

MANLEY

Powers the Winners



**Valve Train
Components for**

2016

**Harley-Davidson®
Motorcycles**

From: Trip Manley
Sent: 11/3/2016 8:00 AM
To: You, Our Valued Customer
Re: 50 Years of High Performance



As we enter the final quarter of our Golden Anniversary, I find myself becoming a touch nostalgic, reflecting back on some very memorable times and significant milestones experienced at Manley Performance. From our humble beginnings, prophetically on 13 Race Street in Bloomfield, to our current world class facility in Lakewood, I've been fortunate enough to have a front row seat for a large portion of this amazing ride. I can recall packing valves in plastic bags and placing them into those iconic red Manley Valve boxes as a boy. I worked in the valve manufacturing department during summers while in high school. I had the privilege of working for two excellent Manley customers, American Eagle Marine and Darrell Gwynn Racing, where I received invaluable experience and forged some life-long relationships. I cherished my time doing outside sales throughout New England early in my career and have traveled to just about every state in our great country, visiting customers and attending races all along the way.

I remember when we purchased our very first CNC machine, a turning center for the valve department back in 1985. Today, I can proudly boast that we have 75 CNC spindles operating in our manufacturing plant. I vividly recall introducing our unique line of "Gen 2" stainless valve blanks almost 20 years ago, truly revolutionizing the custom valve market. Over the years, we collaborated with the likes of Gary Bang, STD, Jammer, Rivera, Zippers Performance, Feuling Engineering and Patrick Racing; developing stainless and titanium valves and valve spring kits for their respective engine projects. Other notable highlights include the introduction of our conical valve springs, utilizing the Manley single, bead lock keeper groove design on 7mm late model Twin Cam valves, manufacturing private label pistons for S&S Cycle and complete spring kits for Custom Chrome's RevTech engine program; plus undergoing two building expansions. I'm extremely proud of the fact that Manley Performance has worked with the finest distributors, custom shops and racers in the Harley industry. Lastly, I will always remember my very first meeting with Bob Kay over 27 years ago; back when he ran NEMPCO. I was fairly "green" to the Harley market; yet Bob recognized my enthusiasm, and not only did he answer all of my questions, he helped guide me in terms of product development.

The expansion of Manley West was completed almost a year ago; doubling the size of our west coast distribution facility in Orange, CA which will allow us to stock more products and better serve our customers on that side of the country.

I applaud the efforts of our dedicated employees as our mission remains; to manufacture the finest quality internal engine components at competitive prices and offer unparalleled customer service.

Finally, but most importantly, I want to thank our loyal customers around the globe for your past business and support. Your confidence and appreciation of our products are paramount to our success and what drive us every day.

Best,
TRIP MANLEY



VALVES

The standard of the industry since their inception, Manley valves are designed to outflow and outperform all others even in the most severe environments. Manufactured from high temperature materials, these valves feature swirl polished, performance oriented shapes and durable chrome plated or nitride finished stems.

Manley Stainless Steel Valves Feature -

- Forged Construction
- Swirl Polished Underhead
- Fully Machined Combustion Face
- Hard Tips
- Compatible With Unleaded Fuels
- Durable Chrome Plated Stems (Nitride finish also available for certain applications)

Manley's nitride finish is a special heat treatment developed to work specifically with Manley's stainless steel alloys. The Manley nitride process imparts a superficially hard and lubricous surface superior to all others. Beware of our competitors' "space age" coatings; they are inferior to Manley's chrome or nitride finishes.

BUDGET PERFORMANCE SERIES

Designed to compete with the "Brand X" cheap copy-cat imports but with all the features and quality of a Manley valve.



CHROME STEM

RACE MASTER SERIES

Use with confidence in modified street engines. Unsurpassed by the best our competitors have to offer!

SEVERE DUTY® SERIES

The ultimate insurance policy for your Harley engine. State of the art materials, heat treatment and manufacturing technology are combined to produce a valve available only from Manley.



NITRIDE FINISH

EXTREME DUTY SERIES

Ultra high temperature alloys specifically designed for exhaust valves. The same alloy we use to produce exhaust valves for 6,000 + horsepower Top Fuel Dragsters and Funny Cars.

GEN II SERIES

Manley is the only manufacturer capable of producing a custom stainless valve with a hardened tip in quantities as small as one set. No need to use cumbersome wear caps or other tip protection methods. Available in Race Master, Severe Duty® and Extreme Duty Series. Specify your dimensions and install your Gen II valves with complete confidence.



GEN II

TITANIUM VALVES

Manley manufactures the best titanium valves in the world. Period. High strength, high temperature alloys are one-piece forged and a special moly stem coating is employed.

BRONZE VALVE GUIDES

Each Manley silicon aluminum bronze valve guide is precision machined from a solid bar of material. This provides proper self-lubrication even at elevated operating temperatures. The I.D. is honed and the O.D. is ground to insure tight control of concentricity necessary for repeatability and minimum valve seat machining.



VITON SEALS

Manley high temperature viton material oil seals incorporate a special spring-loaded wiper assembly to wipe excess oil off the valve stems with minimum friction.



MACHINED VALVE LOCKS

Manley valve locks are machined from special chrome moly material, not stamped like many of the other brands. Each keeper is heat treated and black oxidized to a beautiful finish for attractive appearance and long wear. Designed for perfect compatibility with stock, Manley or most aftermarket top collars.



STEEL TOP COLLARS

Manufactured from specially heat treated chrome moly material and black oxidized.



LOWER COLLARS

Manley lower collars are not just cheap copies of stock pieces but re-engineered to offer installation advantages and years of trouble free service. Manufactured of specially heat treated chrome moly material and black oxidized, Manley lower collars compliment O.E. Harley, many aftermarket and Manley spring kits perfectly.



TITANIUM TOP COLLARS

Manufactured from certified aerospace titanium alloy and specially processed for high hardness to improve strength and improve wear resistance.



VALVE SPRINGS

Manufactured from super clean high tensile chrome silicon steel alloy and specifically engineered to reduce harmonics and control spring surge. New designs, both conical and straight, utilizing ovate and round wire are now available. We are employing proprietary super finishing and polishing techniques to maximize the performance of these springs.



VALVE TRAIN COMPONENT KITS

Manley engineers have assembled complete valve train packages that include Manley's Race Master or Severe Duty® valves, valve spring assemblies, top collars, lower collars and Viton valve guide oil seals and machined valve locks where required. All kits are perfectly matched for maximum performance. Most spring assemblies included in these kits require no cylinder head machining for installation.



