
Flat Mill - 73cc	.006" per cc, 65cc Maximum
Minimum Cross Sectional Area	2.680 sq. in.
Spark Plug Dimensions	14mm x .750" w/ Tapered Seat
Emissions Legal	Carb EO #D-250-4

Recommended Components:

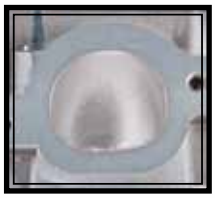
Intake Port Gasket	GM or FAST
Exhaust Port Gasket	GM #12558573
Head Gasket	Cometic 4.200 .040" or AFR #6845
Head Bolts (97-03)	ARP 134-3609 or AFR #6330
Head Studs (97-03)	ARP 234-4110 or AFR #6331
Head Bolts (04+)	ARP 134-3610 or AFR #6334
Head Studs (04+)	ARP 234-4317 or AFR #6335
Head Bolt Washers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

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

265cc Oval Port "Magnum" BBC 24°

Small Port, High Velocity, Torque Monster

Partial CNC Chamber, Intake, & Exhaust



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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

Included Components	Part #
75% CNC Ported Exhaust Ports (Bowl Blend), 75% CNC Chambers 80% CNC Ported Intake Ports (Bowl Blend) Competition 5 Angle Valve Job	
11/32" Intake Valve 2.190" x 5.460" O.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 #6611
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" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

265cc As Cast Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	154	218	278	323	339	347	354
Exh	127	164	200	230	250	255	260

265cc w/ 100% CNC Chamber Flow Chart							
	.200	.300	.400	.500	.550	.600	.650
Int	164	236	291	326	335	342	345
Exh	135	190	230	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 ---------- A356 Aluminum
Intake Port Volume ---------- 265cc
Intake Port Dimension ---------- 2.030" H x 1.830" W x 1/2° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 132cc
Exhaust Port Dimension ---------- 1.770" H x 2.010" W
Exhaust Port Location ---------- .375" Raised
Combustion Chamber Size (Partial CNC) ---------- 109cc
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 ---------- .750"
Minimum Bore Diameter ---------- 4.125"
Flat Mill ---------- .006" Per CC / Maximum 102cc As Cast or CNC Chamber
Angle Mill ---------- .009" Per CC / Maximum 97cc As Cast or CNC Chamber

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 2.640 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ---------- AFR #6863

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
Suggested Manifold ---------- Performer RPM or Victor Jr
Spark Plug Starting Range ---------- Autolite 3924

	Pairs of Cylinder Heads		
Runner Size	Description	Combustion Chamber	Part #
As Cast w/ Partial CNC Porting			
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°

Our Medium Sized Oval Port

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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 #6611
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" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 290cc
Intake Port Dimension ---------- 2.030" H x 1.830" W x 1/2° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 135cc
Exhaust Port Dimension ----------1.770" H x 2.010" W
Exhaust Port Location---------- .375" Raised
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---------- .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 .120" thick intake gasket.*

Minimum Cross Sectional Area----------2.895 sq. in.
Spark Plug Dimensions----------14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ---------- AFR #6863

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
Suggested Manifold ----------Performer RPM or Victor Jr
Spark Plug Starting Range----------Autolite 3924

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

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

300cc Oval Port "Magnum" BBC 24°

The Ultimate Street/ Race Weapon

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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 ***Uses #8518 Steel Retainer*** (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 #6611
Hardened Spring Cup 1.740" O.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" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 300cc
Intake Port Dimension ---------- 2.055" H x 1.840" W x 1/2° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 135cc
Exhaust Port Dimension ---------- 1.770" H x 2.010" W
Exhaust Port Location ---------- .375" Raised
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 ---------- .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 .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.020 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat

Recommended Components:

Intake Port Gasket ---------- AFR #6863 or GM #12366985

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
Suggested Manifold ---------- Performer RPM or Victor Jr
Spark Plug Starting Range ---------- Autolite 3924

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

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

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

305cc Rectangle Port "Magnum" BBC 24°

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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, 2.250" x 5.500" O.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" 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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---------- .375" Raised
Combustion Chamber Size (As Cast) ---------- 117cc
Combustion Chamber Size (Full CNC) ---------- 121cc
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---------- .750"
Minimum Bore Diameter----------4.250"
Flat Mill ----------.006" Per CC / Maximum 108cc As Cast or 114cc CNC Chamber
Angle Mill ---------- .009" Per CC / Maximum 104cc As Cast or CNC Chamber
Note: *Angle mills might require a .120" thick intake gasket.*
Minimum Cross Sectional Area ----------2.993 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
Suggested Manifold ----------Victor Jr or Super Victor
Spark Plug Starting Range----------Autolite 3924

