

DOMESTIC PERFORMANCE VALVES

SBI PERFORMANCE VALVES have been designed and constructed with special features that improve their operational performance over regular stock valves. These special features and their respective benefits are:

- ▶ **ONE-PIECE 21-4N STAINLESS STEEL CONSTRUCTION** — Provides strength and corrosion resistance during high-temperature operation.
- ▶ **HARDENED STEM TIP** — Resists high-impact forces in performance valvetrain setups.
- ▶ **OPTIONAL TAPERED STEM FOR EXHAUST VALVES** — Prohibits stem galling and reduces oil consumption by maintaining consistent stem clearance at operating temperatures.
- ▶ **CHROME-PLATED STEM** — Resists wear and galling.
- ▶ **SWIRL-POLISHED, FULLY MACHINED SURFACES** — Improves gas flow for optimum performance.
- ▶ **UNDERCUT STEM** — Reduces weight and improves gas flow.
- ▶ **CONSISTENT VALVE HEAD SHAPE** — Provides equal volume in the combustion chamber.
- ▶

All **SBI PERFORMANCE VALVES** feature single-groove designs. Longer stems are available for popular Small Block and Big Block applications. It is recommended all **SBI PERFORMANCE VALVES** are installed with a .002" MINIMUM stem-to-guide clearance.

CHEVROLET® SMALL BLOCK / BIG BLOCK

PERFORMANCE VALVES

SBI #	Engine	Type	Head Diameter	Stem Diameter	O/A Length	Installed Height	Tip Length
01769R	Small Block	E	1.500	0.3405 / 0.3415	4.905	Stock	0.289
02016R	Small Block	E	1.500	0.3415	4.925	Stock	0.250
01770R	Small Block	E	1.600	0.3405 / 0.3415	4.905	Stock	0.289
01771R	Small Block	E	1.600	0.3405 / 0.3415	5.005	.100 Long	0.289
01952R	Small Block	E	1.600	0.3415	4.925	Stock	0.250
01954R	Small Block	E	1.600	0.3415	5.025	.100 Long	0.250
02024R	Small Block	E	1.600	0.3415	5.125	.200 Long	0.250
01772R	Small Block	E	1.625	0.3405 / 0.3415	4.905	Stock	0.289
01762R	Small Block	I	1.940	0.3415	4.898	Stock	0.260
02026R	Small Block	I	1.940	0.3415	5.025	.100 Long	0.250
01763R	Small Block	I	2.020	0.3415	4.898	Stock	0.260
01764R	Small Block	I	2.020	0.3415	4.998	.100 Long	0.260
01765R	Small Block	I	2.055	0.3415	4.898	Stock	0.260
01766R	Small Block	I	2.055	0.3415	4.998	.100 Long	0.260
01767R	Small Block	I	2.080	0.3415	4.898	Stock	0.260
01768R	Small Block	I	2.080	0.3415	4.998	.100 Long	0.260
02029R	Small Block	I	2.080	0.3415	5.125	.200 Long	0.250
01935R-155	Small Block LS	E	1.550	0.3135	4.915	Stock	0.160
01935R-157	Small Block LS	E	1.570	0.3135	4.915	Stock	0.160
01935R-160	Small Block LS	E	1.600	0.3135	4.915	Stock	0.160
02000R-200	Small Block LS	I	2.000	0.3135	4.870	Stock	0.160
02000R-202	Small Block LS	I	2.020	0.3135	4.870	Stock	0.160
02000R-205	Small Block LS	I	2.050	0.3135	4.870	Stock	0.160
01776R	Big Block	E	1.725	0.3705 / 0.3715	5.347	Stock	0.220
02062R	Big Block	E	1.880	0.3405 / 0.3415	5.347	Stock	0.220
02061R	Big Block	E	1.880	0.3405 / 0.3415	5.447	.100 Long	0.220
01777R	Big Block	E	1.880	0.3705 / 0.3715	5.347	Stock	0.220
02043R	Big Block	E	1.880	0.3415	5.420	Race	0.250
01962R	Big Block	E	1.880	0.3415	5.520	Race .100 Long	0.250
01960R	Big Block	E	1.880	0.3715	5.420	Race	0.250
01961R	Big Block	E	1.880	0.3715	5.520	Race .100 Long	0.250
02059R	Big Block	E	1.940	0.3405 / 0.3415	5.447	.100 Long	0.220
02021R	Big Block	I	2.065	0.3715	5.220	Stock	0.220
01773R	Big Block	I	2.190	0.3720	5.230	Stock	0.220
01964R	Big Block	I	2.190	0.3715	5.320	.100 Long	0.220
02064R	Big Block	I	2.250	0.3415	5.330	.100 Long	0.220
01774R	Big Block	I	2.250	0.3720	5.230	Stock	0.220
02063R	Big Block	I	2.300	0.3415	5.330	.100 Long	0.220
01775R	Big Block	I	2.300	0.3720	5.230	Stock	0.220

