

MERLIN OVAL PORT

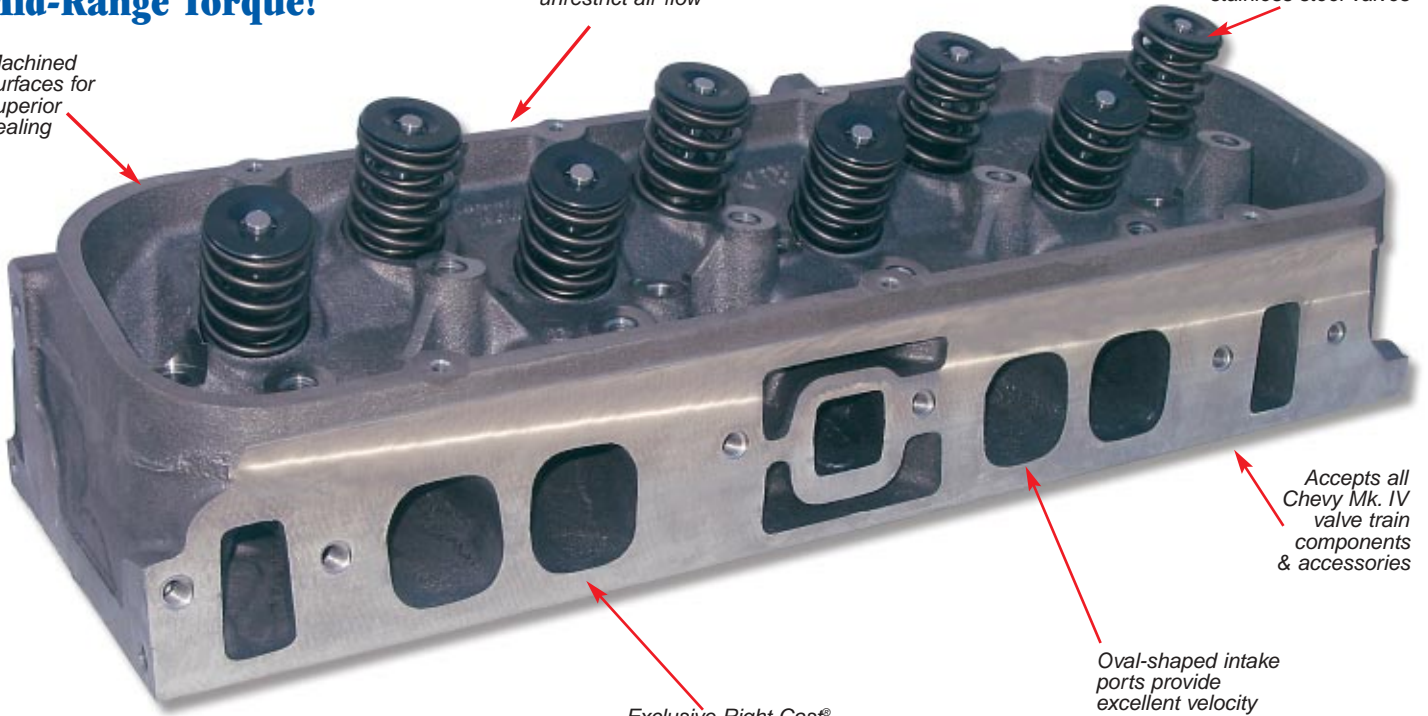
CAST IRON

The High Velocity Head For Great Bottom-End And Mid-Range Torque!