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

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

315cc Rectangle Port "Magnum" BBC 24°

AFR's Torque Monster

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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
10º 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

Specifications & Features:

Material ---------- A356 Aluminum
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---------- 135cc
Exhaust Port Dimension ----------1.780" H x 2.025" W
Exhaust Port Location---------- .375" Raised
Combustion Chamber Size (Full CNC) ---------- 121cc
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---------- .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" thick 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
Suggested Manifold ----------Victor Jr or Super Victor
Spark Plug Starting Range---------- Autolite 3924 (Pump Gas) / 3922 (Race Gas)

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

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, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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
10º 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

325cc As Cast Flow Chart

	.200	.300	.400	.500	.600	.700
Int	150	220	286	337	372	385
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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 325cc
Intake Port Dimension ---------- 2.360" 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 Location ---------- .375" Raised
Combustion Chamber Size (As Cast) ---------- 117cc
Combustion Chamber Size (Full CNC) ---------- 121cc
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 ---------- .750"
Minimum Bore Diameter ---------- 4.250"
Flat Mill ---------- .006" Per CC / Maximum 108cc As Cast or 114cc CNC Chamber
Angle Mill ---------- .009" Per CC / Maximum 104cc As Cast or CNC Chamber

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.111 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
Suggested Manifold ---------- Victor Jr or Super Victor
Spark Plug Starting Range ---------- Autolite 3924

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

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

335cc Rectangle Port "Magnum" BBC 24°

AFR's Best of Both Solution

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 335cc
Intake Port Dimension ---------- 2.455" 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 ---------- .375" Raised
Combustion Chamber Size (Full CNC) ---------- 121cc
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 ---------- .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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.275 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
Suggested Manifold ---------- Victor Jr or Super Victor
Spark Plug Starting Range ---------- Autolite 3924 (Pump Gas) / 3922 (Race Gas)

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

Pairs of Cylinder Heads			
Runner Volume	**Description**	**Combustion Chamber**	**Part #**
Competition Package Ported Heads			
335cc	Fully CNC Ported	121cc	2001

345cc Rectangle Port "Magnum" BBC 24°

AFR's Magnum Series

Partial CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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
10º 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 345cc
Intake Port Dimension ----------2.435" H x 1.765" W x 13/32° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume---------- 132cc
Exhaust Port Dimension ----------1.720" H x 1.920" W
Exhaust Port Location---------- .375" Raised
Combustion Chamber Size (As Cast) ---------- 117cc
Combustion Chamber Size (Full CNC) ---------- 121cc
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---------- .750"
Minimum Bore Diameter----------4.250"
Flat Mill ----------.006" Per CC / Maximum 108cc As Cast or 114cc CNC Chamber
Angle Mill ---------- .009" Per CC / Maximum 104cc As Cast or CNC Chamber

Note: *Angle mills might require a .120" thick 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
Suggested Manifold ----------Victor Jr or Super Victor
Spark Plug Starting Range----------Autolite 3924

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

Pairs of Cylinder Heads			
Runner Volume	**Description**	**Combustion Chamber**	**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 Magnum Series

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 357cc
Intake Port Dimension ---------- 2.520" H x 1.8150" 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 ---------- .375" Raised
Combustion Chamber Size (Full CNC) ---------- 121cc
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 ---------- .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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.435 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
Suggested Manifold ---------- Victor Jr or Super Victor
Spark Plug Starting Range ---------- Autolite 3924 (Pump Gas) / 3922 (Race Gas)

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

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

377cc "Magnum" 24° BBC

AFR's Magnum Series

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

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

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---------- .375" Raised
Combustion Chamber Size (Full CNC) ---------- 121cc
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---------- .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" thick intake gasket.*

Minimum Cross Sectional Area----------3.860 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
Suggested Manifold ----------Victor Jr or Super Victor
Spark Plug Starting Range----------Autolite 3932

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

Pairs of Cylinder Heads			
Runner Volume	Description	Combustion Chamber	Part #
Competition Package Ported Heads			
377cc	Fully CNC Ported	121cc	2015-TI

385cc "Magnum" 24° BBC

AFR's Magnum Series

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.A.L.	AFR #7627
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
10º 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 #6611
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 #9062
Exhaust Valve Seats 2.00" O.D x 1.580" I.D x .375" Deep	AFR #9064
11/32" Intake Bronze Valve Guides .531" O.D x 2.10" O.A.L	AFR #9045
11/32" Exhaust Bronze Valve Guides .531" O.D x 2.25" O.A.L	AFR #9046

