



CYLINDER HEADS

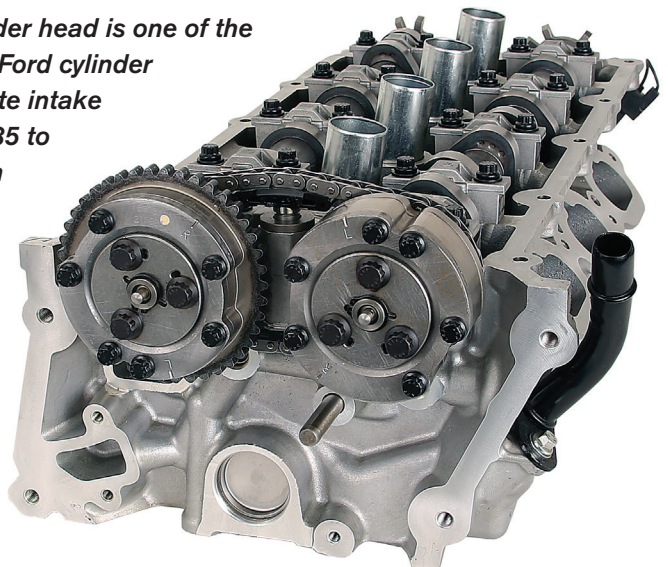
Ford's 5.0L Ti-VCT Coyote employs a revolutionary new cylinder head design that makes the latest member of the Modular engine less bulky while providing extraordinary breathing. The Coyote's intake ports utilize true drive-through service because they outflow even some of the most legendary race heads in history, including the Yates D3 casting for the small-block Ford. Perhaps this is an unfair comparison when you consider a two-valve versus a four-valve. But airflow is airflow and power is power. What counts is what you get at the crank and rear wheels.

Known stock Coyote intake port head flow numbers are 289.4-cfm intake and 201.4-cfm exhaust at .500 inch, which is remarkable, but there's more. Because the Coyote's top end was designed more as a package than just cylinder heads, cam, and induction, it produces impressive airflow numbers rarely seen from a factory Ford engine. Call it the team approach to induction, cams, and heads. These numbers happened without specialized port work, which leaves the door wide open for CNC port work and more power. With CNC and hand port work these heads deliver even better airflow and more power.

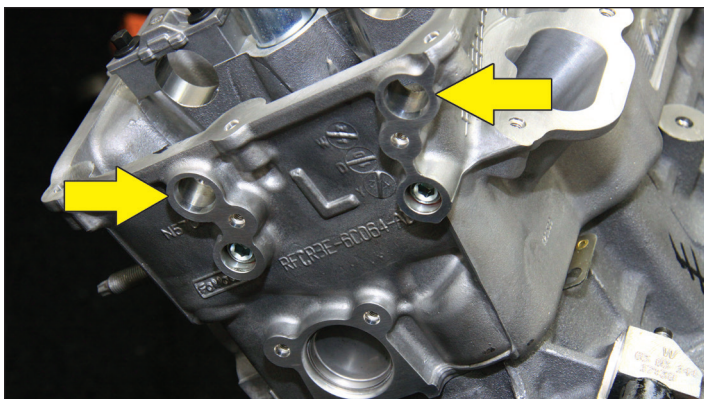
Ford's Coyote design team understood at the outset it would have to burn a lot of midnight oil to come up with a cylinder head that could do everything. Ford engineers looked first to basic hotrod-ding tricks to achieve their goals and then went to work conceiving a better cylinder head. Although the Coyote cylinder head appears to be a derivative of the Shelby GT500 head, it isn't. If you study this head closely it is a completely different casting. A lot was learned from the GT500 head, yet none of it was carried directly over to the Coyote, according to Ford.

The Coyote four-valve cylinder head is one of the most advanced production Ford cylinder heads ever produced. Coyote intake ports flow approximately 285 to 290 cfm stock, varying from casting to casting. With CNC porting, you can gain as much as 25 to 40 cfm intake and 20 to 30 cfm exhaust. When the Coyote was introduced in 2011, the media said that these heads actually outflow the Yates D3 small-block casting, which is a race head.

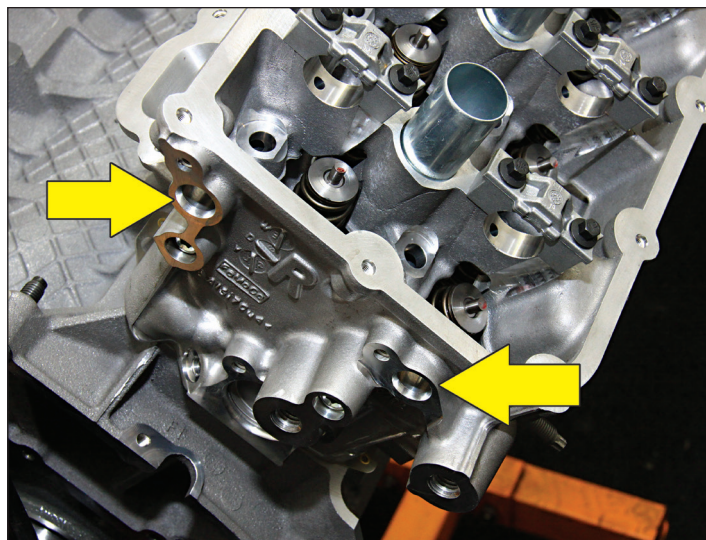
Ford engineers also took what they learned from the 3.5L and 3.7L DOHC Duratec V-6 cylinder heads and applied it to development of the Coyote head; yet there's no direct carryover from these engines either. However, the 3.5L/3.7L four-valve combustion chamber technique was applied to the Coyote to some degree in terms of shape and valve placement. Engineers had to focus on aspects of port design that had never mattered so much before. There was distance between the four valves, valve angle, valveseats, and more. Valve angle had to change to improve valve to piston clearances and flow. It



