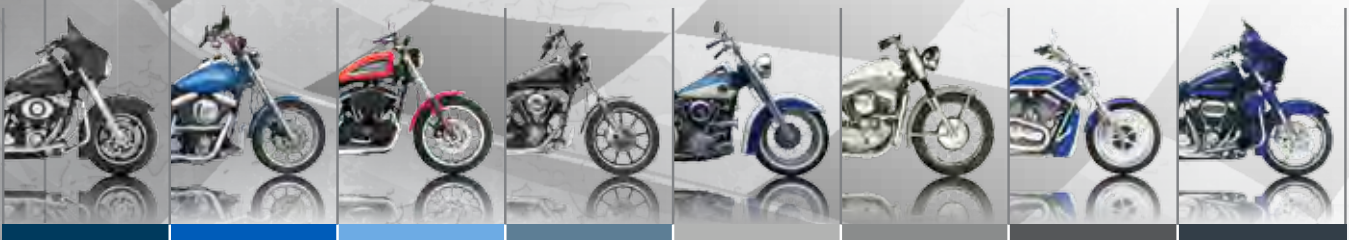




HARLEY DAVIDSON® CATALOG

- Twin Cam®
- Evolution®
- Sportster®
- Shovelhead®
- Panhead®
- Ironhead®
- V-Rod®
- Milwaukee Eight®



High Performance Valvetrain Components Manufacturer



TWIN CAM®



EVOLUTION®



SPORTSTER®



SHOVEL HEAD®



PAN HEAD®



IRON HEAD®



V-ROD®



MILWAUKEE EIGHT®



WHY USE AV&V™



Today's market offers many choices of valves and valve guides for similar applications. What makes AV&V™ stand out?

What about valves?

Valve coatings: The two most popular valve coatings processes used in today's valve manufacturing are chrome coating and nitride coating. When looking at valves that have run for a period of time you may have remarked that a "black" valve will usually last longer. The reason is that on a chrome valve, it is not possible to apply more than few micron of chrome with a process known as flash chrome. This process entails the valve being quickly submerged in a chrome solution to let the chrome adhere to the stem. Some people call these valves "hard chrome valves", however it's important not to confuse these two processes. With a hard chrome treatment - like on a hydraulic cylinder - a thick layer of chrome is applied and the surface becomes very hard. Try to pass a file on the surface of a hydraulic shaft and then do the same with a chrome stem valve and the difference is evident. The reason manufacturers can't apply more chrome on the stem is that with the heat and expansion involved, it would cause a thick chrome layer to crack.



At **AV&V™** all of our valves are one piece forged from 21-4N stainless steel alloy and we offer them mostly in the Black version. We have chosen a liquid nitriding process, followed by a precise heat treat process that will produce a very hard surface for optimal wear characteristics on the stem by keeping a soft grain structure in the center of the stem to prevent valve breakage in the case of a valve to valve or valve to piston contact. We take extra care to centerless grind the stems to a micro finish surface before the final nitriding process to give the valves that very slippery surface resulting in exceptional wear characteristics. For the valve tip we have chosen to go with a friction weld bearing alloy; this hard tip can be reground in the future and is more suitable with rocker arm application.

Another improvement in the design of our 5/16 valves is the 45° angle just below the lock groove. This groove was created to help valve seal installation without having to use a plastic sleeve protector.

On the stem diameters, our tolerances are the tightness in the industry and we have made the exhaust models slightly smaller than the intakes so an engine builder can use the same reamer on both intake & exhaust guides (with AV&V manganese bronze guides only; cast iron guides require slightly more clearance).

There are two series of valves available from **AV&V™**; the replacement series and the High Flow series. Both feature the same material and surface characteristic.

Why use AV&V

On the **Extreme-duty replacement series**, the valves respect the OEM dimensions (except for the shovel head intake which is 1.955' instead of 1.940' to achieve a better 3 angle seat job) The head shape has been optimized & swirl polished to improve flow characteristic. **On the High Flow series**, we have spent countless hours of flow testing to improve the shape of the valve for better airflow. The smooth dish face on the intake valve helps for good combustion in the chamber. The exhaust valve features a thick margin for better flow and all chamfer or radius have been optimized. For optimum airflow, in Evo or Twin Cam engine you can try our 1.585" exhaust valve (AV1585) and see that with the seat and bowl well prepared, this valve can flow the same or outflow 1.625" valves on the market. This valve gives you more intake & exhaust space so by not having to machine the intake seat as deep you also can gain on the intake flow. For bigger engines, you can use our 1.610D with a bigger seat opening for bigger flow numbers.



What about valve guides?

Typically, valve guides have been the neglected child in the valvetrain family, with no one stepping up to meet the needs of serious engine builders. To ensure a proper job, we were always required to "prepare" a valve guide to facilitate installation.



There are three ways of installing a guide in a head: with a driver and hammer; with a fixture and a press; or with a puller tool. With the first method, the guide must be polished to prevent aluminum scraping in the guide receiver hole. Then the driver is aligned as closely as possible with the centerline of the hole and hammered down until the guide is at its installed height. Sometimes you have to measure the protrusion and drive it in again to adjust it correctly.

With both puller and press methods, there was no point in freezing the guide to shrink it before installation because in the time required for installation, the hot head will have raised its temperature back up.

Take a look at the features and benefits of AV&V™ valve guides:

- CNC machined to exact specifications for each application.
- Smooth finish to prevent damaging the head receiver holes.
- A self-centering tapered section on each guide allows for fast, effortless and precise installation.
- Chamfered on both sides: no need for chamfering after reaming or honing - it's already done! The chamfer prevents the oil from being scraped off with every valve stroke, which causes premature stem wear.
- A super-grip finish for valve seals: **AV&V™** valve seal areas come in two different finishes, designed after extensive testing with a variety of valve seals. Our valve seals will stay on.
- **Note: We still recommend the use of a very small amount of Loctite as insurance for OEM-style (metal-clad) seals.**
- Shorter valve seal area for high lift applications on every valve guide (except EVO®/Twin Cam® stock replacement models). We also incorporate a small flange on every EVO®/Twin Cam® guide to stop the guide at the correct depth - another way to save time and make sure the job is done right.
- Viton O-rings: these rings are free insurance to prevent against oil infiltration between guide and head, which can happen when previous guide removal or installation work was done incorrectly.
- CNC engraved part number: Useful to identify part number, model and oversize.
- Unfinished guide I.D.: after the guide is installed, it is ready to be precision-reamed with **AV&V™**'s special reamers, or honed through the Sunnen method.

Valve guide materials: Myths and facts

AV&V™ manufactures valve guides from two different materials: manganese bronze and micrograin cast iron (for Ironhead Sportsters®).

The manganese bronze alloy valve guide was developed some thirty years ago, with the introduction of high-performance aluminum heads for car racing. Manufacturers sought a material that would dissipate the heat from the valves better than cast iron, and would also increase lubrication between valve stems and guides.

They first introduced a silicon-based bronze alloy, an unsatisfactory choice due to high wear. Next, they began using high nickel-bronze alloy (AMPCO 45 or C630) which provided greater longevity but required more clearance to prevent valve sticking. This alloy is still in use today, particularly for exhaust valve guides in high heat applications (including nitro-methane) as its high nickel content is suited for these specific applications alone.

After much research and material evolution, the market has developed a new series of copper alloys. These include manganese, now used by manufacturers of High Performance cylinder head for their valve guides. This alloy offers engine builders superior heat transfer and the ability to fit the guides at a tighter clearance, providing better oil film control and longer life.

This alloy should properly be called zinc-bronze rather than manganese-bronze as it contains nearly 30% zinc (the bearing ingredient) and only 2-3% manganese (the hard component).

Some small-engine aluminum connecting rods run directly on the crank, without any bearings, and survive under hard abuse and occasionally no maintenance; they contain zinc, which is a self-lubricating bearing alloy.

Tips for valve guide removal and installation

At **J Precision's AV&V™ Performance and Testing Lab**, we have removed and installed hundreds of guides every year with no comeback and without damaging the heads, by proceeding as follows:

Removal

For **Pan®, Shovel®, Ironhead® and early, soft cast iron EVO® guides**, we use a piloted counterbore tool on the press drill. We install the head on a fixture and cut down the top portion of the guide flush with the spring seat surface.

Next, the heads are put into the oven at 140°C (300°F) for half an hour, after which we place them on two 2" x 4" wooden blocks and drive out the guides with a hammer & driver. The guide exits on the chamber side.

The advantages of manganese bronze guides

- This self-lubricating material allows a tighter valve-to-guide clearance - .0008" for the intake and .001" for the exhaust (for EVO® and Twin Cam® using **AV&V™** valves only). Other models may require more clearance on the exhaust.
- A tighter clearance results in the exhaust valve dissipating heat more rapidly and rocking less, which contributes to longer life.
- The valve stem will last longer, thanks to the slippery properties of manganese bronze.
- If a problem occurs and the valves bend, these guides will not crack and break apart like cast iron guides, which can destroy the engine.
- Customers report that engines with a tighter valve-to-guide clearance run more quietly.

Valve guide specifications



1. A shorter valve seal area provides added room for high lift application, except for EVO® and Twin Cam® stock replacement models.
2. Super-Grip finish provides a nonslip surface for all valves seal styles.
3. A special high-temperature Viton o-ring prevents oil infiltration between the guide and the head.
4. The self-centering area is tapered for easier installation.
5. The tapered nose design is specifically designed to produce better airflow than conventional guides.

Why use AV&V

Installation

For installation, we use the shrink-fit method. Before the heads go into the oven, we chamfer the guide receiver holes with a hand deburring tool. We blow out the chips and visually inspect the holes. Next, the heads are put into the oven at 140°C (300°F) for half an hour.

We apply pressfit lubricant on the new guides and put them in dry ice (a freezer can also be used). After a few minutes, the first head comes out of the oven and is placed on two 2" x 4" wooden blocks. We then retrieve the first guide from the dry ice and install it as quickly as possible with a hammer and driver.

If you follow the correct process, the guide should enter the head half way before you need to hammer on the driver, and no superhuman hammering effort will be required. If this occurs, it is due to choosing an oversize that is too large.

Repeat the same process with the other guides.

Reaming advantages of using AV&V™ carbide reamers



There are two ways of fitting a valve guide: reaming and honing.

In the past, good engine builders had no choice but to hone the guides to fit them to the correct specifications. Reamers were available, but their piloted section was too short and small for proper alignment when reaming. In addition, high-speed steel reamers were not designed to ream special bronze alloy valve guides.

When using the Sunnen method, you must choose your mandrel and stones and use coolant. Remember to hone, measure, and re-hone until the correct fit is achieved. Take care not to hone your guides with a taper in the centre, and remember to wash the heads and your hands to complete this operation. The entire process usually takes 20-30 minutes.

With the AV&V™ carbide reamers (photos on our website), it only takes 3-4 seconds to fit a guide to exact tolerances with no taper, and there is no need to wash anything before going on the seat machine.

AV&V™ valve stem diameters are designed to require the same AV&V™ reamer to fit both the intake and exhaust valve:

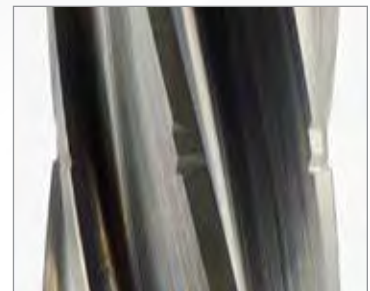
- AV&V™ VGRC3120 reamer will fit all of our EVO®/Twin Cam® valves
- VGRC3782 fits all of our Pan®/Shovel® valves
- VGRC2766 fits all AV&V™ and other Harley 7MM valve brands

As no crosshatch is left in the valve guide I.D., the tight clearance achieved will lead to longer valve and guide life.

The seat job may now be started. As these reamers are made from solid carbide, they will last much longer than any high-speed reamer.

Tired of losing your time honing and fitting valve guides?

Here is why AV&V reamers are now used by the top cylinder head shops in the industry



The same three reamers have been in use in our tech lab for years. We still appreciate them with every use, even after reaming thousands of guides. The world's top cylinder head companies and shops now use AV&V™ valves, valve guides and reamer system to improve production time and the quality of their work.

We take great pride in the fact that over the last decade, the most respected cylinder head specialists in the industry have switched to AV&V™ products in order to deliver final products at the highest possible standard. This select customer group includes T-Man Performance, S&S, ULTIMA, Revolution Performance, Branch & O'Keefe, and many other dedicated cylinder head shops.

We hope you enjoyed this article. For more information, visit us at www.av-v.com.



TWIN CAM®

- High Flow Valves
- Valves Guides
- Valves Seals
- Compression Release Valves
- Valves Spring kits
- Valves Spring Shims



AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves

AVI585

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.585" | 4.505" | .3106" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- .020" oversize (TC)
- 5/16" stem



High Flow Valves

AVI610D

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.610" | 4.510" | .3106" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- Dished valve
- 5/16" stem



High Flow Valves

AVI610S

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.610" | 4.565" | .3106" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- For use with S&S heads
- 5/16" stem



High Flow Valves

AVI650

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.650" | 4.515" | .3106" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- Oversize valve for Jims 120" and S/E 110" Heads
- 5/16" stem



| High Flow Valves | | AV700A | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.510" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .235" Tip can be grinded to shorten valve • 5/16" stem | | | | | |



| High Flow Valves | | AV700BC (no tip, no groove) | | | |
|--|----------------|-----------------------------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 5.700" | .3106" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem blank valve • Bi-metal (can be hardened) | | | | | |



| High Flow Valves | | AV700C | | | |
|---|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.445" | .3106" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For Merch Heads • 5/16" stem | | | | | |



| High Flow Valves | | AV700U | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.655" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For Ultima Heads • 5/16" stem | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves

AVI900

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.900" | 4.440" | .3108" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- .055" oversize valve
- For use in stock heads
- 5/16" stem



High Flow Valves

AVI900S

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.900" | 4.415" | .3108" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- .025" shorter and .055" oversize valve
- For use in stock heads
- 5/16" stem



High Flow Valves

AVI940

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.940" | 4.440" | .3108" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- Oversize valve larger
- If used in stock heads larger seats must be installed
- 5/16" stem



High Flow Valves

AVI990

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.990" | 4.440" | .3108" | Black nitride | .200" | Single |

Note

- 25° back angle tulip
- Oversize valve
- If used in stock heads larger seats must be installed
- 5/16" stem



| High Flow Valves | | AV2020 | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.020" | 4.490" | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .050" longer than AV2020A • Larger seats could be required • 5/16" stem | | | | | |



| High Flow Valves | | AV2020A | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.020" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Also good for Merch Heads • Larger seats could be required • 5/16" stem | | | | | |



| High Flow Valves | | AV2020S | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.020" | 4.510" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For use with S&S Heads • 5/16" stem | | | | | |



| High Flow Valves | | AV2060LC | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.060" | 4.510' | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Used with S&S Heads • Oversize valve • 5/16" stem | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves

AV2100

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 2.100" | 4.475" | .3108" | Black nitride | .200" | Single |

Note

- 24° back angle tulip
- For Jims 120" and S/E 110" Heads
- Oversize valve
- 5/16" stem



High Flow Valves

AV2100BC (no tip, no groove)

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 2.100" | 5.700" | .3108" | Chrome | --- | --- |

Note

- 24° back angle tulip
- 5/16" stem heads
- Blank valve (no tip, no groove)
- Bi-metal (can be hardened)



High Flow Valves

AV2100S

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 2.100" | 4.570" | .3108" | Chrome | .200" | Single |

Note

- 24° back angle tulip
- S&S 124" and 131"
- Oversize valve
- 5/16" stem



High Flow Valves

AV2100U

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 2.100" | 4.590" | .3108" | Black nitride | .200" | Single |

Note

- 23° back angle tulip
- For Ultima Heads
- 5/16" stem



| High Flow Valves | | AV2150 | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.150" | 4.480" | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Oversize valve for Jims 120" and 131" heads • 5/16" stem | | | | | |



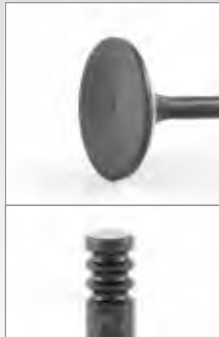
| High Flow Valves | | AV2200BC (no tip, no groove) | | | |
|--|----------------|------------------------------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.200" | 5.700" | .3108" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem blank valve • Bi-metal (can be hardened) | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (7MM stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves

AV610-7TGB

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.610" | 4.545" | .2755" | Black nitride | .085" | Triple |

