

ENGINEERING



2015

HIGH PERFORMANCE VALVETRAIN



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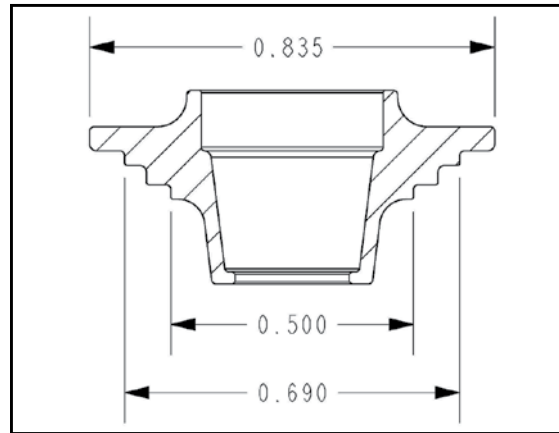


ENGINEERING & CUSTOM WORK

Hayabusa Retainer, #60-60901

KPMI® is proud to introduce one of the most unique retainers we have ever designed. The Suzuki® Hayabusa™ is a technical marvel that changed the game for the sport bike world, and we at KPMI® put in an equal technical effort to make a part worthy of such a bike. This retainer is thoroughly a product of modern engineering. KPMI® engineers spent nearly a year studying materials, and surface treatments to find the ideal balance of hardness, toughness, wear resistance, and strength. They spent countless hours refining the design with finite element analysis and the results are impressive. The new KPMI® retainer is within 1.5 grams of the O.E.M. aluminum retainer, while being 55% harder!

The design tackled several goals besides just reducing mass. Our engineers addressed the shim counterbore wear, and keeper pull-through issues of the O.E.M. aluminum retainer, with our super hardenable alloy and Posi-Loc feature. This new retainer also features spring shoulders that were designed to mate with the O.E.M. springs. This allows our retainer be used as a direct O.E.M. replacement, or with KPMI's Super-Clean Chrome Silicon springs for higher performance applications. This really is the ultimate retainer for the ultimate sport bike.



KPMI® Retainer showing aggressive mass reduction and Posi-Loc features



Fryberger Lotus 11

Hundreds of times over the course of a year, the KPMI® Custom Work Department is asked to create unique valve shapes... (Tulips). In this case a customer of KPMI® provided specifications to one of our Application Engineers for a feasibility study. When the study was completed the customer signed off on the quote and drawings generated by our CWD. The photo above is the detail of the shape created for the customer.



1964 Ferrari BRM Valve Guide

One of our customers sent us a used 1964 Ferrari BRM valve guide. The KPMI® Custom Work Department provided the sample guide to the KPMI® Engineering department for reverse engineering. Engineering sourced the O-ring and completed the RE... (Reverse Engineering) of the sample. By using one of two Mitutoyo PH-A14 Optical Comparators, suited with fiber-Optic edge sensing, KPMI's Mechanical Engineers were able to very accurately pull dimensions from the sample. Using the information gathered from the RE, a PRO/E drawing was created for the customer's review. The photo above is the finished product machined from solid SAE630 / NiAlBrnz.

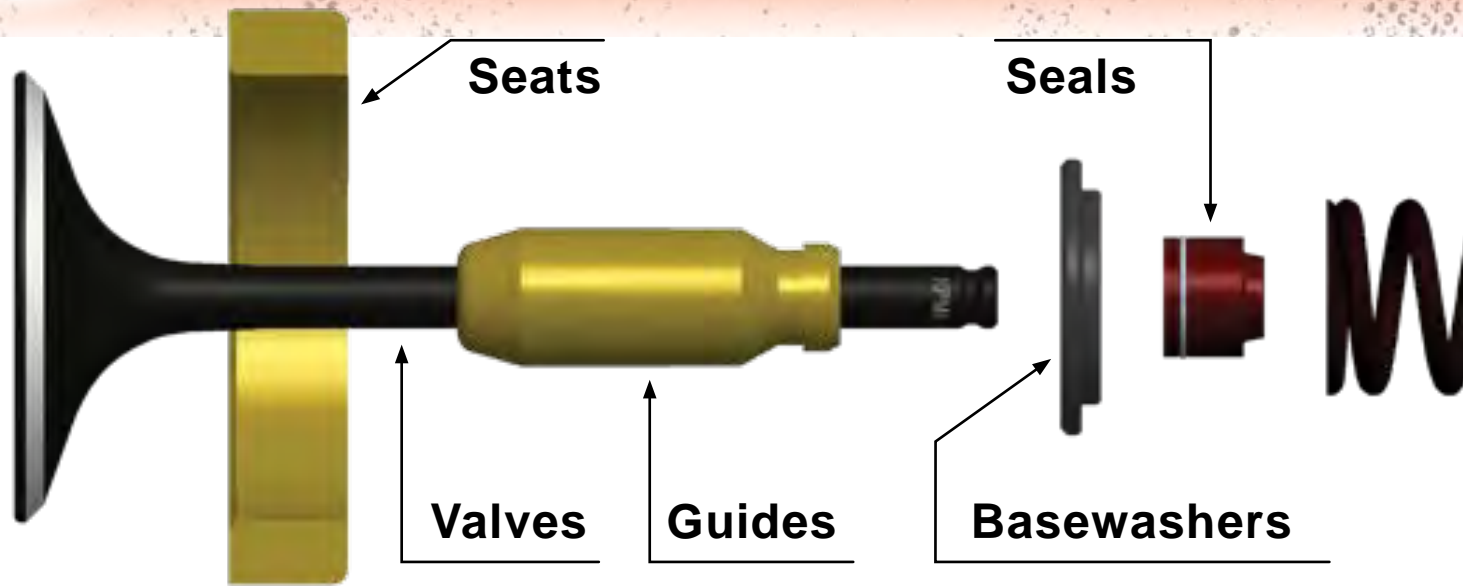
Working With Design Constraints

The KPMI® Mechanical Engineers pride themselves in the Development Flow, System-Design-Approach used for valvetrain development here at KPMI®. Many times this may mean achieving very specific component strength given a weight constraint. This photo above is shown how weight reduction and required mechanical properties can exist in harmony.





THE KPMI® SYSTEM



Valves

Light and strong with optimum airflow

A combination of FEA stress analysis and flow bench testing of prototype valves allows KPMI® engineers to optimally balance valve mass, strength, and airflow characteristics. A unique tulip and dish are designed for each application.

Stellite tips for rocker applications

Stellite is welded to the valve tips in rocker actuated applications for resistance to the impact and abrasive wear common in rocker arm systems. This welded stellite can never come loose.

Black Diamond™ Valves

KPMI® Black Diamond™ one piece forged stainless steel valves are impregnated by a special German process to improve wear properties and reduce friction. This process provides resistance to corrosion and wear that is superior to that of hard chromium and electrolysis nickel plating.

White Diamond® Valves

We fully CNC machine our White Diamond® valves from a one-piece forging of either EV8 Stainless Steel or Inconel-751. These materials have proven heat and corrosion resistance properties and are hard chromed with a 360 degree anode to produce the highest possible grade of hard chrome finish.

Tensilite® Valves

KPMI® Tensilite® titanium valves are one piece forgings made from 6AL4V or 6-2-4-2 titanium alloy. These are the latest developments in titanium valve alloys and have superior hardness, strength, and thermal characteristics when compared to other titanium valve alloys. Tensilite® valves are covered with a chromium nitride (CRN) PVD coating. This coating adheres exceptionally well to titanium, has a low coefficient of friction, and is impact, abrasion, and corrosion resistant.

Seats

Repair /Modify

Seats are tall, offered in several sizes, and have ample material on the ID for shaping, making them universal in application. They allow the builder to repair damaged seat bores, or to increase the seat size for larger racing valves.

Ease of installation

Seat ODs are ground for a smooth uniform surface finish to insure good contact with the cylinder head for optimal heat transfer and smooth installation. Seats also have a generous radius on the leading edge to prevent galling during installation.

Powdered metal seats

With the latest in powdered metal technology, KPMI's R&D team was able to create a high density seat with exceptional wear resistance, resistance to micro welding, and good thermal qualities. This material is compatible with all types of fuel blends, resists corrosion and burning, and is machinable with standard tooling.

Nickel aluminum bronze seats

The product of a two year KPMI® R&D effort, this proprietary high copper, beryllium free bronze alloy is designed specifically for use with titanium valves in high performance applications.

Guides

Superior airflow

Guide profiles are designed to have as little effect on the airstream as possible, while maintaining critical cross sectional thickness in high temperature areas. Promoting both high performance and endurance.

Oversize ODs

Multiple oversizes are available.

Guides cont.

Tight tolerances

High concentricity tolerances are held to insure the best possible geometry between the seat and guide is maintained when the guides are replaced. This means minimal material removal from the seat, time savings, and consistent chamber volumes, when valve jobs are performed.

C630 bronze guides

C630 is a blend of copper, nickel, and aluminum. The high copper content gives excellent thermal qualities, the nickel makes the guide tough and wear resistant, and the aluminum brings work hardening characteristics. This bronze alloy allows for tighter clearances than other materials, creating better valve and seat sealing, as well as superior oil control. The expansion qualities of C630 bronze make it especially compatible with aluminum cylinder heads.

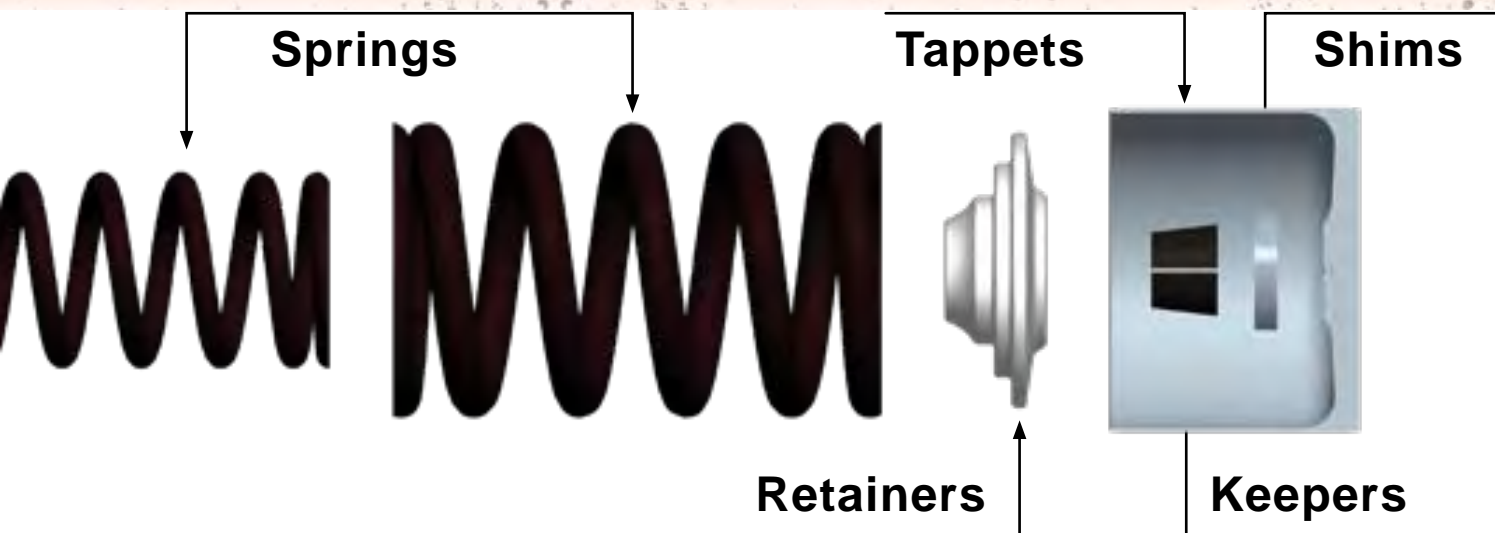
Cast iron guides

KPMI® R&D has produced a proprietary cast iron blend that thrives in the tough operating conditions of today's engine. KPMI's certified cast iron provides excellent wear resistance and a superior guide bore finish that is easy on valve stems.

Manganese guides

These Engine Builder valve guides have been designed with the price conscious builder in mind. Expect the same exacting KPMI® tolerances, but with a reduced toughness / wear-ability when compared to premium "C630" Nickel Aluminum Bronze valve guides. The softer Manganese guides are easily reamed, and then can be delicately finished with our high quality ball hones. Now, with any battery operated or electric drill you can ream and hone manganese valve guides in less time and in the absence of expensive honing equipment required to properly size "tough" Nickel Bronze guides.

THE KPMI® SYSTEM



Seals

High operating temperature

KPMI® Red Viton® seals operate at a higher temperature than other seal materials.

Chemical resistance

Viton® seals are resistant to petroleum products, and by-products of combustion. Retaining pliability in situations where other materials would become hard and lose their sealing capability.

Springs

Advanced spring design

Springs are engineered for each specific application using proprietary advanced spring design, simulation, and analysis software. Engineers pay special attention to cam and spring harmonics, stress, mass, and operating rpm.

Premium grade, super clean ground chrome silicon wire

X-Rayed at regular intervals to check for inclusions, heat treated, and shot peened. Insuring maximum spring life.

Basewashers

Proprietary heat treatment process

Creates a hard outer shell with a non-brittle core, resisting wear and maximizing toughness.

Tight tolerance for precise fit

Manufactured to tolerances that allow no excessive lateral movement. Correct fitment promotes longer component life and optimizes performance of the entire valve train.

Retainers

Engineered with advanced computer software

FEA stress analysis allows engineers to lighten retainer without sacrificing strength.

Tight tolerance for precise fit

KPMI® Engineers specify tight tolerances that allow no excessive lateral movement. Correct fitment promotes longer component life and optimizes performance of the entire valve train.

Heat treated steel retainers

KPMI's proprietary heat treatment process creates a hard outer shell with a non-brittle core, resisting wear and maximizing toughness.

Titanium retainers

To further reduce reciprocating mass, KPMI® offers titanium retainers as an alternative to steel.

Custom retainers available

KPMI® is ready to design a custom retainer to your specifications.

Keepers

Wide variety of styles

KPMI® offers radius bead, triple radius bead, and square bead steel keepers. See keeper section in back of catalog for full selection.

High tensile heat treated steel

Forged or single point machined.

Tappets

Machined from billet aircraft quality steel

Proprietary heat treatment process

Creates a hard outer shell with a non-brittle core, resisting wear and maximizing toughness.

Engineered with advanced computer software

FEA stress analysis allows engineers to lighten tappet without sacrificing strength.

Racing performance

KPMI® tappets are run in high performance automotive and motorcycle racing applications including Motocross, Flat track racing, Road racing, Drag racing, and land speed racing

Many stock sizes available

See KPMI® Tappet Section (Pg. 211) in back of catalog for full selection.

Custom tappets available

Send KPMI® your requirements so we can develop your next tappet.

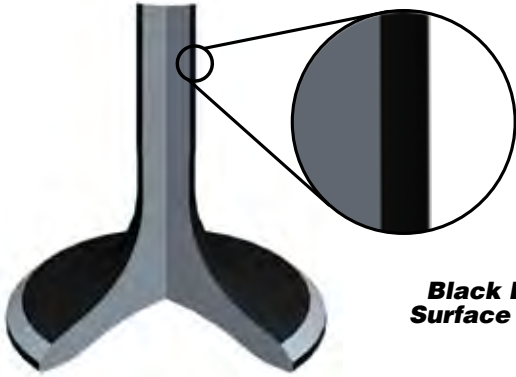
Shims

Ground to a precise height

KPMI® offers valve adjustment shims in 7.5mm, 9.5mm, and 13mm diameters, with heights increasing in increments of 0.05 mm. See KPMI® Shim Section in back of catalog for full selection.



PRODUCT FEATURES



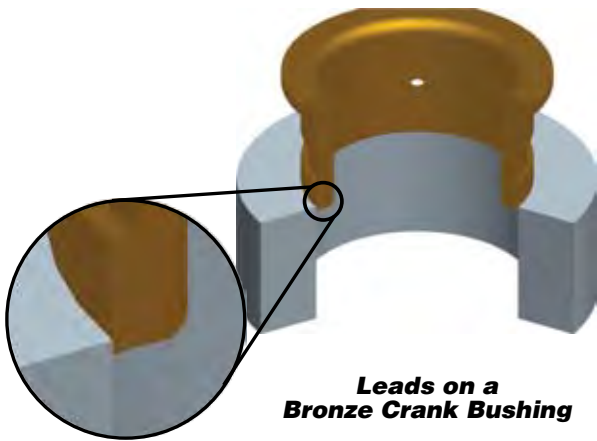
**Black Diamond™
Surface Treatment**

Black Diamond™ Treatment:

Our Black Diamond™ valves undergo a proprietary post production heat treatment process that hardens the surface of the valve to a depth of about .002", while leaving a ductile core.

This makes the valve stems almost impervious to wear, without creating a brittle part. The valves go through an oxidizing and polishing process which allows us to create an extremely smooth surface finish that is easy on the valve guide, and in many cases can be run with tighter clearances than a plated valve.

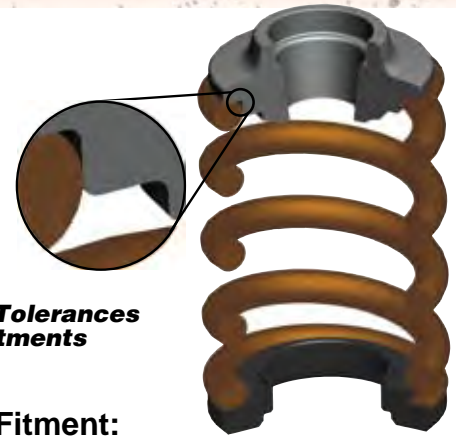
Because this is not a coating or plating, there is nothing to flake off, and no danger of accelerated wear or seizure due to a coating flaking off and becoming trapped between the valve and guide.



**Leads on a
Bronze Crank Bushing**

Bushing Leads:

Another example of KPMI's attention to detail: Many of our bushing designs included a small reduced diameter lead to aid in the installation of the bushing. This lead allows the bushing to sit square in the hole reducing the risk of the bushing shifting during installation, damaging either the bushing or receiving component.



**Precision Tolerances
and Fits**

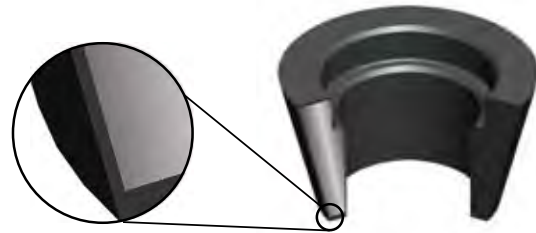
Component Fitment:

KPMI® designs all of our components to work together as a system, every part is manufactured to exacting tolerances to ensure that a precise fitment is achieved. Special attention is paid to areas such as the interface between the spring and the retainer shoulders. Achieving a precise fitment between these parts guarantees that the valvetrain is controlled through the most severe conditions.

Spring Design:

All KPMI® valve springs are designed in house using sophisticated, proprietary design and simulation software programs. Our engineers, software, and 75 years of experience enable us to determine critical characteristics including stress, natural frequency, system harmonics, required spring force, and fatigue life.

Our spring manufacturing partners are U.S based companies that are ISO certified. The Super-Clean Chrome-Silicon valve spring wire we use is traceable back to Kobe Japan where some of the best spring wire in the world is manufactured. Each spring goes through a rigidly controlled heat treatment, stress relief, and shot peening process. Combining our design, simulation, and manufacturing protocols with this premium quality valve spring wire allows KPMI® to supply you with the best possible valve springs period!

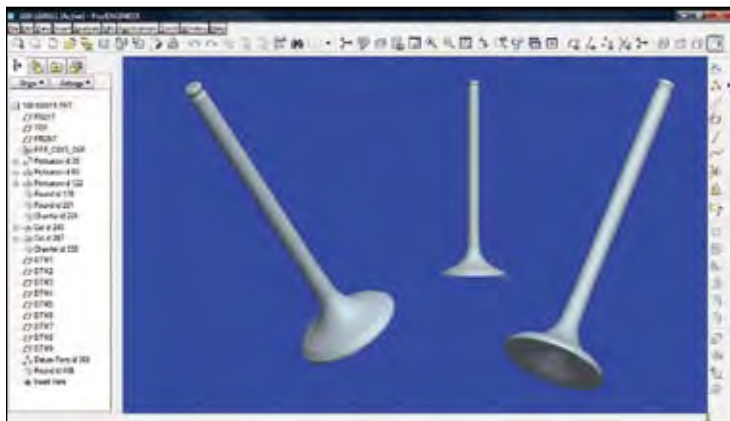


**Heat Treatment
Depth**

Heat Treated Components:

In many instances KPMI's goal is to reduce the reciprocating mass of the valve trains system without sacrificing longevity. In cases where light weight components are not a priority, many can be manufactured from high tensile strength steel and then heat treated. Specialized heat treatment processes are selected to achieve a hard wear-resistant surface on the outside, while still retaining a strong and durable core.

For 70 years KPMI® has continued to be at the forefront of innovation, manufacturing, and development of high performance valve train. KPMI® is constantly investing in new technologies in order to maintain our position as one of the foremost authorities in valve train development.



Software

Utilizing the advances in power, speed, and user interface of modern software, KPMI® employs an arsenal of software programs to plan, design, simulate, fabricate and test all aspects of development and production.

- **3D Modeling/FEA:** Every KPMI® component is designed using the latest in 3D modeling technologies, allowing KPMI® engineers to assemble entire valve train systems virtually to verify fitment and clearances. Once assembled, each system is subject to a rigorous Finite Element Analysis (FEA) that allows KPMI® engineers to validate designs and isolate areas of stress concentration. This FEA analysis ensures that KPMI® parts are both light and strong enough to stand up to the rigorous environment inside a modern racing engine.
- **Valve train Simulation:** Once a KPMI design has been modeled and refined the entire system is simulated using valve train simulation software. This allows KPMI® engineers to “tune” each system to ensure that it will work harmoniously in the engine.
- **Spring Design:** Each of KPMI’s valve springs are designed using advanced spring design software that allow KPMI® engineers to balance designs for the perfect blend of performance and longevity.

Prototyping

KPMI® has integrated the use of 3D rapid prototyping technologies into the many aspects of design process. This technology allows KPMI® engineers to almost instantaneously create working plastic prototypes of designs that can be used to check fitment, clearances and design validity.



Flow Testing

Before a design is complete, test valves are made with different tulip profiles and each design is flow tested on our FlowData 700 computerized flow bench to optimize airflow characteristics for that application. This often leads to improvements not only in flow characteristics, but in weight reduction as well.

Testing

When it comes to testing our product, KPMI® does not hold back. We pride ourselves in supplying the consumer with a product that works right the first time, keeping this in mind when it comes time to test, KPMI® looks at every aspect of the design under several different criterion. The springs are brought to failure under fatigue testing and shake table dynamics, whereas the heat-treated materials are destructively tested to insure that they did not become brittle during the manufacturing process; we do not, however, stop there. When we are sure that our product lives up to the name, we go one step further and supply the product to our test riders to see how it performs under real world riding conditions. Only once all of this information has been compiled and we are sure that the product is ready for sale, is it released to our vast network of world-wide dealers and distributors.

ARCTIC CAT® H2™ V-TWIN 2008-'13



NEW PRODUCTS



88-88000



88-88020



88-88012

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
88-88000	Intake	88-88001	Use O.E.M.	88-88003	88-88005	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.450"		1.200"		49#		159#
						@ Lift
						.450"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
88-88012	Intake	31.62mm	1.245"	0.1960"	14°	3.695"	Standard
88-88013	Intake	32.62mm	1.284"	0.1960"	14°	3.695"	Oversize
88-88016	Exhaust	27.94mm	1.100"	0.1955"	20°	3.670"	Standard
88-88017	Exhaust	28.94mm	1.139"	0.1955"	20°	3.670"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.420"	0.445"	0.730"	1.110"	0.415"	0.1955"	0.4163"	88-88020		
								+0.001"	88-88021	
								+0.002"	88-88022	
								+0.010"	88-88029	

Use O.E.M. Seal

For all the applications available for Kibblewhite®'s Arctic Cat® line of products, please refer online to the Arctic Cat® section of the www.kpmi.us website, under **ATV / UTV Valve Train Components**.



ARCTIC CAT® VARIOUS 1056cc TWINS 2008-'14



88-88100

88-8800

NEW PRODUCTS

All 2014 5000 & 9000 C-TEC4 Engines
 Bearcat™ Z1 XT (Incl. Limited)
 TZ1™ (All Models Incl. Turbo)
 Z1™ (All Models Incl. Turbo)
 ProCross™ F & XF 1100
 (All Models Incl. Turbo)
 ProClimb™ M 1100
 (All Models Incl. Turbo)
 Jaguar™ Z1

"Shim in Tappet" High Performance Turbo Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	
88-88100	Intake	88-88101	Use O.E.M.	88-88103	88-88105	88-88107	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.380"		1.440"		70#		184#	

"Shim in Tappet" valve spring kits provide a solution to the common ovaling of retainers and shim spitting in higher performance applications. By locating the shim in the heat treated steel tappet instead of the titanium retainer, wear is greatly reduced, and reliability is increased. These tappets were designed and analyzed using the same Finite Element Analysis software used in the development of our valves in order to maintain the same strength and mass as our high performance traditional tappet/retainer system.

High Performance Turbo Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
88-88050*	Intake	88-88051	Use O.E.M.	88-88053	88-88055	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.380"		1.440"		70#		184#	

*Both our Turbo spring kit and "Shim in Tappet" Turbo spring kits are designed for applications with up to 35psi of boost

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
88-88062	Intake	36.00mm	1.417"	0.2160"	10°	3.880"	Standard
88-88063	Intake	37.00mm	1.457"	0.2160"	10°	3.880"	Oversize
88-88066	Exhaust	33.00mm	1.299"	0.2155"	20°	3.525"	Standard
88-88067	Exhaust	34.00mm	1.339"	0.2155"	20°	3.525"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.620"	0.655"	0.645"	0.825"	0.460"	0.2155"	0.4167"		88-88070
							+0.001"	88-88071	
							+0.002"	88-88072	
							+0.010"	88-88079	

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
700-100016	In / Ex • Style 4 • Solid Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Description	Year	Quantity
88-88057	Standard	All	Pkg. of 8

BMW® R60™ / 2 1960-1969



90-9081



90-9070



90-9060



O. E. M. Replacement Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
90-9081	Intake	90-9083	90-9085	90-9086	90-9087	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.450"		1.355"		152#		.450"
		Seat Pressure				
		58#				
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
90-9082	Intake	90-9084	90-9085	90-9086	90-9087	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.450"		1.355"		152#		.450"
		Seat Pressure				
		58#				

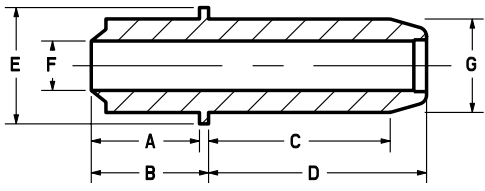
The springs in these kits are wound from super clean chrome silicon wire that has been heat treated and shot peened. These components offer optimal fitment, keeping lateral movement to a minimum. They work together as a system, providing long life, and maximum performance. Parts in these kits can be purchased individually as OEM replacements.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
90-9060	Intake	34.00mm	1.339"	0.2730"	23°	3.425"	Standard
90-9062	Exhaust	32.00mm	1.260"	0.2720"	29°	3.415"	Standard

Our valves are the quality you expect from Kibblewhite®, manufactured to exact O.E.M. specifications.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.600"	0.650"	1.000"	1.200"	0.620"	0.2730"	0.5140"		90-9070
							+0.001"	90-9071	
							+0.002"	90-9072	
							+0.004"	90-9074	
							+0.010"	90-9080	

Use O.E.M. Seal

For all the applications available for Kibblewhite®'s BMW® line of products, please refer online to the BMW® section of the www.kpmi.us website, under **Motorcycle Valve Train Components**.



BMW® 5/6/7/R80™/R90™/R100™ 1970-'1995



90-9034



90-9035



90-9000

O. E. M. Replacement Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
90-9034	Intake	90-9032	Use O.E.M	90-9031	90-9033	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.500"		1.445"	101#	162#	.242"	

The springs in these kits are wound from super clean chrome silicon wire that has been heat treated and shot peened. These components offer optimal fitment, keeping lateral movement to a minimum. They work together as a system, providing long life, and maximum performance.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
90-9035	Intake	42.00mm	1.654"	0.3130"	23°	3.885"	Standard
90-9054	Intake	44.00mm	1.732"	0.3130"	23°	3.885"	Standard
90-9037	Exhaust	34.00mm	1.339"	0.3125"	29°	3.885"	Standard
90-9036	Exhaust	38.00mm	1.496"	0.3125"	29°	3.885"	Standard
90-9045	Exhaust	40.00mm	1.575"	0.3125"	29°	3.885"	Standard

C630 Bronze Valve Guides

E	F	A	B	C	D	E	F	G	Intake		Exhaust	
									Part	P/N	Part	P/N
		0.600"	0.650"	0.980"	1.400"	0.620"	0.3125"	0.544"	90-9000			
								+0.001"	90-9001			
								+0.002"	90-9002			
								+0.003"	90-9003			
								+0.004"	90-9004			
								+0.010"	90-9009			
		0.600"	0.650"	0.980"	1.300"	0.620"	0.3125"	0.544"			90-9020	
								+0.001"			90-9021	
								+0.002"			90-9022	
								+0.003"			90-9023	
								+0.004"			90-9024	
								+0.010"			90-9029	

Wrist Pin Bushings

KPMI P/N	Description	Models	Quantity
90-9030	Standard (Machined from solid bar stock)	Fit All Years	Pkg. of 1

BRP® • CAN AM® DS 450™ 2008-2014

450X / 450XXC / 450XMx / 450 EFI



91-91100



91-91112



91-91120



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
91-91100	Intake	91-91101	Use O.E.M	91-91103	91-91105	91-91107
	Exhaust	91-91101	Use O.E.M	91-91103	91-91105	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.450"	1.385"	75#	235#	.450"	
Exhaust	.450"	1.385"	75#	235#	.450"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
91-91112	Intake	38.00mm	1.496"	0.2350"	20°	3.550"	Standard
91-91113	Intake	39.00mm	1.535"	0.2350"	20°	3.550"	Oversize
91-91116	Exhaust	31.00mm	1.220"	0.2347"	29°	3.565"	Standard
91-91117	Exhaust	32.00mm	1.260"	0.2347"	29°	3.565"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	---	0.485"	0.770"	0.870"	0.435"	0.2345"	0.4363"	91-91120	
							+0.001"	91-91121	
							+0.002"	91-91122	
							+0.010"	91-91129	

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
91-91140	Intake / Exhaust • Style 5 • Steel Clad Viton	Pkg. of 4



BRP® • CAN AM® 400 / 500 / 650 / 800 / 1000 2006-'14

Renegade™ / Outlander™ / Commander™



Outlander



91-91150



91-91156



91-91170

Lightweight Racing Valve Spring Kit

For Outlander 500 2007-2014 / Outlander 650 2006-'14 / Outlander 800 2007-'14 / Outlander 1000 2014
 Renegade 500 2008-'14 / Renegade 800 2007-'14 / Renegade 1000 2012-'14 / Commander 800 2012-2014 / Commander 1000 2012-'14

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
91-91150	Intake	91-91151	Use O.E.M.	91-91153	91-91155	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.445"		1.275"	58#	171#	.445"	

It may be necessary to use Kibblewhite® Shortened Valve Guides (Kibblewhite® # 91-91170 & # 91-91180) to achieve higher than stock lift.

Lightweight Racing Valve Spring Kit For Outlander 400 2006-'13

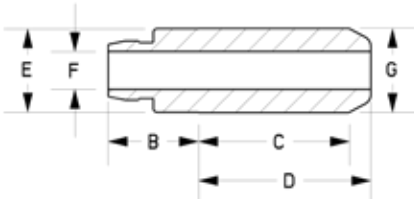
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
91-91156	Intake	91-91157	Use O.E.M.	91-91159	91-91161	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.445"		1.275"	58#	171#	.445"	

It may be necessary to use Kibblewhite® Shortened Valve Guides (Kibblewhite® # 91-91170 & # 91-91180) to achieve higher than stock lift.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
91-91162	Intake	31.12mm	1.225"	0.1958"	22°	3.585"	Standard
91-91163	Intake	32.12mm	1.264"	0.1958"	22°	3.585"	Oversize
91-91166	Exhaust	27.00mm	1.063"	0.1953"	16°	3.520"	Standard
91-91167	Exhaust	28.00mm	1.102"	0.1953"	16°	3.520"	Oversize

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
---	0.470"	0.780"	0.895"	0.433"	0.1958"	0.4362"	91-91170	
						+0.001"	91-91171	
						+0.002"	91-91172	
						+0.010"	91-91179	
---	0.470"	0.680"	0.895"	0.433"	0.1953"	0.4362"		91-91180
						+0.001"		91-91181
						+0.002"		91-91182
						+0.010"		91-91189

BRP® • CAN AM® MAVERICK™ 2013-2015



91-91200



91-91220



91-91212

NEW PRODUCTS



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Seals
91-91200	Intake	91-91201	Use O.E.M	91-91203	91-91205	Use O.E.M
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.470"		1.370"	57#		177#	.470"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
91-91212	Intake	36.50mm	1.437"	0.2160"	14°	3.620"	Standard
91-91213	Intake	37.50mm	1.476"	0.2160"	14°	3.620"	Oversize
91-91216	Exhaust	31.00mm	1.220"	0.2155"	25°	3.515"	Standard
91-91217	Exhaust	32.00mm	1.260"	0.2155"	25°	3.515"	Oversize

C630 Bronze Valve Guides										
		A	B	C	D	E	F	G	Intake	Exhaust
		---	0.515"	0.745"	0.935"	0.433"	0.2155"	0.4361"		91-91220
								+0.001"	91-91221	
								+0.002"	91-91222	
								+0.010"	91-91229	

For all the applications available for Kibblewhite's BSA® line of products, please refer online to the Can Am® section of the www.kpmi.us website, under **ATV / UTV Valve Train Components**.



BRP® • CAN AM® DS™ 650 2000-2007



91-91010



91-91000



91-91015

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
91-91010	Intake	91-91011	Use O.E.M.	91-91012	91-91013	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.405"	69#		205#	.400"

Lightweight Racing Valve Spring Kit with Shim Under Conversion

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	Adj. Shims
91-91000	Intake	91-91001	Use O.E.M.	91-91002	91-91003	91-91005	91-91006
	Exhaust						
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift	
.500"		1.390"	74#		216#	.400"	

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
91-91015	Intake	36.00mm	1.417"	0.2350"	23°	3.565"	Standard
91-91016	Intake	37.00mm	1.457"	0.2350"	23°	3.565"	Oversize
91-91017	Exhaust	31.00mm	1.220"	0.2342"	29°	3.565"	Standard
91-91018	Exhaust	32.00mm	1.260"	0.2342"	29°	3.565"	Oversize

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-10025	Intake / Exhaust • Style 5 • Viton with Metal Jacket	Pkg. of 1

For all the applications available for Kibblewhite's BRP® line of products, please refer online to the BRP® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.

BRP® • ROTAX® AIR COOLED SINGLES 500/600 1982-'06



91-9400



91-9411



91-0478



91-0482

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks		
91-9400	Intake	91-9402	Use O.E.M.	91-9401	91-9403	---		
	Exhaust							
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift
.450"		1.305"		106#		266#		.450"

This spring kit is designed specifically for this supercharged application. This spring kit drops into the cylinder head, working with the O.E.M. components to providing the correct pressure and harmonic range for this high performance supercharged power plant.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.440"	0.490"	0.785"	1.165"	0.495"	0.2745"	0.4752"	91-0478
							+0.002"	91-0479	
							+0.004"	91-0480	
							+0.006"	91-0481	
							+0.015"	91-4036	
							+0.027"	91-0499	
	0.440"	0.490"	---	1.240"	0.495"	0.2745"	0.4752"		91-0482
							+0.002"		91-0483
							+0.004"		91-0484
							+0.006"		91-0485
							+0.015"		91-4037

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Water Cooled Replacement Tappets

KPMI P/N	Years	Quantity
91-9411	2000	Pkg. of 1



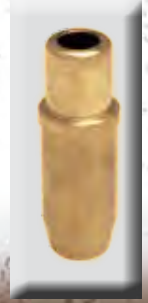
BRP • SEADOO® GTX™ ALL MODELS 2006-'14



91-91051



91-91062



91-91070

High Performance Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
9-91051	Intake	Use O.E.M.	Use O.E.M.	91-91051	Use O.E.M.	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.390"		1.360"		185#		.390"

This spring kit is designed specifically for this supercharged application. This spring kit drops into the cylinder head, working with the O.E.M. components to providing the correct pressure and harmonic range for this high performance supercharged power plant.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
91-91062	Intake	38.00mm	1.496"	0.2350"	20°	3.555"	Standard
91-91063	Intake	39.00mm	1.535"	0.2350"	20°	3.555"	Oversize
91-91066	Exhaust	31.00mm	1.220"	0.2346"	25°	3.575"	Standard
91-91067	Exhaust	32.00mm	1.260"	0.2346"	25°	3.575"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.405"	0.500"	0.625"	0.860"	0.465"	0.2350"	0.4360"		91-91070
							+0.001"	91-91071	
							+0.002"	91-91072	
							+0.004"	91-91074	
							+0.010"	91-91079	
	0.405"	0.500"	0.785"	0.860"	0.465"	0.2345"	0.4360"		91-91080
							+0.001"		91-91081
							+0.002"		91-91082
							+0.004"		91-91084
							+0.010"		91-91089

Use O.E.M. valve guide seal.

BSA® B25™ 1968-1971



10-10300



10-10320



10-10312



Lightweight Racing Valve Spring Kit

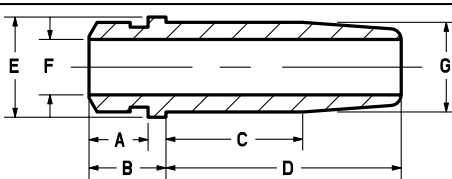
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
10-10300	Intake	10-10301	Use O.E.M	10-10303	10-10305	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.500"		1.375"		223#		.400"

The springs in these kits are wound from super clean chrome silicon wire that has been heat treated and shot peened. These components offer optimal fitment, keeping lateral movement to a minimum. They work together as a system, providing long life, and maximum performance.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
10-10312	Intake	36.91mm	1.453"	0.310"	27°	3.660"	Standard
10-10313	Intake	37.91mm	1.493"	0.310"	27°	3.660"	Oversize
10-10316	Exhaust	33.40mm	1.315"	0.3095"	24°	3.645"	Standard
10-10317	Exhaust	34.40mm	1.354"	0.3095"	24°	3.645"	Oversize

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.330"	0.570"	0.630"	1.030"	0.560"	0.3095"	0.5010"	10-10320	
						+0.001"		
						+0.010"	10-10329	

One seal supplied with each guide.

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
10-10340	Intake / Exhaust • Style 1 • Solid Viton	Pkg. of 1



BSA® A10™ / A50™ 1962-1970



10-4132

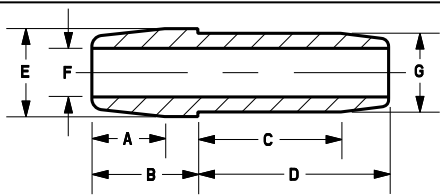


10-5020



10-10352

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.585"	0.765"	0.675"	1.335"	0.620"	0.3105"	0.5632"		10-4132
						+0.002"		10-4133
						+0.004"		10-4134

No seal required.

Crankshaft Bushings

KPMI P/N	Description	Quantity
10-5020	Std. ID 1.372"	Pkg. of 1
10-5021	-0.010"	Pkg. of 1
10-5022	-0.020"	Pkg. of 1
10-5023	-0.030"	Pkg. of 1
10-5024	-0.040"	Pkg. of 1
10-5025	-0.050"	Pkg. of 1

Machined from high quality mill certified bearing bronze (custom sizes available).

Wrist Pin Bushings Machined from solid bar stock

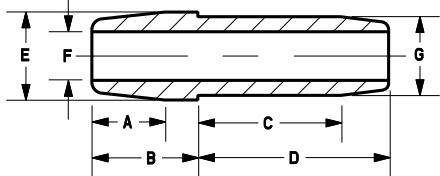
KPMI P/N	Description	Remark
10-10350	0.8775" OD	Standard
10-10352	0.8795" OD	+0.002"

Designed and manufactured by Kibblewhite® to original OEM specifications with Kibblewhite® quality and precision.



BSA® 650™ TWIN

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.465"	0.675"	0.910"	1.215"	0.560"	0.3095"	0.5010"		10-0347
						+0.002"		10-0348
						+0.004"		10-0349
						+0.006"		10-0350
						+0.050"		10-4055

No seal required.

BSA® B50 GOLDSTAR™ 1971-1973



10-10050



10-10062



10-10070



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
10-10050	Intake	10-10051	Use O.E.M	10-10053	10-10055	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.500"		1.375"		256#		.500"

The springs in these kits are wound from super clean chrome silicon wire that has been heat treated and shot peened. These components offer optimal fitment, keeping lateral movement to a minimum. They work together as a system, providing long life, and maximum performance.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
10-10062	Intake	44.45mm	1.750"	0.3100"	20°	4.080"	Standard
10-10063	Intake	45.97mm	1.810"	0.3100"	20°	4.060"	Oversize
10-10066	Exhaust	38.86mm	1.530"	0.3095"	24°	4.025"	Standard
10-10067	Exhaust	40.39mm	1.590"	0.3095"	24°	4.005"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.465"	0.675"	0.910"	1.215"	0.560"	0.3095"	0.5010"		10-10070
							+0.002"	10-10072	
							+0.004"	10-10074	
							+0.006"	10-10076	
							+0.050"	10-10079	

No seal required.

For all the applications available for Kibblewhite's BSA® line of products, please refer online to the BSA® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



BSA® A65™ 1971-1972



10-5010



10-10350



10-4148



10-4132

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
10-4148	Intake	40.64mm	1.600"	0.3110"	1.500" R	3.600" Standard
10-10100	Intake	42.14mm	1.659"	0.3110"	1.500" R	3.580" Oversize
10-4150	Exhaust	35.81mm	1.410"	0.3107"	25°	3.555" Standard
10-10104	Exhaust	37.31mm	1.469"	0.3107"	25°	3.535" Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.760"	0.840"	0.685"	1.135"	0.685"	0.3105"	0.5010"		10-4135
							+0.002"	10-4136	
							+0.004"	10-4137	

No seal required.

Crankshaft Bushings

KPMI P/N	Description	Quantity
10-5010	Std. ID 1.501"	Pkg. of 1
10-5011	-0.010"	Pkg. of 1
10-5012	-0.020"	Pkg. of 1
10-5013	-0.030"	Pkg. of 1
10-5014	-0.040"	Pkg. of 1
10-5015	-0.050"	Pkg. of 1
10-10000	Std.OD 1.835"	Pkg. of 1

Machined from high quality mill certified bearing bronze (custom sizes available).

Wrist Pin Bushings Machined from solid bar stock

KPMI P/N	Description	Remark
10-10350	0.8775" OD	Standard
10-10352	0.8795" OD	+0.002"

Designed and manufactured by Kibblewhite® to original OEM specifications with Kibblewhite® quality and precision.

For all the applications available for Kibblewhite's BSA® line of products, please refer online to the BSA® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



BSA® ROCKET III™ 1969-1972

Triple



10-10220



10-10212



10-10200



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
10-10200	Intake	10-10201	Use O.E.M	10-10203	10-10205	---
	Exhaust					
Valve Lift		Installed Height		Installed Height		Seat Pressure @ Lift
.400"		1.350"		94#		240# .400"

Black Diamond™ Valves • Black Nitroreg Stems For 1971 - 1973 Models							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
10-10212	Intake	38.86mm	1.530"	0.3097"	1.5" R	3.975"	Standard
10-10213	Intake	40.39mm	1.590"	0.3097"	1.5" R	3.950"	Oversize
10-10216	Exhaust	33.40mm	1.315"	0.3092"	25°	3.915"	Standard
10-10217	Exhaust	35.56mm	1.400"	0.3092"	25°	3.890"	Oversize

C630 Bronze Valve Guides											
		A	B	C	D	E	F	G	Intake	Exhaust	
		0.460"	0.560"	0.760"	1.310"	0.560"	0.3105"	0.5010"		10-10220	
								+0.002"	10-10222		
								+0.015"	10-10230		
No seal required.											
		0.330"	0.430"	0.765"	1.315"	0.560"	0.3105"	0.5010"		10-10240	
										+0.002"	10-10242
										+0.004"	10-10244
										+0.006"	10-10246
								+0.015"	10-10250		
Machined for seal. One seal supplied with each guide.											