385cc Competition Flow Chart								
	.200	.300	.400	.500	.600	.700	.800	.900
Int	176	256	327	386	421	444	452	456
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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 385cc
Intake Port Dimension ---------- 2.565" H x 1.810" W x 15/32° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 135cc
Exhaust Port Dimension ---------- 1.780" H x 2.025" W
Exhaust Port Location ---------- .375" Raised
Combustion Chamber Size (Full CNC) ---------- 121cc
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 ---------- .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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.890 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
Suggested Manifold ---------- Victor Jr or Super Victor
Spark Plug Starting Range ---------- Autolite 3932

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

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

165cc SBF "Renegade" 20° Street Head

The Small Port, High Velocity, Emission Legal Torque Monster

Street CNC Chamber, Intake, & Exhaust

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. Part numbers with an asterisk are 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. 50 for additional information.

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" O.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" O.A.L	AFR #7262
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
7º Manley Steel 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 2.131" 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	.600
Int	*135*	*200*	*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 ---------- 165cc
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 ---------- 1.355" H x 1.360" W
Exhaust Port Location ---------- Stock
Combustion Chamber Size ---------- 58cc or 60cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 20°
Valve Spring Pocket Diameter ---------- 1.460" O.D
Max Valve Spring Pocket Machining ---------- 1.625" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
Flat Mill ---------- .006" per cc 54cc Max
Angle Mill ---------- .009" per cc 48cc Max

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 1.935 sq. 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:

Intake Port Gasket ---------- Fel-Pro #1250 or AFR #6828

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 #1415 or AFR #6837
Head Gasket ---------- 302/351 Windsor, Fel-Pro #1011-1 or AFR #6808
7/16" Head Bolts ---------- ARP 154-3701 or AFR #6323
7/16" Head Studs ---------- ARP 254-4401 or AFR #6322
1/2" Bolt - 7/16" Thread Head Bolts ---------- ARP 254-3708 or AFR #6319
Head Bolt Washers ---------- Manley, AFR #6320
Stud Girdle (AFR Specific) ---------- AFR #6207
Manifold ---------- Performer or Performer RPM
Spark Plug Starting Range ---------- Autolite 3924

Pairs of Cylinder Heads			
Runner Volume	**Stud or Pedestal**	**Combustion Chamber**	**Part #**
CNC Street Porting - Emission Legal			
165cc	Stud	58cc	1402
165cc	Pedestal	60cc	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

Street CNC Chamber, Intake, & Exhaust

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. Part numbers with an asterisk are 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" O.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
7º Manley Steel 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 2.131" 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
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 Dimension ---------- 2.045" H x 1.205" W x 3/8° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 70cc
Exhaust Port Dimension ---------- 1.355" H x 1.360" W
Exhaust Port Location ---------- Stock
Combustion Chamber Size ---------- 58cc, 60cc, or 72cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 20°
Valve Spring Pocket Diameter ---------- 1.460" O.D
Max Valve Spring Pocket Machining ---------- 1.625" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.000"
Flat Mill ---------- .006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill ---------- .009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);
Note: *Angle mills might require a .120" thick intake gasket.*
Minimum Cross Sectional Area ---------- 2.025 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
CARB EO# (Emissions Legal Only) ---------- D-250-3
Head Bolt Diameter ---------- 1/2"

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1262 or AFR #6832
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 #1415 or AFR #6837
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 Washers ---------- Manley, AFR #6320
Stud Girdle (AFR Specific) ---------- AFR #6207
Manifold ---------- Performer or Performer RPM
Spark Plug Starting Range ---------- Autolite 3924

Pairs of Cylinder Heads			
Runner Volume	*Stud or Pedestal*	*Combustion Chamber*	*Part #*
CNC Street Porting - Emission Legal			
185cc	Stud	58cc	1422
185cc	Stud	72cc	1420
185cc	Pedestal	60cc	1492
CNC Street Porting - Non Emissions			
185cc	Stud	72cc	1387
185cc	Stud	58cc	1388

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. Part numbers with an asterisk are 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.A.L.	AFR #7252
8mm Bead Lock Exhaust Valve 1.600" x 4.950" O.A.L.	AFR #7250
PAC Racing Springs 1.260" 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" 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" 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 2.131" 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
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 Volume----------70cc
Exhaust Port Dimension ----------1.405" H x 1.400" W
Exhaust Port Location---------- Raised .125"
Combustion Chamber Size---------- 58cc or 72cc
Valve Cover Bolt Pattern ----------Perimeter
Valve Angle ---------- 20°
Valve Spring Pocket Diameter ---------- 1.460" O.D
Max Valve Spring Pocket Machining---------- 1.625" O.D
Deck Thickness---------- .750"
Minimum Bore Diameter----------4.000"
Flat Mill ---------- .006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill ---------- .009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area----------2.075 sq. in.
Spark Plug Dimensions----------14mm x .750" w/ Gasket Seat
CARB EO# (Emissions Legal Only) ---------- D-250-3
Head Bolt Diameter---------- 1/2"