DIESEL PERFORMANCE VALVES

S. B. International's diesel performance valves are a bimetallic design utilizing special processes which improve their overall durability and performance over stock valves.

Each valve is constructed using a premium-grade austenitic stainless steel head material on both the intake (EV8) and exhaust (EV16) with a mid-stem weld using a high-grade chromium steel stem material (HNV3).

Each valve is fully machined and nitrided all over, then polished. Each valve tip is hardened to a minimum of 50 HRc for added durability.

Application	Years	Part No.	Type	Head Dia.	Stem Dia.	O/A Lgth.	Inst'd. Hgt.	Tip Lgth.	Seat Angle
Dodge/Cummins 6BT 5.9L/12 Valve	1989-1998	01665R	I	1.772	0.3138	5.084	STOCK	0.180*	30.0°
Dodge/Cummins 6BT 5.9L/12 Valve	1989-1998	01664R	E	1.654	0.3138	5.076	STOCK	0.180*	45.0°
Dodge/Cummins ISB 5.9L/24 Valve	1998-2009	02014R	I	1.299	0.2756	4.907	STOCK	0.240*	30.0°
Dodge/Cummins ISB 5.9L/24 Valve	1998-2009	13006R	E	1.299	0.2756	4.893	STOCK	0.240*	45.0°
Ford Powerstroke 6.0L/32 Valve	2003-2010	02179R	I	1.339	0.2737	5.058	STOCK	0.317*	30.0°
Ford Powerstroke 6.0L/32 Valve	2003-2010	02180R	E	1.102	0.2737	5.058	STOCK	0.317*	37.5°
GM Duramax 6.6L/32 Valve	2001-2016	02175R	I	1.299	0.2739	4.975	STOCK	0.481*	45.0°
GM Duramax 6.6L/32 Valve	2001-2016	02176R	E	1.220	0.2730	4.963	STOCK	0.481*	45.0°

*Tip length dimensions are measured from the tip to top of keeper groove.

FEATURES

- ▶ Premium-grade austenitic stainless steel head material on both intake and exhaust.
- ▶ High-grade chromium steel stem material on both intake and exhaust.
- ▶ Fully machined.
- ▶ Special nitride process—Strengthens entire valve and adds additional friction wear resistance.
- ▶ Polished stem—Better friction wear resistance and improved seal between valve stem and stem seal.
- ▶ Polished top of head—Offers less carbon buildup.
- ▶ Mid-stem weld—Superior durability over wafer tip for these applications.
- ▶ Nitride on seat face offers added wear resistance, hardness, and durability.
- ▶ Nitrided all over with a smooth black satin finish.

DOMESTIC PERFORMANCE BRONZE VALVE GUIDES

S. B. International features bronze valve guides made from manganese bronze.

Our valve guides are precision-machined to the highest quality available. Every valve guide is designed to withstand the high operating temperatures of today's engines. They are ideal for intake and exhaust applications and are compatible with SBI stainless and special high strength-alloy valves.