Valve Guide Seals		
KPMI P/N	Type of Seal	Quantity
10-10255	Intake / Exhaust • Style 1 • Solid Viton	Pkg. of 1



DUCATI® GT™ 750 / 850 / 880 / 900 / 916 1970-'90



92-9600



92-9640



92-9620

C630 Bronze Valve Guides for GT 750 1970

	A	B	C	D	E	F	G	Intake	Exhaust
	0.345"	0.415"	0.810"	1.110"	0.644"	0.3140"	0.5152"		92-9600
							+0.001"	92-9601	
							+0.002"	92-9602	
							+0.004"	92-9604	
							+0.010"	92-9610	

Use O.E.M. valve guide seals

C630 Bronze Valve Guides for 750 / 900 1988-'90

	A	B	C	D	E	F	G	Intake	Exhaust
	0.115"	0.160"	1.050"	1.300"	0.560"	0.3140"	0.5152"		92-9640
							+0.001"	92-9641	
							+0.002"	92-9642	
							+0.004"	92-9644	
							+0.010"	92-9650	

Use O.E.M. valve guide seals

C630 Bronze Valve Guides for 850 / 880 / 916 1988-'90

	A	B	C	D	E	F	G	Intake	Exhaust
	0.245"	0.300"	0.900"	1.400"	---	0.2745	0.4745"		92-9620
							+0.001"	92-9621	
							+0.002"	92-9622	
							+0.004"	92-9624	
							+0.010"	92-9630	

Use O.E.M. valve guide seals

For all the applications available for Kibblewhite's Ducati® line of products, please refer online to the Ducati® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.

DUCATI® 800 / 900 2000-2007



92-92012



92-92016



92-92020



92-92030



Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
92-92012	Intake	43.00mm	1.693"	0.3140"	22°	3.825"	Standard
92-92013	Intake	44.00mm	1.732"	0.3140"	22°	3.825"	Oversize
92-92016	Exhaust	38.00mm	1.496"	0.3135"	22°	3.730"	Standard
92-92017	Exhaust	39.00mm	1.535"	0.3135"	22°	3.730"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.165"	0.205"	0.855	1.290"	0.560"	0.3145"	0.5147"		92-92020
							+0.001"	92-92021	
							+0.002"	92-92022	
							+0.010"	92-92029	
	0.125"	0.165"	0.855	1.250"	0.560"	0.3140"	0.5147"		92-92030
							+0.001"		92-92031
							+0.002"		92-92032
							+0.010"		92-92039

Use O.E.M. valve guide seals

DUCATI® SHIM KIT

Ducati Shim Kit

KPMI P/N	Type of Shim	Quantity
92-92300	Fits all years and two valve models except 1000cc, 1100cc, and Multistrada	Single Kit / 37 pcs. ----- 15 Closers / 21 Openers 1 Measurement Tool

This KPMI® Ducati Shim Kit # 92-92300 includes a closer measurement tool, 15 closers from 6.20 mm to 7.60 mm in 0.1 mm increments, and 21 openers from 3.00mm to 5.00mm in 0.1mm increments. All parts are heat treated for optimal performance and processed with black oxide for corrosion resistance and durability.



DUCATI® SHIM KIT



37 Piece Kit



KPMI® Closer



KPMI® Opener

Individual Closers	
KPMI P/N	Size Range
92-92255	5.50mm
92-92256	5.60mm
92-92257	5.70mm
92-92258	5.80mm
92-92259	5.90mm
92-92260	6.00mm
92-92261	6.10mm
92-92262	6.20mm
92-92263	6.30mm
92-92264	6.40mm
92-92265	6.50mm
92-92266	6.60mm
92-92267	6.70mm
92-92268	6.80mm
92-92269	6.90mm
92-92270	7.00mm
92-92271	7.10mm
92-92272	7.20mm
92-92273	7.30mm
92-92274	7.40mm
92-92275	7.50mm
92-92276	7.60mm
92-92277	7.70mm
92-92278	7.80mm
92-92279	7.90mm
92-92280	8.00mm

Individual Openers	
KPMI P/N	Size Range
92-92120	2.00mm
92-92121	2.10mm
92-92122	2.20mm
92-92123	2.30mm
92-92124	2.40mm
92-92125	2.50mm
92-92126	2.60mm
92-92127	2.70mm
92-92128	2.80mm
92-92129	2.90mm
92-92130	3.00mm
92-92131	3.10mm
92-92132	3.20mm
92-92133	3.30mm
92-92134	3.40mm
92-92135	3.50mm
92-92136	3.60mm
92-92137	3.70mm
92-92138	3.80mm
92-92139	3.90mm
92-92140	4.00mm
92-92141	4.10mm
92-92142	4.20mm
92-92143	4.30mm
92-92144	4.40mm
92-92145	4.50mm

Individual Openers	
KPMI P/N	Size Range
92-92146	4.60mm
92-92147	4.70mm
92-92148	4.80mm
92-92149	4.90mm
92-92150	5.00mm
92-92151	5.10mm
92-92152	5.20mm
92-92153	5.30mm
92-92154	5.40mm
92-92155	5.50mm
92-92156	5.60mm
92-92157	5.70mm
92-92158	5.80mm
92-92159	5.90mm
92-92160	6.00mm
92-92161	6.10mm
92-92162	6.20mm
92-92163	6.30mm

KPMI® Shim Kit

- Designed and manufactured by KPMI® specifically for use with various Ducati® 8mm stem diameter valves.

- Improved from OEM parts to include KPMI® design standards and precision machining.

- All parts are through hardened for optimal performance with black oxide for corrosion resistance and durability.

DUCATI® 1000 / 1100 2003-2009



Hypermotard™ 1100
 Monster™ 1000
 Multistrada™ 1000
 Sport GT™ 1000
 Supersport™ 1000



92-92062



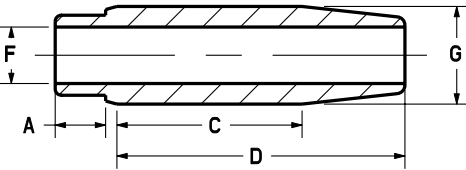
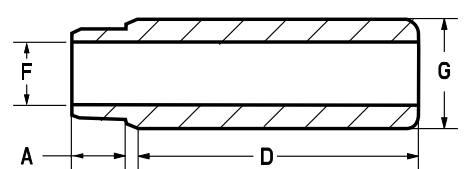
92-92070



Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
92-92062	Intake	45.00mm	1.772"	0.2746"	22°	3.830"	Standard
92-92063	Intake	46.00mm	1.811"	0.2746"	22°	3.830"	Oversize
92-92066	Exhaust	40.00mm	1.575"	0.2741"	22°	3.770"	Standard
92-92067	Exhaust	41.00mm	1.614"	0.2741"	22°	3.770"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.235"	---	1.010"	1.270"	---	0.2750	0.4744"		92-92070
							+0.001"	92-92071	
							+0.002"	92-92072	
							+0.010"	92-92079	
	0.235"	---	---	1.280"	---	0.2745"	0.4744"		92-92080
							+0.001"		92-92081
							+0.002"		92-92082
							+0.010"		92-92089

Use O.E.M valve guide seals.

For all the applications available for Kibblewhite's Ducati® line of products, please refer online to the Ducati® section of the www.kpmi.us website, under **Motorcycle Valve Train Components**.



HD® FLATHEAD™ 1930-1973



20-20750



20-20740



20-20480

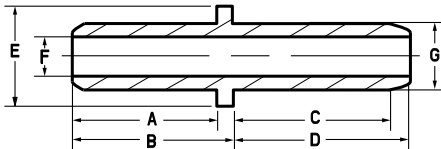
Lightweight Racing Valve Spring Kit for 74" and 80" Models

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-20480	Intake	20-20481	20-20489	20-20483	20-20485	20-20487
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.375"		2.120"		65#		130#
Some models may require shim# 20-20487 to achieve recommended installed ht.						

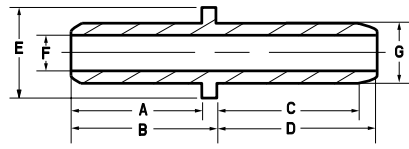
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
20-20740	Intake / Exhaust	41.28mm	1.625"	0.3395"	R 0.540	45" Standard
20-20742	Intake / Exhaust	49.02mm	1.930"	0.3715"	7°	UL 74"-80"
20-20743	Intake / Exhaust	52.07mm	2.050"	0.3715"	7°	UL 74"-80"
20-20744	Intake / Exhaust	49.02mm	1.930"	0.3715"	7°	VL 74"-80"
20-20745	Intake / Exhaust	52.07mm	2.050"	0.3715"	7°	VL 74"-80"

C630 Bronze Valve Guides for 45" Flathead Models

	A	B	C	D	E	F	G	Intake	Exhaust
	1.200"	1.330"	1.310"	1.470"	0.855"	0.3395"	0.5647"		20-20750
							+0.001"	20-20751	
							+0.002"	20-20752	
							+0.010"	20-20759	

C630 Bronze Valve Guides for 74"- 80" Flathead Models

	A	B	C	D	E	F	G	Intake	Exhaust
	1.120"	1.275"	1.630"	1.860"	0.935"	0.3715"	0.5952"		
							+0.001"		20-20761
							+0.002"		20-20762
							+0.010"		20-20769

HD® KNUCKLEHEAD™ 1936-1947



20-20170



20-20414



20-4096C



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-20170	Intake	20-20171	20-20172	20-20174	---	20-20173
	Exhaust					
Valve Lift		Installed Height		Open Pressure		Open Pressure
.480"		1.310"		340#		.480"

Spring kit must be used with Kibblewhite® guides, or the tops of your guides must be machined to use this kit. Machining Instructions included with kit, or check our website www.kpmi.us for current info.

O.E.M. Replacement Valve Spring Kit

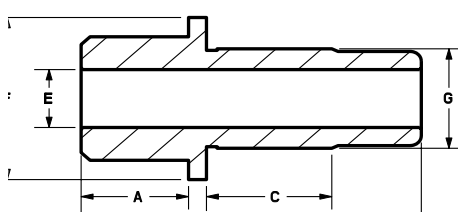
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20425	Intake	20-20426	20-20429	20-20427	20-20428	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		Open Pressure
.415"		1.370"		265#		.415"

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-4101	Intake	44.45mm	1.750"	0.3765"	23°	3.590"	Standard
20-20414	Intake	49.28mm	1.940"	0.3765"	23°	3.590"	Oversize
20-4102	Exhaust	44.45mm	1.750"	0.3760"	29°	3.670"	Standard

Cast Iron Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.600"	0.700"	0.700"	1.200"	1.050"	0.3755"	0.6440"	20-4095C
							+0.002"	20-4096C	
							+0.004"	20-4097C	
							+0.006"	20-4098C	
							+0.008"	20-4099C	
							+0.025"	20-4100C	

Engine Builder Series Wrist Pin Bushings

KPMI P/N	Description	Quantity
20-20570	Std. O.D.	Pkg. of 2
20-20572	+0.002" OD	Pkg. of 2
20-20580	Std. O.D.	Pkg. of 1
20-20582	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Clutch Spring

KPMI P/N	Description	Quantity
20-0788	Replace 38075-41	Pkg. of 10

High Performance Wrist Pin Bushings

KPMI P/N	O.D.	Quantity
20-0645	Standard	Pkg. of 1

KPMI® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.



HD® PANHEAD™ 1948-1965



20-20100



20-20455

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
*20-20100	Intake	20-20101	20-20102	20-20103	20-20104	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.600"		1.490"		160#		395#	.600"
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
*20-20445	Intake	20-20446	20-20102	20-20103	20-20104	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.600"		1.490"		160#		395#	.600"

*These spring kits are designed to work with factory covers with no clearance issues.

O.E.M. Replacement Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
20-20455	Intake	20-20105	20-20434	20-20432	20-20433	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.415"		1.370"		130#		265#	.415"
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
20-20430	Intake	20-20431	20-20434	20-20432	20-20433	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.415"		1.370"		130#		265#	.415"

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4257	Intake	44.45mm	1.750"	0.3765"	23°	3.790"	Standard (OEM18070-48)
20-4195	Exhaust	44.45mm	1.750"	0.3760"	29°	3.810"	Standard (OEM18082-57)

HD® PANHEAD™ 1948-1965



20-20430



20-2020



20-2020C

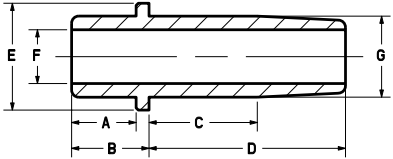


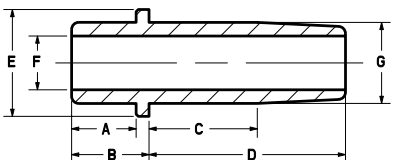
20-2020M



10-SC510

C630 Bronze, Cast Iron, and Manganese Valve Guides

	A	B	C	D	E	F	G	Intake		
	0.450"	0.540"	0.810"	1.340"	0.745"	0.3745"	0.5650"	C630 Bronze	Cast Iron	*Manganese
	+0.001"	20-2021	20-2021C	20-2021M						
+0.002"	20-2022	20-2022C	20-2022M							
+0.003"	20-2023	20-2023C	20-2023M							
+0.004"	20-2024	20-2024C	20-2024M							
+0.006"	20-2026	20-2026C	20-2026M							
+0.008"	20-2028	20-2028C	20-2028M							
+0.010"	20-2029	20-2029C	20-2029M							
+0.025"	20-20HS	20-20HSC	20-20HSM							

	A	B	C	D	E	F	G	Exhaust		
	0.450"	0.540"	0.810"	1.340"	0.745"	0.3745"	0.5650"	20-2030	20-2030C	20-2030M
	+0.001"	20-2031	20-2031C	20-2031M						
+0.002"	20-2032	20-2032C	20-2032M							
+0.003"	20-2033	20-2033C	20-2033M							
+0.004"	20-2034	20-2034C	20-2034M							
+0.006"	20-2036	20-2036C	20-2036M							
+0.008"	20-2038	20-2038C	20-2038M							
+0.010"	20-2039	20-2039C	20-2039M							
+0.025"	20-30HS	20-30HSC	20-30HSM							

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
20-2016	Intake / Exhaust • Style 5 • Steel Clad Viton	Pkg. of 4
20-2002	Intake / Exhaust • Style 6 • Solid White PC-Styled Seal	Pkg. of 4



HD® PANHEAD™ 1948-1965



20-20631 20-20639 20-20623



20-20570



20-20788

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20623	0.562"	0.375"	Pkg. of 1
20-20623-25	0.562"	0.375"	Pkg. of 25
20-20623-100	0.562"	0.375"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20631	20-20623	Pkg. of 1

Installation Protectors

KPMI P/N	Stem Diameter	Quantity
20-20639	0.375"	Pkg. of 1
20-20636	0.375"	Pkg. of 2

Replacement H.T. Steel Basewashers

KPMI P/N	Fits	Quantity
20-2111	O.E.M. Style	Pkg. of 4

Machined to fit .725" Ø seal. Lower collar counter bored to allow for greater retainer to seal clearance.

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Type
10-SC510	2.0070"	1.562"	0.450"	In / Ex

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® valve seats.

Exhaust Spigot

KPMI P/N	Models	Quantity
20-2104	Fits All Years	Pkg. of 1

Kibblewhite®'s replacement exhaust spigot has been designed and machined from 6061-T6 aluminum extruded tubing. This spigot allows you to rebuild the exhaust attachment point on you classic Panhead engine.

Clutch Spring

KPMI P/N	Description	Quantity
20-0788	Replace 38075-41	Pkg. of 10

Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20570	Std. O.D.	Pkg. of 2
20-20572	+0.002" OD	Pkg. of 2
20-20580	Std. O.D.	Pkg. of 1
20-20582	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

High Performance Wrist Pin Bushings Knucklehead • Panhead • Shovelhead • Evolution

KPMI P/N	O.D.	Quantity
20-0645	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

HD[®] SPORTSTER™ 1957-1969



20-20440



20-2320



20-2320C



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2210	Intake	20-2211	20-2213	20-2214	20-2212	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.480"		1.310"		340#		.480"

May require "R" model valves to achieve installed height. Kibblewhite® recommends using valves with a longer OL. Part numbers # 20-4167 (Intake) and 20-4168 (Exhaust).

O.E.M. Replacement Valve Spring Kit						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20440	Intake	20-20441	20-4275	20-2215	20-20085	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.400"		1.245"		330#		.400"

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

C630 Bronze and Cast Iron Valve Guides										
	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	
	0.470"	0.545"	0.700"	1.225"	0.745"	0.3085"	0.5650"	20-2320	20-2320C	
								+0.001"	20-2321	20-2321C
								+0.002"	20-2322	20-2322C
								+0.010"	20-2329	20-2329C
	A	B	C	D	E	F	G	Exhaust		
	0.470"	0.545"	0.600"	1.225"	0.745"	0.3375"	0.5650"	20-2330	20-2330C	
								+0.001"	20-2331	20-2331C
								+0.002"	20-2332	20-2332C
								+0.010"	20-2339	20-2339C



HD[®] SPORTSTER™ 1957-1969



20-20630 20-20637 20-20638 20-20621 20-20622

20-20810

202106

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4258	Intake	46.36mm	1.825"	0.3095"	23°	3.562"	Standard (OEM18071-58)
20-4197	Exhaust	39.88mm	1.570"	0.3384"	29°	3.512"	Standard (OEM18080-58R)
20-4197-1	Exhaust	41.40mm	1.630"	0.3384"	29°	3.512"	Oversize

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20621	0.530"	0.3125"	Pkg. of 1
20-20621-25	0.530"	0.3125"	Pkg. of 25
20-20621-100	0.530"	0.3125"	Pkg. of 100
20-20622	0.530"	0.3437"	Pkg. of 1
20-20622-25	0.530"	0.3437"	Pkg. of 25
20-20622-100	0.530"	0.3437"	Pkg. of 100

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Type
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® valve seats.

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20630	20-20621 / 20-20622	Pkg. of 1

Installation Protectors

KPMI P/N	Fits	Type	Quantity
20-20637	0.3125"	Intake	Pkg. of 1
20-20634	0.3125"	Intake	Pkg. of 2
20-20638	0.3437"	Exhaust	Pkg. of 1
20-20635	0.3437"	Exhaust	Pkg. of 2

Rocker Arm Bushings

KPMI P/N	Models	O.D.	Quantity
20-2106	All Sportsters	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Engine Builder Series Wrist Pin Bushings for Sportster 1957-1983

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

High Performance Wrist Pin Bushings 1957-1983 Ironhead Sportster

KPMI P/N	O.D	Quantity
20-0644	Standard(0.8972")	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

HD[®] SPORTSTER™ 1970-1983



20-20440



20-2320



20-2320C



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2210	Intake	20-2211	20-2213	20-2214	20-2212	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.480"		1.310"		340#		.480"

May require "R" model valves to achieve installed height. Kibblewhite® recommends using valves with a longer OL.
Part numbers # 20-4167 (Intake) and 20-4168 (Exhaust).

O.E.M. Replacement Valve Spring Kit						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20440	Intake	20-20441	20-4275	20-2215	20-20085	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.400"		1.245"		330#		.400"

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4196	Intake	49.15mm	1.935"	0.3090"	23°	3.620"	Standard (OEM18070-70)
20-4167	Intake	49.53mm	1.950"	0.3090"	23°	3.690"	Standard (OEM18069-65R)
20-4196-1	Intake	50.80mm	2.000"	0.3090"	23°	3.620"	Oversize
20-4197	Exhaust	39.88mm	1.570"	0.3384"	29°	3.512"	Standard (OEM18080-58R)
20-4197-1	Exhaust	41.40mm	1.630"	0.3384"	29°	3.512"	Oversize
20-4168	Exhaust	44.45mm	1.750"	0.3384"	29°	3.620"	Standard (OEM18080-70R)

High Performance Wrist Pin Bushings 1957-1983 Ironhead Sportster		
KPMI P/N	O.D	Quantity
20-0644	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

Rocker Arm Bushings			
KPMI P/N	Models	O.D	Quantity
20-2106	All Sportsters	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.



HD[®] SPORTSTER™ 1970-1983



20-0787



10-SC446

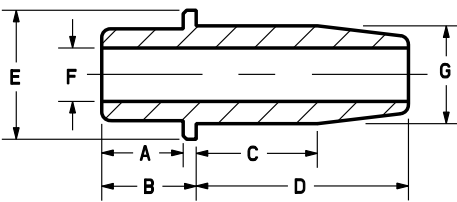
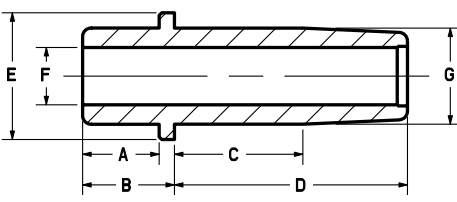


20-20810



202106

C630 Bronze and Cast Iron Valve Guides

	A	B	C	D	E	F	G	Intake	
	0.470"	0.545"	0.700"	1.225"	0.745"	0.3085"	0.5650"	C630 Bronze	Cast Iron
							+0.001"	20-2320	20-2320C
							+0.002"	20-2321	20-2321C
							+0.010"	20-2322	20-2322C
							+0.010"	20-2329	20-2329C
	A	B	C	D	E	F	G	Exhaust	
	0.470"	0.545"	0.600"	1.225"	0.745"	0.3375"	0.5650"	20-2330	20-2330C
							+0.001"	20-2331	20-2331C
							+0.002"	20-2332	20-2332C
							+0.010"	20-2339	20-2339C

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20621	0.530"	0.3125"	Pkg. of 1
20-20621-25	0.530"	0.3125"	Pkg. of 25
20-20621-100	0.530"	0.3125"	Pkg. of 100
20-20622	0.530"	0.3437"	Pkg. of 1
20-20622-25	0.530"	0.3437"	Pkg. of 25
20-20622-100	0.530"	0.3437"	Pkg. of 100

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Type
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 184** for a complete listing of Kibblewhite® valve seats.

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20630	20-20621 / 20-20622	Pkg. of 1

Clutch Springs

KPMI P/N	Description	Quantity
20-0787	Replaces 38075-68	Pkg. of 1

Installation Protectors

KPMI P/N	Fits	Type	Quantity
20-20637	0.3125"	Intake	Pkg. of 1
20-20634	0.3125"	Intake	Pkg. of 2
20-20638	0.3437"	Exhaust	Pkg. of 1
20-20635	0.3437"	Exhaust	Pkg. of 2

Engine Builder Series Wrist Pin Bushings for Sportster 1957-1983

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

HD® SHOVELHEAD™ 74" 1966-1977



20-2110



20-20435



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	H.A. 7075-T6 Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2110	Intake	20-4248	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2115	Intake	20-2115	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20450	Intake	20-20451	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						

O.E.M. Replacement Valve Spring Kit						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20435	Intake	20-20436	20-20439	20-20437	20-20438	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.415"		1.370"		130#		265#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20460	Intake	20-20105	20-20439	20-20437	20-20438	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.415"		1.370"		130#		265#
@ Lift						

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.



HD® SHOVELHEAD™ 74" 1966-1977

**TOP
SELLER**



20-2020



20-2020C



20-2020M



20-4194

Black Diamond™ Valves • Black Nitroleg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4194	Intake	49.53mm	1.950"	0.3765"	23°	3.885"	Standard (OEM18078-80)
20-4256	Intake	50.80mm	2.000"	0.3765"	23°	3.885"	Oversize
20-4195	Exhaust	44.45mm	1.750"	0.3760"	29°	3.810"	Standard (OEM18082-57)
20-4195S	Exhaust	45.21mm	1.780"	0.3760"	29°	3.820"	Oversize
20-4195-1	Exhaust	46.02mm	1.8120"	0.3760"	29°	3.820"	Oversize

C630 Bronze, Cast Iron, and Manganese Valve Guides

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
								0.450"	0.540"	0.810"
						+0.001"	20-2021	20-2021C	20-2021M	
						+0.002"	20-2022	20-2022C	20-2022M	
						+0.003"	20-2023	20-2023C	20-2023M	
						+0.004"	20-2024	20-2024C	20-2024M	
						+0.006"	20-2026	20-2026C	20-2026M	
						+0.008"	20-2028	20-2028C	20-2028M	
						+0.010"	20-2029	20-2029C	20-2029M	
						+0.025"	20-20HS	20-20HSC	20-20HSM	
	A	B	C	D	E	F	G	Exhaust		
	0.450"	0.540"	0.810"	1.340"	0.745"	0.3745"	0.5650"	20-2030	20-2030C	20-2030M
							+0.001"	20-2031	20-2031C	20-2031M
							+0.002"	20-2032	20-2032C	20-2032M
							+0.003"	20-2033	20-2033C	20-2033M
							+0.004"	20-2034	20-2034C	20-2034M
							+0.006"	20-2036	20-2036C	20-2036M
							+0.008"	20-2038	20-2038C	20-2038M
							+0.010"	20-2039	20-2039C	20-2039M
							+0.025"	20-30HS	20-30HSC	20-30HSM

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

HD® SHOVELHEAD™ 74" 1966-1977



20-20639 20-20623



20-20570



20-20789

O.E.M. Replacement Seals			
KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20623	0.562"	0.375"	Pkg. of 1
20-20623-25	0.562"	0.375"	Pkg. of 25
20-20623-100	0.562"	0.375"	Pkg. of 100

Seal Installation Tools		
KPMI P/N	Fits	Quantity
20-20631	20-20623	Pkg. of 1

Installation Protectors		
KPMI P/N	Stem Diameter	Quantity
20-20639	0.375"	Pkg. of 1
20-20636	0.375"	Pkg. of 2

Replacement H.T. Steel Basewashers		
KPMI P/N	Fits	Quantity
20-2111	O.E.M. Style	Pkg. of 4

Machined to fit .725" Ø seal. Lower collar counter bored to allow for greater retainer to seal clearance.

Recommended Valve Seats (Powdered Metal)				
KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Type
10-SC550	2.1640"	1.750"	0.450"	Intake
10-SC523	2.0600"	1.562"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See page 212 for a complete listing of Kibblewhite® valve seats.

Rocker Arm Bushings			
KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Kicker Shaft Bushings & Seal		
KPMI P/N	Type	Quantity
20-2107	Std. 0.9355"	Pkg. of 1pair
20-2108	+0.005" O.D.	Pkg. of 1pair

Single package include 2 bushings & 1 seal.

Clutch Spring		
KPMI P/N	Description	Quantity
20-0789	Replace 38075-68	Pkg. of 10

Engine Builder Series Wrist Pin Bushings		
KPMI P/N	Size	Quantity
20-20570	Std. O.D.	Pkg. of 2
20-20572	+0.002" OD	Pkg. of 2
20-20580	Std. O.D.	Pkg. of 1
20-20582	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

High Performance Wrist Pin Bushings Knucklehead • Panhead • Shovelhead • Evolution		
KPMI P/N	O.D.	Quantity
20-0645	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

Valve Guide Seals		
KPMI P/N	Description	Quantity
20-2016	In / Ex • Style 5 • Steel Clad Viton	Pkg. of 4
20-2002	In / Ex • Style 6 Solid White PC-Styled Seal	Pkg. of 4



HD® SHOVELHEAD™ 80" 1978-1983



20-2110



20-20435

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	H.A. 7075-T6 Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2110	Intake	20-4248	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-2115	Intake	20-2115	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20450	Intake	20-20451	20-2100	20-2000	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.500"		160#		390#
@ Lift						

O.E.M. Replacement Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20435	Intake	20-20436	20-20439	20-20437	20-20438	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.415"		1.370"		130#		265#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20460	Intake	20-20105	20-20439	20-20437	20-20438	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.415"		1.370"		130#		265#
@ Lift						

All components are the quality you can expect from Kibblewhite®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

HD® SHOVELHEAD™ 80" 1978-1983



20-20460



20-4194



20-2050



20-2050C



20-2050M

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4194	Intake	49.53mm	1.950"	0.3765"	23°	3.885"	Standard (OEM18078-80)
20-4256	Intake	50.80mm	2.000"	0.3765"	23°	3.885"	Oversize
20-4195	Exhaust	44.45mm	1.750"	0.3760"	29°	3.810"	Standard (OEM18082-57)
20-4195S	Exhaust	45.21mm	1.780"	0.3760"	29°	3.820"	Oversize
20-4195-1	Exhaust	46.02mm	1.8120"	0.3760"	29°	3.820"	Oversize

Black Diamond™ Valves • Large Stem • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-4294	Intake	49.53mm	1.950"	0.3780"	23°	3.885"	Standard (OEM18075-81)
20-4295	Exhaust	44.45mm	1.750"	0.3760"	29°	3.810"	Standard (OEM18068-81)

C630 Bronze, Cast Iron, and Manganese Valve Guides

	A	B	C	D	E	F	G	Intake		
	0.450"	0.540"	0.755"	1.370"	0.745"	0.3745"	0.625"	C630 Bronze	Cast Iron	*Manganese
	+0.001"	20-2050	20-2050C	20-2050M						
+0.002"	20-2051	20-2051C	20-2051M							
+0.003"	---	20-2053C	---							
+0.004"	20-2054	20-2054C	20-2054M							
+0.005"	---	20-2055C	---							
+0.006"	20-2056	20-2056C	20-2056M							
+0.008"	---	20-2058C	---							
+0.010"	---	20-2059C	---							
+0.025"	20-50HS	20-50HSC	20-50HSM							
	A	B	C	D	E	F	G	Exhaust		
	0.450"	0.540"	0.755"	1.370"	0.745"	0.3745"	0.625"	20-2060	20-2060C	20-2060M
	+0.001"	20-2061	20-2061C	20-2061M						
	+0.002"	20-2062	20-2062C	20-2062M						
	+0.003"	---	20-2063C	---						
	+0.004"	20-2064	20-2064C	20-2064M						
	+0.005"	---	20-2065C	---						
	+0.006"	20-2066	20-2066C	20-2066M						
	+0.008"	---	20-2068C	---						
	+0.010"	---	20-2069C	---						
	+0.025"	20-60HS	20-60HSC	20-60HSM						

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.



HD® SHOVELHEAD™ 80" 1978-1983



10-SC550



20-20570



20-20789

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20624	0.625"	0.375"	Pkg. of 1
20-20624-25	0.625"	0.375"	Pkg. of 25
20-20624-100	0.625"	0.375"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20630	20-20624	Pkg. of 1

Installation Protectors

KPMI P/N	Stem Diameter	Quantity
20-20639	0.375"	Pkg. of 1
20-20636	0.375"	Pkg. of 2

Clutch Spring

KPMI P/N	Description	Quantity
20-0789	Replace 38075-68	Pkg. of 10

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Type
10-SC550	2.1640"	1.750"	0.450"	Intake
10-SC523	2.0600"	1.562"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® valve seats.

Rocker Arm Bushings

KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Kicker Shaft Bushings & Seal

KPMI P/N	Type	Quantity
20-2107	Std. 0.9355"	Pkg. of 1pair
20-2108	+0.005" O.D.	Pkg. of 1pair

Single package include 2 bushings & 1 seal.

Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20570	Std. O.D.	Pkg. of 2
20-20572	+0.002" OD	Pkg. of 2
20-20580	Std. O.D.	Pkg. of 1
20-20582	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

High Performance Wrist Pin Bushings Knucklehead • Panhead • Shovelhead • Evolution

KPMI P/N	O.D.	Quantity
20-0645	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

Recommended Valve Guide Seals

KPMI P/N	Description	Guide Top Dia.	Quantity
20-2016	In / Ex • Style 5 • Steel Clad Viton	0.565"	Pkg. of 4
20-2002	In / Ex • Style 6 Solid White PC-Styled Seal	0.565"	Pkg. of 4

0.565" Seal cutter required for installation

HD® EVOLUTION™ 1984-1999



**TOP
SELLER**



20-20650



20-20122

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20650	Intake	20-20651	Use O.E.M	20-20654	20-20653	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.600"		1.860"	175#	355#	.600"	
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20660	Intake	20-20661	Use O.E.M	20-20664	20-20663	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.630"		1.860"	175#	365#	.630"	

Note: #20-20660 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20122	Intake	20-20123	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.600"		1.810"	175#	380#	.600"	
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20132	Intake	20-20124	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.600"		1.810"	175#	380#	.600"	
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20060	Intake	20-20061	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.655"		1.860"	185#	450#	.655"	
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20081	Intake	20-20069	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.655"		1.860"	185#	450#	.655"	



HD® EVOLUTION™ 1984-1999

**TOP
SELLER**



20-2080



20-4171

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2080	Intake	20-2081	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2085	Intake	20-2086	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-4171	Intake	46.74mm	1.840"	0.3100"	23°	4.445"	Standard (OEM18082-83)
20-4170	Exhaust	41.02mm	1.615"	0.3096"	29°	4.525"	Standard (OEM18074-83B)

Black Diamond™ and White Diamond® Valves • Specially Designed for HD Racing Applications

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-4169	Intake	49.28mm	1.940"	0.3100"	23°	4.400"	Replacement (Branch Heads)
20-20108	Intake	50.80mm	2.000"	0.3100"	23°	4.445"	Oversize (STD Heads)
20-4171R	Intake	48.26mm	1.900"	0.3100"	28°	4.420"	Oversize (Racing Profile)
20-4270K	Exhaust	41.40mm	1.630"	0.3096"	40°	4.525"	Oversize (* Inconel)
20-B101	Exhaust	41.02mm	1.615"	0.3096"	R01.625	4.460"	Replacement (Branch Heads)
20-4170R	Exhaust	41.40mm	1.630"	0.3096"	40°	4.525"	Oversize (Racing Profile)
20-4170M	Exhaust	41.91mm	1.650"	0.3095"	24°	4.480"	Oversize (STD Heads)
20-4170S	Exhaust	44.45mm	1.750"	0.3095"	24°	4.480"	Oversize (STD Heads)

Custom sizes available, see **custom KPMI® Valve Order Form** at back of catalog. **Inconel®** is a high nickel content stainless steel classified as a "super alloy". It retains its mechanical properties at higher temps than other stainless materials. It also resists valve face pitting and recession in performance applications with unleaded and exotic fuels to a greater degree than other stainless materials. It is an excellent choice for turbocharged and nitrous applications.

HD® EVOLUTION™ 1984-1999



**TOP
SELLER**



20-2160



20-4320



20-4320C

C630 Bronze Valve Guides • Shouldered Guide w/ Viton Seal Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake	Exhaust
		0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	20-2160
							+0.001"	20-2161	
							+0.002"	20-2162	
							+0.004"	20-2164	
							+0.010"	20-2169	
0.650"		0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"		20-2170
							+0.001"		20-2171
							+0.002"		20-2172
							+0.004"		20-2174
							+0.010"		20-2179

C630 Bronze and Cast Iron Valve Guides • O.E.M. Style - .420" Top

	A	B	C	D	E	F	G	Intake / Exhaust	
								C630 Bronze	Cast Iron
	0.375"	0.375"	1.700"	2.025"	---	0.3098"	0.5620"	20-4320	20-4320C
							+0.001"	20-4321	20-4321C
							+0.002"	20-4322	20-4322C
							+0.003"	20-4323	20-4323C
							+0.004"	20-4324	20-4324C
							+0.010"	20-4329	20-4329C

Recommended Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-2015	Intake / Exhaust • Style 5 • Steel Clad Viton	0.420"	Pkg. of 4
20-2009	Intake / Exhaust • Style 6 • Solid White PC-Styled Seal	0.415"	Pkg. of 4

Please see #20-20620 O.E.M. Seals on Pg.36 / Seal, #20-2009 May require use of a seal cutter



HD[®] EVOLUTION[™] 1984-1999



20-2120



20-2120C



20-2120M



20-20645



20-2098

C630 Bronze, Cast Iron, and Manganese Valve Guides • Shouldered Guide - .420" Top • Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake		
	0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	C630 Bronze	Cast Iron	*Manganese
								+0.001"	20-2120	20-2120C
							+0.002"	20-2121	20-2121C	20-2121M
							+0.003"	20-2122	20-2122C	20-2122M
							+0.004"	20-2123	20-2123C	20-2123M
							+0.010"	20-2124	20-2124C	20-2124M
								20-2129	20-2129C	20-2129M
	A	B	C	D	E	F	G	Exhaust		
	0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"	20-2130	20-2130C	20-2130M
							+0.001"	20-2131	20-2131C	20-2131M
							+0.002"	20-2132	20-2132C	20-2132M
							+0.003"	20-2133	20-2133C	20-2133M
							+0.004"	20-2134	20-2134C	20-2134M
							+0.010"	20-2139	20-2139C	20-2139M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Cylinder Studs

KPMI P/N	Models	Quantity
20-2098	Fits All Evolutions	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

High Performance Wrist Pin Bushings

KNUCKLEHEAD • PANHEAD • SHOVELHEAD • EVOLUTION

KPMI P/N	O.D	Quantity
20-0645	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

HD® EVOLUTION™ 1984-1999



20-20632 20-20637 20-20620



20-2106



20-2099

O.E.M. Replacement Seals			
KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20620	0.420"	0.3125"	Pkg. of 1
20-20620-25	0.420"	0.3125"	Pkg. of 25
20-20620-100	0.420"	0.3125"	Pkg. of 100

Seal Installation Tools		
KPMI P/N	Fits	Quantity
20-20632	20-20620	Pkg. of 1

Installation Protectors		
KPMI P/N	Fits	Quantity
20-20637	0.3125"	Pkg. of 1
20-20634	0.3125"	Pkg. of 2

Recommended Valve Seats (Powdered Metal)				
KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Remark
10-SC500	1.9690"	1.535"	0.453"	Intake
10-SC510	2.0070"	1.562"	0.450"	Intake
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® valve seats.

Rocker Arm Bushings			
KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Engine Builder Series Wrist Pin Bushings		
KPMI P/N	Size	Quantity
20-20570	Std. O.D.	Pkg. of 2
20-20572	+0.002" OD	Pkg. of 2
20-20580	Std. O.D.	Pkg. of 1
20-20582	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set		
KPMI P/N	Models	Quantity
20-2096	O.E.M. Style	4 Pr.

Cylinder Dowels			
KPMI P/N	Models	O.D.	Quantity
20-2099	Fits All Evos	0.5575"	Pkg. of 4

For all the applications available for Kibblewhite's Harley-Davidson® line of products, please refer online to the Harley-Davidson® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HD® EVO SPORTSTER™ 883cc 1986-'03

Plus 883cc to 1200cc Conversion 1986-2003



20-20650



20-20122

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20650	Intake	20-20651	Use O.E.M	20-20654	20-20653	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20660	Intake	20-20661	Use O.E.M	20-20664	20-20663	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						

Note: #20-20660 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20122	Intake	20-20123	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20132	Intake	20-20124	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20060	Intake	20-20061	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20081	Intake	20-20069	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

HD® EVO SPORTSTER™ 883cc 1986-'03

Plus 883cc to 1200cc Conversion 1986-2003



20-2081



20-2080



20-2090

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2080	Intake	20-2081	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2085	Intake	20-2086	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						

Black Diamond™ Valves • Black Nitroeng Stems for 883cc 1986-2003 Model

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-2090	Intake	40.26mm	1.585"	0.3100"	23°	4.550"	Standard (OEM18031-86)
20-2092	Exhaust	34.29mm	1.350"	0.3095"	17°	4.640"	Standard (OEM18030-86)

Black Diamond™ Valves • Black Nitroeng Stems • Special Conversion Valves for 883cc / 1200cc 1986-'03 Model

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-2010	Intake	43.56mm	1.715"	0.3100"	23°	4.550"	Conversion Valve
20-2012	Exhaust	37.59mm	1.480"	0.3096"	40°	4.625"	Conversion Valve

C630 Bronze and Cast Iron Valve Guides • O.E.M. Style - .420" Top

	A	B	C	D	E	F	G	Intake / Exhaust	
	0.375"	0.375"	1.700"	2.025"	---	0.3098"	0.5620"	C630 Bronze	Cast Iron
								+0.001"	20-4320
							+0.002"	20-4321	20-4321C
							+0.003"	20-4322	20-4322C
							+0.004"	20-4323	20-4323C
							+0.004"	20-4324	20-4324C
							+0.010"	20-4329	20-4329C



HD® EVO SPORTSTER™ 883cc 1986-'03

Plus 883cc to 1200cc Conversion 1986-2003



20-2160



20-4320



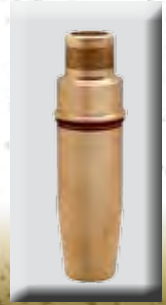
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20-2120

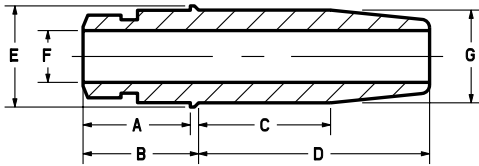


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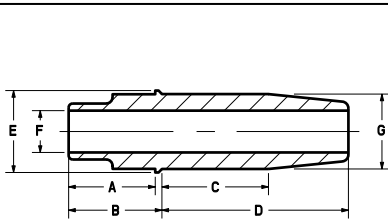
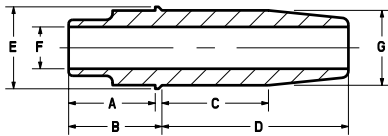
20-2120M

C630 Bronze Valve Guides • Shouldered Guide w/ Viton Seal Shortened for .600" Lift



A	B	C	D	E	F	G	Intake	Exhaust
0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	20-2160	
						+0.001"	20-2161	
						+0.002"	20-2162	
						+0.004"	20-2164	
						+0.010"	20-2169	
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"		20-2170
						+0.001"		20-2171
						+0.002"		20-2172
						+0.004"		20-2174
						+0.010"		20-2179

C630 Bronze, Cast Iron, and Manganese Valve Guides • Shouldered Guide - .420" Top • Shortened for .600" Lift



A	B	C	D	E	F	G	Intake		
							C630 Bronze	Cast Iron	*Manganese
0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	20-2120	20-2120C	20-2120M
						+0.001"	20-2121	20-2121C	20-2121M
						+0.002"	20-2122	20-2122C	20-2122M
						+0.003"	20-2123	20-2123C	20-2123M
						+0.004"	20-2124	20-2124C	20-2124M
						+0.010"	20-2129	20-2129C	20-2129M
A	B	C	D	E	F	G	Exhaust		
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"	20-2130	20-2130C	20-2130M
						+0.001"	20-2131	20-2131C	20-2131M
						+0.002"	20-2132	20-2132C	20-2132M
						+0.003"	20-2133	20-2133C	20-2133M
						+0.004"	20-2134	20-2134C	20-2134M
						+0.010"	20-2139	20-2139C	20-2139M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

HD® EVO SPORTSTER™ 883cc 1986-'03

Plus 883cc to 1200cc Conversion 1986-2003



20-20632 20-20637 20-20620



20-2106



20-2099

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20620	0.420"	0.3125"	Pkg. of 1
20-20620-25	0.420"	0.3125"	Pkg. of 25
20-20620-100	0.420"	0.3125"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20632	20-20620	Pkg. of 1

Installation Protectors

KPMI P/N	Fits	Quantity
20-20637	0.3125"	Pkg. of 1
20-20634	0.3125"	Pkg. of 2

Cylinder Studs

KPMI P/N	Models	Quantity
20-2097	Fits All Evo style Sportsters	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

Recommended Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-2015	In / Ex • Style 5 Steel Clad Viton	0.420"	Pkg. of 4
20-2009	In / Ex • Style 6 Solid White PC-Styled Seal	0.415"	Pkg. of 4

Seal, #20-2009 May require use of a seal cutter

Rocker Arm Bushings

KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set

KPMI P/N	Models	Quantity
20-2096	O.E.M. Style	4 Pr.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-2099	Fits All Evos	0.5575"	Pkg. of 4

High Performance Wrist Pin Bushings

KPMI P/N	O.D.	Quantity
20-0644	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.