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1262 or AFR #6832

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 #1487 or AFR #6839
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 Washers ---------- Manley, AFR #6320
Stud Girdle (AFR Specific) ---------- AFR #6207
Manifold ----------Performer RPM or Vic Jr.
Spark Plug Starting Range----------Autolite 3924

Pairs of Cylinder Heads			
Runner Volume	Stud or Pedestal	Combustion Chamber	Part #
CNC Competition Porting - Emission Legal			
195cc	Stud	58cc	1426-716
195cc	Stud	72cc	1428-716
CNC Competition Porting - Non Emissions			
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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" 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" 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" 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

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 Dimension ---------- 2.115" H x 1.300" W x 3/8° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 70cc
Exhaust Port Dimension ---------- 1.400" H x 1.400" W
Exhaust Port Location ---------- Raised .125"
Combustion Chamber Size ---------- 58cc or 72cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 20°
Valve Spring Pocket Diameter ---------- 1.580" O.D
Max Valve Spring Pocket Machining ---------- 1.625" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.000"
Flat Mill ---------- .006" per cc 54cc Max (from 58cc); 68cc Max (from 72cc);
Angle Mill ---------- .009" per cc 48cc Max (from 58cc); 62cc Max (from 72cc);

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 2.165 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Head Bolt Diameter ---------- 1/2"

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1262 or AFR #6832

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 #1487 or AFR #6839
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 Washers ---------- Manley, AFR #6320
Stud Girdle (AFR Specific) ---------- AFR #6207
Manifold ---------- Vic Jr. or Super Vic
Spark Plug Starting Range ---------- Autolite 3922

Pairs of Cylinder Heads			
Runner Volume	Rocker Type	Combustion Chamber	Part #
Competition CNC Ported Heads			
205cc	Stud	58cc	1450
205cc	Stud	72cc	1458

220cc SBF "Renegade" 20° Competition Head

The Best 20° In-Line Head You Can Buy

Competition CNC Chamber, Intake, & Exhaust

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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.A.L.	AFR #7256
8mm Bead Lock Exhaust Valve 1.570" x 5.030" O.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
10º 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" 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" 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

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 220cc
Intake Port Dimension ---------- 2.265" H x 1.325" W x 3/8° Radius
Intake Port Location ---------- Stock
Exhaust Port Volume ---------- 70cc
Exhaust Port Dimension ---------- 1.445" H x 1.595" W
Exhaust Port Location ---------- Raised .375"
Combustion Chamber Size ---------- 58cc or 72cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 20°
Valve Spring Pocket Diameter ---------- 1.580" O.D
Max Valve Spring Pocket Machining ---------- 1.580" O.D
Deck Thickness ---------- .750"
Minimum Bore Diameter ---------- 4.00"
Flat Mill ---------- .006" per cc 55cc Max (from 58cc); 69cc Max (from 72cc);
Angle Mill ---------- .009" per cc 52cc Max (from 58cc); 66cc Max (from 72cc);

Note: *Angle mills might require a .120" thick intake gasket.*

Minimum Cross Sectional Area ---------- 2.345 sq. in.
Spark Plug Dimensions ---------- 14mm x .750" w/ Gasket Seat
Head Bolt Diameter ---------- 1/2"

Recommended Components:

Intake Port Gasket ---------- Fel-Pro #1262R or AFR #6812

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 #1487 or AFR #6839
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 Washers ---------- Manley, AFR #6320
Stud Girdle (AFR Specific) ---------- AFR #6207
Manifold ---------- Vic Jr. or Super Vic
Spark Plug Starting Range ---------- Autolite 3922

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

Pairs of Cylinder Heads			
Runner Volume	**Rocker Type**	**Combustion Chamber**	**Part #**
Competition CNC Ported Heads			
220cc	Stud	58cc	1451
220cc	Stud	72cc	1456

Big Block Ford Cylinder Heads

“Blue Oval” big block performance is alive and well at Air Flow Research with a much needed clean sheet redesign of the aging BBF cylinder head. Starting with the needlessly large OEM port our design team decreased overall runner size while giving it a more consistent cross sectional area. This change is designed to increase peak power while notably boosting the torque, responsiveness and fuel efficiency. We then carefully shaped the combustion chamber and positioned the valves to compliment intake and exhaust port design while efficiently utilizing the cylinder bore. The improvement in valve positioning allows us to address the “Achilles Heel” of the BBF head, the exhaust port. By filling the floor of the exhaust port without raising the height we have improved high flow lift while increasing flow at low and mid lifts, achieving a 75% intake to exhaust flow ratio with our exhaust port in the stock location reaching 275 cfm. The high flow stock exhaust location allows for stock header and chassis fitment, but for customers with more room AFR offers their BBF cylinder head with the exhaust port raised .250”. Detailed information on the various versions of the AFR BBF cylinder head can be found online or in our catalog.