SBI #	O.D.	I.D.	Length	Valve Stem Diameter	Type*
340-1019BR	0.4390	0.3110	2.500	0.439	1-PB
340-1030BR	0.4397	0.3120	1.875	0.439	1-PB
340-1038BR	0.5020	0.2744	2.234	0.512	40-PB
340-1039BR	0.5020	0.2744	2.600	0.512	40-PB
340-1040BR	0.5020	0.3091	2.234	0.500	40-PB
340-1041BR	0.5020	0.3091	2.600	0.500	40-PB
340-1042BR	0.5020	0.3413	2.234	0.530	40-PB
340-1043BR	0.5020	0.3413	2.600	0.530	40-PB
340-1044BR	0.5020	0.3430	2.500	0.500	40-PB
340-1045BR	0.5020	0.3430	3.065	0.500	40-PB
340-1046BR	0.5010	0.3150	2.120	0.500	1-PB
340-1033BR	0.5020	0.3421	2.750	0.500	1-PB
340-1032BR	0.5020	0.3421	3.063	0.500	1-PB
340-1029BR	0.5020	0.3430	2.500	0.500	1-PB
340-1021BR	0.5020	0.3431	2.375	0.500	1-PB
340-1022BR	0.5020	0.3431	2.625	0.500	1-PB
340-1026BR	0.5020	0.3431	2.875	0.500	1-PB
340-1034BR	0.5020	0.3432	2.125	0.500	1-PB
340-1020BR	0.5020	0.3440	2.250	0.500	1-PB
340-1035BR	0.5020	0.3705	3.065	0.500	1-PB
340-1024BR	0.5020	0.3721	2.375	0.500	1-PB
340-1025BR	0.5020	0.3724	2.750	0.500	1-PB
340-1028BR	0.5020	0.3734	2.375	0.500	1-PB
340-1027BR	0.5020	0.3734	2.625	0.500	1-PB
340-1031BR	0.5020	0.3741	2.500	0.500	1-PB
340-1037BR	0.6203	0.3735	2.555	0.530	40-PB
340-1036BR	0.6250	0.3735	2.415	0.530	40-PB

*Refer to valve guide numerical listing in standard SBI catalog for type illustration.

DOMESTIC PERFORMANCE VALVE STEM SEALS

ALL-TEFLON®

SBI #	Material	Valve stem dia.	Guide O.D.	Seal O.D.
322-1000	TEFLON	5/16	0.415	0.508
322-1001	TEFLON	5/16	0.500	0.600
322-1002	TEFLON	5/16	0.531	0.631
322-1003	TEFLON	11/32	0.500	0.600
322-1004	TEFLON	11/32	0.531	0.631
322-1006	TEFLON	3/8	0.500	0.600
322-1007	TEFLON	3/8	0.531	0.631



METAL CLAD with VITON®

SBI #	Material	Valve stem dia.	Guide O.D.	Seal O.D.
322-1008	VITON	5/16	0.500	0.625
322-1009	VITON	5/16	0.531	0.680
322-1010	VITON	11/32	0.500	0.625
322-1011	VITON	11/32	0.531	0.680
322-1012	VITON	3/8	0.500	0.625
322-1013	VITON	3/8	0.531	0.680
322-1024	VITON	3/8	0.562	0.660



ALL-METAL CLAD with VITON® (For use with triple springs without machining)

SBI #	Material	Valve stem dia.	Guide O.D.	Seal O.D.
322-1014	VITON	5/16	0.500	0.550
322-1015	VITON	5/16	0.531	0.580
322-1016	VITON	11/32	0.500	0.550
322-1017	VITON	11/32	0.531	0.580



ALL-METAL CLAD with TEFLON®

SBI #	Material	Valve stem dia.	Guide O.D.	Seal O.D.
322-1019	TEFLON	5/16	0.531	0.630
322-1020	TEFLON	11/32	0.500	0.630
322-1021	TEFLON	11/32	0.531	0.630
322-1022	TEFLON	3/8	0.531	0.630
322-1023	TEFLON	3/8	0.562	0.660



DOMESTIC PERFORMANCE VALVE SPRINGS

SBI Performance springs are manufactured from the highest quality-grade wire. The high quality wire allows our springs to endure high loads produced by racing cams. Springs are heat-treated and stress relieved to increase spring longevity and provide the stability needed for high loads and high RPM.