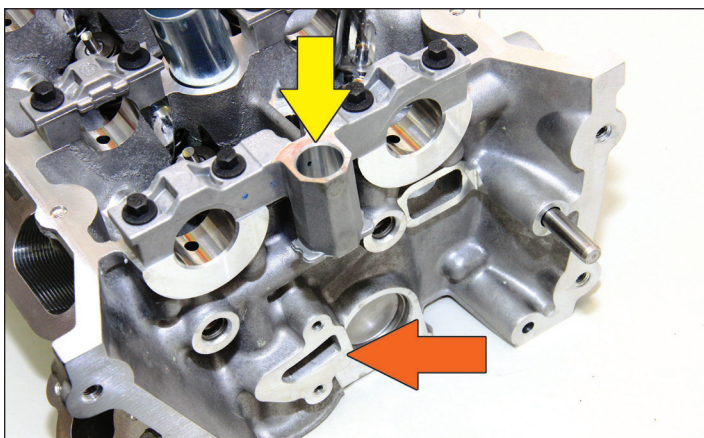
CYLINDER HEADS



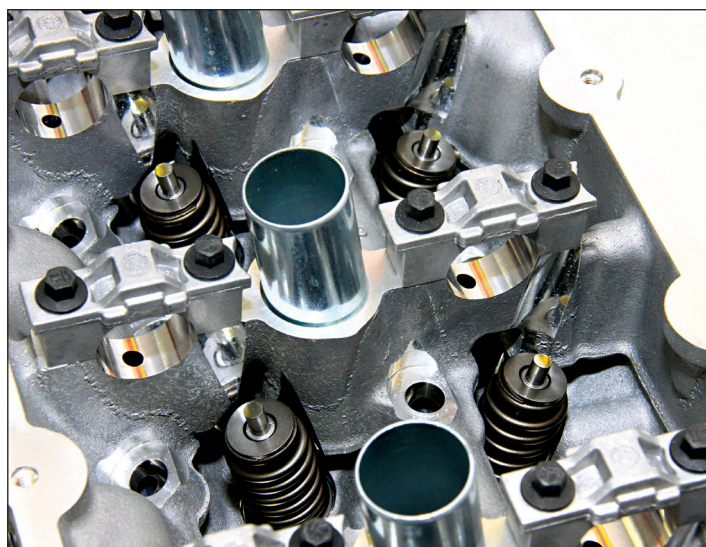
Coyote's cylinder heads are left (driver) and right (passenger) specific, easily identified by "L" and "R" in addition to respective casting numbers. This is a left-hand 2015 cylinder head as indicated by the "L." Visible here are intake and exhaust cam sensor ports and bolt holes (arrows). Each sensor is cam specific to prevent installation error.



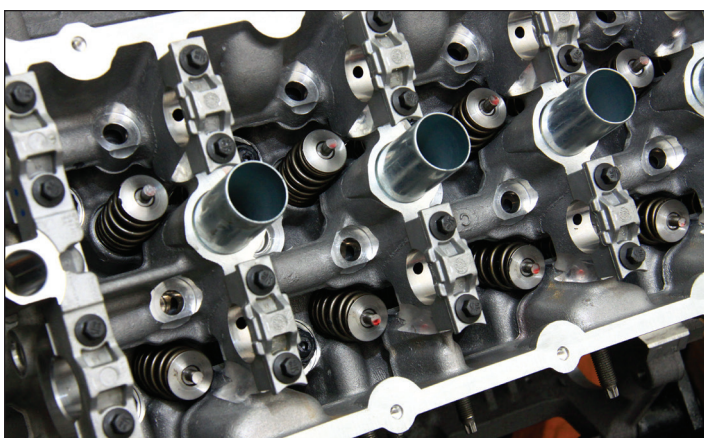
This is a right-hand (passenger) cylinder head on a 2015 Coyote, as indicated by the "R." As with the left-hand (driver) cylinder head, there are intake and exhaust cam sensor ports.



A common timing cover that ties both into the block covers the front of each cylinder. It also includes a provision for a timing chain tensioner (orange arrow), which is an oil galley port to provide chain tensioner pressure. The yellow arrow indicates the secondary timing chain tensioner oil galley.



A closer look at the Coyote cylinder head demonstrates the petite nature of this redesigned Modular head with its smaller valvetrain. It reminds me of a motorcycle valvetrain because it is so small. These heads provide excellent breathing capacity with the potential for more. Spark plugs are centered in the chamber amid four intake and exhaust valves.



Another angle shows the tighter valve angle of the Coyote cylinder head, which was exactly what Ford engineers were going for to conceive a more compact cylinder head.



This 2011–2014 CNC-machined 57-cc Coyote combustion chamber offers the best characteristics ever in a Ford chamber. The spark plugs are centered right in the middle of the action amid two 1.460-inch/37.0-mm intake and two 1.220-inch/31.0-mm exhaust valves.

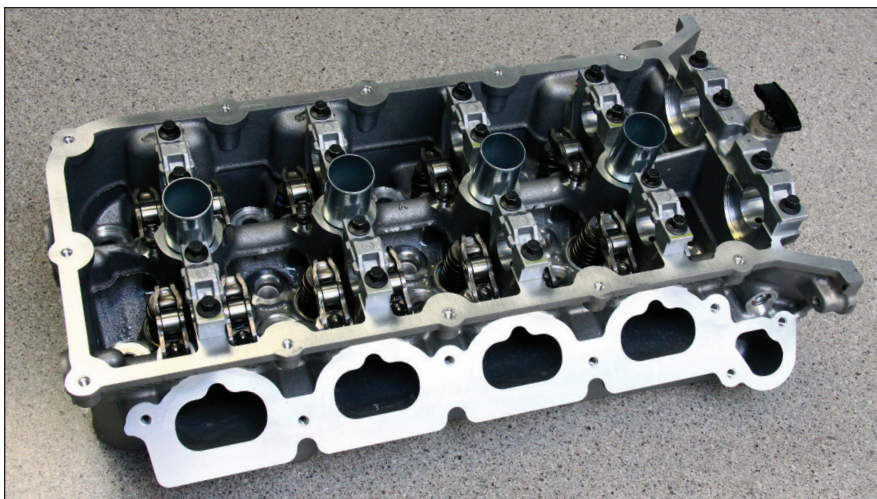
also had to change in order to reduce the overall size of the Coyote head and ultimately engine size.