HD® EVO SPORTSTER™ 883cc 2004-'14

Plus 883cc to 1200cc Conversion 2004-2014



20-20670



20-20350

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20670	Intake	20-20671	Use O.E.M	20-20674	20-20673	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20680	Intake	20-20681	Use O.E.M	20-20684	20-20683	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						

Note: #20-20680 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20360	Intake	20-20361	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.850"		160#		365#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20364	Intake	20-20366	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.850"		160#		365#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20350	Intake	20-20351	Use O.E.M	20-20352	20-20353	20-20590
	Exhaust	20-20351	Use O.E.M	20-20352	20-20353 20-20417	20-20590
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20355	Intake	20-20356	Use O.E.M	20-20357	20-20358	20-20590
	Exhaust	20-20356	Use O.E.M	20-20357	20-20358 20-20417	20-20590
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

Basewasher, #20-20353 and #20-20358, are designed to work with KPMI® Intake/ Exhaust guides and OEM Intake guides. #20 20417, Basewasher is designed to work with OEM Exhaust guides.

Black Diamond™ Valves • Black Nitroreg Stems • Special Conversion Valves for 883cc to 1200cc 2004-'14

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
20-20550	Intake	43.56mm	1.715"	23°	4.580"	Conversion Valve
20-20555	Exhaust	37.59mm	1.480"	40°	4.660"	Conversion Valve

HD® EVO SPORTSTER™ 883cc 2004-'14

Plus 883cc to 1200cc Conversion 2004-2014



20-20550



20-20555



20-20690



20-20690C



20-20690M



20-2097

C630 Bronze, Cast Iron, and Manganese Valve Guides
Shouldered Guide Use O.E.M. Style or Kibblewhite® Style Seals / 7.0mm ID

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
	0.690"	0.770"	0.800"	1.280"	0.615"	0.2750"	0.5620"	20-20690	20-20690C	20-20690M
							+0.001"	20-20691	20-20691C	20-20691M
							+0.002"	20-20692	20-20692C	20-20692M
							+0.010"	20-20699	20-20699C	20-20699M
								Exhaust		
0.650"	0.770"	1.030"	1.280"	0.615"	0.2750"	0.5620"	20-20700	20-20700C	20-20700M	
							+0.001"	20-20701	20-20701C	20-20701M
							+0.002"	20-20702	20-20702C	20-20702M
							+0.010"	20-20709	20-20709C	20-20709M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Rocker Arm Bushings

KPMI P/N	Years	O.D.	Quantity
20-2106	1986-2011	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.



Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set

KPMI P/N	Models	Quantity
500-100016	2004-2014	1 Pr.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-2099	1986-2014	0.4365"	Pkg. of 4

Made from US Heat Treated Steel.

Cylinder Studs

KPMI P/N	Models	Quantity
20-2097	1986-2014	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

7.0mm Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-20601	In / Ex • Style 3 • Tophat	0.562"	Pkg. of 1
20-20604	In / Ex • Style 3 • Tophat	0.562"	Pkg. of 4
20-20612	In / Ex • Style 3 • Tophat	0.562"	Pkg. of 12
20-20640	In / Ex • Style 3 • Tophat	0.562"	Pkg. of 40
*20-20590	In / Ex • Style 5 • Steel Clad Viton	0.565"	Pkg. of 4

* Use with Kibblewhite® Spring Kits on O.E.M. or Kibblewhite® Valve Guides

High Performance Wrist Pin Bushings

KPMI P/N	O.D.	Quantity
20-0644	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.



HD[®] XL[™] 1100cc 1986-1987



20-20650



20-20122

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20650	Intake	20-20651	Use O.E.M	20-20654	20-20653	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20660	Intake	20-20661	Use O.E.M	20-20664	20-20663	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						
Note: #20-20660 - Not recommended for lifts over .630".						

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20122	Intake	20-20123	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20132	Intake	20-20124	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20060	Intake	20-20061	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20081	Intake	20-20069	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

HD[®] XL[™] 1100cc 1986-1987



20-2080



20-4249



20-4320



20-4320C

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2080	Intake	20-2081	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.550"		1.625"	150#	380#	.550"	
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2085	Intake	20-2086	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.550"		1.625"	150#	380#	.550"	

Black Diamond[™] Valves • Black Nitroreg Stems for 1100cc 1986 Model

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-4249	Intake	47.00mm	1.850"	0.3105"	23°	4.490"	Standard (OEM18023-86)
20-4250	Intake	49.28mm	1.940"	0.3105"	23°	4.440"	Oversize
20-4251	Exhaust	41.02mm	1.615"	0.3096"	40°	4.575"	Standard (OEM18024-86)

Black Diamond[™] Valves • Black Nitroreg Stems for 1100cc 1987 Model

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-2013	Intake	43.56mm	1.715"	0.3100"	23°	4.480"	Standard (OEM180823-87)
20-2014	Exhaust	37.59mm	1.480"	0.3096"	40°	4.560"	Standard (OEM18082-83)

C630 Bronze and Cast Iron Valve Guides • O.E.M. Style - .420" Top

	A	B	C	D	E	F	G	Intake / Exhaust	
								C630 Bronze	Cast Iron
	0.375"	0.375"	1.700"	2.025"	---	0.3098"	0.5620"	20-4320	20-4320C
						+0.001"	20-4321	20-4321C	
						+0.002"	20-4322	20-4322C	
						+0.003"	20-4323	20-4323C	
						+0.004"	20-4324	20-4324C	
						+0.010"	20-4329	20-4329C	



HD[®] XL[™] 1100cc 1986-1987



20-2160



20-2120



20-2120C



20-2120M

C630 Bronze Valve Guides • Shouldered Guide w/ Viton Seal Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake	Exhaust
	0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"		20-2160
							+0.001"	20-2161	
							+0.002"	20-2162	
							+0.004"	20-2164	
							+0.010"	20-2169	
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"			20-2170
							+0.001"		20-2171
							+0.002"		20-2172
							+0.004"		20-2174
							+0.010"		20-2179

C630 Bronze, Cast Iron, and Manganese Valve Guides • Shouldered Guide - .420" Top • Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"		20-2120	20-2120C	20-2120M
							+0.001"	20-2121	20-2121C	20-2121M
							+0.002"	20-2122	20-2122C	20-2122M
							+0.003"	20-2123	20-2123C	20-2123M
							+0.004"	20-2124	20-2124C	20-2124M
							+0.010"	20-2129	20-2129C	20-2129M
	A	B	C	D	E	F	G	Exhaust		
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"		20-2130	20-2130C	20-2130M
							+0.001"	20-2131	20-2131C	20-2131M
							+0.002"	20-2132	20-2132C	20-2132M
							+0.003"	20-2133	20-2133C	20-2133M
							+0.004"	20-2134	20-2134C	20-2134M
							+0.010"	20-2139	20-2139C	20-2139M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

HD[®] XL[™] 1100cc 1986-1987



NEW PRODUCTS



20-20642 20-20637 20-20620



20-20810



20-2099



20-2097

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20620	0.420"	0.3125"	Pkg. of 1
20-20620-25	0.420"	0.3125"	Pkg. of 25
20-20620-100	0.420"	0.3125"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20632	20-20620	Pkg. of 1

Installation Protectors

KPMI P/N	Stem Diameter	Quantity
20-20637	0.3125"	Pkg. of 1
20-20634	0.3125"	Pkg. of 2

High Performance Wrist Pin Bushings For SPORSTER

KPMI P/N	O.D.	Quantity
20-0644	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Remark
10-SC500	1.9690"	1.535"	0.453"	Intake
10-SC510	2.0070"	1.562"	0.450"	Intake
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

For 1986 XL 1100 and 2004-2011 XL 1200. Proprietary seat material is compatible with leaded/unleaded and methanol/ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® Valve Seats.

Rocker Arm Bushings

KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

NEW

Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set

KPMI P/N	Models	Quantity
20-2096	O.E.M. Style	4 Pr.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-2099	Fits All Evos	0.5575"	Pkg. of 4

Cylinder Studs

KPMI P/N	Models	Quantity
20-2097	1986-2014	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

Recommended Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-2015	In / Ex • Style 5 Steel Clad Viton	0.420"	Pkg. of 4
20-2009	Int / Ex • Style 6 Solid White PC-Styled Seal	0.415"	Pkg. of 4

Seal, #20-2009 May require use of a seal cutter



HD® EVO SPORTSTER™ 1200cc 1988-'03



20-20650



20-20122

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20650	Intake	20-20651	Use O.E.M	20-20654	20-20653	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20660	Intake	20-20661	Use O.E.M	20-20664	20-20663	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						

Note: #20-20660 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20122	Intake	20-20123	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20132	Intake	20-20124	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20060	Intake	20-20061	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20081	Intake	20-20069	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

HD® EVO SPORTSTER™ 1200cc 1988-'03



20-2080



20-4249



20-4320



20-4320C

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2080	Intake	20-2081	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.550"		1.625"	150#	380#	.550"	
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2085	Intake	20-2086	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.550"		1.625"	150#	380#	.550"	

Black Diamond™ Valves • Black Nitroreg Stems for 1200cc 1988-2003 Model

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
20-2013	Intake	43.56mm	1.715"	0.3100"	23°	4.480" Standard (OEM180823-87)
20-2014	Exhaust	37.59mm	1.480"	0.3096"	40°	4.560" Standard (OEM18082-83)

C630 Bronze and Cast Iron Valve Guides • O.E.M. Style - .420" Top

	A	B	C	D	E	F	G	Intake / Exhaust	
								C630 Bronze	Cast Iron
	0.375"	0.375"	1.700"	2.025"	---	0.3098"	0.5620"	20-4320	20-4320C
							+0.001"	20-4321	20-4321C
							+0.002"	20-4322	20-4322C
							+0.003"	20-4323	20-4323C
							+0.004"	20-4324	20-4324C
							+0.010"	20-4329	20-4329C

For all the applications available for Kibblewhite's Harley-Davidson® line of products, please refer online to the Harley-Davidson® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HD® EVO SPORTSTER™ 1200cc 1988-'03



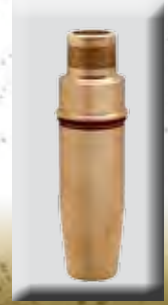
20-2160



20-2120



20-2120C



20-2120M

C630 Bronze Valve Guides • Shouldered Guide w/ Viton Seal Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake	Exhaust
	0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"		20-2160
							+0.001"	20-2161	
							+0.002"	20-2162	
							+0.004"	20-2164	
							+0.010"	20-2169	
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"			20-2170
							+0.001"		20-2171
							+0.002"		20-2172
							+0.004"		20-2174
							+0.010"		20-2179

C630 Bronze, Cast Iron, and Manganese Valve Guides • Shouldered Guide - .420" Top • Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"		20-2120	20-2120C	20-2120M
							+0.001"	20-2121	20-2121C	20-2121M
							+0.002"	20-2122	20-2122C	20-2122M
							+0.003"	20-2123	20-2123C	20-2123M
							+0.004"	20-2124	20-2124C	20-2124M
							+0.010"	20-2129	20-2129C	20-2129M
	A	B	C	D	E	F	G	Exhaust		
0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"		20-2130	20-2130C	20-2130M
							+0.001"	20-2131	20-2131C	20-2131M
							+0.002"	20-2132	20-2132C	20-2132M
							+0.003"	20-2133	20-2133C	20-2133M
							+0.004"	20-2134	20-2134C	20-2134M
							+0.010"	20-2139	20-2139C	20-2139M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

HD® EVO SPORTSTER™ 1200cc 1988-'03



20-20642 20-20637 20-20620



20-20810



20-2099



20-2097

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20620	0.420"	0.3125"	Pkg. of 1
20-20620-25	0.420"	0.3125"	Pkg. of 25
20-20620-100	0.420"	0.3125"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20632	20-20620	Pkg. of 1

Installation Protectors

KPMI P/N	Stem Diameter	Quantity
20-20637	0.3125"	Pkg. of 1
20-20634	0.3125"	Pkg. of 2

High Performance Wrist Pin Bushings For Sportster

KPMI P/N	O.D.	Quantity
20-0644	Standard	Pkg. of 1

Kibblewhite® has developed what we believe to be the highest quality wrist pin bushings available. Our wrist pin bushings are machined from a Solid Nickel Bronze alloy, with an exceptional Rockwell hardness rating. These bushings are a must for high performance applications.

Recommended Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-2015	In / Ex • Style 5 Steel Clad Viton	0.420"	Pkg. of 4
20-2009	Int / Ex • Style 6 Solid White PC-Styled Seal	0.415"	Pkg. of 4

Seal, #20-2009 May require use of a seal cutter

Rocker Arm Bushings

KPMI P/N	Models	O.D	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.



Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set

KPMI P/N	Models	Quantity
20-2096	O.E.M. Style	4 Pr.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-2099	Fits All Evos	0.5575"	Pkg. of 4

Cylinder Studs

KPMI P/N	Models	Quantity
20-2097	1986-2014	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.



HD® EVO SPORTSTER™ 1200cc 2004-'14



20-20670



20-20350

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20670	Intake	20-20671	Use O.E.M	20-20674	20-20673	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						.600"
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20680	Intake	20-20681	Use O.E.M	20-20684	20-20683	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						.630"

Note: #20-20680 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20360	Intake	20-20361	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.850"		160#		365#
@ Lift						.600"
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20364	Intake	20-20366	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.850"		160#		365#
@ Lift						.600"
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20350	Intake	20-20351	Use O.E.M	20-20352	20-20353	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						.655"
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20355	Intake	20-20356	Use O.E.M	20-20357	20-20358	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						.655"

Basewasher, #20-20353 and #20-20358, are designed to work with KPMI® Intake/ Exhaust guides and OEM Intake guides. #20 20417, Basewasher is designed to work with OEM Exhaust guides.

Black Diamond™ Valves • Black Nitroreg Stems • Special Conversion Valves for 883cc to 1200cc 2004-'14

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
20-20260	Intake	45.85mm	1.805"	0.2760"	28°	4.525"	Standard
20-20262	Intake	48.26mm	1.900"	0.2760"	28°	4.500"	Oversize
20-20265	Exhaust	40.00mm	1.575"	0.2755"	34°	4.610"	Standard
20-20266	Exhaust	41.02mm	1.615"	0.2755"	34°	4.590"	Oversize

HD® EVO SPORTSTER™ 1200cc 2004-'14



NEW PRODUCTS



20-20690



20-20690C



20-20690M

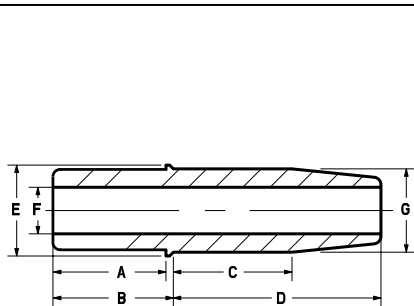


20-2097



20-20810

C630 Bronze, Cast Iron, and Manganese Valve Guides
Shouldered Guide Use O.E.M. Style or Kibblewhite® Style Seals / 7.0mm ID



A	B	C	D	E	F	G	Intake		
							C630 Bronze	Cast Iron	*Manganese
0.690"	0.770"	0.800"	1.280"	0.615"	0.2750"	0.5620"	20-20690	20-20690C	20-20690M
						+0.001"	20-20691	20-20691C	20-20691M
						+0.002"	20-20692	20-20692C	20-20692M
						+0.010"	20-20699	20-20699C	20-20699M
A	B	C	D	E	F	G	Exhaust		
0.650"	0.770"	1.030"	1.280"	0.615"	0.2750"	0.5620"	20-20700	20-20700C	20-20700M
						+0.001"	20-20701	20-20701C	20-20701M
						+0.002"	20-20702	20-20702C	20-20702M
						+0.010"	20-20709	20-20709C	20-20709M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Rocker Arm Bushings

KPMI P/N	Years	O.D	Quantity
20-2106	1986-2011	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.



Engine Builder Series Wrist Pin Bushings

KPMI P/N	Size	Quantity
20-20810	Std. O.D.	Pkg. of 1
20-20812	+0.002" OD	Pkg. of 1

Made from SAE660 bearing bronze to exact tolerances, these bushings will meet or exceed fitment and wear ability of all other replacement style bushings available.

Replacement Keeper Set

KPMI P/N	Models	Quantity
500-100016	2004-2014	1 Pr.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-2099	1986-2014	0.4365"	Pkg. of 4

Made from US Heat Treated Steel.

Cylinder Studs

KPMI P/N	Models	Quantity
20-2097	1986-2014	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

7.0mm Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-20601	In / Ex • Style 3 Tophat	0.562"	Pkg. of 1
20-20604	In / Ex • Style 3 Tophat	0.562"	Pkg. of 4
20-20612	In / Ex • Style 3 Tophat	0.562"	Pkg. of 12
20-20640	In / Ex • Style 3 Tophat	0.562"	Pkg. of 40
*20-20590	In / Ex • Style 5 Steel Clad Viton	0.565"	Pkg. of 4

* Use with Kibblewhite® Spring Kits on O.E.M. or Kibblewhite® Valve Guides



HD® TWIN CAM™ 88" 1999-2004

For All 5/16" Stem Valves



20-20650



20-20122

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20650	Intake	20-20651	Use O.E.M	20-20654	20-20653	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20660	Intake	20-20661	Use O.E.M	20-20664	20-20663	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.630"		1.860"		175#		365#
@ Lift						
Note: #20-20660 - Not recommended for lifts over .630".						

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20122	Intake	20-20123	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20132	Intake	20-20124	20-20126	20-20127	20-20128	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.810"		175#		380#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20060	Intake	20-20061	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20081	Intake	20-20069	20-20062	20-20063	20-20064	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

HD® TWIN CAM™ 88" 1999-2004

For All 5/16" Stem Valves



20-2080



20-4249



20-4320



20-4320C

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2080	Intake	20-2081	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Shims
20-2085	Intake	20-2086	20-2091	20-2090	20-2094	20-2088
	Exhaust					20-2089
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.550"		1.625"		150#		380#
@ Lift						

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-2055	Intake	46.74mm	1.840"	0.3100"	23°	4.445"	Standard (OEM18074-83A)
20-2056	Intake	48.26mm	1.900"	0.3100"	28°	4.420"	Oversize
20-20108	Intake	50.80mm	2.000"	0.3100"	23°	4.445"	Oversize
20-20057	Exhaust	41.02mm	1.615"	0.3100"	17°	4.505"	Standard (OEM18085-991)

See Evo 1984-'99 for Special Application Racing Valves that may be fit into these heads..

White Diamond® Valves • Hard Chrome Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-20419	Intake	48.75mm	1.900"	0.3100"	28°	4.445"	Oversize

C630 Bronze and Cast Iron Valve Guides • O.E.M. Style - .420" Top

	A	B	C	D	E	F	G	Intake / Exhaust	
								C630 Bronze	Cast Iron
	0.375"	0.375"	1.700"	2.025"	---	0.3098"	0.5620"	20-4320	20-4320C
						+0.001"	20-4321	20-4321C	
						+0.002"	20-4322	20-4322C	
						+0.003"	20-4323	20-4323C	
						+0.004"	20-4324	20-4324C	
						+0.010"	20-4329	20-4329C	



HD® TWIN CAM™ 88" 1999-2004

For All 5/16" Stem Valves



20-2160



20-2120



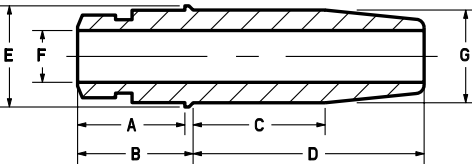
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20-2120M

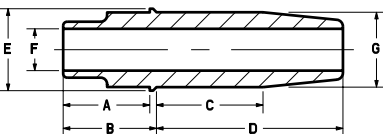
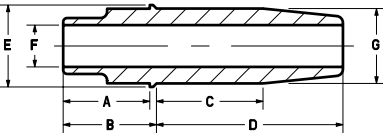
C630 Bronze Valve Guides • Shouldered Guide w/ Viton Seal Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake	Exhaust
		0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	20-2160
							+0.001"	20-2161	
							+0.002"	20-2162	
							+0.004"	20-2164	
							+0.010"	20-2169	
	0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"		20-2170
							+0.001"		20-2171
							+0.002"		20-2172
							+0.004"		20-2174
							+0.010"		20-2179



C630 Bronze, Cast Iron, and Manganese Valve Guides • Shouldered Guide - .420" Top • Shortened for .600" Lift

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
	0.650"	0.700"	0.800"	1.400"	0.615"	0.3098"	0.5620"	20-2120	20-2120C	20-2120M
							+0.001"	20-2121	20-2121C	20-2121M
							+0.002"	20-2122	20-2122C	20-2122M
							+0.003"	20-2123	20-2123C	20-2123M
							+0.004"	20-2124	20-2124C	20-2124M
							+0.010"	20-2129	20-2129C	20-2129M
	A	B	C	D	E	F	G	Exhaust		
	0.650"	0.700"	1.150"	1.450"	0.615"	0.3098"	0.5620"	20-2130	20-2130C	20-2130M
							+0.001"	20-2131	20-2131C	20-2131M
							+0.002"	20-2132	20-2132C	20-2132M
							+0.003"	20-2133	20-2133C	20-2133M
							+0.004"	20-2134	20-2134C	20-2134M
							+0.010"	20-2139	20-2139C	20-2139M



* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

HD® TWIN CAM™ 88" 1999-2004

For All 5/16" Stem Valves



20-20642 20-20637 20-20620



20-2096



20-20413



20-2097

O.E.M. Replacement Seals

KPMI P/N	Guide Ø	Stem Ø	Quantity
20-20620	0.420"	0.3125"	Pkg. of 1
20-20620-25	0.420"	0.3125"	Pkg. of 25
20-20620-100	0.420"	0.3125"	Pkg. of 100

Seal Installation Tools

KPMI P/N	Fits	Quantity
20-20632	20-20620	Pkg. of 1

Installation Protectors

KPMI P/N	Stem Diameter	Quantity
20-20637	0.3125"	Pkg. of 1
20-20634	0.3125"	Pkg. of 2

Replacement Keeper Set

KPMI P/N	Models	Quantity
20-2096	O.E.M. Style	4 Pr.

Recommended Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-2015	In / Ex • Style 5 Steel Clad Viton	0.420"	Pkg. of 4
20-2009	Int / Ex • Style 6 Solid White PC-Styled Seal	0.415"	Pkg. of 4

Seal, #20-2009 May require use of a seal cutter

Rocker Arm Bushings

KPMI P/N	Models	O.D.	Quantity
20-2106	All	0.6795"	Pkg. of 8

Made from US Mill Certified SAE 660 Bearing Bronze Bar Stock.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-20413	All Twin Cams	0.4365"	Pkg. of 4

Cylinder Studs

KPMI P/N	Models	Quantity
20-20412	All Twin Cams	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Remark
10-SC500	1.9690"	1.535"	0.453"	Intake
10-SC510	2.0070"	1.562"	0.450"	Intake
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See **page 212** for a complete listing of Kibblewhite® valve seats.

For all the applications available for Kibblewhite's Harley-Davidson® line of products, please refer online to the Harley-Davidson® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HD® TWIN CAM™ 88"-103" 2005-2014

For All 7.0mm Stem Valves



20-20670



20-20350

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20670	Intake	20-20671	Use O.E.M	20-20674	20-20673	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20680	Intake	20-20681	Use O.E.M	20-20684	20-20683	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						

Note: #20-20680 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20360	Intake	20-20361	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		160#		365#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20364	Intake	20-20366	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		160#		365#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20350	Intake	20-20351	Use O.E.M	20-20352	20-20353	
	Exhaust	20-20351	Use O.E.M	20-20352	20-20353	20-20417
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20355	Intake	20-20356	Use O.E.M	20-20357	20-20358	
	Exhaust	20-20356	Use O.E.M	20-20357	20-20358	20-20417
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

Basewasher, #20-20353 and #20-20358, are designed to work with KPMI® Intake/ Exhaust guides and OEM Intake guides. #20 20417, Basewasher is designed to work with OEM Exhaust guides.

HD® TWIN CAM™ 88"-103" 2005-2014

For All 7.0mm Stem Valves



20-20355



20-20690



20-20690C



20-20690M



20-20772

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-20322	Intake	45.85mm	1.805"	0.2760"	1.700"R	4.420"	Standard (OEM18074-05)
20-20323R	Intake	48.26mm	1.900"	0.2760"	28°	4.420"	Oversize
20-20325	Exhaust	40.00mm	1.575"	0.2755"	22°	4.520"	Standard (OEM18085-991)
20-20326R	Exhaust	41.40mm	1.630"	0.2755"	34°	4.520"	Oversize



Black Diamond™ Valves • Black Nitroreg Stems • "Fat Stems"

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-20772	Intake	45.85mm	1.805"	0.2810"	1.700"R	4.415"	Standard
20-20776	Exhaust	40.00mm	1.575"	0.2805"	23°	4.510"	Standard

KPMI® reamer, GR-2820 to be used to clean up the clearance the OEM guides.

C630 Bronze, Cast Iron, and Manganese Valve Guides Shouldered Guide Use O.E.M. Style or Kibblewhite® Style Seals / 7.0mm ID

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
	0.690"	0.770"	0.800"	1.280"	0.615"	0.2750"	0.5620"	20-20690	20-20690C	20-20690M
							+0.001"	20-20691	20-20691C	20-20691M
							+0.002"	20-20692	20-20692C	20-20692M
							+0.010"	20-20699	20-20699C	20-20699M
								Exhaust		
0.650"	0.770"	1.030"	1.280"	0.615"	0.2750"	0.5620"	20-20700	20-20700C	20-20700M	
							+0.001"	20-20701	20-20701C	20-20701M
							+0.002"	20-20702	20-20702C	20-20702M
							+0.010"	20-20709	20-20709C	20-20709M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.



HD® TWIN CAM™ 88"-103" 2005-2014

For All 7.0mm Stem Valves



20-20780



20-20601



20-20412



Engine Builder Series Wrist Pin Bushings

KPMI P/N	Nominal Size	Quantity
20-20780	1.0190"	1 Pairs
20-20790	1.0190"	Pkg. of 1

Note: Wrist Pins do not include oil hole(s). These must be drilled after installation.

Cylinder Studs

KPMI P/N	Models	Quantity
20-20412	All Twin Cams	Pkg. of 8

Machined from U.S. milled fine grain, heat treated aircraft quality steel. 180,000 psi yield strength. Threads rolled after heat treatment for maximum strength and fatigue life. Centerless ground OD to insure concentricity. Case end threaded for interference fit to maintain good thread engagement at high temps. Black Oxide finish to resist corrosion and to give excellent appearance.

Cylinder Dowels

KPMI P/N	Models	O.D.	Quantity
20-20413	All Twin Cams	0.4365"	Pkg. of 4

Made from US Heat Treated Steel.

O.E.M. Replacement Keeper Set for All 7mm HD Models

KPMI P/N	Models	Quantity
500-100016	2004-2014	1 Pr.

7.0mm Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-20601	In / Ex • Style 3 Tophat	0.562"	Pkg. of 1
*20-20590	In / Ex • Style 5 Steel Clad Viton	0.565"	Pkg. of 4

* Use with Kibblewhite® Spring Kits on O.E.M. or Kibblewhite® Valve Guides. Large quantities available.

Recommended Valve Seats (Powdered Metal)

KPMI P/N	OD ±.0002	ID ±.0005	HT ±.0005	Remark
10-SC500	1.9690"	1.535"	0.453"	Intake
10-SC510	2.0070"	1.562"	0.450"	Intake
10-SC541	2.1320"	1.690"	0.450"	Intake
10-SC446	1.7570"	1.375"	0.450"	Exhaust

Kibblewhite's proprietary seat material is compatible with leaded and unleaded fuels including methanol and ethanol fuel blends. This material offers excellent thermal characteristics and resists microwelding that leads to seat and valve face recession. Leading edge has generous radius to ease installation. See page 212 for a complete listing of Kibblewhite® valve seats.

Ovate Wire Beehive Spring Kits for Harley Davidson®



20-20670

By taking advantage of the latest development in valve spring wire chemistry and manufacturing techniques, Kibblewhite® has developed their ovate wire "Beehive" style springs that will live and perform at the highest levels in your Harley Davidson application. By coupling these developments with strict Kibblewhite® design protocols and employing multiple design, simulation, and FEA analysis software, we were able to overcome the torsional stresses unique to ovate wire springs that previously severely limited their operating parameters. This is critical, as there are nearly 100 camshaft part numbers available for these applications.

Kibblewhite® Beehive Springs are progressively wound using Kobe Super-Clean chrome silicon based wire that is heat treated and shot peened. Kibblewhite® uses our tightly tolerated, F.E.A. designed hardened steel Posi-Loc™ style retainers in these applications to insure correct assembly height and resist keeper "pull through". Hardened steel bases locate the spring and control lateral movement. Designed as a system, these kits offer optimum performance and durability.

HD® V-ROD™ 2005



20-20140



20-20147



20-2014



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
20-20140	Intake	20-20141	Use O.E.M	20-20145	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.500"		1.360"		230#		.500"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-20147	Intake	40.00mm	1.575"	0.2350"	10°	4.580"	Standard
20-20152	Exhaust	34.54mm	1.360"	0.2345"	25°	4.620"	Standard

C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
	0.720"	0.745"	1.050"	1.180"	0.440"	0.2340"	0.3957"		20-20330	
								+0.001"	20-20331	
								+0.010"	20-20339	
	0.720"	0.745"	1.170"	1.300"	0.440"	0.2340"	0.3957"		20-20340	
								+0.001"	20-20341	
								+0.010"	20-20349	

Use O.E.M valve guide seals.

O.E.M. Replacement Tappets and Oversizes		
KPMI P/N	Models	Quantity
20-20157	Fits All Years	Pkg. of 8

Refer to KPMI® Tappet Section (Pg. 183), in back of catalog, when selecting oversize tappets.



HD® BUELL® XB9™ 2003-2007



20-20670



20-20350

"Performance Rebuild" Ovate Wire Beehive Valve Spring Kits

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20670	Intake	20-20671	Use O.E.M	20-20674	20-20673	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20680	Intake	20-20681	Use O.E.M	20-20684	20-20683	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		175#		355#
@ Lift						

Note: #20-20680 - Not recommended for lifts over .630".

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20360	Intake	20-20361	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		160#		365#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20364	Intake	20-20366	Use O.E.M	20-20362	20-20363	20-20590
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.600"		1.860"		160#		365#
@ Lift						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20350	Intake	20-20351	Use O.E.M	20-20352	20-20353	
	Exhaust	20-20351	Use O.E.M	20-20352	20-20353	20-20417
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						
KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Steel Clad Viton Seals
20-20355	Intake	20-20356	Use O.E.M	20-20357	20-20358	
	Exhaust	20-20356	Use O.E.M	20-20357	20-20358	20-20417
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.655"		1.860"		185#		450#
@ Lift						

Basewasher, #20-20353 and #20-20358, are designed to work with KPMI® Intake/ Exhaust guides and OEM Intake guides. #20 20417, Basewasher is designed to work with OEM Exhaust guides.

HD® BUELL® XB9™ 2003-2007



20-20355



20-20260



20-20265



20-20690



20-20690C



20-20690M

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-20260	Intake	45.85mm	1.805"	0.2760"	28°	4.525"	Standard
20-20262	Intake	48.26mm	1.900"	0.2760"	28°	4.500"	Oversize
20-20265	Exhaust	40.00mm	1.575"	0.2755"	34°	4.610"	Standard
20-20266	Exhaust	41.02mm	1.615"	0.2755"	34°	4.590"	Oversize

C630 Bronze, Cast Iron, and Manganese Valve Guides Shouldered Guide Use O.E.M. Style or Kibblewhite® Style Seals / 7.0mm ID

	A	B	C	D	E	F	G	Intake		
								C630 Bronze	Cast Iron	*Manganese
	0.690"	0.770"	0.800"	1.280"	0.615"	0.2750"	0.5620"	20-20690	20-20690C	20-20690M
							+0.001"	20-20691	20-20691C	20-20691M
							+0.002"	20-20692	20-20692C	20-20692M
							+0.010"	20-20699	20-20699C	20-20699M
								Exhaust		
0.650"	0.770"	1.030"	1.280"	0.615"	0.2750"	0.5620"	20-20700	20-20700C	20-20700M	
							+0.001"	20-20701	20-20701C	20-20701M
							+0.002"	20-20702	20-20702C	20-20702M
							+0.010"	20-20709	20-20709C	20-20709M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

7.0mm Valve Guide Seals

KPMI P/N	Type of Seal	Guide Top Dia.	Quantity
20-20601	O.E.M. • In / Ex • Style 3 • Tophat	0.565"	Pkg. of 1
20-20590	In / Ex • Style 5 • Steel Clad Viton	0.565"	Pkg. of 4

Seal, 20-20590, uses with Kibblewhite® Spring Kits on O.E.M. or Kibblewhite® Guides.



HONDA® CRF™ / XR™ 75-100 1985-2013



Honda XR 100R Model



30-30235



30-30238

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
30-30235	Intake	30-30236	Use O.E.M	30-30237	Use O.E.M	30-30246
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.360"		1.160"		48#		120#
						@ Lift
						.300"

Black Diamond™ Valves • Black Nitroeneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
30-30238	Intake	24.00mm	0.945"	0.2145"	20°	3.115"	Standard
30-30239	Intake	26.00mm	1.024"	0.2145"	20°	3.115"	Oversize
30-30241	Exhaust	20.50mm	0.807"	0.2140"	20°	3.100"	Standard
30-30242	Exhaust	22.00mm	0.866"	0.2140"	20°	3.100"	Oversize

Replacement Spring Only Kit For Only XR 75-80 1985-'13

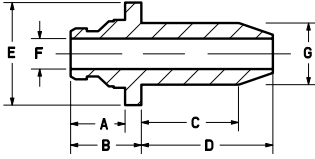
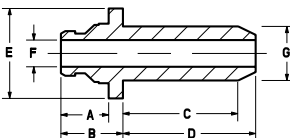
KPMI P/N	Description	Recommended Retainers
30-4062	.400" Valve Lift OK	Use O.E.M.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	In / Ex • Style 4 • Viton	Pkg. of 1

HONDA® XR™ 50 2000-2003

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.245"	0.335"	0.695"	0.865"	0.645"	0.1960"	0.3963"	30-30510
							+0.002"	30-30512	
							+0.010"	30-30519	
	0.245"	0.335"	0.790"	0.865"	0.645"	0.1960"	0.3963"		30-30520
							+0.002"		30-30522
							+0.010"		30-30529

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CRF™ 150R 2007-2014



30-30880



30-30910



30-30890



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30880	Intake	30-30881	Use O.E.M	30-30882	30-30883	---
	Exhaust	30-30885	Use O.E.M	30-30886	30-30887	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.350"	1.315"	45#	143#	.350"	
Exhaust	.350"	1.315"	45#	143#	.350"	

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30910	Intake	26.00mm	1.024"	0.1765"	19°	3.065"	Standard
30-30911	Intake	27.00mm	1.063"	0.1765"	19°	3.065"	Oversize
30-30913	Exhaust	22.50mm	0.886"	0.1760"	19°	3.145"	Standard
30-30914	Exhaust	23.50mm	0.925"	0.1760"	19°	3.145"	Oversize

C630 Bronze Valve Guides									
	A	B	C	D	E	F	G	Intake	Exhaust
	---	0.550"	0.570"	0.710"	0.350"	0.1760	0.3566"	30-30890	
							+0.001"	30-30891	
							+0.002"	30-30892	
							+0.010"	30-30899	
	---	0.790"	0.600"	0.710"	0.350"	0.1760	0.3566"		30-30900
							+0.001"		30-30901
							+0.002"		30-30902
							+0.010"		30-30909

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® CB™ 160 1965-1969



CB160 and 175 have become the rage in vintage Road Racing. Here, Jennifer Bromme of WerkStatt Motorcycles in San Francisco, takes a lap on her KPMI® equipped CB160 Café Racer



30-30800



30-30830



30-30810

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
30-30800	Intake	30-30801	*30-30802	30-30803	30-30804	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.354"		1.170"		47#		123#	.354"

*Designed for use with Kibblewhite® valves only. 30-30802 keepers which are supplied with this kit are designed to work with Kibblewhite® valves utilizing a radius groove keeper design.

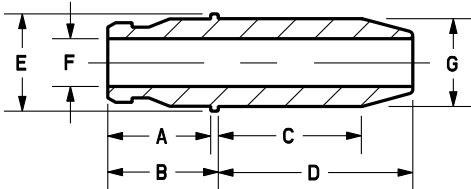
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30830	Intake	25.00mm	0.984"	0.2157"	21°	2.980"	Standard
30-30831	Intake	26.00mm	1.024"	0.2157"	21°	2.980"	Oversize
30-30833	Exhaust	22.00mm	0.866"	0.2152"	15°	2.975"	Standard
30-30834	Exhaust	23.00mm	0.906"	0.2152"	15°	2.975"	Oversize

Not recommended for O.E.M. replacement. These valves have been designed to work with Kibblewhite® Radius Groove Keepers #30-30802, which are supplied with Kibblewhite® Spring Kit #30-30800.

C630 Bronze Valve Guides

A	B	C	D	E	F	G	Intake	Exhaust
							30-30810	
						+0.001"	30-30811	
						+0.002"	30-30812	
						+0.010"	30-30819	
0.415"	0.450"	0.790"	1.040"	0.440"	0.2150"	0.3975"		30-30820
						+0.001"		30-30821
						+0.002"		30-30822
						+0.010"		30-30829



Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CB™ 175 1970-1975



30-30840



30-30870



30-30860



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30840	Intake	30-30841	30-30842	30-30843	30-30844	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.354"		1.170"		123#		.354"

Designed for use with Kibblewhite® valves only. #30-30842 Keepers which are supplied with this kit are designed to work with Kibblewhite® valves utilizing a radius groove keeper design.

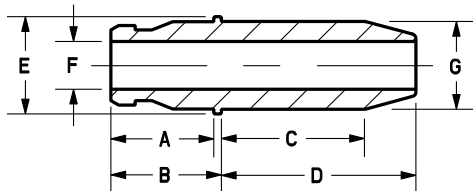
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30870	Intake	28.00mm	1.102"	0.2158"	21°	2.920"	Standard
30-30871	Intake	29.00mm	1.141"	0.2158"	21°	2.920"	Oversize
30-30873	Exhaust	24.00mm	0.945"	0.2152"	21°	2.895"	Standard
30-30874	Exhaust	25.00mm	0.984"	0.2152"	21°	2.895"	Oversize

Not recommended for O.E.M. replacement. These valves have been designed to work with Kibblewhite® Radius Groove Keepers #30-30842, which are supplied with Kibblewhite® Spring Kit #30-30840.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.415"	0.450"	0.650"	0.880"	0.440"	0.2150"	0.3975"	30-30850
							+0.001"	30-30851	
							+0.002"	30-30852	
							+0.010"	30-30859	
	0.415"	0.450"	0.790"	1.040"	0.440"	0.2150"	0.3975"		30-30860
							+0.001"		30-30861
							+0.002"		30-30862
							+0.010"		30-30869



Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® ATC™ 185 / 200 1980-1986

(Excluding ATC™ 200X • 1986)



30-4021



30-30120



30-4069

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
30-4021	Intake	30-4027	Use O.E.M	30-4025	30-4022	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.450"		1.340"		66#		202#		.450"	

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims			
30-4016	Intake	Use O.E.M	---	---	---	30-4017			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.450"		1.380"		55#		195#		.450"	

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30120	Intake	30.00mm	0.181"	0.2145"	21°	2.920"	Standard
30-30121	Intake	31.00mm	1.220"	0.2145"	21°	2.920"	Oversize
30-30122	Exhaust	25.00mm	0.984"	0.2140"	15°	2.895"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.550"	0.650"	0.890"	1.050"	0.685"	0.2155"	0.4372"	30-4069		
								+0.004"	30-4159	
								+0.015"	30-4160	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® XL™ 200R / XR™ 200 / XR™ 200R 1980-'02

(Excluding XR™ 200R • 1984-1985 RFVC)



30-4021



30-30120



30-4069



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-4021	Intake	30-4027	Use O.E.M	30-4025	30-4022	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.340"	65#	202#	.450"	

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
30-4016	Intake	Use O.E.M	---	---	---	30-4017
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.380"	55#	195#	.450"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30120	Intake	30.00mm	0.181"	0.2145"	21°	2.920"	Standard
30-30121	Intake	31.00mm	1.220"	0.2145"	21°	2.920"	Oversize
30-30122	Exhaust	25.00mm	0.984"	0.2140"	15°	2.895"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.550"	0.650"	0.890"	1.050"	0.685"	0.2155"	0.4372"	30-4069		
								+0.004"	30-4159	
								+0.015"	30-4160	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® XR™ 200R 1984-1985 RFVC



30-30077



30-3100

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
30-30077	Intake	30-30079	Use O.E.M	30-30078	30-30080	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.355"		1.200"		55#		150#		.355"	

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.400"	0.495"	1.185"	1.300"	0.650"	0.2155"	0.4355"		30-3100
								+0.002"	30-3102
								+0.010 "	30-3110

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CRF™ 250R 2004-'07 / 200X 2004-'13

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals					
30-30590	Intake	30-30591	Use O.E.M	30-30592	30-30593	30-30594					
	Exhaust	30-30598	Use O.E.M	30-30599	30-30600	30-30601					
Type		Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
Intake		.350"		1.315"		50#		145#		.350"	
Exhaust		.350"		1.315"		50#		145#		.350"	

High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals					
30-31300	Intake	30-31301	Use O.E.M	30-31303	30-31305	30-31307					
	Exhaust	30-31302	Use O.E.M	30-31304	30-31306	30-31308					
Type		Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
Intake		.380"		1.180"		50#		162#		.385"	
Exhaust		.380"		1.180"		50#		162#		.385"	

HONDA® CRF™ 250R 2004-'07 / 200X 2004-'13



30-30590



30-31200



Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Remarks
30-31200	Intake	30-30630	30-30591	Use O.E.M	30-30592	30-30593	30-30594	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.380"	1.180"	50#	162#				

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-30630	Intake	31.00mm	1.220"	0.1961"	20°	Standard
30-30631	Intake	32.00mm	1.260"	0.1961"	20°	Oversize
30-30633	Exhaust	26.00mm	1.024"	0.1956"	20°	Standard
30-30634	Exhaust	27.00mm	1.063"	0.1956"	20°	Oversize

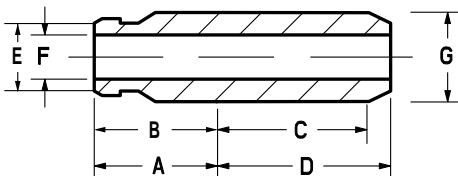


O.E.M. Replacement Valves for Honda 2004-'07 CRF250R & 2004-'13 CRF250X

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-30630T	Intake	31.00mm	1.220"	0.1961"	20°	Titanium
30-30633	Exhaust	26.00mm	1.024"	0.1956"	20°	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.540"	0.540"	0.710"	0.770"	0.394"	1.960"	0.3965"	30-30610	
						+0.001"	30-30611	
						+0.002"	30-30612	
						+0.010"	30-30619	
0.740"	0.740"	0.675"	0.775"	0.394"	1.955"	0.3965"		30-30620
						+0.001"		30-30621
						+0.002"		30-30622
						+0.004"		30-30624
						+0.010"		30-30629

Valve Guide Seals

KPMI P/N	Seal type	Quantity
30-30594	Intake • Style 4 • Viton	Pkg. of 2
30-30601	Exhaust • Style 4 • Viton	Pkg. of 2



HONDA® CRF™ 250R 2008-2009



30-31150



30-31200

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
30-31150	Intake	30-31151	Use O.E.M	30-31153	30-31155	30-31190
	Exhaust	30-31152	Use O.E.M	30-31154	30-31156	30-31191
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.350"	1.315"	50#	145#	.350"	
Exhaust	.350"	1.315"	50#	145#	.350"	

High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
30-31310	Intake	30-31311	Use O.E.M	30-31313	30-31315	30-31317
	Exhaust	30-31312	Use O.E.M	30-31314	30-31316	30-31318
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.385"	1.180"	50#	154#	.385"	
Exhaust	.385"	1.180"	50#	154#	.385"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31200	Intake	30-30630	30-30591	Use O.E.M	30-30592	30-30593	30-30594	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.385"	1.180"	50#	162#	.385"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31162	Intake	31.00mm	1.220"	0.1961"	20°	Standard
30-31163	Intake	32.00mm	1.260"	0.1961"	20°	Oversize
30-31166	Exhaust	26.00mm	1.024"	0.1760"	20°	Standard
30-31167	Exhaust	27.00mm	1.063"	0.1760"	20°	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CRF™ 250R 2008-2009