STAINLESS STEEL VALVES

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
SPORTSTER (1957 - 1969)								
SEVERE DUTY® STAINLESS STEEL VALVES								
99000-2	Exh.	1.563 Stock	.3385 Stock	Stock	3.510	12° X 1/4"	.045	18080-58A
99034-2	Int.	1.815 Stock	.3090 Stock	Stock	3.610	22° x 9/32"	.050	18070-58
SPORTSTER (1970 - 1985)								
SEVERE DUTY® STAINLESS STEEL VALVES								
99000-2	Exh.	1.563 Stock	.3385 Stock	Stock	3.510	12° x 1/4"	.045	18080-58A
99032-2	Int.	1.940 Stock	.3090 Stock	Stock	3.610	22° x 9/32"	.050	18070-70

VALVE TRAIN HARDWARE

BRONZE VALVE GUIDES		VALVE GUIDE OIL SEALS		VALVE LOCKS	TOP COLLARS	LOWER COLLARS	
Std (.564) O.D.	.002 O/S O.D	Viton Material		Machined Steel	Steel	Stock	+.050 Travel
99100-2 Int. (set)	99102-2 Int. (set)	99180-4 (set)		99294-4 (set)	99248-4 (set)	99230-4 (set)	99231-4 (set)
99110-2 Exh. (set)	99112-2 Exh. (set)	99180-24 (bulk)		(set)	(For 99209 / 99210 Springs)	(set)	(set)

PERFORMANCE VALVE SPRING KITS

Part No.	Spring P/N Used		Spring Description	Collars Used		Installed / Open Pressures	Coil Bind	Spring O.D.
	Outer	Inner		Top	Lower			
STOCK - .490" LIFT KITS WITH STEEL TOP COLLARS								
99217	99209-4	99210-4	Dual Spring Assembly	99248-4 Steel	Stock	85 @ 1.310 295 @ .820	.790	Stock
99217K	Includes a set of Manley part number 99294-4 valve locks							

The above .490" Lift Kit features stock O.D. springs, No machining required for installation. Springs have 20% more pressure than stock. Use with stock lift cams and high lift cams to .490".



99217K

STAINLESS STEEL VALVES

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
SPORTSTER EVOLUTION 883cc (1986 - 2003) SEVERE DUTY® STAINLESS STEEL VALVES								
99083-2	Exh.	1.345 Stock	.3095 Stock	Stock	4.645	25° x 3/8"	.060	18030-86
99080-2	Int.	1.585 Stock	.3100 Stock	Stock	4.550	22° x 1/4"	.060	18031-86
SPORTSTER EVOLUTION 883cc (1986 - 2003) 883cc to 1200cc CONVERSION SEVERE DUTY® STAINLESS STEEL VALVES								
99063-2	Exh.	1.480 Stock	.3095 Stock	Stock	4.620	25° x 3/8"	.060	None
99062-2	Int.	1.715 Stock	.3100 Stock	Stock	4.550	22° x 1/4"	.060	None
SPORTSTER EVOLUTION 1200cc (1987 - 2003)* SEVERE DUTY® STAINLESS STEEL VALVES								
99009-2	Exh.	1.480 Stock	.3095 Stock	Stock	4.560	25° x 3/8"	.060	18024-87
99008-2	Int.	1.715 Stock	.3100 Stock	Stock	4.490	22° x 1/4"	.060	18023-87
* These valves will also fit XL 1100cc 1987 model								
SPORTSTER EVOLUTION 883cc (2004-2014) 883cc to 1200cc CONVERSION RACEMASTER STAINLESS STEEL VALVES WITH STOCK TRIPLE KEEPER GROOVE								
99077-2	Exh.	1.480 Stock	.2755 / 7mm Stock	Stock	4.660	30° x 1/2"	.055	None
99078-2	Int.	1.715 Stock	.2755 / 7mm Stock	Stock	4.580	28° x 7/16"	.050	None
SPORTSTER EVOLUTION 1200cc (2004-2014) RACEMASTER STAINLESS STEEL VALVES WITH STOCK TRIPLE KEEPER GROOVE								
99073-2	Exh.	1.575 Stock	.2755 / 7mm Stock	Stock	4.610	30° x 1/2"	.055	None
99075-2	Exh.	1.615 Stock	.2755 / 7mm Stock	Stock	4.590	30° x 1/2"	.055	None
99074-2	Int.	1.805 Stock	.2755 / 7mm Stock	Stock	4.525	28° x 7/16"	.050	None
99076-2	Int.	1.900 Stock	.2755 / 7mm Stock	Stock	4.500	28° x 7/16"	.050	None

NOTE: Manley can make virtually any valve for your application. Please refer to our Gen II Blanks on page 15 and the blank valve print on page 17 to order your custom valves. Larger head diameters are attainable. We can also shorten and lengthen the valve accordingly to suit your requirements.

VALVE TRAIN HARDWARE - 5/16" VALVES

BRONZE VALVE GUIDES			VALVE GUIDE OIL SEALS	VALVE LOCKS	TOP COLLARS		LOWER COLLARS
Std (.563) O.D.	.001 O/S O.D.	.002 O/S O.D.	Viton Material	Machined Steel	Steel	Titanium	Stock Travel
99188-2 Int. or Exh. (set)	99189-2 Int. or Exh. (set)	99109-2 Int. or Exh. (set)	99183-4 (set) 99183-24 (bulk)	99296-4 (set)	99254-4 (For 99428, 99438 Springs) 99258-4 (For 99206 / 99207 and 99435 Springs)	99255-4 99259-4 (For 99206 / 99207 and 99435 Springs)	99266-4 (For 99428, 99438 Springs) 99234-4 (For 99206 / 99207 and 99435 Springs)

VALVE TRAIN HARDWARE - .2755"/7mm VALVES

BRONZE VALVE GUIDES		VALVE GUIDE OIL SEALS	TOP COLLARS		LOWER COLLARS
Std (.562) O.D.	.002 O/S O.D.	Viton Material	Steel	Titanium	Stock Travel
99186-2 Int. or Exh. (set)	99187-2 Int. or Exh. (set)	99184-4 (set) 99184-24 (bulk)	99268-4 (For 99428 Springs) (set)	99269-4 (For 99428, 99438 Springs) 99260-4 (For 99206 / 99207 and 99435 Springs)	99251-4 (For 99428, 99438 Springs) 99267-4 (For 99206 / 99207 and 99435 Springs)