Everything in the Coyote's cylinder heads had to be downsized to achieve a more petite cylinder head

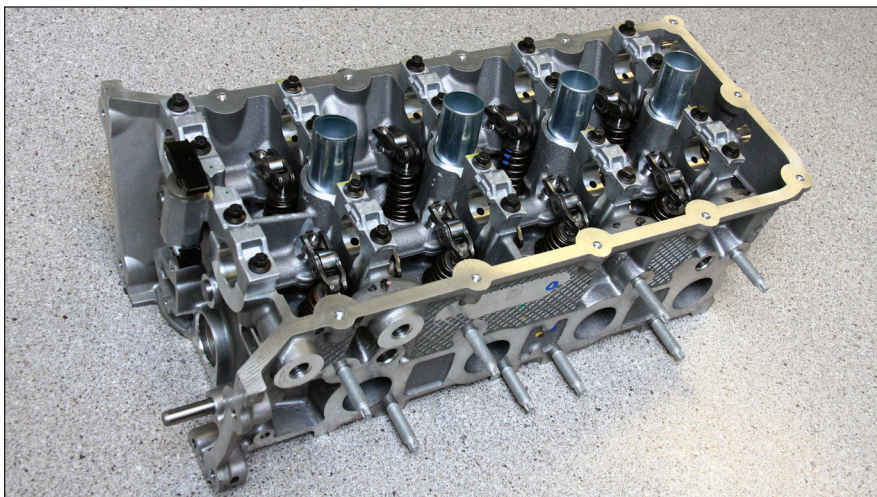
casting size. This meant smaller lash adjusters, springs, and rocker arms. When you compare the Coyote's valves and valvetrain to the 4.6L and 5.4L Modular's, there's an obvious difference in size. The Coyote's valvetrain

Coyote Head Quick Facts

- DOHC casting produced from 316-grade cast aluminum
- Left- and right-hand-specific heads: 6049 right and 6050 left
- 2011–2014 head is most common
- 2015–2016 head is a new casting with extended intake port flange for CMCV system
- 2011–2014 has 37.0-mm intake valve and 31.0-mm exhaust valve
- 2015–2016 has 37.8-mm intake valve and 31.8-mm exhaust valve
- Finger-style stamped roller rockers and lash adjusters
- 2011–2014 valvespring pressure: 265 pounds closed; 650 pounds open
- 2015–2016 valvespring pressure: 300 pounds closed; 760 pounds open

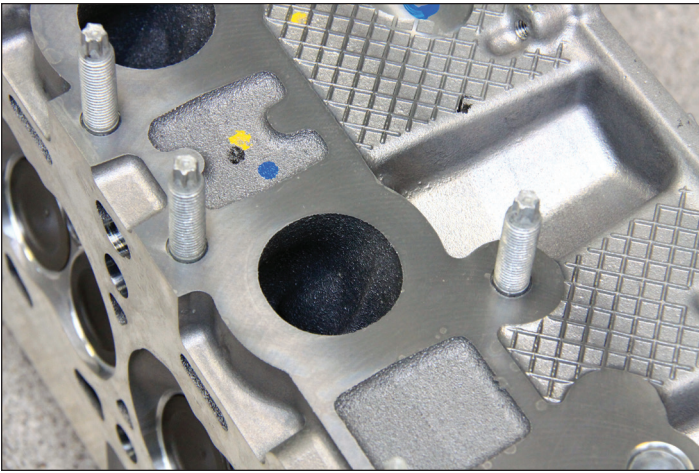


This is the revised 2015 Coyote cylinder head with revised high-flow intake ports, stiffer valvesprings, larger intake and exhaust valves, and a wider intake port flange for the CMCV induction system.

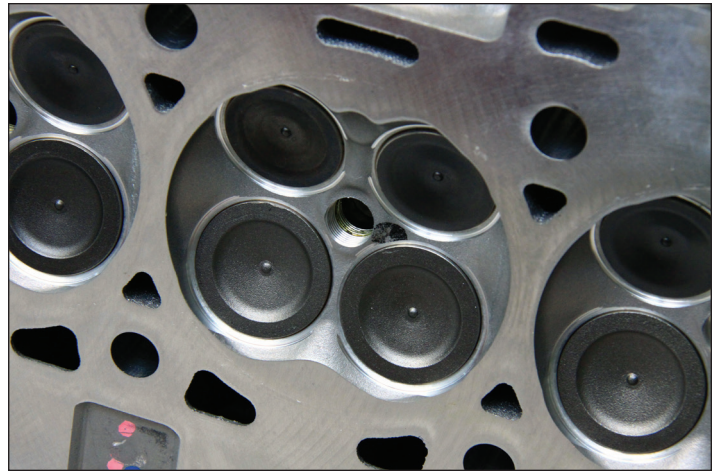


The revised 2015 head from the exhaust port side. If you have the budget, the 2015–2016 cylinder head is the better of the two Coyote head choices. Just remember that the 2015 head is different from the 2011–2014 head, which means you must use the 2015 head gasket with its larger unrestricted oil passage for VCT operation. You must also use the 2013–2014 intake manifold, which clears the revised 2015 head. The 2011–2012 intake manifold does not fit.

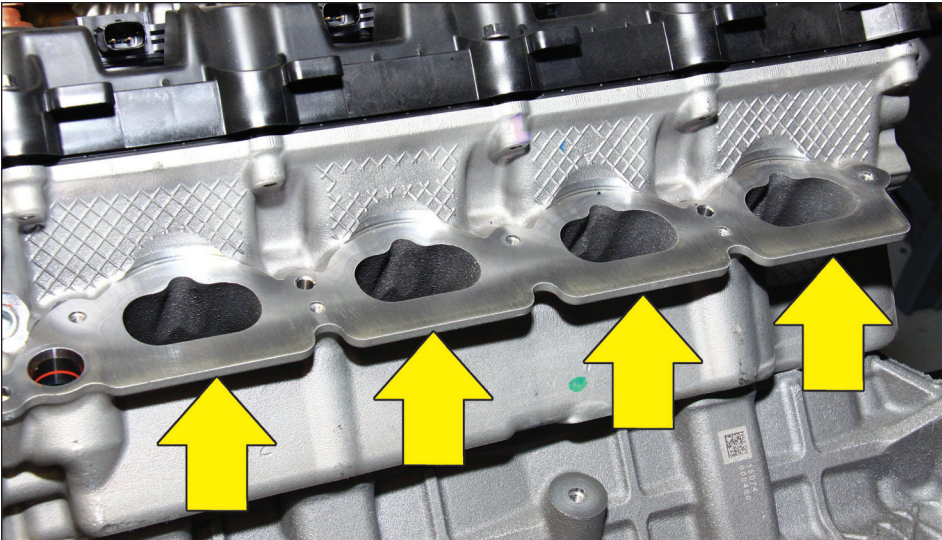
CYLINDER HEADS



The Coyote's generous exhaust ports provide exceptional scavenging compared to their Modular 4.6L/5.4L siblings. Exhaust valve size for 2015–2016 grew from 31.0 mm/1.240 inches to 31.7 mm/1.248 inches.



