

VALVE SPRINGS



BETTER
by **DESIGN**

Manley proudly offers an outstanding array of valve springs for drag racers, oval / endurance competitors and niche markets like the Chevy LS, Ford Modular and Chrysler / Dodge Hemi.



CYL HEAD COMPONENTS

Manufactured from "super clean" Hi-Tensile Chrome Silicon steel

Shot-peened to MIL Specs for maximum fatigue life

Many part numbers available fully polished

Proprietary multi-step heat treating minimizes load loss

Tightly controlled open end flatness reduces valve stem side loading



Many offerings are a damperless design which eliminates unnecessary damper weight and reduces retainer wear

Optimized "Select Size Fitting" between outer and inner springs to maximize harmonic dampening and reduce heat generated during operation

Computer-aided modeling of designs minimizes valve bounce and valve gear separation

Tip thickness designed to eliminate overload breakage

LIGHTWEIGHT DUAL DRAG RACE VALVE SPRINGS

- ✓ Smaller diameter, lightweight dual design allows engine to rev higher with improved valve train control
- ✓ Accepts smaller, lighter retainers which also promotes higher revs
- ✓ Ultra clean, high tensile strength material
- ✓ Multi-step surface enhancement significantly improves fatigue strength
- ✓ Ideal loads for multiple applications with minimal load loss



Part No.	Description	Maximum Valve Lift	O.D.	I.D.	Installed / Open Pressure	Rate (lbs. / in.)	Coil Bind
221455-16	Competition Eliminator	1.000	1.500	.719	438 @ 2.175 1235 @ 1.175	797	1.130
221457-16	Super Stock Competition Eliminator	.950	1.500	.719	395 @ 2.150 1155 @ 1.200	800	1.130
221456-16	Super Stock Competition Eliminator	.900	1.500	.719	316 @ 2.100 1036 @ 1.200	800	1.130
221460-16	Alcohol Classes	.950	1.522	.719	400 @ 2.250 1300 @ 1.300	948	1.255

Retainer Part No.	Description
23675-16	7° Titanium Retainer + .100" Installed (for 7° LocCap App)
23677-16	7° Titanium Retainer + .100" Installed (for 7° LocCap App) Ti-17 Alloy
23676-16	10° Titanium Retainer +.100" Installed
23679-16	10° Titanium Retainer +.100" Installed Ti-17 Alloy
23683-16	10° Titanium Retainer +.170" Installed Ti-17 Alloy

Spring Cup Part No.	Description	Cup I.D.	Cup O.D.
42347-16	ID Spring Locator	.570	1.535
42318-16	ID Spring Locator	.570	1.610
42335-16	ID Spring Locator	.635	1.535
42120-16	ID Spring Locator	.635	1.610

VALVE SPRINGS

NEXTEK® SERIES DRAG RACE VALVE SPRINGS

- ✓ Unequalled performance
- ✓ All springs are triple except 221424 & 221425 double w/o damper
- ✓ Manley eclipses the 1200 lb. barrier
- ✓ Better valve train stability and component life
- ✓ Ideally suited for Fuel and Alcohol classes, Pro Stock, Competition, Super Stock, Super Gas and Mountain Motor applications



All Manley NexTek® valve springs listed below are available in polished versions to reduce friction, improve fatigue life and minimize load loss. For example 221449P-16.

Part No.	Polished Part No.	Description	Maximum Valve Lift	O.D.	I.D.	Installed / Open Pressure	Rate (lbs. / in.)	Coil Bind	Component Code
221424-16	221424P-16	Super Gas, Super Comp., Big Block Bracket	.880	1.640	.860	250 @ 2.000 800 @ 1.150	647	1.070	A
221425-16	221425P-16	Super Gas, Super Comp., Big Block Bracket	.900	1.640	.860	280 @ 2.100 794 @ 1.250	604	1.150	A
221447-16*	221447P-16*	Super Stock, Pro Mod., Competition Eliminator	.800	1.677	.635	350 @ 2.000 895 @ 1.270	746	1.160	B
221448-16*	221448P-16*	Super Stock, Pro Mod., Competition Eliminator	.900	1.677	.635	350 @ 2.100 1010 @ 1.200	733	1.142	B
221449-16*	221449P-16*	Pro Stock, Fuel & Alcohol	1.000	1.677	.632	350 @ 2.200 1070 @ 1.200	720	1.142	B
221450-16*	221450P-16*	Pro Stock, Fuel & Alcohol	1.000	1.677	.632	370 @ 2.200 1140 @ 1.200	770	1.142	B
221451-16*	221451P-16*	Pro Stock, Fuel & Alcohol	1.050	1.677	.635	410 @ 2.300 1210 @ 1.250	761	1.180	B
221461-16*	221461P-16*	Pro Stock, Fuel & Alcohol	1.050	1.677	.635	480 @ 2.300 1290 @ 1.250	770	1.180	B

* Advertised pressures are achieved after springs have been pressed solid three times.