PERFORMANCE VALVE SPRING KITS - 5/16" VALVES

Part No.	Springs P/N Outer	Used Inner	Spring Description	Collars Used Top	Lower	Installed / Open Pressures	Coil Bind
STOCK - .550" LIFT KITS WITH STEEL TOP COLLARS							
99227	99206-4	99207-4	Dual Spring Assembly	99258-4 Steel	Stock	180 @ 1.800 360 @ 1.250	1.020
99227K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .600" LIFT KITS WITH STEEL TOP COLLARS							
99240	99428-4		Single Conical Ovate Wire	99254-4 Steel	99266-4	150 @ 1.800 355 @ 1.200	1.085
99240K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .600" LIFT KITS WITH TITANIUM TOP COLLARS							
99241	99428-4		Single Conical Ovate Wire	99255-4 Titanium	99266-4	150 @ 1.800 355 @ 1.200	1.085
99241K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .620" LIFT KITS WITH STEEL TOP COLLARS							
99237	99438-4		Super Finished Single Conical Ovate Wire	99254-4 Steel	99266-4	161 @ 1.770 375 @ 1.150	1.100
99237K	Includes a set of Manley part number 99296-4 valve locks Must also use a .030" shim						
STOCK - .620" LIFT KITS WITH TITANIUM TOP COLLARS							
99238	99438-4		Super Finished Single Conical Ovate Wire	99255-4 Titanium	99266-4	161 @ 1.770 375 @ 1.150	1.100
99238K	Includes a set of Manley part number 99296-4 valve locks Must also use a .030" shim						
STOCK - .650" LIFT KITS WITH TITANIUM TOP COLLARS							
99228	99206-4	99207-4	Dual Spring Assembly	99259-4 Titanium	Stock	180 @ 1.800 400 @ 1.150	1.020
99228K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .660" LIFT KITS WITH TITANIUM TOP COLLARS							
99239	99435-4		Fully Polished Dual Spring Assembly	99259-4 Titanium	Stock	186 @ 1.770 446 @ 1.110	1.050
99239K	Includes a set of Manley part number 99296-4 valve locks Must also use a .030" shim						

PERFORMANCE VALVE SPRING KITS - .2755" / 7mm VALVES

Part No.	Spring P/N Outer	Used Inner	Spring Description	Collars Used Top	Lower	Viton Seals	Valve Locks	Installed / Open Pressures	Coil Bind
STOCK - .600" LIFT KIT WITH STEEL TOP COLLARS									
99242	99428-4		Single Conical Ovate Wire	99268-4 Steel	99251-4	99184-4	Stock	150 @ 1.800 355 @ 1.200	1.085
STOCK - .600" LIFT KIT WITH TITANIUM TOP COLLARS									
99243	99428-4		Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	Stock	150 @ 1.800 355 @ 1.200	1.085
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99270	99438-4		Super Finished Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	Stock	150 @ 1.800 375 @ 1.150	1.100
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99244	99206-4	99207-4	Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	Stock	180 @ 1.800 400 @ 1.150	1.020
STOCK - .690" LIFT KIT WITH TITANIUM TOP COLLARS									
99271	99435-4		Fully Polished Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	Stock	174 @ 1.800 446 @ 1.110	1.050

STAINLESS STEEL VALVES

PAN HEAD (1948 - 1965)

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
SEVERE DUTY® STAINLESS STEEL VALVES								
99011-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.060	18082-57
99028-2	Int.	1.750 Stock	.3765 Stock	Stock	3.817	25° x 5/16"	.045	18071-48

SHOVEL HEAD 74 and 80 CID (1966 - 84)

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
BUDGET PERFORMANCE STAINLESS STEEL VALVES								
99031-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.070	18082-57
99030-2	Int.	1.940 Stock	.3765 Stock	Stock	3.890	25° x 5/16"	.050	18074-66

BUDGET PERFORMANCE STAINLESS STEEL VALVES WITH NITRIDE FINISH STEMS								
99031N-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.060	18082-57
99030N-2	Int.	1.940 Stock	.3765 Stock	Stock	3.890	25° x 5/16"	.045	18074-66

RACE MASTER STAINLESS STEEL VALVES								
99021-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.060	18082-57
99020-2	Int.	1.940 Stock	.3765 Stock	Stock	3.890	25° x 5/16"	.045	18074-66

SEVERE DUTY® STAINLESS STEEL VALVES								
99011-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.060	18082-57
99010-2	Int.	1.940 Stock	.3765 Stock	Stock	3.890	25° x 5/16"	.045	18074-66

SEVERE DUTY® STAINLESS STEEL VALVES WITH NITRIDE FINISH STEMS								
99011N-2	Exh.	1.750 Stock	.3745 Stock	Stock	3.832	12° x 1/4"	.060	18082-57
99010N-2	Int.	1.940 Stock	.3765 Stock	Stock	3.890	25° x 5/16"	.045	18074-66

Manley's nitride finish is a special heat treatment developed to work specifically with Manley's grade stainless steel alloys. The Manley nitride process imparts a superficially hard and lubricious surface superior to all others. Beware of our competitors' "space age" coatings, they are inferior to Manley's chrome or nitride finishes.

VALVE TRAIN HARDWARE

74 and 80 CID (Up to 1979)

BRONZE VALVE GUIDES				VALVE GUIDE OIL SEALS	VALVE LOCKS	TOP COLLARS		LOWER COLLARS	
Std (.565) O.D.	.002 O/S O.D	.004 O/S O.D	.006 O/S O.D	Viton Material	Machined Steel	Steel	Titanium	Stock	+.030 Travel
99120-2 Int.	99122-2 Int.	99124-2 Int.	99126-2 Int.	99181-4 (set)	99295-4 (set)	99253-4	99256-4	99232-4 (set)	99233-4 (set)
99130-2 Exh. (sets)	99132-2 Exh. (sets)	99134-2 Exh. (sets)	99136-2 Exh. (sets)	99181-24 (bulk)		(For 99203 / 99204 & 99222 Springs)			

80 CID (1980-84)

BRONZE VALVE GUIDES			VALVE GUIDE OIL SEALS	VALVE LOCKS	TOP COLLARS		LOWER COLLARS
(1980 MID 81)	(Late 1981-84)	(Late 1981-84)	Viton Material	Machined Steel	Steel	Titanium	+.030 Travel
99161-2 (set)	99178-2 (set)	99179-2 (set)	99182-4 (set)	99295-4 (set)	99253-4	99256-4	99236-4 (set)
Int. & Exh.	Int. & Exh.	Int. & Exh.	99182-24 (bulk)		(For 99203 / 99204 & 99222 Springs)		

