

VALVE SPRING SPECIFICATIONS
- Listed According to O.D.

Valve Springs

O.D./I.D. Outer	1.050/.635 (top)	1.105/.820	1.105/.820	1.090/.780	1.160/.840	1.160/.870	
O.D./I.D. Middle	1.210/.815 (bottom)	-	-	-	-	-	
O.D./I.D. Inner	-	.800/.627	.811/.608	-	-	.860/.660	
Installed Height	1.800	1.350	1.350	1.550	1.550	1.590	
Rate	348	234	314	289	245	353	
Part #	68435	68181	68182	68190	68183	68189	
Type	Single	Dual	Dual	Single	Single	Dual	
Color Code	None	Orange	Orange	None	Purple	Yellow	
Damper	No	No	No	No	No	No	
Free Length	2.238	1.635	1.635	1.820	1.920	2.015	
Wire Diameter	.171/ .199 (ovate)	.140/.085	.140/.104	.160	.161	.149/.104	
Material	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	2.050
2.000	60 lbs	-	-	-	-	-	2.000
1.950	78 lbs	-	-	-	-	-	1.950
1.900	93 lbs	-	-	-	-	-	1.900
1.850	110 lbs	-	-	-	-	-	1.850
1.800	125 lbs	-	-	-	-	-	1.800
1.750	143 lbs	-	-	-	-	-	1.750
1.700	159 lbs	-	-	-	-	-	1.700
1.650	175 lbs	-	-	42 lbs	-	65 lbs	1.650
1.600	193 lbs	-	-	55 lbs	-	81 lbs	1.600
1.550	210 lbs	-	28 lbs	74 lbs	73 lbs	96 lbs	1.550
1.500	228 lbs	-	42 lbs	88 lbs	84 lbs	112 lbs	1.500
1.450	246 lbs	36 lbs	56 lbs	101 lbs	95 lbs	127 lbs	1.450
1.400	265 lbs	48 lbs	70 lbs	111 lbs	107 lbs	144 lbs	1.400
1.350	284 lbs	56 lbs	84 lbs	122 lbs	119 lbs	159 lbs	1.350
1.300	302 lbs	70 lbs	98 lbs	135 lbs	130 lbs	178 lbs	1.300
1.250	322 lbs	83 lbs	113 lbs	149 lbs	141 lbs	198 lbs	1.250
1.200	342 lbs	95 lbs	127 lbs	163 lbs	152 lbs	218 lbs	1.200
1.150	-	106 lbs	141 lbs	177 lbs	166 lbs	238 lbs	1.150
1.100	-	118 lbs	155 lbs	195 lbs	177 lbs	261 lbs	1.100
1.050	-	129 lbs	169 lbs	211 lbs	191 lbs	-	1.050
1.000	-	139 lbs	185 lbs	231 lbs	205 lbs	-	1.000
0.950	-	148 lbs	202 lbs	-	-	-	0.950
Coil Bind	1.095	0.710	0.800	0.920	0.895	1.030	
7° Titanium Retainer	-	87092 (6.5mm)	87092 (6.5mm)	87095 (6.5mm)	87097 (6mm)	87094 (5.5mm)	
7° Titanium Retainer	-	-	-	-	-	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	
Titanium Ret 10°	-	-	-	-	-	-	
Titanium Super 7°	-	-	-	-	-	-	
7° Steel Retainer 5/16	-	-	-	-	-	-	
7° Steel Retainer 11/32	-	-	-	-	-	-	
7° Steel Retainer 3/8	-	-	-	-	-	-	
Steel Retainer 10°	-	-	-	-	-	-	
Seat Cup	-	-	-	-	-	-	
Seat Disc	-	Stock .108 step inner	Stock .108 step inner	-	-	-	