Component Code	10° Titanium Retainers	Type	Installed Height	Spring Cup	Type	Cup O.D.	Cup I.D.	Seat Cutter
A	23649-16	Standard	Std.	42121-16	OD	1.740	.635	41851
	23640-16	Standard	+ .100	42128-16*	OD	1.740	.635	41851
	23540-16	Lightweight	+ .100	42379-16*	OD	1.740	.570	41859
					* 42128 & 42379 have a wall height of .250 instead of .150			
					42337-16	ID	1.570	.570
B	23663-16	Standard	Std.	42437-16*	ID	1.570	.567	41857
	23653-16	Standard	+ .100	42371-16	OD	1.740	.635	41851
	23553-16	Lightweight	+ .100	42372-16	OD	1.740	.570	41859
	23553 I-16	Life & Impinging	+ .100	42364-16	ID	1.660	.570	41858
	23673-16	7° Valve Locks Required	+ .100					
	23753-16	Lite & Ti-17 Material	+ .100					
23708L-16	Super 7° Valve Locks Required							

VALVE SPRING & TITANIUM RETAINER KITS

- ✓ Large savings over purchasing items separately

Kit No.	Quantity	Application	NexTek® Spring No.	10° Titanium Retainer No.
261424	1 kit	Super Gas, Super Comp., Big Block Bracket Engines	221424-16	23640-16
261424L	1 kit	Same, except lightweight titanium retainers	221424-16	23540-16
261425	1 kit	Super Gas, Super Comp., Big Block Bracket Engines	221425-16	23640-16
261425L	1 kit	Same, except lightweight titanium retainers	221425-16	23540-16

VALVE SPRINGS

NEXTEK® SERIES

OVAL TRACK & ENDURANCE VALVE SPRINGS



- ✓ No degradation of spring pressure in the later stages of a race
- ✓ Spring I.D.'s are chamfered for retainer clearance
- ✓ State-of-the-art winding, thermal treatment and finishing practices that cannot be duplicated
- ✓ Specially processed premium-grade chrome silicon that is virtually free of impurities or surface irregularities
- ✓ NexTek® Series valve springs have been tested by leading engine builders and are confirmed to be the best performing valve springs on the market today

All Manley NexTek® oval track valve springs listed below, except 221432, either come polished or are available in polished versions to reduce friction, improve fatigue life and minimize load loss. For example 221443P-16.

Part No.	Polished Part No.	Description	Maximum Valve Lift	O.D.	I.D.	Installed / Open Pressure	Rate (lbs. / in.)	Coil Bind	Component Code
221432-16	N/A	Late Model Stock w/ Flat Tappet	.630	1.530	.750	162 @ 1.900 425 @ 1.300	500	1.200	A
221440P-16	Standard Feature	Circle Track Roller	.700	1.570	.760	255 @ 2.000 629 @ 1.300	534	1.190	B
221441P-16	Standard Feature	Circle Track Roller	.730	1.570	.750	280 @ 2.030 700 @ 1.300	575	1.215	C
221442-16	Standard Feature	Circle Track Roller	.750	1.560	.812	260 @ 2.000 660 @ 1.250	533	1.200	D
221443-16	221443P-16	Circle Track Roller	.730	1.580	.832	235 @ 1.950 610 @ 1.250	535	1.170	E
221444-16	221444P-16	Circle Track Roller	.750	1.610	.842	235 @ 2.050 645 @ 1.300	546	1.220	F
221445P-16	Standard Feature	Circle Track Roller	.800	1.620	.852	280 @ 2.050 680 @ 1.250	500	1.200	G