Note

- 25° back angle tulip
- .040" oversize valve
- For use in stock heads
- 7MM stem



High Flow Valves

AV610-7TGC

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 1.610" | 4.545" | .2755" | Chrome | .085" | Triple |

Note

- 25° back angle tulip
- .040" oversize valve
- For use in stock heads
- 7MM stem



High Flow Valves

AV850-7TGB

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.850" | 4.455" | .2757" | Black nitride | .085" | Triple |

Note

- 24° back angle tulip
- .040" oversize valve
- For use in stock heads
- 7MM stem



High Flow Valves

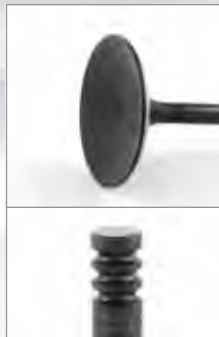
AV850-7TGC

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 1.850" | 4.455" | .2757" | Chrome | .085" | Triple |

Note

- 24° back angle tulip
- .040" oversize valve
- For use in stock heads
- 7MM stem


High Flow Valves
AV900-7TGB
Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.900" | 4.445" | .2757" | Black nitride | .085" | Triple |

Note

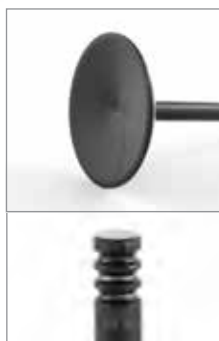
- 24° back angle tulip
- .090" oversize valve
- For use in stock heads
- 7MM stem


High Flow Valves
AV900-7TGC
Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 1.900" | 4.445" | .2757" | Chrome | .085" | Triple |

Note

- 24° back angle tulip
- .090" oversize valve
- For use in stock heads
- 7MM stem


High Flow Valves
AV980-7TGB
Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.980" | 4.455" | .2757" | Black nitride | .085" | Triple |

Note

- 25° back angle tulip
- .170" oversize valve
- If used in stock heads larger seats must be installed
- 7MM stem

AV&V Extreme Duty Replacement Valves 5/16

These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty valves also feature a 45° angle below the lock groove to facilitate valve seal installation.



| HD11 | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.845" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Also good for stock replacement • 5/16" stem Twin Cam® | | | | | |



| HD12 | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.570" | 4.525" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Twin cam® stock replacement • 5/16" stem | | | | | |

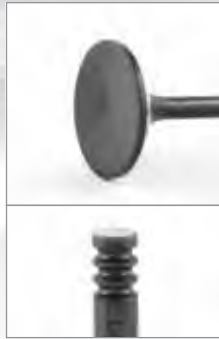
AV&V Extreme Duty Replacement Valves 7MM



These superb valves are one piece forged from a racing grade stainless steel alloy.

The stems are centerless grinded to a micro finish for longer life.

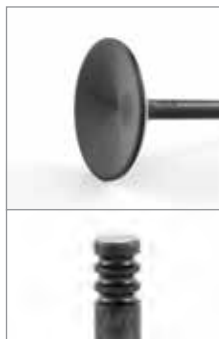
Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.



| AVI575-7TGB | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.575" | 4.560" | .2755" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Twin cam® stock replacement • 7MM stem | | | | | |



| AVI575-7TGC | | | | | |
|---|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.575" | 4.560" | .2755" | Chrome | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Twin cam® stock replacement • 7MM stem | | | | | |



| AVIBIO-7TGB | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.810" | 4.455" | .2757" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Twin cam® stock replacement • 7MM stem | | | | | |



| AVIBIO-7TGC | | | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.810" | 4.455" | .2757" | Chrome | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Twin cam® stock replacement • 7MM stem | | | | | |

AV&V Extreme Duty Manganese Bronze Valve Guides (5/16 valves)

- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see *reamers section*)



| O.D. | I.D. | Override | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600 | VG5700 |
| .5635" | .308" | .001" | 2.100" | VG5601 | VG5701 |
| .5645" | .308" | .002" | 2.100" | VG5602 | VG5702 |
| .5655" | .308" | .003" | 2.100" | VG5603 | VG5703 |
| .5665" | .308" | .004" | 2.100" | VG5604 | VG5704 |
| .5675" | .308" | .005" | 2.100" | VG5605 | VG5705 |
| .5685" | .308" | .006" | 2.100" | VG5606 | VG5706 |
| .5725" | .308" | .010" | 2.100" | VG5610 | VG5710 |
| .5875" | .308" | .025" | 2.100" | VG5625 | VG5725 |

- Use with .531" Viton valve seals (V312531).
- Shorter seal area for high lift application.
- Profiled for optimum airflow.



| O.D. | I.D. | Override | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|------------------|------------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600S | VG5700S |
| .5630" | .308" | .0005" | 2.100" | VG5600-5S | VG5700-5S |
| .5635" | .308" | .001" | 2.100" | VG5601S | VG5701S |

- Same guides as above except for seal diameter.
- Use with .421" Viton valve seals (V312421), or O.E. style valve seals (K312420)



| O.D. | I.D. | Override | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .5625" | .308" | Std | 2.250" | VG5500 |
| .5635" | .308" | .001" | 2.250" | VG5501 |
| .5645" | .308" | .002" | 2.250" | VG5502 |
| .5655" | .308" | .003" | 2.250" | VG5503 |
| .5665" | .308" | .004" | 2.250" | VG5504 |
| .5875" | .308" | .025" | 2.250" | VG5525 |

- Use with .531" O.E. style valve seals (K312530).
- Stock length
- Stock replacement

AV&V Extreme Duty Manganese Bronze Valve Guides (7MM valves)



- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .5625" | .273" | Std | 2.040" | VG6600 | VG6700 |
| .5635" | .273" | .001" | 2.040" | VG6601 | VG6701 |
| .5645" | .273" | .002" | 2.040" | VG6602 | VG6702 |
| .5655" | .273" | .003" | 2.040" | VG6603 | VG6703 |
| .5665" | .273" | .004" | 2.040" | VG6604 | VG6704 |
| .5675" | .273" | .005" | 2.040" | VG6605 | VG6705 |
| .5685" | .273" | .006" | 2.040" | VG6606 | VG6706 |
| .5725" | .273" | .010" | 2.040" | VG6610 | VG6710 |
| .5875" | .273" | .025" | 2.040" | VG6625 | VG6725 |

- Use with O.E. style Viton valve seals (V7MMOE).
- Profiled for optimum airflow.

AV&V Universal Valve Guides



| O.D. | I.D. | Overall Length | Intake & Exhaust |
|-------------------------|-------|----------------|------------------|
| Universal Repair Guides | | | |
| .740" | .273" | 2.700" | UVG7MM |
| .740" | .308" | 2.700" | UVG308 |
| .735" | .375" | 2.700" | UVG378 |

- Manganese bronze alloy
- Ready to be machined

AV&V Valve Seals



Viton Seals

V3I242I

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .421" |

Note

- High Temperature viton seal

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



Viton Seals

V3I253I

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .531" |

Note

- High Temperature viton seal

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



Viton Seals

V7MM-100

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| 7MM | .562" |

Note

- High Temperature viton seal

- For 7MM valve Twin Cam®, Sportster®
- Replace 7MM O.E. seal when using larger spring & lower collar.
- We strongly recommend the use of our valve seal driver #VSD7MM to install this seal.



Viton Seals

V7MMOE-100

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| 7MM | .562" |

Note

- High Temperature viton seal

- For 7MM valve Twin Cam®, Sportster®
- Replacement for the 7MM O.E. seal.
- The viton and steel sections are bounded together to prevent oil infiltration.



O.E. Style Seals

K3I242O

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .421" |

Note

- O.E. Style metal clad seal

- For 5/16" valve, TwinCam, Evo and Sportster



O.E. Style Seals

K3I253O

Specifications

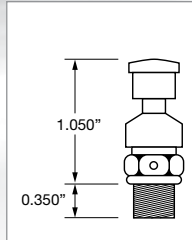
| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .531" |

Note

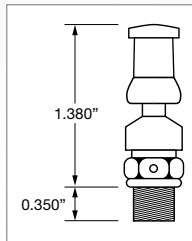
- O.E. Style metal clad seal

- For 5/16" valve, TwinCam®, Evo® and Sportster®

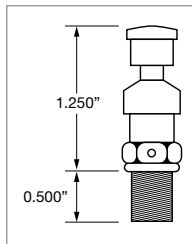
- AV&V compression release valves are easier to install due to their short thread section. (# JCR10A & JCR10B). You don't need to machine the heads as deep as if you were using O.E.M. style CR'S
- O.E.M. style also available (# JCR10D)
- Ideal for stock replacement
- Also their high-temperature resistant knobs are charcoal colored for a better match with texture black or silver heads.



| JCR 10A | | |
|---|----------------|--------|
| Protrusion | Thread section | Thread |
| 1.050" | .350" | M10x1 |
| Note | | |
| <ul style="list-style-type: none"> • Mostly Evo's® • Short protrusion • Short thread section | | |



| JCR 10B | | |
|---|----------------|--------|
| Protrusion | Thread section | Thread |
| 1.380" | .350" | M10x1 |
| Note | | |
| <ul style="list-style-type: none"> • All mostly Twin Cams® • Short protrusion • Short thread section | | |



| JCR 10D | | |
|--|----------------|--------|
| Protrusion | Thread section | Thread |
| 1.250" | .500" | M10x1 |
| Note | | |
| <ul style="list-style-type: none"> • O.E.M. Style • Long protrusion • Long thread section | | |

AV&V High Performance Valve Spring kits (5/16 valves)



VSK600S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



SPRINGS - S600-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|--------|------------------------|
| .600" | 155lbs @ 1.885" | | 405 lbs @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

RETAINER - R311CS-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK600T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



SPRINGS - S600-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|------------------|--------|------------------------|
| .600" | 155 lbs @ 1.885" | | 405 lbs @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

RETAINER - R311CT-4

| Alloy | Traitement | Notes |
|----------|------------|-----------|
| Titanium | | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |


VSK650S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.



| SPRINGS - S650-4 | | | |
|-----------------------|------------------|--------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .650" | 185 lbs @ 1.860" | | 460 lbs @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

| RETAINER - R311CS-4 | | |
|---------------------|-------------|-----------|
| Alloy | Traitement | Notes |
| 4140 Chromoly steel | Black Oxyde | Angle 10° |

| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |

| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |


VSK650T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



| SPRINGS - S650-4 | | | |
|-----------------------|------------------|--------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .650" | 185 lbs @ 1.860" | | 460 lbs @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

| RETAINER - R311CT-4 | | |
|---------------------|------------|-----------|
| Alloy | Traitement | Notes |
| Titanium | | Angle 10° |

| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |

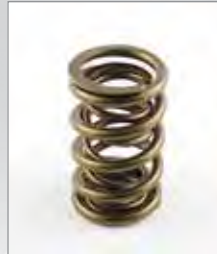
| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |

AV&V High Performance Valve Spring kits (5/16 valves)



VSK675T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



SPRINGS - S675-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) | |
|-----------------------|------------------|------------------------|----------------|
| .675" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

RETAINER - R311CT-4

| Alloy | Traitement | Notes |
|----------|------------|-----------|
| Titanium | | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK6000

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

S6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

S6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6000-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|------------------|------------------------|
| .600" | 165 lbs @ 1.860" | 384 lbs @ 1.250" |
| Coil Bind Height | Type | |
| 1.200" | Beehive springs | |

RETAINER - R6000-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

LOWER COLLAR - LSC6000-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .050" | 1.425" | .565" | Heat treated steel |

VALVE LOCKS - VL311C-8

| Tapper | Notes |
|----------|-------|
| Angle 9° | |

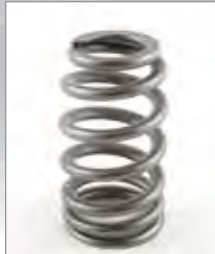

VSK6500

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

S6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

S6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"


SPRINGS - S6500-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|-----------------|------------------------|
| .650" | 178lbs @ 1.860" | 385 lbs @ 1.200" |
| Coil Bind Height | Type | |
| 1.150" | Beehive springs | |


RETAINER - R6500-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |


LOWER COLLAR - LSC6500-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.485" | .565" | Heat treated steel |


VALVE LOCKS - VL311C-8

| Tapper | Notes |
|----------|-------|
| Angle 9° | |

AV&V High Performance Beehive Valve Spring kits (7MM valves)

(Fit both Single Groove and Triple Groove valves)



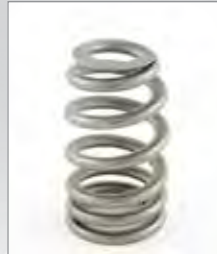
VSK60007SG

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 7 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6000-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|-----------------|------------------------|
| .600" | 165lbs @ 1.860" | 384 lbs @ 1.250" |
| Coil Bind Height | Type | |
| 1.200" | Beehive springs | |

RETAINER - R60007SG-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromely steel | Black Oxyde | Angle 7° |

LOWER COLLAR - LSC6000-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .050" | 1.425" | .565" | Heat treated steel |

VALVE LOCKS - VL7MMSG

| Tapper | Notes |
|----------|---|
| Angle 7° | For 7MM single or triple groove valves with Beehive springs |



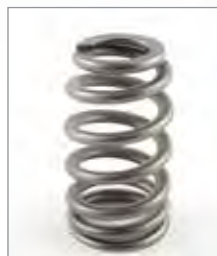
VSK65007SG

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

S6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

S6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6500-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|-----------------|------------------------|
| .650" | 178lbs @ 1.860" | 385 lbs @ 1.200" |
| Coil Bind Height | Type | |
| 1.150" | Beehive springs | |

RETAINER - R6500-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

LOWER COLLAR - LSC6500-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.485" | .565" | Heat treated steel |

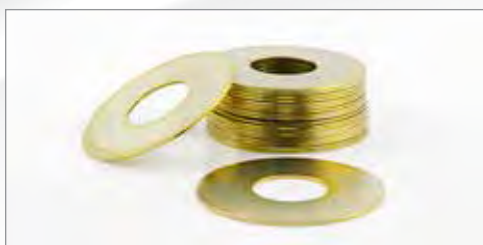
VALVE LOCKS - VL7MMSGC-8

| Tapper | Notes |
|----------|---|
| Angle 9° | For 7MM single or triple groove valves with Beehive springs |

- This Valve Spring Shim allows the engine builder to adjust spring pressure by combining various thickness shims.
- Using the different thickness is of great help when trying to obtain consistent spring pressure across all valves.



| Shim | | VSS5015 | |
|---|-------|---------|--|
| Thickness | I.D. | O.D. | |
| .015" | .600" | 1.480" | |
| Note | | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Specily designed for Harley Davidson® heads • Heat Treated Steel | | | |



| Shim | | VSS5030 | |
|--|-------|---------|--|
| Thickness | I.D. | O.D. | |
| .030" | .600" | 1.480" | |
| Note | | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Heat Treated Steel | | | |



| Shim | | VSS6022 | |
|--|--------|---------|--|
| Thickness | I.D. | O.D. | |
| .022" | 1.010" | 1.441" | |
| Note | | | |
| <ul style="list-style-type: none"> • Use with Twin Cam® O.E. Style umbrella seals (2005 - up) • Heat Treated Steel | | | |



EVOLUTION®

- High Flow Valves
- Valves Guides
- Valves Seals
- Compression Release Valves
- Valves Spring kits
- Valves Spring Shims



AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.