270cc "Bullitt" BBF 14° Street Head

Small Port, High Torque Street/Strip Heads

Street CNC Chamber, Intake, & Exhaust

AFR's 270cc 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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
10º Manley Steel Retainers 1.500" O.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 #6611
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" O.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .531" O.D x 2.250" O.A.L	AFR #9046

270cc Partial CNC Flow Chart						
	.200	.300	.400	.500	.600	.650
Int	*169*	*244*	*309*	*354*	*385*	*390*
Exh	*130*	*174*	*214*	*238*	*254*	*260*

Test conducted at 28" of water (pressure) on Superflow 600
Bore size: 4.390"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 270cc
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 Size ---------- 75cc or 85cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 14° Intake/ 8° 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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.225 sq. in.
Spark Plug Dimensions ---------- 14mm 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
Suggested Manifolds ---------- AFR Single Plane, AFR# 4992 or #4993
Spark Plug Starting Range ---------- Autolite 3932

Pairs of Cylinder Heads			
Runner Volume	**Description**	**Combustion Chamber**	**Part #**
CNC Partial Porting			
270cc	CNC bowl & Partial CNC chamber w/ Hydraulic Roller Springs	75cc	3802
270cc	CNC bowl & Partial CNC chamber w/ Solid Roller Springs	75cc	3803
270cc	CNC bowl & Partial CNC chamber w/ Hydraulic Roller Springs	85cc	3805
270cc	CNC bowl & Partial CNC chamber w/ Solid Roller Springs	85cc	3806

285cc "Bullitt" BBF 14°

Aggressive Street/Strip Performance Heads

AFR's 285cc 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" 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" 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" O.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 #6611
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" O.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .531" O.D x 2.250" O.A.L	AFR #9046

285cc w/ Stock Exhaust Race Ready Flow Chart							
	.200	.300	.400	.500	.600	.650	.700
Int	168	245	313	357	396	404	411
Exh	128	175	218	249	267	273	276

285cc 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: 4.390"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 285cc
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° 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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.275 sq. in.
Spark Plug Dimensions ---------- 14mm 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
Suggested Manifolds ---------- AFR Single Plane, AFR# 4992 or #4993
Spark Plug Starting Range ---------- Autolite 3932

Pairs of Cylinder Heads			
Runner Volume	**Description**	**Combustion Chamber**	**Part #**
Race Ready CNC Ported Heads - Stock Exhaust			
285cc	Hydraulic Roller	75cc	3816
285cc	Solid Roller	75cc	3817
285cc	Hydraulic Roller	85cc	3819
285cc	Solid Roller	85cc	3820
Competition CNC Ported Heads - .250" Raised Exh			
285cc	Hydraulic Roller	75cc	3822
285cc	Solid Roller	75cc	3823
285cc	Hydraulic Roller	85cc	3825
285cc	Solid Roller	85cc	3826

300cc "Bullitt" BBF 14°

The Ultimate BBF Race Heads

The 300cc 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. 45). To ensure trouble free operation of AFR cylinder heads & parts please view the footnotes on pg. 50 for additional information.

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" O.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" 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" O.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 #6611
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" O.D x 1.400" I.D x .375" Deep	AFR #9066
11/32" Bronze Valve Guides .531" O.D x 2.250" O.A.L	AFR #9046

300cc 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: 4.500"; intake 3/4" radius plate exhaust 2 1/8" curved pipe

Competition CNC Chamber, Intake, & Exhaust

Specifications & Features:

Material ---------- A356 Aluminum
Intake Port Volume ---------- 300cc
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 ---------- .250" Raised
Combustion Chamber Size ---------- 75cc or 85cc
Valve Cover Bolt Pattern ---------- Perimeter
Valve Angle ---------- 14° Intake/ 8° 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" thick intake gasket.*

Minimum Cross Sectional Area ---------- 3.440 sq. in.
Spark Plug Dimensions ---------- 14mm 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
Suggested Manifolds ---------- AFR Single Plane, AFR #4992 or #4993
Spark Plug Starting Range ---------- Autolite 3932