ANCILLARY COMPONENTS

Component Code	Super 7° Retainers	Super 7° Lightweight	Super 7° +.050	TensileMax Super 7°	Spring Cup	Type	Cup O.D.	Cup I.D.	Cup Thickness	Seat Cutter
A	23707 -16			23707TM-16	42330-16	ID	1.535	.635	.062	41835
	23672 ICD-16				42326-16	ID	1.535	.570	.062	41856
	23707 SCD-16				42426-16*	ID	1.535	.567	.062	41856
	23644-16	(10° Titanium Std.) (10° Titanium +.100)			42466-16*	ID	1.535	.567	.045	41856
	23650-16									
*42426 & 42466 are Pro Series										
B	23705 ICD-16	23705 L-16	23706 L-16	23705TM-16	42331-16	ID	1.530	.570	.062	41856
	23644-16	23705 LI-16	23706 LI-16							
	23650-16	(10° Titanium Std.) (10° Titanium +.100)								
C	23672-16	23672L-16		23672TM-16	42330-16	ID	1.535	.635	.062	41835
	23672 I-16				42326-16	ID	1.535	.570	.062	41856
	23672 ICD-16				42426-16*	ID	1.535	.567	.062	41856
	23647-16	(10° Titanium +.100)			42466-16*	ID	1.535	.567	.045	41856
*42426 & 42466 are Pro Series										
D	23682-16	23682 L-16		23682TM-16	42343-16	ID	1.550	.570	.062	41856
	23682 I-16	23682 LI-16			42443-16*	ID	1.550	.567	.062	41856
	23682 ICD-16									
	23643-16	(10° Titanium +.100)								
*42443 is Pro Series										
E	23681-16	23681 L-16	23691-16		42370-16	OD	1.687	.570	.062	41858
	23681 I-16	23681 LI-16			42369-16	ID	1.570	.635	.062	41856
	23681 ICD-16		23691 ICD-16		42373-16	ID	1.570	.570	.062	41856
					42573-16*	ID	1.570	.567	.062	41856
					42438-16*	ID	1.570	.567	.045	41856
	23648-16	(10° Titanium +.100)								
* 42438 & 42573 are Pro Series										
F	23681-16	23681 L-16	23691-16		42365-16	OD	1.740	.570	.062	41859
	23681 I-16	23681 LI-16			42367-16	ID	1.610	.570	.062	41857
	23681 ICD-16		23691 ICD-16		42368-16	ID	1.610	.635	.062	41855
	23648-16	(10° Titanium +.100)								
G	23685-16	23685 L-16		23685TM-16	42342-16	ID	1.610	.570	.062	41857
	23685 I-16	23685 LI-16		23685DCTM-16						

SUFFIX CODE: I : Impinged ICD : Impinged, Convoluted and Drilled SCD : Steel, Convoluted and Drilled L : Lightweight LI : Lightweight and Impinged

Note: New part numbers are **ITALICIZED**.

VALVE SPRINGS

NEXTEK® SERIES

HIGH PERFORMANCE STREET/STRIP VALVE SPRINGS
FOR SB CHEVY LS, SB CHRYSLER HEMI & FORD MODULAR APPLICATIONS.



- ✓ State-of-the-art winding, thermal treatment and finishing practices that cannot be duplicated
- ✓ Specially processed premium-grade chrome silicon that is virtually free of impurities or surface irregularities
- ✓ NexTek® Series valve springs have been tested by leading engine builders and are confirmed to be the best performing valve springs on the market today