PERFORMANCE VALVE SPRING KITS

Part No.	Spring P/N Used		Spring Description	Collars Used		Installed / Open Pressures	Coil Bind
	Outer	Inner		Top	Lower		
SHOVEL HEAD 74 and 80 CID (1966-1984) STOCK - .465" LIFT KITS WITH STEEL TOP COLLARS							
99216	99203-4	99204-4	Dual Spring Assembly	99253-4 Steel	Stock	170 @ 1.450 315 @ .985	.880
99216K	Includes a set of Manley part number 99295-4 valve locks						
SHOVEL HEAD 74 and 80 CID (1966-1984) STOCK - .465" LIFT KITS WITH TITANIUM TOP COLLARS							
99218	99203-4	99204-4	Dual Spring Assembly	99256-4 Titanium	Stock	170 @ 1.450 315 @ .985	.880
99218K	Includes a set of Manley part number 99295-4 valve locks						
The above .465" Lift Kits do not require cylinder head machining for installation. Do not exceed .465" lift due to potential high stress on springs.							
SHOVEL HEAD 74 and 80 CID (Up to 1979) STOCK - .495" LIFT KITS WITH STEEL TOP COLLARS							
99215	99203-4	99204-4	Dual Spring Assembly	99253-4 Steel	99233-4	160 @ 1.480 315 @ .985	.880
99215K	Includes a set of Manley part number 99295-4 valve locks						
SHOVEL HEAD 74 and 80 CID (Up to 1979) STOCK - .495" LIFT KITS WITH TITANIUM TOP COLLARS							
99229	99203-4	99204-4	Dual Spring Assembly	99256-4 Titanium	99233-4	160 @ 1.480 315 @ .985	.880
99229K	Includes a set of Manley part number 99295-4 valve locks						
The above .495" Lift Kits do not require cylinder head machining for installation. These kits are supplied with 99233 lower collars which allows additional spring travel as compared to the stock collar and provides these kits the ability to accept camshafts up to .495" lift.							
SHOVEL HEAD 74 and 80 CID (1966-1984) .500" - .650" LIFT KITS WITH TITANIUM TOP COLLARS							
99225	99222-4		Triple Spring Assembly	99256-4 Titanium	99297-6	180 @ 1.600 365 @ 1.100 415 @ .950	.850
99225K	Includes a set of Manley part number 99295-4 valve locks						
The above .650" lift kits feature a special tri-spring (outer-intermediate-inner) interference fit to reduce harmonics and control spring surge. Tool 41853M, is required for installation and complete instructions are included. Additional machining is required to lower the height of the valve guide to avoid interference with the top collar. Springs have more pressure than stock and can be used with .500" - .650" lift cams. Tool 41853M is supplied with a 3/8" pilot.							

VALVE TRAIN COMPONENT KITS

Manley engineers have assembled complete valve train packages that include Manley's Race Master or Severe Duty® valves, valve spring assemblies, top collars, lower collars where required and machined valve locks. All kits are perfectly matched for maximum performance. Most spring assemblies included in these kits require no cylinder head machining for installation.

Part No.	Valve Part Nos.		Valve Springs		Steel Top Collars	Lower Collars	Machined Valve Keys
	Intake	Exhaust	Outer	Inner			
RACE MASTER 74 and 80 CID (Up to 1979) STOCK - .495" LIFT							
99212	99020-2	99021-2	99203-4	99204-4	99253-4	99233-4	99295-4
RACE MASTER 80 CID (1980 - 1984) STOCK - .495" LIFT							
99211	99020-2	99021-2	99203-4	99204-4	99253-4	99236-4	99295-4
SEVERE DUTY® 74 and 80 CID (1966 - 1984) .500 - 650" LIFT							
99272	99010-2	99011-2	99222-4	Triple Springs	99256-4	99297-6	99295-4

The 99272 kit features a special interference fit triple spring to reduce harmonics and control spring surge. Tool 41853M, page 16, is required for installation and complete instructions are included. Additional machining is required to lower the height of the valve guide to avoid interference with the top collar. Springs have more pressure than stock and can be used with .500" - .650" lift cams. Tool 41853M is supplied with a 3/8" pilot.

STAINLESS STEEL VALVES

EVOLUTION / TWIN CAM UP TO 2004

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
BUDGET PERFORMANCE STAINLESS STEEL VALVES								
99069-2	Exh.	1.565 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18085-99
99071-2	Exh.	1.615 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18082-83
99070-2	Int.	1.850 Stock	.3100 Stock	Stock	4.440	22° x 1/4"	.050	18074-83
99072-2	Int.	1.900	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
RACE MASTER STAINLESS STEEL VALVES								
99059-2	Exh.	1.565 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18085-99
99061-2	Exh.	1.615 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18082-83
99065-2	Exh.	1.615 Stock	.3095 Stock	.030 Short	4.495	25° x 3/8"	.050	None
99060-2	Int.	1.850 Stock	.3100 Stock	Stock	4.440	22° x 1/4"	.050	18074-83
99066-2	Int.	1.900	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
99068-2	Int.	1.900	.3100 Stock	.030 Short	4.410	22° x 1/4"	.050	None
99064-2	Int.	1.940	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
SEVERE DUTY® STAINLESS STEEL VALVES								
99079-2	Exh.	1.565 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18085-99
99081-2	Exh.	1.615 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18082-83
99085-2	Exh.	1.615 Stock	.3095 Stock	.030 Short	4.495	25° x 3/8"	.050	None
99015-2	Exh.	1.650	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18074-66
99082-2	Int.	1.850 Stock	.3100 Stock	Stock	4.440	22° x 1/4"	.050	18074-83
99088-2	Int.	1.900	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
99092-2	Int.	1.940	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
99098-2	Int.	1.940	.3100 Stock	.030 Short	4.410	22° x 1/4"	.050	None
99084-2	Int.	1.940	.3100 Stock	.060 Short	4.380	22° x 1/4"	.050	None
99014-2	Int.	2.000	.3100 Stock	Stock	4.440	22° x 1/4"	.050	None
SEVERE DUTY® STAINLESS STEEL VALVES WITH NITRIDE FINISH STEMS								
99079N-2	Exh.	1.565 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18085-99
99081N-2	Exh.	1.615 Stock	.3095 Stock	Stock	4.525	25° x 3/8"	.050	18082-83
99082N-2	Int.	1.850 Stock	.3100 Stock	Stock	4.440	22° x 1/4"	.050	18074-83

The Twin Cam 88 has a 1.565" stock diameter exhaust valve. A 1.615" diameter exhaust valve can be installed on the stock seat. The head diameter of the Twin Cam 88 intake valve is 1.850". A 1.900" diameter intake valve can be installed on the stock seat.