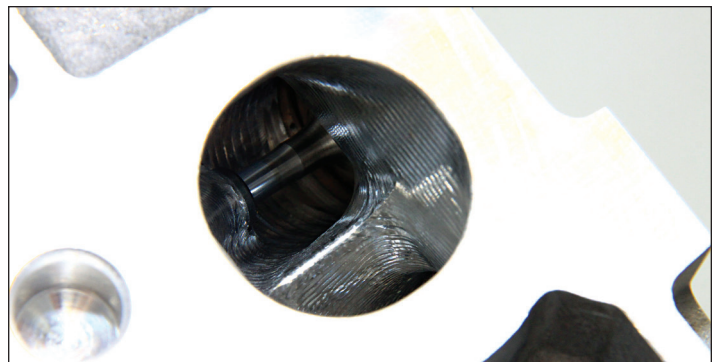
Here's the revised 2015–2016 57-cc chamber with larger 37.7-mm (1.485-inch) intake valves and 31.7-mm (1.248-inch) exhaust valves. This is the as-cast factory chamber, which has not been CNC machined.



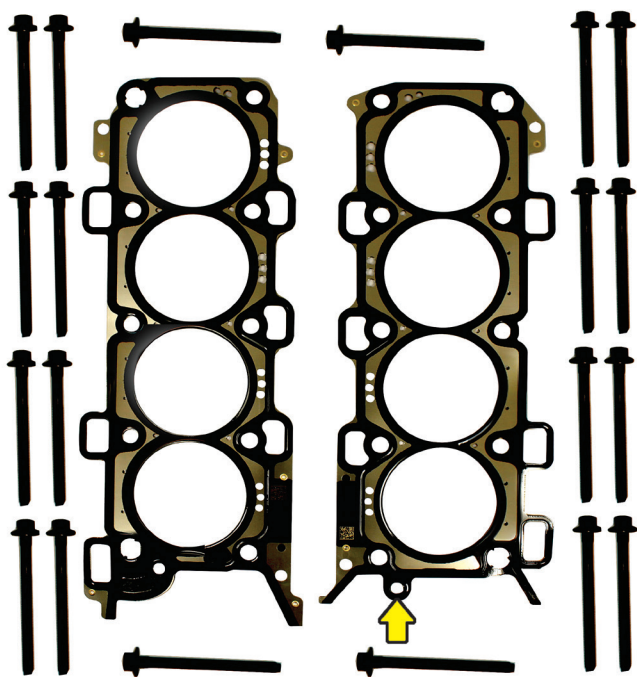
The revised 2015 head has these extended intake port flanges, which accommodate the CMCV system. This creates interference issues with the 2011–2012 intake manifold because of its extensive ribbing.



The 2011–2014 head has a shorter intake port flange. This is also a CNC-machined intake port. The stock port is roughcast.



A CNC-machined Coyote exhaust port yields vastly improved flow over the roughcast stocker. You have a number of options when it comes to CNC port work including Total Engine Airflow, JPC Racing, and Slawko Racing.



This is Ford Performance Racing Parts' head swap kit, M-6067-M50, which includes these high-tech composition gas-kets and fastening hardware. Plan on fresh gaskets and bolts whenever you swap heads. This is the 2015-2016 head gasket with enlarged VCV provision (arrow). (Photo Courtesy Ford Performance Parts)

events for Ford because it had never been done.

BOSS 302

When development began on the base Coyote head, Ford engineers were presented with another challenge: the 2012-2013 BOSS 302 cylinder head, which was also known as the "Roadrunner" project inside Ford. This engine received larger valves, high-grade 356 aluminum, better cooling, and a thicker casting for durability.

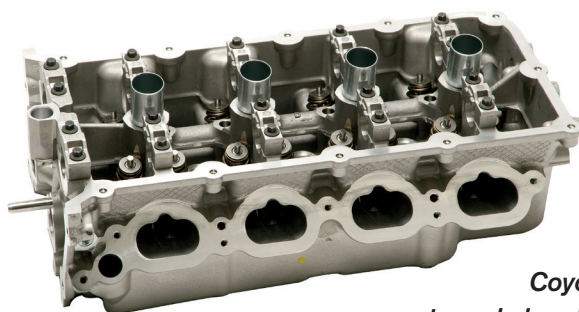
Ford was able to develop the BOSS 302 head thanks to being given a proper budget. What resulted were the left-hand M-6050-M50BR (driver) and right-hand M-6049-M50BR (passenger) heads. The engineers were able to take existing Coyote head tooling and produce the BOSS head as

reminds me of motorcycle engine sizing, which means you can spin the Coyote higher and without consequence. Cams had to be brought 20 mm closer together to shrink the package. Romeo-style camshaft journal girdles were abandoned for Windsor-style camshaft journal towers. Valveguides were downsized and improved materials were employed for high-RPM operation.

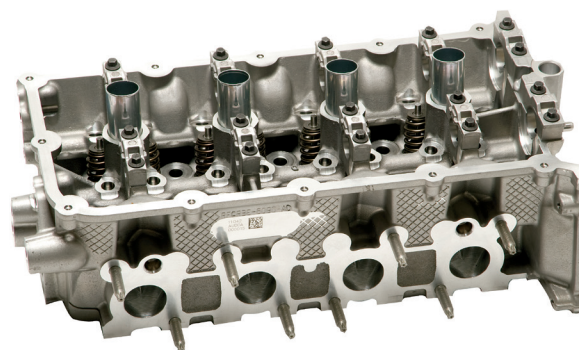
Another important area of improvement was cylinder head cooling, especially around the hottest part of the cylinder head, at the exhaust valves. Ford calls the improved method "cross-flow cooling"; it eliminated the Modular's cooling tube in the valley. Coolant flows up through cylinder heads at the exhaust valves toward the front of this engine. Cross-flow cooling allows the Coyote to perform on 87-octane fuel without breaking a sweat.