30-31162T



30-31166



30-31170



O.E.M. Replacement Valves for 2008-'09 Honda CRF250R

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-31162T	Intake	31.00mm	1.220"	0.1961"	20°	3.280"	Titanium
30-31166	Exhaust	26.00mm	1.024"	0.1760"	20°	3.235"	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.540"	0.540"	0.710"	0.770"	0.394"	0.0196"	0.3965"		30-31170
							+0.001"	30-31171	
							+0.002"	30-31172	
							+0.010"	30-31179	
0.740"	0.740"	0.675"	0.850"	0.394"	0.0176"	0.3965"			30-31180
							+0.001"		30-31181
							+0.002"		30-31182
							+0.010"		30-31189

HONDA® CRF™ 250R 2010-2015

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
30-31450	Intake	30-31451	Use O.E.M	30-31453	30-31455	30-31457
	Exhaust	30-31452	Use O.E.M	30-31454	30-31456	30-31458
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.385"	1.180"	50#	154#	.363"	
Exhaust	.385"	1.180"	50#	154#	.363"	



HONDA® CRF™ 250R 2010-2015

NEW PRODUCTS



30-31450



30-31462



30-31470



30-31480

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31500	Intake	30-31462	30-31451	Use O.E.M	30-31453	30-31455	30-31457	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.385"	1.180"	50#	154#	.363"			

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31462	Intake	30.50mm	1.201"	0.1961"	3.504"	Standard
30-31463	Intake	31.50mm	1.240"	0.1961"	3.504"	Oversize
30-31466	Exhaust	25.00mm	0.984"	0.1760"	3.310"	Standard
30-31467	Exhaust	26.00mm	1.024"	0.1760"	3.235"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



O.E.M. Replacement Valves for 2010-'15 Honda CRF250R

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31462T	Intake	30.50mm	1.201"	0.1961"	3.504"	Titanium
30-31466	Exhaust	25.00mm	0.984"	0.1760"	3.310"	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.610"	0.610"	0.745"	0.965"	0.394	0.1960"	0.3965		30-31470
							+0.001"	30-31471	
							+0.002"	30-31472	
							+0.010"	30-31479	
	0.820"	0.820"	0.650"	0.770"	0.394	0.1760"	0.3965		30-31480
							+0.001"		30-31481
							+0.002"		30-31482
							+0.010"		30-31489

Valve Guide Seals

KPMI P/N	Seal type	Quantity
30-31457	Intake • Style 4 • Viton	Pkg. of 2
30-31458	Exhaust • Style 4 • Viton	Pkg. of 2

HONDA® TRX™ 250X 1987-1992



30-3041



30-30088



30-3030



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
30-3041	Intake	30-3043	Use O.E.M	30-3042	---	30-3044
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.400"		1.210"		65#		180#
						@ Lift
						.400"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30088	Intake	25.50mm	1.004"	0.2155"	23°	3.680"	Standard
30-30089	Intake	26.50mm	1.043"	0.2155"	23°	3.660"	Oversize
30-30090	Exhaust	22.50mm	0.886"	0.2150"	29°	3.655"	Standard

C630 Bronze Valve Guides										
		A	B	C	D	E	F	G	Intake	Exhaust
		0.400"	0.490"	1.185"	1.300"	0.800"	0.2155"	0.4365"		30-3030
								+0.002"	30-3032	
								+0.010"	30-3040	

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

For all the applications available for Kibblewhite's Honda® line of products, please refer online to the Honda® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HONDA® XR™ / XL™ 250R RFVC 1984-'95



30-30077



30-30081



30-3100

Lightweight Racing Valve Spring Kit

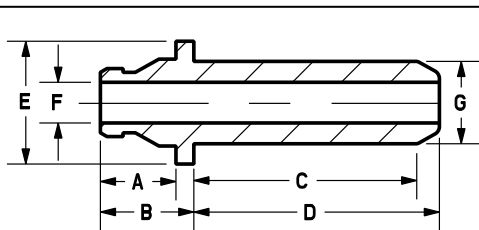
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks		
30-30077	Intake	30-30079	Use O.E.M	30-30078	30-30080	---		
	Exhaust							
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift
.355"		1.200"		55#		150#		.355"

Black Diamond™ Valves • Black Nitroeneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30081	Intake	28.50mm	1.122"	0.2160"	23°	3.805"	Standard
30-30082	Intake	29.50mm	1.161"	0.2160"	23°	3.805"	Oversize
*30-30083	Exhaust	23.50mm	0.925"	0.2155"	29°	3.775"	Standard

* Note # 30-30083 - Recommended for XR250R 1986-1995 Model only

C630 Bronze Valve Guides

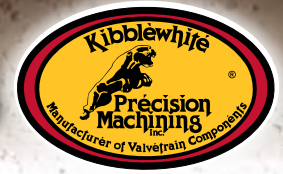


A	B	C	D	E	F	G	Intake	Exhaust	
0.400"	0.495"	1.185"	1.300"	0.650"	0.2155"	0.4355"	30-3100		
							+0.002"	30-3102	
							+0.010"	30-3110	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® XR™ 250R RFVC 1984-2004



30-30070



30-4154



30-30073



30-30060

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30070	Intake	30-30072	Use O.E.M	30-30071	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.465"		1.200"	55#	150#	.355"	

High Performance Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-4154	Intake	Use O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.460"		1.205"	55#	180#	.465"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30073	Intake	28.50mm	1.122"	0.1960"	23°	3.805"	Standard
30-30074	Intake	29.50mm	1.161"	0.1960"	23°	3.805"	Oversize
30-30075	Exhaust	23.50mm	0.925"	0.1955"	29°	3.765"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.565"	0.680"	0.900"	1.120"	0.670"	0.1955"	0.4363"	30-30060	
							+0.001"	30-30061	
							+0.002"	30-30062	
							+0.010"	30-30069	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® 350 RFVC 1983-1985



30-4083



30-3100



700-100016

High Performance Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
30-4083	Intake	Use O.E.M	---	---	---	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.460"		1.390"		65#		204#		.460"	

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.400"	0.495"	1.185"	1.300"	0.650"	0.2155"	0.4355"		30-3100	
								+0.002"	30-3102	
								+0.010"	30-3110	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® XR™ 250L 1991-1996

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.400"	0.495"	1.185"	1.300"	0.800"	0.2155"	0.4355"		30-3030	
								+0.002"	30-3032	
								+0.010"	30-3040	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® TRX™ 300EX / X 1993-2009



30-3041



30-30088



30-3030



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
30-3041	Intake	30-3043	Use O.E.M	30-3042	---	30-3044
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.400"		1.210"		65#		180#
						@ Lift
						.400"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30088	Intake	25.50mm	1.004"	0.2155"	23°	3.680"	Standard
30-30089	Intake	26.50mm	1.043"	0.2155"	23°	3.660"	Oversize
30-30090	Exhaust	22.50mm	0.886"	0.2150"	29°	3.655"	Standard

C630 Bronze Valve Guides											
		A	B	C	D	E	F	G	Intake	Exhaust	
		0.400"	0.495"	1.185"	1.300"	0.800"	0.2155"	0.4365"		30-3030	
									+0.002"	30-3032	
									+0.010"	30-3040	

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

For all the applications available for Kibblewhite's Honda® line of products, please refer online to the Honda® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HONDA® CB™ / CL™ 350 TWIN 1968-'73



30-30104



30-30361



30-0359



30-0363

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30104	Intake	30-30105	30-30106	30-30107	30-30108	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.465"		1.310"		270#		.460"

Black Diamond™ Valves • Black Nitroene Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30361	Intake	34.00mm	1.339"	0.2745"	15°	3.910"	Standard
30-30362	Intake	35.00mm	1.378"	0.2745"	15°	3.900"	Oversize
30-30364	Exhaust	28.00mm	1.102"	0.2740"	23°	3.850"	Standard
30-30365	Exhaust	29.00mm	1.142"	0.2740"	23°	3.840"	Oversize

C630 Bronze Valve Guides

Diagram	A	B	C	D	E	F	G	Intake	Exhaust	
		0.830"	0.880"	0.810"	1.020"	0.525"	0.2745"	0.4950"	30-0359	
								+0.002"	30-0360	
								+0.010"	30-0400	
	0.830"	0.880"	1.090"	1.170"	0.525"	0.2740"	0.4950"		30-0363	
								+0.002"		30-0364
								+0.010"		30-0401

No seal required.

HONDA® CB™ / CL™ 350 TWIN 1968-'73

Lightweight 5.00mm Conversion System



30-30320



30-30326



30-30330



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30320	Intake	30-30321	30-30322	30-30323	30-30324	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.460"		1.365"		63#		205#
						@ Lift
						.460"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30326	Intake	34.00mm	1.339"	0.1965"	20°	3.835"	Standard
30-30327	Intake	35.00mm	1.378"	0.1965"	20°	3.825"	Oversize
30-30328	Exhaust	28.00mm	1.102"	0.1960"	23°	3.775"	Standard
30-30329	Exhaust	29.00mm	1.142"	0.1960"	23°	3.765"	Oversize

Must use Kibblewhite® Lash Caps #30-30360 (Pkg. of 4). Valves have been shortened to fit lash caps.

C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
		0.440"	0.600"	0.820"	1.165"	0.525"	0.1960"	0.4953"	30-30330	
							+0.001"	30-30331		
							+0.002"	30-30332		
							+0.010"	30-30339		
	0.440"	0.600"	1.000"	1.180"	0.525"	0.1960"	0.4953"		30-30340	
								+0.001"		30-30341
								+0.002"		30-30342
								+0.010"		30-30349

One seal supplied with each guide.

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Lash Caps		
KPMI P/N	Type	Quantity
30-30360	H.T. Steel	Pkg. of 4



HONDA® TRX™ 400X/ 400EX 1999-'14



30-3111



30-3115



30-3120

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-3111	Intake	30-3112	Use. O.E.M	30-3113	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.465"		1.370"	70#	210#	.460"	

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
30-3115	Intake	33.00mm	1.299"	0.2156"	20°	4.040"	Standard
30-3116	Intake	34.00mm	1.339"	0.2156"	20°	4.040"	Oversize
30-3117	Exhaust	29.00mm	1.142"	0.2150"	29°	3.980"	Standard
30-3118	Exhaust	30.00mm	1.181"	0.2150"	29°	3.980"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.645"	1.020"	1.300"	0.715"	0.2150"	0.4355"		30-3120
								+0.001"	30-3121
								+0.002"	30-3122
								+0.010"	30-3130

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CB™ 350F / 450F 1972-1977

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-1032	Intake	Use. O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.400"		1.270"	40#	131#	.400"	

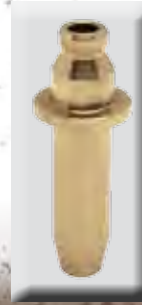
HONDA® XR™ 400 RFVC 1996-2004



30-30085



30-3115



30-3120



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30085	Intake	30-30087	Use. O.E.M	30-30086	---	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.465"		1.370"		70#		210#
						@ Lift
						.460"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-3115	Intake	33.00mm	1.299"	0.2156"	20°	4.040"	Standard
30-3116	Intake	34.00mm	1.339"	0.2156"	20°	4.040"	Oversize
30-3117	Exhaust	29.00mm	1.142"	0.2150"	29°	3.980"	Standard
30-3118	Exhaust	30.00mm	1.181"	0.2150"	29°	3.980"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.645"	1.020"	1.300"	0.715"	0.2150"	0.4355"		30-3120
								+0.001"	30-3121
								+0.002"	30-3122
								+0.010"	30-3130

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® CB™ 450 1965-'72 / CB™ 500 TWIN 1965-'76

Valve Guides for Stock Valve Stem Diameters For Honda CB™ 450 / CB™ 500 Twin

	A	B	C	D	E	F	G	Intake	Exhaust
	0.130"	0.210"	1.293"	1.468"	0.702"	0.2760"	0.4955"		30-0367
								+0.002"	30-0368
								+0.004"	30-0369
								+0.016"	30-0370

Use O.E.M. valve guide seals.



HONDA® CB™ 450 1965-'72 / CB™ 500 TWIN 1965-'76

5.00mm Conversion System



Honda CB 450



30-30300



30-30306



30-30690



30-30700

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30300	Intake	30-30301	30-30302	30-30303	30-30304	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.460"		1.180"		190#		.460"

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30306	Intake	38.00mm	1.496"	0.1960"	20°	3.855"	Standard
30-30307	Intake	39.00mm	1.535"	0.1960"	20°	3.845"	Oversize
30-30308	Exhaust	33.00mm	1.299"	0.1955"	18°	3.715"	Standard
30-30309	Exhaust	34.00mm	1.339"	0.1955"	18°	3.695"	Oversize

Valves shortened for lash caps. Use **Kibblewhite® Lash Caps #30-30482 (Pkg. of 4)**. Using these valves as O.E.M. replacements requires Kibblewhite® 5.0mm Conversion Guides and Keepers.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.259"	0.354"	1.311"	1.621"	0.524"	0.1995"	0.4951"		30-30690
							+0.001"	30-30691	
							+0.002"	30-30692	
							+0.010"	30-30699	
0.259"	0.354"	1.241"	1.436"	0.524"	0.1995"	0.4951"			30-30700
							+0.001"		30-30701
							+0.002"		30-30702
							+0.010"		30-30709

One seal supplied with each guide.

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Lash Caps

KPMI P/N	Type	Quantity
30-30482	H.T. Steel	Pkg. of 4

5.0mm Conversion Keepers

KPMI P/N	Type	Quantity
30-30710	H.T. Steel / Fits O.E.M. Retainers	Pkg. of 8

These **Kibblewhite® Keepers** seamlessly merge the **Kibblewhite® 5.0mm Conversion Valves and Guides** with the O.E.M. Retainer and Torsion System.

HONDA® CRF™ 450R 2002-2008



30-30640



30-31210



30-30220



30-30220T

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30640	Intake	30-30641	Use O.E.M	30-30642	30-30643	---
	Exhaust	30-30644	Use O.E.M	30-30645	30-30646	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31210	Intake	30-30220	30-30641	Use O.E.M	30-30642	30-30643	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.440"	1.210"	40#	148#	.363"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-30220	Intake	36.00mm	1.417"	0.2158"	20°	3.315" Standard
30-30221	Intake	37.00mm	1.457"	0.2158"	20°	3.325" Oversize
30-30222	Intake	38.00mm	1.496"	0.2158"	20°	3.325" Oversize
30-30223	Exhaust	31.00mm	1.220"	0.1957"	20°	3.310" Standard
30-30224	Exhaust	32.00mm	1.260"	0.1957"	20°	3.320" Oversize
30-30225	Exhaust	30.00mm	1.181"	0.1957"	20°	3.310" 2007-'08 Std.

Must use **Kibblewhite® Lightweight Valve Spring Kits** when installing **Black Diamond™ Valves**.



O.E.M. Replacement Valves for 2002-'08 Honda CRF450R

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-30220T	Intake	36.00mm	1.417"	0.2158"	20°	3.315" Titanium
30-30223	Exhaust	31.00mm	1.220"	0.1957"	20°	3.310" Stainless
30-30225	Exhaust	30.00mm	1.181"	0.1957"	20°	3.310" 2007-'08 Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated



HONDA® CRF™ 450R 2002-2008

**TOP
SELLER**



30-30200



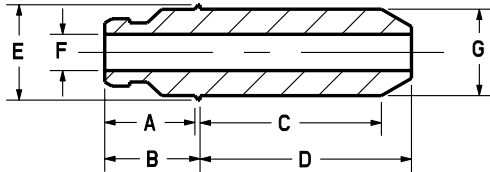
30-30210



30-30648

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.495"	0.520"	0.650"	0.760"	0.480"	0.2155"	0.4360"		30-30200
							+0.001"	30-30201	
							+0.002"	30-30202	
							+0.004"	30-30204	
							+0.010"	30-30209	
0.580"	0.605"	0.740"	0.890"	0.480"	0.1955"	0.4360"			30-30210
							+0.001"		30-30211
							+0.002"		30-30212
							+0.004"		30-30214
							+0.010"		30-30219



Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake • Style 4 • Viton	Pkg. of 1
700-100015	Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-30648	Fits All Years	Pkg. of 2

HONDA® CRF™ 450R 2009-2012

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-31250	Intake	30-31251	Use O.E.M	30-31253	30-31255	---
	Exhaust	30-31252	Use O.E.M	30-31254	30-31256	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

HONDA® CRF™ 450R 2009-2012



**TOP
SELLER**



30-31250



30-31262



30-31270

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31240	Intake	30-31262	30-31251	Use O.E.M	30-31253	30-31255	---	---
Type		Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift		
Intake		.440"	1.210"	40#	148#	.440"		

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31262	Intake	36.00mm	1.417"	0.1960"	3.095"	Standard
30-31263	Intake	37.00mm	1.457"	0.1960"	3.105"	Oversize
30-31266	Exhaust	30.00mm	1.181"	0.1955"	3.175"	Standard
30-31267	Exhaust	31.00mm	1.220"	0.1955"	3.185"	Oversize

Must use **Kibblewhite® Lightweight Valve Spring Kits** when installing **Black Diamond™ Valves**.



O.E.M. Replacement Valves for 2009-'12 Honda CRF450R

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31262T	Intake	36.00mm	1.417"	0.1960"	3.095"	Titanium
30-31266	Exhaust	30.00mm	1.181"	0.1955"	3.175"	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.535"	0.535"	0.590"	0.670"	0.433"	0.1965"	0.4360"		30-31270
							+0.001"	30-31271	
							+0.002"	30-31272	
							+0.010"	30-31279	
	0.630"	0.630"	0.730"	0.870"	0.433"	0.1960"	0.4360"		30-31280
							+0.001"		30-31281
							+0.002"		30-31282
							+0.010"		30-31289

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-31292	2009-2012	Pkg. of 2



HONDA® CRF™ 450R 2013-2015



30-31600



30-31612



30-31620

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-31600	Intake	30-31601	Use O.E.M	30-31603	30-31605	---
	Exhaust	30-31602	Use O.E.M	30-31604	30-31606	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31580	Intake	30-31612	30-31601	Use O.E.M	30-31603	30-31605	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.440"	1.210"	40#	148#	.440"			

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31612	Intake	36.00mm	1.417"	0.1960"	20°	3.095" Standard
30-31613	Intake	37.00mm	1.457"	0.1960"	20°	3.095" Oversize
30-31616	Exhaust	31.00mm	1.220"	0.1957"	20°	3.175" Standard
30-31617	Exhaust	32.00mm	1.260"	0.1957"	20°	3.175" Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



O.E.M. Replacement Valves for 2013-'15 Honda CRF450R

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-31612T	Intake	36.00mm	1.417"	0.1960"	20°	3.095" Titanium
30-31616	Exhaust	31.00mm	1.220"	0.1957"	20°	3.175" Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.535"	0.535"	0.590"	0.670"	0.433"	0.1955"	0.4365"		30-31620
							+0.001"	30-31621	
							+0.002"	30-31622	
							+0.010"	30-31629	
	0.630"	0.630"	0.730"	0.870"	0.433"	0.1960"	0.4365"		30-31630
							+0.001"		30-31631
							+0.002"		30-31632
							+0.010"		30-31639

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-31642	Fits All Years	Pkg. of 2

HONDA® CRF™ 450X 2005-2014



**TOP
SELLER**



30-31050



30-31062



30-31070



Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-31050	Intake	30-31051	Use O.E.M	30-31053	30-31055	---
	Exhaust	30-31052	Use O.E.M	30-31054	30-31056	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
30-31230	Intake	30-31062	30-31051	Use O.E.M	30-31053	30-31055	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.440"	1.210"	40#	148#	.440"			

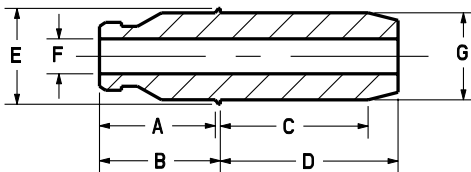
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
30-31062	Intake	35.00mm	1.378"	0.2158"	20°	3.315"	Standard
30-31063	Intake	36.00mm	1.417"	0.2158"	20°	3.315"	Oversize
30-31066	Exhaust	30.00mm	1.181"	0.1957"	20°	3.310"	Standard
30-31067	Exhaust	31.00mm	1.220"	0.1957"	20°	3.310"	Oversize

Must use **Kibblewhite® Lightweight Valve Spring Kits** when installing **Black Diamond™ Valves**.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.495"	0.520"	0.650"	0.760"	0.480"	0.2155"	0.4360"	30-31070
							+0.001"	30-31071	
							+0.002"	30-31072	
							+0.004"	30-31074	
							+0.010"	30-31079	
	0.580"	0.605"	0.740"	0.890"	0.480"	0.1955"	0.4360"		30-31080
							+0.001"		30-31081
							+0.002"		30-31082
							+0.004"		30-31084
							+0.010"		30-31089



Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake • Style 4 • Viton	Pkg. of 1
700-100015	Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-31092	Fiits All Years	Pkg. of 2



HONDA® TRX™ 450R 2004-2005

**TOP
SELLER**



30-30720



30-30220



30-30220T

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30720	Intake	30-30721	Use O.E.M	30-30723	30-30722	---
	Exhaust	30-30724	Use O.E.M	30-30726	30-30725	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30750	Intake	36.00mm	1.417"	0.2158"	20°	3.315"	Standard
30-30751	Intake	37.00mm	1.457"	0.2158"	20°	3.325"	Oversize
30-30752	Intake	38.00mm	1.496"	0.2158"	20°	3.325"	Oversize
30-30753	Exhaust	30.00mm	1.181"	0.2151"	20°	3.315"	Standard
30-30754	Exhaust	31.00mm	1.220"	0.2151"	20°	3.325"	Oversize
30-30755	Exhaust	32.00mm	1.260"	0.2151"	20°	3.325"	Oversize

Must use **Kibblewhite® Lightweight Valve Spring Kits** when installing **Black Diamond™ Valves**.



Racing Valve Kit for 2004-'05 Honda TRX450R

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30750T	Intake	36.00mm	1.417"	0.2158"	20°	3.315"	Titanium
30-30753	Exhaust	30.00mm	1.181"	0.2151"	20°	3.315"	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-30728	Fits All Years	Pkg. of 2

HONDA® TRX™ 450R 2004-2005



30-30728



30-30730



30-30740



C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
	0.495"	0.520"	0.650"	0.760"	0.480"	0.2155"	0.4360"		30-30730	
								+0.001"	30-30731	
								+0.002"	30-30732	
								+0.004"	30-30734	
								+0.010"	30-30739	
	0.495"	0.520"	0.705"	0.830"	0.480"	0.2150"	0.4360"			30-30740
								+0.001"		30-30741
								+0.002"		30-30742
								+0.004"		30-30744
							+0.010"		30-30749	

HONDA® TRX™ 450X / ER 2006-2014

Lightweight High-Lift Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30920	Intake	30-30921	Use O.E.M	30-30923	30-30922	---
	Exhaust	30-30924	Use O.E.M	30-30926	30-30925	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.210"	40#	148#	.440"	
Exhaust	.440"	1.360"	70#	205#	.440"	

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100016	Intake • Style 4 • Viton	Pkg. of 1
700-100015	Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets		
KPMI P/N	Models	Quantity
30-30648	Fits All Years	Pkg. of 2



HONDA® TRX™ 450X / ER 2006-2014



30-30920



30-30950



30-30950T

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30950	Intake	36.00mm	1.417"	0.2158"	20°	3.315"	Standard
30-30951	Intake	37.00mm	1.457"	0.2158"	20°	3.325"	Oversize
30-30952	Intake	38.00mm	1.496"	0.2158"	20°	3.325"	Oversize
30-30953	Exhaust	30.00mm	1.181"	0.1957"	20°	3.310"	Standard
30-30954	Exhaust	31.00mm	1.220"	0.1957"	20°	3.310"	Oversize
30-30955	Exhaust	32.00mm	1.260"	0.1957"	20°	3.320"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



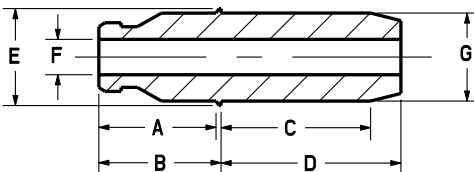
Racing Valve Kit for 2006-'14 Honda TRX450X / ER

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30750T	Intake	36.00mm	1.417"	0.2158"	20°	3.315"	Titanium
30-30953	Exhaust	30.00mm	1.181"	0.1957"	20°	3.310"	Stainless

All titanium valves are (Tensilite®) PVD CrN coated, and all stainless valves are Black Diamond™ coated

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.495"	0.520"	0.650"	0.760"	0.480"	0.2155"	0.4360"	30-30930	
						+0.001"	30-30931		
						+0.002"	30-30932		
						+0.004"	30-30934		
						+0.010"	30-30939		
0.580"	0.605"	0.740"	0.890"	0.480"	0.1955"	0.4360"		30-30940	
						+0.001"		30-30941	
						+0.002"		30-30942	
						+0.004"		30-30944	
						+0.010"		30-30949	



HONDA® CB™ 500 / 4 - CB™ 550 / 4 1971-'78



30-31550



30-4045



30-31330



30-3150

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-31550	Intake	30-31551	Use O.E.M	30-31553	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.465"		---		80#		220#
						@ Lift
						.465"

OEM Replacement Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-4045	Intake	Use O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.460"		1.210 "		70#		210#
						@ Lift
						.465"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-31330	Intake	27.50mm	1.083"	0.2150"	20°	3.680"	Standard
30-31331	Intake	28.50mm	1.122"	0.2150"	20°	3.680"	Oversize
30-31334	Exhaust	23.00mm	0.905"	0.2145"	30°	3.650"	Standard
30-31335	Exhaust	24.00mm	0.945"	0.2145"	30°	3.650"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.495"	0.595"	0.720"	1.230"	0.725"	0.2145"	0.4372"		30-3150
							+0.001"	30-3151	
							+0.002"	30-3152	
							+0.004"	30-3154	
							+0.010"	30-3160	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® CBR™ 600 F2 / F3 1991-1996



30-3020



30-3024



30-3010

O.E.M. Replacement Spring Only Kit

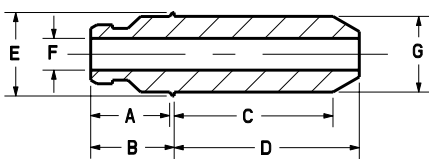
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-3020	Intake	30-3021	---	---	---	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.420"		1.220"		50#		140#
						@ Lift
						.400"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-3024	Intake	25.50mm	1.004"	0.1566"	19°	3.115"	Standard
30-3025	Intake	26.50mm	1.043"	0.1566"	19°	3.115"	Oversize
30-3022	Exhaust	22.00mm	0.866"	0.1561"	20°	3.120"	Standard
30-3023	Exhaust	23.00mm	0.905"	0.1561"	20°	3.120"	Oversize

Intake valves made from special alloy to resist face recession common in these models

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.385"	0.410"	0.795"	0.895"	0.365"	0.1560"	0.3370"	30-3010	
						+0.002"	30-3012	
						+0.010"	30-3019	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Model	Quantity
30-30019	1991-1996	Pkg. of 16

HONDA® CBR™ 600F4 2001-2004



30-30290



30-30019



Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30290	Intake	30-30291	Use O.E.M	30-30292	30-30293	---
	Exhaust	30-30291	Use O.E.M	30-30292	30-30294	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.360"	1.230"	51#	139#	.360"	
Exhaust	.360"	1.230"	51#	139#	.360"	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Model	Quantity
30-30019	1994-2004	Pkg. of 16

HONDA® HAWK NT™ 650 1988-1991

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
30-3070	Intake	30-3071	Use O.E.M	30-3073	30-3074	30-3076
	Exhaust	30-3072	Use O.E.M	30-3077	Use O.E.M	30-3078 / 30-3079
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.500"	***	45#	166#	.400"	
Exhaust	.500"	***	74#	217#	.440"	

For all the applications available for Kibblewhite's Honda® line of products, please refer online to the Honda® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



HONDA® VARIOUS 500cc-650cc 1979-'13

XL™ 500 S / XR™ 500 / 500R 1978-1984

GB™ 500 / 1989-1990

XL™ / XR™ 600 1983-2000

XL™ / XR™ 650 1993-2013



30-30015



30-3003



30-3050

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
30-30015	Intake	30-30016	Use O.E.M	30-30017	30-30018	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.465"		1.205"		80#		220#		.465"	

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims			
30-4081	Intake	Use O.E.M	---	---	---	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.465"		1.210"		70#		210#		.465"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-3003	Intake	36.00mm	1.417"	0.2590"	23°	4.165"	Standard
30-3004	Exhaust	31.00mm	1.220"	0.2585"	29°	4.095"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.300"	0.375"	1.240"	1.410"	0.808"	0.2590"	0.4755"		30-3050
								+0.002"	30-3052
								+0.010"	30-3060

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100018	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

HONDA® XR™ 650 2000-2007



30-30161



30-30166



30-30170



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
30-30161	Intake	30-30162	Use O.E.M	30-30163	30-30164	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.440"		1.215"		70#		160#		.375"	

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30166	Intake	37.00mm	1.457"	0.2590"	19°	4.025"	Standard
30-30168	Exhaust	32.00mm	1.260"	0.2585"	19°	4.065"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.600"	0.600"	0.805"	1.075"	0.475"	0.2590"	0.4753"	+0.001"	30-30170
							+0.002"	30-30172	
							+0.010"	30-30179	
0.600"	0.600"	1.000"	1.230"	0.475"	0.2590"	0.4753"	+0.001"		30-30180
							+0.002"		30-30182
							+0.010"		30-30189

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100018	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



HONDA® TRX™ 700XX 2008-2009



30-31350



30-31362



30-31370

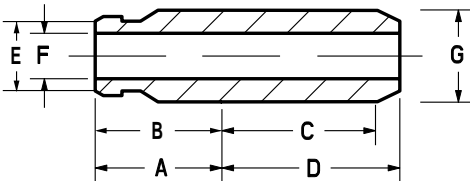
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-31350	Intake	30-31351	Use O.E.M	30-31353	30-31355	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.375"		1.215"		160#		.375"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-31362	Intake	36.00mm	1.417"	0.2590"	19°	4.025"	Standard
30-31363	Intake	37.00mm	1.457"	0.2590"	19°	4.025"	Oversize
30-31366	Exhaust	32.00mm	1.260"	0.2585"	19°	4.065"	Standard

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust	
0.600"	0.600"	0.805"	1.075"	0.472"	0.2590"	0.4753"	30-31370		
							+0.001"	30-31371	
							+0.002"	30-31372	
							+0.010"	30-31379	
0.600"	0.600"	1.000"	1.230"	0.475"	0.2590"	0.4753"		30-31380	
							+0.001"	30-31381	
							+0.002"	30-31382	
							+0.010"	30-31389	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
30-31390	Intake / Exhaust • Style 4 • Viton	Pkg. of 4

HONDA® CB™ / 750 SOHC 1969-1977



Excluding F2™ Models



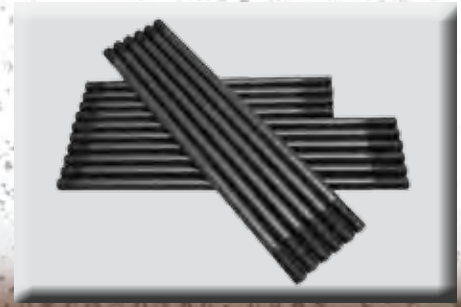
30-0307



30-4186



30-0379



30-0800

High Performance Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-0307	Intake	30-0308	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.485"		1.330"	95#		268#	.485"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-4186	Intake	32.00mm	1.260"	0.2590"	23°	4.020"	Standard
30-4187	Intake	33.50mm	1.319"	0.2590"	23°	4.040"	Oversize
30-4188	Exhaust	28.00mm	1.102"	0.2580"	29°	4.020"	Standard
30-4189	Exhaust	28.50mm	1.122"	0.2580"	29°	4.040"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.585"	0.635"	0.865"	1.135"	0.495"	0.2590"	0.4762"		30-0379
							+0.002"	30-0380	
							+0.015"	30-4034	
0.585"	0.635"	0.925"	1.195"	0.495"	0.2590"	0.4762"			30-0383
							+0.002"		30-0384
							+0.015"		30-4035

Studs

KPMI P/N	Description	Quantity
30-0800	Std. Length (12Pcs - 7.717") & (4Pcs - 6.299")	Pkg. of 16

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100018	Intake / Exhaust • Style 25 • Viton	Pkg. of 1



HONDA® CB™ 750 SOHC 1969-1977

Excluding F2™ Models (5.0mm Conversion System)



30-30150



30-30157



30-0379-5

Lightweight Racing Valve Spring Kit

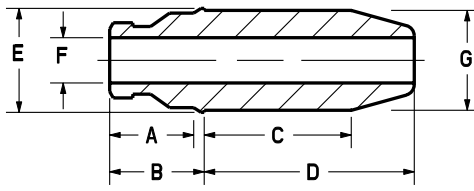
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
30-30150	Intake	30-30152	30-30153	30-30151	30-30154	30-30155
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.435"		1.375"		71#	203#	.435"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
30-30157	Intake	32.00mm	1.260"	0.1960"	20°	3.935"	Standard
30-30158	Intake	34.00mm	1.339"	0.1960"	20°	3.935"	Oversize
30-30159	Exhaust	27.00mm	1.063"	0.1955"	23°	3.940"	Standard
30-30160	Exhaust	28.00mm	1.102"	0.1955"	23°	3.940"	Oversize

Must use Kibblewhite® Lash Caps #30-30156 (requires 2 Pkgs. of 4). Valves shortened for lash caps. Must use 5.00mm conversion guides and spring kit with these valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.400"	0.440"	0.980"	1.380"	0.510"	1.958"	0.4762"		30-0379-5
							+0.002"	30-0380-5	
							+0.015"	30-4034-5	
0.400"	0.440"	1.030"	1.430"	0.510"	1.958"	0.4762"			30-0383-5
							+0.002"		30-0384-5
							+0.015"		30-4035-5

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 25 • Viton	Pkg. of 1

Lash Caps

KPMI P/N	Type	Quantity
30-30156	H.T. Steel	Pkg. of 4

HONDA® CBR™ 900RR 1993-1999



30-6068



30-30050



30-30227



High Performance Spring Only Kit						
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-6068	Intake	30-6067	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.480"		1.270"	45#		155#	.480"

C630 Bronze Valve Guides										
		A	B	C	D	E	F	G	Intake	Exhaust
		0.545"	0.570"	0.660"	0.780"	0.385"	0.1765"	0.3570"		30-30050
								+0.001"	30-30051	
								+0.002"	30-30052	
								+0.010"	30-30059	

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

High Performance Tappets		
KPMI P/N	Models	Quantity
30-30227	1992-1997	Pkg. of 16

HONDA® CBR™ 1000 2004-2005

Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30760	Intake	30-30761	Use O.E.M	30-30762	30-30763	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.385"		1.320"	46#		140#	.385"

Black Diamond™ Valves • Black Nitroneg Stems						
KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
30-30790	Intake	29.00mm	1.142"	0.1570"	10°	3.735" Standard
30-30791	Intake	30.00mm	1.181"	0.1570"	10°	3.735" Oversize
30-30793	Exhaust	24.00mm	0.945"	0.1565"	20°	3.755" Standard
30-30794	Exhaust	25.00mm	0.984"	0.1565"	20°	3.755" Oversize

High Performance Tappets		
KPMI P/N	Models	Quantity
30-30766	Fits All Years	Pkg. of 16



HONDA® VARIOUS 750cc-1100cc 1979-'83

CB™ 750 C/ F/ K/ SC
DOHC 1979-1983
CB™ 900/ 1000 / 1100F
DOHC 1980-1983



30-1017



30-1020

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-1017	Intake	30-1019*	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.390"	60#		210#	.500"

*Requires use of Kibblewhite® "Shim Under" Style Retainer # 30-1020 (Pkg. of 16). Accepts 5.0mm OD adjustment shim. See Kibblewhite® Adjustment Shim Section in back of catalog for more information.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.650"	0.890"	1.050"	0.685"	0.2155"	0.4372"		30-4071
								+0.004"	30-4161
								+0.015"	30-4162

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 25 • Viton	Pkg. of 1

High Performance Tappets

KPMI P/N	Models	Quantity
30-1020	Fits All Years	Pkg. of 16

Requires use of Kibblewhite® "Shim Under" Style Retainer # 30-1019 (Pkg. of 16). Accepts 9.50mm OD adjustment shim. See Kibblewhite® Adjustment Shim Section in back of catalog (Pg. 215) for more information.

HONDA® CBR™ 1100XX-BLACKBIRD™ 1997-2003

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30100	Intake	30-30102	Use O.E.M	30-30101	30-30103	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.405"		1.285"	66#		168#	.405"

HONDA® CBX 6 CYLINDER 1979-1982



30-1018



30-4071



30-1022

High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-1018	Intake	30-1021*	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.500"		1.390"	60#	210#	.500"	

Requires Shim on Bottom Retainers #30-1021 (Pkg. of 24). Retainers accept 9.0mm OD adjustment shim. See **Kibblewhite® Adjustment Shim Section** in back of catalog. See **Kibblewhite® Adjustment Shim Section** in back of catalog (Pg. 215) for more information.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.650"	0.890"	1.050"	0.685"	0.2155"	0.4372"		30-4071
								+0.004"	30-4161
								+0.015"	30-4162

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Models	Quantity
30-1022	Fits All Years	Pkg. of 24

HONDA® VTX™ 1800 2002-2007

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
30-30427	Intake	30-30428	Use O.E.M	30-30430	30-30431	---
	Exhaust	30-30429	Use O.E.M	30-30430	30-30432	---
Type		Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake		.450"	1.380"	65#	192#	.450"
Exhaust		.450"	1.320"	82#	209#	.450"



HUSQVARNA® 350 / 410 1991-2000



93-93020



93-93010



93-93000

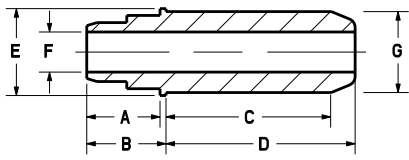
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
93-93020	Intake	93-93021	Use O.E.M	93-93022	93-93023	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift	
.400"		1.210"		74#		189# .400"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
93-93010	Intake	32.51mm	1.280"	0.2352"	23°	4.020" Standard
93-93011	Exhaust	27.05mm	1.065"	0.2347"	29°	4.020" Standard

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust	
0.430"	0.465"	0.970"	1.110"	0.510"	0.2350"	0.4750"	93-93000		
							+0.010"	93-93009	

Use O.E.M. valve guide seal.

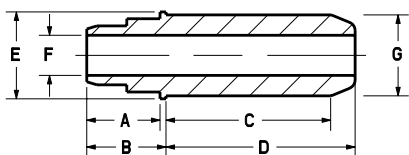
HUSQVARNA® VARIOUS 510-610cc 1983-2001

TX 510 1983-'88 / TE 510 1983-'90 / TC 510 1987-'90 / WXE 610 1991-'96 / WMX 610 1991
TE 610 1992-'98 / TC 610 1992-'98 / WXC 610 1992-'96 / SM 610 R 2000-2001

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
93-93012	Intake	35.00mm	1.378"	0.2352"	23°	3.970" Standard
93-93013	Intake	36.06mm	1.420"	0.2352"	23°	3.970" Oversize
93-93014	Exhaust	30.00mm	1.181"	0.2347"	29°	3.970" Standard

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust	
0.430"	0.465"	0.970"	1.110"	0.510"	0.2350"	0.4750"	93-93000		
							+0.010"	93-93009	

Use O.E.M. valve guide seal.

HUSQVARNA® VARIOUS 510-610cc 2006-'08

TE/ TC/ TXC 450-510 / SM 450R-510R/ SM 450RR 2006



93-93050



93-93062



93-93070



Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
93-93050	Intake	93-93051	Use O.E.M	93-93053	93-93055	---
	Exhaust	93-93052	Use O.E.M	93-93054	93-93056	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.440"	1.350"	50#	160#	.440"	
Exhaust	.440"	1.390"	40#	150#	.440"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
93-93062	Intake	37.00mm 1.457"	0.2160"	20°	3.955"	Standard
93-93063	Intake	38.00mm 1.496"	0.2160"	20°	3.955"	Oversize
93-93066	Exhaust	31.00mm 1.220"	0.1958"	20°	3.565"	Standard
93-93067	Exhaust	32.00mm 1.260"	0.1958"	20°	3.565"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.515"	0.515"	0.660"	1.290"	0.432"	0.2160"	0.4355"		93-93070
							+0.001"	93-93071	
							+0.002"	93-93072	
							+0.010"	93-93079	
	0.650"	0.650"	0.700"	0.990"	0.412"	0.1958"	0.4156"		93-93080
							+0.001"		93-93081
							+0.002"		93-93082
							+0.010"		93-93089

Use O.E.M. valve guide seal.



INDIAN® 74" V-TWIN MODELS



20-2018
for Indian 74"



20-2019
for Indian 74"



40-4190
for Kawasaki Mojave



40-4192
for Kawasaki Mojave

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
20-2018	Intake	50.80mm	2.000"	0.3720"	Flat	5.125"	Standard
20-2019	Exhaust	50.80mm	2.000"	0.3720"	Flat	5.125"	Standard

KAWASAKI® MOJAVE™ 1987-2004

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4190	Intake	29.00mm	1.142"	0.2155"	20°	3.510"	Standard
40-4191	Intake	30.50mm	1.201"	0.2155"	20°	3.530"	Oversize
40-4192	Exhaust	24.50mm	0.965"	0.2150"	25°	3.530"	Standard
40-4193	Exhaust	25.00mm	0.984"	0.2150"	25°	3.440"	Oversize

KAWASAKI® KX250F™ 2003-2015

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40100	Intake	40-40101	Use O.E.M	40-40104	40-40103	---
	Exhaust	40-40102	Use O.E.M	40-40105	40-40106	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.445"	1.320"	46#	155#	.445"	
Exhaust	.445"	1.320"	46#	155#	.445"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
40-40350	Intake	40-40140	40-40101	Use O.E.M	40-40104	40-40103	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.445"	1.320"	46#	155#	.445"			

KAWASAKI® KX250F™ 2003-2015



**TOP
SELLER**



40-40100



40-40350



40-40120

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40140	Intake	31.00mm	1.220"	0.1765"	20°	3.120"	Standard
40-40141	Intake	32.00mm	1.260"	0.1765"	20°	3.120"	Oversize
40-40143	Exhaust	25.00mm	0.985"	0.1765"	25°	3.125"	Standard
40-40144	Exhaust	26.00mm	1.024"	0.1765"	25°	3.125"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



O.E.M. Replacement • Tensilite® Valves • Chromium Nitride PVD Coated Titanium

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40140T	Intake	31.00mm	1.220"	0.1765"	20°	3.120"	Standard
40-40143T	Exhaust	25.00mm	0.985"	0.1765"	25°	3.125"	Standard

C630 Bronze Valve Guides

Diagram	A	B	C	D	E	F	G	Intake	Exhaust
		0.465"	0.465"	0.565"	0.870"	0.374"	0.1765"	0.3765"	40-40520
							+0.001"	40-40521	
							+0.002"	40-40522	
							+0.010"	40-40529	
Note: #40-40520-29 - Recommended for 2007-2014 model only									
	0.440"	0.465"	0.590"	0.850"	0.410"	0.1765"	0.3765"		40-40120
							+0.001"		40-40121
							+0.002"		40-40122
							+0.010"		40-40129
Note: #40-40120-29 - Recommended for Intake 2003-2006 model only and Exhaust 2003-2014 all model.									

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

Tappets

KPMI P/N	Type	Quantity
40-40106	Intake	Pkg. of 2
40-40107	Exhaust	Pkg. of 2



KAWASAKI® KLX™ 300R/ 250R/ S/ SF 1994-'14



40-4008



40-4372H



40-4420

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-4008	Intake	40-40010	Use O.E.M	40-40009	40-40011	40-40012
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.440"		1.320"		49#	156#	.440"

High Performance Spring Kit for O.E.M. Retainers

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-4431	Intake	Use O.E.M	Use O.E.M	40-4432	40-4433	40-4435
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.430"		1.245"		51#	155#	.430"

White Diamond™ Valves • Hard Chrome Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4372H	Intake	29.00mm	1.142"	0.1755"	19°	3.360"	Standard
40-4374H	Intake	30.00mm	1.181"	0.1755"	19°	3.360"	Oversize
40-4373H	Exhaust	25.00mm	0.895"	0.1755"	17°	3.375"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.595"	0.620"	0.855"	0.460"	0.1760'	0.4165"		40-4420
								+0.010"	40-4430

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

KAWASAKI® KLX™/KFX™ 400 2001-'06



40-40148



40-40188



40-40170



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40148	Intake	40-40149	Use O.E.M	40-40152	40-40151	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.205"	57#		171#	.440"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40188	Intake	36.00mm	1.417"	0.1960"	30°	3.245"	Standard
40-40189	Intake	37.00mm	1.457"	0.1960"	30°	3.245"	Oversize
40-40191	Exhaust	29.00mm	1.142"	0.1953"	17°	3.210"	Standard
40-40192	Exhaust	30.00mm	1.181"	0.1953"	17°	3.210"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.390"	0.430"	0.570"	0.770"	0.466"	0.190"	0.4167"		40-40170
							+0.001"	40-40171	
							+0.002"	40-40172	
							+0.004"	40-40174	
							+0.010"	40-40179	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



KAWASAKI® KLX 450R™ 2008-2013



40-40700



40-40712



40-40720

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40700	Intake	40-40701	Use O.E.M	40-40703	40-40705	---
	Exhaust	40-40702	Use O.E.M	40-40704	40-40706	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.325"	50#	155#	.415"	
Exhaust	.415"	1.215"	50#	144#	.415"	

To achieve .385" and greater lift use **O.E.M Seals #92049-1062**. Always check clearances!