VALVE TRAIN HARDWARE

BRONZE VALVE GUIDES			VALVE GUIDE OIL SEALS	VALVE LOCKS	TOP COLLARS		LOWER COLLARS
Std (.563) O.D.	.001 O/S O.D.	.002 O/S O.D.	Viton Material	Machined Steel	Steel	Titanium	Stock Travel
99188-2 Int. or Exh. (set)	99189-2 Int. or Exh. (set)	99109-2 Int. or Exh. (set)	99183-4 (set) 99183-24 (bulk)	99296-4 (set)	99254-4 (For 99428, 99438 Springs)	99255-4 99258-4 99259-4 (For 99206 / 99207, 99435 Springs)	99266-4 (For 99428, 99438 Springs) 99234-4 (For 99206 / 99207, 99435 Springs)

PERFORMANCE VALVE SPRING KITS

EVOLUTION / TWIN CAM UP TO 2004

Part No.	Springs P/N Used		Spring Description	Collars Used		Installed / Open Pressures	Coil Bind
	Outer	Inner		Top	Lower		
STOCK - .550" LIFT KITS WITH STEEL TOP COLLARS							
99227	99206-4	99207-4	Dual Spring Assembly	99258-4 Steel	Stock	180 @ 1.800 360 @ 1.250	1.020
99227K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .600" LIFT KITS WITH STEEL TOP COLLARS							
99240	99428-4		Single Conical Ovate Wire	99254-4 Steel	99266-4	150 @ 1.800 355 @ 1.200	1.085
99240K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .600" LIFT KITS WITH TITANIUM TOP COLLARS							
99241	99428-4		Single Conical Ovate Wire	99255-4 Titanium	99266-4	150 @ 1.800 355 @ 1.200	1.085
99241K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .620" LIFT KITS WITH STEEL TOP COLLARS							
99237	99438-4		Super Finished Single Conical Ovate Wire	99254-4 Steel	99266-4 Must also use a .030" shim	161 @ 1.770 375 @ 1.150	1.100
99237K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .620" LIFT KITS WITH TITANIUM TOP COLLARS							
99238	99438-4		Super Finished Single Conical Ovate Wire	99255-4 Titanium	99266-4 Must also use a .030" shim	161 @ 1.770 375 @ 1.150	1.100
99238K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .650" LIFT KITS WITH TITANIUM TOP COLLARS							
99228	99206-4	99207-4	Dual Spring Assembly	99259-4 Titanium	Stock	180 @ 1.800 400 @ 1.150	1.020
99228K	Includes a set of Manley part number 99296-4 valve locks						
STOCK - .660" LIFT KITS WITH TITANIUM TOP COLLARS							
99239	99435-4		Fully Polished Dual Spring Assembly	99259-4 Titanium	Stock Must also use a .030" shim	186 @ 1.770 446 @ 1.110	1.050
99239K	Includes a set of Manley part number 99296-4 valve locks						

The above Spring Kits do not require cylinder head machining for installation

VALVE TRAIN COMPONENT KITS

Manley engineers have assembled complete valve train packages that include Manley's Race Master or Severe Duty® valves, valve spring assemblies, top collars and machined valve locks. All kits are perfectly matched for maximum performance. The spring assemblies included in these kits require no cylinder head machining for installation.

Part No.	Valve Part Nos.		Valve Springs		Top Collars	Lower Collars	Machined Valve Locks
	Intake	Exhaust	Outer	Inner			
99213	99060-2	99061-2	RACE MASTER EVOLUTION 80 CID 99206-4	99207-4	STOCK - .550" LIFT 99258-4 Steel	Stock	99296-4
99275	99060-2	99059-2	RACE MASTER TWIN CAM 88 CID 99206-4	99207-4	STOCK - .550" LIFT 99258-4 Steel	Stock	99296-4
99214	99060-2	99061-2	RACE MASTER EVOLUTION 80 CID 99206-4	99207-4	STOCK - .650" LIFT 99259-4 Titanium	Stock	99296-4
99277	99082-2	99081-2	SEVERE DUTY® EVOLUTION 80 CID 99206-4	99207-4	STOCK - .650" LIFT 99259-4 Titanium	Stock	99296-4
99277N	99082N-2 (Nitrided)	99081N-2	99206-4	99207-4	99259-4 Titanium	Stock	99296-4
99279	99082-2	99079-2	SEVERE DUTY® TWIN CAM 88 CID 99206-4	99207-4	STOCK - .650" LIFT 99259-4 Titanium	Stock	99296-4
99279N	99082N-2 (Nitrided)	99079N-2	99206-4	99207-4	99259-4 Titanium	Stock	99296-4



Photo courtesy of Feuling Engineering, Inc.

STAINLESS STEEL VALVES

TWIN CAM 2005-2014 WITH STOCK TRIPLE KEEPER GROOVE

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
RACE MASTER STAINLESS STEEL VALVES								
99041-2	Exh.	1.575 Stock	.2755 / 7mm	Stock	4.520	30° x 1/2"	.055	18085-05
99043-2	Exh.	1.625	.2755 / 7mm	Stock	4.520	30° x 1/2"	.055	None
99040-2	Int.	1.805 Stock	.2755 / 7mm	Stock	4.425	28° x 7/16"	.050	18074-05
99042-2	Int.	1.900	.2755 / 7mm	Stock	4.425	28° x 7/16"	.050	None

NOTE: Manley can make virtually any valve for your Twin Cam application. Please refer to our Gen II Blanks on page 15 and the blank valve print on page 17 to order your custom valves. Larger head diameters up to 2.000" Int. and 1.650" Exh. are attainable. We can also shorten and lengthen the valve accordingly to suit your requirements.

TWIN CAM 2005-2014 WITH MANLEY'S BEAD LOC® SINGLE KEEPER GROOVE

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width	Harley Equivalent
RACE MASTER STAINLESS STEEL VALVES								
99045-2	Exh.	1.575 Stock	.2755 / 7mm	Stock	4.520	30° x 1/2"	.055	None
99047-2	Exh.	1.625	.2755 / 7mm	Stock	4.520	30° x 1/2"	.055	None
99044-2	Int.	1.805 Stock	.2755 / 7mm	Stock	4.425	28° x 7/16"	.050	None
99046-2	Int.	1.900	.2755 / 7mm	Stock	4.425	28° x 7/16"	.050	None

NOTE: Manley can make virtually any valve for your Twin Cam application. Please refer to our Gen II Blanks on page 15 and the blank valve print on page 17 to order your custom valves. Larger head diameters up to 2.000" Int. and 1.650" Exh. are attainable. We can also shorten and lengthen the valve accordingly to suit your requirements.

VALVE TRAIN HARDWARE

BRONZE VALVE GUIDES		VALVE GUIDE OIL SEALS	BEAD LOC® VALVE LOCKS	TOP COLLARS		LOWER COLLARS
Std (.562) O.D.	.002 O/S O.D	Viton Material	Machined Steel	Steel	Titanium	Stock Travel
99186-2 Int. or Exh. (set)	99187-2 Int. or Exh. (set)	99184-4 (set) 99184-24 (bulk)	99298-4 (set)	99268-4 (For 99428 Springs)	99269-4 (For 99428, 99438 Springs) 99260-4 (For 99206 / 99207 and 99435 Springs)	99251-4 (For 99428, 99438 Springs) 99267-4 (For 99206 / 99207 and 99435 Springs)

PERFORMANCE VALVE SPRING KITS

TWIN CAM 2005-2014 WITH STOCK TRIPLE KEEPER GROOVE

Manley offers four proven valve springs that are unequalled in the industry. For stock - .600" lift applications we have our single ovate wire, conical design. For stock - .650" lift we offer our tried and true dual reverse wound chrome silicon alloy and our new Super Finished single conical ovate wire. Lastly for stock - .690" lift we have our fully polished dual spring assembly. These kits require no cylinder head machining for installation.