Machined surfaces for superior sealing

Exhaust port head bolt bosses raised 1" to unrestrict air flow

Complete assemblies equipped with Manley stainless steel valves



Accepts all Chevy Mk. IV valve train components & accessories

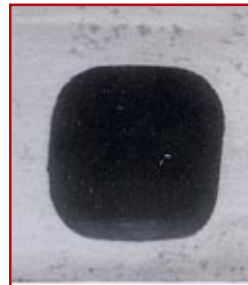
Oval-shaped intake ports provide excellent velocity

Exclusive Right Cast® technology assures optimum port accuracy

TECHNICAL SPECIFICATIONS

- Material:** High density cast iron
- Valve Seats:** Integral intake, hardened steel exhaust
- Valve Guides:** Integral cast iron
- Valve Spring Seats:** Machined for 1.550" springs
- Valve Size:** 2.300" x 1.880"
- Rocker Arm Studs:** 7/16" shank, screw-in style with hex shoulder furnished with assembly
- Exhaust Flange:** Stock port location. Includes accessory bolt holes
- Included In Base Assembly:** Manley RaceMaster (-1 & -2 models) 1-pc forged stainless steel valves with swirl-polished heads, ring & band style (-1 & -2 models) valve seals, 1.550" (-1 & -2 models) or valve springs, Manley 7" chrome moly (-1 & -2 models) retainers, keepers and pushrod guide plates. -
- Recommended Installation Items:**
- Head Gaskets:** Fel-Pro #1017-1or equivalent
- Pushrods:** Requires heat-treated stock length pushrods
- Spark Plugs:** Accepts 14mm .460" reach tapered seat 5/8" hex (Champion #670 or #802) or equivalent. Heat range may vary. Consult with engine builder.
- Intake Gasket:** Fel-Pro #1212 or equivalent for Oval Port
Fel-Pro #1211 or equivalent for Rectangular Port
- Exhaust Gasket:** Fel-Pro #1410 or equivalent
- Head Bolts:** 8 Longer than stock required (World #832015-8)

Merlin 269cc Oval Port heads are excellent for most street-driven big blocks up to 468 c.i.d. They'll out-perform larger heads in many applications because the intake runners have a very high velocity, and the stock 2.190" diameter sized valves have been replaced with 2.300" diameter valves to also improve flow. It's the best of both worlds. True D-shaped exhaust ports help expedite the flow of spent gasses, which also contributes to improved performance. We used these heads on World's own "Daily Driver" and "Cruiser" engines because of their excellent low and mid-range torque output. Merlin Oval Port heads are great for towing applications, and have a strong following in the marine market.



**Right Cast®
269cc Oval Port
Intake Runners**



**119cc "Open" Chamber Design
Is Far Superior To OEM "Closed"
Chambers**

Merlin II 269cc Oval Port Cast Iron High Performance BBC Heads 11/32 Guides, 2.300 x 1.880

Part #	Description	Cam type	Intake Runner	Valve Type	Spring Specs	Max Lift	Chamber
030040	Bare Merlin head		Oval 269cc				119cc
030040-1	Merlin iron head	Hydraulic	Oval 269cc	Manley Race Master	1.550" Dual 120# Seat	.600"	119cc
030040-2	Merlin iron head	Mech./Hyd. Roller	Oval 269cc	Manley Race Master	1.550" Dual 150# Seat	.650"	119cc

Improved Flow For High Horsepower Engines

MERLIN

Machined surfaces for superior sealing

Accepts all Chevy Mk. IV valve train components & accessories

Complete assemblies equipped with Manley stainless steel valves

True D-shaped exhaust ports assure correct installations

Exhaust port head bolt bosses raised 1" to unrestrict air flow

Exclusive Right Cast® technology assures optimum port accuracy

When larger displacement engines (454 plus cubic inches) require additional flow, choose Merlin Rectangular Port cylinder heads. With Right Cast® 320cc and 345cc intake runners, you can expect solid gains in air/fuel mixture combustion charges. These heads will really respond to higher compression ratios, and are ideally suited for hot street/strip cars. The larger heads with 345cc intake ports are used successfully on Merlin crate motors with up to 632 cubic inches displacement and can support nearly 800 HP in box stock mode!