Pairs of Cylinder Heads			
Runner Volume	Description	Combustion Chamber	Part #
Competition CNC Ported Heads - .250" Raised Exh			
300cc	Hydraulic Roller	75cc	3834
300cc	Solid Roller	75cc	3835
300cc	Hydraulic Roller	85cc	3837
300cc	Solid Roller	85cc	3838

Valves

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

Cylinder Head and Valvetrain Components

AFR Offers a Complete Selection of:

Cylinder Head and Valvetrain Components

Valve Seals

Description	Part Number
AFR Rubber Valve Stem Seal, .530" x 11/32"	6611
AFR 8mm Valve Stem Seal	6612

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 7° Valve Locks, 8mm - Bead Lock Style	9007
AFR 10° Valve Locks, 8mm - Bead Lock Style	9009

Lash Caps

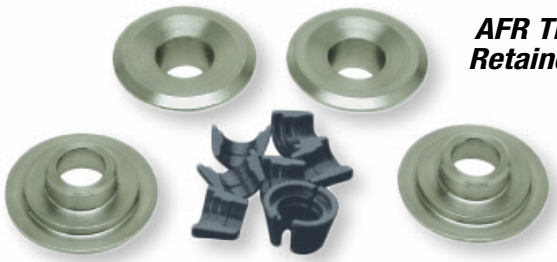
Description	Part Number
AFR Lash Cap, 11/32"	6608
AFR Lash Cap, 8mm	6609

AFR Hydraulic Valve Springs

AFR Roller Valve Springs

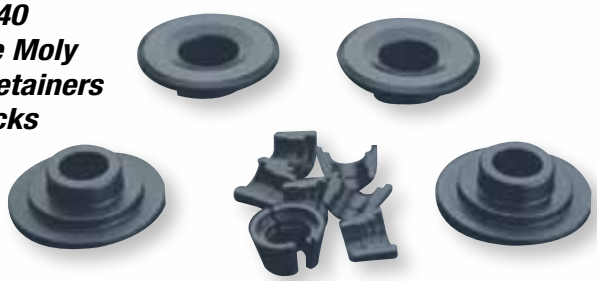
Valve Seats and Guides

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" O.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 Titanium Retainers and Locks

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.

Description	Part Number
PAC Solid Roller Lifter Spring, 1.550"	8000
PAC Solid Roller Lifter Spring, 1.550"	8001
PAC Hydraulic Roller Lifter Spring, 1.550"	8002
Pioneer Solid Flat Tappet Spring, 1.550"	8016
PAC Hydraulic Roller Lifter Spring, 1.290"	8017
PAC Hydraulic Roller Lifter Spring, 1.270"	8019
PAC Solid Roller Lifter Spring, 1.625"	8031

Cylinder Head and Valvetrain Components

AFR Roller Rockers

AFR Stud Girdle and Adjusting Nuts

*Disclaimer: Color and style of girdle may vary. Some valve cover baffles will require clearance for proper fitment.

Rocker Studs

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

Rocker Arms

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	6025
Scorpion Roller Rockers, 3/8"x1.6, set of 16	6026
Scorpion Roller Rockers, 7/16"x1.5, set of 16	6027
Scorpion Roller Rockers, 7/16"x1.6, set of 16	6028
T&D Shaft Rocker Kit, Small Block Chevy	6053

Stud Girdles

Description	Part Number
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" O.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

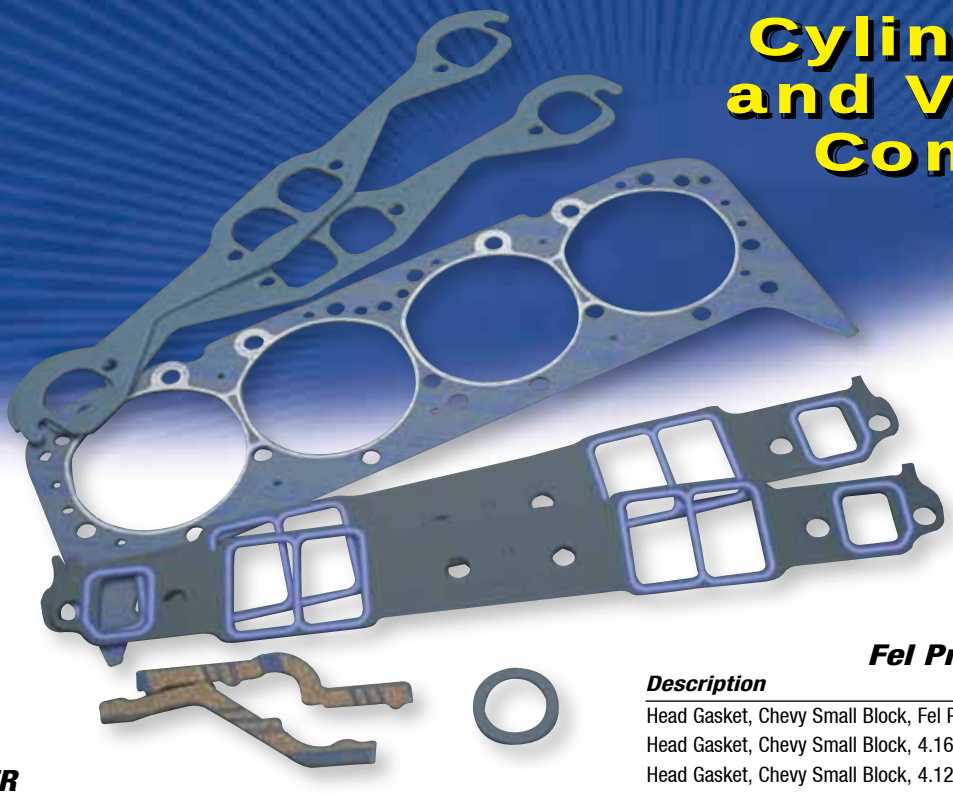
*Installation hardware may vary and machining may be required.