NOTE: The stock cylinder head comes with an integral locator cup (lower collar) and valve guide oil seal. Manley recommends converting this stock set up to our aftermarket performance spring kit package. Simply discard the integral top hat seal, valve springs, and top collars, then replace with the Manley lower collars, valve springs, top collars, and viton oil seals.

Part No.	Spring P/N Used		Spring Description	Collars Used		Viton Seals	Valve Locks	Installed / Open Pressures	Coil Bind
	Outer	Inner		Top	Lower				
STOCK - .600" LIFT KIT WITH STEEL TOP COLLARS									
99242	99428-4		Single Conical Ovate Wire	99268-4 Steel	99251-4	99184-4	Stock	150 @ 1.800 355 @ 1.200	1.085
STOCK - .600" LIFT KIT WITH TITANIUM TOP COLLARS									
99243	99428-4		Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	Stock	150 @ 1.800 355 @ 1.200	1.085
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99270	99438-4		Super Finished Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	Stock	150 @ 1.800 375 @ 1.150	1.100
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99244	99206-4	99207-4	Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	Stock	180 @ 1.800 400 @ 1.150	1.020
STOCK - .690" LIFT KIT WITH TITANIUM TOP COLLARS									
99271	99435-4		Fully Polished Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	Stock	174 @ 1.800 446 @ 1.110	1.050

VALVE TRAIN COMPONENT KITS

TWIN CAM 2005-2014 WITH STOCK TRIPLE KEEPER GROOVE

Manley engineers have assembled valve train packages that include Manley's Race Master valves, valve spring assemblies, top and lower collars, and high temperature viton valve guide oil seals. All kits are perfectly matched for maximum performance. These kits require no cylinder head machining for installation.

Part No.	Valve Part Nos.		Valve Spring Kit Used	Top Collars	Valve Guide Oil Seals	Valve Locks
	Intake	Exhaust				
99280	99040-2	99041-2	RACE MASTER STOCK - .600" LIFT 99242	Steel	Viton	Stock
99281	99040-2	99041-2	RACE MASTER STOCK - .600" LIFT 99243	Titanium	Viton	Stock
99286	99040-2	99041-2	RACE MASTER STOCK - .650" LIFT 99270	Titanium	Viton	Stock
99282	99040-2	99041-2	RACE MASTER STOCK - .650" LIFT 99244	Titanium	Viton	Stock
99287	99040-2	99041-2	RACE MASTER STOCK - .690" LIFT 99271	Titanium	Viton	Stock

PERFORMANCE VALVE SPRING KITS

TWIN CAM 2005-2014 WITH MANLEY'S BEAD LOC® SINGLE KEEPER GROOVE

Manley is proud to offer .600" - .690" lift spring kits for our own Bead Loc® single keeper groove valves. These are the same proven performance kits as listed on page 12. No cylinder head modifications are required. Simply order our Twin Cam valves with the Bead Loc® single keeper groove on Page 11 and use the Bead Loc® valve locks that are included in the following kits. It's that easy.

Part No.	Spring P/N Used		Spring Description	Collars Used		Viton Seals	Bead Loc® Valve Locks	Installed / Open Pressures	Coil Bind
	Outer	Inner		Top	Lower				
STOCK - .600" LIFT KIT WITH STEEL TOP COLLARS									
99245K	99428-4		Single Conical Ovate Wire	99268-4 Steel	99251-4	99184-4	99298-4	150 @ 1.800 355 @ 1.200	1.085
STOCK - .600" LIFT KIT WITH TITANIUM TOP COLLARS									
99246K	99428-4		Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	99298-4	150 @ 1.800 355 @ 1.200	1.085
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99273K	99438-4		Super Finished Single Conical Ovate Wire	99269-4 Titanium	99251-4	99184-4	99298-4	150 @ 1.800 375 @ 1.150	1.100
STOCK - .650" LIFT KIT WITH TITANIUM TOP COLLARS									
99247K	99206-4	99207-4	Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	99298-4	180 @ 1.800 400 @ 1.150	1.020
STOCK - .690" LIFT KIT WITH TITANIUM TOP COLLARS									
99274K	99435-4		Fully Polished Dual Spring Assembly	99260-4 Titanium	99267-4	99184-4	99298-4	174 @ 1.800 446 @ 1.110	1.050

VALVE TRAIN COMPONENT KITS

TWIN CAM 2005-2014 WITH MANLEY'S BEAD LOC® SINGLE KEEPER GROOVE

Manley engineers have assembled complete valve train packages that include Manley's Race Master valves, valve spring assemblies, top and lower collars, high temperature viton valve guide oil seals, and machined Bead Loc® valve locks. All kits are perfectly matched for maximum performance. These kits require no cylinder head machining for installation.

Part No.	Valve Part Nos.		Valve Spring Kit Used	Top Collars	Valve Guide Oil Seals	Valve Locks
	Intake	Exhaust				
99283	99044-2	99045-2	RACE MASTER STOCK - .600" LIFT 99245K	Steel	Viton	Manley Bead Loc®
99284	99044-2	99045-2	RACE MASTER STOCK - .600" LIFT 99246K	Titanium	Viton	Manley Bead Loc®
99288	99044-2	99045-2	RACE MASTER STOCK - .650" LIFT 99273K	Titanium	Viton	Manley Bead Loc®
99285	99044-2	99045-2	RACE MASTER STOCK - .650" LIFT 99247K	Titanium	Viton	Manley Bead Loc®
99289	99044-2	99045-2	RACE MASTER STOCK - .690" LIFT 99274K	Titanium	Viton	Manley Bead Loc®

STAINLESS STEEL VALVES

BUELL XB9 2003-2007 WITH STOCK TRIPLE KEEPER GROOVE

Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Underhead Angle / Radius	Margin Width
RACE MASTER STAINLESS STEEL VALVES							
99073-2	Exh.	1.575 Stock	.2755 / 7mm	Stock	4.610	30° x 1/2"	.055
99075-2	Exh.	1.615	.2755 / 7mm	Stock	4.590	30° x 1/2"	.055
99074-2	Int.	1.805 Stock	.2755 / 7mm	Stock	4.525	28° x 7/16"	.050
99076-2	Int.	1.900	.2755 / 7mm	Stock	4.500	28° x 7/16"	.050

NOTE: Manley can make virtually any valve for your Buell application. Please refer to our Gen II Blanks on page 15 and the blank valve print on page 17 to order your custom valves. Larger head diameters up to 2.000" Int. and 1.650" Exh. are attainable. We can also shorten and lengthen the valve accordingly to suit your requirements.



Photo courtesy of Patrick Racing

GEN II

CUSTOM STAINLESS STEEL VALVES

Manley is the only manufacturer capable of producing a custom stainless valve with a hardened tip in quantities as small as one set. No need to use cumbersome wear caps or other tip protection methods. Specify your dimensions and install your Gen II valves with complete confidence.