Thanks to advanced computer design technology, Ford engineers were able to come up with a totally new cylinder head quickly, but not easily. It took around-the-clock

development work for six months at seven days a week to get it done. The Coyote head's development and execution was a remarkable turn of

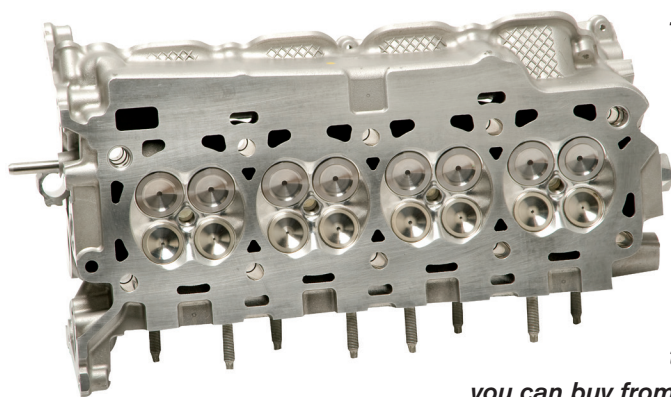


This is the 2012-2013 BOSS 302 cylinder head casting, M-6050-M50 and M-6049-M50 (shown), which really is a different casting of an improved 356 aluminum alloy (versus 319 with base Coyote heads) with CNC-machined ports and chambers. According to Ford, there's a measure of copper in the 356 alloy, which improves heat transfer under extreme conditions. (Photo Courtesy Ford Performance Parts)



Here's the BOSS 302 head's exhaust side, again the M-6049-M50 head casting. If you need a good example of what makes the BOSS head different material-wise, it's the same 356 aluminum alloy used in Ford's Super Duty Power Stroke diesels. There's more mass in the BOSS head around larger valves. In addition, cooling passages are improved for better heat transfer. (Photo Courtesy Ford Performance Parts)

CYLINDER HEADS



Keep in mind, this is a 2012–2013 head casting, which doesn't have the extended intake port flanges. (Photo Courtesy Ford Performance Parts)

The chamber side employs a thicker deck for exceptional strength around the 57-cc four-valve chambers. Ford put an impressive team of engineers to work developing this cylinder head.

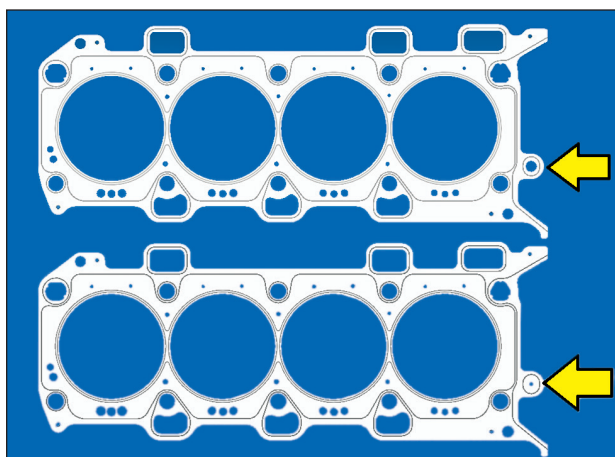
The result is an exceptional Coyote head casting

you can buy from Ford Performance Racing



It is suggested that you head-stud your Coyote build unless you're planning in-vehicle head removal. Cylinder heads cannot be removed in the vehicle if you use head studs. Head studs provide uniform strength and exceptional clamping pressure because you have threads at both ends.

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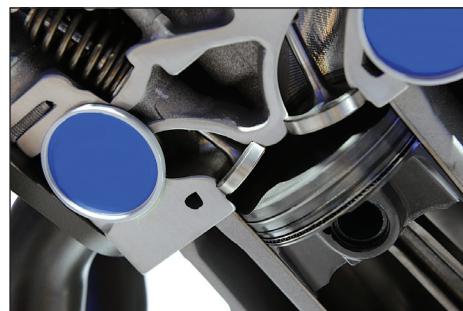


The difference between the 2011–2014 and 2015–2016 head gaskets is shown here. On top is the 2015–2016 head gasket with a revised VCV oil galley passage (arrow), which is larger. Bottom is the 2011–2014 gasket with a pinhole-sized galley passage (arrow). (Photo Courtesy Ford Performance Parts)

a unique BOSS-specific casting. Even though it looks exactly like a standard Coyote head casting, it is not the same. The BOSS head is cast of 356 aluminum alloy with a smattering of copper for both strength and good heat transfer. It sports plenty of thick aluminum stock where it counts, at

the deck and around the valves.

When a casting emerged from the Windsor foundry, CNC machines went to work to massage the unique BOSS casting which, to the naked eye, isn't much different from the standard Coyote head. In terms of power and function, how-



This close-up of the BOSS 302 head port configuration conveys what makes this head better: Better aluminum. As well as CNC port work going in and coming out. (Photo Courtesy Ford Performance Parts)

ever, it is surely a different head. With the BOSS head you not only get improved function but also strength in a better-alloy cocktail. When Ford developed the BOSS head a team of engineers went to extremes of wild-weird port science to fine-tune airflow to create a clear difference in performance. Ford engineers worked day and night on intake and exhaust port shape with grueling dyno tests to determine how much they had gained. It didn't happen all at once. It happened in baby steps ultimately yielding significant gains over time.

As engineers massaged intake ports they found that conventional port logic didn't always net them improvement. Improvement came with minute changes in port shape. Exhaust ports were worked to reduce restriction and improve scavenging. Ford engineers achieved improved flow by also lowering the port floor.

GT350 Coyote Cylinder Head

Ford Performance is introducing the Shelby GT350 5.2L cylinder head at press time, along with the corresponding induction and cylinder block, making it possible to build a

BOSS 302 Head Facts

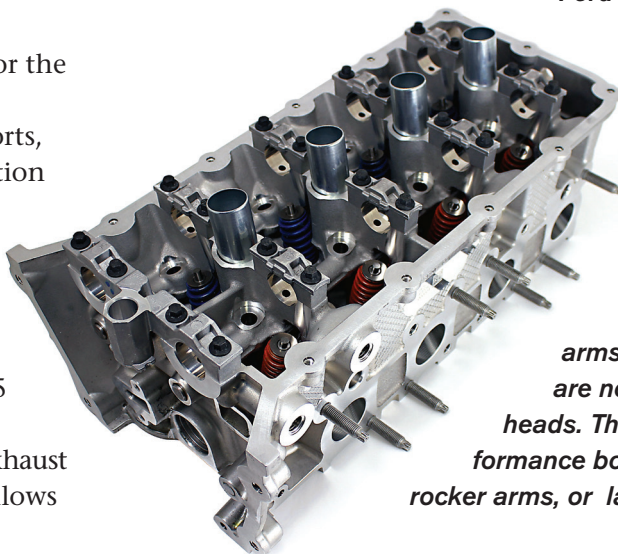
A nice thing about the BOSS 302 heads is that you don't have to buy a BOSS 302 Mustang to get them. They're available from Ford Performance Racing Parts and Summit Racing Equipment, just to name two sources. Here's what you get:

- Fits 2011–2014 Mustang GT, 2012–2013 Boss 302, Boss 302S, and Boss 302R race cars
- Production DOHC cylinder head used on the BOSS 302S and 302R race car
- Fully CNC'd ports and chambers
- Loaded head assembly minus camshafts, rocker arms, and lash adjusters
- 37.0-mm (1.460-inch) hollow stem intake valve
- 31.8-mm (1.248-inch) sodium-filled exhaust valve (31-mm/1.220-inch) on base 5.0L Coyote
- Increased-rate valvesprings can support 12-mm (.476-inch) intake and 13-mm (.511-inch) exhaust max lift (base head is 12 mm/12 mm)
- Intake side flows approximately 4 percent more than the base 5.0L head
- 193-cc intake port volume (more than 300 cfm)
- Chamber volume 55.6 cc (smaller than the standard 57-cc chamber)
- Use head changing kit M-6067-M50BR from Ford Performance Racing Parts or Summit Racing Equipment.

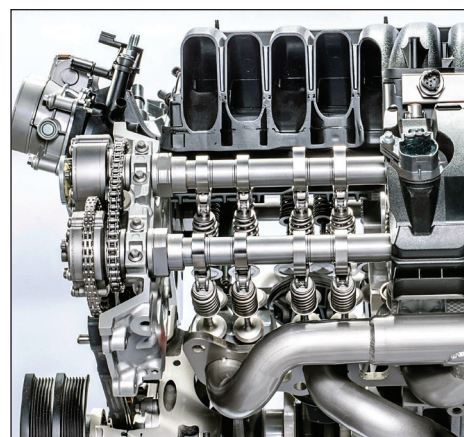
Boss 302 DOHC cylinder head production has been discontinued and heads will no longer be available after the current supply is sold out. However, you can also find them on eBay and craigslist, just to name two options.

5.2L Coyote with the cross-plane crank (more cubes for your Coyote project and the added benefit of these GT350 heads). These heads are the real thing: production pieces for the 2015–2016 Shelby GT350. Here's what you get:

- Production cylinder head for the 5.2L GT350
- Fully CNC-ported intake ports, exhaust ports, and combustion chamber
- Larger port sizing than the 2015 5.0L Coyote CMCV cylinder heads
- 38.3-mm intake valve and 32.5-mm exhaust valve; 2015 5.0L Coyote valve sizes are 37.3-mm intake, 31.8-mm exhaust
- New valvetrain geometry allows for greater valve lift



- Lightweight hollow-stem intake valves and sodium-filled exhaust valves
- Heads do not include camshafts, rocker arms, and lash adjusters



The new Shelby GT350 5.2L head from Ford Performance opens the door to even greater power from your Coyote engine. The GT350 head is a different casting entirely with its own valvetrain geometry, which does not interchange with other Coyote heads. (Photo Courtesy Ford Performance Parts)

- Requires unique camshaft due to valvetrain geometry (M-6550-M52)
- Also requires 5.2L rocker arms and lash adjusters (M-6564-M52)

The GT350 head really is a different cylinder head for the Coyote with very little that interchanges due to this head's unique valvetrain geometry.

Ford Performance has recently added the production GT350 5.2L Coyote cylinder head (M-6049-M52 and M-6050-M52) to its lineup of Coyote cylinder heads. The M52 head has larger 38.3-mm intake and 32.5-mm exhaust valves. The GT350 head's unique valvetrain geometry calls for GT350-specific camshafts, rocker arms, and hydraulic lash adjusters, which are not interchangeable with other Coyote heads. These heads come out of the Ford Performance box without camshafts (M-6550-M52), rocker arms, or lash adjusters (M-6564-M52). (Photo Courtesy Ford Performance Parts)

CYLINDER HEADS

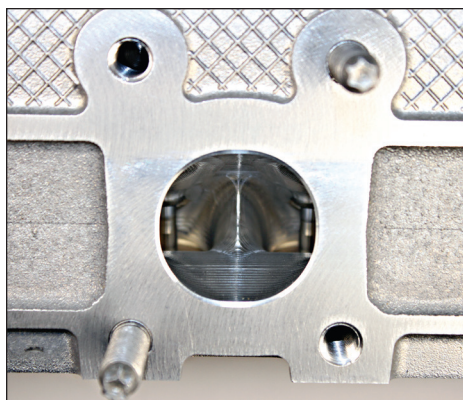


The GT350 5.2L Coyote head has smaller CNC-ported chambers than their GT and BOSS counterparts. More generous valve sizing makes this head a terrific choice.

However, if you're bolting these heads onto a 5.0L Coyote block, be advised that you will run into valve shrouding issues, which may limit power gains. (Photo Courtesy Ford Performance Parts)

Budget permitting, you can build a complete Ford Performance 5.2L Coyote to create a completely compatible mill. Ford Performance expects to have a complete 5.2L Coyote crate available by fall of 2016 that you can order with the cross-plane crank. Sorry, flat-plane cranks are not expected from Ford Performance anytime soon. They are a GT350 exclusive; you have to buy a GT350 to get one. Complete 5.2L Voodoo flat-plane engines are not expected either from Ford Performance.

The GT350 cylinder head is a ready-to-race piece right out of the box with its larger valves, generous ports, and revised valvetrain dimensions. So there's very little you would



The GT350 head's exhaust ports are CNC precision machined, which offer excellent scavenging. They are factory production pieces for the flat-plane crank 5.2L 2015–2016 Shelby GT350. (Photo Courtesy Ford Performance Parts)



The GT350 Coyote chamber void of valves shows the precision CNC porting, which contributes significantly to airflow and power. Expect to see in excess of 320 cfm intake and 220 cfm exhaust with these heads. Although you can bolt these heads onto the 5.0L block, consider building a 5.2L short-block to go with these heads due to valve shrouding issues with the 5.0L short-block. (Photo Courtesy Ford Performance Parts)

Improving the Coyote Head

How do you improve on such a perfect factory cylinder head? No one I have spoken with in the automotive aftermarket is planning a high-performance cylinder head for the 5.0L/5.2L Ti-VCT Coyote engine at press time because the factory castings are exceptional pieces to begin with. The best Coyote cylinder head in the marketplace is the factory casting with port work to improve flow numbers.