EVOLUTION



| High Flow Valves | | AVI610D | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.610" | 4.510" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Dished valve • 5/16" stem | | | | | |



| High Flow Valves | | AVI610S | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.610" | 4.565" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For use with S&S heads • 5/16" stem | | | | | |



| High Flow Valves | | AVI650 | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.650" | 4.515" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve for Jims 120" and S/E 110" Heads • 5/16" stem | | | | | |



| High Flow Valves | | AVI700A | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.535" | .3106" | Black nitride | .235" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .235" Tip can be grinded to shorten valve • 5/16" stem | | | | | |



| High Flow Valves | | AVI700BC (no tip, no groove) | | | |
|--|----------------|------------------------------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 5.700" | .3106" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem blank valve • Bi-metal (can be hardened) | | | | | |



| High Flow Valves | | AVI700C | | | |
|---|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.445" | .3106" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For Merch Heads • 5/16" stem | | | | | |



| High Flow Valves | | AVI700U | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.700" | 4.655" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For Ultima Heads • 5/16" stem | | | | | |



| High Flow Valves | | AVI900 | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.900" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .055" oversize valve • For use in stock heads • 5/16" stem | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



| High Flow Valves | | AV9005 | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.900" | 4.415" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .025" shorter and .055" oversize valve • For use in stock heads • 5/16" stem | | | | | |



| High Flow Valves | | AV1940 | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.940" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve larger • If used in stock heads larger seats must be installed • 5/16" stem | | | | | |



| High Flow Valves | | AV1990 | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.990" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Oversize valve • If used in stock heads larger seats must be installed • 5/16" stem | | | | | |



| High Flow Valves | | AV2020 | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.020" | 4.490" | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • .050" longer than AV2020A • Larger seats could be required • 5/16" stem | | | | | |



| High Flow Valves | | | AV2020A | | | |
|---|----------------|-----------|---------------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 2.020" | 4.440" | .3108" | Black nitride | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Also good for Merch Heads • Larger seats could be required • 5/16" stem | | | | | | |



| High Flow Valves | | | AV2020S | | | |
|--|----------------|-----------|---------------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 2.020" | 4.510" | .3108" | Black nitride | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • For use with S&S Heads • 5/16" stem | | | | | | |



| High Flow Valves | | | AV2060LC | | | |
|---|----------------|-----------|----------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 2.060" | 4.510" | .3108" | Chrome | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Used with S&S Heads • Oversize valve • 5/16" stem | | | | | | |



| High Flow Valves | | | AV2100 | | | |
|--|----------------|-----------|---------------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 2.100" | 4.475" | .3108" | Black nitride | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • For Jims 120" and S/E 110" Heads • Oversize valve • 5/16" stem | | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



| High Flow Valves | | AV2100BC (no tip, no groove) | | | |
|---|----------------|------------------------------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.100" | 5.700" | .3108" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • 5/16" stem heads • Blank valve (no tip, no groove) • Bi-metal (can be hardened) | | | | | |



| High Flow Valves | | AV2100S | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.100" | 4.570" | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • S&S 124" and 131" • Oversize valve • 5/16" stem | | | | | |



| High Flow Valves | | AV2100U | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.100" | 4.590" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • For Ultima Heads • 5/16" stem | | | | | |



| High Flow Valves | | AV2150 | | | |
|---|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 2.150" | 4.480" | .3108" | Chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Oversize valve for Jims 120" and 131" heads • 5/16" stem | | | | | |


High Flow Valves
AV2200BC (no tip, no groove)

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 2.200" | 5.700" | .3108" | Chrome | --- | --- |

Note

- 25° back angle tulip
- 5/16" stem blank valve
- Bi-metal (can be hardened)

AV&V Extreme Duty Replacement Valves

These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty valves also feature a 45° angle below the lock groove to facilitate valve seal installation.

EVOLUTION



| HDIO | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.615" | 4.525" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem • Stock replacement for Evo 1340 | | | | | |



| HDII | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.845" | 4.440" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 5/16" stem • Stock replacement for Evo 1340 | | | | | |

AV&V Extreme Duty Manganese Bronze Valve Guides (5/16 valves)



- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600 | VG5700 |
| .5635" | .308" | .001" | 2.100" | VG5601 | VG5701 |
| .5645" | .308" | .002" | 2.100" | VG5602 | VG5702 |
| .5655" | .308" | .003" | 2.100" | VG5603 | VG5703 |
| .5665" | .308" | .004" | 2.100" | VG5604 | VG5704 |
| .5675" | .308" | .005" | 2.100" | VG5605 | VG5705 |
| .5685" | .308" | .006" | 2.100" | VG5606 | VG5706 |
| .5725" | .308" | .010" | 2.100" | VG5610 | VG5710 |
| .5875" | .308" | .025" | 2.100" | VG5625 | VG5725 |

- Use with .531" Viton valve seals (V312531).
- Shorter seal area for high lift application.
- Profiled for optimum airflow.



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|------------------|------------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600S | VG5700S |
| .5630" | .308" | .0005" | 2.100" | VG5600-5S | VG5700-5S |
| .5635" | .308" | .001" | 2.100" | VG5601S | VG5701S |

- Same guides as above except for seal diameter.
- Use with .421" Viton valve seals (V312421), or O.E. style valve seals (K312420)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .5625" | .308" | Std | 2.250" | VG5500 |
| .5635" | .308" | .001" | 2.250" | VG5501 |
| .5645" | .308" | .002" | 2.250" | VG5502 |
| .5655" | .308" | .003" | 2.250" | VG5503 |
| .5665" | .308" | .004" | 2.250" | VG5504 |
| .5875" | .308" | .025" | 2.250" | VG5525 |

- Use with .531" O.E. style valve seals (K312530).
- Stock length
- Stock replacement

EVOLUTION

AV&V Universal Valve Guides (5/16 valves)



UVG308

| O.D. | I.D. | Overall Length | Intake & Exhaust |
|--|-------|----------------|------------------|
| Universal Repair guides | | | |
| .740" | .308" | 2.700" | UVG308 |
| <ul style="list-style-type: none"> • Manganese bronze alloy • Ready to be machined | | | |

AV&V Valve Seals



Viton Seals

V312421

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .421" |

Note

- High Temperature viton seal

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



Viton Seals

V312531

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .531" |

Note

- High Temperature viton seal

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



O.E. Style Seals

K312420

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .421" |

Note

- O.E. Style metal clad seal

- For 5/16" valve, TwinCam®, Evo® and Sportster®



O.E. Style Seals

K312530

Specifications

| | |
|-----------|-------------------|
| Stem Dia. | Seal section O.D. |
| .312" | .331" |

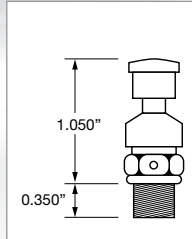
Note

- O.E. Style metal clad seal

- For 5/16" valve, TwinCam®, Evo® and Sportster®

- AV&V compression release valves are easier to install due to their short thread section. (# JCR10A & JCR10B). You don't need to machine the heads as deep as if you were using O.E.M. style CR'S
- O.E.M. style also available (# JCR10D)

- Ideal for stock replacement
- Also their high-temperature resistant knobs are charcoal colored for a better match with texture black or silver heads.

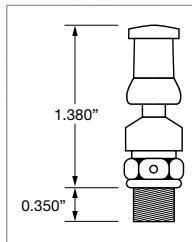


JCR 10A

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.050" | .350" | M10x1 |

Note

- Mostly Evo's®
- Short protrusion
- Short thread section

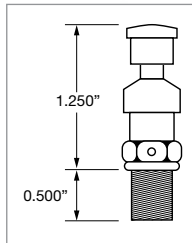


JCR 10B

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.380" | .350" | M10x1 |

Note

- All mostly Twin Cams®
- Short protrusion
- Short thread section



JCR 10D

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.250" | .500" | M10x1 |

Note

- O.E.M. Style
- Long protrusion
- Long thread section

AV&V High Performance Valve Spring kits (5/16 valves)



VSK6005

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



SPRINGS - S600-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .600" | 155lbs @ 1.885" | | 405 LBS @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

RETAINER - R311CS-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK600T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



SPRING - S600-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .600" | 155lbs @ 1.885" | | 405 LBS @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

RETAINER - R311CT-4

| Alloy | Traitement | Notes |
|----------|------------|-----------|
| Titanium | | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK650S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.



| SPRINGS - S650-4 | | | |
|-----------------------|-----------------|-------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .650" | 185lbs @ 1.860" | | 460 LBS @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

| RETAINER - R311CS-4 | | |
|---------------------|-------------|-----------|
| Alloy | Traitement | Notes |
| 4140 Chromoly steel | Black Oxyde | Angle 10° |

| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |

| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |



VSK650T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



| SPRING - S650-4 | | | |
|-----------------------|-----------------|-------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .650" | 185lbs @ 1.860" | | 460 LBS @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

| RETAINERS- R311CT-4 | | |
|---------------------|------------|-----------|
| Alloy | Traitement | Notes |
| Titanium | | Angle 10° |

| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |

| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |

AV&V High Performance Valve Spring kits (5/16 valves)

EVOLUTION



VSK675T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



SPRINGS - S675-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) | |
|-----------------------|-----------------|------------------------|----------------|
| .675" | 185lbs @ 1.860" | 460 LBS @ 1.160" | |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

RETAINER - R311CT-4

| Alloy | Traitement | Notes |
|----------|------------|-----------|
| Titanium | | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK6000

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6000-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) | |
|-----------------------|-----------------|------------------------|--|
| .600" | 165lbs @ 1.860" | 384 LBS @ 1.250" | |
| Coil Bind Height | Type | | |
| 1.200" | Beehive springs | | |

RETAINER - R6000-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

LOWER COLLAR - LSC6000-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .050" | 1.425" | .565" | Heat treated steel |

VALVE LOCKS - VL311C-8

| Tapper | Notes |
|----------|-------|
| Angle 9° | |



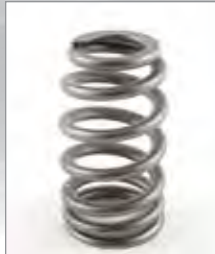
VSK6500

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6500-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|-----------------|------------------------|
| .650" | 178lbs @ 1.860" | 385 LBS @ 1.200" |
| Coil Bind Height | Type | |
| 1.150" | Beehive springs | |

RETAINER - R6500-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

LOWER COLLAR - LSC6500-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.485" | .565" | Heat treated steel |

VALVE LOCKS - VL311C-8

| Tapper | Notes |
|--------|-------|
| 9° | |

AV&V Valve Spring Shims

- This Valve Spring Shim allows the engine builder to adjust spring pressure by combining various thickness shims.
- Using the different thickness is of great help when trying to obtain consistent spring pressure across all valves.



| Shim | VSS5015 | |
|---|---------|--------|
| Thickness | I.D. | O.D. |
| .015" | .600" | 1.480" |
| Note | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Specily designed for Harley Davidson® heads • Heat Treated Steel | | |



| Shim | VSS5030 | |
|--|---------|--------|
| Thickness | I.D. | O.D. |
| .030" | .600" | 1.480" |
| Note | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Heat Treated Steel | | |



| Shim | VSS6022 | |
|--|---------|--------|
| Thickness | I.D. | O.D. |
| .022" | 1.010" | 1.441" |
| Note | | |
| <ul style="list-style-type: none"> • Use with Twin Cam® O.E. Style umbrella seals (2005 - up) • Heat Treated Steel | | |



SPORTSTER®

- High Flow Valves
- Valves Guides
- Valves Seals
- Compression Release Valves
- Valves Spring kits
- Valves Spring Shims



AV&V Black & Chrome Tulip Extreme Duty Valves (5/16 stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 5/16 stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.

SPORTSTER



| High Flow Valves | | AVI480 | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.480" | 4.640" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Sportster® 883 to 1200 conversion • Seats must be machined deeper and their I.D. bored • 5/16" stem | | | | | |



| High Flow Valves | | AVI485 | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.485" | 4.560" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Sportster® 1200 and Buell® • Also good as stock replacement • 5/16" stem | | | | | |



| High Flow Valves | | AVI580 | | | |
|---|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.580" | 4.575" | .3106" | chrome | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Sportster® 1200, Buell® (fits Thunderstorm) • 5/16" stem | | | | | |



| High Flow Valves | | AVI720 | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.720" | 4.560" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 22° back angle tulip • Sportster® 883 to 1200 conversion • Seats must be machined deeper and their I.D. bored • 5/16" stem | | | | | |



| High Flow Valves | | | AVI720B | | | |
|--|----------------|-----------|---------------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 1.720" | 4.480" | .3108" | Black nitride | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • Sportster® 1200 and Buell® • Also good as stock replacement • 5/16" stem | | | | | | |



| High Flow Valves | | | AVI770 | | | |
|--|----------------|-----------|---------------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 1.770" | 4.480" | .3108" | Black nitride | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • 1200 Sportster® & Buell® • .050" oversize valve • 5/16" stem | | | | | | |



| High Flow Valves | | | AVI813 | | | |
|--|----------------|-----------|---------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 1.812" | 4.485" | .3108" | Chrome | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Sportster 1200® and Buell® • 5/16" stem | | | | | | |



| High Flow Valves | | | AVI851 | | | |
|--|----------------|-----------|---------|------------|--------|--|
| Intake | | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove | |
| 1.851" | 4.485" | .3108" | Chrome | .200" | Single | |
| Note | | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • Sportster® 1200 and Buell® • Oversize valve • 5/16" stem | | | | | | |

AV&V Black & Chrome Tulip Extreme Duty Valves (7mm stem)

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.

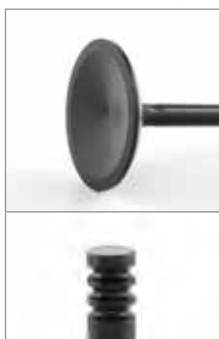
SPORTSTER



| High Flow Valves | | AVI485-7TGB | | | |
|---|----------------|-------------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.485" | 4.680" | .2755" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • Sportster® 883 to 1200 conversion • 7MM stem | | | | | |



| High Flow Valves | | AVI576-7TGB | | | |
|--|----------------|-------------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.575" | 4.620" | .2755" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 1200 Sportster®, Buell XB9® et XB12® • Also good as stock replacement • 7MM stem | | | | | |



| High Flow Valves | | AVI725-7TGB | | | |
|---|----------------|-------------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.725" | 4.580" | .2757" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • Sportster® 883 to 1200 conversion (2004 and up) • 7MM stem | | | | | |



| High Flow Valves | | AVI811-7TGB | | | |
|---|----------------|-------------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.810" | 4.480" | .2757" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • 1200 Sportster®, Buell XB9® and XB12® • Also good as stock replacement • 7MM stem | | | | | |



| High Flow Valves | | | AVI85I-7TGB | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.851" | 4.520" | .2757" | Black nitride | .085" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 24° back angle tulip • 1200 Sportster®, Buell XB9® et XB12® • .040" Oversize valves • 7MM stem | | | | | |

SPORTSTER

AV&V Extreme Duty Replacement Valves

These superb valves are one piece forged from a racing grade stainless steel alloy.

The stems are centerless grinded to a micro finish for longer life.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.



| AVI355 | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.355" | 4.635" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 23° back angle tulip • Sportster® 883 • 5/16" stem | | | | | |



| AVI485 | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.485" | 4.560" | .3106" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • Sportster® 1200 and Buell® • 5/16" stem | | | | | |

AV&V Extreme Duty Replacement Valves

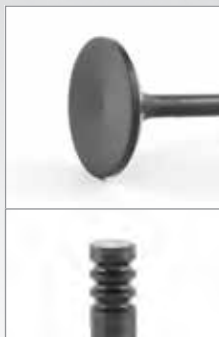
These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty 5/16" valves also feature a 45° angle below the lock groove to facilitate valve seal installation.

SPORTSTER



High Flow Valves

AVI576-7TGB

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.575" | 4.620" | .2755" | Black nitride | .085" | Triple |

Note

- 25° back angle tulip
- 1200 Sportster®, Buell XB9® and XB12®
- 7MM stem



AVI590

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.590" | 4.550" | .3108" | Black nitride | .200" | Single |

Note

- 23° back angle tulip
- Sportster® 883
- 5/16" stem



High Flow Valves

AVI720B

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.720" | 4.480" | .3108" | Black nitride | .200" | Single |

Note

- 23° back angle tulip
- 5/16" stem
- Sportster® 1200 and Buell®



High Flow Valves

AVI811-7TGB

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------------|------------|--------|
| 1.810" | 4.480" | .2757" | Black nitride | .085" | Triple |

Note

- 24° back angle tulip
- 1200 Sportster®, Buell XB9® and XB12®
- 7MM stem

AV&V Extreme Duty Manganese Bronze Valve Guides (5/16 valves)



- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600 | VG5700 |
| .5635" | .308" | .001" | 2.100" | VG5601 | VG5701 |
| .5645" | .308" | .002" | 2.100" | VG5602 | VG5702 |
| .5655" | .308" | .003" | 2.100" | VG5603 | VG5703 |
| .5665" | .308" | .004" | 2.100" | VG5604 | VG5704 |
| .5675" | .308" | .005" | 2.100" | VG5605 | VG5705 |
| .5685" | .308" | .006" | 2.100" | VG5606 | VG5706 |
| .5725" | .308" | .010" | 2.100" | VG5610 | VG5710 |
| .5875" | .308" | .025" | 2.100" | VG5625 | VG5725 |

- Use with .531" Viton valve seals (V312531).
- Shorter seal area for high lift application.
- Profiled for optimum airflow.