* Hard Tips and Hardened Grooves * No Need for Wear Caps * Chrome Plated Stems

The procedure for ordering a custom Gen II valve is as simple as 1-2-3 !

1. Select the blank appropriate for your finished valve
2. Indicate your final head diameter along with seat and margin widths.
3. Specify the length of the valve you want, along with keeper groove type and location.
(1.250" maximum length reduction except 99012 and 99013 are .800" maximum length reduction.)
4. Please refer to the valve drawing on page 17.



All Gen II custom stainless valve part numbers are priced to include all machining to render a finished valve.

Part No.	Type	Head Diameter	Stem Diameter	Maximum Length	Underhead Angle / Radius	Margin Width	Seat Width	Top of Head
RACE MASTER SERIES								
99013-1	Exh.	1.650	.2755 / 7mm	4.700	30° x 1/2"	.060	.100	24° dish
99012-1	Int.	2.000	.2755 / 7mm	4.600	28° x 7/16"	.050	.100	22° dish
99005-1	Exh.	1.650	.3095	5.400	25° x 3/8"	.060	.100	20° dish
99007-1	Exh.	1.650	.3095	5.400	29° x 3/8"	.060	.100	24° dish
99006-1	Int.	2.100	.3100	5.400	22° x 1/4"	.050	.080	17° dish
SEVERE DUTY® SERIES								
99049-1	Exh.	1.650	.3095	5.400	25° x 3/8"	.060	.100	20° dish
99051-1	Exh.	1.650	.3095	5.400	29° x 3/8"	.060	.100	24° dish
99053-1	Exh.	1.750	.3095	5.400	25° x 3/8"	.060	.100	20° dish
99050-1	Int.	2.100	.3100	5.400	22° x 1/4"	.050	.080	17° dish
EXTREME DUTY SERIES								
99055-1	Exh.	1.750	.3095	5.400	25° x 3/8"	.060	.100	20° dish

CUSTOM HOLLOW STEM STAINLESS STEEL VALVES

Part No.	Type	Head Diameter	Stem Diameter	Maximum Length	Underhead Angle / Radius	Margin Width	Seat Width	Top of Head
99050H-1	Int.	2.100	.3100 Hollow Stem	5.400	22° x 1/4"	.050	.080	17° dish

TITANIUM VALVES

The procedure for ordering a custom titanium valve is as simple as following these steps!

1. Indicate your final head diameter, seat and margin widths.
2. Specify the length of the valve you want, along with single groove type and location.
3. If you require a dished face order P/N 04026 and specify dish angle and rim width.
4. Order wear cap P/N 99261 to provide tip protection. (A minimum .250" tip length is required).



Part No.	Type	Head Diameter	Stem Diameter	Installed Height	O / A Length	Tip Length	Underhead Angle / Radius	Margin Width	Seat Width
98010-1	Custom Exh. & Int.	Up to 2.400	.3100	Custom	Up to 5.000	Custom	Up to 25° x 5/8"	Custom	Custom

WEAR CAPS

Part No.	Description	Quantity
99261-4	Wear caps for Titanium Valves	(set of 4 pcs.)



SPRING SEAT CUTTER

- 41853M** Required for installation of 74 & 80 CID .500" - .650" lift kit. Supplied with 3/8" pilot.
- 41516M** 5/16" pilot for the above
- 41132M** 11/32" pilot for the above.



VALVE GUIDE SEAL CUTTERS

- 41711M** Cuts .530" diameter and includes 11/32" pilot.
- 41712M** Cuts .530" diameter and includes 3/8" pilot.
- 41812M** Cuts .562" diameter and includes 3/8" pilot.
- 41816M** Cuts .625" diameter and includes 3/8" pilot.
- 41516M** 5/16" pilot for any of the above



MANLEY TECH TIPS

Following these recommendations will increase the service life of Manley valves and valve train products.

TECH TIP #1

Manley recommends silicon aluminum bronze guides for the race track and cast iron guides for street use. Manley chrome plated or nitride finish stems work well with either guide material. For street applications Manley recommends .0015" - .002" intake valve to guide clearance and .002" - .0025" exhaust valve to guide clearance. Manley's viton oil seals should be installed on all street or race engines. The installation of these seals will positively dry up the combustion chamber and reduce deposits on the back side of the intake valve. Because of their effective oil control, when installing Manley oil seals valve guides should be sized to the high limit.

TECH TIP #2

Valve seat widths are very important as 75% of the heat of the valve is dissipated through seat contact. For street applications, Manley recommends .060" minimum intake seat width and .070" minimum exhaust seat width. Remember, all Manley steel valves are compatible with unleaded fuels and all valve seat materials.

TECH TIP #3

Maintain adequate spring pressure. Even in a stock rebuild, Manley recommends upgrading to a performance spring kit. Inadequate spring pressure results in valve float causing abnormal stress on the valve train and limits r.p.m. potential. In a high performance, high lift application pay particular attention to valve spring coil bind clearance. On all Manley spring kits, a minimum of .030" is recommended to achieve maximum spring life. If your camshaft lift is near Manley's maximum range, move up to the next Manley kit. The increased spring pressure and coil bind clearance will allow you to realize your engine's full potential and down the road your valve train can accept a higher lift camshaft without the need for additional top end work. A definite money saver in the long run!

Manley's tech experts can be reached at (732) 905-3366 for any assistance you may require.

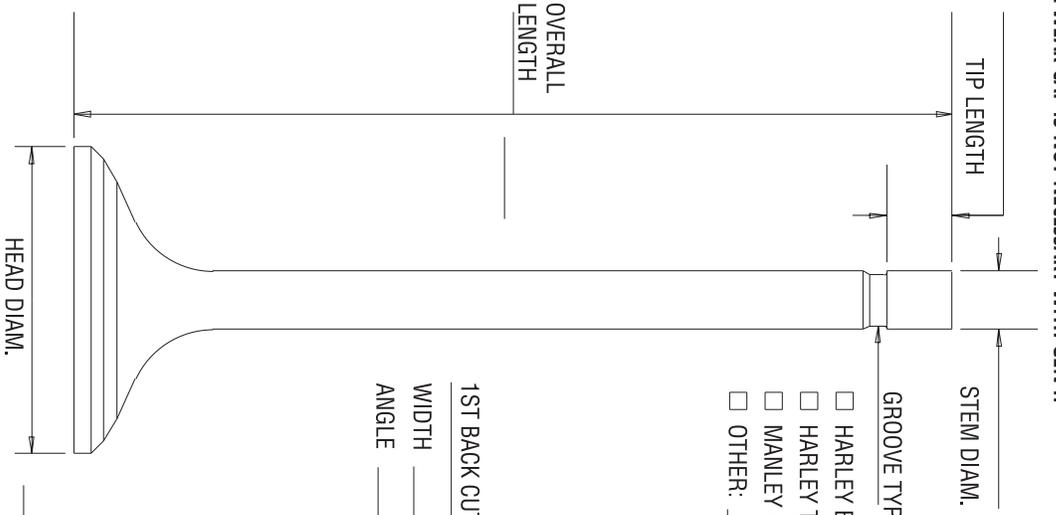
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MANLEY® - SEVERE DUTY® - BEAD LOC®