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
40-40712	Intake	35.00mm	1.378"	0.2155"	20°	3.280"	Standard
40-40713	Intake	36.00mm	1.417"	0.2155"	20°	3.280"	Oversize
40-40716	Exhaust	30.00mm	1.181"	0.2150"	20°	3.230"	Standard
40-40717	Exhaust	31.00mm	1.221"	0.2150"	20°	3.230"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.390"	0.390"	0.550"	0.895"	0.434"	0.2150"	0.4365"		40-40720
							+0.001"		40-40721
							+0.002"		40-40722
							+0.010"		40-40729

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
40-40742	Intake / Exhaust	Pkg. of 4

KAWASAKI® KX 450F™ 2006-2008



40-40300



40-40360



40-40320



Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40300	Intake	40-40301	Use O.E.M	40-40303	40-40305	---
	Exhaust	40-40302	Use O.E.M	40-40304	40-40306	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.325"	51#	155#	.415"	
Exhaust	.415"	1.215"	52#	146#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
40-40360	Intake	40-40312	40-40301	Use O.E.M	40-40303	40-40305	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.325"	51#	155#	.415"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40312	Intake	36.00mm	1.417"	0.2155"	20°	3.280"	Standard
40-40313	Intake	37.00mm	1.457"	0.2155"	20°	3.280"	Oversize
40-40316	Exhaust	31.00mm	1.220"	0.2150"	20°	3.230"	Standard
40-40317	Exhaust	32.00mm	1.260"	0.2150"	20°	3.230"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.390"	0.390"	0.550"	0.895"	0.434"	0.2150"	0.4365"	40-40320		
								+0.001"	40-40321	
								+0.002"	40-40322	
								+0.010"	40-40329	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

Tappets

KPMI P/N	Type	Quantity
40-40342	Intake / Exhaust	Pkg. of 4



KAWASAKI® KX 450F™ 2009-2015



40-40660



40-40380



40-40670

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40660	Intake	40-40661	Use O.E.M	40-40663	40-40665	---
	Exhaust	40-40662	Use O.E.M	40-40664	40-40666	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.290"	64#	169#	.415"	
Exhaust	.415"	1.240"	65#	170#	.415"	

Intake Only Steel Valve Conversion Kits

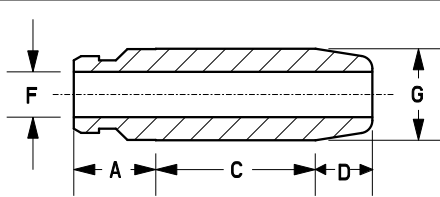
KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
40-40380	Intake	40-40652	40-40661	Use O.E.M	40-40663	40-40665	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.290"	64#	169#	.415"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
40-40652	Intake	36.00mm	1.417"	0.2154"	20°	3.280"	Standard
40-40653	Intake	37.00mm	1.457"	0.2154"	20°	3.280"	Oversize
40-40656	Exhaust	31.00mm	1.221"	0.2149"	20°	3.230"	Standard
40-40657	Exhaust	32.00mm	1.260"	0.2149"	20°	3.230"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.380"	---	0.525"	0.760"	0.434"	0.2150"	0.365"	40-40670	
						+0.001"	40-40671	
						+0.002"	40-40672	
						+0.010"	40-40679	

Use O.E.M. valve guide seal.

Replacement Tappets

KPMI P/N	Type	Quantity
40-40690	Intake / Exhaust	Pkg. of 4

KAWASAKI® KFX 450R™ 2008-2014



40-40550



40-40950



40-40570



Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40550	Intake	40-40551	Use O.E.M	40-40553	40-40555	---
	Exhaust	40-40552	Use O.E.M	40-40554	40-40556	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.325"	51#	155#	.415"	
Exhaust	.415"	1.215"	52#	146#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
40-40950	Intake	40-40562	40-40551	Use O.E.M	40-40553	40-40555	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.325"	51#	155#	.415"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40562	Intake	36.00mm	1.417"	0.2155"	20°	3.280"	Standard
40-40563	Intake	37.00mm	1.457"	0.2155"	20°	3.280"	Oversize
40-40566	Exhaust	31.00mm	1.221"	0.2150"	20°	3.230"	Standard
40-40567	Exhaust	32.00mm	1.260"	0.2150"	20°	3.230"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.390"	0.390"	0.550"	0.895"	0.434"	0.2150"	0.4365"	40-40570	
							+0.001"	40-40571	
							+0.002"	40-40572	
							+0.010"	40-40579	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
40-40592	Intake / Exhaust	Pkg. of 4



KAWASAKI® NINJA 500R™ 1987-2009



40-4190
for Ninja 500



40-4350
for KLR 600/650



40-4089
for KLX 600

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
40-4190	Intake	29.00mm	1.142"	0.2155"	20°	3.510"	Standard
40-4191	Intake	30.50mm	1.201"	0.2155"	20°	3.530"	Oversize
40-4192	Exhaust	24.50mm	0.965"	0.2150"	25°	3.530"	Standard
40-4193	Exhaust	25.00mm	0.984"	0.2150"	25°	3.440"	Oversize

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KAWASAKI® KLR™ 600 / 650 1984-2008

High Performance Spring Kit for O.E.M. Retainers

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4350	Intake	Use O.E.M	Use O.E.M	40-4346	40-4347	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.460"		1.205"	75#	175#	.340"	

KAWASAKI® KLX™ 600 1993-1996

High Performance Spring Kit Only

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4089	Intake	Use O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.380"	75#	175#	.340"	

KAWASAKI® KLX™ 650 / 650R 1985-'03



40-40051



40-4349



40-4089

Lightweight Racing Valve Spring Kit with Shim Under Conversions

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	Adj. Shims
40-40051	Intake	40-40052	40-40057	40-40053	40-40054	40-40055	40-40056
	Exhaust						
Valve Lift		Installed Height	Seat Pressure		Open Pressure		@ Lift
.450"		1.195"	75#		175#		.450"

To prevent high lift cams from spitting shims, Kibblewhite® recommends using shim under tappets for cams with over 0.400" lift. See Kibblewhite® Tappet Section in back of catalog (Pg. 211).

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4349	Intake	40-4351	Use O.E.M	40-4352	40-4353	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.400"		1.200"	75#		191#	.400"

High Performance Spring Kit Only

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4089	Intake	Use O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.450"		1.380"	75#		175#	.450"

KAWASAKI® KLR™ 650 / 750 1976-1985

High Performance Spring Kit Only

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-0893	Intake	40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.330"	90#		268#	.500"

Retainers are Shim On Bottom.

Replacement Tappets

KPMI P/N	Models	Quantity
40-1013	KZ 650	Pkg. of 8



KAWASAKI® NINJA™ 650R / VERSYS 2006-'13



40-40800



40-40812



40-40820

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
40-40800	Intake	40-40801	Use O.E.M.	40-40803	40-40805	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.400		1.215"		39#		136#		.400"	

Black Diamond™ Valves • Black Nitro-neg Stems

KPMI P/N	Type	Head Diameter	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
40-40812	Intake	33.35mm	1.313"	0.1765"	10°	3.815"	Standard
40-40813	Intake	34.35mm	1.352"	0.1765"	10°	3.815"	Oversize
40-40816	Exhaust	28.27mm	1.113"	0.1760"	22°	3.830"	Standard
40-40817	Exhaust	29.27mm	1.152"	0.1760"	22°	3.830"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.450"	0.550"	0.590"	0.790"	0.675"	0.1955"	0.4160"		40-40820
								+0.010"	40-40829

Replacement Tappets

KPMI P/N	Models	Quantity
*40-40807	All	Pkg. of 8

*NOTE: Shims of less than 1.90mm may cause clearance issues between tappet and retainer. Always check clearances before installing smaller than O.E.M. shims.

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

KAWASAKI® VARIOUS 2005-2013



KFX™ 700 • 2005-'09

Brute Force™ 650 • 2005-'13

Brute Force™ 650I • 2006-'12

Prairie™ 700 • 2005-'06

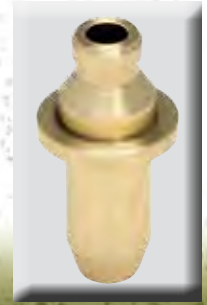
Brute Force™ 750I • 2005-'12

Teryx™ 750 • 2008-'12

(Excluding Teryx 4)



40-40400



40-40420

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-40400	Intake	40-40401	Use O.E.M	40-40403	40-40405	40-40409
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.500"		1.400"		59#		210#
						@ Lift
						.500"

KPMI® Guides must be installed when using cams greater than .430" valve lift.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40412	Intake	30.00mm	1.181"	0.1960"	10°	3.600"	Standard
40-40413	Intake	31.00mm	1.220"	0.1960"	10°	3.600"	Oversize
40-40416	Exhaust	26.00mm	1.024"	0.1955"	10°	3.655"	Standard
40-40417	Exhaust	27.00mm	1.063"	0.1955"	10°	3.655"	Oversize

Custom oversize's available +3 and +4 mm, call for availability.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.450"	0.550"	0.590"	0.790"	0.675"	0.1955"	0.4160"	40-40420		
								+ 0.001"	40-40421	
								+ 0.002"	40-40422	
								+0.010"	40-40429	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



KAWASAKI® VARIOUS 2012-2013



40-40900

Brute Force™ 650i • 2013
 Brute Force™ 750i • 2013
 Teryx™ • 2013
 Teryx 4™ • 2012-2013

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-40900	Intake	40-40901	Use O.E.M	40-40903	40-40905	40-40907
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.500"		1.400"		59#	210#	.500"

Note: KPMI® Guides must be installed when using cams greater than 0.430" valve lift.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40920	Intake	30.00mm	1.181"	0.1960"	10°	3.610"	Standard
40-40921	Intake	31.00mm	1.220"	0.1960"	10°	3.610"	Oversize
40-40924	Exhaust	26.00mm	1.024"	0.1955"	10°	3.655"	Standard
40-40925	Exhaust	27.00mm	1.063"	0.1955"	10°	3.655"	Oversize

If the above sizes are not what you need, we can make any size custom valve. Please call for more information.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.480"	0.550"	0.590"	0.790"	0.510"	0.1955"	0.4161"		40-40910	
								+ 0.001"		40-40911
								+ 0.002"		40-40912
								+0.010"		40-40919

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KAWASAKI® KZ™ / Z1™ 900 1973-1977



40-0449



40-4180H



40-1013



High Performance Spring Kit Only						
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-0449	Intake	40-1008M (O.E.M. Style)	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.425"		1.320"	90#		245#	.425"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1016	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.475"		1.320"	90#		265#	.475"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1007	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.320"	90#		280#	.500"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1014	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.565"		1.405"	105#		305#	.565"

* Use with Kibblewhite® "Shim Under" Style Tappets # 40-1013 with this retainer.

White Diamond® Valves • Hard Chrome Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4180H	Intake	36.00mm	1.417"	0.2745"	23°	3.615"	Standard
40-4181H	Intake	37.50mm	1.476"	0.2745"	23°	3.615"	Oversize (max w/ stock seat)
40-4183H	Exhaust	30.00mm	1.181"	0.2745"	29°	3.555"	Standard
40-4184H	Exhaust	31.00mm	1.220"	0.2745"	29°	3.555"	Oversize (max w/ stock seat)

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets		
KPMI P/N	Type	Quantity
40-1013	Standard	Pkg. of 8
40-4202	+0.020"	Pkg. of 1
40-4203	+0.040"	Pkg. of 1
40-4035	35 mm	Pkg. of 1

Use Kibblewhite® Shim On Bottom Retainers # 40-1008 (Pkg. of 8). Large tappets available, see Kibblewhite® Tappet Section (Pg. 183) in back of catalog.



KAWASAKI® KZ™ / Z1™ 900 1973-1977



40-0478



40-0482



40-4006

C630 Bronze Valve Guides

		A	B	C	D	E	F	G	Intake	Exhaust
	0.440"	0.490"	0.785"	1.165"	0.495"	0.2745"	0.4752"		40-0478	
							+0.002"		40-0479	
							+0.004"		40-0480	
							+0.006"		40-0481	
							+0.015"		40-0436	
							+0.027"		40-0499	
	0.440"	0.490"	---	1.240"	0.495"	0.2745"	0.4752"			40-0482
							+0.002"			40-0483
							+0.004"			40-0484
							+0.006"			40-0485
							+0.015"			40-0437

High Performance Replacement Retainers

KPMI P/N	Type	Quantity
40-4006	Intake / Exhaust • Titanium "Shim Under" Style supplied with 15° Jumbo Keepers for radius groove valves.	Pkg. of 8

Replacement Keeper Set

KPMI P/N	Type	Quantity
40-4026	7° O.E.M. Style	Pkg. of 8 prs.
500-100008	7° Radius Style / .040" Shorter Above Bead	Pkg. of 1 pr.

15° Jumbo Keepers are designed for high spring loads in racing applications.

KAWASAKI® NINJA™ 900 1984-1986

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
40-4190	Intake	29.00mm	1.142"	20°	3.510"	Standard
40-4191	Intake	30.50mm	1.201"	20°	3.510"	Oversize
40-4192	Exhaust	24.50mm	0.965"	30°	3.430"	Standard
40-4193	Exhaust	25.00mm	0.984"	30°	3.440"	Oversize

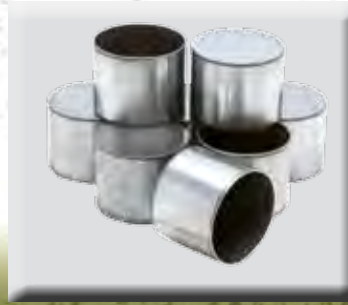
KAWASAKI® KZ™ / Z1™ POLICE 1000 1977-'05



40-0449



40-4181H



40-1013



High Performance Spring Kit Only						
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-0449	Intake	40-1008M (O.E.M. Style)	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.425"		1.320"	90#		245#	.425"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1016	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.475"		1.320"	90#		265#	.475"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1007	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.320"	90#		280#	.500"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1014	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.565"		1.405"	105#		305#	.565"

* Use with Kibblewhite® "Shim Under" Style Tappets # 40-1013 with this retainer.

White Diamond® Valves • Hard Chrome Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4180H	Intake	36.00mm	1.417"	0.2745"	23°	3.615"	Standard
40-4181H	Intake	37.50mm	1.476"	0.2745"	23°	3.615"	Upsize (max w/ stock seat)
40-4183H	Exhaust	30.00mm	1.181"	0.2745"	29°	3.555"	Standard
40-4184H	Exhaust	31.00mm	1.220"	0.2745"	29°	3.555"	Upsize (max w/ stock seat)

White Diamond® Valves • J Model Valves • Hard Chrome Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4281H	Intake	38.50mm	1.516"	0.2745"	23°	3.560"	Standard
40-4285H	Exhaust	32.00mm	1.260"	0.2745"	29°	3.515"	Standard



KAWASAKI® KZ™ / Z1™ POLICE 1000 1977-'05



40-0478



40-0482



40-4006

C630 Bronze Valve Guides

		A	B	C	D	E	F	G	Intake	Exhaust
	0.440"	0.490"	0.785"	1.165"	0.495"	0.2745"	0.4752"		40-0478	
							+0.002"		40-0479	
							+0.004"		40-0480	
							+0.006"		40-0481	
							+0.015"		40-0436	
							+0.027"		40-0499	
	0.410"	0.490"	---	1.240"	0.495"	0.2745"	0.4745"			40-0482
							+0.002"			40-0483
							+0.004"			40-0484
							+0.006"			40-0485
							+0.015"			40-0437

High Performance Replacement Retainers

KPMI P/N	Type	Quantity
40-4006	Titanium "Shim Under" Style supplied with 15° Jumbo Keepers for radius groove valves.	Pkg. of 8

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Keeper Set

KPMI P/N	Type	Quantity
40-4026	7° O.E.M. Style	Pkg. of 8 prs.
500-100008	7° Radius Style / .040" Shorter Above Bead	Pkg. of 1 pr.

15° Jumbo Keepers are designed for high spring loads in racing applications.

Replacement Tappets

KPMI P/N	Type	Quantity
40-1013	Standard	Pkg. of 8
40-4202	+0.020"	Pkg. of 1
40-4203	+0.040"	Pkg. of 1
40-4035	35 mm	Pkg. of 1

Use Kibblewhite® Shim On Bottom Retainers # 40-1008 (Pkg. of 8). Large tappets available, see the Kibblewhite® Tappet Section in back of catalog (Pg. 183).

For all the applications available for Kibblewhite's Kawasaki® line of products, please refer online to the Kawasaki® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**

KAWASAKI® NINJA™ 1000R 1986-1987



40-4190



700-100016



Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4190	Intake	29.00mm	1.142"	0.2155"	20°	3.510"	Standard
40-4191	Intake	30.50mm	1.201"	0.2155"	20°	3.510"	Oversize
40-4192	Exhaust	24.50mm	0.965"	0.2150"	30°	3.430"	Standard
40-4193	Exhaust	25.00mm	0.984"	0.2150"	30°	3.440"	Oversize

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KAWASAKI® GPZ™ 1100 1981-1982

High Performance Spring Kit Only

KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-0449	Intake	40-1008M (O.E.M. Style)	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.425"		1.320"	90#		245#	.425"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1016	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.475"		1.320"	90#		265#	.475"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1007	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.320"	90#		280#	.500"
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-1014	Intake	*40-1008	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.565"		1.405"	105#		305#	.565"

* Use with Kibblewhite® "Shim Under" Style Tappets # 40-1013 with this retainer.



KAWASAKI® GPZ™ 1100 1981-1982



40-0449



40-4180H



40-0478



40-0482



40-1013

White Diamond® Valves • J Model Valves • Hard Chrome Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4281H	Intake	38.50mm	1.516"	0.2745"	23°	3.560"	Standard
40-4285H	Exhaust	32.00mm	1.260"	0.2745"	29°	3.515"	Standard

C630 Bronze Valve Guides

		A	B	C	D	E	F	G	Intake	Exhaust
	0.440"	0.490"	0.785"	1.165"	0.495"	0.2745"	0.4752"		40-0478	
								+0.002"	40-0479	
								+0.004"	40-0480	
								+0.006"	40-0481	
								+0.015"	40-0436	
								+0.027"	40-0499	
	0.440"	0.490"	---	1.240"	0.495"	0.2745"	0.4752"			40-0482
								+0.002"		40-0483
								+0.004"		40-0484
								+0.006"		40-0485
								+0.015"		40-0437

High Performance Replacement Retainers

KPMI P/N	Type	Quantity
40-4006	Titanium "Shim Under" Style supplied with 15° Jumbo Keepers for radius groove valves.	Pkg. of 8

Replacement Keeper Set

KPMI P/N	Type	Quantity
40-4026	7° O.E.M. Style	Pkg. of 8 prs.
500-100008	7° Radius Style / .040" Shorter Above Bead	Pkg. of 1 pr.

15° Jumbo Keepers are designed for high spring loads in racing applications.

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
40-1013	Standard	Pkg. of 8
40-4202	+0.020"	Pkg. of 1
40-4203	+0.040"	Pkg. of 1
40-4035	35 mm	Pkg. of 1

Use Kibblewhite® Shim On Bottom Retainers # 40-1008 (Pkg. of 8). Large tappets available, see the Kibblewhite® Tappet Section in back of catalog (Pg. 183).

KAWASAKI® ZX-7R™ 1991-1995



40-4385



40-4400



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4385	Intake	40-4386	Use O.E.M	40-4387	40-4388	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.425"		1.220"		159#		.425"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.595"	0.620"	0.855"	0.460"	0.1760"	0.4165"		40-4400
								+0.010"	40-4410

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

KAWASAKI® VULCAN™ 1500 1986-2008

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-40004	Intake	40-40006	Use O.E.M	40-40005	Use O.E.M	40-40007
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.450"		1.450"		277#		.450"

KAWASAKI® VULCAN™ 1500 (Mean Streak) 2002-2003

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40060	Intake	40-40061	Use O.E.M	40-40062	Use O.E.M	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.450"		1.450"		277#		.450"



KAWASAKI® ZX-7R™ 1996-2003



40-4395



40-4400

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4395	Intake	40-4396	Use O.E.M	40-4397	40-4398	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.460"		1.260"		45#		157#
						@ Lift
						.460"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.550"	0.595"	0.620"	0.855"	0.460"	0.1760"	0.4165"		40-4400
								+0.010"	40-4410

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

KAWASAKI® ZX-9R™ 1994-2003

Lightweight Racing Valve Spring Kit For 1994-1997 Models

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4385	Intake	40-4386	Use O.E.M	40-4387	40-4388	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.425"		1.220"		55#		159#
						@ Lift
						.425"

Lightweight Racing Valve Spring Kit For 1998-2003 Models

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4500	Intake	40-4501	Use O.E.M	40-4502	40-4503	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.470"		1.280"		40#		155#
						@ Lift
						.470"

KAWASAKI® ZX-9R™ 1994-2003



40-4500



40-4400



C630 Bronze Valve Guides										
		A	B	C	D	E	F	G	Intake	Exhaust
		0.550"	0.595"	0.620"	0.855"	0.460"	0.1760"	0.4165"		
								+0.010"		40-4410

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

KAWASAKI® ZX-10R™ 1988-1990

High Performance Spring Kit Only						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4611	Intake	40-4612	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.400"	43#		160#	.500"

C630 Bronze Valve Guides										
		A	B	C	D	E	F	G	Intake	Exhaust
		0.475"	0.575	0.615"	0.800"	0.675"	0.1940'	0.4163"		
								+0.004"		40-4604
								+0.010"		40-4610

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



KAWASAKI® ZX-10R™ 2004-2007



40-40450



40-4062

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-40450	Intake	40-40451	Use O.E.M	40-40453	40-40455	---
	Exhaust	40-40452	Use O.E.M	40-40454	40-40456	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.445"	1.350"	50#	162#	.445"	
Exhaust	.445"	1.240"	44#	153#	.445"	

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40462	Intake	30.00mm	1.181"	0.1765"	11°	3.580"	Standard
40-40463	Intake	31.00mm	1.220"	0.1765"	11°	3.580"	Oversize

Replacement Tappets

KPMI P/N	Type	Quantity
600-100050	Intake / Exhaust	Pkg. of 1

KAWASAKI® ZX-10R™ 2011-2013

Lightweight High-Lift Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-40850	Intake	40-40851	Use O.E.M	40-40853	40-40855	40-40859
	Exhaust	40-40852	Use O.E.M	40-40854	40-40856	N/A
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.445"	1.350"	50#	162#	.445"	
Exhaust	.445"	1.240"	44#	153#	.445"	

KAWASAKI® ZX-11™ / ZRX™ 1100/ 1200 1999-'05



40-4611



40-4012H



40-4600



High Performance Spring Kit Only						
KPMI P/N	Type	Recommended Ti. Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
40-4611	Intake	40-4612	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.500"		1.400"	43#		160#	.500"

White Diamond® Valves • Hard Chrome Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-4012H	Intake	31.50mm	1.240"	0.1960"	11°	3.515"	Standard
40-4014H	Intake	32.50mm	1.280"	0.1960"	11°	3.510"	Oversize
40-4011H	Exhaust	27.00mm	1.063"	0.1950"	14°	3.500"	Standard

C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
	0.475"	0.575	0.615"	0.800"	0.675"	0.1950"	0.4163"		40-4600	
								+0.004"		40-4604
								+0.010"		40-4610

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

For all the applications available for Kibblewhite's Kawasaki® line of products, please refer online to the Kawasaki® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**



KAWASAKI® ZX-12R™ 2000-2005



40-40025



40-40030



40-40040

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims	
40-40025	Intake	40-40027	Use O.E.M	40-40026	40-40029	40-40028	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.420"		1.410"		56#		183#	
						@ Lift	
						.420"	

Black Diamond™ Valves • Black Nitroreng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40030	Intake	33.40mm	1.315"	0.1960"	10°	3.850"	Standard
40-40031	Intake	34.40mm	1.354"	0.1960"	10°	3.850"	Oversize
40-40032	Exhaust	28.24mm	1.112"	0.1955"	15°	3.875"	Standard
40-40033	Exhaust	29.24mm	1.151"	0.1955"	15°	3.875"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.690"	0.730"	0.555"	0.855"	0.460"	0.1960"	0.4165"		40-40040
							+0.001"	40-40041	
							+0.002"	40-40042	
							+0.010"	40-40050	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KAWASAKI® ZX-14™ 2006-2011



**TOP
SELLER**



40-40267



40-40273



40-40280



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks			
40-40267	Intake	40-40268	Use O.E.M	40-40269	40-40270	---			
	Exhaust								
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift	
.405"		1.285"		66#		168#		.405"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
40-40273	Intake	33.40mm	1.315"	0.1960"	10°	3.575"	Standard
40-40274	Intake	34.40mm	1.354"	0.1960"	10°	3.575"	Oversize
40-40276	Exhaust	28.25mm	1.112"	0.1955"	10°	3.585"	Standard
40-40277	Exhaust	29.25mm	1.152"	0.1955"	10°	3.585"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.460"	0.460"	0.500"	0.780"	0.413"	0.1950"	0.4162"		40-40280	
								+0.001"		40-40281
								+0.002"		40-40282
								+0.010"		40-40289

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Seal Type	Quantity
40-40271	Intake / Exhaust	Pkg. of 16



KAWASAKI® PWC™ 2007-2014



40-40750



40-40762



40-40770

STX • 2009-2010

STX-15F™ • 2006-2014

Ultra 250X™ • 2007-2008

Ultra LX™ • 2008-2014

Ultra 260X™ • 2009-2010

Ultra 260LX™ • 2009-2010

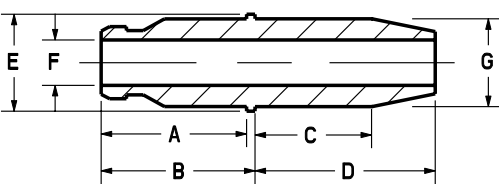
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
40-40750	Intake	40-40751	Use O.E.M	40-40753	40-40755	40-40759
	Exhaust	40-40751	Use O.E.M	40-40753	40-40755	N/A
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.385"	1.410"	56#	171#	.383"	
Exhaust	.385"	1.410"	56#	171#	.383"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
40-40762	Intake	33.40mm	1.315"	0.1960"	3.850"	Standard
40-40763	Intake	34.40mm	1.354"	0.1960"	3.850"	Oversize
40-40766	Exhaust	28.24mm	1.112"	0.1955"	3.875"	Standard
40-40767	Exhaust	29.24mm	1.151"	0.1955"	3.875"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.690"	0.730"	0.555"	0.855"	0.460"	0.1960"	0.4165"		40-40770
							+0.001"	40-40771	
							+0.002"	40-40772	
							+0.010"	40-40779	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KTM® 250 2005-2007

(For RC4 Engines)



96-96090



96-96102



96-96110



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
96-96090	Intake	96-96091	Use O.E.M.	96-96093	96-96095	---
	Exhaust	96-96092	Use O.E.M.	96-96094	96-96096	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.425"	1.175"	60#	169#	.425"	
Exhaust	.425"	1.175"	60#	169#	.425"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
96-96130	Intake	96-96102	96-96091	Use O.E.M.	96-96093	96-96095	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.425"	1.175"	60#	169#	.425"			

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96102	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Standard
96-96103	Intake	31.95mm	1.258"	0.1960"	15°	3.910"	Oversize
96-96106	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Standard
96-96107	Exhaust	27.60mm	1.087"	0.1955"	30°	3.665"	Oversize

You must use KPMI® Spring Kit # 96-96400 when installing Black Diamond™ valves



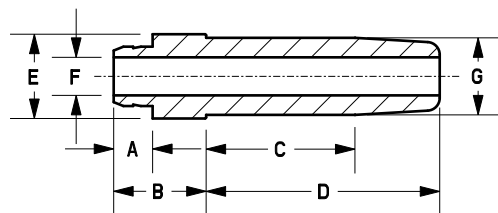
O.E.M. Replacement Valves for 2005-'07 KTM 250

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96102T	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Titanium
96-96106T	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides

A	B	C	D	E	F	G	Intake		Exhaust	
							Part #	Remarks	Part #	Remarks
0.200"	0.475"	1.020"	1.335"	0.470"	0.1960"	0.3958"	96-96110			
						+0.001"	96-96111			
						+0.002"	96-96112			
						+0.010"	96-96119			
0.200"	0.475"	0.765"	1.200"	0.470"	0.1960"	0.3958"		96-96120		
						+0.001"		96-96121		
						+0.002"		96-96122		
						+0.010"		96-96129		



Use O.E.M. Seal



KTM® 250 2008-2011

(For RC4 Engines)



**TOP
SELLER**



96-96250



96-96262



96-96270

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
96-96250	Intake	96-96251	Use O.E.M.	96-96253	96-96255	---
	Exhaust	96-96252	Use O.E.M.	96-96254	96-96256	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.425"	1.175"	60#	169#	.425"	
Exhaust	.425"	1.175"	60#	169#	.425"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
96-96450	Intake	96-96262	96-96251	Use O.E.M	96-96253	96-96255	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.425"	1.175"	60#	169#	.425"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96262	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Standard
96-96263	Intake	31.95mm	1.258"	0.1960"	15°	3.910"	Oversize
96-96266	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Standard
96-96267	Exhaust	27.60mm	1.087"	0.1955"	30°	3.665"	Oversize

You must use KPMI® Spring Kit # 96-96400 when installing Black Diamond™ valves



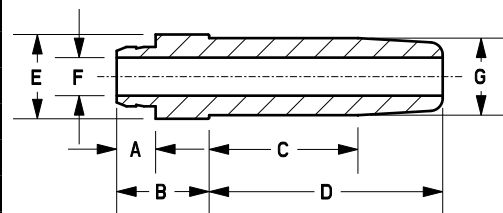
O.E.M. Replacement Valves for 2008-'13 KTM 250

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96262T	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Titanium
96-96266T	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides

A	B	C	D	E	F	G	Intake	Exhaust
							KPMI P/N	Remarks
0.200"	0.475"	1.020"	1.335"	0.433"	0.1960"	0.3958"	96-96270	
						+0.001"	96-96271	
						+0.002"	96-96272	
						+0.010"	96-96279	
0.200"	0.475"	0.765"	1.200"	0.433"	0.1955"	0.3958"		96-96280
						+0.001"		96-96281
						+0.002"		96-96282
						+0.010"		96-96289



Use O.E.M. Seal

KTM® 250 2012-2013

(For RC4 Engines) XCF - W™ **Only • 2013**



96-96250



96-96262



96-96290



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
96-96250	Intake	96-96251	Use O.E.M.	96-96253	96-96255	---
	Exhaust	96-96252	Use O.E.M.	96-96254	96-96256	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.425"	1.175"	60#	169#	.425"	
Exhaust	.425"	1.175"	60#	169#	.425"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
96-96450	Intake	96-96262	96-96251	Use O.E.M	96-96253	96-96255	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.425"	1.175"	60#	169#	.425"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96262	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Standard
96-96263	Intake	31.95mm	1.258"	0.1960"	15°	3.910"	Oversize
96-96266	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Standard
96-96267	Exhaust	27.60mm	1.087"	0.1955"	30°	3.665"	Oversize

You must use KPMI® Spring Kit # 96-96400 when installing Black Diamond™ valves

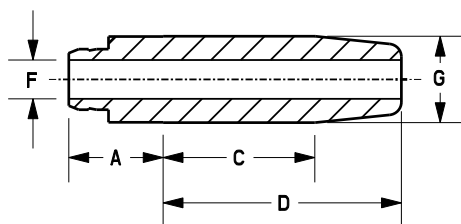


O.E.M. Replacement Valves for 2008-'13 KTM 250

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96262T	Intake	30.95mm	1.218"	0.1960"	15°	3.910"	Titanium
96-96266T	Exhaust	26.60mm	1.047"	0.1955"	30°	3.665"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.475"	---	1.020"	1.335"	---	0.1960"	0.4352"	96-96290	
						+0.001"	96-96291	
						+0.002"	96-96292	
						+0.010"	96-96299	
0.475"	---	0.765"	1.200"	---	0.1955"	0.4352"		96-96300
						+0.001"		96-96301
						+0.002"		96-96302
						+0.010"		96-96309

Use O.E.M. Seal



KTM[®] SX-F / XC-F 250 2013-2014



96-96400



96-96480

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
96-96400	Intake	96-96401	Use O.E.M.	96-96403	96-96405	---
	Exhaust	96-96402	Use O.E.M.	96-96404	96-96406	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.450"	1.340"	50#	165#	.450"	
Exhaust	.450"	1.340"	50#	165#	.450"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
96-96480	Intake	96-96412	96-96401	Use O.E.M	96-96403	96-96405	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.450"	1.340"	50#	165#	.450"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96412	Intake	32.51mm	1.280"	0.1960"	15°	3.770"	Standard
96-96416	Exhaust	26.55mm	1.045"	0.1955"	30°	3.875"	Standard

Note. You must use KPMI® Spring Kit # 96-96400 when installing Black Diamond™ valves



O.E.M. Replacement • Tensilite® Valves • Chromium Nitride PVD Coated

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96412T	Intake	32.51mm	1.280"	0.1960"	15°	3.770"	Standard
96-96416T	Exhaust	26.55mm	1.045"	0.1955"	30°	3.875"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.490"	---	0.715"	1.165"	---	0.1960"	0.4352"	96-96420	
							+0.001"	96-96421	
							+0.002"	96-96422	
							+0.010"	96-96429	
	0.490"	---	0.885"	1.165"	---	0.1955"	0.4352"		96-96430
							+0.001"		96-96431
						+0.002"		96-96432	
						+0.010"		96-96439	

Use O.E.M. Seal

KTM® ALL RFS ENGINES 400cc-560cc 2000-'09



**TOP
SELLER**



96-96000



96-96004



96-96010

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shim
96-96000	Intake	96-96001	Use O.E.M.	96-96002	96-96003	96-96035
	Exhaust	96-96036	Use O.E.M.	96-96037	96-96038	96-96039
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.435"	1.175"	75#	214#	.435"	
Exhaust	.435"	1.175"	75#	214#	.435"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
96-96070	Intake	96-96004	96-96001	Use O.E.M	96-96002	96-96003	---	96-96035
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.435"	1.175"	75#	214#	.435"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
96-96004	Intake	35.00mm	1.378"	0.2350"	20°	Standard
96-96005	Intake	36.00mm	1.417"	0.2350"	20°	Oversize
96-96007	Exhaust	30.00mm	1.181"	0.2342"	24°	Standard
96-96008	Exhaust	31.00mm	1.220"	0.2342"	24°	Oversize

Note. You must use KPMI® Spring Kit # 96-96400 when installing Black Dismond™ vlaves

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	0.450"	0.555"	0.945"	0.525"	0.2360"	0.4745"		96-96010
							+0.001"	96-96011	
							+0.002"	96-96012	
							+0.010"	96-96019	
0.410"	0.450"	0.740"	1.100"	0.525"	0.2360"	0.4745"			96-96020
							+0.001"		96-96021
							+0.002"		96-96022
							+0.010"		96-96029

Use O.E.M. Seal

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-10029	Intake / Exhaust • Style 5 • Steel Clad Viton	Pkg. of 1



MOTO GUZZI® ALL 2-VALVE "BIG-BLOCKS" 1971-'12



90-9000



90-9100



90-4067

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
90-9000	Intake	90-90002	Use O.E.M.	90-90001	90-90003	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.575"		1.420"		110#		205#
						@ Lift
						.375"

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
90-9100	Intake	41.00mm	1.614"	0.3145"	23°	4.200"	Std. (OEM #13036000)
90-9102	Intake	44.00mm	1.732"	0.3145"	23°	4.185"	Std. (OEM #14036050)
90-9101	Exhaust	36.00mm	1.417"	0.3140"	27°	4.130"	Std. (OEM #13033100)
90-9103	Exhaust	37.10mm	1.461"	0.3140"	27°	4.100"	Std. (OEM #14036150)

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.645"	0.695"	1.205"	1.405"	0.620"	0.3145"	0.5538"		90-4067	
								+0.002"		90-4068
								+0.010"		90-4175

Seal not required.

For all the applications available for Kibblewhite's Moto Guzzi® line of products, please refer online to the Moto Guzzi® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.

NORTON® 750 1968-1973



NEW PRODUCTS



50-0460



50-50000



50-0410



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
50-0460	Intake	50-0461	50-0462	50-0463	50-0464	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.500"		1.420"		105#	185#	.320"

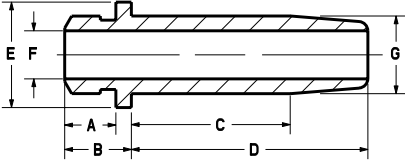
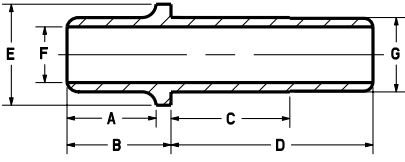
O.E.M. Replacement Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
50-50000	Intake	50-50001	Use O.E.M	50-50004	50-50003	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.410"		1.280"		93#	170#	.320"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
50-4092	Intake	38.10mm	1.500"	0.3107"	1.5" R	Standard
50-4092-1	Intake	39.62mm	1.560"	0.3107"	1.5" R	Oversize
50-4091	Exhaust	33.02mm	1.300"	0.3107"	27°	Standard
50-4091-1	Exhaust	34.54mm	1.360"	0.3107"	27°	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.330"	0.430"	1.025"	1.525"	0.680"	0.3105"	0.5010"	50-0403
							+0.002"	50-0404	
							+0.004"	50-0405	
							+0.006"	50-0406	
	0.470"	0.655"	0.785"	1.345"	0.682"	0.3105"	0.5010"		50-0410
							+0.002"		50-0411
							+0.004"		50-0412
							+0.006"		50-0412

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100012	Intake • Style 1 • Viton	Pkg. of 1
Exhaust Seal Not Required		

Push Rods

KPMI P/N	Type	Quantity
50-50010	Intake / Exhaust	Pkg. of 4



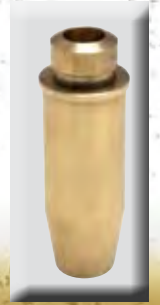
NORTON® 850 1973-1977



50-0460



50-50000



50-0648

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
50-0460	Intake	50-0461	50-0462	50-0463	50-0464	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.500"		1.420"		105#		185#
						@ Lift
						.320"

O.E.M. Replacement Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
50-50000	Intake	50-50001	Use O.E.M	50-50004	50-50003	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.410"		1.280"		93#		170#
						@ Lift
						.320"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
50-4092	Intake	38.10mm	1.500"	0.3107"	1.5" R	4.065"	Standard
50-4092-1	Intake	39.62mm	1.560"	0.3107"	1.5" R	4.055"	Oversize
50-4091	Exhaust	33.02mm	1.300"	0.3107"	27°	4.015"	Standard
50-4091-1	Exhaust	34.54mm	1.360"	0.3107"	27°	4.005"	Oversize

C630 Bronze Valve Guides

Diagram	A	B	C	D	E	F	G	Intake	Exhaust
		0.330"	0.400"	1.030"	1.560"	0.680"	0.3105'	0.6260"	50-0648
							+0.002"	50-0649	
							+0.004"	50-0650	
							+0.006"	50-0651	
	0.525"	0.580"	0.955'	1.420"	0.680"	0.3105'	0.6260"		50-0652
							+0.002"		50-0653
							+0.004"		50-0654
							+0.006"		50-0655

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100012	Intake • Style 1 • Viton	Pkg. of 1
Exhaust Seal Not Required		

Push Rods

KPMI P/N	Type	Quantity
50-50010	Intake / Exhaust	Pkg. of 4

POLARIS® PREDATOR™ / OUTLAW™ 500 2003-'07



96-96000



82-82052



82-82030



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
82-82012	Intake	82-82013	Use O.E.M	82-82014	---	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.440"		1.375"		66#		199#
						@ Lift
						.440"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82052	Intake	37.00mm	1.457"	0.2345"	20°	4.035"	Standard
82-82053	Intake	38.00mm	1.496"	0.2345"	20°	4.035"	Oversize
82-82055	Exhaust	32.00mm	1.260"	0.2345"	20°	4.035"	Standard
82-82056	Exhaust	33.00mm	1.300"	0.2345"	20°	4.035"	Oversize

C630 Bronze Valve Guides									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.375"	0.545"	0.880"	0.980"	0.704"	0.2345"	0.4160"		82-82030
								+0.001"	82-82031
								+0.010"	82-82039

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100017	In/Ex • Style 5 • Steel Clad Viton	Pkg. of 1

Push Rods		
KPMI P/N	Type	Quantity
600-100650	Standard	Pkg. of 1

POLARIS® 425 / 500 1996-2013

Scrambler™ / Sportsman™ / Magnum™ / Xpedition™

Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
82-82000	Intake	82-82001	Use O.E.M	82-82002	82-82003	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.440"		1.285"		40#		140#
						@ Lift
						.440"

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82005	Intake	31.00mm	1.220"	0.2345"	14°	3.970"	Standard
82-82008	Exhaust	26.55mm	1.063"	0.2340"	25°	3.985"	Standard



POLARIS® SPORTSMAN™ 800 2006-2014



82-82060



82-82065



82-82070

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82060	Intake	82-82061	Use O.E.M.	82-82062	82-82063	*82-82099
	Exhaust	82-82061	Use O.E.M.	82-82062	82-82064	N/A
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.500"	1.495"	65#	235#	.500"	
Exhaust	.500"	1.495"	65#	235#	.500"	

*These seals are designed to work with the KPMI® Spring Kit and OEM intake Valve Guides. Use the recommended #82-82390 seals when using KPMI® Valve Guides.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
82-82065	Intake	35.00mm	1.378"	0.2357"	25°	4.510"	Standard
82-82066	Intake	36.00mm	1.417"	0.2357"	25°	4.510"	Oversize
82-82068	Exhaust	30.00mm	1.181"	0.2352"	11°	4.555"	Standard
82-82069	Exhaust	31.00mm	1.220"	0.2352"	11°	4.555"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.470"	0.560"	0.495"	1.335"	0.544"	0.2360"	0.4950"	82-82070	
							+0.001"	82-82071	
							+0.002"	82-82072	
							+0.010"	82-82079	
	0.525"	0.615"	0.520"	1.115"	0.544"	0.2355"	0.4531"	82-82080	
							+0.001"	82-82081	
							+0.002"	82-82082	
							+0.010"	82-82089	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
*82-82091	Intake / Exhaust • Style 5 • Solid Viton w/ Metal Jacket	Pkg. of 4

*These seals are designed to work with the KPMI® Guides.

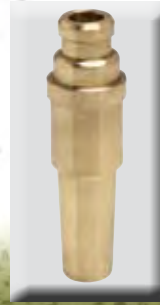
POLARIS® RZR™ 800 2008-2010



82-82200



82-82212



82-82220



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82200	Intake	82-82201	Use O.E.M.	82-82203	82-82205	*82-82207
	Exhaust	82-82201	Use O.E.M.	82-82203	82-82206	N/A
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.500"	1.495"	65#	235#	.500"	
Exhaust	.500"	1.495"	65#	235#	.500"	

*These seals are designed to work with the KPMI® Spring Kit and OEM intake Valve Guides. Use the recommended #82-82390 seals when using KPMI® Valve Guides.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82212	Intake	35.00mm	1.378"	0.2357"	25°	4.510"	Standard
82-82213	Intake	36.00mm	1.417"	0.2357"	25°	4.510"	Oversize
82-82216	Exhaust	30.00mm	1.181"	0.2352"	11°	4.555"	Standard
82-82217	Exhaust	31.00mm	1.220"	0.2352"	11°	4.555"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.470"	0.560"	0.495"	1.335"	0.544"	0.2360"	0.4950"	82-82220	
							+0.001"	82-82221	
							+0.002"	82-82222	
							+0.010"	82-82229	
	0.525"	0.615"	0.520"	1.115"	0.544"	0.2355"	0.4531"		82-82230
							+0.001"		82-82231
							+0.002"		82-82232
							+0.010"		82-82239

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
*82-82240	Intake / Exhaust • Style 5 • Solid Viton w/ Metal Jacket	Pkg. of 4

*These seals are designed to work with the KPMI® Guides.