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|------------------|------------------|
| High Lift & High Flow application | | | | | |
| .5625" | .308" | Std | 2.100" | VG5600S | VG5700S |
| .5630" | .308" | .0005" | 2.100" | VG5600-5S | VG5700-5S |
| .5635" | .308" | .001" | 2.100" | VG5601S | VG5701S |

- Same guides as above except for seal diameter.
- Use with .421" Viton valve seals (V312421), or O.E. style valve seals (K312420)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .5625" | .308" | Std | 2.250" | VG5500 |
| .5635" | .308" | .001" | 2.250" | VG5501 |
| .5645" | .308" | .002" | 2.250" | VG5502 |
| .5655" | .308" | .003" | 2.250" | VG5503 |
| .5665" | .308" | .004" | 2.250" | VG5504 |
| .5875" | .308" | .025" | 2.250" | VG5525 |

- Use with .531" O.E. style valve seals (K312530).
- Stock length
- Stock replacement

SPORTSTER

AV&V Extreme Duty Manganese Bronze Valve Guides (7MM valves)

- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .5625" | .273" | Std | 2.040" | VG6600 | VG6700 |
| .5635" | .273" | .001" | 2.040" | VG6601 | VG6701 |
| .5645" | .273" | .002" | 2.040" | VG6602 | VG6702 |
| .5655" | .273" | .003" | 2.040" | VG6603 | VG6703 |
| .5665" | .273" | .004" | 2.040" | VG6604 | VG6704 |
| .5675" | .273" | .005" | 2.040" | VG6605 | VG6705 |
| .5685" | .273" | .006" | 2.040" | VG6606 | VG6706 |
| .5725" | .273" | .010" | 2.040" | VG6610 | VG6710 |
| .5875" | .273" | .025" | 2.040" | VG6625 | VG6725 |

- Use with O.E. style Viton valve seals (V7MMOE).
- Profiled for optimum airflow.

AV&V Universal Valve Guides (5/16 and 7MM valves)



| O.D. | I.D. | Overall Length | Intake & Exhaust |
|-------------------------|-------|----------------|------------------|
| Universal Repair guides | | | |
| .740" | .273" | 2.700" | UVG7MM |
| .740" | .308" | 2.700" | UVG308 |

- Manganese bronze alloy
- Ready to be machined



| Viton Seals | |
|---|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| .312" | .421" |
| Note | |
| <ul style="list-style-type: none"> High Temperature viton seal | |

V312421

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



| Viton Seals | |
|---|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| .312" | .531" |
| Note | |
| <ul style="list-style-type: none"> High Temperature viton seal | |

V312531

- For 5/16" valve Twin Cam® / Evo® / Sportster®
- This seal offers more press fit on the guide allowing installation on both Bronze and Cast iron guides.
- We strongly recommend the use of our valve seal driver #VSD312 to install this seal.



| Viton Seals | |
|---|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| 7MM | .562" |
| Note | |
| <ul style="list-style-type: none"> High Temperature viton seal | |

V7MM-100

- For 7MM valve Twin Cam®, Sportster®
- Replace 7MM O.E. seal when using larger spring & lower collar.
- We strongly recommend the use of our valve seal driver #VSD7MM to install this seal.



| Viton Seals | |
|---|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| 7MM | .562" |
| Note | |
| <ul style="list-style-type: none"> High Temperature viton seal | |

V7MMOE-100

- For 7MM valve Twin Cam®, Sportster®
- Replacement for the 7MM O.E. seal.
- The viton and steel sections are bounded together to prevent oil infiltration.



| O.E. Style Seals | |
|--|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| .312" | .421" |
| Note | |
| <ul style="list-style-type: none"> O.E. Style metal clad seal | |

K312420

- For 5/16" valve, TwinCam®, Evo® and Sportster®



| O.E. Style Seals | |
|--|-------------------|
| Specifications | |
| Stem Dia. | Seal section O.D. |
| .312" | .531" |
| Note | |
| <ul style="list-style-type: none"> O.E. Style metal clad seal | |

K312530

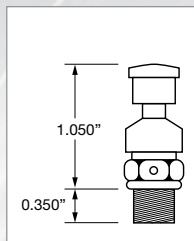
- For 5/16" valve, TwinCam, Evo and Sportster

SPORTSTER

AV&V Compression Release Valves

- AV&V compression release valves are easier to install due to their short thread section. (# JCR10A & JCR10B). You don't need to machine the heads as deep as if you were using O.E.M. style CR'S
- O.E.M. style also available (# JCR10D)

- Ideal for stock replacement
- Also their high-temperature resistant knobs are charcoal colored for a better match with texture black or silver heads.

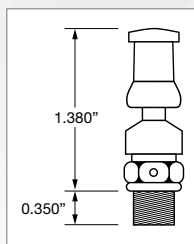


JCR 10A

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.050" | .350" | M10x1 |

Note

- Mostly Evo's®
- Short protrusion
- Short thread section

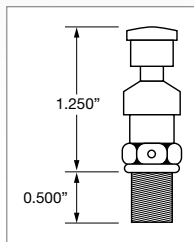


JCR 10B

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.380" | .350" | M10x1 |

Note

- All mostly Twin Cams®
- Short protrusion
- Short thread section



JCR 10D

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.250" | .500" | M10x1 |

Note

- O.E.M. Style
- Long protrusion
- Long thread section



VSK600S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



| SPRINGS - S600-4 | | | |
|-----------------------|-----------------|-------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .600" | 155lbs @ 1.885" | | 405 LBS @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |



| RETAINER - R311CS-4 | | |
|---------------------|-------------|-----------|
| Alloy | Traitement | Notes |
| 4140 Chromoly steel | Black Oxyde | Angle 10° |



| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |



| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |



VSK600T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Chromoly(S) or titanium(T) retainers.



| SPRINGS - S600-4 | | | |
|-----------------------|-----------------|-------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .600" | 155lbs @ 1.885" | | 405 LBS @ 1.260" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |



| RETAINER - R311CT-4 | | |
|---------------------|------------|-----------|
| Alloy | Traitement | Notes |
| Titanium | ---- | Angle 10° |



| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |



| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |

SPORTSTER

AV&V High Performance Valve Spring kits (5/16 valves)

SPORTSTER



VSK650S

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.



SPRINGS - S650-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .650" | 185lbs @ 1.860" | | 460 LBS @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

RETAINER - R311CS-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK650T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.
- Titanium retainers.



SPRINGS - S650-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .650" | 185lbs @ 1.860" | | 460 LBS @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.79" | Double springs |

RETAINER - R311CT-4

| Alloy | Traitement | Notes |
|----------|------------|-----------|
| Titanium | | Angle 10° |

LOWER COLLAR - LSC600-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.418" | .562" | Heat treated steel |

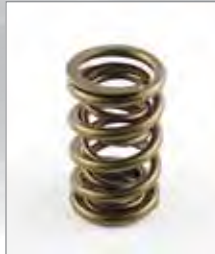
VALVE LOCKS - VL311A-8

| Tapper | Notes |
|-----------|-------|
| Jumbo 10° | |



VSK675T

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.
- 1.375" Top retainers for better clearance inside rocker covers.



| SPRINGS - S675-4 | | | |
|-----------------------|-----------------|--------|------------------------|
| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
| .675" | 185lbs @ 1.860" | | 460 LBS @ 1.160" |
| Coil Bind Height | O.D. | I.D. | Type |
| 1.080" | 1.460" | 0.790" | Double springs |

| RETAINER - R311CT-4 | | |
|---------------------|------------|-----------|
| Alloy | Traitement | Notes |
| Titanium | --- | Angle 10° |

| LOWER COLLAR - LSC600-4 | | | |
|-------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.418" | .562" | Heat treated steel |

| VALVE LOCKS - VL311A-8 | |
|------------------------|-------|
| Tapper | Notes |
| Jumbo 10° | |



VSK6000

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



| SPRINGS - S6000-4 | | |
|-----------------------|-----------------|------------------------|
| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
| .600" | 165lbs @ 1.860" | 384 LBS @ 1.250" |
| Coil Bind Height | Type | |
| 1.200" | Beehive springs | |

| RETAINER - R6000-4 | | |
|---------------------|-------------|----------|
| Alloy | Traitement | Notes |
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

| LOWER COLLAR - LSC6000-4 | | | |
|--------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .050" | 1.425" | .565" | Heat treated steel |

| VALVE LOCKS - VL311C-8 | |
|------------------------|-------|
| Tapper | Notes |
| Angle 9° | |

SPORTSTER

AV&V High Performance Valve Spring kits (5/16 valves)



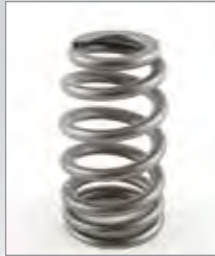
VSK6500

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500"



SPRINGS - S6500-4

| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
|-----------------------|-----------------|------------------------|
| .650" | 178lbs @ 1.860" | 385 LBS @ 1.200" |
| Coil Bind Height | Type | |
| 1.150" | Beehive springs | |

RETAINER - R6500-4

| Alloy | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

LOWER COLLAR - LSC6500-4

| Thickness | O.D. | I.D. | Alloy |
|-----------|--------|-------|--------------------|
| .040" | 1.485" | .565" | Heat treated steel |

VALVE LOCKS - VL311C-8

| Tapper | Notes |
|--------|-------|
| 9° | |

AV&V High Performance Beehive Valve Spring kits (7MM valves)

(Fit both Single Groove and Triple Groove valves)



VSK60007SG

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 7 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500



| SPRINGS - S6000-4 | | |
|-----------------------|-----------------|------------------------|
| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
| .600" | 165lbs @ 1.860" | 384 LBS @ 1.250" |
| Coil Bind Height | Type | |
| 1.200" | Beehive springs | |

| RETAINER - R60007SG-4 | | |
|-----------------------|-------------|----------|
| Alloy | Traitement | Notes |
| 4140 Chromely steel | Black Oxyde | Angle 7° |

| LOWER COLLAR - LSC6000-4 | | | |
|--------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .050" | 1.425" | .565" | Heat treated steel |

| VALVE LOCKS - VL7MMSG | |
|-----------------------|---|
| Tapper | Notes |
| Angle 7° | For 7MM single or triple groove valves with Beehive springs |



VSK65007SG

- Manufactured from ultra-clean high-silicon Kobe alloy wire, then nano-peened and polished, they are 100% load-sorted to exceed our customers' expectations.
- CNC machined Extreme Duty 9 deg. locks.
- Ultralite Chromoly forged retainers.

NOTE

6000 springs - Small end ID: .650", OD: 1.085" / Large end ID: 1.000", OD: 1.445"

6500 springs - Small end ID: .740", OD: 1.185" / Large end ID: 1.055", OD: 1.500



| SPRINGS - S6500-4 | | |
|-----------------------|-----------------|------------------------|
| Max. Recommended Lift | Seat Pressure | Open Pressure (lbs@mm) |
| .650" | 178lbs @ 1.860" | 385 LBS @ 1.200" |
| Coil Bind Height | Type | |
| 1.150" | Beehive springs | |

| RETAINER - R6500-4 | | |
|---------------------|-------------|----------|
| Alloy | Traitement | Notes |
| 4140 Chromoly steel | Black Oxyde | Angle 9° |

| LOWER COLLAR - LSC6500-4 | | | |
|--------------------------|--------|-------|--------------------|
| Thickness | O.D. | I.D. | Alloy |
| .040" | 1.485" | .565" | Heat treated steel |

| VALVE LOCKS - VL7MMSGC-8 | |
|--------------------------|-------|
| Tapper | Notes |
| Angle 9° | |

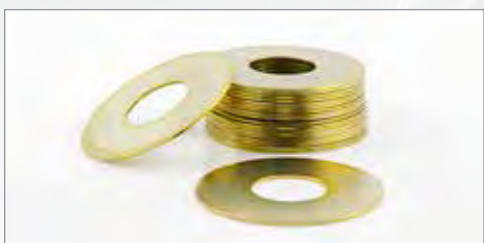
SPORTSTER

AV&V Valve Spring Shims

- This Valve Spring Shim allows the engine builder to adjust spring pressure by combining various thickness shims.
- Using the different thickness is of great help when trying to obtain consistent spring pressure across all valves.



| Shim | VSS5015 | |
|---|---------|--------|
| Thickness | I.D. | O.D. |
| .015" | .600" | 1.480" |
| Note | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Specily designed for Harley Davidson® heads • Heat Treated Steel | | |



| Shim | VSS5030 | |
|--|---------|--------|
| Thickness | I.D. | O.D. |
| .030" | .600" | 1.480" |
| Note | | |
| <ul style="list-style-type: none"> • Perfect Evo®/Twin Cam® fit • Heat Treated Steel | | |



| Shim | VSS6022 | |
|--|---------|--------|
| Thickness | I.D. | O.D. |
| .022" | 1.010" | 1.441" |
| Note | | |
| <ul style="list-style-type: none"> • Use with Twin Cam® O.E. Style umbrella seals (2005 - up) • Heat Treated Steel | | |



SHOVEL HEAD®

- Extreme Duty Replacement Valves
- Valves Guides
- Valves Seals
- Compression Release Valves
- Valves Spring kits



AV&V Extreme Duty Replacement Valves

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve has a bearing quality hardened tip to prevent premature wear with high-lift cams.

AV&V's 3/8" stem valves also features a 45° angle below the lock groove to facilitate valve seal installation.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



| HDO7 | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.750" | 3.830" | .3764" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 3/8" stem | | | | | |



| HD09 | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.955" | 3.875" | .3770" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 20° back angle tulip • Shovel Head 1200 and 1340 • 3/8" stem | | | | | |

SHOVEL HEAD

- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .6250" | .375" | Std | 1.900" | VG5400 |
| .6260" | .375" | .001" | 1.900" | VG5401 |
| .6270" | .375" | .002" | 1.900" | VG5402 |
| .6280" | .375" | .003" | 1.900" | VG5403 |
| .6290" | .375" | .004" | 1.900" | VG5404 |
| .6300" | .375" | .005" | 1.900" | VG5405 |
| .6310" | .375" | .006" | 1.900" | VG5406 |
| .6350" | .375" | .010" | 1.900" | VG5410 |
| .6400" | .375" | .015" | 1.900" | VG5415 |
| .6500" | .375" | .025" | 1.900" | VG5425 |

- 1340 Shovel Head (1979-84)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .5660" | .375" | Std | 1.900" | VG5300 |
| .5670" | .375" | .001" | 1.900" | VG5301 |
| .5680" | .375" | .002" | 1.900" | VG5302 |
| .5690" | .375" | .003" | 1.900" | VG5303 |
| .5700" | .375" | .004" | 1.900" | VG5304 |
| .5710" | .375" | .005" | 1.900" | VG5305 |
| .5720" | .375" | .006" | 1.900" | VG5306 |
| .5740" | .375" | .008" | 1.900" | VG5308 |
| .5760" | .375" | .010" | 1.900" | VG5310 |
| .5810" | .375" | .015" | 1.900" | VG5315 |
| .5910" | .375" | .025" | 1.900" | VG5325 |

- 1200 Shovel Heads (1948-79)

SHOVEL HEAD

AV&V Universal Valve Guides (3/8 valves)

UVG375



| O.D. | I.D. | Overall Length | Intake & Exhaust |
|--|-------|----------------|------------------|
| Universal Repair guides | | | |
| .740" | .375" | 2.700" | UVG375 |
| <ul style="list-style-type: none"> • Manganese bronze alloy • Ready to be machined | | | |

AV&V Valve Seals

SHOVEL HEAD



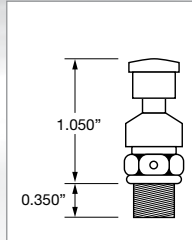
| O.E. Style Seals | | K375562 |
|--|-------------------|--|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> • Shovel Head® (1948-1979) |
| .375" | .562" | |
| Note | | |
| <ul style="list-style-type: none"> • O.E. Style metal clad seal | | |



| O.E. Style Seals | | K375625 |
|--|-------------------|--|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> • Shovel Head® (1980-1984) |
| .375" | .625" | |
| Note | | |
| <ul style="list-style-type: none"> • O.E. Style metal clad seal | | |

- AV&V compression release valves are easier to install due to their short thread section. (# JCR10A & JCR10B). You don't need to machine the heads as deep as if you were using O.E.M. style CR'S
- O.E.M. style also available (# JCR10D)

- Ideal for stock replacement
- Also their high-temperature resistant knobs are charcoal colored for a better match with texture black or silver heads.