Right Cast® 320cc And 345cc Rect. Port



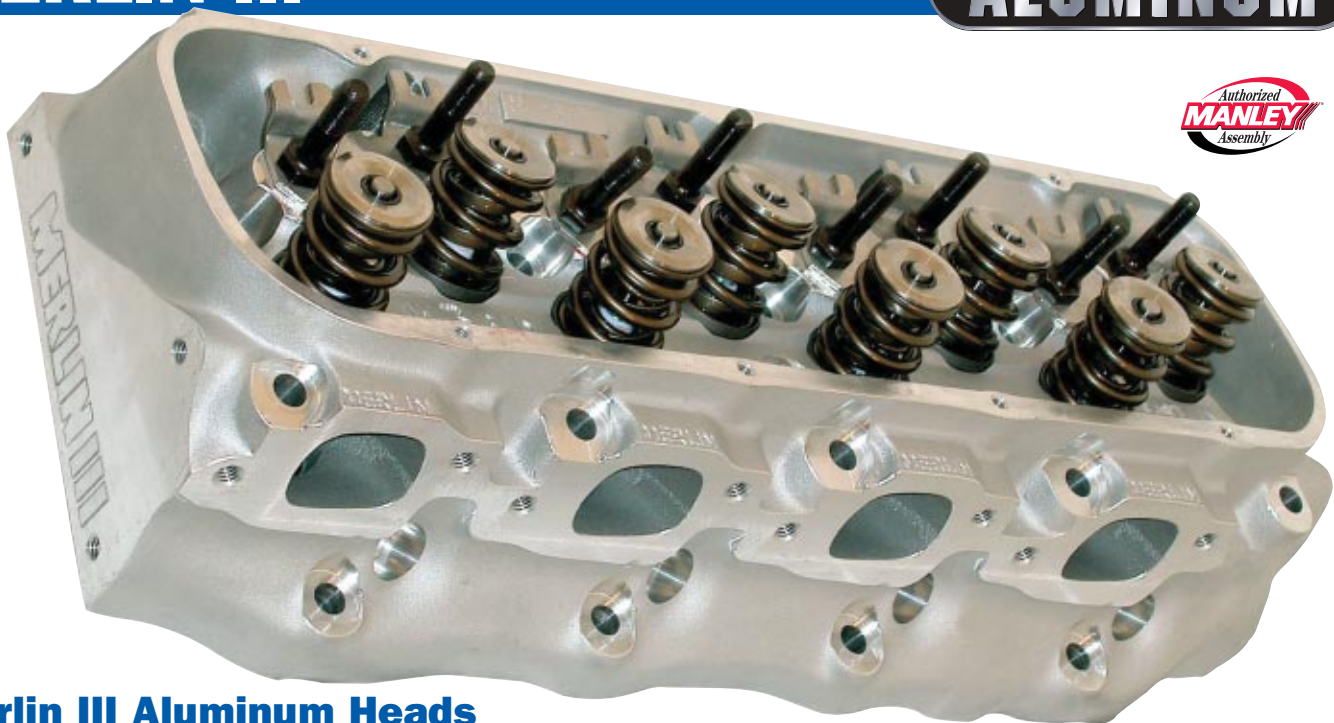
119cc "Open" Chamber Design Is Far Superior To OEM "Closed" Chambers

TECHNICAL SPECIFICATIONS

- Material:** High density cast iron
- Valve Seats:** Integral intake, hardened steel exhaust
- Valve Guides:** Integral cast iron
- Valve Spring Seats:** Machined for 1.550" springs
- Valve Size:** 2.300" intake and 1.880" exhaust
- Rocker Arm Studs:** 7/16" shank, screw-in style with hex shoulder furnished with assembly
- Exhaust Flange:** Stock port location. Includes accessory bolt holes
- Included In Base Assembly:** Manley RaceMaster (-2 models) or Severe Duty (-3 & -4 models) 1-pc forged stainless steel valves with swirl-polished heads, ring & band style (-2 models) or PC style (-3 & -4 models) valve seals, 1.550" (-2 & -3 models) or 1.640" (-4 model) valve springs, Manley 7° chrome moly (-2 models), 10° chrome moly (-3 models) retainers, keepers and pushrod guide plates. -4 models have 10° titanium retainers
- Recommended Installation Items:**
 - Head Gaskets:** Fel-Pro #1017-1 or equivalent
 - Pushrods:** Requires heat-treated stock length pushrods
 - Spark Plugs:** Accepts 14mm .460" reach tapered seat 5/8" hex (Champion #670 or #802) or equivalent. Heat range may vary. Consult with engine builder.
 - Intake Gasket:** Fel-Pro #1211, Mr. Gasket #121 or equivalent
 - Exhaust Gasket:** Fel-Pro #1410 or equivalent
 - Head Bolts:** 8 Longer than stock required (World #832580)