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O.D./I.D. Outer	1.160/.870	1.175/.875	1.180/.880	1.220/.915	1.055/.650 (top)	1.250/.940	
O.D./I.D. Middle	-	-	-	-	1.250/.845 (bottom)	-	
O.D./I.D. Inner	.865/.660	.820/.628	.870/.670	.915/.704	-	.910/.680	
Installed Height	1.460	1.350	1.350	1.350	1.750	1.650	
Rate	250	295	309	330	349	285	
Part #	68184	68185	68188	68411	68155	68106X208	
Type	Dual	Dual	Dual	Dual	Single Conical	Dual	
Color Code	Red	None	Red/White	Blue	None	None	
Damper	No	No	No	No	No	No	
Free Length	1.815	1.580	1.580	1.600	2.069	2.225	
Wire Diameter	.148/.098	.146/.096	.154/.099	.154/.110	.167/.202 (ovate)	.155/.112	
Material	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	2.050
2.000	-	-	-	-	-	-	2.000
1.950	-	-	-	-	-	-	1.950
1.900	-	-	-	-	-	-	1.900
1.850	-	-	-	-	-	-	1.850
1.800	-	-	-	-	-	-	1.800
1.750	-	-	-	-	113 lbs	102 lbs	1.750
1.700	-	-	-	-	128 lbs	118 lbs	1.700
1.650	44 lbs	-	-	-	142 lbs	130 lbs	1.650
1.600	55 lbs	-	-	-	159 lbs	145 lbs	1.600
1.550	68 lbs	-	-	-	174 lbs	158 lbs	1.550
1.500	78 lbs	-	-	-	193 lbs	172 lbs	1.500
1.450	91 lbs	28 lbs	-	-	210 lbs	186 lbs	1.450
1.400	101 lbs	38 lbs	68 lbs	60 lbs	228 lbs	199 lbs	1.400
1.350	113 lbs	49 lbs	82 lbs	76 lbs	247 lbs	213 lbs	1.350
1.300	122 lbs	60 lbs	97 lbs	92 lbs	266 lbs	226 lbs	1.300
1.250	139 lbs	74 lbs	111 lbs	107 lbs	285 lbs	240 lbs	1.250
1.200	153 lbs	89 lbs	125 lbs	123 lbs	302 lbs	253 lbs	1.200
1.150	167 lbs	103 lbs	140 lbs	139 lbs	-	269 lbs	1.150
1.100	180 lbs	115 lbs	155 lbs	154 lbs	-	286 lbs	1.100
1.050	193 lbs	136 lbs	170 lbs	167 lbs	-	302 lbs	1.050
1.000	205 lbs	152 lbs	183 lbs	180 lbs	-	317 lbs	1.000
0.950	220 lbs	167 lbs	202 lbs	200 lbs	-	-	0.950
Coil Bind	0.790	0.805	0.765	0.740	1.100	0.910	
7° Titanium Retainer	87093D (+.060")	87093 (5.5mm)	87093 (5.5mm)	86046	87018T	86046	
7° Titanium Retainer	-	-	-	-	87029T	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	
Titanium Ret 10°	-	-	-	-	-	-	
Titanium Super 7°	-	-	-	-	-	-	
7° Steel Retainer 5/16	-	-	-	87046	87028	87046	
7° Steel Retainer 11/32	-	-	-	87011 (5°)	87029	86032	
7° Steel Retainer 3/8	-	-	-	-	-	-	
Steel Retainer 10°	-	-	-	-	-	-	
Seat Cup	-	-	-	-	-	-	
Seat Disc	Stock .080 step inner	Stock .080 step inner	Stock .080 step inner	-	-	68939 or 68941	

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O.D./I.D. Outer	1.250/.890	1.255/.865	1.255/.890	1.260/.880	1.265/.895	1.270/.890	1.275/.925	
O.D./I.D. Middle	-	-	-	-	-	-	-	
O.D./I.D. Inner	-	-	-	-	-	-	.913/.685	
Installed Height	1.700	1.750	1.700	1.800	1.750	1.750	1.600	
Rate	330	522	378	390	407	477	388	
Part #	68301X3	68311X1	68301X1	68304	68301	68311	68109X1	
Type	Single	Single	Single	Single	Single	Single	Dual	
Color Code	None	None	None	None	None	None	Orange/Yellow	
Damper	Yes	Yes	Yes	Yes	Yes	Yes	No	
Free Length	2.050	1.995	1.980	2.100	2.020	2.030	1.830	
Wire Diameter	.182	0.198	0.185	0.190	0.192	.193	.175/.118	
Material	Silicone	Super Clean Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	-	2.050
2.000	-	-	-	-	-	-	-	2.000
1.950	-	-	-	-	-	-	-	1.950
1.900	-	-	-	-	-	-	-	1.900
1.850	-	73 lbs	-	88 lbs	-	-	-	1.850
1.800	76 lbs	97 lbs	70 lbs	106 lbs	-	75 lbs	-	1.800
1.750	90 lbs	120 lbs	88 lbs	124 lbs	96 lbs	99 lbs	-	1.750
1.700	104 lbs	146 lbs	105 lbs	141 lbs	114 lbs	121 lbs	58 lbs	1.700
1.650	117 lbs	169 lbs	123 lbs	159 lbs	130 lbs	141 lbs	77 lbs	1.650
1.600	131 lbs	194 lbs	140 lbs	176 lbs	149 lbs	163 lbs	95 lbs	1.600
1.550	146 lbs	220 lbs	157 lbs	195 lbs	169 lbs	186 lbs	113 lbs	1.550
1.500	160 lbs	246 lbs	174 lbs	210 lbs	188 lbs	209 lbs	130 lbs	1.500
1.450	174 lbs	274 lbs	192 lbs	231 lbs	207 lbs	235 lbs	148 lbs	1.450
1.400	196 lbs	302 lbs	210 lbs	250 lbs	229 lbs	255 lbs	166 lbs	1.400
1.350	210 lbs	331 lbs	230 lbs	271 lbs	252 lbs	279 lbs	183 lbs	1.350
1.300	230 lbs	359 lbs	252 lbs	295 lbs	274 lbs	302 lbs	202 lbs	1.300
1.250	247 lbs	389 lbs	274 lbs	317 lbs	299 lbs	326 lbs	222 lbs	1.250
1.200	269 lbs	424 lbs	297 lbs	345 lbs	-	353 lbs	240 lbs	1.200
1.150	-	459 lbs	-	-	-	380 lbs	261 lbs	1.150
1.100	-	-	-	-	-	407 lbs	281 lbs	1.100
1.050	-	-	-	-	-	440 lbs	302 lbs	1.050
1.000	-	-	-	-	-	-	323 lbs	1.000
0.950	-	-	-	-	-	-	-	0.950
Coil Bind	1.125	1.070	1.130	1.090	1.170	0.990	0.955	
7° Titanium Retainer	86037T	86037T	86037T	86037T	86037T	86037T	86046	
7° Titanium Retainer	86031	86031	86031	86031	86031	86031	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	-	
Titanium Ret 10°	-	-	-	-	-	-	-	
Titanium Super 7°	-	-	-	-	-	-	-	
7° Steel Retainer 5/16	86037	86037	86037	86037	86037	86037	87046	
7° Steel Retainer 11/32	86032	86032	86032	86032	86032	86032	-	
7° Steel Retainer 3/8	-	-	-	-	-	-	-	
Steel Retainer 10°	-	-	-	-	-	-	-	
Seat Cup	-	-	-	-	-	-	-	
Seat Disc	-	-	-	-	-	-	68939 or 68941	