Regardless of what cylinder head you have planned for your Coyote project, the basics remain the same. Four basic cylinder head castings are available: 2011–2014 GT, 2012–2013 BOSS 302, and the 2015–2016 cylinder head designed

for the Charge Motion Control Valve system and improved flow. The new Shelby GT350 5.2L head can also be included.

If you're going to run the 2015–2016 cylinder head on your 2011–2014 block, use the 2015–2016 cylinder head gasket with the larger VCT oil feed hole in front. If you're going to run the more aggressive 2015–2016 camshafts on 2011–2014 cylinder heads, you must use the 2015–2016 timing chains, sprockets, and cam phasers. You cannot interchange 2011–2014 and 2015–2016 timing components. Variable cam timing (VCT) phaser bolts are new for 2015–2016 and must be matched to the 2015–2016 VCT solenoids. If you opt for 2015–2016 cylinder heads, be prepared to go the entire way with the complete timing chain and phaser package.

While I'm on the subject of cylinder head compatibility, also keep

Ford Coyote 5.0L/5.2L Cylinder Head Specifications			
Type	Part Number Details	Port Size	Valve Size (mm)
2011–2014 base head, right-hand (passenger)	M-6049-M50	193-cc intake volume	37.0 intake, 31.0 exhaust
2011–2014 base head, left-hand (driver)	M-6050-M50	193-cc intake volume	37.0 intake, 31.0 exhaust
2012–2013 BOSS 302, right-hand (passenger)	M-6049-M50BR; better alloy, CNC-ported, increased spring rates	4-percent flow increase over base Coyote head	37.0 intake, hollow stem, 31.8 exhaust, sodium filled
2012–2013 BOSS 302, left-hand (driver)	M-6050-M50BR; better alloy, CNC ported, increased spring rates	4-percent flow increase over base Coyote head	37.0 intake, hollow stem; 31.8 exhaust, sodium filled
2015–2016 base head, right-hand (passenger)	M-6049-M50; wider intake port flange, larger valves, greater spring rates		37.3 intake, 31.8 exhaust
2015–2016 base head, left-hand (driver)	M-6050-M50; wider intake port flange, larger valves, greater spring rates		37.3 intake, 31.8 exhaust
2015–2016 5.2L GT350, right-hand (passenger)	M-6050-M52; fully CNC ported, requires unique GT350 camshaft and rocker arm due to valvetrain geometry	Greater port volume than GT head	38.3 intake, 32.5 exhaust
2015–2016 5.2L GT350, left-hand (driver)	M-6049-M52; fully CNC ported, requires unique GT350 camshaft and rocker arm due to valvetrain geometry	Greater port volume than GT head	38.3 intake, 32.5 exhaust

in mind that the 2015–2016 induction system is also different from 2011 to 2014 with ribbing that interferes with the 2011–2014 cylinder head's extended intake port flange. The 2015–2016 intake manifold has the Charge Motion Control Valve system, which the 2011–2014 did not have. Charge Motion changes intake manifold runner length via flapper valves in the intake manifold. Greater runner length gives you better low-end torque. Shorter runners make horsepower at high RPM.

So how do you improve an already great factory cylinder head? You can improve the Coyote head with precision CNC port work. Oh sure, you can spend a lot of time hand porting this head if you have a lot of time on your hands. However, you are money and time ahead buying the Ford Performance Racing Parts CNC-ported head or sending your heads to Total Engine Airflow for CNC port work. Total Engine Airflow CNC machines the intake and exhaust ports along with the combustion chambers. You

wind up with larger passages with smooth surfaces and reduced turbulence. The result, regardless of how you look at it, is improved flow.

Ford Performance is no longer producing the BOSS 302 cylinder head. However, these heads are still available from sources like Summit Racing Equipment, eBay, craigslist, and a host of others. Remaining inventories of new BOSS heads as well as used show up at swap meets and parts houses. Because the Coyote V-8 in all its forms has been in production a short time, it's going to take time for used castings to become available. In the meantime, search for new castings for your Coyote project.

TEA CNC-Ported Coyote Heads

Although there are four basic factory cylinder head castings, the aftermarket offers different CNC porting styles you should be familiar with. Total Engine Airflow (TEA) Coyote

cylinder heads, which are available through Summit Racing Equipment, are among the best CNC-ported examples in the marketplace. You need to send TEA your cylinder head cores to get started. Here's what you can expect:

Valve Jobs

TEA valve jobs optimize airflow to deliver power and durability. They are also blueprint, meaning all seat depths are equal from valve to valve and head to head. There are no variations.

Airflow

All TEA head ports and chambers are hand blended in critical areas, and then flow tested to ensure they perform as designed. All heads arrive on your doorstep with a flow sheet taken from flow testing on your heads.

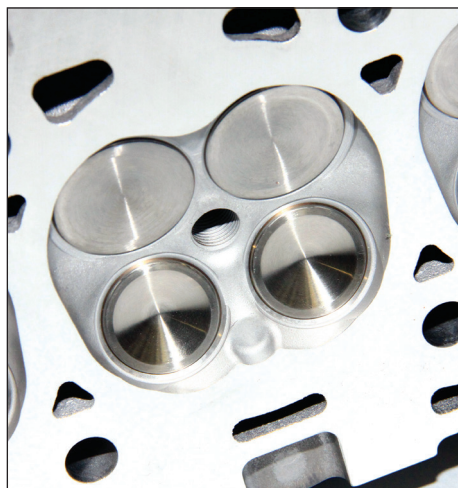
Assembly

Every set of heads is ready to install directly out of the box. All are "blueprint assembled" to ensure all