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	8024
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 Gaskets

AFR Head Studs, Nuts, and Washers

Fel Pro Gaskets

Description	*Part Number*
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	6850
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
Intake Gasket, Chevy Small Block, 1.250"x2.040", LT1, Fel Pro #1284	6827
Intake Gasket, Chevy Small Block, 1.280"x2.090", Fel Pro #1205	6810
Intake Gasket, Chevy Small Block, 1.310"x2.180", Fel Pro #1206	6820
Intake Gasket, Chevy Small Block, 1.340"x2.210", .120" thick, Fel Pro #1266	6825
Intake Gasket, Chevy Big Block, 1.820"x2.540", Fel Pro #1211	6855
Intake Gasket, Ford Small Block, 1.200"x2.000", Fel Pro #1250	6828
Exhaust Gasket, Chevy Small Block 180cc & 195cc Heads, Fel Pro #1404	6834
Exhaust Gasket, Chevy Small Block 210cc-227cc Heads, Fel Pro #1405	6835
Exhaust Gasket, Chevy Big Block Aluminum Heads, Fel Pro #1412	6858
Exhaust Gasket, Ford Small Block Aluminum Heads, Fel Pro #1415	6837
Valve Cover Gasket, Chevy Small Block, Fel Pro #1604	6838

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

Description	*Part Number*
ARP Head Stud Kit, std. 12-point, SBC, engine set	6305
ARP Head Stud Kit, 12-point, SBC, 18° Head, engine set	6306
ARP Head Stud Kit, std. 12-point, BBC, engine set	6307
ARP Head Bolt Kit, std., Small Block Chevy, engine set	6310
ARP Head Bolt Kit, abbreviated 12-point, SBC, 6 bolt set	6311
ARP Head Bolt Kit, 12-point, SBC, 18° Head, engine set	6309
ARP Head Bolt Kit, std. 12-point, BBC	6308
ARP Head Nut Kit, Abbreviated 12-point, SBC, set of 6	6301
ARP Head Bolt Washer Kit, Small Block Chevy	6320
ARP Head Bolt Sleeve, Small Block Chevy	6054
ARP 12-point x 7/16" nut	6315

AFR Head Bolts, Nuts, and Washers

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.**

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 SBF Tall Valve Covers, 4.125" inside height Polished Aluminum	6714

#6714

#6717

#6731-Breather

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 SBF Standard Valve Covers 2.75" inside height, Black Powder Coat	6717
AFR SBF Standard Valve Covers 2.75" inside height, Polished Aluminum,	6716
AFR BBC Standard Valve Covers, Black Powder Coat	6723
AFR BBC Standard Valve Covers, Polished Aluminum	6722

#6707

#6704

#6732-PCV Valve

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

Intake Manifolds Patented Process & Design

- 15 plus horsepower & torque more than competing manifolds!
- Weighs 9-11 lbs less than aluminum (Depending on model).
- Modular design. Interchangeable Runners
- Reduce carburetor vibration 5%
- Rubber Viton Gaskets - No Leaks.
- Composite Plastic manifold 30° cooler than aluminum manifold.
- Cast-in nitrous bosses.
- Dual distributor hold-downs.
- Includes distributor clamp and 12pt 3/8" bolts and washers.