SBI #	Spring Type	O.D.	I.D.	Pressure Loads (lbs.)	Solid Hgt.	Make	Application	Use w/Retainer
360-1010	Single w/ Damper	1.260	0.876	118 @ 1.700 318 @ 1.210	1.160	GM	Hyd. Chevy S.B.	361-1015 - 1.700 Inst. Hgt.
360-1012	Single w/ Damper	1.260	0.876	110 @ 1.800 325 @ 1.200	1.160	GM	Mech. Chevy S.B.	361-1015 - 1.700 Inst. Hgt.; 361-1013 - 0.075 Taller Hgt.
360-1013	Single w/ Damper	1.260	0.876	130 @ 1.800 350 @ 1.200	1.160	GM	Mech. Chevy S.B.	361-1013
360-1015	Dual	1.437	0.796	165 @ 1.800 315 @ 1.300	1.100	GM/FORD	Mech. Roller Chevy S.B. V8 & Ford S.B.	361-1014 (NOTE: Use w/ 10 degree locks)
360-1016	Dual	1.460	0.840	120 @ 1.875 395 @ 1.175	1.080	GM	Hyd., / Mech. S.B.	361-1011

DIESEL PERFORMANCE VALVE SPRINGS

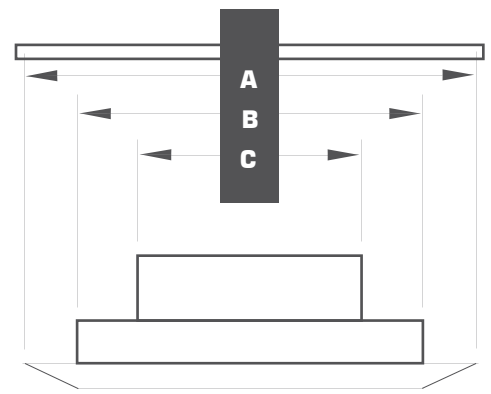
Benefit of Nitriding Process:

- Surface Hardness increases, hence fatigue life of spring increases by 32%
- Creep resistance of spring increases by 45%

SBI #	Spring Type	O.D.	I.D.	Pressure Loads (lbs.)	Solid Hgt.	Make	Application
360-1020	Single	1.058	0.743	110@1.360 159@1.060	0.854	Cummins	5.9/6.7L 24
360-1021	Single	0.994	0.655	84@1.880 230@1.440	1.390	Ford	6.0/6.4L 32
360-1022	Single	1.185	0.850	115@1.614 250@1.064	1.034	GM	6.6L 32

DOMESTIC PERFORMANCE VALVES SPRING RETAINERS

SBI's valve spring retainers are manufactured from 4140 bar stock and heat-treated to HRC 38-42; in addition, they are coated with a black oxide finish for maximum corrosion protection.



SBI #	A	B	C	Valve stem diameter	Note
361-1010	1.375	1.075	0.792	11/32	0.040 taller installed height than 361-1015
361-1013	1.125	0.855	0.640	11/32	0.075 taller installed height than 361-1015
361-1014	1.400	1.060	0.690	11/32	0.100 taller installed height than 361-1015 (Note: Use w/ 10 degree locks)

DOMESTIC PERFORMANCE LIFTERS

SBI lifters are backed with more than 20 years of experience, reliability, quality, and innovation. Our performance lifters are manufactured to a tighter tolerance than OEM lifters, which reduces lift loss due to leak-down and allows full utilization of the cam event, equalling more power. Each lifter has a precise oil-metering system to eliminate excess oil to rocker arm at high RPMs.

All SBI performance lifters have a hardened steel snap ring design as added strength over standard wire clips.

SBI #	Type	Flat Snap Ring	Application	Stock Version
VL63	Mechanical	Yes	GM - SB & BB	
VL66RH	Hydraulic	Yes	GM - SB	VL37
VL67RH	Hydraulic	Yes	Ford - SB & BB	VL35
VL117RH	Hydraulic	Yes	GM - SB & BB	VL73

LS ROCKER ARMS

SBI's LS Rocker Arms are manufactured using a high grade cast steel . Our design eliminates the factory bearing and powdered metal trunion and utilizes a captive bearing design and also a high-grade steel trunion. This design allows for a full range of motion and less chance of bearing failure and eliminates the need for costly trunion conversion kits.

These rocker arms are stock 1.7 ratio, which can be used in stock and performance applications.



180-1336

Offset Intake For LS3, LS6 & L92



180-1337

Intake/Exhaust For LS1, LS2 & LS6
Exhaust Only LS3, LS6 & L92