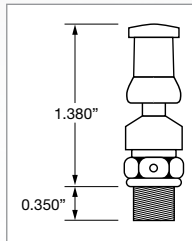


JCR 10A

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.050" | .350" | M10x1 |

Note

- Mostly Evo's®
- Short protrusion
- Short thread section

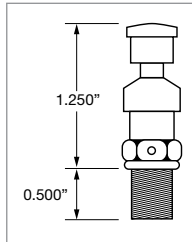


JCR 10B

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.380" | .350" | M10x1 |

Note

- All mostly Twin Cams®
- Short protrusion
- Short thread section



JCR 10D

| Protrusion | Thread section | Thread |
|------------|----------------|--------|
| 1.250" | .500" | M10x1 |

Note

- O.E.M. Style
- Long protrusion
- Long thread section

SHOVEL HEAD

AV&V High Performance Valve Spring kits



VSK470

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S470-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|----------------|--------|------------------------|
| .470" | 155lb @ 1.375" | | 300lb @ .980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .850" | 1.640" | 1.010" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |



VSK530

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S530-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|----------------|-------|------------------------|
| .530" | 155lb @ 1.455" | | 320b @ 0.980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .980" | 1.640" | .970" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |



VSK590

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S590-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .625" | 175lbs @ 1.455" | | 350lbs @ .980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .850" | 1.625" | .965" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |

NOTE: These Pan/Shovel valve springs are not bolt-in items. Always make sure to check the minimum spring spacing and to keep a minimum of .060" before coil bind, at full lift.

Early 1948-1980 heads must be machined to accept AV&V's late style lower collars.

You may need to machine the spring seat with Goodson spring cutter #VSS-1680HD and/or use AV&V upper spring collar kit #R530-4 and/or machine the valve seats deeper to get the correct spring spacing.

For reference, on late style Shovel (1980-1984), with a 1.630" valve stem protrusion, the spring spacing is +/- 1.375".

SHOVEL HEAD



PAN HEAD®

- Extreme Duty Replacement Valves
- Valves Guides
- Valves Seals
- Valves Springs kit



AV&V Extreme Duty Replacement Valves

These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty valves also feature a 45° angle below the lock groove to facilitate valve seal installation.



| HDO7 | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.750" | 3.830" | .3764" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 25° back angle tulip • 3/8" stem | | | | | |

AV&V Extreme Duty Manganese Bronze Valve Guides

- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life.
- Special Hi-temp. Viton O'rings are used to prevent oil infiltration between guide & head.
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see *reamers section*)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .5660" | .375" | Std | 1.900" | VG5300 |
| .5670" | .375" | .001" | 1.900" | VG5301 |
| .5680" | .375" | .002" | 1.900" | VG5302 |
| .5690" | .375" | .003" | 1.900" | VG5303 |
| .5700" | .375" | .004" | 1.900" | VG5304 |
| .5710" | .375" | .005" | 1.900" | VG5305 |
| .5720" | .375" | .006" | 1.900" | VG5306 |
| .5740" | .375" | .008" | 1.900" | VG5308 |
| .5760" | .375" | .010" | 1.900" | VG5310 |
| .5810" | .375" | .015" | 1.900" | VG5315 |
| .5910" | .375" | .025" | 1.900" | VG5325 |

- Pan Head® 1200 (1948-79)

AV&V Universal Valve Guides (3/8 valves)



UVG375

| O.D. | I.D. | Overall Length | Intake & Exhaust |
|---|-------|----------------|------------------|
| Universal Repair guides | | | |
| .740" | .375" | 2.700" | UVG375 |
| <ul style="list-style-type: none"> Maganese bronze alloy Ready to be machined | | | |

AV&V Valve Seals



| O.E. Style Seals | | K375562 |
|--|-------------------|---|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> Pan Head® (1948-1979) |
| .375" | .562" | |
| Note | | |
| <ul style="list-style-type: none"> O.E. Style metal clad seal | | |

PAN HEAD

AV&V High Performance Valve Spring kit



VSK470

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S470-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|----------------|--------|------------------------|
| .470" | 155lb @ 1.375" | | 300lb @ .980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .850" | 1.640" | 1.010" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |



VSK530

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S530-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|----------------|-------|------------------------|
| .530" | 155lb @ 1.455" | | 320b @ 0.980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .980" | 1.640" | .970" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |



VSK590

- Manufactured from ultra clean high silicon & vanadium alloy wire.
- CNC machined tight fit locks.
- Light weight 1.375" chromoly top retainers; for better clearance inside rocker covers.



SPRINGS - S590-4

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .625" | 175lbs @ 1.455" | | 350lbs @ .980" |
| Coil Bind Height | O.D. | I.D. | Type |
| .850" | 1.625" | .965" | Double springs |

RETAINER - R530-4

| Alloy | Traitement | Notes |
|---------------------|-------------|-----------|
| 4140 Chromoly steel | Black Oxyde | Angle 15° |

LOWER COLLAR - LSC530-4

| Thickness | O.D. | I.D. | Alloy |
|---------------|--------|-------|--------------------|
| .055" / .180" | 1.495" | .755" | Heat treated steel |

VALVE LOCKS - VL375-8

| Tapper | Notes |
|-----------|---|
| Jumbo 15° | OE replacement and VSK470, VSK530, VSK590 |

NOTE: These Pan/Shovel valve springs are not bolt-in items. Always make sure to check the minimum spring spacing and to keep a minimum of .060" before coil bind, at full lift.

Early 1948-1980 heads must be machined to accept AV&V's late style lower collars.

You may need to machine the spring seat with Goodson spring cutter #VSS-1680HD and/or use AV&V upper spring collar kit #R530-4 and/or machine the valve seats deeper to get the correct spring spacing.

For reference, on late style Shovel (1980-1984), with a 1.630" valve stem protrusion, the spring spacing is +/- 1.375".



IRON HEAD®

- Extreme Duty Replacement Valves
- Valves Seals
- Valves Guides



AV&V Extreme Duty Replacement Valves

These superb valves are one piece forged from a racing grade stainless steel alloy.

Our liquid nitriding process creates a valve that is smoother and stronger than traditional O.E.M. or replacement valves.

The stems are centerless grinded to a micro finish for longer life.

AV&V™ Extreme Duty valves also feature a 45° angle below the lock groove to facilitate valve seal installation.



| HD03 | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.561" | 3.505" | .3389" | Black nitride | .155" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 20° back angle tulip • For 900/1000 Iron Head® • 11/32" stem | | | | | |



| HD04 | | | | | |
|--|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.812" | 3.615" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 20° back angle tulip • For 900 Iron Head® • 5/16" stem | | | | | |



| HD05 | | | | | |
|---|----------------|-----------|---------------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 1.940" | 3.615" | .3108" | Black nitride | .200" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 20° back angle tulip • For 1000 Iron Head® • 5/16" stem | | | | | |

IRON HEAD

AV&V Extreme Duty Cast Iron Valve Guides



- AV&V's Cast iron valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life..
- Tapered & radiused nose for easier installation and better air flow.
- Unique Super Grip valve seal section : use either OEM style or viton seals.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|----------------|----------------|
| High Lift & High Flow application | | | | | |
| .5645" | .308" | Std | 1.750" | VG5100C | |
| .5655" | .308" | .001" | 1.750" | VG5101C | |
| .5665" | .308" | .002" | 1.750" | VG5102C | |
| .5675" | .308" | .003" | 1.750" | VG5103C | |
| .5645" | .338" | Std | 1.750" | | VG5200C |
| .5655" | .338" | .001" | 1.750" | | VG5201C |
| .5665" | .338" | .002" | 1.750" | | VG5202C |
| .5675" | .338" | .003" | 1.750" | | VG5203C |

- For XL 1957 to early 1983
- Made from G2 Cast Iron
- Shortened seal section allows .530" valve seal installation (K312530 and K341530).
- Profiled for optimum airflow.

AV&V Valve Seals



| O.E Style Seals | | K312530 |
|--|-------------------|--|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> • For Iron Head Sportster® |
| .312" | .530" | |
| Note | | |
| <ul style="list-style-type: none"> • O.E. Style metal clad seal | | |



| O.E Style Seals | | K341530 |
|--|-------------------|--|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> • For Iron Head Sportster® |
| .341" | .530" | |
| Note | | |
| <ul style="list-style-type: none"> • O.E. Style metal clad seal | | |

IRON HEAD



V-ROD®

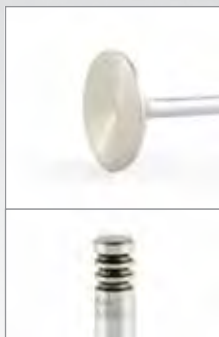
- High Flow Valves
- Valves Guides
- Valves Seals
- Valves Spring kits



AV&V Chrome Tulip Extreme Duty Valves for V-Rod

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



High Flow Valves

AV34-6TGC

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 34.4MM | 116.9MM | .2346" | Chrome | .070" | Triple |

Note

- 21° back angle tulip
- Stock replacement valve
- 6MM stem



High Flow Valves

AV35-6TGC

Exhaust

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 35.4MM | 116.9MM | .2346" | Chrome | .070" | Triple |

Note

- 21° back angle tulip
- 1MM oversize valve
- 6MM stem



High Flow Valves

AV40-6TGC

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 40MM | 116.28MM | .2351" | Chrome | .070" | Triple |

Note

- 18° back angle tulip
- Stock replacement valve
- 6MM stem



High Flow Valves

AV41-6TGC

Intake

| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
|-----------|----------------|-----------|---------|------------|--------|
| 41MM | 116.28MM | .2351" | Chrome | .070" | Triple |

Note

- 18° back angle tulip
- 1MM oversize valve
- 6MM stem



| High Flow Valves | | AV35-6SGC | | | |
|--|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 35.4MM | 116.9MM | .2346" | Chrome | .070" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 21° back angle tulip • 1MM Single groove oversize valve (use with AV&V VSK7000SG) • 6MM stem | | | | | |



| High Flow Valves | | AV41-6SGC | | | |
|--|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 41MM | 116.28MM | .2351" | Chrome | .070" | Single |
| Note | | | | | |
| <ul style="list-style-type: none"> • 18° back angle tulip • 1MM Single groove oversize valve (use with AV&V VSK7000SG) • 6MM stem | | | | | |



| High Flow Valves | | AV35-6B (no tip, no groove) | | | |
|--|----------------|-----------------------------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 35.4MM | 5" | .2346" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 21° back angle tulip • 1MM oversize blank valve • 6MM stem | | | | | |



| High Flow Valves | | AV41-6B (no tip, no groove) | | | |
|--|----------------|-----------------------------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 41MM | 5" | .2351" | Chrome | --- | --- |
| Note | | | | | |
| <ul style="list-style-type: none"> • 18° back angle tulip • 1MM oversize blank valve • 6MM stem | | | | | |

V-ROD

AV&V Extreme Duty Manganese Bronze Valve Guides

- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life
- Tapered & radiused nose for easier installation and better air flow.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see *reamers section*)



| O.D. | I.D. | Oversize | Overall Length | Intake & Exhaust |
|-------------------|-------|----------|----------------|------------------|
| Stock replacement | | | | |
| .3955" | 5.9MM | Std | 1.950" | VG7000 |
| .3965" | 5.9MM | .001" | 1.950" | VG7001 |
| .3975" | 5.9MM | .002" | 1.950" | VG7002 |
| .3985" | 5.9MM | .003" | 1.950" | VG7003 |

- Use with O.E. style valve seals (V6MM)
- Profiled for optimum airflow

AV&V Universal Valve Guides



| O.D. | I.D. | Overall Length | Intake & Exhaust |
|-------------------------|-------|----------------|------------------|
| Universal Repair guides | | | |
| .620" | 5.9MM | 2.375" | UVG6MM |

AV&V Valve Seals



| Viton Seals | | V6MM |
|-------------------------------|-------------------|--------------|
| Description | | |
| Stem Dia. | Seal section O.D. | • For V-Rod® |
| 6MM | 8.5MM | |
| Note | | |
| • High Temperature viton seal | | |



VSK7000TG

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.



SPRINGS - S7000

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .580" | 95 lbs @ 1.500" | | 290 lbs @ .900" |
| Coil Bind Height | O.D. | I.D. | Type |
| .870" | 1.100" | .750" | Beehive springs |

RETAINER - R7000S

| Material | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 7° |

VALVE LOCKS - VL6MMTG

| Angle | Notes |
|-------|--------------------------|
| 7° | For triple groove valves |



VSK7000SG

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.



SPRINGS - S7000

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .580" | 95 lbs @ 1.500" | | 290 lbs @ .900" |
| Coil Bind Height | O.D. | I.D. | Type |
| .870" | 1.100" | .750" | Beehive springs |

RETAINER - R7000S

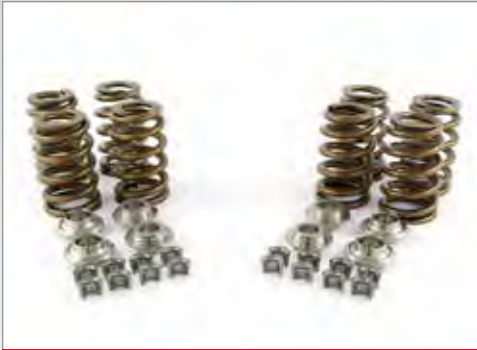
| Material | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 7° |

VALVE LOCKS - VL6MMSG

| Angle | Notes |
|-------|--------------------------|
| 7° | For single groove valves |

V-ROD

AV&V High Performance Valve Spring kits



VSK7000SGT

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.



SPRINGS - S7000

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .580" | 95 lbs @ 1.500" | | 290 lbs @ .900" |
| Coil Bind Height | O.D. | I.D. | Type |
| .870" | 1.100" | .750" | Beehive springs |

RETAINER - R7000T

| Material | Traitement | Notes |
|---------------------|------------|----------|
| 4340 Chromoly steel | Titanium | Angle 7° |

VALVE LOCKS - VL6MMSG

| Angle | Notes |
|-------|--------------------------|
| 7° | For single groove valves |



MILWAUKEE EIGHT®

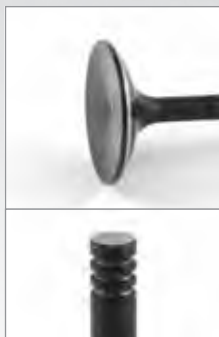
- High Flow Valves
- Valves Guides
- Valves Seals
- Valves Spring kits



AV&V Chrome Tulip Extreme Duty Valves for Milwaukee Eight

These superb valves feature the highest flow level on the market. They are one piece forged from a racing grade stainless steel alloy.

Each valve is heat treated with a special process and their stems centerless grinded to a micro finish for longer life.



| High Flow Valves | | AV33 | | | |
|--|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 33MM | 4.045" | .2346" | Black | .093" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 21° back angle tulip • 1MM oversize valve • 6MM stem | | | | | |



| High Flow Valves | | AV33-030 | | | |
|--|----------------|-----------|---------|------------|--------|
| Exhaust | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 33MM | 4.075" | .2346" | Black | .123" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 21° back angle tulip • 1MM oversize valve • 6MM stem | | | | | |



| High Flow Valves | | AV41 | | | |
|--|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 41MM | 4.025" | .2351" | Black | .093" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 18° back angle tulip • 1MM oversize valve • 6MM stem | | | | | |



| High Flow Valves | | AV41-030 | | | |
|--|----------------|-----------|---------|------------|--------|
| Intake | | | | | |
| Head Dia. | Overall Length | Stem Dia. | Coating | Tip Length | Groove |
| 41MM | 4.055" | .2351" | Black | .123" | Triple |
| Note | | | | | |
| <ul style="list-style-type: none"> • 18° back angle tulip • 1MM oversize valve • 6MM stem | | | | | |

AV&V Extreme Duty Manganese Bronze Valve Guides and Valve Seals



- AV&V's Manganese bronze valve guides are CNC machined. Our alloy allows you to fit both intake and exhaust valves at tighter clearances for better heat dissipation, quieter running and longer engine life
- Tapered & radiused nose for easier installation and better air flow.
- Unfinished I.D. ready to be easily finished with AV&V's Carbide reamers. (see reamers section)



| O.D. | I.D. | Oversize | Overall Length | Intake | Exhaust |
|-----------------------------------|-------|----------|----------------|---------------|---------------|
| High Lift & High Flow application | | | | | |
| .4750" | 5.9MM | Std | 1.655" | VG8000 | VG8100 |
| .4758" | 5.9MM | .001" | 1.655" | VG8001 | VG8101 |

- Ream with VGRC6MM
- Use with .475" Viton valve seals (V6MMOE)

AV&V Valve Seals



| Viton Seals | | V6MMOE |
|--|-------------------|--|
| Description | | |
| Stem Dia. | Seal section O.D. | <ul style="list-style-type: none"> • For Milwaukee Eight® |
| 6MM | .475" | |
| Note | | |
| <ul style="list-style-type: none"> • OE Replacement | | |

AV&V High Performance Valve Spring kits



VSK800TG

- Manufactured from ultra clean high silicon/vanadium Kobe alloy wire.