Merlin Cast Iron Big Block Chevy Rectangular Port Cylinder Heads

Part #	Description	Cam Type	Intake Runner	Valve Type	Spring Specs	Max Lift	Chamber
030620	Bare Merlin head		Rect. 320cc				119cc
030620-2	Merlin iron head	Hydraulic	Rect 320cc	Manley Race Master	1.550" Dual 150# Seat	.650"	119cc
030620-3	Merlin iron head	Solid/Hyd. Roller	Rect. 320cc	Manley Severe Duty®	1.550" Dual 225# Seat	.700"	119cc
030620-4	Merlin iron head	Racing Roller	Rect. 320cc	Manley Severe Duty®	1.640" Dual 275# Seat	.800"	119cc
030630	Bare Merlin head		Rect. 345cc				119cc
030630-2	Merlin iron head	Hydraulic	Rect 345cc	Manley Race Master	1.550" Dual 150# Seat	.650"	119cc
030630-3	Merlin iron head	Solid/Hyd. Roller	Rect. 345cc	Manley Severe Duty®	1.550" Dual 225# Seat	.700"	119cc
030630-4	Merlin iron head	Racing Roller	Rect. 345cc	Manley Severe Duty®	1.640" Dual 275# Seat	.800"	119cc



Merlin III Aluminum Heads For Maximum Performance

This is the cylinder head that highly respected drag racers have employed to win NHRA and IHRA National event titles. They are a true high performance head, capable of supporting in excess of 800 horsepower right out of the box. They boast impressive flow numbers for an "out of the box" head with "as cast" ports. Take your pick between 310cc and 350cc intake runners. The 119cc combustion chambers and ports are replicas of proven CNC-ported designs to provide optimum combustion efficiency. The assemblies come set up for either hydraulic lifter, solid or hydraulic roller lifters, or mechanical roller lifters (they vary in valve spring and valve specs). Merlin III heads are also available bare.



310cc & 350cc Intake Ports For Max Flow!