Part No.	Description	Maximum Valve Lift	O.D.	I.D.	Installed / Open Pressure	Rate (lbs. / in.)	Coil Bind	Component Code
221423-16	SBC LS-1, LT-1 / LT-4 / L-98 Stock Diameter Street/Strip	.575	1.255	.830	115 @ 1.750 350 @ 1.175	409	1.100	A
			Single Without Damper Ovate Wire					
221428-16	SBC LS-Series, LT-1 / LT-4 / L-98 High Performance Street/Strip	.600	1.076 Top 1.311 Bottom	.650 Top .885 Bottom	150 @ 1.800 355 @ 1.200	341	1.085	B
			Single Conical Ovate Wire					
221438-16	SBC LS-Series, LT-1 / LT-4 / L-98 High Performance Street/Strip	.650	1.076 Top 1.311 Bottom	.650 Top .885 Bottom	150 @ 1.800 375 @ 1.150	353	1.100	B
			Super Finished Single Conical Ovate Wire					
221436-16	SBC LS-Series, High Performance Street/Strip	.660	1.295	.676	155 @ 1.810 405 @ 1.150	379	1.100	C
			Fully Polished Double Without Damper					
221435-16	SBC LS-Series, High Performance Street/Strip	.700	1.340	.726	170 @ 1.810 446 @ 1.110	394	1.050	D
			Fully Polished Double Without Damper					
221430-16*	Chrysler Hemi 5.7L(Thru 2008), 6.1L Stock Diameter High Performance Street/Strip	.600	1.056 Top 1.206 Bottom	.630 Top .780 Bottom	130 @ 1.811 370 @ 1.211	400	1.170	E
			Super Finished Single Conical Ovate Wire					
221431-16*	Chrysler Hemi 5.7L, 6.1L High Performance Street/Strip	.650	1.076 Top 1.311 Bottom	.650 Top .885 Bottom	146 @ 1.811 371 @ 1.161	353	1.100	F
			Super Finished Single Conical Ovate Wire					
221427-16	Ford 4.6L, 5.4L SOHC 2 Valves per Cylinder Stock Diameter Street/Strip	.580	1.020 Top 1.125 Bottom	.642 Top .748 Bottom	95 @ 1.680 240 @ 1.130	264	1.080	G
			Single Conical Ovate Wire					
221437-16	Ford 4.6L, 5.4L SOHC 2 Valves per Cylinder Stock Diameter Ideal for Boosted Applications	.580	1.030 Top 1.175 Bottom	.642 Top .787 Bottom	125 @ 1.680 265 @ 1.130	255	1.080	G
			Single Conical Ovate Wire					
221429-24	Ford 4.6L, 5.4L 3 Valve 3 Valves per Cylinder Stock Diameter Street/Strip	.500	.880 Top 1.025 Bottom	.565 Top .710 Bottom	95 @ 1.670 230 @ 1.170	270	1.100	H
			Fully Polished Single Conical					
221434-32	Ford 4.6L, 5.4L DOHC 4 Valves per Cylinder Stock Diameter High Performance Street/Strip	.525	1.016 Top 1.126 Bottom	.640 Top .750 Bottom	95 @ 1.420 260 @ .920	330	.880	I
			Single Conical Ovate Wire					

* These Chrysler Hemi springs come with shims which are ONLY needed for 6.1L applications on the intake side in order to achieve the correct installed height. P/N 221431 also includes a set of piloting rings that install over the factory "Top Hat" integral valve seal to properly locate the ID of the spring on early 5.7L (thru 2008) and 6.1L applications.

Please refer to opposite page 69 for the appropriate fitting retainers and spring cups. Match the component codes listed to find the correct parts.

Note: New part numbers are *ITALICIZED*.

VALVE SPRINGS**ANCILLARY COMPONENTS**

Component Code	Retainer Part No.	Description	Spring Cup Part No.	Type	Cup O.D.	Cup I.D.	Cup Thickness	Seat Cutter
A	23631-16	7° Steel for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23664-16	7° Steel +.050 for LT-1 and standard type valve lock						
	23632-16	7° Titanium for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23633-16	7° Titanium +.050 for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23634-16	7° Titanium +.050 for LT-1 and standard type valve lock	42341-16	ID	1.170	.505	.035	None
B	23620-16	7° Steel for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23622-16	7° Titanium for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23625-16	7° Titanium +.050 for Manley 13098 or factory LS-1 valve lock and factory spring seat						
	23626-16	7° Titanium +.050 for LT-1 and standard type valve lock	42338-16	ID	1.290	.505	.035	None
			42336-16	ID	1.290	.505	.062	None
C	23621-16	7° Steel +.050 for Manley 13098 or factory LS-1 valve lock						
	23623-16	7° Titanium +.050 for Manley 13098 or factory LS-1 valve lock						
	23624-16	7° Titanium +.050 for LT-1 and standard type valve lock	42334-16	ID	1.270	.505	.035	None
D	23610-16	7° Steel +.050 for Manley 13098 or factory LS-1 valve lock						
	23611-16	7° Titanium +.050 for Manley 13098 or factory LS-1 valve lock						
			42348-16	ID	1.320	.505	.035	None
E	23629-16	7° Titanium for Manley 13093 or factory valve lock						
F	23612-16	7° Steel for Manley 13093 or factory valve lock						
	23613-16	7° Titanium for Manley 13093 or factory valve lock						
		Must use ID locator P/N 42324-16 for the 2009 and up Hemi 5.7L.	42324-16	ID	1.300	.812	.205	None
G	23627-16	7° Titanium for Manley 13089 or factory valve lock						
	23667-16	7° Titanium + .060 for Manley 13089 or factory valve lock						
H	23628-24	7° Titanium for Manley 13088 or factory valve lock						
I	23627-32	7° Titanium for Manley 13089 or factory valve lock						
	23667-32	7° Titanium + .060 for Manley 13089 or factory valve lock						

JDM Engineering
relies on Manley components



Note: New part numbers are **ITALICIZED**.