SPRINGS - S7000

| Max. Recommended Lift | Seat Pressure | | Open Pressure (lbs@mm) |
|-----------------------|-----------------|-------|------------------------|
| .580" | 75 lbs @ 1.570" | | 250 lbs @ .990" |
| Coil Bind Height | O.D. | I.D. | Type |
| .855" | 1.100" | .750" | Beehive springs |

RETAINER - R8000

| Material | Traitement | Notes |
|---------------------|-------------|----------|
| 4140 Chromoly steel | Black Oxyde | Angle 7° |

VALVE LOCKS - VL6MMTGC

| Angle | Notes |
|-------|--------------------------|
| 7° | For triple groove valves |

VALVE SEALS - V6MMOE

| Stem Dia. | Seal Section O.D. | Notes |
|-----------|-------------------|----------------|
| 6MM | .475" | OE Replacement |



TOOLS & PARTS LIST

- Valves Seat Inserts
- Valves Seal Drivers
- Reamers



AV&V Valve Seat Inserts

AV&V valve seats are made from a highly alloyed material and feature the following :

- Easy oversize identification by the part number
- Easy to machine with cutter and stone

- Resists severe pounding and dissipates heat better
- Work-hardens during running-in
- Radiused for easier installation



| Valves Seats | | AVI630 |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 1.630" | 1.180" | |
| Thickness | | |
| | | .385" |



| Valves Seats | | AVI732 |
|--------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • For Milwaukee Eight |
| 1.732" | 0.299" | |
| Thickness | | |
| | | .939" |



| Valves Seats | | AVI757 |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 1.757" | 1.410" | |
| Thickness | | |
| | | .430" |



| Valves Seats | | AVI757S |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • No machining required • For all cylinder head models • High chrome steel alloy • Ideal size for 900 and 1000 Iron Head Sportster® (Exhaust) |
| 1.757" | 1.371" | |
| Thickness | | |
| | | .315" |



| Valves Seats | | AVI820 |
|--------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • Universal repair seat |
| 1.820" | 1.375" | |
| Thickness | | |
| | | .450" |



| Valves Seats | | AV1880 |
|--------------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • Universal repair seat |
| 1.880" | 1.435" | |
| Thickness | | |
| .410" | | |



| Valves Seats | | AV1882 |
|--------------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 1.882" | 1.530" | |
| Thickness | | |
| .410" | | |



| Valves Seats | | AV1944 |
|--------------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • No machining required • High chrome steel alloy • Stock replacement for Shovel Head® (exhaust) |
| 1.944" | 1.575" | |
| Thickness | | |
| .400" | | |



| Valves Seats | | AV1945 |
|--------------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • Universal repair seat |
| 1.945" | 1.375" | |
| Thickness | | |
| .440" | | |



| Valves Seats | | AV2008 |
|--------------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 2.008" | 1.610" | |
| Thickness | | |
| .440" | | |

AV&V Valve Seat Inserts

AV&V valve seats are made from a highly alloyed material and feature the following :

- Easy oversize identification by the part number
- Easy to machine with cutter and stone

- Resists severe pounding and dissipates heat better
- Work-hardens during running-in
- Radiused for easier installation



| Valves Seats | | AV2040 |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 2.040" | 1.700" | |
| Thickness | | |
| | | .425" |



| Valves Seats | | AV2068 |
|--------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • No machining required • For all cylinder head models • High chrome steel alloy • Ideal size for 1000 Iron Head Sportster® (Intake) |
| 2.068" | 1.750" | |
| Thickness | | |
| | | .315" |



| Valves Seats | | AV2070 |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 2.070" | 1.610" | |
| Thickness | | |
| | | .460" |



| Valves Seats | | AV2132 |
|--------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • Best suited for AV&V 1990 and 1980-7TGB (intake valves) |
| 2.132" | 1.800" | |
| Thickness | | |
| | | .460" |



| Valves Seats | | AV2135 |
|--------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • No machining required • For all cylinder head models • High chrome steel alloy • Replacement valve seat for Shovel Head® (intake) |
| 2.135" | 1.750" | |
| Thickness | | |
| | | .400" |



| Valves Seats | | AV2163 |
|--------------------|--------|--|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy |
| 2.163" | 1.750" | |
| Thickness | | |
| .410" | | |



| Valves Seats | | AV2257 |
|--------------------|--------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • Universal repair seat |
| 2.257" | 1.550" | |
| Thickness | | |
| .500" | | |



| Valves Seats | | VS46 |
|--------------------|-------|---|
| Description | | |
| O.D. | I.D. | <ul style="list-style-type: none"> • Machining may be required • For all cylinder head models • High chrome steel alloy • For Milwaukee Eight |
| 1.381" | .875" | |
| Thickness | | |
| .437" | | |

AV&V Valve Seal Drivers

- Allows easier and more precise installation of both O.E. or viton valve seals.
- Valve seal is installed in centerline with the guide.
- Prevent costly comeback caused by a loose seal.



| Aluminium | | VSD6MM | |
|------------------------------|----------------------|--------|--------|
| Description | | | |
| I.D. | Driving Section I.D. | Handle | OAL |
| .238" | .400" | .990" | 3.500" |
| Application | | | |
| For 6mm valve seals (V-Rod®) | | | |



| Aluminium | | VSD7MM | |
|--|----------------------|--------|--------|
| Description | | | |
| I.D. | Driving Section I.D. | Handle | OAL |
| .277" | .480" | .990" | 3.500" |
| Application | | | |
| For all 7mm valve seals (Twin Cam®, Evo® and Sportster®) | | | |



| Aluminium | | VSD312 | |
|---|----------------------|--------|--------|
| Description | | | |
| I.D. | Driving Section I.D. | Handle | OAL |
| .315" | .515" | .990" | 3.500" |
| Application | | | |
| For all 5/16 valve seals (Twin Cam®, Evo® and Sportster®) | | | |



| Aluminium | | VSD343 | |
|---|----------------------|--------|--------|
| Description | | | |
| I.D. | Driving Section I.D. | Handle | OAL |
| .343" | .540" | .990" | 3.500" |
| Application | | | |
| For all 11/32 valve seals (Iron-Sportster®) | | | |



| Aluminium | | VSD378 | |
|--|----------------------|--------|--------|
| Description | | | |
| I.D. | Driving Section I.D. | Handle | OAL |
| .380" | .550" | .990" | 3.500" |
| Application | | | |
| For all 3/8 valve seals (Shovel Head®) | | | |



| Plastic | | VSDR | |
|---------------------------|--|------|--|
| Application | | | |
| For OE Style seal K312420 | | | |



| Plastic | | VSDW | |
|---|--|------|--|
| Application | | | |
| For OE Style seal K375625 (Shovel Head® 1340) | | | |

AV&V Solid Carbide Valve Guide Reamers

- Specially designed by AV&V for use with manganese bronze material, these unique self centering reamers feature a unique design with a long pilot for a perfect alignment with the valve guide while reaming.
- Do not use with cast iron guides
- You will ream a valve guide to exact dimension without any taper in 4 to 5 seconds only.
- Guides will last longer than with the honing method because there is no crosshatch left after reaming.
- One size allows you to fit both intake & exhaust if you use AV&V valves & guides.



| Reamer | VGRC6MM | |
|----------|---------------|---|
| Diameter | Material | Application |
| 6MM | Solid Carbide | 6MM stem valve (V-ROD® and Milwaukee Eight) |



| Reamer | VGRC2766 | |
|----------|---------------|-------------------------------|
| Diameter | Material | Application |
| .2766" | Solid Carbide | *7MM Twin Cam® and Sportster® |



| Reamer | VGRC3110 | |
|----------|---------------|--|
| Diameter | Material | Application |
| .3110" | Solid Carbide | **Evolution®, Twin Cam® and Sportster® |



| Reamer | VGRC3115 | |
|----------|---------------|--|
| Diameter | Material | Application |
| .3115" | Solid Carbide | **Evolution®, Twin Cam® and Sportster® |



| Reamer | VGRC3120 | |
|----------|---------------|--------------------------------------|
| Diameter | Material | Application |
| .3120" | Solid Carbide | Evolution®, Twin Cam® and Sportster® |



| Reamer | VGRC3777 | |
|----------|---------------|---------------------------------------|
| Diameter | Material | Application |
| .3777" | Solid Carbide | For OE 3/8 stem valves PAN® / SHOVEL® |



| Reamer | VGRC3782 | |
|----------|---------------|--|
| Diameter | Material | Application |
| .3782" | Solid Carbide | ***For AV&V 3/8 stem valves PAN® / SHOVEL® |

- * Harley-Davidson® 7MM valve guides I.D. are actually 7MM+.001" (.2766")
- ** Recommended size for all Evolution® / Twin Cam® AV&V 5/16 valves
- *** Recommended size for all Pan Head® / Shovel Head® AV&V valves

Part Numbers - Valves

| PART NUMBER | TYPE | HEAD DIA. | OVERALL LENGTH | STEM DIA. | COATING | TIP LENGTH | GROOVE | PAGE |
|-------------|---------|-----------|----------------|-----------|---------------|------------|--------|-------|
| AV33 | Exhaust | 33MM | 4.045" | .2346" | Black | .093" | Triple | 84 |
| AV33-030 | Exhaust | 33MM | 4.075" | .2346" | Black | .123" | Triple | 84 |
| AV34-6TGC | Exhaust | 34.4MM | 116.9MM | .2346" | Chrome | .070" | Triple | 78 |
| AV35-6TGC | Exhaust | 35.4MM | 116.9MM | .2346" | Chrome | .070" | Triple | 78 |
| AV40-6TGC | Intake | 40MM | 116.28MM | .2351" | Chrome | .070" | Triple | 78 |
| AV41 | Intake | 41MM | 4.025" | .2351" | Black | .093" | Triple | 84 |
| AV41-030 | Intake | 41MM | 4.055" | .2351" | Black | .123" | Triple | 84 |
| AV41-6TGC | Intake | 41MM | 116.28MM | .2351" | Chrome | .070" | Triple | 78 |
| AV1355 | Exhaust | 1.355" | 4.635" | .3106" | Black nitride | .200" | Single | 47 |
| AV1480 | Exhaust | 1.480" | 4.640" | .3106" | Black nitride | .200" | Single | 44 |
| AV1485 | Exhaust | 1.485" | 4.560" | .3106" | Black nitride | .200" | Single | 44-47 |
| AV1485-7TGB | Exhaust | 1.485" | 4.680" | .2755" | Black nitride | .085" | Triple | 46 |
| AV1575-7TGB | Exhaust | 1.575" | 4.560" | .2755" | Black nitride | .085" | Triple | 15 |
| AV1575-7TGC | Exhaust | 1.575" | 4.560" | .2755" | Chrome | .085" | Triple | 15 |
| AV1576-7TGB | Exhaust | 1.575" | 4.620" | .2755" | Black nitride | .085" | Triple | 48 |
| AV1580 | Exhaust | 1.580" | 4.575" | .3106" | chrome | .200" | Single | 44 |
| AV1585 | Exhaust | 1.585" | 4.505" | .3106" | Black nitride | .200" | Single | 6 |
| AV1590 | Intake | 1.590" | 4.550" | .3108" | Black nitride | .200" | Single | 48 |
| AV1610D | Exhaust | 1.610" | 4.510" | .3106" | Black nitride | .200" | Single | 6 |
| AV1610S | Exhaust | 1.610" | 4.565" | .3106" | Black nitride | .200" | Single | 6 |
| AV1610-7TGB | Exhaust | 1.610" | 4.545" | .2755" | Black nitride | .085" | Triple | 12 |
| AV1610-7TGC | Exhaust | 1.610" | 4.545" | .2755" | Chrome | .085" | Triple | 12 |
| AV1650 | Exhaust | 1.650" | 4.515" | .3106" | Black nitride | .200" | Single | 6 |
| AV1700A | Exhaust | 1.700" | 4.510" | .3106" | Black nitride | .2205" | Single | 7-28 |
| AV1700BC | Exhaust | 1.700" | 5.700" | .3106" | Chrome | --- | --- | 33 |
| AV1700C | Exhaust | 1.700" | 4.445" | .3106" | Chrome | .200" | Single | 7-29 |
| AV1700U | Exhaust | 1.700" | 4.655" | .3106" | Black nitride | .200" | Single | 7-29 |
| AV1720 | Intake | 1.720" | 4.560" | .3108" | Black nitride | .200" | Single | 45 |
| AV1720B | Intake | 1.720" | 4.480" | .3108" | Black nitride | .200" | Single | 44-48 |
| AV1725-7TGB | Intake | 1.725" | 4.580" | .2757" | Black nitride | .085" | Triple | 46 |
| AV1770 | Intake | 1.770" | 4.480" | .3108" | Black nitride | .200" | Single | 45 |
| AV1810-7TGB | Intake | 1.810" | 4.455" | .2757" | Black nitride | .085" | Triple | 15 |
| AV1810-7TGC | Intake | 1.810" | 4.455" | .2757" | Chrome | .085" | Triple | 15 |
| AV1811-7TGB | Intake | 1.810" | 4.480" | .2757" | Black nitride | .085" | Triple | 46 |
| AV1813 | Intake | 1.812" | 4.485" | .3108" | Chrome | .200" | Single | 45 |
| AV1850-7TGB | Intake | 1.850" | 4.455" | .2757" | Black nitride | .085" | Triple | 12 |
| AV1850-7TGC | Intake | 1.850" | 4.455" | .2757" | Chrome | .085" | Triple | 12 |
| AV1851 | Intake | 1.851" | 4.485" | .3108" | Chrome | .200" | Single | 45 |
| AV1851-7TGB | Intake | 1.851" | 4.520" | .2757" | Black nitride | .085" | Triple | 47 |
| AV1900 | Intake | 1.900" | 4.440" | .3108" | Black nitride | .200" | Single | 7-29 |
| AV1900-7TGB | Intake | 1.900" | 4.445" | .2757" | Black nitride | .085" | Triple | 13 |
| AV1900-7TGC | Intake | 1.900" | 4.445" | .2757" | Chrome | .085" | Triple | 13 |
| AV1900S | Intake | 1.900" | 4.415" | .3108" | Black nitride | .200" | Single | 8-30 |
| AV1940 | Intake | 1.940" | 4.440" | .3108" | Black nitride | .200" | Single | 8-30 |
| AV1980-7TGB | Intake | 1.980" | 4.455" | .2757" | Black nitride | .085" | Triple | 13 |
| AV1990 | Intake | 1.990" | 4.440" | .3108" | Black nitride | .200" | Single | 8-30 |

Part Numbers - Valves

| PART NUMBER | TYPE | HEAD DIA. | OVERALL LENGTH | STEM DIA. | COATING | TIP LENGTH | GROOVE | PAGE |
|-------------|---------|-----------|----------------|-----------|---------------|------------|--------|-------|
| AV2020 | Intake | 2.020" | 4.490" | .3108" | Chrome | .200" | Single | 9-31 |
| AV2020A | Intake | 2.020" | 4.440" | .3108" | Black nitride | .200" | Single | 8-30 |
| AV2020S | Intake | 2.020" | 4.510" | .3108" | Black nitride | .200" | Single | 9-31 |
| AV2060LC | Intake | 2.060" | 4.510" | .3108" | Chrome | .200" | Single | 9-31 |
| AV2100 | Intake | 2.100" | 4.475" | .3108" | Black nitride | .200" | Single | 9-31 |
| AV2100BC | Intake | 2.100" | 5.700" | .3108" | Chrome | --- | --- | 10-32 |
| AV2100S | Intake | 2.100" | 4.570" | .3108" | Chrome | .200" | Single | 10-32 |
| AV2100U | Intake | 2.100" | 4.590" | .3108" | Black nitride | .200" | Single | 10-32 |
| AV2150 | Intake | 2.150" | 4.480" | .3108" | Chrome | .200" | Single | 10-32 |
| AV2200BC | Intake | 2.200" | 5.700" | .3108" | Chrome | --- | --- | 11-33 |
| HD03 | Exhaust | 1.561" | 3.505" | .3389" | Black nitride | .155" | Single | 74 |
| HD04 | Intake | 1.812" | 3.615" | .3108" | Black nitride | .200" | Single | 74 |
| HD05 | Intake | 1.940" | 3.615" | .3108" | Black nitride | .200" | Single | 74 |
| HD07 | Exhaust | 1.750" | 3.830" | .3764" | Black nitride | .200" | Single | 60-68 |
| HD09 | Intake | 1.955" | 3.875" | .3770" | Black nitride | .200" | Single | 60 |
| HD10 | Exhaust | 1.615" | 4.525" | .3106" | Black nitride | .200" | Single | 34 |
| HD11 | Intake | 1.845" | 4.440" | .3108" | Black nitride | .200" | Single | 14-34 |
| HD12 | Exhaust | 1.570" | 4.525" | .3106" | Black nitride | .200" | Single | 14 |