Highly Efficient 119cc Combustion Chambers

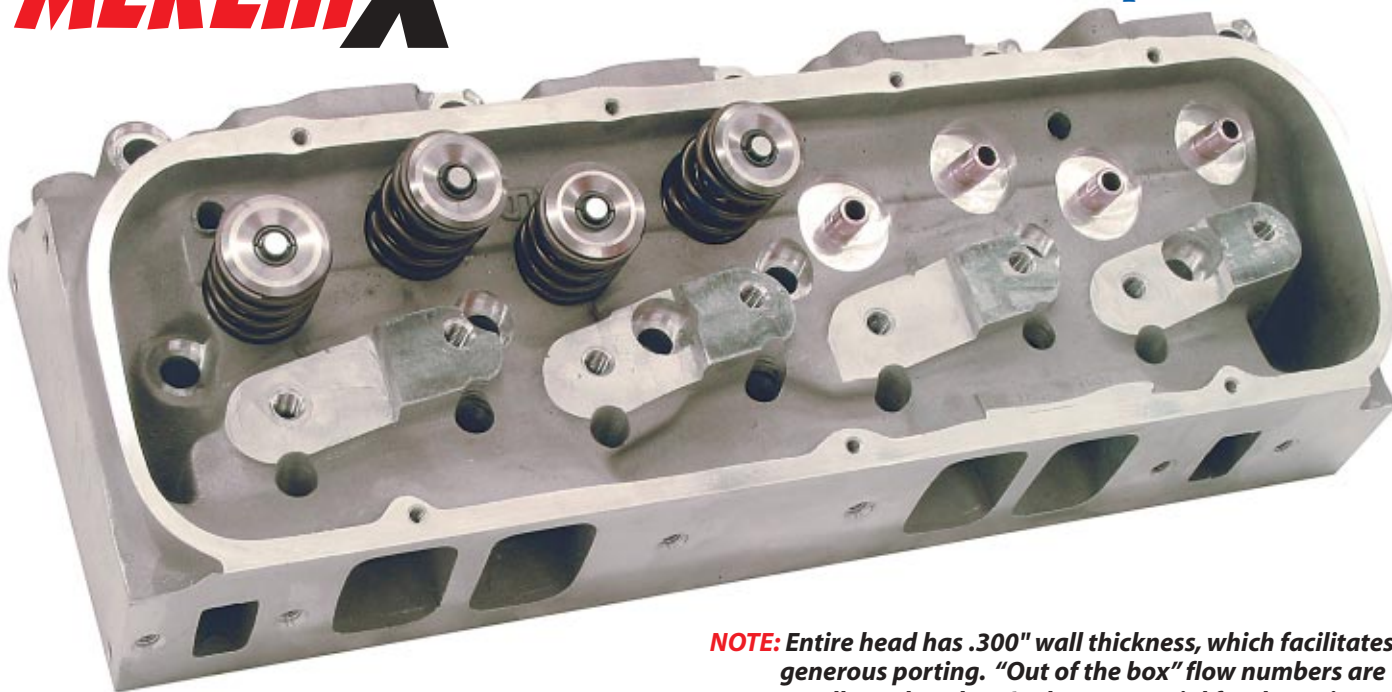
TECHNICAL SPECIFICATIONS

- Material:** 355-T6 high density aluminum alloy
- Valve Seats:** Steel intake, hardened steel exhaust
- Valve Guides:** Bronze
- Valve Spring Seats:** Machined for 1.640" springs
- Valve Size:** 2.300" x 1.880"
- Rocker Arm Studs:** 7/16" screw-in style with hex shoulder. Furnished with assembly
- Exhaust Flange:** Stock port location. Incl: accessory bolt holes
- Included In Base Assembly:** Manley RaceMaster (-2 models) or Severe Duty (-3 & -4 models) 1-pc forged stainless steel valves with swirl-polished heads, ring & band style (-2 models) or PC style (-3 & -4 models) valve seals, 1.550" (-2 models) or 1.625" (-4 model) valve springs, Manley 7° chrome moly (-2 models), 10° chrome moly (-3 models) retainers, keepers and pushrod guide plates. -4 models have 10° titanium retainers
- Recommended Installation Items:**
- Head Gaskets:** Fel-Pro #1017-1 or equivalent
- Pushrods:** Requires heat-treated pushrods
- Spark Plugs:** Accepts 14mm .750" reach gasketed 5/8 hex (NGK 7496 or 4930) or equivalent. Heat range may vary. Consult with engine builder.
- Intake Gasket:** Fel-Pro #1211, Mr. Gasket 121 or equivalent
- Exhaust Gasket:** Fel-Pro #1410 or equivalent
- Head Bolts:** 10 longer than stock required (World #832581)