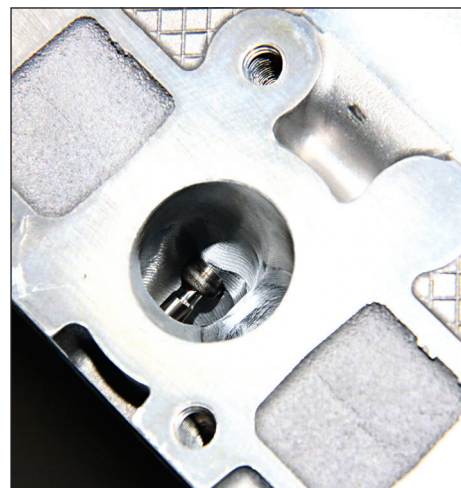
CYLINDER HEADS



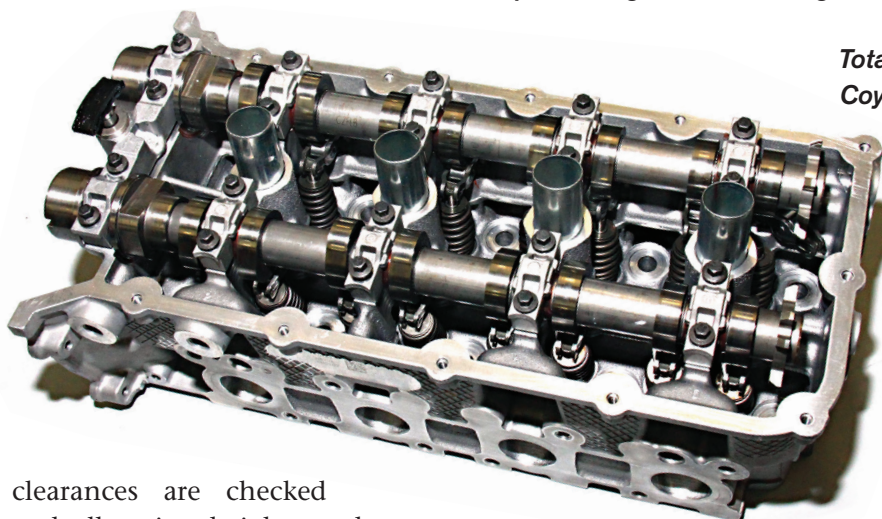
The TEA intake ports are not just CNC machined, they are also hand worked to achieve a buttery smooth finish. There are no lines and ridges to cause turbulence.



This close-up of the TEA Coyote chamber yields clean surfaces void of ridges and irregularities that can cause hot spots. Rough surfaces are gone.



Exhaust ports on the TEA Coyote CNC-ported head are hand worked after all CNC machining has ended. The result is thorough scavenging.



Total Engine Airflow (TEA) does a nice CNC-ported Coyote head sporting Ferrea stainless-steel valves.

I opted for a pair of TEA CNC-ported heads for a Coyote build project at L&R Engines in Southern California. These are nice, handcrafted pieces that you can bolt onto your Coyote. Airflow improvement is in the 4- to 5-percent range.

clearances are checked and all spring heights and pressures are equal. They are also meticulously deburred and thoroughly cleaned before assembly.

Custom Options

Many options can be performed on your Coyote cylinder heads. For

example, chamber volume can be milled from any TEA cylinder heads to the customer's requested chamber volume; in some cases they can remove additional material to make the chambers larger if needed. TEA

also stocks parts from all the leading valvetrain manufacturers and can supply countless variations of valve-springs, retainers, and valve materials.

Experience

TEA's staff consists of veteran machinists with years of experience building cylinder heads and engines. They understand what lives and what doesn't.

When your Coyote heads arrive at TEA, here's what happens:

- Disassemble and clean
- Fully CNC port intake and exhaust runners
- Competition multi-angle valve job
- Precision grind all 32 valves with backcut on intake valve

Total Engine Airflow Numbers (94-mm Bore)

Valve Lift (inch)	Intake (cfm)	Exhaust (cfm)
.100	91	82
.200	165	160
.300	228	206
.400	283	219
.500	305	228
.550	318	231

- Hand blend valve job into porting
- Flow test with sheet included
- Flat mill
- Custom assembly ensuring all tip heights are at stock height
- Trickflow/Pac racing 85-pound valvesprings
- OE valvestem seals

JPC Racing Coyote CNC-Ported Heads

JPC (Justin's Performance Center) Racing, located between Washington, D.C., and Baltimore, Maryland, delivers a great CNC-ported Coyote Stage 1 head for those of you looking for nice power gains from your naturally aspirated or forced-air Coyote. Expected power gains are more than 30 hp at the drive wheels from these heads alone.

These CNC-ported heads are actually a joint venture between JPC Racing and Rich Groh Racing (RGR) Engines. On its website JPC says, "The Stage 1 CNC-ported heads increase flow 9 to 14 percent (depends on lift) and utilize OEM valves, valvesprings, and retainers. A five-angle valve job is standard with all Stage 1 CNC-ported heads. JPC and RGR completely disassemble the heads, including the valvetrains, for maximum porting during the CNC process." JPC adds that turnaround time is approximately one week because they keep CNC castings in stock. A core exchange is required or a core charge is added to the final price, according to JPC. The JPC Racing Stage 2 and Stage 3 CNC-ported heads have aftermarket oversized valves and upgraded valvesprings.

Mustang racer Justin Burcham founded JPC Racing back in 2001 with the goal of providing something the industry long needed:

customer service, hands-on experience and knowledge, and a straightforward approach to working with people. Justin and his experienced staff bring many years of high-performance expertise to the table, along with several NMRA national championships.

Slawko Racing Heads

Slawko Racing Heads is another source for CNC-ported Coyote cylin-

der heads that contributes a strong racing background and a wealth of experience.

Slawko Racing Heads says these are the same CNC-ported Coyote heads used by Justin Cyrnek in his 2013 Mustang GT racecar. An Evolution Performance and L&M Engines-built GEN 1 5.0L Coyote engine powers Cyrnek's Mustang. Justin's best times in this Mustang have been as fast as 7.92 at 173.56 mph in the quarter-mile.

JPC Racing/RGR Coyote Heads: The Numbers (92.2-inch Bore)

<i>JPC/RGR Stage 1 Heads</i>		
<i>Valve Lift (inch)</i>	<i>Intake (cfm)</i>	<i>Exhaust (cfm)</i>
.100	54	37
.200	197	158
.300	266	201
.400	303	213
.500	321	224
.600	335	232
<i>JPC/RGR Stage 2 Heads</i>		
<i>Valve Lift (inch)</i>	<i>Intake (cfm)</i>	<i>Exhaust (cfm)</i>
.100	100	87
.200	197	158
.300	266	201
.400	303	213
.500	325	224
.600	331	232
.650	337	235
<i>JPC/RGR Stage 3 Heads</i>		
<i>Valve Lift (inch)</i>	<i>Intake (cfm)</i>	<i>Exhaust (cfm)</i>
.100	101	88
.200	205	160
.300	271	205
.400	305	221
.500	327	232
.600	339	243
.650	342	249

Slawko Racing Heads

<i>Valve Lift (inch)</i>	<i>Intake (cfm)</i>	<i>Exhaust (cfm)</i>
.100	94	88
.200	189	176
.300	260	215
.400	302	230
.500	330	239
.600	339	245
.650	346	247