POLARIS® RZR™ 800 2011-2014



82-82300



82-82312



82-82320

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82300	Intake	82-82301	Use O.E.M.	82-82303	82-82305	*82-82307
	Exhaust	82-82301	Use O.E.M.	82-82303	82-82305	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.500"	1.495"	65#	235#	.500"	
Exhaust	.500"	1.495"	65#	235#	.500"	

*These seals are designed to work with the **KPMI® Spring Kit** and OEM intake Valve Guides. Use the **recommended #82-82390 seals** when using KPMI® Valve Guides.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82312	Intake	35.00mm	1.378"	0.2357"	25°	4.510"	Standard
82-82313	Intake	36.00mm	1.417"	0.2357"	25°	4.510"	Oversize
82-82316	Exhaust	30.00mm	1.181"	0.2352"	11°	4.555"	Standard
82-82317	Exhaust	31.00mm	1.220"	0.2352"	11°	4.555"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.490"	0.580"	1.385"	1.515"	0.552"	0.2352"	0.4531"		82-82320
							+0.001"	82-82321	
							+0.002"	82-82322	
							+0.010"	82-82329	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
*82-82340	Intake / Exhaust • Style 5 • Solid Viton w/ Metal Jacket	Pkg. of 4

*These seals are designed to work with the **KPMI® Guides**.

For all the applications available for Kibblewhite's Polaris® line of products, please refer online to the Polaris® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.

POLARIS® RZR™ XP900 2011-2012



82-82160



82-82155



82-82170



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
82-82160	Intake	82-82161	Use O.E.M	82-82163	82-82165	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.450"		1.375"		57#		150#
						@ Lift
						.450"

High Performance "Turbo" Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
82-82190	Intake	82-82191	Use O.E.M	82-82193	82-82195	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.450"		1.375"		65#		200#
						@ Lift
						.450"

When installing these kits with a shouldered guide, the use of a spring shim (KPMI P/N 900-200039 or equivalent) may be necessary for guide shoulder to basewasher clearance.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82155	Intake	37.72mm	1.485"	0.2160"	17°	3.775"	Standard
82-82156	Intake	38.72mm	1.524"	0.2160"	17°	3.775"	Oversize
82-82158	Exhaust	32.44mm	1.277"	0.2155"	25°	3.815"	Standard
82-82159	Exhaust	33.44mm	1.317"	0.2155"	25°	3.815"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.460"	---	0.815"	0.960"	0.433"	0.2155"	0.4353"	82-82170		
								+0.001"	82-82171	
								+0.002"	82-82172	
								+0.004"	82-82174	
								+0.010"	82-82179	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
82-82181	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
82-82185	Intake / Exhaust	Pkg. of 8



POLARIS® RANGER™ XP900 2013



82-82260



82-82255



82-82270

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
82-82260	Intake	82-82261	Use O.E.M	82-82263	82-82265	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.375"	57#	150#	.450"	

The tappet must never contact the retainer for this application. To ensure this, the top surface of the shim must never fall below the top surface of the retainer.

High Performance "Turbo" Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
82-82290	Intake	82-82291	Use O.E.M	82-82293	82-82295	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.375"	65#	200#	.450"	

When installing these kits with a shouldered guide, the use of a spring shim (KPMI P/N 900-200039 or equivalent) may be necessary for guide shoulder to basewasher clearance.

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82255	Intake	34.42mm	1.355"	0.2160"	17°	3.765'	Standard
82-82256	Intake	35.42mm	1.394"	0.2160"	17°	3.765'	Oversize
82-82258	Exhaust	29.21mm	1.150"	0.2155"	25°	3.805"	Standard
82-82259	Intake	30.21mm	1.189"	0.2155"	25°	3.805"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.425"	0.460"	0.815"	0.960"	0.480"	0.2155"	0.4353"		82-82270
							+0.001"	82-82271	
							+0.002"	82-82272	
							+0.004"	82-82274	
							+0.010"	82-82279	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
82-82181	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
82-82185	Intake / Exhaust	Pkg. of 8

POLARIS® RZR™ 900 2013-2014



82-82500



82-82450



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82500	Intake	82-82501	Use O.E.M	82-82503	82-82503	82-82507
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.450"		1.375"	57#		150#	.450"

High Performance "Turbo" Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82450	Intake	82-82451	Use O.E.M	82-82453	82-82455	82-82457
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.450"		1.375"	65#		200#	.450"

NOTE: 1) Both of these kits are compatible with the OEM tappet lash adjustment system and the KPMI® shim conversion tappets listed below.
 2) The seals included in these kits are intended for use with OEM guides. Please use KPMI® P/N 700-100016 when installing KPMI® guides.
 3) Some early 2013 models came from the OEM with guides that included a seal detail. These guides require the use of KPMI® seal P/N 82-82181.
 4) Our Turbo spring kit has been designed for applications with up to 15psi of boost.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82462	Intake	37.72mm	1.485"	0.2160"	17°	3.775"	Standard
82-82463	Intake	38.72mm	1.524"	0.2160"	17°	3.775"	Oversize
82-82466	Exhaust	32.44mm	1.277"	0.2155"	25°	3.815"	Standard
82-82467	Exhaust	33.44mm	1.317"	0.2155"	25°	3.815"	Oversize

For all the applications available for Kibblewhite's Polaris® line of products, please refer online to the Polaris® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.



POLARIS® RZR™ 900 2013-2014



82-82465



82-82480



82-82459

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	---	0.455"	0.755"	0.970"	0.433"	0.2160'	0.4353"	0.4353"	82-82480
							+0.001"	82-82481	
							+0.002"	82-82482	
							+0.010"	82-82489	
---	0.455"	0.815"	0.940"	0.433"	0.2155'	0.4353"	0.4353"		82-82470
							+0.001"		82-82471
							+0.002"		82-82472
							+0.010"		82-82479

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
82-82459	Intake / Exhaust	Pkg. of 8

These tappets must be used with KPMI® spring kit. 82-82450 or 82-82500 to convert to a 9.5mm shim adjustment system. For complete shim range visit www.kpmi.us or Tappets section in back of catalog (Pg. 183)

POLARIS® RZR™ XP1000 2014

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
82-82400	Intake Exhaust	82-82401	Use O.E.M	82-82403	82-82405	82-82407
Valve Lift		Installed Height	Seat Pressure	Open Pressure		@ Lift
.450"		1.375"	57#	150#		.450"

High Performance "Turbo" Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
82-82350	Intake Exhaust	82-82351	Use O.E.M	82-82352	82-82355	82-82357
Valve Lift		Installed Height	Seat Pressure	Open Pressure		@ Lift
.450"		1.375"	65#	200#		.450"

- NOTE:** 1) Both of these kits are compatible with the OEM tappet lash adjustment system and the KPMI® shim conversion tappets listed below.
 2) The seals included in these kits are intended for use with OEM guides. Please use KPMI® P/N 700-100016 when installing KPMI® guides.
 3) Some early 2013 models came from the OEM with guides that included a seal detail. These guides require the use of KPMI® seal P/N 82-82181.
 4) Our Turbo spring kit has been designed for applications with up to 15psi of boost.

POLARIS® RZR™ XP1000 2014



NEW PRODUCTS



82-82350



82-82362



82-82370



Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
82-82362	Intake	37.72mm	1.485"	0.2160"	17°	3.775"	Standard
82-82363	Intake	38.72mm	1.524"	0.2160"	17°	3.775"	Oversize
82-82366	Exhaust	29.21mm	1.150"	0.2155"	25°	3.805"	Standard
82-82367	Exhaust	30.21mm	1.189"	0.2155"	25°	3.805"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	---	0.455"	0.755"	0.940"	0.433"	0.2160"	0.2160"	0.4353"	82-82370
							+0.001"	82-82371	
							+0.002"	82-82372	
							+0.010"	82-82379	
---	0.455"	1.090"	1.190"	0.433"	0.2155"	0.2155"	0.4353"		82-82380
							+0.001"		82-82381
							+0.002"		82-82382
							+0.010"		82-82389

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100016	Intake • Style 4 • Viton	Pkg. of 1

Replacement Tappets

KPMI P/N	Type	Quantity
82-82359	Intake / Exhaust	Pkg. of 8

These tappets must be used with KPMI® spring kit 82-82350 or 82-82400 to convert to a 9.5mm shim adjustment system. For complete shim range visit www.kpmi.us or Tappets section in back of catalog (Pg. 183)



SUZUKI® DR™ 250/ 350S/ SE 1990-'99



60-6041



60-6030

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-6041	Intake	60-6042	Use O.E.M.	60-6043	60-6044	---
	Exhaust					
Type		Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake	Exhaust	.350"	1.200"	61#	141#	.350"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	0.450"	0.740"	0.890"	0.467"	0.1955"	0.4170"		60-6030
							+0.001"	60-6031	
							+0.002"	60-6032	
							+0.003"	60-6033	
							+0.010"	60-6040	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

KPMI® INTAKE ONLY SPRING KITS

What you need to know about KPMI®
" Intake Only " stainless steel valve conversion systems



**SUZUKI RM-Z250
60-60450
INTAKE ONLY
S.S CONVERSION KIT**

Since the introduction of Titanium intake valves in production off-road bikes, riders and builders have been faced with solving the problem of premature intake valve face recession. For an overwhelming majority, the solution has been installing a KPMI® "Intake Only" kit. These Black Diamond™ stainless steel valves and accompanying spring kits can extend the life expectancy of the intakes by as much as 4x over than the stock intake pieces.

KPMI's Intake Only Kits have been designed as a stainless steel valve conversion system to replace factory titanium intake valves and components. KPMI's engineers use our proprietary design and simulation softwares to create these systems. Our design, simulation, and manufacturing processes insure compatibility of the valve spring's force and natural frequency with the cam profile, the mass of the system, and the engine RPM. Literally, thousands of riders have converted to these kits to extend the life of their intake valves.

These "Intake Only" kits are designed for applications with low hours, where the other intake components and the exhaust components meet factory service time and wear specifications.

KPMI® does not advise partial conversions on race bikes or engines with valvetrain components that have reached factory advertised service/wear limits. For these situations, KPMI® offers a full line of intake and exhaust components. Check the application listing for your bike to see all of the available KPMI® parts.

Always consult with qualified professionals suited to inspect your machine.

SUZUKI® RM-Z250™ 2004-2006



**TOP
SELLER**



60-60170



60-60450



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60170	Intake	60-60171	Use O.E.M.	60-60173	60-60175	---
	Exhaust	60-60172	Use O.E.M.	60-60174	60-60176	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.445"	1.320"	46#	155#	.445"	
Exhaust	.445"	1.320"	46#	155#	.445"	

Intake Only Steel Valve Conversion Kits								
KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-60450	Intake	60-60210	60-60171	Use O.E.M	60-60173	60-60175	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.455"	1.320"	46#	155#	.445"			

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60210	Intake	31.00mm	1.220"	0.1765"	20°	3.120"	Standard
60-60211	Intake	32.00mm	1.260"	0.1765"	20°	3.120"	Oversize
60-60213	Exhaust	25.00mm	0.984"	0.1756"	25°	3.125"	Standard
60-60214	Exhaust	26.00mm	1.024"	0.1756"	25°	3.125"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

NEW O.E.M. Replacement • Tensilite® Valves • Chromium Nitride PVD Coated							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60210T	Intake	31.00mm	1.220"	0.1765"	20°	3.120"	Standard
60-60213T	Exhaust	25.00mm	0.984"	0.1756"	25°	3.125"	Standard



SUZUKI® RM-Z250™ 2004-2006



60-60211



60-60213



60-60210T



60-60190

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.440"	0.465"	0.590"	0.850"	0.410"	0.1765"	0.3765"		60-60190
							+0.001"	60-60191	
							+0.002"	60-60192	
							+0.010"	60-60199	

Valve Guide Seals

KPMI P/N	Seal type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

O.E.M. Replacement Tappets

KPMI P/N	Type	Quantity
60-60176	Intake	Pkg. of 2
60-60177	Exhaust	Pkg. of 2

SUZUKI® RM-Z250™ 2007-2014

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60500	Intake	60-60501	Use O.E.M.	60-60503	60-60505	---
	Exhaust	60-60503	Use O.E.M.	60-60504	60-60506	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.445"	1.300"	51#	160#	.445"	
Exhaust	.445"	1.300"	51#	160#	.445"	

SUZUKI® RM-Z250™ 2007-2014



60-60500



60-60470



60-60512



60-60520

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-60470	Intake	60-60512	60-60501	Use O.E.M	60-60503	60-60505	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.445"	1.300"	51#	160#	.445"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
60-60512	Intake	31.00mm 1.220"	0.1765"	15°	3.175"	Standard
60-60513	Intake	32.00mm 1.260"	0.1765"	15°	3.175"	Oversize
60-60516	Exhaust	25.00mm 0.985"	0.1760"	25°	3.185"	Standard
60-60517	Exhaust	26.00mm 0.1760"	0.1760"	25°	3.185"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

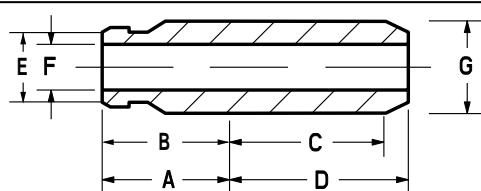


O.E.M. Replacement Valves for 2007-'14 Suzuki RM-Z250

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
60-60512T	Intake	31.00mm 1.220"	0.1765"	15°	3.175"	Titanium
60-60516T	Exhaust	25.00mm 0.985"	0.1760"	25°	3.185"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.545"	---	0.530"	0.700"	0.374"	0.1765	0.3778"	60-60520	
							+0.001"	60-60521
							+0.002"	60-60522
							+0.010"	60-60529

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100013	Intake / Exhaust • Style 2 • Viton	Pkg. of 1



SUZUKI® DR-Z400™ E/S/SM/LT-Z400/400Z™ 2000-'13

**TOP
SELLER**



60-60045



60-60050



60-60060

Lightweight Racing Valve Spring Kit with Shim Under Conversion

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	Adj. Shims	
60-60045	Intake	60-60046	Use O.E.M.	60-60047	60-60048	---	---	
	Exhaust							
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift
.440"		1.205"		57#		171#		0.440"

Black Diamond™ Valves • Black Nitroreg Stems (SPECIAL INDUCTION HARDENED FACES)

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60050	Intake	36.00mm	1.418"	0.1960"	20°	3.245"	Standard
60-60051	Intake	37.00mm	1.457"	0.1960"	20°	3.245"	Oversize
60-60053	Exhaust	29.00mm	1.142"	0.1953"	17°	3.200"	Standard
60-60054	Exhaust	30.00mm	1.182"	0.1953"	17°	3.200"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.390"	0.430"	0.570"	0.770"	0.466"	0.1960"	0.4167"		60-60060
							+0.001"	60-60061	
							+0.002"	60-60062	
							+0.004"	60-60064	
							+0.010"	60-60069	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® LTR™ 450 / 450Z 2006-2009



**TOP
SELLER**



60-60280



60-60850



60-60290



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
60-60280	Intake	60-60281	Use O.E.M.	60-60283	60-60285	---
	Exhaust	60-60282	Use O.E.M.	60-60284	60-60286	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.190"	61#	168#	.415"	
Exhaust	.415"	1.215"	56#	157#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-60850	Intake	60-60310	60-60281	Use O.E.M	60-60283	60-60285	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.190"	61#	168#	.415"			

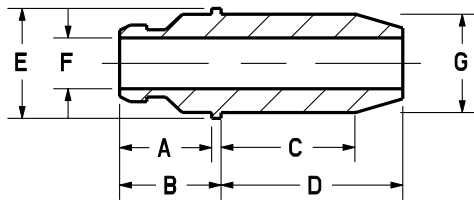
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
60-60310	Intake	36.00mm	1.418"	0.2160"	20°	3.225"	Standard
60-60311	Intake	37.00mm	1.457"	0.2160"	20°	3.225"	Oversize
60-60313	Exhaust	29.00mm	1.142"	0.2150"	20°	3.190"	Standard
60-60314	Exhaust	30.00mm	1.182"	0.2150"	20°	3.190"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

A	B	C	D	E	F	G		
							Intake	Exhaust
0.375"	0.410"	0.600"	0.820"	0.460"	0.2155"	0.4170"	60-60290	
						+0.001"	60-60291	
						+0.002"	60-60292	
						+0.004"	60-60294	
						+0.010"	60-60299	
0.375"	0.410"	0.600"	0.820"	0.460"	0.2155"	0.4170"		60-60300
						+0.001"		60-60301
						+0.002"		60-60302
						+0.004"		60-60304
						+0.010"		60-60309



Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



SUZUKI® RM-Z450™ 2005-2006



60-60240



60-60580



60-60320

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60240	Intake	60-60241	Use O.E.M.	60-60243	60-60245	---
	Exhaust	60-60242	Use O.E.M.	60-60244	60-60246	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.190"	61#	168#	.415"	
Exhaust	.415"	1.220"	55#	156#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-60580	Intake	60-60270	60-60241	Use O.E.M	60-60243	60-60245	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.190"	61#	168#	.415"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
60-60270	Intake	36.00mm	1.418"	0.1960"	20°	3.245"	Standard
60-60271	Intake	37.00mm	1.417"	0.1960"	20°	3.245"	Oversize
60-60273	Exhaust	29.00mm	1.142"	0.1953"	17°	3.200"	Standard
60-60274	Exhaust	30.00mm	1.182"	0.1953"	17°	3.200"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.375"	0.410"	0.580"	0.800"	0.460"	0.1955"	0.4170"		60-60320
								+0.001"	60-60321
								+0.002"	60-60322
								+0.010"	60-60329

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® RM-Z450™ 2007



60-60650



60-61000



60-60670



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60650	Intake	60-60651	Use O.E.M.	60-60653	60-60655	---
	Exhaust	60-60652	Use O.E.M.	60-60654	60-60656	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.190"	61#	168#	.415"	
Exhaust	.415"	1.220"	55#	156#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-61000	Intake	60-60662	60-60651	Use O.E.M.	60-60653	60-60655	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.190"	61#	168#	.415"			

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
60-60662	Intake	36.00mm	1.418"	0.2160"	20°	3.240"	Standard
60-60666	Exhaust	31.00mm	1.220"	0.2150"	20°	3.190"	Standard

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.375"	0.410"	0.600"	0.820"	0.460"	0.2155"	0.4170"	60-60670	
							+0.001"	60-60671	
							+0.002"	60-60672	
							+0.010"	60-60679	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



SUZUKI® RM-Z450™ 2008-2014



60-60700



60-60720



60-60730

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60700	Intake	60-60701	Use O.E.M.	60-60703	60-60705	---
	Exhaust	60-60702	Use O.E.M.	60-60704	60-60706	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.415"	1.190"	61#	168#	.415"	
Exhaust	.415"	1.220"	56#	157#	.415"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
60-60720	Intake	60-60712	60-60701	Use O.E.M	60-60703	60-60705	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.415"	1.190"	61#	168#	.415"			

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
60-60712	Intake	36.00mm	1.418"	0.2155"	3.210"	Standard
60-60713	Intake	37.00mm	1.417"	0.2155"	3.210"	Oversize
60-60718	Exhaust	31.00mm	1.220"	0.2150"	3.195"	Standard

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

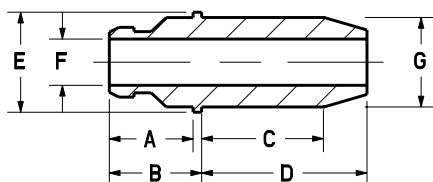


O.E.M. Replacement Valves for 2008-'14 Suzuki RM-Z450

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
60-60712T	Intake	36.00mm	1.418"	20°	3.210"	Titanium
60-60718T	Exhaust	31.00mm	1.220"	20°	3.195"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.375"	0.410"	0.600"	0.820"	0.460"	0.2155"	0.4170"	60-60730	
						+0.001"	60-60731	
						+0.002"	60-60732	
						+0.004"	60-60734	
						+0.010"	60-60739	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GSX-R™ 600 1997-2000



60-60470



60-60520



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1006	Intake	60-6114	Use O.E.M.	60-6115	60-6116	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.420"		1.225"		55#	157#	.420"

C630 Bronze Valve Guides										
Diagram		A	B	C	D	E	F	G	Intake	Exhaust
		0.435"	0.460"	0.875"	1.020"	0.460"	0.1750"	0.4170"		60-6130
								+0.001"		60-6131
									+0.010"	

Valve Guide Seals		
KPMI P/N	Seal type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Retainer Set		
KPMI P/N	Type	Quantity
60-6156	Titanium	Pkg. of 16

SUZUKI® GS 500E™ 1989-2009

Lightweight Racing Valve Spring Kit with Shim Under Conversion						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
60-60120	Intake	60-60121	60-60122	60-60123	60-60124	60-60125
	Exhaust					
Valve Lift		Installed Height		Seat Pressure	Open Pressure	@ Lift
.500"		1.345"		90#	268#	.500"



SUZUKI® SV™ 650 1999-2009



60-60030



60-60080

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims	
60-60030	Intake	60-60031	Use O.E.M.	60-60032	60-60033	60-60034	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.405"		1.285"		66#		168#	
						@ Lift	.450"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.435"	0.460"	0.875"	1.020"	0.460"	0.1750"	0.4170"		60-60080
								+0.001"	60-60081
								+0.010"	60-60089

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® DR™ 750 / 800 BIG 1988-1998

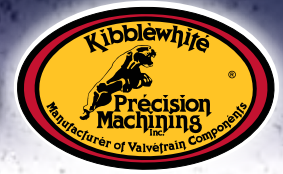
C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.440"	0.490"	0.785"	1.165"	0.495"	0.2745"	0.4752"		60-60090
								+0.002"	60-60092
								+0.004"	60-60094
								+0.010"	60-60099

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GS™ 750 PRE-1980



60-0891



60-0860



60-0864



High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
60-0891	Intake	*60-6106	---	---	---	---	
	Exhaust						
*Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.480"		1.375"		78#		250#	.480"

* Retainers Supplied with KPMI® Keepers.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.620"	0.670"	0.860"	1.115"	0.495"	0.2745"	0.4752"	60-0860
							+0.002"	60-0861	
							+0.015"	60-4090	
	0.620"	0.670"	---	1.115"	0.495"	0.2745"	0.4752"		60-0864
							+0.002"		60-0865
							+0.015"		60-4107

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100019	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GS™ 750 E/ ES/ L/ T 1980-1986

High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
60-1028	Intake	60-1034T	---	---	---	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.390"		1.215"		50#		138#	.490"



SUZUKI® GS™ 750 E/ ES/ L/ T 1980-1986



60-1028



60-60220



60-60300



60-1029

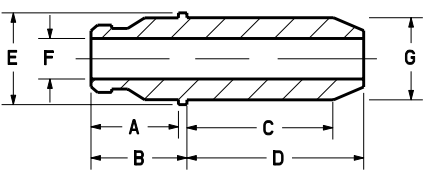
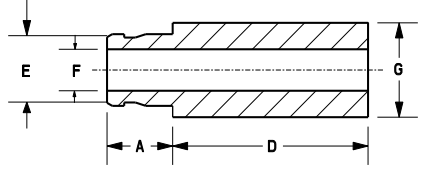


60-4031

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60220	Intake	27.50mm	1.083"	0.2145"	27°	3.380"	Standard
60-4301	Intake	28.50mm	1.122"	0.2155"	23°	3.435"	Oversize
60-4311	Intake	29.50mm	1.161"	0.2155"	23°	3.435"	Oversize
60-4302	Intake	31.00mm	1.220"	0.2155"	23°	3.435"	Oversize
60-4304	Exhaust	24.50mm	0.965"	0.2145"	27°	3.415"	Oversize
60-4305	Exhaust	25.00mm	0.984"	0.2145"	27°	3.415"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.465"	0.510"	0.780"	0.940"	0.488"	0.2160"	0.4365"		60-1029
							+0.002"	60-1030	
							+0.015"	60-4030	
							+0.065"	60-1052	
Special Blank									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.465"	---	---	---	0.435"	0.210"	0.6250"		60-4031
Special 5.0mm Conversion Guide									
0.465"	---	---	---	0.488"	1.950"	0.4365"		60-4298	

Replacement Retainers

KPMI P/N	Type	Quantity
60-1034T	Titanium	Pkg. of 16

Fits O.E.M. Springs.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Valve Guide Seals - Special 5.0mm Conversion Guide

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GSX-R™ 750 1980-1992



60-1002



60-4156-1



60-4297



High Performance Spring Kit For 1986-1990 Models

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1002	Intake	60-4155	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.215"	55#		170#	.440"

High Performance Spring Kit For 1991-1992 Models

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1003	Intake	60-6153	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.255"	45#		158/#	.440"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	0.450"	0.740"	0.890"	0.467"	0.1955"	0.4170"		60-4156-1
							+0.002"	60-4157-1	
							+0.006"	60-4159-1	
							+0.085"	60-4160-1	
Special Blank									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	---	---	1.340"	---	0.1950"	0.6250"		60-4297

Valve Guide Seals - Special In / Ex Blank

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Replacement Retainer Set For 1991-1992 Models

KPMI P/N	Type	Quantity
60-6153	Titanium	Pkg. of 16
Fits O.E.M. Springs.		



SUZUKI® GSX-R™ 750 1993-1995



60-60040



60-6154

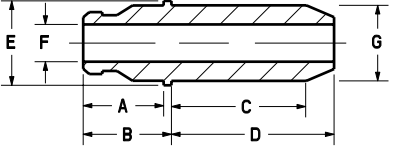


60-6000

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60040	Intake	60-60041	Use O.E.M.	60-60042	60-60043	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.430"		1.230"		50#		155#
						@ Lift
						.430"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.655"	0.680"	0.770"	0.915"	0.460"	0.1750'	0.4170"		60-6000
							+0.002"	60-6002	
							+0.010"	60-6010	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

Replacement Retainer Set

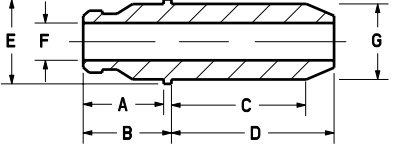
KPMI P/N	Type	Quantity
60-6154	Titanium	Pkg. of 16
Fits O.E.M. Springs.		

SUZUKI® GSX-R™ 750 SRAD 1996-1999

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1005	Intake	60-6114	Use O.E.M.	60-6115	60-6116	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.420"		1.220"		55#		157#
						@ Lift
						.420"

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.435"	0.460"	0.875"	1.020"	0.460"	0.1750"	0.4170"		60-6130
							+0.002"	60-6131	
							+0.010"	60-6140	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 2 • Viton	Pkg. of 1

Replacement Retainer Set

KPMI P/N	Type	Quantity
60-6155	Titanium	Pkg. of 16
Fits O.E.M. Springs.		

SUZUKI® GS™ 1000 PRE-1981



60-0891



60-6106



60-0860



60-0864

High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-0891	Intake	*60-6106	---	---	---	---
	Exhaust					
*Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.480"		1.375"	78#		250#	.480"

* Retainers supplied with keepers.

C630 Bronze Valve Guides

Diagram	A	B	C	D	E	F	G	Intake	Exhaust
		0.620"	0.670"	0.860"	1.115"	0.495"	0.2745"	0.4752"	60-0860
							+0.002"	60-0861	
							+0.015"	60-4090	
	0.620"	0.670"	---	1.115"	0.495"	0.2745"	0.4752"		60-0864
							+0.002"		60-0865
							+0.015"		60-4107

Special Shim On Bottom Retainer Set

KPMI P/N	Type	Quantity
60-6106	Titanium	Pkg. of 8

Supplied with Jumbo 15° keepers.

Replacement Tappets / Oversizes

KPMI P/N	Type	Quantity
60-1026	Standard	Pkg. of 8
60-4220	+ 0.020	Pkg. of 1

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100019	Intake / Exhaust • Style • Viton	Pkg. of 1

Requires Kibblewhite® Shim On Bottom Retainers # 60-6106 (Pkg. of 8).

SUZUKI® GS™ 850 1979-1983

High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-0891	Intake	*60-6106	---	---	---	---
	Exhaust					
*Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.480"		1.375"	78#		250#	.480"

* Retainers supplied with keepers.



SUZUKI® GSX-R™ 1000 2001-2004



60-60146



60-60140



60-60150

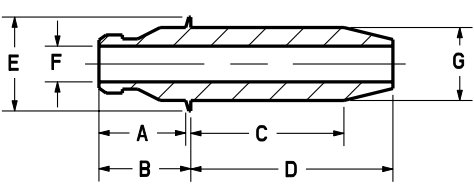
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60146	Intake	60-60147	Use O.E.M.	60-60148	60-60149	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
.440"		1.320"		154#		.440"

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60140	Intake	29.00mm	1.142"	0.1568"	18°	3.740"	Standard
60-60141	Intake	30.00mm	1.181"	0.1568"	18°	3.740"	Oversize
60-60143	Exhaust	24.00mm	0.945"	0.1560"	20°	3.755"	Standard
60-60144	Exhaust	25.00mm	0.984"	0.1560"	20°	3.755"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.425"	0.450"	0.750"	0.990"	0.385"	0.1570"	0.3573"		60-60150
							+0.001"	60-60151	
							+0.002"	60-60152	
							+0.010"	60-60159	

For all the applications available for Kibblewhite's Suzuki® line of products, please refer online to the Suzuki® section of the www.kpmi.us website, under **Motorcycle Valvetrain Components**.

SUZUKI® GSX-R™ 1000 2007-2008



60-1028



60-1029



60-1029



Lightweight Racing/Stainless Steel Conversion Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims	
60-60600	Intake	60-60601	Use O.E.M.	60-60603	60-60605	60-60609	
	Exhaust					60-60610	
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.435"		1.330"		44#		151#	
							@ Lift
							.435"

For racing application with cams up to .445" lift using Titanium Valves set up at 44# seat pressure / 157lb @ .370" lift. To convert to Stainless Valves with cams up to 0.380" lift set up at 66# seat pressure / 157lb @ .370" lift.

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
96-96412	Intake	30.00mm	1.181"	0.1760"	25°	3.760"	Standard
96-96416	Exhaust	24.00mm	0.945"	0.1755"	20°	3.770"	Standard

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.520"	0.545"	0.730"	0.945"	0.410"	0.1760"	0.3773"		60-60620
							+0.001"	60-60621	
							+0.002"	60-60622	
							+0.010"	60-60629	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GS™ 1100 E / ES / S 1980-1986

High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
60-1028	Intake	60-1034T	---	---	---	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.390"		1.215"		50#		138#	
							@ Lift
							.490"



SUZUKI® GS™ 1100 E / ES / S 1980-1986



60-1028



60-60220

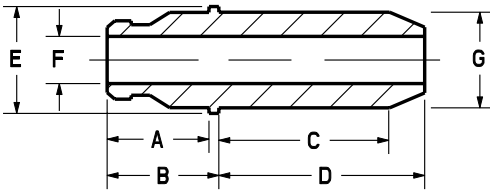


60-1029

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60220	Intake	27.50mm	1.083"	0.2145"	27°	3.380"	Standard
60-4301	Intake	28.50mm	1.122"	0.2155"	23°	3.435"	Oversize
60-4311	Intake	29.50mm	1.161"	0.2155"	23°	3.435"	Oversize
60-4302	Intake	31.00mm	1.220"	0.2155"	23°	3.435"	Oversize
60-4304	Exhaust	24.50mm	0.965"	0.2145"	27°	3.415"	Oversize
60-4305	Exhaust	25.00mm	0.984"	0.2145"	27°	3.415"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.465"	0.510"	0.780"	0.940"	0.488"	0.2160'	0.4365"		60-1029
							+0.002"	60-1030	
							+0.015"	60-4030	
							+0.065"	60-1052	
Special 5.0mm Conversion Guide									
0.465"	0.510"	0.780"	0.940"	0.488"	0.1950'	0.4365"		60-4298	

Replacement Retainers

KPMI P/N	Type	Quantity
60-1034T	Titanium	Pkg. of 16

Fits O.E.M. Springs.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Valve Guide Seals - Special 5.0mm Conversion Guide

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GSX-R™ 1100 1986-1990



60-1002



60-4214H



60-4156-1



High Performance Spring Only Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1002	Intake	60-4155	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.215"	55#		170#	.440"

White Diamond® Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-4216H	Intake	28.50mm	1.122"	0.1958"	19°	3.390"	Standard
60-4218H	Intake	30.00mm	1.181"	0.1958"	19°	3.390"	Oversize
60-4215H	Exhaust	25.00mm	0.984"	0.1948"	17°	3.360"	Standard
60-4217H	Exhaust	26.00mm	1.024"	0.1948"	17°	3.360"	Oversize
60-4219H	Exhaust	27.00mm	1.063"	0.1948"	17°	3.360"	Oversize

C630 Bronze Valve Guides									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	0.450"	0.740"	0.890"	0.467"	0.1955"	0.4170"		60-4156-1
							+0.002"		60-4157-1
							+0.006"		60-4159-1
							+0.085"		60-4160-1
Special Blank									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	---	---	1.340"	---	0.1950"	0.6250"		60-4297

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



SUZUKI® GSX-R™ 1100 1991-1992



60-1003



60-6091H



60-4156-1

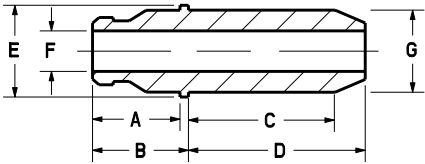
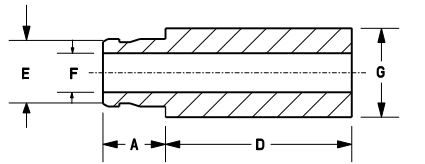
High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1003	Intake	60-6153	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.255"	45#		158#	.440"

White Diamond® Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
60-6091H	Intake	28.50mm	1.122"	0.1958"	19°	3.450"	Standard
60-6092H	Exhaust	25.00mm	0.984"	0.1948"	17°	3.420"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	0.450"	0.740"	0.890"	0.467"	0.1955"	0.4170"		60-4156-1
							+0.002"	60-4157-1	
							+0.006"	60-4159-1	
							+0.085"	60-4160-1	
Special Blank									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.410"	---	---	1.340"	---	0.1950"	0.6250"		60-4297

O.E.M. Replacement Retainers

KPMI P/N	Type	Quantity
60-6153	Titanium	Pkg. of 16

Fits O.E.M. Springs.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI® GSX-R™ 1100 1993-1998

Water Cooled



60-60040



60-6022H



60-6000



High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60040	Intake	60-60041	Uwe O.E.M	60-60042	60-60043	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.430"		1.230"	50#		155#	.430"

White Diamond® Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-6022H	Intake	31.00mm	1.220"	0.1756"	19°	3.732"	Standard
60-6023H	Intake	32.00mm	1.260"	0.1756"	19°	3.732"	Oversize
60-6020H	Exhaust	27.00mm	1.063"	0.1756"	17°	3.720"	Standard
60-6021H	Exhaust	28.00mm	1.102"	0.1756"	17°	3.720"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.655"	0.680"	0.770"	0.915"	0.460"	0.1750"	0.4170"		60-6000	
								+0.002"	60-6002	
								+0.010"	60-6010	

Replacement Retainers

KPMI P/N	Type	Quantity
60-6154	Titanium	Pkg. of 16
Fits O.E.M. Springs.		

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Intake / Exhaust • Style 4 • Viton	Pkg. of 1



SUZUKI® GS™ 1150 1984-1986



60-1028



60-60220



60-1029

High Performance Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-1028	Intake	60-1034T	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.390"		1.215	50#		138#	.390"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
60-60220	Intake	27.50mm	1.083"	0.2145"	27°	3.380"	Standard
60-4301	Intake	28.50mm	1.122"	0.2155"	23°	3.435"	Oversize
60-4311	Intake	29.50mm	1.161"	0.2155"	23°	3.435"	Oversize
60-4302	Intake	31.00mm	1.220"	0.2155"	23°	3.435"	Oversize
60-4304	Exhaust	24.50mm	0.965"	0.2145"	27°	3.415"	Oversize
60-4305	Exhaust	25.00mm	0.984"	0.2145"	27°	3.415"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.465"	0.510"	0.780"	0.940"	0.488"	0.2160'	0.4365"		60-1029	
								+0.002"	60-1030	
								+0.015"	60-4030	
								+0.065"	60-1052	
Special 5.0mm Conversion Guide										
0.465"	0.510"	0.780"	0.940"	0.488"	0.1950'	0.4365"		60-4298		

Replacement Retainers

KPMI P/N	Type	Quantity
60-1034T	Titanium	Pkg. of 16

Fits O.E.M. Springs.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

Valve Guide Seals - Special 5.0mm Conversion Guide

KPMI P/N	Seal Type	Quantity
700-100015	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

SUZUKI HAYABUSA™ 1999-2014

World's Fastest Production Motorcycle - 200+ mph



60-60750



60-60900



"Shim in Tappet" Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
60-60750	Intake	60-60751	Use O.E.M.	60-60653	60-60655	60-60657
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.490"		1.455"		65#		195#
@ Lift						
.415"						

This high lift kit is designed for maximum performance applications on 1999-2014 models. It includes KPMI® "Shim in Tappet" design tappets that solve the issues of retainer counter-bore ovaling and adjustment shims becoming dislodged. It is especially recommended for use with reduced base circle cams.

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
60-60900	Intake	60-60901	Use O.E.M.	60-60903	60-60905	Use O.E.M.
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.465"		1.455"		65#		190#
@ Lift						
.415"						

KPMI® performance valve spring kits are modeled using cam profile and simulation softwares. By utilizing FEA software, it was possible to take advantage of the increased strength and wear resistance of a heat treated steel retainer, while reducing its mass to within grams of a comparable titanium retainer. With 65lbs of seat pressure these kits are the ultimate setup for any 1999-'14 'Busa street/strip tuner.

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
60-60760	Intake	60-60761	Use O.E.M.	60-60763	60-60765	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.490"		1.455"		65#		195#
@ Lift						
.415"						

This high lift kit is designed for maximum performance applications on 1999-2014 models, and includes lightweight titanium retainers as well as high lift, super-clean chrome silicon wire dual valve springs.

Spring Kit Only

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Quantity
60-60560	Intake	---	---	60-60560	---	Pkg. of 8
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.490"		1.455"		65#		195#
@ Lift						
.415"						

This spring set fits the stock retainers and bases on all 1999-2014 'Busa models. It is the street/strip tuner's answer for high performance valve springs.



SUZUKI HAYABUSA™ 1999-2014

World's Fastest Production Motorcycle - 200+ mph



60-60020-M 60-60008



60-60830 and 60-60840 Studs and washers



60-60820



60-60757 "Shim in Tappet" Detail

C630 Bronze and Manganese Valve Guides

	A	B	C	D	E	F	G	Intake / Exhaust	
	0.560"	0.585"	0.650"	0.860"	0.461"	0.1962"	0.4170"	C630 Bronze	*Manganese
								+0.001"	60-60020
							+0.002"	60-60021	60-60021-M
							+0.004"	60-60022	60-60022-M
							+0.004"	60-60024	60-60024-M
							+0.010"	60-60029	60-60029-M

* See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Black Diamond™ Valves • Black Nitroleg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
60-60008	Intake	33.00mm	1.299"	0.1962"	18°	Standard
60-60009	Intake	34.00mm	1.339"	0.1962"	18°	Oversize
60-60010	Exhaust	27.50mm	1.150"	0.1953"	17°	Standard
60-60011	Exhaust	28.50mm	1.189"	0.1953"	17°	Oversize

These valves are forged from a unique stainless steel alloy particularly suited for this application. This alloy is especially receptive to our proprietary face hardening process, and is designed to give long life in maximum performance, high RPM applications. Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

Reamers for Manganese Valve Guides

KPMI P/N	Description	F.L.	O.L.
GR-1970	0.1970 HSS Valve Guide Reamer	2.625	7.125

Replacement Tappets

KPMI P/N	Description	Year	Quantity
60-60014	Standard	All	Pkg. of 16
60-60035	+ .50mm	All	Pkg. of 16

Ampco-45 Spacers

KPMI P/N	Description	Quantity
60-60835	O.D. 0.740", I.D. 0.398", Thickness 0.100"	Pkg. of 10

Stainless Steel Spacers use with Head Nuts

KPMI P/N	Description	Quantity
60-60840	O.D. 20mm, I.D. 10.5mm, Thickness 2.0mm	Pkg. of 10

Valve Guide Seals

KPMI P/N	Type of Seal	Quantity
700-100015	In / Ex • Style 4 • Solid Viton	Pkg. of 1

NEW Studs

KPMI P/N	Description	Washer	Quantity
60-60825	Standard Length (8.010")	60-60840	Pkg. of 10
60-60830	+0.200" Length (8.210") for Custom Applications	60-60840	Pkg. of 10

NEW Nuts

KPMI P/N	Description	Quantity
60-60820	M10 x 1.25	Pkg. of 10

TRIUMPH® 500 TWIN 1958-1973



70-70030



70-4290



70-0339



70-0646



70-0817

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70030	Intake	70-70031	Use O.E.M	70-70032	70-70033	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.455"		1.205"	74#		206#	.455"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-4290	Intake	39.12mm	1.540"	0.3102"	23°	3.480"	Standard
70-4292	Intake	40.64mm	1.600"	0.3102"	23°	3.500"	Oversize
70-4291	Exhaust	33.66mm	1.325"	0.3095"	27°	3.425"	Standard
70-4293	Exhaust	34.93mm	1.375"	0.3095"	27°	3.445"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.560"	0.610"	0.620"	1.160"	0.550"	0.3105"	0.5010"		70-0339
							+0.002"	70-0340	
							+0.004"	70-0341	
							+0.006"	70-0342	
							+0.015"	70-4031	

No seal required.

Crankshaft Bushings

KPMI P/N	Description	Quantity
70-0817	Std. ID 1.439"	Pkg. of 1
70-0818	-0.010"	Pkg. of 1
70-0819	-0.020"	Pkg. of 1
70-0820	-0.030"	Pkg. of 1

Made from US Mill Certified Bearing Bronze Bar Stock.

Fork Bushings

KPMI P/N	Type	Quantity
70-0646	Top	Pkg. of 1
70-0647	Bottom	Pkg. of 1

Fits 1963-1970 Triumph 500 Twin's.



TRIUMPH® 650 / 750 1963-1983

Lightweight 6.00mm Conversion System



70-70510



70-70550

6.0mm • Beehive Valve Spring Kit For Triumph 650 / Must use 6.0mm Valves and Guides

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
70-70510	Intake	70-70511	70-70517	70-70513	70-70515	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.460"		1.375"		90#		229#	.460"

6.0mm • Beehive Valve Spring Kit For Triumph 750 / Must use 6.0mm Valves and Guides

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
70-70520	Intake	70-70521	70-70527	70-70523	70-70525	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.460"		1.375"		90#		229#	.460"

6.0mm • Black Diamond™ Valves • Black Nitroleg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-70550	Intake	40.64mm	1.600"	0.2355"	23°	3.850"	Standard
70-70551	Intake	42.16mm	1.660"	0.2355"	23°	3.830"	Oversize
70-70553	Exhaust	36.58mm	1.440"	0.2350"	29°	3.780"	Standard
70-70554	Exhaust	38.10mm	1.500"	0.2350"	29°	3.760"	Oversize

Welded tips (no lash caps required).

6.0mm • Tensilite® Valves • Chromium Nitride PVD Coated Titanium

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-70550T	Intake	40.64mm	1.600"	0.2355"	23°	3.810"	Standard
70-70551T	Intake	42.16mm	1.660"	0.2355"	23°	3.790"	Oversize
70-70553T	Exhaust	36.58mm	1.440"	0.2350"	29°	3.740"	Standard
70-70554T	Exhaust	38.10mm	1.500"	0.2350"	29°	3.720"	Oversize

These valves have been shortened for lash caps. Must use hardened lash caps #70-70560 (pkg. of 4)

TRIUMPH® 650 / 750 1963-1983

Lightweight 6.00mm Conversion System



70-70550T



70-70530



700-100017



70-70560

6mm • C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.330"	0.500"	0.820"	1.370"	0.685"	0.2350"	0.5010"		70-70530	
								+0.002"	70-70532	
								+0.015"	70-70545	

One seal supplied with each guide.