Part Numbers - Valve Guides

| PART NUMBER | TYPE | O.D. | I.D. | Oversize | Overall Length | PAGE |
|-------------|------------------|--------|-------|----------|----------------|----------|
| UVG7MM | --- | .740" | .273" | --- | 2.700" | 17-50 |
| UVG308 | --- | .740" | .308" | --- | 2.700" | 17-36-50 |
| UVG375 | --- | .740" | .375" | --- | 2.700" | 62-69 |
| UVG6MM | --- | .620" | 5.9MM | --- | 2.375" | 80 |
| VG5100C | Intake | .5645" | .308" | Std | 1.750" | 75 |
| VG5101C | Intake | .5655" | .308" | .001" | 1.750" | 75 |
| VG5102C | Intake | .5665" | .308" | .002" | 1.750" | 75 |
| VG5103C | Intake | .5675" | .308" | .003" | 1.750" | 75 |
| VG5200C | Exhaust | .5645" | .338" | Std | 1.750" | 75 |
| VG5201C | Exhaust | .5655" | .338" | .001" | 1.750" | 75 |
| VG5202C | Exhaust | .5665" | .338" | .002" | 1.750" | 75 |
| VG5203C | Exhaust | .5675" | .338" | .003" | 1.750" | 75 |
| VG5300 | Exhaust - Intake | .5660" | .375" | Std | 1.900" | 61-68 |
| VG5301 | Exhaust - Intake | .5670" | .375" | .001" | 1.900" | 61-68 |
| VG5302 | Exhaust - Intake | .5680" | .375" | .002" | 1.900" | 61-68 |
| VG5303 | Exhaust - Intake | .5690" | .375" | .003" | 1.900" | 61-68 |
| VG5304 | Exhaust - Intake | .5700" | .375" | .004" | 1.900" | 61-68 |
| VG5305 | Exhaust - Intake | .5710" | .375" | .005" | 1.900" | 61-68 |
| VG5306 | Exhaust - Intake | .5720" | .375" | .006" | 1.900" | 61-68 |
| VG5308 | Exhaust - Intake | .5740" | .375" | .008" | 1.900" | 61-68 |
| VG5310 | Exhaust - Intake | .5760" | .375" | .010" | 1.900" | 61-68 |
| VG5315 | Exhaust - Intake | .5810" | .375" | .015" | 1.900" | 61-68 |
| VG5325 | Exhaust - Intake | .5910" | .375" | .025" | 1.900" | 61-68 |
| VG5400 | Exhaust - Intake | .6250" | .375" | Std | 1.900" | 61 |

Part Numbers - Valve Guides

| PART NUMBER | TYPE | O.D. | I.D. | Oversize | Overall Length | PAGE |
|-------------|------------------|--------|-------|----------|----------------|----------|
| VG5401 | Exhaust - Intake | .6260" | .375" | .001" | 1.900" | 61 |
| VG5402 | Exhaust - Intake | .6270" | .375" | .002" | 1.900" | 61 |
| VG5403 | Exhaust - Intake | .6280" | .375" | .003" | 1.900" | 61 |
| VG5404 | Exhaust - Intake | .6290" | .375" | .004" | 1.900" | 61 |
| VG5405 | Exhaust - Intake | .6300" | .375" | .005" | 1.900" | 61 |
| VG5406 | Exhaust - Intake | .6310" | .375" | .006" | 1.900" | 61 |
| VG5410 | Exhaust - Intake | .6350" | .375" | .010" | 1.900" | 61 |
| VG5415 | Exhaust - Intake | .6400" | .375" | .015" | 1.900" | 61 |
| VG5425 | Exhaust - Intake | .6500" | .375" | .025" | 1.900" | 61 |
| VG5500 | Exhaust - Intake | .5625" | .308" | Std | 2.250" | 16-35-49 |
| VG5501 | Exhaust - Intake | .5635" | .308" | .001" | 2.250" | 16-35-49 |
| VG5502 | Exhaust - Intake | .5645" | .308" | .002" | 2.250" | 16-35-49 |
| VG5503 | Exhaust - Intake | .5655" | .308" | .003" | 2.250" | 16-35-49 |
| VG5504 | Exhaust - Intake | .5665" | .308" | .004" | 2.250" | 16-35-49 |
| VG5525 | Exhaust - Intake | .5875" | .308" | .025" | 2.250" | 16-35-49 |
| VG5600 | Intake | .5625" | .308" | Std | 2.100" | 16-35-49 |
| VG5600S | Intake | .5625" | .308" | Std | 2.100" | 16-35-49 |
| VG5600-5S | Intake | .5630" | .308" | .0005" | 2.100" | 16-35-49 |
| VG5601 | Intake | .5635" | .308" | .001" | 2.100" | 16-35-49 |
| VG5601S | Intake | .5635" | .308" | .001" | 2.100" | 16-35-49 |
| VG5602 | Intake | .5645" | .308" | .002" | 2.100" | 16-35-49 |
| VG5603 | Intake | .5655" | .308" | .003" | 2.100" | 16-35-49 |
| VG5604 | Intake | .5665" | .308" | .004" | 2.100" | 16-35-49 |
| VG5605 | Intake | .5675" | .308" | .005" | 2.100" | 16-35-49 |
| VG5606 | Intake | .5685" | .308" | .006" | 2.100" | 16-35-49 |
| VG5610 | Intake | .5725" | .308" | .010" | 2.100" | 16-35-49 |
| VG5625 | Intake | .5875" | .308" | .025" | 2.100" | 16-35-49 |
| VG5700 | Exhaust | .5625" | .308" | Std | 2.100" | 16-35-49 |
| VG5700S | Exhaust | .5625" | .308" | Std | 2.100" | 16-35-49 |
| VG5700-5S | Exhaust | .5630" | .308" | .0005" | 2.100" | 16-35-49 |
| VG5701 | Exhaust | .5635" | .308" | .001" | 2.100" | 16-35-49 |
| VG5701S | Exhaust | .5635" | .308" | .001" | 2.100" | 16-35-49 |
| VG5702 | Exhaust | .5645" | .308" | .002" | 2.100" | 16-35-49 |
| VG5703 | Exhaust | .5655" | .308" | .003" | 2.100" | 16-35-49 |
| VG5704 | Exhaust | .5665" | .308" | .004" | 2.100" | 16-35-49 |
| VG5705 | Exhaust | .5675" | .308" | .005" | 2.100" | 16-35-49 |
| VG5706 | Exhaust | .5685" | .308" | .006" | 2.100" | 16-35-49 |
| VG5710 | Exhaust | .5725" | .308" | .010" | 2.100" | 16-35-49 |
| VG5725 | Exhaust | .5875" | .308" | .025" | 2.100" | 16-35-49 |
| VG6600 | Intake | .5625" | .273" | Std | 2.040" | 17-50 |
| VG6601 | Intake | .5635" | .273" | .001" | 2.040" | 17-50 |
| VG6602 | Intake | .5645" | .273" | .002" | 2.040" | 17-50 |
| VG6603 | Intake | .5655" | .273" | .003" | 2.040" | 17-50 |
| VG6604 | Intake | .5665" | .273" | .004" | 2.040" | 17-50 |
| VG6605 | Intake | .5675" | .273" | .005" | 2.040" | 17-50 |
| VG6606 | Intake | .5685" | .273" | .006" | 2.040" | 17-50 |

Part Numbers - Valve Guides

| PART NUMBER | TYPE | O.D. | I.D. | Overize | Overall Length | PAGE |
|-------------|----------------|--------|-------|---------|----------------|-------|
| VG6610 | Intake | .5725" | .273" | .010" | 2.040" | 17-50 |
| VG6625 | Intake | .5875" | .273" | .025" | 2.040" | 17-50 |
| VG6700 | Exhaust | .5625" | .273" | Std | 2.040" | 17-50 |
| VG6701 | Exhaust | .5635" | .273" | .001" | 2.040" | 17-50 |
| VG6702 | Exhaust | .5645" | .273" | .002" | 2.040" | 17-50 |
| VG6703 | Exhaust | .5655" | .273" | .003" | 2.040" | 17-50 |
| VG6704 | Exhaust | .5665" | .273" | .004" | 2.040" | 17-50 |
| VG6705 | Exhaust | .5675" | .273" | .005" | 2.040" | 17-50 |
| VG6706 | Exhaust | .5685" | .273" | .006" | 2.040" | 17-50 |
| VG6710 | Exhaust | .5725" | .273" | .010" | 2.040" | 17-50 |
| VG6725 | Exhaust | .5875" | .273" | .025" | 2.040" | 17-50 |
| VG7000 | Exhaust-Intake | .3955" | 5.9MM | Std | 1.950" | 80 |
| VG7001 | Exhaust-Intake | .3965" | 5.9MM | .001" | 1.950" | 80 |
| VG7002 | Exhaust-Intake | .3975" | 5.9MM | .002" | 1.950" | 80 |
| VG7003 | Exhaust-Intake | .3985" | 5.9MM | .003" | 1.950" | 80 |
| VG8000-8100 | Exhaust-Intake | .4750" | 5.9MM | Std | 1.655" | 85 |
| VG8001-8101 | Exhaust-Intake | .4758" | 5.9MM | .001" | 1.655" | 85 |

Part Numbers - Valve Seals

| PART NUMBER | TYPE | Stem Dia. | Seal Section O.D. | PAGE |
|-------------|------------|-----------|-------------------|-------------|
| K312420-4 | O.E. Style | 5/16" | .421" | 18-36-51 |
| K312530-4 | O.E. Style | 5/16" | .531" | 18-36-51-75 |
| K341530-4 | O.E. Style | 11/32" | .530" | 75 |
| K375562 | O.E. Style | 3/8" | .562" | 62-69 |
| K375625-4 | O.E. Style | 3/8" | .625" | 62 |
| V312421-4 | Viton | 5/16" | .421" | 18-36-51 |
| V312531-4 | Viton | 5/16" | .531" | 18-36-51 |
| V6MM-4 | Viton | 6MM | .335" | 80 |
| V6MMOE | O.E. Style | 6MM | .335" | 80 |
| V7MM-4 | Viton | 7MM | .562" | 18-51 |
| V7MMOE-4 | Viton | 7MM | .562" | 18-51 |

Part Numbers - Valve Spring Kits

| PART NUMBER | MAX. RECOM- MENDED LIFT | SEAT PRESSURE | OPEN PRESSURE | COIL BIND HEIGHT | O.D. | I.D. | Type | PAGE |
|-------------|----------------------------|------------------|------------------|---------------------|--------|--------|---------|----------|
| VSK470 | .470" | 155 lbs @ 1.375" | 300 lbs @ .980" | .850" | 1.640" | 1.010" | Double | 64-70 |
| VSK530 | .530" | 155 lbs @ 1.455" | 320 lbs @ .980" | .980" | 1.640" | .970" | Double | 64-70 |
| VSK590 | .625" | 175 lbs @ 1.455" | 350 lbs @ .980" | .850" | 1.625" | .965" | Double | 65-71 |
| VSK600S | .600" | 155 lbs @ 1.885" | 405 lbs @ 1.260" | 1.080" | 1.460" | .790" | Double | 20-38-53 |
| VSK600T | .600" | 155 lbs @ 1.885" | 405 lbs @ 1.260" | 1.080" | 1.460" | .790" | Double | 20-38-53 |
| VSK650S | .650" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | 1.080" | 1.460" | .790" | Double | 21-39-54 |
| VSK650T | .650" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | 1.080" | 1.460" | .790" | Double | 21-39-54 |
| VSK675T | .675" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | 1.080" | 1.460" | .790" | Double | 22-40-55 |
| VSK6000 | .600" | 165 lbs @ 1.860" | 384 lbs @ 1.250" | 1.200" | --- | --- | Beehive | 22-40-55 |
| VSK6000-7SG | .600" | 165 lbs @ 1.860" | 384 lbs @ 1.250" | 1.200" | --- | --- | Beehive | 24-57 |
| VSK6500 | .650" | 178 lbs @ 1.860" | 385 lbs @ 1.200" | 1.150" | --- | --- | Beehive | 23-40-56 |
| VSK6500-7SG | .650" | 178 lbs @ 1.860" | 385 lbs @ 1.200" | 1.150" | --- | --- | Beehive | 24-57 |
| VSK7000TG | .580" | 95 lbs @ 1.500" | 290 lbs @ .900" | .870" | 1.100" | .750" | Beehive | 81 |

AV&V™ Manufacturer of High Performance Valvetrain Components

Part Numbers - Valve Spring Kits

| PART NUMBER | MAX. RECOM-MENDED LIFT | SEAT PRESSURE | OPEN PRESSURE | COIL BIND HEIGHT | O.D. | I.D. | Type | PAGE |
|-------------|------------------------|-----------------|-----------------|------------------|--------|-------|---------|------|
| VSK7000SG | .580" | 95 lbs @ 1.500" | 290 lbs @ .900" | .870" | 1.100" | .750" | Beehive | 81 |
| VSK7000SGT | .580" | 95 lbs @ 1.500" | 290 lbs @ .900" | .870" | 1.100" | .750" | Beehive | 82 |
| VSK8000GT | .580" | 75 lbs @ 1.570" | 250 lbs @ .990" | .855" | 1.100" | .750" | Beehive | 86 |

Part Numbers - Springs

| PART NUMBER | MAX. RECOM-MENDED LIFT | SEAT PRESSURE | OPEN PRESSURE | COIL BIND HEIGHT | O.D. | I.D. | Type | PAGE |
|-------------|------------------------|------------------|------------------|------------------|--------|--------|---------|----------------|
| S470-4 | .470" | 155 lbs @ 1.375" | 300 lbs @ .980" | .850" | 1.640" | 1.010" | Double | 64-70 |
| S530-4 | .530" | 155 lbs @ 1.455" | 320 lbs @ .980" | .980" | 1.640" | .970" | Double | 64-70 |
| S590-4 | .625" | 175 lbs @ 1.455" | 350 lbs @ .980" | .850" | 1.625" | .965" | Double | 64-71 |
| S600-4 | .600" | 155 lbs @ 1.885" | 405 lbs @ 1.260" | 1.080" | 1.460" | .790" | Double | 20-38-53 |
| S650-4 | .650" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | 1.080" | 1.460" | .790" | Double | 21-39-54 |
| S675-4 | .675" | 185 lbs @ 1.860" | 460 lbs @ 1.160" | 1.080" | 1.460" | .790" | Double | 22-40-55 |
| S6000-4 | .600" | 165 lbs @ 1.860" | 384 lbs @ 1.250" | 1.200" | --- | --- | Beehive | 22-24-40-55-57 |
| S6500-4 | .650" | 178 lbs @ 1.860" | 385 lbs @ 1.200" | 1.150" | --- | --- | Beehive | 23-24-41-56-57 |
| S7000-8 | .580" | 83 lbs @ 1.500" | 280 lbs @ .900" | .870" | 1.100" | .750" | Beehive | 81-82 |
| S7000-8 | .580" | 75 lbs @ 1.570" | 250 lbs @ .990" | .855" | 1.100" | .750" | Beehive | 86 |

Part Numbers - Retainer

| PART NUMBER | ALLOY | TRAITEMENT | ANGLE | PAGE |
|-------------|---------------------|-------------|-------|----------------------------|
| R311CS-4 | 4140 Chromely Steel | Black Oxyde | 10° | 20-21-38-39-53-54 |
| R311CT-4 | Titanium | --- | 10° | 20-21-22-38-39-40-53-54-55 |
| R530-4 | 4140 Chromely Steel | Black Oxyde | 15° | 64-65-70-71 |
| R6000-4 | 4140 Chromely Steel | Black Oxyde | 9° | 22-40-55 |
| R60007SG-4 | 4140 Chromely Steel | Black Oxyde | 7° | 24-57 |
| R6500-4 | 4140 Chromely Steel | Black Oxyde | 9° | 23-24-40-56-57 |
| R7000S | 4140 Chromely Steel | Black Oxyde | 7° | 81 |
| R7000T | Titanium | --- | 7° | 82 |
| R8000 | 4140 Chromely Steel | Black Oxyde | 7° | |