Due to the intended usage of parts in this catalog, they are sold WITHOUT ANY EXPRESS WARRANTY OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR THE INTENDED PURPOSE. Installation of these parts could affect the vehicle manufacturer's warranty coverage. Modifications to the original equipment engine could affect emissions control. Check local laws before ordering. The words Harley-Davidson®, Harley, Big Twin, Evolution, 883, 1200, 80CI, Sportster, Twin Cam and others are registered trademarks of Harley-Davidson®, Inc. and are used for reference only. These references do not imply these products are manufactured or endorsed by Harley-Davidson®, Inc.

Gen II CUSTOM VALVE FORM

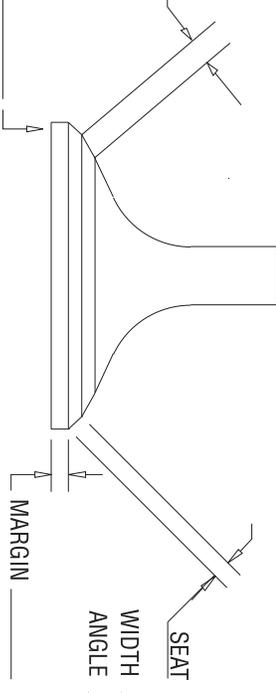
A WEAR CAP IS NOT NECESSARY WITH GEN II*



- GROOVE TYPE
- HARLEY EVOLUTION SQUARE GROOVE
 - HARLEY TWIN CAM / BUELL TRIPLE GROOVE
 - MANLEY BEAD LOC® RADIUS GROOVE
 - OTHER: _____

1ST BACK CUT
WIDTH _____
ANGLE _____

- EDGE _____
- SHARP
 - BREAK _____
 - CORNER RADIUS _____



PLEASE FILL IN ALL DIMENSIONS AND ORDER INFO

USE BLANK P/N _____

CYLINDER HEAD _____

* Provided that the overall length is within the minimum length parameter of the Gen II blank that is machined.

MANLEY

PHONE: 732-905-3366
 FAX: 732-905-3010
 EMAIL: sales@manleyperformance.com

ORDER INFORMATION

CUST. #: _____

CUST. NAME: _____

DATE: _____

P.O.#: _____

W.O.#: _____

QTY.: _____

DUE DATE: _____

SHIP VIA: _____

By signing this form I accept the goods are nonreturnable for credit and that Manley takes no responsibility for incorrectly ordered items.

CUSTOMER NAME _____

CUSTOMER SIGNATURE _____

DATE / / _____

Decimal Conversion Chart

$\frac{1}{64}$ _____ .0156	$\frac{23}{64}$ _____ .3593	$\frac{45}{64}$ _____ .7031
$\frac{3}{64}$ _____ .0312	$\frac{25}{64}$ _____ .375	$\frac{47}{64}$ _____ .7187
$\frac{5}{64}$ _____ .0468	$\frac{27}{64}$ _____ .3906	$\frac{49}{64}$ _____ .7343
$\frac{7}{64}$ _____ .0625	$\frac{29}{64}$ _____ .4062	$\frac{51}{64}$ _____ .750
$\frac{9}{64}$ _____ .0781	$\frac{31}{64}$ _____ .4218	$\frac{53}{64}$ _____ .7656
$\frac{11}{64}$ _____ .0937	$\frac{33}{64}$ _____ .4375	$\frac{55}{64}$ _____ .7812
$\frac{13}{64}$ _____ .1093	$\frac{35}{64}$ _____ .4531	$\frac{57}{64}$ _____ .7968
$\frac{15}{64}$ _____ .125	$\frac{37}{64}$ _____ .4687	$\frac{59}{64}$ _____ .8125
$\frac{17}{64}$ _____ .1406	$\frac{39}{64}$ _____ .4843	$\frac{61}{64}$ _____ .8281
$\frac{19}{64}$ _____ .1562	$\frac{41}{64}$ _____ .500	$\frac{63}{64}$ _____ .8437
$\frac{21}{64}$ _____ .1718	$\frac{43}{64}$ _____ .5156	1 _____ .8593
$\frac{23}{64}$ _____ .1875	$\frac{45}{64}$ _____ .5312	$\frac{1}{8}$ _____ .875
$\frac{25}{64}$ _____ .2031	$\frac{47}{64}$ _____ .5468	$\frac{29}{32}$ _____ .9062
$\frac{27}{64}$ _____ .2187	$\frac{49}{64}$ _____ .5625	$\frac{59}{64}$ _____ .9218
$\frac{29}{64}$ _____ .2343	$\frac{51}{64}$ _____ .5781	$\frac{15}{16}$ _____ .9375
$\frac{31}{64}$ _____ .250	$\frac{53}{64}$ _____ .5937	$\frac{61}{64}$ _____ .9531
$\frac{33}{64}$ _____ .2656	$\frac{55}{64}$ _____ .6093	$\frac{31}{32}$ _____ .9687
$\frac{35}{64}$ _____ .2812	$\frac{57}{64}$ _____ .625	$\frac{63}{64}$ _____ .9843
$\frac{37}{64}$ _____ .2968	$\frac{59}{64}$ _____ .6406	1 _____ 1.000
$\frac{39}{64}$ _____ .3125	$\frac{61}{64}$ _____ .6562	
$\frac{41}{64}$ _____ .3281	$\frac{63}{64}$ _____ .6718	
$\frac{43}{64}$ _____ .3437	$\frac{11}{16}$ _____ .6875	

Metric Conversion Chart

0.1mm = 0.00394"	1mm = 0.03937"	20mm = 0.78740"
0.2mm = 0.00787"	2mm = 0.07874"	30mm = 1.18110"
0.3mm = 0.01181"	3mm = 0.11811"	40mm = 1.57480"
0.4mm = 0.01575"	4mm = 0.15748"	50mm = 1.96850"
0.5mm = 0.01969"	5mm = 0.19685"	60mm = 2.36220"
0.6mm = 0.02362"	6mm = 0.23622"	70mm = 2.75590"
0.7mm = 0.02756"	7mm = 0.27559"	80mm = 3.14960"
0.8mm = 0.03150"	8mm = 0.31496"	90mm = 3.54330"
0.9mm = 0.03543"	9mm = 0.35433"	100mm = 3.93700"
	10mm = 0.39370"	

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