6mm • Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100017	Intake / Exhaust • Style 5 • Viton	Pkg. of 1

Lash Caps

KPMI P/N	Type	Quantity
70-70560	H.T. Steel	Pkg. of 4

Made from hardened Steel.

TRIUMPH® 650 / 750 1963-1983

Lightweight Racing Beehive Valve Spring Kit For Triumph 650 / Use with O.E.M. Valve and Guide

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
70-70270	Intake	70-70271	Use O.E.M	70-70273	70-70275	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.460"		1.375"		90#		229#	.460"

Lightweight Racing Beehive Valve Spring Kit For Triumph 750 / Use with O.E.M. Valve and Guide

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks	
70-70280	Intake	70-70281	Use O.E.M	70-70283	70-70285	---	
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	@ Lift
.460"		1.375"		90#		229#	.460"



TRIUMPH® 650 / 750 1963-1983



70-70270



70-70140

Lightweight Racing Valve Spring Kit • Triumph 650 / 750

KPMI P/N	Type	H.A. 7075-T6 Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-0300	Intake	70-4002	70-4003	70-0300SO	70-4004	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift
.520"		1.420"		104#		234# .520"
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70170	Intake	70-70171	70-70177	70-70173	70-70175	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift
.520"		1.420"		104#		234# .520"
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
*70-70400 For 650cc	Intake	70-70401	Use O.E.M	70-70403	70-70405	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift
.460"		1.310"		90#		220# .460"
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70450 For 750cc	Intake	70-70451	Use O.E.M	70-70453	70-70455	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift
.460"		1.310"		90#		220# .460"

* O.E.M. Replacement keepers available in pairs PT#70-70150.

O.E.M. Replacement Valve Spring Kit • Triumph 650

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70140	Intake	70-70141	Use O.E.M	70-70143	70-70145	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure @ Lift
.348"		1.250"		68#		145# .348"

1963-1965: Basewasher and springs are not direct O.E.M. replacements, all spring kit parts must be used together.

1966-1972: All components are direct O.E.M. replacements. These O.E.M. replacements parts may be purchased separately using the above part numbers.

O.E.M. Replacement keepers available in pairs **PT#70-70150**.

TRIUMPH® 650 / 750 1963-1983



70-70400



70-4228



70-0331-M



70-0331



70-0331S

Replacement Valve Spring Kit • Triumph 750 Only

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70250	Intake	70-70251	Use O.E.M.	70-70253	70-70255	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.348"		1.250"		68#		145#
						@ Lift
						.348"

All components are the quality you can expect from KPMI®, manufactured to exact O.E.M. specifications. These O.E.M. replacements parts may be purchased separately using the above part numbers.

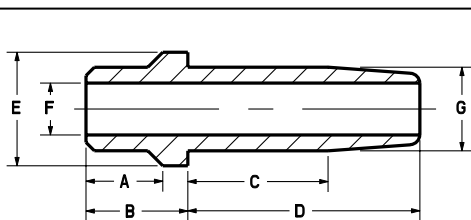
Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-4228	Intake	40.64mm	1.600"	0.3105"	1.5" R	3.850"	Standard
70-4229	Intake	42.16mm	1.660"	0.3105"	1.5" R	3.850"	Oversize
70-4230	Exhaust	36.58mm	1.440"	0.3100"	24°	3.780"	Standard
70-4231	Exhaust	38.10mm	1.500"	0.3100"	24°	3.780"	Oversize

O.E.M. Replacement (Raw) Untreated Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-70500	Intake	40.64mm	1.600"	0.3105"	1.5" R	3.850"	Standard
70-70501	Intake	42.16mm	1.660"	0.3105"	1.5" R	3.850"	Oversize
70-70504	Exhaust	36.58mm	1.440"	0.3100"	24°	3.780"	Standard
70-70505	Exhaust	38.10mm	1.500"	0.3100"	24°	3.780"	Oversize

C630 Bronze and Manganese Valve Guides



A	B	C	D	E	F	G	Intake / Exhaust	
							C630 Bronze	*Manganese
0.460"	0.610"	0.840"	1.390"	0.680"	0.3105"	0.5010"	70-0331	70-0331-M
						+0.002"	70-0332	70-0332-M
						+0.004"	70-0333	70-0333-M
						+0.006"	70-0334	70-0334-M
						+0.015"	70-0840	70-0840-M
						+0.050"	70-4033	70-4033-M

No seal required. * See KPMI® Ball Hone and Reamer (Pg.180) section in back of catalog for more information.

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
70-4009	Intake / Exhaust • Style 1 • Viton	Pkg. of 1



TRIUMPH® 650 / 750 1963-1983



70-0448



70-0301



70-0816



70-0465

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.315"	0.405"	0.820"	1.370"	0.680"	0.3105"	0.5010"		70-0331S
							+0.002"	70-0332S	
							+0.004"	70-0333S	
							+0.006"	70-0334S	
							+0.015"	70-0840S	
							+0.050"	70-4033S	

Machined for seal, seals sold separately.

Racing Tappet Blocks For 1966-1983 Models

KPMI P/N	Type	Quantity
70-0448	All	Pkg. of 1

Made from Nickel Aluminum Bronze and designed to accept more lift. For modification information, see the Triumph 650/750 Instruction Sheet #999-101330 online.

Push Rods Alloy Tube

KPMI P/N	Description	Quantity
70-0301	For 650	Pkg. of 4
70-0447	For 750	Pkg. of 4

Made from light, strong, and tough, aircraft quality heat treated seamless aluminum tubing. These push rods are assembled with hardened steel ends that are held to exacting radius and surface finish tolerances. They are a perfect match for the rocker and tappet.

After assembly, the OD of the entire push rod is precision ground to create a part that is first class in finish, fit, and function. This is the push rod of choice for Triumph racers, rebuilders, and restorers around the world.

Thrust Washer

KPMI P/N	Type	Quantity
70-0474	Transmission	Pkg. of 1
70-0476	Clutch I.D.2.018" / O.D.2.2020"	Pkg. of 1
70-0477	Clutch I.D.1.835" / O.D.2.2020"	Pkg. of 1

Lash Caps

KPMI P/N	Description	Quantity
70-0816N	H.T. Steel	Pkg. of 4
70-0816	H.T. Steel	Pkg. of 4

Made from hardened Steel.

Clutch Push Rod

KPMI P/N	Type	Quantity
70-0505	Drill rod (H.T. Tips)	Pkg. of 1

Fork Bushings

KPMI P/N	Type	Quantity
70-0646	Top	Pkg. of 1
70-0647	Bottom	Pkg. of 1

Fits 1963-1970 Triumph 650's.

O.E.M.Replacement Keeper Set (H.T. Steel)

KPMI P/N	Type	Quantity
70-70150	7°	1 Pr

Wrist Pin Bushings

KPMI P/N	Type	Quantity
70-0459	Rod (Small End)	Pkg. of 1

Made from US Mill Certified Bearing Bronze Bar Stock.

Camshaft Bushings

KPMI P/N	Type	Quantity
70-0458	Outer (Timing Side)	Pkg. of 1
70-0467	Inner (Drive Side)	Pkg. of 1

Clutch Springs

KPMI P/N	Type	Quantity
70-0124	3 Clutch Spring Models	Pkg. of 3
70-0465	4 Clutch Spring Models	Pkg. of 4

TRIUMPH TRIDENT™ 1971-1976



70-70350



70-1009



70-0885



Lightweight Racing Valve Spring Kit • Triumph Trident™

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70350	Intake	70-70351	Uwe O.E.M	70-70353	70-70355	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.400"		1.350"	94#		240#	.400"

Black Diamond™ Valves • Black Nitroreg Stems For 1971-1973 Models

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-1009	Intake	38.86mm	1.530"	0.3097"	1.5" R	3.975"	Standard
70-1010	Intake	40.39mm	1.590"	0.3097"	1.5" R	3.950"	Oversize
70-1011	Exhaust	33.40mm	1.315"	0.3092"	25°	3.915"	Standard
70-1012	Exhaust	35.56mm	1.400"	0.3092"	25°	3.890"	Oversize

Black Diamond™ Valves • Black Nitroreg Stems For 1973-1976 Models

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
70-0885	Intake	38.86mm	1.530"	0.3097"	1.5" R	3.735"	Standard
70-0852	Intake	40.39mm	1.590"	0.3097"	1.5" R	3.710"	Oversize
70-0886	Exhaust	33.40mm	1.315"	0.3092"	25°	3.680"	Standard
70-0853	Exhaust	35.56mm	1.400"	0.3092"	25°	3.655"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.330"	0.340"	0.765"	1.315"	0.560"	0.3105"	0.5010"		70-0812
							+0.002"	70-0812	
							+0.004"	70-0814	
							+0.006"	70-0815	
							+0.015"	70-4039	

One seal supplied with each guide.



TRIUMPH® TRIDENT™ 1971-1976

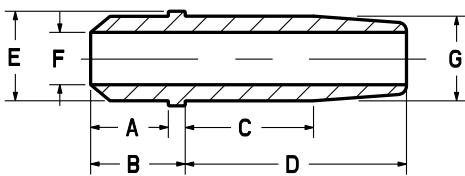


70-0812



70-0343

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.460"	0.560"	0.760"	1.310"	0.560"	0.3105"	0.5010"		70-0343
						+0.002"		70-0344
						+0.015"		70-4153

No seal required

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
70-4009	Intake / Exhaust • Style 1 • Viton	Pkg. of 1

TRIUMPH® VARIOUS 885cc-955cc 1997-2001

T509 885cc 1997-1998 • T595 / 955I / 955cc 1997-2001

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shims
70-70026	Intake	70-70027	70-70024	70-70028	70-70025	70-70041
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.440"		1.375"		65#		204#
@ Lift						
.440"						

Lightweight Racing Valve Spring Kit For Shim Under Conversion

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	H.T. Steel Tappets
70-70035	Intake	70-70036	70-70037	70-70038	70-70039	70-70040	70-70041
	Exhaust						
Valve Lift		Installed Height		Seat Pressure		Open Pressure	
.440"		1.375"		65#		204#	
@ Lift							
.440"							

Spring Kit requires 9.5mm adjustment shims. See Kibblewhite® Adjustment Shim Section in back of catalog (Pg. 215) for more information.

TRIUMPH® 865 2001-2010



70-70120



70-70300



70-70320

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
70-70120	Intake	70-0121	Use O.E.M	70-0123	70-0125	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift	
.450"		1.280"	51#	165#	.450"	

Lightweight Racing Valve Spring Kit For Shim Under Conversion

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets	Adj. Shims 9.5mmO.D
70-70300	Intake	70-70301	70-70307	70-70303	70-70305	70-70310	70-70309
	Exhaust						
Valve Lift		Installed Height	Seat Pressure	Open Pressure	@ Lift		
.450"		1.415"	55#	165#	.450"		

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.625"	0.670"	0.995"	0.995"	0.590"	0.2150'	0.5338"	70-70320		
								+0.001"	70-70321	
								+0.002"	70-70322	
								+0.010"	70-70329	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

For all the applications available for Kibblewhite's Triumph® line of products, please refer online to the Triumph® section of the www.kpmi.us website, under **Motorcycle Valve Train Components**.



YAMAHA® RAPTOR™ 250 2008-2013

**TOP
SELLER**



80-80550



80-80562



80-80570

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks		
80-80550	Intake	80-80551	Use O.E.M.	80-80553	80-80555	---		
	Exhaust							
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift
.440"		1.240"		65#		192#		.440"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80562	Intake	34.00mm	1.339"	0.2355"	15°	3.690"	Standard
80-80563	Intake	35.00mm	1.378"	0.2355"	15°	3.670"	Oversize
80-80566	Exhaust	28.50mm	1.122"	0.2350"	23°	3.640"	Standard

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.455"	0.490"	0.845"	1.245"	0.480"	0.2360'	0.4552"		80-80570
							+0.002"	80-80572	
							+0.010"	80-80579	
0.455"	0.490"	0.975"	1.295"	0.480"	0.2355'	0.4552"			80-80580
							+0.002"		80-80582
							+0.010"		80-80589

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
80-80590	Intake / Exhaust • Style 5 • Solid Viton w/ Metal Jacket	Pkg. of 1

YAMAHA® SR™/TT™/XT™ 250 1976-1981



80-8100
for SR / TT / XT 250



80-8100
for SRX 250/ TX 250/ 350



80-80000
for TTR 250

C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
	0.645"	0.765"	0.970"	1.200"	0.905"	0.3135"	0.5535"		80-8100	
								+0.001"	80-8101	
								+0.010"	80-8110	

YAMAHA® SRX™ 250 / XT™ 250 / 350 1984-2000

C630 Bronze Valve Guides										
	A	B	C	D	E	F	G	Intake	Exhaust	
	0.470"	0.610"	0.585"	0.850"	0.470"	0.2160"	0.4350"		80-8030	
								+0.002"	80-8032	
								+0.010"	80-8039	

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

YAMAHA® TTR™ 250 1999-2006

Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80000	Intake	80-80001	Use O.E.M.	80-80002	80-80003	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.380"		1.165"		32#		75#
						@ Lift
						.380"

The springs in these kits are wound from super clean chrome silicon wire that has been heat treated and shot peened. These components offer optimal fitment, keeping lateral movement to a minimum. They work together as a system, providing long life, and maximum performance.



YAMAHA® WR™ / YZ™ 250F 2001-2013



80-80066



80-80850

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
80-80066	Intake	80-80067	Use O.E.M.	80-80069	80-80070	Use O.E.M.
	Exhaust	80-80068	Use O.E.M.	80-80069	80-80071	80-80072
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.380"	1.105"	39#	86#	.380"	
Exhaust	.380"	1.105"	39#	86#	.380"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
80-80850	Intake	80-80073 / 80-80075	80-80067	Use O.E.M.	80-80069	80-80070	Use O.E.M.	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.380"	1.105"	40#	86#	.380"			

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80073	Intake	23.00mm	0.906"	0.1568"	25°	3.150"	Standard
80-80075	Intake	23.00mm	0.906"	0.1568"	25°	3.095"	Standard (Center)
80-80077	Exhaust	24.50mm	0.965"	0.1758"	25°	3.070"	Standard

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



O.E.M. Replacement Valves for 2001-'13 Yamaha WR/ YZ 250F

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80073T	Intake	23.00mm	0.906"	0.1568"	25°	3.150"	Titanium
80-80075T	Intake (Center)	23.00mm	0.906"	0.1568"	25°	3.095"	Titanium
80-80077T	Exhaust	24.50mm	0.965"	0.1758"	25°	3.070"	Titanium

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides

A	B	C	D	E	F	G	Intake	Exhaust
							KPMI P/N	KPMI P/N
0.375"	.400"	0.520"	0.720"	.400"	0.1570"	0.3563"	80-80080	
						+0.001"	80-80081	
						+0.002"	80-80082	
						+0.010"	80-80089	
Intake - Use O.E.M valve guide seal								
0.405"	.430"	0.590"	0.790"	.440"	0.1760"	0.3958"		80-80090
						+0.001"		80-80091
						+0.002"		80-80092
						+0.010"		80-80099

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
80-80072	Exhaust • Style 4 • Viton	Pkg. of 2

YAMAHA® YFM™ 350 / 400 1986-2014



BIG BEAR™ / BRUIN™
GRIZZLY™ / KODIAK™
RAPTOR™ / WARRIOR™
WOLVERINE™



80-8000



80-80012



80-8010

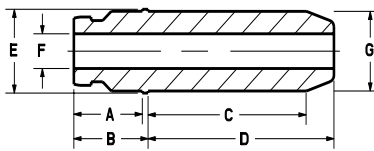
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
80-8000	Intake	80-8001	Use O.E.M.	80-8004	80-8002	80-8003
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.530"		1.325"		90#		205#
						@ Lift
						.325"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80012	Intake	40.00mm	1.575"	0.2750"	23°	4.035"	Standard
80-80013	Intake	41.00mm	1.614"	0.2750"	23°	4.035"	Oversize
80-80014	Exhaust	34.00mm	1.339"	0.2745"	29°	3.960"	Standard

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.475"	0.515"	1.100"	1.290"	0.520"	0.2745"	0.4942"	80-8010	
							+0.002"	80-8012
							+0.010"	80-80020

Use O.E.M. valve guide seal.

YAMAHA® YZ™ 250F 2014-2015

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80900	Intake	80-80901	Use O.E.M.	80-80903	80-80905	---
	Exhaust	80-80902	Use O.E.M.	80-80904	80-80906	---
Type	*Valve Lift	Installed Height		Seat Pressure		Open Pressure
Intake	.425"	1.180"		48#		151#
Exhaust	.400"	1.125"		40#		119#
						@ Lift
						.425"
						.400"

Intake Only Titanium Valve Spring Kits

KPMI P/N	Type	Ti Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
80-80970	Intake	80-80912T	80-80901	Use O.E.M.	80-80903	80-80905	---	---
Type	*Valve Lift	Installed Height		Seat Pressure		Open Pressure		@ Lift
Intake	.425"	1.180"		48#		151#		.425"

* It may be necessary to use KPMI shortened valve guides (KPMI® #80-8092X & 80-8093X) to achieve higher than stock lift.



YAMAHA® YZ™ 250F 2014-2015



80-80900



80-80912T



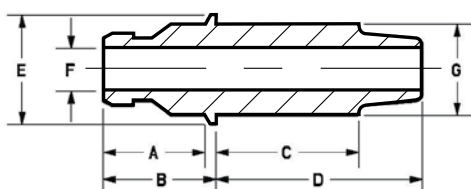
80-80920



O.E.M. Replacement • Tensilite® Valves • Chromium Nitride PVD Coated

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80912T	Intake	31.00mm	1.220"	0.1962"	18°	3.280"	Standard
80-80916T	Exhaust	25.00mm	0.984"	0.1760"	30°	3.235"	Standard

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.350"	0.360"	0.535"	0.905"	0.430"	0.1962"	0.3957"	80-80920	
						+0.001"	80-80921	
						+0.002"	80-80922	
						+0.010"	80-80929	
0.330"	0.340"	0.615"	1.015"	0.391"	0.1760"	0.3563"		80-80930
						+0.001"		80-80931
						+0.002"		80-80932
						+0.010"		80-80933

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100015	Intake • Style 4 • Viton	Pkg. of 2
700-100014	Exhaust • Style 4 • Viton	Pkg. of 2

YAMAHA® WR™ / YZ™ 400F/426F 1998-'02

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
80-80100	Intake	80-80101	Use O.E.M.	80-80103	80-80104	80-80107
	Exhaust	80-80102	Use O.E.M.	80-80103	80-80105	80-80108
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.380"	1.105"	44#	86#	.380"	
Exhaust	.380"	1.105"	44#	86#	.380"	

White Diamond® Valves • Hard Chrome Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
80-8055H	Intake	27.00mm	1.063"	15°	3.320"	Standard
80-8056H	Intake	27.00mm	1.063"	15°	3.280"	Standard (Center)
80-8057H	Exhaust	28.00mm	1.102"	25°	3.220"	Standard

Must use Kibblewhite® Lightweight Valve Spring Kits when installing White Diamond™ Valves.

YAMAHA® WR™ / YZ™ 400F/426F 1998-'02



80-80100



80-8055H



80-80110

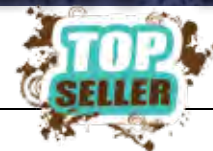


C630 Bronze Valve Guides									
	A	B	C	D	E	F	G	Intake	Exhaust
		0.550"	0.580"	0.510"	0.640"	0.430"	0.1765"	0.3957"	80-80110
							+0.002"	80-80112	
							+0.010"	80-80119	
	0.580"	0.610"	0.580"	0.695"	0.420"	0.1960"	0.3957"		80-80120
							+0.002"		80-80122
							+0.010"		80-80129

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
80-80107	Intake • Style 4 • Viton	Pkg. of 3
80-80108	Exhaust • Style 4 • Viton	Pkg. of 2

YAMAHA® VARIOUS 450cc 2003-'14

YZ™ 450 2004-'09 / 450X 2008-'11 / 450R 2009-'14
WR™ 450 2003-'14 / YZ™ 450F 2003-'09



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals
80-80206	Intake	80-80207	Use O.E.M.	80-80209	80-80210	80-80211
	Exhaust	80-80208	Use O.E.M.	80-80209	80-80210	80-80212
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.380"	1.105"	39#	86#	.380"	
Exhaust	.380"	1.105"	39#	86#	.380"	

Intake Only Steel Valve Conversion Kits								
KPMI P/N	Type	White Diamond® Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
80-80950	Intake	80-80213H 80-80215H	80-80207	Use O.E.M.	80-80209	80-802010	80-802011	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.380"	1.105"	39#	86#	.380"			



YAMAHA® VARIOUS 450cc 2003-'14



80-80206



80-80950

YFZ™ 450 2004-'09
 450X 2008-'11
 450R 2009-'14
 WR™ 450 2003-'14
 YZ™ 450F 2003-'09

White Diamond® Valves • Hard Chrome Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80213H	Intake	27.00mm	1.063"	0.1765"	15°	3.040"	Standard
80-80214H	Intake	28.00mm	1.102"	0.1765"	15°	3.030"	Oversize
80-80215H	Intake	27.00mm	1.063"	0.1765"	15°	3.000"	Standard (Center)
80-80216H	Intake	28.00mm	1.102"	0.1765"	15°	2.990"	Oversize (Center)
80-80217H	Exhaust	28.00mm	1.045"	0.1956"	20°	2.955"	Standard
80-80218H	Exhaust	29.00mm	1.142"	0.1956"	30°	2.945"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.



O.E.M. Replacement • Tensilite® Valves • Chromium Nitride PVD Coated Titanium

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80213T	Intake	27.00mm	1.063"	0.1765"	15°	3.040"	Standard
80-80215T	Intake	27.00mm	1.063"	0.1765"	15°	3.040"	Standard (Center)
80-80217T	Exhaust	28.00mm	1.102"	0.1956"	20°	2.955"	Standard

C630 Bronze Valve Guides

Diagram	A	B	C	D	E	F	G	Intake	Exhaust
		0.350"	0.385"	0.480"	0.680"	0.430"	0.1768"	0.3957"	80-80220
							+0.001"	80-80221	
							+0.002"	80-80222	
							+0.010"	80-80229	
0.350"		0.385"	0.510"	0.680"	0.430"	0.1961"	0.3957"		80-80230
							+0.001"		80-80231
							+0.002"		80-80232
							+0.010"		80-80239

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
80-80211	Intake • Style 4 • Viton	Pkg. of 3
80-80212	Exhaust • Style 4 • Viton	Pkg. of 2

YAMAHA® YZ™ 450F 2010-2013



80-80750



80-81050



80-80220



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80750	Intake	80-80751	Use O.E.M.	80-80753	80-80755	---
	Exhaust	80-80752	Use O.E.M.	80-80754	80-80756	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.450"	1.185"	46#	155#	.450"	
Exhaust	.450"	1.185"	46#	155#	.450"	

Intake Only Steel Valve Conversion Kits

KPMI P/N	Type	Black Diamond™ Valves	H.T. Steel Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seals	Spring Shims
80-81050	Intake	80-80762	80-80751	Use O.E.M.	80-80753	80-80755	---	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift			
Intake	.450"	***	46#	155#	.450"			

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
80-80762	Intake	36.00mm 1.417"	0.2155"	20°	3.290"	Standard
80-80763	Intake	37.00mm 1.457"	0.2155"	20°	3.290"	Oversize
80-80766	Exhaust	30.00mm 1.181"	0.2155"	20°	3.385"	Standard
80-80767	Exhaust	31.00mm 1.220"	0.2155"	20°	3.385"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

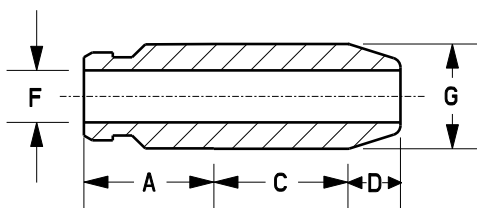


O.E.M. Replacement Valves for 2010-'13 Yamaha YZ450F

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks
80-80762T	Intake	36.00mm 1.417"	0.2155"	20°	3.290"	Standard
80-80766T	Exhaust	30.00mm 1.181"	0.2155"	20°	3.385"	Standard

All titanium valves are (Tensilite®) PVD CrN coated

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.540"	---	0.560"	0.775"	---	0.2160"	0.4352"	80-80770	
						+0.001"	80-80771	
						+0.002"	80-80772	
						+0.010"	80-80779	
0.390"	---	0.760"	1.030"	---	0.2155"	0.4352"		80-80780
						+0.001"		80-80781
						+0.002"		80-80782
						+0.010"		80-80789

Use O.E.M seal.



YAMAHA® SR™ / TT™ / XT™ 500 1976-1981



80-0514



80-8100

Replacement Spring Only Kit

KPMI P/N	Type	Recommended Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-0514	Intake	*80-80350	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.560"		1.625"	140#		305#	.560"

*Available separately as O.E.M. replacement using above part number. Supplied with 15° Kibblewhite® H.T. Steel Keepers # 80-4004.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.645"	0.765"	0.970"	1.200"	0.905"	0.3135"	0.5535"		80-8100	
								+0.001"	80-8101	
								+0.010"	80-8110	

Use O.E.M. valve guide seal

YAMAHA® SR™ / TT™ / XT™ 550 / 600 1982-1995

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80241	Intake	80-80242	Use O.E.M.	80-80243	80-80244	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.438"		1.220"	70#		197#	.438"

YAMAHA® XJ™ 650 / 700 1980-1984

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
80-80200	Intake	80-80201	80-80202	80-80203	Use O.E.M.	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.335"	74#		200#	.440"

YAMAHA® XS™ 650 1970-1983



80-80340



80-80380



80-80360



Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80340	Intake	80-80341	80-80346	80-80344	80-80343	---
	Exhaust					
Valve Lift		Installed Height		Open Pressure		@ Lift
0.515"		1.450"		228#		.515"

Must use Kibblewhite® Guides with high lift cams. This kit is supplied with radiused bead keepers and must be used with radius groove valves

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80380	Intake	41.00mm	1.614"	0.3145"	23°	4.105"	Standard
80-80381	Intake	42.00mm	1.654"	0.3145"	23°	4.085"	Oversize
80-80383	Exhaust	35.00mm	1.378"	0.3140"	23°	4.030"	Standard
80-80384	Exhaust	36.00mm	1.417"	0.3140"	23°	4.010"	Oversize

These valves utilize a radiused keeper groove. To install in models prior to 1973, use with radius beaded keepers #80-80346

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
		0.430"	0.550"	0.840"	1.290"	0.905"	0.3140"	0.5930"	80-80370
							+0.001"	80-80371	
							+0.002"	80-80372	
							+0.010"	80-80379	
	0.430"	0.550"	1.150"	1.550"	0.905"	0.3140"	0.5930"		80-80360
							+0.001"		80-80361
							+0.002"		80-80362
							+0.010"		80-80369

Use O.E.M seal.



YAMAHA® VARIOUS 660'S 2001-2008



80-80030



80-80060



80-80040

GRIZZLY™ 2002-'08
 RAPTOR™ 2001-'05
 RHINO™ 2004-'07

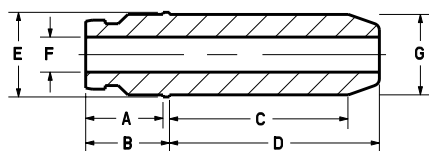
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80030	Intake	80-80031	Use O.E.M.	80-80032	80-80033	---
	Exhaust	80-80031	Use O.E.M.	80-80032	80-80034	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.450"	1.205"	55#	170#	.450"	
Exhaust	.450"	1.205"	55#	170#	.450"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80060	Intake	30.00mm	1.181"	0.2355"	15°	3.960"	Standard
80-80061	Intake	31.00mm	1.220"	0.2355"	15°	3.960"	Oversize
80-80062	Intake	32.00mm	1.260"	0.2355"	15°	3.960"	Oversize
80-80063	Exhaust	32.00mm	1.260"	0.2348"	25°	3.650"	Standard
80-80064	Exhaust	33.00mm	1.299"	0.2348"	25°	3.650"	Oversize

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.315"	0.350"	1.125"	1.255"	0.495"	0.2345"	0.4550"	80-80040	
						+0.001"	80-80041	
						+0.002"	80-80042	
						+0.010"	80-80049	
0.440"	0.475"	0.860"	0.990"	0.495"	0.2345"	0.4550"		80-80050
						+0.001"		80-80051
						+0.002"		80-80052
						+0.010"		80-80059

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100017	Intake / Exhaust • Style 5 • Viton	Pkg. of 1

YAMAHA® VARIOUS 700'S 2006-2014



GRIZZLY™ 2007-'14
 RAPTOR™ 2006-'14
 RHINO™ 2008-'13
 VIKING™ 2014



80-80410



80-80430



80-80420

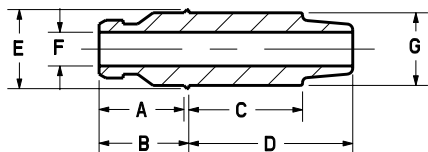
Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80410	Intake	80-80411	Use O.E.M.	80-80412	80-80413	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.480"		1.420"		54#		195#
						@ Lift
						.480"

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80430	Intake	38.00mm	1.496"	0.2354"	20°	4.025"	Standard
80-80431	Intake	39.00mm	1.535"	0.2354"	20°	4.010"	Oversize
80-80432	Intake	40.00mm	1.575"	0.2354"	20°	4.010"	Oversize (+2mm)
80-80433	Exhaust	32.00mm	1.260"	0.2349"	17°	3.875"	Standard
80-80434	Exhaust	33.00mm	1.299"	0.2349"	17°	3.770"	Oversize
80-80435	Exhaust	34.00mm	1.339"	0.2349"	17°	3.770"	Oversize (+2mm)

C630 Bronze Valve Guides



A	B	C	D	E	F	G	Intake	Exhaust
0.485"	0.525"	0.790"	1.110"	0.495"	0.2350"	0.4550"	80-80420	
						+0.001"	80-80421	
						+0.002"	80-80422	
						+0.010"	80-80429	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100017	Intake / Exhaust • Style 5 • Viton	Pkg. of 1



YAMAHA® FJ™ 1100/ 1200 1984-1993



80-1017



80-8120



80-4172

Replacement Spring Only Kit

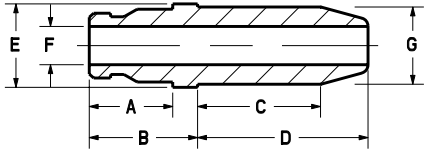
KPMI P/N	Type	Recommended Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-1017	Intake	*80-1019	---	---	---	---
	Exhaust					
Valve Lift		Installed Height		Seat Pressure		Open Pressure
.500"		1.380"		60#		210#
						@ Lift

* Retainer may not be used separately as O.E.M. replacement. Keepers are supplied with retainers. Use PN 80-1020 Tappets with these Shim On Bottom Retainers, also requires 9.5mm shim, see KPMI® Adjustment Shim Section in back of catalog (Pg. 215) for more information.

Black Diamond™ Valves • Black Nitroneg Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-8120	Intake	29.00mm	1.142"	0.2160"	20°	3.690"	Standard
80-8122	Intake	30.50mm	1.201"	0.2160"	20°	3.700"	Oversize
80-8121	Exhaust	25.00mm	0.984"	0.2155"	20°	3.690"	Standard
80-8123	Exhaust	26.00mm	1.024"	0.2155"	20°	3.700"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.470"	0.610"	0.695"	0.960"	0.470"	0.2160"	0.4350"		80-4172
							+0.002"	80-4173	
							+0.004"	80-4180	
							+0.006"	80-4181	
							+0.015"	80-4174	

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 4 • Viton	Pkg. of 1

YAMAHA® V-MAX™ 1985-2007



80-8021



80-8023



80-8030



High Performance Spring Only Kit

KPMI P/N	Type	Recommended Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-8021	Intake	80-8023	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.450"		1.375"	65#		198#	.450"

Keepers are supplied with retainers. Use # 80-1020 Kibblewhite® Tappets with these Shim On Bottom Retainers, also requires 9.5mm shim. See Kibblewhite® Adjustment Shim Section in back of catalog (Pg. 215) for more information.

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust	
	0.470"	0.610"	0.585"	0.850"	0.470"	0.2160"	0.4350"	80-8030		
								+0.002"	80-8032	
								+0.015"	80-8039	

Shim on Bottom Tappets

KPMI P/N	Type	Quantity
80-1020	Intake / Exhaust	Pkg. of 16

Shim on Bottom Retainer Set

KPMI P/N	Type	Quantity
80-8023	Titanium	Pkg. of 16

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100016	Intake / Exhaust • Style 54 • Viton	Pkg. of 1

Shim under style with keepers. Requires 9.5mm shim. See Kibblewhite® Adjustment Shim Section in back of catalog (Pg. 215) for more information.

YAMAHA® SX™ 1100 1978-1981

Replacement Spring Only Kit

KPMI P/N	Type	Recommended Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-0449	Intake	Use O.E.M	---	---	---	---
	Exhaust					
Valve Lift		Installed Height	Seat Pressure		Open Pressure	@ Lift
.440"		1.275"	85#		215#	.440"



YAMAHA® YZF™ R1 1998-2003



80-80250



80-80280



80-80190

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Red Viton Seal
80-80250	Intake	80-80251	Use O.E.M.	80-80256	80-80253	Use O.E.M.
	Exhaust	80-80252	Use O.E.M.	80-80256	80-80254	80-80255
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.380"	---	40#	86#	.380"	
Exhaust	.380"	---	40#	86#	.380"	

Replacement Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80394	Intake	Use O.E.M.	Use O.E.M.	80-80395	Use O.E.M.	---
	Exhaust	Use O.E.M.	Use O.E.M.	80-80396	80-80397	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.350"	1.370"	30#	90#	.350"	
Exhaust	.315"	1.415"	44#	95#	.315"	

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80280	Intake	23.00mm	0.906"	0.1568"	15°	3.620"	Standard
80-80281	Intake	23.50mm	0.925"	0.1568"	15°	3.620"	Oversize
80-80283	Intake	23.00mm	0.906"	0.1568"	15°	3.565"	Standard (Center)
80-80284	Intake	23.50mm	0.925"	0.1568"	15°	3.565"	Oversize (Center)
80-80286	Exhaust	24.50mm	0.965"	0.1758"	23°	3.505"	Standard
80-80287	Exhaust	25.00mm	0.984"	0.1758"	23°	3.505"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.580"	0.610"	0.520"	0.710"	0.381"	0.1570"	0.3563"		80-80190
							+0.001"	80-80191	
							+0.010"	80-80199	
Intake - Use O.E.M valve guide seal									
0.580"	0.610"	0.510"	0.690"	0.420"	0.1755"	0.3955"			80-80180
							+0.001"		80-80181
							+0.010"		80-80189

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
700-100014	Exhaust • Style 4 • Viton	Pkg. of 1

YAMAHA® YZF™ R1 2007-2008



**TOP
SELLER**



80-80650



80-80666



80-80662T

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80650	Intake	80-80651	Use O.E.M.	80-80653	80-80655 / 80-80657	---
	Exhaust	80-80652	Use O.E.M.	80-80654	80-80655	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.400"	1.410"	50#	190#	.400"	
Exhaust	.400"	1.280"	67#	165#	.400"	

Black Diamond™ Valves • Black Nitroreg Stems

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80666	Exhaust	25.00mm	0.985"	0.1760"	15°	3.560"	Standard
80-80667	Exhaust	26.00mm	1.024"	0.1760"	15°	3.560"	Oversize

Must use Kibblewhite® Lightweight Valve Spring Kits when installing Black Diamond™ Valves.

Tensilite® Valves • Chromium Nitride PVD Coated Titanium

KPMI P/N	Type	Head Diameter	Stem Diameter	Tulip	O.L.	Remarks	
80-80662T	Intake	31.00mm	1.220"	0.1960"	25°	3.590"	Standard
80-80663T	Intake	32.00mm	1.260"	0.1960"	25°	3.590"	Oversize

YAMAHA® YZF™ R1 2004-2006

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80500	Intake	82-82501	Use O.E.M.	82-82503	82-82505	---
	Exhaust	82-82502	Use O.E.M.	82-82504	82-82506	---
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.380"	1.325"	48#	118#	.340"	
Exhaust	.380"	1.325"	48#	118#	.340"	



YAMAHA® FX NYTRO™ (ALL MODELS) 2008-2014



80-80450



80-80642



80-80470

Replacement Spring Only Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks		
80-80450	Intake	80-80451	Use. O.E.M	80-80453	80-80455	---		
	Exhaust							
Valve Lift		Installed Height		Seat Pressure		Open Pressure		@ Lift
.445"		1.300"		53#		162#		.445"

It may be necessary to use **KPMI® Shortened Valve Guides # 80-80470**, to achieve higher stock lift.

Black Diamond™ Valves • Black Nitroeng Stems

KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80462	Intake	31.00mm	1.220"	0.1765"	15°	3.495"	Standard
80-80463	Intake	32.00mm	1.260"	0.1765"	15°	3.495"	Oversize
80-80466	Exhaust	26.00mm	1.024"	0.1760"	25°	3.470"	Standard
80-80467	Exhaust	27.00mm	1.063"	0.1760"	25°	3.470"	Oversize

C630 Bronze Valve Guides

	A	B	C	D	E	F	G	Intake	Exhaust
	0.530"	---	0.585"	0.750"	0.354"	0.1760"	0.3564"		80-80470
							+0.001"	80-80471	
							+0.002"	80-80472	
							+0.004"	80-80474	
							+0.010"	80-80479	

O.E.M. Replacement Tappets

KPMI P/N	Type	Quantity
80-80492	Intake / Exhaust	Pkg. of 1

Valve Guide Seals

KPMI P/N	Seal Type	Quantity
80-80490	Exhaust • Style 4 • Viton	Pkg. of 12

YAMAHA® APEX™ / RX-1 (ALL MODELS) 2003-2010



80-80600



80-80612



80-80630



Lightweight Racing Valve Spring Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	H.T. Steel Tappets
80-80600	Intake	80-80601	Use O.E.M.	80-80603	80-80605	Use O.E.M.
	Exhaust	80-80602	Use O.E.M.	80-80603	80-80606	80-80641
Type	Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.365"	1.100"	40#	85#	.365"	
Exhaust	.365"	1.100"	40#	85#	.365"	

Replacement Spring Only Kit						
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
80-80394	Intake	Use O.E.M.	Use O.E.M.	80-80395	Use O.E.M.	---
	Exhaust	Use O.E.M.	Use O.E.M.	80-80395	80-80397	---
Type	*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift	
Intake	.350"	1.370"	30#	85#	.365"	
Exhaust	.315"	1.415"	44#	95#	.315"	

Black Diamond™ Valves • Black Nitroreg Stems							
KPMI P/N	Type	Head Diameter		Stem Diameter	Tulip	O.L.	Remarks
80-80612	Intake	23.00mm	0.906"	0.1568"	15°	3.620"	Standard
80-80613	Intake	23.50mm	0.925"	0.1568"	15°	3.620"	Oversize
80-80614	Intake	23.00mm	0.906"	0.1568"	15°	3.565"	Standard (Center)
80-80615	Intake	23.50mm	0.925"	0.1568"	15°	3.565"	Oversize (Center)
80-80616	Exhaust	24.50mm	0.965"	0.1757"	25°	3.505"	Standard
80-80617	Exhaust	25.00mm	0.984"	0.1757"	25°	3.505"	Oversize

C630 Bronze Valve Guides									
	A	B	C	D	E	F	G	Intake	Exhaust
	0.580"	0.610"	0.520"	0.710"	0.381"	0.1570"	0.3563"	80-80620	
							+0.001"	80-80621	
							+0.010"	80-80629	
Intake - Use O.E.M valve guide seal									
0.580"	0.610"	0.510"	0.690"	0.420"	0.1755"	0.3955"		80-80630	
						+0.001"		80-80631	
						+0.010"		80-80639	

Valve Guide Seals		
KPMI P/N	Seal Type	Quantity
80-80641	Exhaust • Style 4 • Viton	Pkg. of 1



AUTOMOTIVE BMW™ / MITSUBISHI™ / PORSCHE™

BMW™ M3™

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers(O)	H.T. Steel Basewashers(I)
90-90010	Intake	90-90011	Use O.E.M.	90-90012	90-90013	90-90014
	Exhaust					
Type		*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake	Exhaust	.500"	1.430"	50#	191#	.500"

MITSUBISHI™ 3.0L 6V 6G72

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
97-97040	Intake	97-97041	Use O.E.M.	97-97042	97-97043	---
	Exhaust					
Type		*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake	Exhaust	.465"	1.300"	88#	165#	.465"

PORSCHE™ 911 / 930 / 964 / 2V

2.0L / 2.2L / 2.4L / 2.7L / 3.0L / 3.2L / 3.3L

Lightweight Racing Valve Spring Kit

KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Remarks
98-98000	Intake	98-98001	Use O.E.M.	98-98002	98-98003	---
	Exhaust					
Type		*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake	Exhaust	.540"	1.485"	80#	255#	.540"
KPMI P/N	Type	Ti Retainers	H.T. Steel Keepers	CrSi Valve Springs	H.T. Steel Basewashers	Spring Shim
98-98010	Intake	98-98011	Use O.E.M.	98-98012	98-98013	98-98014
	Exhaust					
Type		*Valve Lift	Installed Height	Seat Pressure	Open Pressure	@ Lift
Intake	Exhaust	.540"	1.450"	100#	233#	.540"

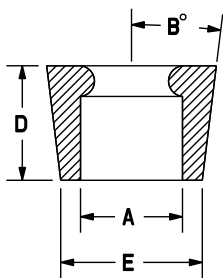


KEEPERS

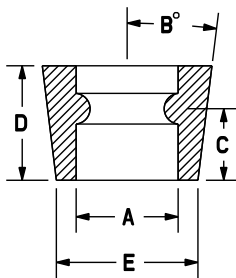


All KPMI® keepers are single-point machined from high tensile strength billet material (with the exception of forged multi-bead styles). What this means is that each keeper is machined from billet high tensile strength material. After machining, the keepers are split, tumbled and then heat treated. At KPMI® we pay close attention to the surface finish and tolerance of; all diameters, taper angle, and bead location. This type of detail insures repeatability you can count on.

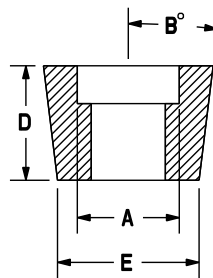
**KEEPER
STYLE 1**



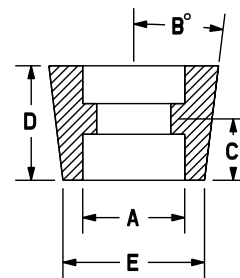
**KEEPER
STYLE 2**



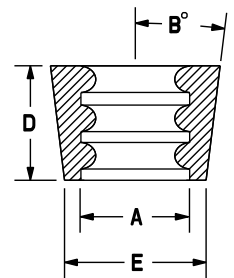
**KEEPER
STYLE 3**



**KEEPER
STYLE 4**



**KEEPER
STYLE 5**



Keepers - (Sold In Pairs)

KPMI P/N	Keeper Style	A Stem Diameter	B Keeper Angle	C Bead Height	D Overall Length	E Minor Diameter
500-100001	2	0.275"	7.0°	0.180"	0.365"	0.330"
500-100002	2	0.215"	10.0°	0.076"	0.240"	0.285"
500-100003	4	0.310"	15.0°	0.220"	0.365"	0.353"
500-100004	1	0.196"	7.0°	0.185"	0.225"	0.279"
500-100005	3	0.375"	15.0°	----	0.305"	0.395"
500-100006	2	0.275"	15.0°	0.135"	0.300"	0.350"
500-100007	3	0.310"	15.0°	----	0.315"	0.381"
500-100008	2	0.275"	7.0°	0.190"	0.320"	0.342"
500-100009	3	0.371"	15.0°	----	0.343"	0.375"
500-100010	1	0.216"	10.0°	----	0.237"	0.288"
500-100011	2	0.275"	7.0°	0.190"	0.340"	0.349"
500-100012	2	0.315"	15.0°	0.100"	0.300"	0.344"
500-100013	2	0.235"	7.0°	0.155"	0.250"	0.300"
500-100014	4	0.310"	7.0°	0.185"	0.385"	0.380"
500-100015	1	0.197"	10.0°	----	0.200"	0.370"
500-100016	5	0.275"	7.0°	----	0.290"	0.345"
500-100017	3	0.310"	7.0°	----	0.245"	0.369"
500-100018	3	0.315"	15.0°	----	0.315"	0.379"

NOTE: All Kibblewhite® Keepers are sold in pairs.