Part Numbers - Lower Collar

| PART NUMBER | THICKNESS | O.D. | I.D. | ALLOY | PAGE |
|-------------|----------------|--------|-------|--------------------|----------------------------|
| LSC530-4 | .055" / .0180" | 1.495" | .755" | Heat Treated Steel | 64-65-70-71 |
| LSC600-4 | .040" | 1.418" | .562" | Heat Treated Steel | 20-21-22-38-39-40-53-54-55 |
| LSC6000-4 | .050" | 1.425" | .565" | Heat Treated Steel | 22-24-40-55-57 |
| LSC6500-4 | .040" | 1.485" | .565" | Heat Treated Steel | 23-24-41-56-57 |

Part Numbers - Valve Locks

| PART NUMBER | STEM | GROOVE | USAGE | TAPPER | PAGE |
|-------------|-------|------------------|----------------|-----------|----------------------------|
| VL6MMSG | 6MM | Single | V-Rod | 7° | 81-82 |
| VL6MMTG | 6MM | Triple | V-Rod | 7° | 8186 |
| VL6MMTGC | 6MM | Triple | Beehive spring | 7° | 86 |
| VL7MMSG-4 | 7MM | Single or Triple | Beehive Spring | 7° | 24-57 |
| VL7MMSGC-4 | 7MM | Single or Triple | Beehive Spring | 9° | 24-57 |
| VL311A-4 | 5/16" | --- | Double Spring | Jumbo 10° | 20-21-22-38-39-40-53-54-55 |
| VL311C-4 | 5/16" | --- | Beehive Spring | 9° | 22-23-40-41-55-56 |
| VL375-4 | 5/16" | --- | Double Spring | Jumbo 15° | 64-65-70-71 |

Part Numbers - Valve Spring Shims

| PART NUMBER | THICKNESS | O.D. | I.D. | ALLOY | PAGE |
|-------------|-----------|--------|--------|--------------------|----------|
| VSS5015-20 | .015" | 1.480" | .600" | Heat Treated Steel | 25-42-58 |
| VSS5030-20 | .030" | 1.480" | .600" | Heat Treated Steel | 25-42-58 |
| VSS6022-20 | .022" | 1.010" | 1.441" | Heat Treated Steel | 25-42-58 |

Part Numbers - Valve Seat Inserts

| PART NUMBER | THICKNESS | O.D. | I.D. | ALLOY | PAGE |
|-------------|-----------|--------|--------|-------------------|------|
| AV1630 | .385" | 1.630" | 1.180" | High Chrome Steel | 88 |
| AV1732 | .393" | 1.732" | 0.299" | High Chrome Steel | 88 |
| AV1757 | .430" | 1.757" | 1.410" | High Chrome Steel | 88 |
| AV1757S | .315" | 1.757" | 1.371" | High Chrome Steel | 88 |
| AV1820 | .450" | 1.820" | 1.375" | High Chrome Steel | 88 |
| AV1880 | .410" | 1.880" | 1.435" | High Chrome Steel | 89 |
| AV1882 | .410" | 1.882" | 1.530" | High Chrome Steel | 89 |
| AV1944 | .400" | 1.944" | 1.575" | High Chrome Steel | 89 |
| AV1945 | .440" | 1.945" | 1.375" | High Chrome Steel | 89 |
| AV2008 | .440" | 2.008" | 1.610" | High Chrome Steel | 89 |
| AV2040 | .425" | 2.040" | 1.700" | High Chrome Steel | 90 |
| AV2068 | .315" | 2.068" | 1.750" | High Chrome Steel | 90 |
| AV2070 | .460" | 2.070" | 1.610" | High Chrome Steel | 90 |
| AV2132 | .460" | 2.132" | 1.800" | High Chrome Steel | 90 |
| AV2135 | .400" | 2.135" | 1.750" | High Chrome Steel | 90 |
| AV2163 | .410" | 2.163" | 1.750" | High Chrome Steel | 91 |
| AV2257 | .500" | 2.257" | 1.550" | High Chrome Steel | 91 |
| VS46 | .437" | 1.381" | .875" | High Chrome Steel | 91 |

Part Numbers - Valve Seal Drivers

| PART NUMBER | I.D. | DRIVING SECTION I.D. | HANDLE | OAL | ALLOY | PAGE |
|-------------|-------|----------------------|--------|--------|----------|------|
| VSD6MM | .238" | .400" | .990" | 3.500" | Aluminum | 92 |
| VSD7MM | .277" | .480" | .990" | 3.500" | Aluminum | 92 |
| VSD312 | .315" | .515" | .990" | 3.500" | Aluminum | 92 |
| VSD343 | .343" | .540" | .990" | 3.500" | Aluminum | 92 |
| VSD378 | .380" | .550" | .990" | 3.500" | Aluminum | 93 |
| VSDR | --- | --- | --- | --- | Plastic | 93 |
| VSDW | --- | --- | --- | --- | Plastic | 93 |

Part Numbers - Solid Carbide Valve Guide Reamers

| PART NUMBER | DIAMETER | MATERIAL | PAGE | PART NUMBER | DIAMETER | MATERIAL | PAGE |
|-------------|----------|---------------|------|-------------|----------|---------------|------|
| VGRC6MM | 6MM | Solid Carbide | 94 | VGRC3120 | .3120" | Solid Carbide | 94 |
| VGRC2766 | .2766" | Solid Carbide | 94 | VGRC3777 | .3777" | Solid Carbide | 94 |
| VGRC3110 | .3110" | Solid Carbide | 94 | VGRC3782 | .3782" | Solid Carbide | 94 |
| VGRC3115 | .3115" | Solid Carbide | 94 | | | | |

Part Numbers - Compression Release Valves

| PART NUMBER | PROTRUSION | THREAD SECTION | THREAD | PAGE |
|-------------|------------|----------------|--------|-------------|
| JCR 10A | 1.05" | .350" | M10x1 | 19-37-52-63 |
| JCR 10B | 1.38" | .350" | M10x1 | 19-37-52-63 |
| JCR 10D | 1.25" | .500" | M10x1 | 19-37-52-63 |

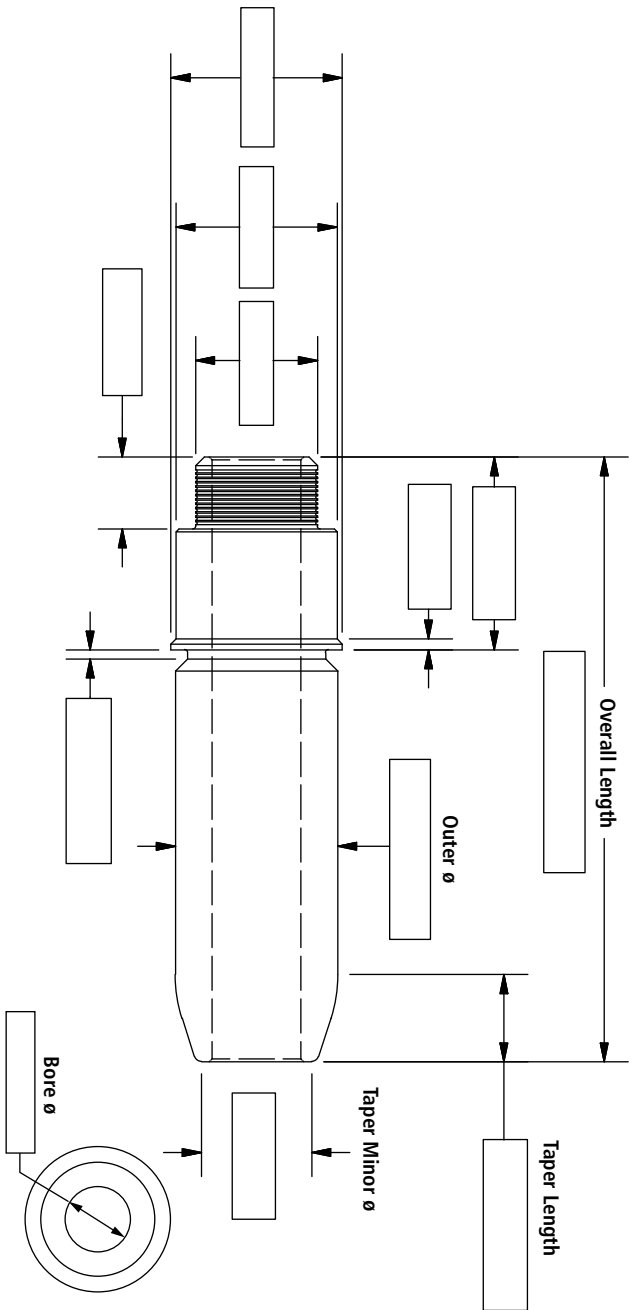


CUSTOM GUIDE ORDER FORM

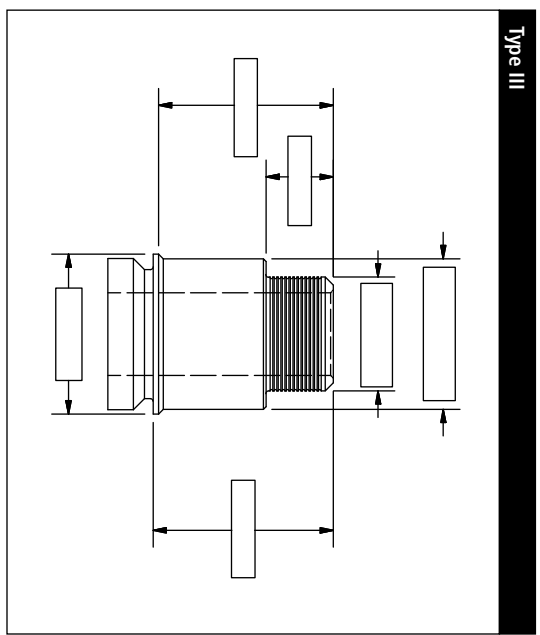
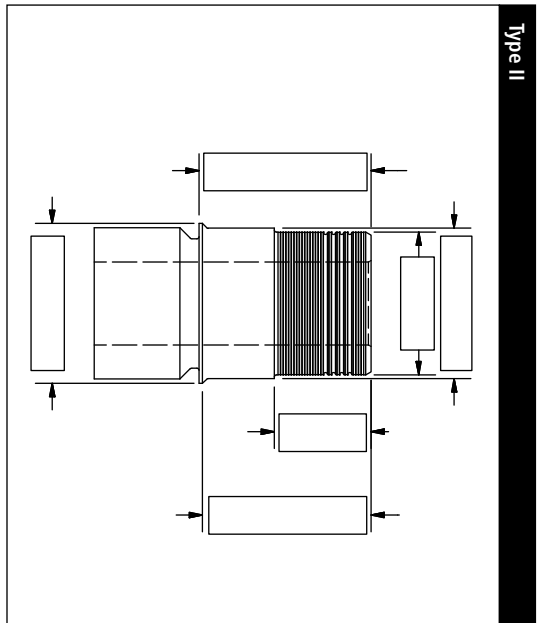
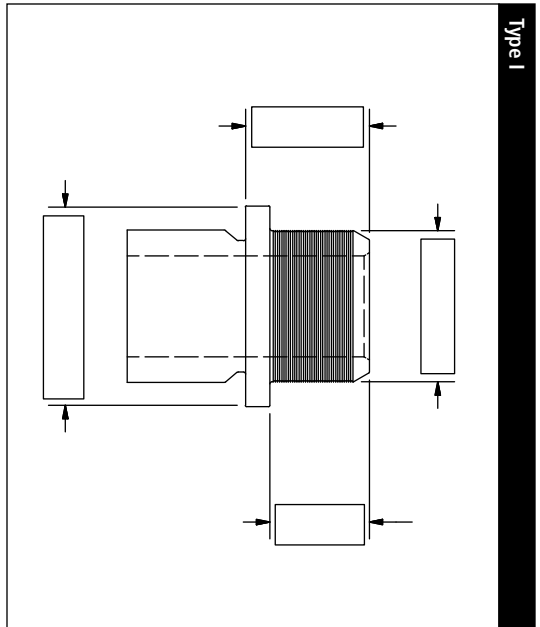
T 450.647.6650 F 450.647.1650
 info@av-v.com www.av-v.com

Make Model Disp. Years

Part Number



| Customer Information | |
|----------------------|---|
| Company | <input type="text"/> |
| Contact | <input type="text"/> |
| Phone | <input type="text"/> |
| Fax | <input type="text"/> |
| E-mail | <input type="text"/> |
| Date | <input type="text"/> |
| Material | <input type="checkbox"/> Cast Iron <input type="checkbox"/> Manganese |
| Note | <input type="text"/> |





It always pays to buy the best

CUSTOM VALVE ORDER FORM

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| | | | |
|------|-------|-------|-------|
| Make | Model | Disp. | Years |
|------|-------|-------|-------|

Margin

Head ϕ

Profile Radius

Back Cut @ Back Angle

Face Width @ Face Angle

Stem ϕ

Tulip Angle or Radius

Overall Length

Additional Specifications

Rocker Arm Yes No Yes No

Intake Valve Yes No Yes No

Exhaust Valve Yes No Yes No

Using Lash Cap Yes No

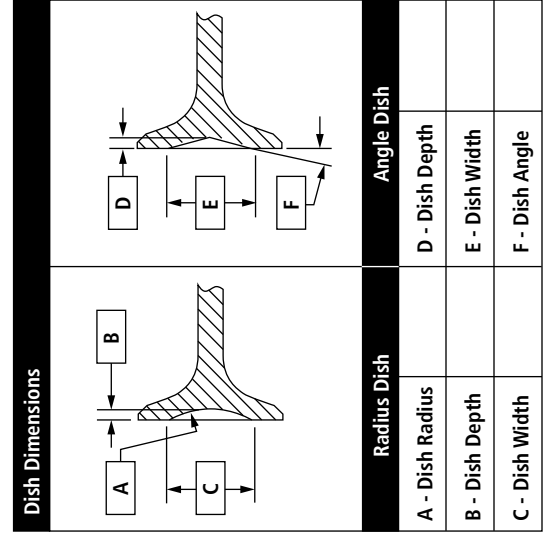
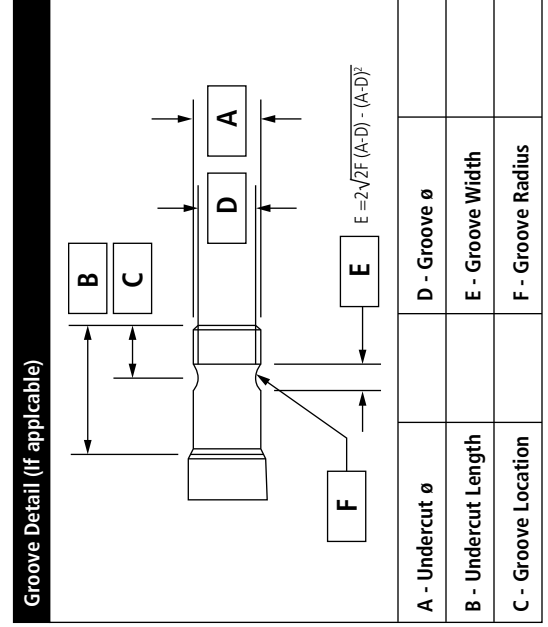
Rocker Arm (w/ Elephant Foot) Yes No

Cam Follower (Shim & Bucket) Yes No

| | |
|-----------------------------|--|
| Part Number | Blank Part Number |
| Customer Information | |
| Company | |
| Contact | |
| Phone | |
| Fax | |
| E-mail | |
| Date | |
| Material | <input type="checkbox"/> S.S. <input type="checkbox"/> Ti <input type="checkbox"/> Other : |
| Note | |

| Groove Dimension | Radius Groove | Square Groove | Triple Groove |
|---------------------|---------------|---------------|---------------|
| Groove Location | | | |
| Groove Minor ϕ | | | |
| Groove Width | | | |
| Groove Radius | N/A | N/A | N/A |
| Groove Spacing | N/A | N/A | N/A |

Groove Location is measured from the tip of the valve to the center of the radius or to the top of the square groove (for the triple groove it is measured from the tip of the valve to the center of the middle radius).



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- Sportster
- Twin Cam 88
- Twin Cam 88B
- Twin Cam 96
- Twin Cam 96B
- Tri Glide
- Milwaukee Eight (M8)

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