



# Pro Action™ Small Block Ford Cylinder Head #35004-02

## DESCRIPTION

**RHS™ Pro Action™ Small Block Ford cylinder head, hydraulic roller assembly  
aluminum, 180cc intake runner, 58cc combustion chamber, 2.020" intake/1.600" exhaust valves**

## Specifications

	Intake	Exhaust
<b>Port Volume:</b>	180cc	66cc
<b>Port Dimension:</b>	1.150" X 2.020"	1.300" X 1.325"
<b>Port Location:</b>	Stock	stock
<b>Valve Angle:</b>	20°(stock angle )	20°(stock angle )
<b>Valve Head Diameter:</b>	2.020"	1.600"
<b>Valve Length:</b>	5.011" ( SBC std length + .100")	5.011" ( SBC std length + .100")
<b>Valve Seat Dimensions:</b>	2.120" X 1.812" X .375"	1.656" X 1.350" X .375"
<b>Valve Seat Angles:</b>	35/45/60/75	35/45/55/radius
<b>Valve Guide Diameter:</b>	11/32"	11/32"
<b>Valve Guide Dimensions:</b>	.502" O.D. X 2.100"L X .530" boss dia.	.502" O.D. X 2.100"L X .530" boss dia.
<b>Valve Guide Spacing:</b>	1.89"	
<b>Valve Guide Material:</b>	Premium bronze material for superior heat dissipation and longer life	
<b>Cylinder Head Material:</b>	Aluminum	
<b>Chamber Volume:</b>	58cc	
<b>Spark Plug Location:</b>	Optimized for best performance	
<b>Spark Plug Type:</b>	14mm, .750" reach, 5/8" hex, flat gasket style	
<b>Spring Pocket Diameter:</b>	1.55"	
<b>Pushrod Diameter:</b>	5/16" (larger diameter will require clearancing)	
<b>Weight:</b>	26 lbs	

## Features

- Optimal port design for greater flow, better atomization & enhanced dynamics
- Unique multi-angled intake & radiused exhaust valve seats for increased flow and horsepower output
- Hardened valve seats for exceptional durability even when used in extreme applications with harsh fuels
- More efficient water jacket design for improved cooling and thermal conductivity, and reduced risk of detonation
- Thick deck faces with added material to allow angle milling for increased compression
- Revised combustion chamber design for excellent combustion thermodynamics and enhanced fuel efficiency
- All accessory bolt holes drilled and tapped to exact tolerances
- Dual exhaust flange pattern to fit most common header models

## Tech Notes

<b>Flat Milling:</b>	.006" per cc
<b>Angle Milling:</b>	.0075" per cc (excessive milling can cause intake manifold misalignment)
<b>Head Bolt Torque:</b>	Refer to cylinder head bolt manufacturer's specifications
<b>Rocker Stud Torque:</b>	45 lb/ft
<b>Intake Manifold Torque:</b>	35 lb/ft
<b>Spring Pocket Machining:</b>	Additional valve spring pocket machining is not recommended
<b>Pushrod Length:</b>	Measuring with length checker (COMP Cams® #7705) required to verify pushrod geometry
<b>Piston to Valve Clearance:</b>	Must be verified -minimum clearance is .080" intake and .100" exhaust
<b>Retainer to Guide Clearance:</b>	Must always be measured when using high lift cams
<b>Chamber to Dome Clearance:</b>	Must always be checked with domed pistons, clearancing may be necessary
<b>Chamber Volume:</b>	Varies due to valve margins and dishes, should always be verified before installation
<b>Valve Guide Clearance:</b>	Must be checked due to the variance in valve stem diameters between manufacturers Recommended clearance: intake .0015"-.0016", exhaust .002"-.0025" Water jackets require flushing prior to cylinder head installation
<b>Header/Spark Plug Clearance:</b>	Spark plug/ wire boot clearance verification is required prior to header installation. Minor modifications may be necessary in order to achieve proper clearance.

## RHS™

3416 Democrat Rd. Memphis, TN 38118  
Phone: (877) 776-4323 Fax: (901) 368 1951  
[www.racingheadservice.com](http://www.racingheadservice.com)

Part #35004-02IS  
Revised 01/28/07



# Pro Action™ Small Block Ford Cylinder Head #35004-02

## Suggested Assembly Components

Part Type	Brand/Part #	Description
Intake Valves	COMP Cams® #6001-8	2.020", + .100" long, 11/32" valve stem diameter
Exhaust Valves	COMP Cams® #6002-8	1.600", + .100" long, 11/32" valve stem diameter
Valve Springs*	COMP Cams® #987-16 (-02)	1.430 dual valve spring set, 95# @ 1.800" max lift .550"
Retainers*	COMP Cams® #740-16 (-02)	1.400" 10° Super Lock™ steel retainer set
Valve Locks*	COMP Cams® #611-16 (-02)	11/32" 10° Super Lock™ valve lock set
Valve Stem Seals	COMP Cams® #529-16	.530" metal body viton valve stem seals
Spring Locators*	COMP Cams® #4771-16 (-02)	1.550" valve spring locators
Guide Plates	COMP Cams® #4808-8	5/16" guide plate set
Rocker Arm Studs	COMP Cams® #4503-16	7/16" Magnum™ rocker arm stud set

## Additional Recommended Components

Part Type	Brand/Part #	Description
Spark Plugs	ZEX™ #82003-8	Street/strip 14mm, .750" reach, 5/8" hex, premium spark plug set
	ZEX™ #82216-8	Race, Champion #C57YC 14mm, .750" reach, 5/8" hex, spark plug set
Rocker Arms	COMP Cams® #1331-16	Pro Magnum™ 1.6 ratio rocker arm set, 3/8" stud diameter
Intake Gaskets	RHS™ #1713	Intake manifold gasket, 1.28" X 2.10" port, .060" thick
Exhaust Gaskets	RHS™ #1714	Header gasket, 1.420" X 1.620" port size, graphite
Head Gaskets	RHS™ #1704	Cylinder head gasket, 4.030" bore X .040" compressed thickness
	RHS™ #1705	Cylinder head gasket, 4.155" bore X .040" compressed thickness
Valve Cover Gaskets	RHS™ #1715	Valve cover gasket, .120" thick, silicone reinforced
Head Bolts**	ARP #154-3605	HP head bolt set, 289-302, 5.0 liter
	ARP #154-3603	HP head bolt set, 351W
Head Studs**	ARP #154-4005	8740 cylinder head stud set, 289-302, 5.0 liter
	ARP #154-4003	8740 cylinder head stud set, 351W
Stud Girdle**	COMP Cams® #4015	Aluminum stud girdle set, 289-302, 5.0 liter, 351W

## Application Notes

- \* -01 indicates flat tappet application
- \* -02 indicates hydraulic roller application
- \*\* Recommended components only, individual application must be verified prior to installation



RHS™

3416 Democrat Rd. Memphis, TN 38118  
 Phone: (877) 776-4323 Fax: (901) 368 1951  
[www.racingheadservice.com](http://www.racingheadservice.com)

Part #35004-02IS  
 Revised 01/28/07