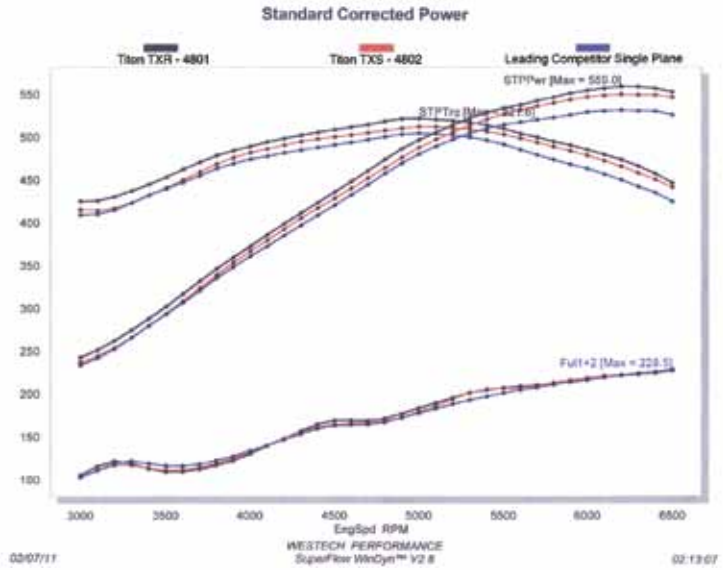
◀ ***AFR 4801 Titon TXR Race***
Carb Height 5.500
Fits Fel-Pro #1206

◀ ***Includes:*** ***Gaskets, 12 point bolts, distributor clamp and silicone included with your manifold!***

AFR 4802 Titon TXS Street/Strip ▶
Carb Height 4.580
Fits Fel-Pro #1205 & 1206

◀ ***AFR 4804 Titon DPR Street/Strip***
Carb Height 4.720
Fits Fel-Pro #1205 & 1206

Manifold Dyno Test

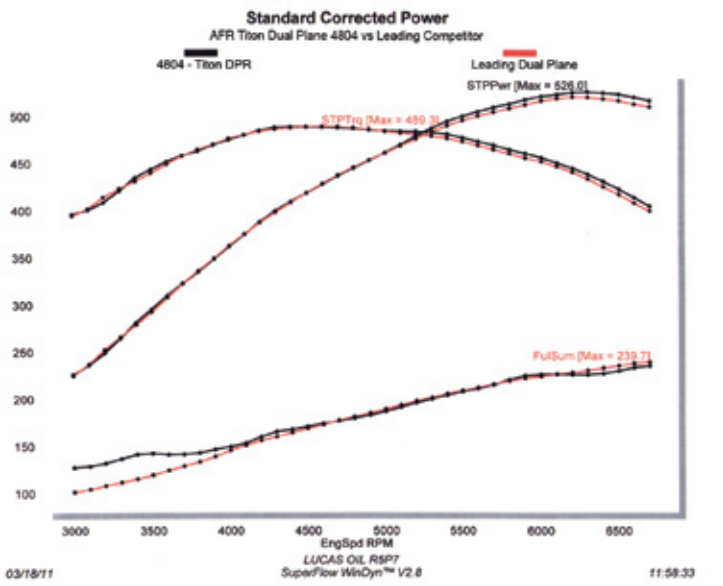


PERFORMANCE LIKE A PORTED ALUMINUM

Engine Specs

- 383 CID
- 9.2:1 CR (Low compression blower shortblock)
- AFR 195cc Eliminator Street Heads (AFR #1040)
- Comp Cams Extreme Energy Hydraulic roller XR274 (224°/230° @ .050 lift)
- Holley 950HP Carb
- HEI Ignition with DUI coil
- Hooker 1.75 diameter dyno headers

Tested at Westech Performance Group on 10/22/2008
Dyno Operator: Steve Brule



PERFORMANCE LIKE A PORTED ALUMINUM

AFR# 4450

AFR# 4460

AFR Spacers are designed for precision fit to AFR manifolds.

Footnotes

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.
Valve Guide Clearance - Your AFR Heads come with proper guide clearance (.0012"-.0015") 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 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 LT-1 / LT-4/Vortec Heads - Your factory accesory bolts and center bolt valve covers need to be shortened 3/16" or they will bottom out.
AFR LS1 - Does not have provisions for 1997-1998 perimeter bolt valve covers, conversion kits availabe.
AFR 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.
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.
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.
Pushrods - AFR SB Chevy and Ford heads are designed for 5/16" pushrods. AFR BB Chevy and Ford heads are designed for 7/16" pushrods. Larger pushrods will not fit without clearancing, call AFR for clearancing instructions.

General Recommendatons 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" O.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 O.D and doesn't need to be ground)
- SB Chevy or SB Ford heads with 1.625" O.D springs will require some springs to be removed for access to some head bolts when installing the heads.
- 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.
- 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.