Merlin III Aluminum Big Block Chevy Rectangular Port Cylinder Heads							
Part #	Description	Cam Type	Intake Runner	Valve Type	Spring Specs	Max Lift	Chamber
020650	Bare Merlin III head		Rect. 310cc				119cc
020650-2	Merlin III head	Hydraulic	Rect. 310cc	Manley Race Master	1.550" Dual 150# Seat	.650"	119cc
020650-3	Merlin III head	Solid/Hyd. Roller	Rect. 310cc	Manley Severe Duty®	1.550" Dual 225# Seat	.700"	119cc
020650-4	Merlin III head	Racing Roller	Rect. 310cc	Manley Severe Duty®	1.640" Dual 275# Seat	.800"	119cc
020660	Bare Merlin III head		Rect. 350cc				119cc
020660-2	Merlin III head	Hydraulic	Rect. 350cc	Manley Race Master	1.550" Dual 150# Seat	.650"	119cc
020660-3	Merlin III head	Solid/Hyd. Roller	Rect. 350cc	Manley Severe Duty®	1.550" Dual 225# Seat	.700"	119cc
020660-4	Merlin III head	Racing Roller	Rect. 350cc	Manley Severe Duty®	1.640" Dual 275# Seat	.800"	119cc

MERLIN X

New 16° Design Gives Pro Stock-Like Flow Numbers At Sportsman Prices!



NOTE: Entire head has .300" wall thickness, which facilitates generous porting. "Out of the box" flow numbers are excellent...but there's plenty material for the serious performance enthusiast to dig into.

This all-new design from World's engineering team combines flow characteristics common to expensive race-only heads with exotic splayed valve setups while allowing use of popular Chevy Mark IV style valve train components, as well as "standard" intake systems. This has been accomplished through "rolling" the head to a 16° valve angle, designing highly efficient intake and exhaust ports, and using a special 80cc combustion chamber. You'll probably need to get a set of pistons that take advantage of the chamber design, but other than that you can use most everything from a standard Big Block Chevy. And when you add up the performance potential versus total cash outlay, it's clearly the "hot set up" for Sportsman racers.

TECHNICAL SPECIFICATIONS

Material: 355-T6 high density aluminum alloy
Valve Seats: Steel intake, hardened steel exhaust
Valve Guides: Bronze
Guide Plates: Standard big block guide plates must be modified
Valve Spring Seats: Machined for 1.640" springs
Valve Size: 2.350" x 1.830"
Rocker Arm Studs: 7/16" screw-in style with hex shoulder. Furnished with assembly
Exhaust Flange: Stock port location. Incl: accessory bolt holes
Included In Base Assembly: Manley RaceMaster (-2 models) or Severe Duty (-3 & -4 models) 1-pc forged stainless steel valves with swirl-polished heads, ring & band style (-2 models) or PC style (-3 & -4 models) valve seals, 1.550" (-2 models) or 1.625" (-4 model) valve springs, Manley 7° chrome moly (-2 models), 10° chrome moly (-3 models) retainers, keepers and pushrod guide plates. -4 models have 10° titanium retainers
Recommended Installation Items:
Head Gaskets: Fel-Pro #1017-1 or equivalent
Pushrods: Requires heat-treated pushrods
Spark Plugs: Accepts 14mm .750" reach gasketed 5/8 hex (NGK 7496 or 4930) or equivalent. Heat range may vary. Consult with engine builder.
Intake Gasket: Fel-Pro #1211, Mr. Gasket 121 or equivalent
Exhaust Gasket: Fel-Pro #1410 or equivalent
Head Bolts: 10 longer than stock required (World #832015-10)



The 80cc Combustion Chamber Is Unique To The Merlin-X Head **Highly Effective 350cc intake Ports**

Merlin-X Aluminum 16° Big Block Chevy Cylinder Heads

Part #	Description	Cam Type	Intake	Valve Type	Spring Specs	Max Lift	Chamber
020750	Bare Merlin-X alum. head		350cc				80cc
020750-2	Merlin-X 16° alum. head	Hydraulic	350cc	Manley Race Master	1.550" Dual 150# Seat	.650"	80cc
020750-3	Merlin-X 16° alum. head	Solid/Hyd. Roller	350cc	Manley Severe Duty®	1.550" Dual 225# Seat	.700"	80cc
020750-4	Merlin-X 16° alum. head	Racing Roller	350cc	Manley Severe Duty®	1.640" Dual 275# Seat	.800"	80cc