REAMERS

**NEW
PRODUCT**



GR-3770 / GR-2770

Reamers			
KPMI P/N	Description	Flute Length	Overall Length
GR-1970	0.1970 HSS valve guide reamer	2.625	7.125
GR-2770	0.2770 HSS valve guide reamer	2.625	7.125
GR-2820	0.2820 HSS valve guide reamer	2.625	7.125
GR-3100	0.3100 HSS valve guide reamer	2.625	7.125
GR-3110	0.3110 HSS valve guide reamer	2.625	7.125
GR-3115	0.3115 HSS valve guide reamer	2.625	7.125
GR-3400	0.3400 HSS valve guide reamer	2.625	7.125
GR-3410	0.3410 HSS valve guide reamer	2.625	7.125
GR-3730	0.3730 HSS valve guide reamer	2.625	7.125
GR-3770	0.3770 HSS valve guide reamer	2.625	7.125
GR-3775	0.3775 HSS valve guide reamer	2.625	7.125
GR-3780	0.3780 HSS valve guide reamer	2.625	7.125
GR-3790	0.3790 HSS valve guide reamer	2.625	7.125

• Precision valve guide reamers are specifically designed to size C67410 bronze valve guide materials.
 • All cutting diameters are ±0.0002" and include a 1.000" long pilot

For all the application available for Kibblewhite's individual products, please refer online to the reamer section of the www.kpmi.us website, under **Precision Components and Valve Blanks**

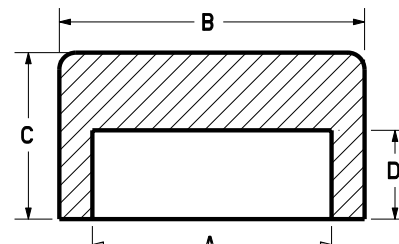
BALL HONES / LASH CAPS



GH-1771 / GH-3125

Hones - Universal	
Qty. 1 KPMI P/N	Description
GH-1574	4.0mm valve guide hone
GH-1771	4.5mm valve guide hone
GH-1968	5.0mm valve guide hone
GH-2165	5.5mm valve guide hone
GH-2755	7.0mm valve guide hone
GH-3125	5/16 (.3125") valve guide hone
GH-3750	3/8 (.3750") valve guide hone

Precision valve guide hones are durable enough to size C630 bronze and cast iron valve guide materials.



Lash Caps

Lash Caps						
Qty. 1 KPMI P/N	A Minor Diameter		B Major Diameter	C OL	D Depth	(C-D) Roof Thickness
900-400001	7.94mm	0.3126"	0.395"	0.160"	0.080"	0.080"
900-400002	7.00mm	0.2756"	0.355"	0.160"	0.080"	0.080"
900-400003	6.50mm	0.2595"	0.335"	0.120"	0.080"	0.040"
900-400004	5.50mm	0.2165"	0.295"	0.090"	0.050"	0.040"
900-400005	5.00mm	0.1969"	0.277"	0.090"	0.050"	0.040"
900-400006	5.00mm	0.1969"	0.277"	0.230"	0.150"	0.080"
900-400007	5.00mm	0.1969"	0.277"	0.175"	0.100"	0.075"
900-400008	6.00mm	0.2282"	0.315"	0.120"	0.080"	0.040"



BLACK DIAMOND™ VALVE BLANKS

The Proprietary Black Diamond™ process is not a coating. It penetrates and treats the steel to a depth of .002", so it can never peel or flake off. Coatings such as chrome are "surface build ups" that rely on adhesion to remain intact. They can crack, peel, and flake off, depositing abrasive debris in the guide causing wear and seizure. The Black Diamond™ process creates an extremely hard and smooth finish, preventing accelerated wear on the stem and keeper groove areas. This hard smooth finish has a low coefficient of friction, making it less aggressive on the valve guide, and promoting longer guide life. In exhaust environments, the Black Diamond™ process offers increased resistance to corrosion which is critical for long life.



Black Diamond™ Valve Blanks

KPMI Part No.	Type	Head Diameter	Stem Diameter	Tulip Profile	Overall Length
3/8" Stem Diameter					
20-4194B	IN	54.00mm	2.125"	0.3765"	23° 5.000"
20-4195B	EX	47.00mm	1.850"	0.3745"	29° 5.000"
5/16" Stem Diameter					
20-4171B2	IN	57.15mm	2.250"	0.3100"	23° 5.000"
20-4171B1	IN	53.34mm	2.100"	0.3100"	23° 5.000"
20-4171B	IN	50.80mm	2.000"	0.3100"	23° 5.000"
20-4170B2	EX	44.45mm	1.750"	0.3096"	30° 5.000"
20-4170B1	EX	44.45mm	1.750"	0.3096"	40° 5.000"
20-4170B	EX	43.56mm	1.715"	0.3096"	40° 5.000"
8.0mm Stem Diameter					
11-10009	IN	50.80mm	2.000"	0.3145"	18° 5.000"
11-10011	IN	46.00mm	1.811"	0.3145"	18° 5.000"
7.0mm Stem Diameter					
11-10008	IN	50.80mm	2.000"	0.2750"	23° 5.200"
40-4178B	IN	42.00mm	1.654"	0.2745"	23° 5.000"
40-4179B	EX	33.00mm	1.300"	0.2745"	29° 5.000"
6.5mm Stem Diameter					
30-30228B	IN	42.00mm	1.653"	0.2590"	20° 5.000"
30-30229B	EX	34.00mm	1.338"	0.2582"	20° 5.000"
6.0mm Stem Diameter					
93-93015B	IN	42.00mm	1.653"	0.2352"	23° 5.000"
93-93016B	EX	34.00mm	1.338"	0.2347"	29° 5.000"
5.5mm Stem Diameter					
30-30244B	IN	40.00mm	1.575"	0.2158"	20° 5.000"
60-4303B	IN	34.00mm	1.339"	0.2155"	23° 5.000"
40-4176B	EX	29.00mm	1.142"	0.2145"	29° 5.000"
5.0mm Stem Diameter					
60-60012B	IN	34.00mm	1.339"	0.1962"	18° 5.000"
60-60013B	EX	28.50mm	1.122"	0.1953"	17° 5.000"
60-60076B	IN	40.00mm	1.575"	0.1962"	20° 5.000"
4.5mm Stem Diameter					
11-10004	IN	34.00mm	1.339"	0.1770"	18° 5.000"
11-10005	IN	32.00mm	1.260"	0.1770"	18° 5.000"
11-10006	EX	28.00mm	1.102"	0.1770"	20° 5.000"
11-10007	EX	26.00mm	1.024"	0.1770"	20° 5.000"
4.0mm Stem Diameter					
11-10000	IN	32.00mm	1.260"	0.1568"	18° 5.000"
11-10001	IN	28.00mm	1.102"	0.1568"	18° 5.000"
11-10002	EX	26.00mm	1.024"	0.1563"	20° 5.000"
11-10003	EX	24.00mm	0.945"	0.1563"	20° 5.000"

TENSILITE® TITANIUM / WHITE DIAMOND® WHITE BLANKS



Tensilite® Titanium Valve Blanks

KPMI Part No.	Type	Head Diameter	Stem Diameter	Tulip Profile	Overall Length	
5/16" Stem Diameter						
20-20109T	IN / Ex	46.74mm	1.840"	0.3100"	23°	5.000"
7.0mm Stem Diameter						
40-4244T	IN / Ex	48.00mm	1.890"	0.2745"	17°	5.100"
40-4240T	IN / Ex	44.00mm	1.732"	0.2745"	23°	5.100"
40-4238T	IN / Ex	42.00mm	1.654"	0.2745"	23°	5.000"
6.0mm Stem Diameter						
11-10020T	IN / EX	42.00mm	1.653"	0.2355"	23°	5.320"
5.5mm Stem Diameter						
60-1062T	IN / Ex	40.00mm	1.575"	0.2155"	20°	5.000"
60-1060T	IN / Ex	34.00mm	1.339"	0.2155"	20°	5.000"
5.0mm Stem Diameter						
11-10017T	IN / Ex	38.00mm	1.496"	0.1960"	18°	5.000"
11-10019T	IN / Ex	29.00mm	1.142"	0.1955"	20°	5.000"
4.5mm Stem Diameter						
11-10015T	IN / Ex	34.00mm	1.339"	0.1760"	15°	4.300"
11-10016T	IN / Ex	28.00mm	1.102"	0.1755"	20°	4.300"
4.0mm Stem Diameter						
11-10013T	IN / Ex	30.00mm	1.181"	0.1568"	18°	5.000"
11-10014T	IN / Ex	26.00mm	1.024"	0.1560"	20°	5.000"

White Diamond™ Valve Blanks

KPMI Part No.	Type	Head Diameter	Stem Diameter	Tulip Profile	Overall Length	
6.0mm Stem Diameter						
40-4178BH	IN	42.01mm	1.657"	0.2745"	23°	5.200"
40-4179BH	EX	33.00mm	1.299"	0.2745"	29°	5.200"
5.0mm Stem Diameter						
60-4310BH	IN / EX	34.00mm	1.339"	0.1958"	23°	4.900"

For all the application available for Kibblewhite's individual products, please refer online to the each valve blanks section of the www.kpmi.us website, under **Precision Components and Valve Blanks**

Kibblewhite® Tensilite® titanium valves are manufactured from solid U.S. milled titanium bar. The titanium bar is cut, and forged, and then the stem is pulled from the forging process and cross-sectionally reduced.

These one piece forgings made from 6AL4V or 6-2-4-2 titanium alloy reflect the latest developments in titanium valve alloys. These alloys have superior hardness, strength, and thermal characteristics.

After final grinding and machining, Tensilite® valves are encased in a hard Chromium Nitride (CRN) shell. CRN offers excellent resistance to impact, abrasion and corrosion. These qualities and its low coefficient of friction make CRN the coating of choice for high performance titanium valves.



**Tensilite®
Valve Blank**

We fully CNC machine our White Diamond® Valves from a one-piece forging of either EV8 Stainless Steel or Inconel-751. These materials have proven heat and corrosion resistance properties and are hard chromed with a 360 degree anode to produce the highest possible grade of hard chrome finish.



**White Diamond®
Valve Blank**



SEALS

"KPMI® continues to offer our white clasp solid PC-Styled seals in a variety of sizes for builders who choose to use a seal design of this type."



STYLE 1
Solid Viton



STYLE 2
Solid Viton
w/ Tension Spring
(O.E.M. Style)



STYLE 3
Solid Viton
w/ Metal Jacket
Integral Spring Base



STYLE 4
Solid Viton
w/ Choker Spring
and Tension Spring
(O.E.M. Style)



STYLE 5
Solid Viton
w/ Metal Jacket
and Choker Spring



STYLE 6
Solid PC-Styled Seal
w/ Metal Band
and Choker Spring



STYLE 7
Solid Teflon with
a metal jacket
(OEM Style)

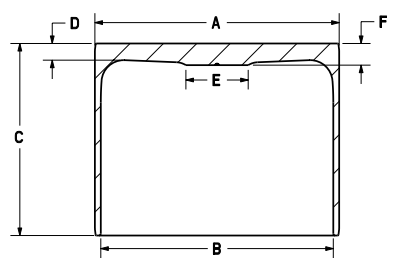
Qty. 1 Part Number	Qty. 10 Part Number	Stem Diameter	Seal Style	Guide Diameter	Overall Length	Seal O.D.
700-100013	700-100013-10	4.0 mm	2	0.305"	0.310"	0.375"
700-100014	700-100014-10	4.5 mm	4	0.305"	0.315"	0.370"
700-100015	700-100015-10	5.0 mm	4	0.325"	0.335"	0.405"
700-100016	700-100016-10	5.5 mm	4	0.340"	0.340"	0.440"
700-100029	700-100029-10	6.0 mm	5	0.435"	0.315"	0.520"
700-100017	700-100017-10	6.0 mm	5	0.385"	0.360"	0.475"
700-100025	700-100025-10	6.0 mm	5	0.435"	0.460"	0.560"
700-100031	700-100031-10	6.0 mm	5	0.488"	0.510"	0.615"
700-100037	700-100037-10	6.0 mm	5	0.451"	0.390"	0.553"
700-100018	700-100018-10	6.5 mm	4	0.430"	0.385"	0.535"
700-100028	700-100028-10	7.0 mm	5	0.550"	0.510"	0.660"
700-100026	700-100026-10	7.0 mm	5	0.435"	0.510"	0.555"
700-100030	700-100030-10	7.0 mm	3	0.562"	0.950"	0.970"
700-100019	700-100019-10	7.0 mm	4	0.460"	0.350"	0.530"
700-100010	700-100010-10	0.310" in.	5	0.420"	0.395"	0.565"
700-100027	700-100027-10	0.310" in.	5	0.470"	0.365"	0.610"
700-100032	700-100032-10	0.310" in.	7	0.420"	0.390"	0.570"
700-100033	700-100033-10	0.310" in.	7	0.530"	0.401"	0.635"
700-100008	700-100008-10	0.311" in.	6	0.415"	0.510"	0.510"
700-100003	700-100003-10	0.311" in.	6	0.425"	0.520"	0.380"
700-100012	700-100012-10	0.311" in.	1	0.480"	0.465"	0.550"
700-100006	700-100006-10	0.311" in.	6	0.500"	0.505"	0.600"
700-100009	700-100009-10	0.311" in.	6	0.531"	0.505"	0.630"
700-100005	700-100005-10	0.343" in.	6	0.500"	0.505"	0.600"
700-100007	700-100007-10	0.343" in.	6	0.562"	0.505"	0.660"
700-100034	700-100034-10	0.343" in.	7	0.530"	0.400"	0.630"
700-100004	700-100004-10	0.374" in.	6	0.500"	0.505"	0.600"
700-100001	700-100001-10	0.374" in.	6	0.530"	0.510"	0.630"
700-100002	700-100002-10	0.374" in.	6	0.562"	0.510"	0.650"
700-100011	700-100011-10	0.375" in.	5	0.562"	0.510"	0.660"
700-100035	700-100035-10	0.375" in.	7	0.562"	0.405"	0.664"
700-100036	700-100036-10	0.375" in.	7	0.625"	0.390"	0.720"
Qty. 25 Part Number	Qty. 100 Part Number	Stem Diameter	Seal Style	Guide Diameter	Overall Length	Seal O.D.
20-20620-25	20-20620-100	0.310" in.	7	0.420"	0.390"	0.570"
20-20621-25	20-20621-100	0.310" in.	7	0.530"	0.401"	0.635"
20-20622-25	20-20622-100	0.343" in.	7	0.530"	0.400"	0.630"
20-20623-25	20-20623-100	0.375" in.	7	0.562"	0.405"	0.664"
20-20624-25	20-20624-100	0.375" in.	7	0.625"	0.390"	0.720"

TAPPETS



Custom Tappets
Available By Request

Kibblewhite® tappets are machined from billet and designed using advanced Finite Element Analysis.



Tappets							
Qty.1 Part Number	A		B	C	D	E	F
600-099800	24.00mm	0.9440"	0.895"	0.669"	0.079"	0.300"	0.106"
600-100001	26.00mm	1.0232"	0.970"	0.790"	0.080"	0.236"	0.115"
600-100050	26.50mm	1.0420"	0.992"	0.748"	0.079"	0.300"	0.106"
600-100200	28.00mm	1.1016"	1.040"	0.860"	0.100"	0.310"	0.135"
600-100202	28.00mm	1.1017"	1.038"	0.765"	0.075"	0.320"	0.098"
600-100250	28.50mm	1.1220"	1.058"	0.765"	0.080"	0.320"	0.098"
600-100500	31.00mm	1.2190"	1.166"	0.975"	0.079"	0.325"	0.108"
600-100650	32.50mm	1.2785"	1.216"	0.910"	0.079"	0.325"	0.100"
600-100700	33.00mm	1.2980"	1.235"	1.025"	0.090"	0.340"	0.115"
600-100750	33.50mm	1.3184"	1.250"	1.025"	0.090"	0.312"	0.115"
600-100800	34.00mm	1.3380"	1.258"	1.025"	0.090"	0.312"	0.115"
600-100900	35.00mm	1.3765"	1.312"	1.000"	0.105"	0.340"	0.115"
600-101095	36.95mm	1.4550"	1.388"	1.040"	0.090"	0.400"	0.105"
600-101100	37.00mm	1.4562"	1.390"	1.040"	0.135"	0.400"	0.115"
600-101300	39.00mm	1.5350"	1.457"	1.040"	0.135"	0.400"	0.145"
600-100525	31.15mm	1.2262"	1.166"	0.800"	0.074"	0.325"	0.108"

Kibblewhite® Engineers design out tappets using Finite Element Stress Analysis (FEA) software. This software allows our engineers to lighten the tappets without sacrificing strength so we can create the strongest, lightest tappets possible. These tappets are machined from aircraft quality solid steel barstock. They undergo a proprietary heat treat process that creates a hard surface and a non brittle-core, maximizing toughness and wear resistance. Kibblewhite® tappets are run in high performance automotive and motorcycle applications including, Motocross, Flat Track, Road Race, Drag Race, and Land Speed Racing at the Bonneville Salt Flats.

For all the application available for Kibblewhite's individual products, please refer online to the tappet section of the www.kpmi.us website, under **Precision Components and Valve Blanks**



SEATS (POWDERED METAL)



In an effort to develop valve seats that fit our exacting standards, Kibblewhite® tested and chemically separated several iron based valve seats. We specified a combination of materials that gave us a seat with good uniform hardness and resistance to microwelding, wear, and recession. Casting a seat with this combination of alloys was not possible, and only with the latest in Powdered Metal Technology were we able to blend these alloys creating a high density seat with exceptional wear resistance, machinability, and thermal qualities. This material is compatible with all types of fuel blends, resists corrosion and burning, and is machinable with standard tooling.

These seats have been thoroughly tested on the track and street, in high RPM multi-valve applications, high spring load V-twin applications, with leaded and unleaded gasoline, ethanol, methanol, and in naturally aspirated and forced induction applications. In each case they have performed flawlessly, making these the seats of choice for cylinder head builders everywhere.

KPMI Part Number	Outside Diameter		Inside Diameter		Height	
10-SC250	25.00mm	0.984"	17.00mm	0.669"	9.00mm	0.355"
10-SC260	26.00mm	1.024"	18.00mm	0.709"	9.00mm	0.355"
10-SC270	27.00mm	1.063"	19.00mm	0.748"	9.00mm	0.355"
10-SC280	28.00mm	1.102"	20.00mm	0.787"	9.00mm	0.355"
10-SC290	29.00mm	1.142"	21.00mm	0.827"	9.50mm	0.375"
10-SC300	30.00mm	1.181"	22.00mm	0.866"	9.50mm	0.375"
10-SC310	31.00mm	1.220"	23.00mm	0.906"	9.50mm	0.375"
10-SC320	32.00mm	1.260"	24.00mm	0.945"	9.50mm	0.375"
10-SC330	33.00mm	1.299"	25.00mm	0.984"	9.50mm	0.375"
10-SC340	34.00mm	1.339"	26.00mm	1.024"	9.50mm	0.375"
10-SC350	35.00mm	1.378"	26.00mm	1.024"	11.00mm	0.434"
10-SC360	36.00mm	1.417"	27.00mm	1.063"	11.00mm	0.434"
10-SC370	37.00mm	1.457"	28.00mm	1.102"	11.00mm	0.434"
10-SC380	38.00mm	1.496"	29.00mm	1.142"	11.00mm	0.434"
10-SC390	39.00mm	1.535"	30.00mm	1.181"	11.00mm	0.434"
10-SC400	40.00mm	1.575"	30.00mm	1.181"	11.00mm	0.434"
10-SC410	41.00mm	1.614"	31.00mm	1.220"	11.00mm	0.434"
10-SC414	41.43mm	1.631"	30.15mm	1.187"	11.43mm	0.450"
10-SC420	42.00mm	1.654"	32.00mm	1.260"	11.00mm	0.434"
10-SC430	43.00mm	1.693"	33.00mm	1.299"	11.00mm	0.434"
10-SC440	44.00mm	1.732"	34.00mm	1.339"	11.00mm	0.434"
10-SC446	44.62mm	1.757"	35.00mm	1.375"	11.43mm	0.450"
10-SC450	45.00mm	1.772"	34.50mm	1.358"	11.00mm	0.434"
10-SC460	46.00mm	1.811"	35.50mm	1.398"	11.00mm	0.434"
10-SC462	46.20mm	1.819"	34.93mm	1.375"	11.43mm	0.450"
10-SC470	47.00mm	1.850"	36.50mm	1.437"	11.00mm	0.434"
10-SC478	47.78mm	1.881"	36.50mm	1.437"	11.43mm	0.450"
10-SC480	48.00mm	1.890"	37.50mm	1.476"	11.00mm	0.434"
10-SC490	49.00mm	1.929"	38.50mm	1.516"	11.00mm	0.434"
10-SC494	49.40mm	1.945"	38.10mm	1.500"	11.43mm	0.450"
10-SC500	50.00mm	1.969"	39.00mm	1.535"	11.50mm	0.453"
10-SC510	50.98mm	2.007"	39.67mm	1.562"	11.43mm	0.450"
10-SC523	52.32mm	2.060"	39.67mm	1.562"	11.43mm	0.450"
10-SC525	52.53mm	2.068"	42.85mm	1.687"	11.43mm	0.450"
10-SC541	54.15mm	2.132"	42.93mm	1.690"	11.43mm	0.450"
10-SC550	54.97mm	2.164"	44.45mm	1.750"	11.43mm	0.450"
10-SC557	55.73mm	2.194"	45.72mm	1.800"	11.43mm	0.450"
10-SC573	57.30mm	2.256"	47.50mm	1.870"	11.43mm	0.450"

SEATS (NICKEL ALUMINUM BRONZE)



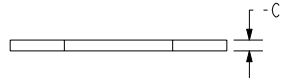
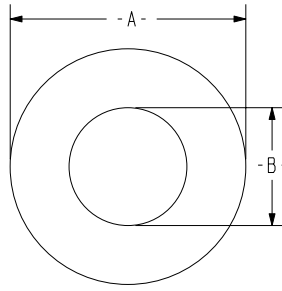
TITANIUM valves require the use of Kibblewhite® Nickel Aluminum Bronze valve seat inserts.

This premium copper based alloy is designed specifically for use with titanium valves. These seats are the product of a 2 year Kibblewhite® R&D effort during which we recorded and verified results with 4&5 valve singles, domestic and foreign sport compacts, multi valve and single cylinder street bikes, as well as British and European 4strokes. In every one of our tests for wear, thermal conductivity, and machinability, the seats surpassed the standard we set for success. These seats have been used successfully with titanium valves in drag race, road race, desert race, motocross, and land speed racing. The seats are tall, have ample material on the ID for shaping, and are offered in several sizes making them truly universal in application. The ODs have a smooth surface finish that offers maximum contact with the head counterbore for optimum heat transfer, and a generous radius on the leading edge to prevent galling during installation.

KPMI Part Number	Outside Diameter		Inside Diameter		Height	
10-SB240	24.00mm	0.945"	16.00mm	0.630"	9.00mm	0.355"
10-SB250	25.00mm	0.984"	17.00mm	0.669"	9.00mm	0.355"
10-SB260	26.00mm	1.024"	18.00mm	0.709"	9.00mm	0.355"
10-SB270	27.00mm	1.063"	19.00mm	0.748"	9.00mm	0.355"
10-SB275	27.50mm	1.083"	19.00mm	0.748"	9.00mm	0.355"
10-SB280	28.00mm	1.102"	20.00mm	0.787"	9.00mm	0.355"
10-SB285	28.50mm	1.122"	20.00mm	0.787"	9.00mm	0.355"
10-SB290	29.00mm	1.142"	21.00mm	0.827"	9.50mm	0.375"
10-SB295	29.50mm	1.161"	21.00mm	0.827"	9.50mm	0.375"
10-SB300	30.00mm	1.181"	22.00mm	0.866"	9.50mm	0.375"
10-SB305	30.50mm	1.201"	22.00mm	0.866"	9.50mm	0.375"
10-SB310	31.00mm	1.220"	23.00mm	0.906"	9.50mm	0.375"
10-SB315	31.50mm	1.240"	23.00mm	0.906"	9.50mm	0.375"
10-SB320	32.00mm	1.260"	24.00mm	0.945"	9.50mm	0.375"
10-SB325	32.50mm	1.280"	24.00mm	0.945"	9.50mm	0.375"
10-SB330	33.00mm	1.299"	25.00mm	0.984"	9.50mm	0.375"
10-SB335	33.50mm	1.319"	25.00mm	0.984"	9.50mm	0.375"
10-SB340	34.00mm	1.339"	26.00mm	1.024"	9.50mm	0.375"
10-SB345	34.50mm	1.358"	26.00mm	1.024"	9.50mm	0.375"
10-SB350	35.00mm	1.378"	25.00mm	0.984"	11.00mm	0.434"
10-SB355	35.50mm	1.398"	26.00mm	1.024"	11.00mm	0.434"
10-SB360	36.00mm	1.417"	27.00mm	1.063"	11.00mm	0.434"
10-SB365	36.50mm	1.437"	27.00mm	1.063"	11.00mm	0.434"
10-SB370	37.00mm	1.457"	28.00mm	1.102"	11.00mm	0.434"
10-SB375	37.50mm	1.476"	28.00mm	1.102"	11.00mm	0.434"
10-SB380	38.00mm	1.496"	29.00mm	1.142"	11.00mm	0.434"
10-SB385	38.50mm	1.516"	29.00mm	1.142"	11.00mm	0.434"
10-SB390	39.00mm	1.535"	30.00mm	1.181"	11.00mm	0.434"
10-SB395	39.50mm	1.555"	30.00mm	1.181"	11.00mm	0.434"
10-SB400	40.00mm	1.575"	30.00mm	1.181"	11.00mm	0.434"
10-SB405	40.50mm	1.594"	30.00mm	1.181"	11.00mm	0.434"
10-SB410	41.00mm	1.614"	31.00mm	1.220"	11.00mm	0.434"
10-SB415	41.50mm	1.634"	31.00mm	1.220"	11.00mm	0.434"
10-SB420	42.00mm	1.654"	32.00mm	1.260"	11.00mm	0.434"
10-SB430	43.00mm	1.693"	33.00mm	1.299"	11.00mm	0.434"
10-SB440	44.00mm	1.732"	34.00mm	1.339"	11.00mm	0.434"
10-SB450	45.00mm	1.772"	34.50mm	1.358"	11.00mm	0.434"
10-SB460	46.00mm	1.811"	35.50mm	1.398"	11.00mm	0.434"
10-SB470	47.00mm	1.850"	36.50mm	1.437"	11.00mm	0.434"
10-SB480	48.00mm	1.890"	37.50mm	1.476"	11.00mm	0.434"
10-SB490	49.00mm	1.929"	38.50mm	1.516"	11.00mm	0.434"
10-SB500	50.00mm	1.969"	39.00mm	1.535"	11.50mm	0.453"



SHIMS BOOSTER / VALVE SPRING



Shims - Booster / Valve Spring

Qty 10 Part No.	Qty 25 Part No.	Qty 50 Part No.	- A -	- B -	- C -
900-200001-10	-25	-50	1.437"	0.645"	0.015"
900-200002-10	-25	-50	1.437"	0.645"	0.030"
900-200003-10	-25	-50	1.437"	0.645"	0.060"
900-200004-10	-25	-50	0.760"	0.578"	0.060"
900-200005-10	-25	-50	0.760"	0.578"	0.030"
900-200006-10	-25	-50	0.760"	0.578"	0.015"
900-200007-10	-25	-50	0.920"	0.520"	0.030"
900-200008-10	-25	-50	0.920"	0.520"	0.060"
900-200009-10	-25	-50	1.218"	0.875"	0.060"
900-200010-10	-25	-50	1.156"	0.828"	0.030"
900-200011-10	-25	-50	1.020"	0.735"	0.125"
900-200012-10	-25	-50	1.100"	0.721"	0.060"
900-200013-10	-25	-50	1.250"	0.812"	0.060"
900-200014-10	-25	-50	1.250"	0.812"	0.030"
900-200015-10	-25	-50	1.125"	0.719"	0.030"
900-200016-10	-25	-50	1.125"	0.719"	0.060"
900-200017-10	-25	-50	1.312"	0.765"	0.030"
900-200018-10	-25	-50	1.218"	0.875"	0.030"
900-200019-10	-25	-50	1.100"	0.719"	0.030"
900-200020-10	-25	-50	1.000"	0.688"	0.060"
900-200021-10	-25	-50	1.000"	0.765"	0.060"
900-200022-10	-25	-50	1.438"	1.059"	0.030"
900-200023-10	-25	-50	1.000"	0.688"	0.030"
900-200024-10	-25	-50	1.000"	0.688"	0.015"
900-200025-10	-25	-50	1.360"	1.000"	0.060"
900-200026-10	-25	-50	1.360"	1.000"	0.030"
900-200027-10	-25	-50	1.360"	1.000"	0.015"
900-200028-10	-25	-50	1.500"	1.031"	0.060"
900-200029-10	-25	-50	1.500"	1.031"	0.030"
900-200030-10	-25	-50	1.500"	1.031"	0.015"
900-200031-10	-25	-50	1.000"	0.765"	0.030"

Shims - Booster / Valve Spring

Qty 10 Part No.	Qty 25 Part No.	Qty 50 Part No.	- A -	- B -	- C -
900-200032-10	-25	-50	1.000"	0.765"	0.015"
900-200033-10	-25	-50	1.218"	0.875"	0.015"
900-200034-10	-25	-50	1.100"	0.719"	0.015"
900-200035-10	-25	-50	1.250"	0.625"	0.060"
900-200036-10	-25	-50	1.250"	0.625"	0.030"
900-200037-10	-25	-50	1.250"	0.625"	0.015"
900-200038-10	-25	-50	0.970"	0.445"	0.060"
900-200039-10	-25	-50	0.970"	0.445"	0.030"
900-200040-10	-25	-50	0.970"	0.445"	0.015"
900-200041-10	-25	-50	0.915"	0.640"	0.060"
900-200042-10	-25	-50	0.915"	0.640"	0.030"
900-200043-10	-25	-50	0.915"	0.640"	0.015"
900-200044-10	-25	-50	0.796"	0.515"	0.060"
900-200045-10	-25	-50	0.796"	0.515"	0.030"
900-200046-10	-25	-50	0.796"	0.515"	0.015"
900-200047-10	-25	-50	1.312"	0.765"	0.060"
900-200048-10	-25	-50	1.312"	0.765"	0.015"
900-200049-10	-25	-50	1.480"	0.703"	0.060"
900-200050-10	-25	-50	1.480"	0.703"	0.030"
900-200051-10	-25	-50	1.480"	0.703"	0.015"
900-200052-10	-25	-50	1.640"	0.635"	0.060"
900-200053-10	-25	-50	1.640"	0.635"	0.030"
900-200054-10	-25	-50	1.640"	0.635"	0.015"
900-200055-10	-25	-50	1.500"	0.765"	0.060"
900-200056-10	-25	-50	1.500"	0.765"	0.030"
900-200057-10	-25	-50	1.500"	0.765"	0.015"
900-200058-10	-25	-50	1.500"	0.562"	0.060"
900-200059-10	-25	-50	1.500"	0.562"	0.030"
900-200060-10	-25	-50	1.500"	0.562"	0.015"
900-200061-10	-25	-50	1.247"	0.518"	0.060"
900-200062-10	-25	-50	1.247"	0.518"	0.030"
900-200063-10	-25	-50	1.247"	0.518"	0.015"

SHIMS VALVE ADJUSTMENT



7.5mm Shims		
Part # - Qty 1	Part # - Qty 10	Shim Height
900-300075	900-300075-10	1.20mm
900-300076	900-300076-10	1.25mm
900-300077	900-300077-10	1.30mm
900-300078	900-300078-10	1.35mm
900-300079	900-300079-10	1.40mm
900-300080	900-300080-10	1.45mm
900-300081	900-300081-10	1.50mm
900-300082	900-300082-10	1.55mm
900-300083	900-300083-10	1.60mm
900-300084	900-300084-10	1.65mm
900-300085	900-300085-10	1.70mm
900-300086	900-300086-10	1.75mm
900-300087	900-300087-10	1.80mm
900-300088	900-300088-10	1.85mm
900-300089	900-300089-10	1.90mm
900-300090	900-300090-10	1.95mm
900-300091	900-300091-10	2.00mm
900-300092	900-300092-10	2.05mm
900-300093	900-300093-10	2.10mm
900-300094	900-300094-10	2.15mm
900-300095	900-300095-10	2.20mm
900-300096	900-300096-10	2.25mm
900-300097	900-300097-10	2.30mm
900-300098	900-300098-10	2.35mm
900-300099	900-300099-10	2.40mm
900-300100	900-300100-10	2.45mm
900-300101	900-300101-10	2.50mm
900-300102	900-300102-10	2.55mm
900-300103	900-300103-10	2.60mm
900-300104	900-300104-10	2.65mm
900-300105	900-300105-10	2.70mm
900-300106	900-300106-10	2.75mm
900-300107	900-300107-10	2.80mm
900-300108	900-300108-10	2.85mm
900-300109	900-300109-10	2.90mm
900-300110	900-300110-10	2.95mm
900-300111	900-300111-10	3.00mm
900-300112	900-300112-10	3.05mm
900-300113	900-300113-10	3.10mm
900-300114	900-300114-10	3.15mm
900-300115	900-300115-10	3.20mm
900-300116	900-300116-10	3.25mm
900-300117	900-300117-10	3.30mm
900-300118	900-300118-10	3.35mm
900-300119	900-300119-10	3.40mm
900-300120	900-300120-10	3.45mm
900-300121	900-300121-10	3.50mm

9.5mm Shims		
Part # - Qty 1	Part # - Qty 10	Shim Height
900-300001	900-300001-10	1.20mm
900-300002	900-300002-10	1.25mm
900-300003	900-300003-10	1.30mm
900-300004	900-300004-10	1.35mm
900-300005	900-300005-10	1.40mm
900-300006	900-300006-10	1.45mm
900-300007	900-300007-10	1.50mm
900-300008	900-300008-10	1.55mm
900-300009	900-300009-10	1.60mm
900-300010	900-300010-10	1.65mm
900-300011	900-300011-10	1.70mm
900-300012	900-300012-10	1.75mm
900-300013	900-300013-10	1.80mm
900-300014	900-300014-10	1.85mm
900-300015	900-300015-10	1.90mm
900-300016	900-300016-10	1.95mm
900-300017	900-300017-10	2.00mm
900-300018	900-300018-10	2.05mm
900-300019	900-300019-10	2.10mm
900-300020	900-300020-10	2.15mm
900-300021	900-300021-10	2.20mm
900-300022	900-300022-10	2.25mm
900-300023	900-300023-10	2.30mm
900-300024	900-300024-10	2.35mm
900-300025	900-300025-10	2.40mm
900-300026	900-300026-10	2.45mm
900-300027	900-300027-10	2.50mm
900-300028	900-300028-10	2.55mm
900-300029	900-300029-10	2.60mm
900-300030	900-300030-10	2.65mm
900-300031	900-300031-10	2.70mm
900-300032	900-300032-10	2.75mm
900-300033	900-300033-10	2.80mm
900-300034	900-300034-10	2.85mm
900-300035	900-300035-10	2.90mm
900-300036	900-300036-10	2.95mm
900-300037	900-300037-10	3.00mm
900-300038	900-300038-10	3.05mm
900-300039	900-300039-10	3.10mm
900-300040	900-300040-10	3.15mm
900-300041	900-300041-10	3.20mm
900-300042	900-300042-10	3.25mm
900-300043	900-300043-10	3.30mm
900-300044	900-300044-10	3.35mm
900-300045	900-300045-10	3.40mm



9.5mm Shims		
Part # - Qty 1	Part # - Qty 10	Shim Height
900-300046	900-300046-10	3.45mm
900-300047	900-300047-10	3.50mm

13mm Shims		
Part # - Qty 1	Part # - Qty 10	Shim Height
900-300050	900-300050-10	2.05mm
900-300051	900-300051-10	2.10mm
900-300052	900-300052-10	2.15mm
900-300053	900-300053-10	2.20mm
900-300054	900-300054-10	2.25mm
900-300055	900-300055-10	2.30mm
900-300056	900-300056-10	2.35mm
900-300057	900-300057-10	2.40mm
900-300058	900-300058-10	2.45mm
900-300059	900-300059-10	2.50mm
900-300060	900-300060-10	2.55mm
900-300061	900-300061-10	2.60mm
900-300062	900-300062-10	2.65mm
900-300063	900-300063-10	2.70mm
900-300064	900-300064-10	2.75mm
900-300065	900-300065-10	2.80mm
900-300066	900-300066-10	2.85mm
900-300067	900-300067-10	2.90mm
900-300068	900-300068-10	2.95mm
900-300069	900-300069-10	3.00mm
900-300070	900-300070-10	3.05mm
900-300071	900-300071-10	3.10mm



VALVETRAIN TERMINOLOGY

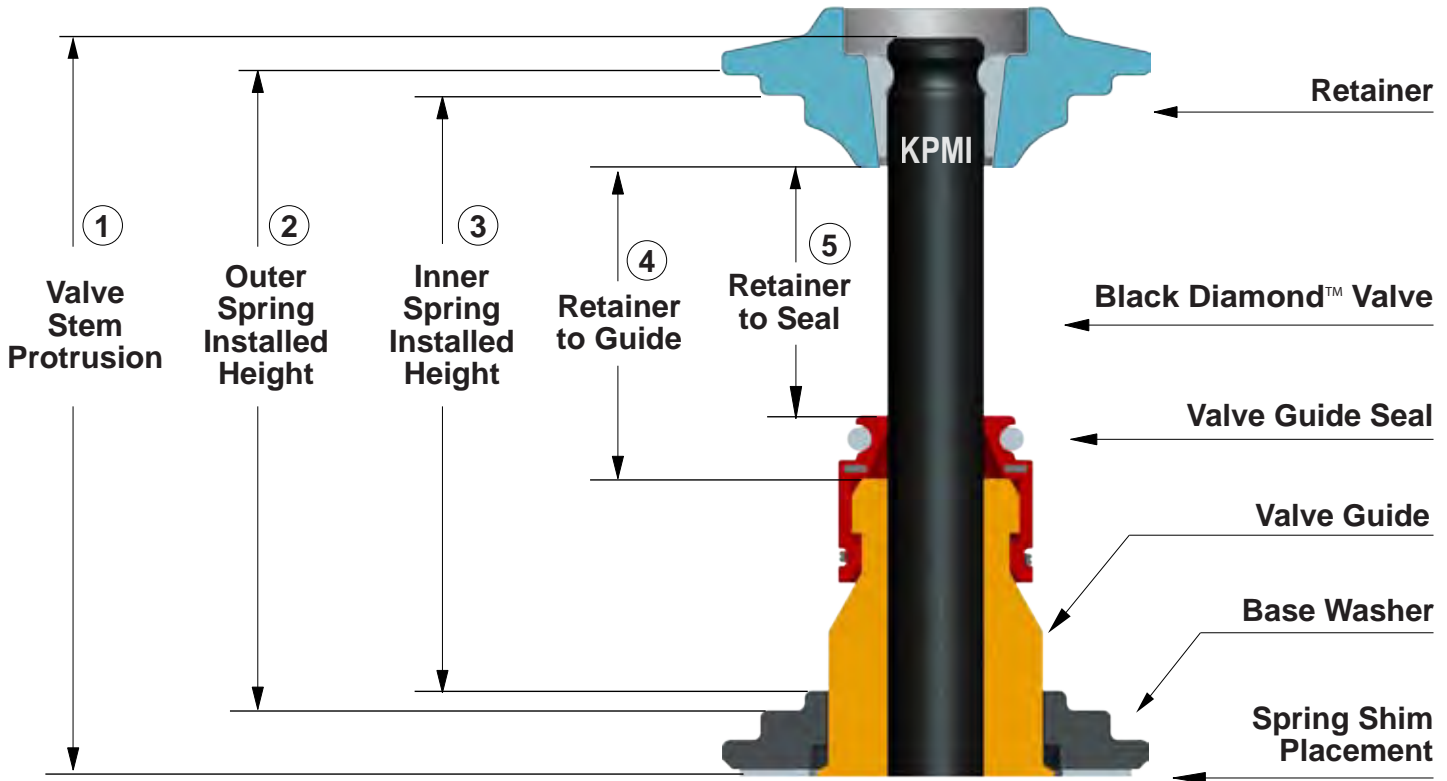


Figure 1

A) Valve Train Terminology

1. Stem Protrusion is measured from the tip of the valve to the cylinder head. **(See Figure 1)**
2. Outer Spring Installed Height is measured from where the outer spring contacts the retainer and the lower collar when assembled. **(See Figure 1)**
3. Inner Spring Installed Height is measured from where the inner spring contact the retainer and the lower collar when assembled. **(See Figure 1)**
4. Retainer to Guide clearance is the distance between the valve guide (w/o seal) and the bottom of retainer, with the valve in the closed position **(See Figure 1 along with Notes 3 & 4)**
5. Retainer to Seal clearance is the distance between the valve stem seal and the bottom of retainer, with the valve in the closed position. **(See Figure 1 along with Notes 3 & 4)**

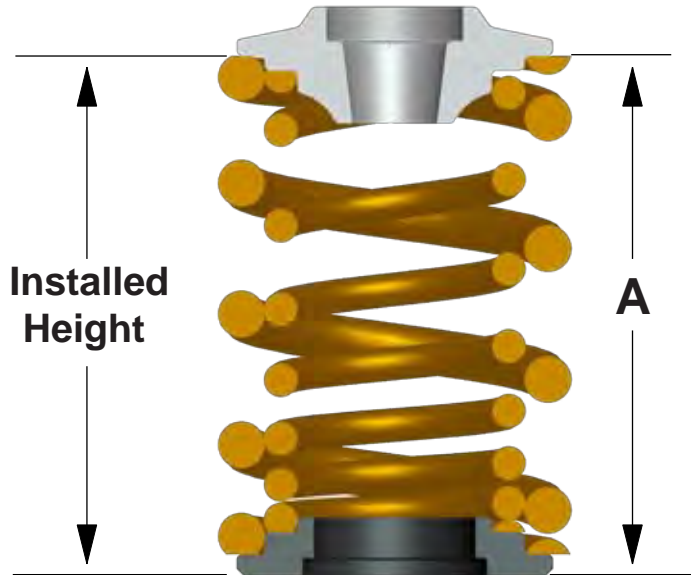


Figure 2

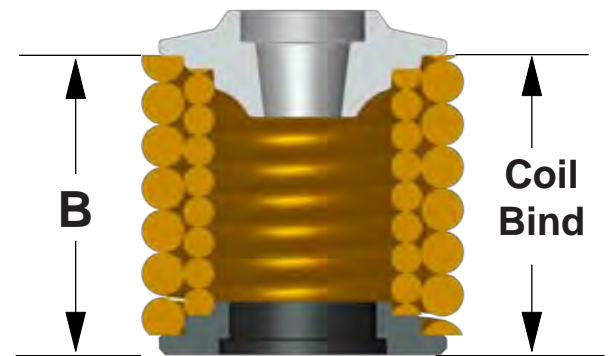


Figure 3

B) Installed Height

1. In Figure 2 the installed height is measured from where the outer spring contacts the retainer and the lower collar. This measurement is taken when the valve, lower collar, retainer and keepers are assembled in the cylinder head.

C) Coil Bind / Solid Height

1. In Figure 3 the coil bind is determined by compressing the springs with the retainer and the lower collar in place, making sure there is no more travel (a vice can be used for this operation). Then measure the distance between the retainer and lower collar where the outer spring contacts them.

D) Notes

1. The difference between the installed height and the coil bind height is considered "Free-Travel".
2. Free-travel should always be gross valve lift +0.060" for safe operation.
3. Retainer to seal or retainer to guide clearance should also be gross valve lift +0.060" for safe operation.
4. Failure to check valve train clearances can result in serious damage to an engine.