Valve Springs

VALVE SPRING SPECIFICATIONS

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O.D./I.D. Outer	1.290/.950	1.050/.650 (top)	1.300/.900	1.360/1.000	1.354/.940	1.385/1.060	1.400/1.045	
O.D./I.D. Middle	-	1.290/.885 (bottom)	-	-	-	-	-	
O.D./I.D. Inner	.945/.670	-	.885/.650	-	-	1.050/.800	1.040/.770	
Installed Height	1.800	1.750	1.800	1.550	1.850	1.650	1.700	
Rate	371	308	404	228	415	258	382	
Part #	68157	68878	68156	68147	68143	68324	68405	
Type	Dual	Single Conical	Dual	Single	Single	Dual	Dual	
Color Code	None	Blue	None	None	None	Orange/Green	Orange/White	
Damper	No	No	No	No	Yes	No	No	
Free Length	2.280	2.290	2.150	1.925	2.075	2.150	1.975	
Wire Diameter	.172/.134	.168/.200	.167/.119	0.177	.208	.160/.127	.176/.133	
Material	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	-	2.050
2.000	-	-	-	-	-	-	-	2.000
1.950	-	-	-	-	-	-	-	1.950
1.900	-	-	-	-	72 lbs	-	-	1.900
1.850	128 lbs	-	110 lbs	-	92 lbs	-	-	1.850
1.800	144 lbs	132 lbs	128 lbs	-	113 lbs	-	76 lbs	1.800
1.750	161 lbs	146 lbs	146 lbs	-	134 lbs	86 lbs	92 lbs	1.750
1.700	178 lbs	159 lbs	164 lbs	-	155 lbs	96 lbs	110 lbs	1.700
1.650	196 lbs	172 lbs	183 lbs	57 lbs	175 lbs	108 lbs	129 lbs	1.650
1.600	212 lbs	187 lbs	203 lbs	67 lbs	196 lbs	118 lbs	146 lbs	1.600
1.550	229 lbs	199 lbs	219 lbs	78 lbs	217 lbs	129 lbs	165 lbs	1.550
1.500	247 lbs	216 lbs	238 lbs	89 lbs	238 lbs	146 lbs	184 lbs	1.500
1.450	265 lbs	231 lbs	259 lbs	100 lbs	258 lbs	161 lbs	204 lbs	1.450
1.400	284 lbs	249 lbs	280 lbs	110 lbs	279 lbs	172 lbs	221 lbs	1.400
1.350	303 lbs	266 lbs	299 lbs	120 lbs	300 lbs	186 lbs	240 lbs	1.350
1.300	324 lbs	283 lbs	323 lbs	130 lbs	-	197 lbs	258 lbs	1.300
1.250	345 lbs	300 lbs	343 lbs	141 lbs	-	211 lbs	278 lbs	1.250
1.200	367 lbs	317 lbs	365 lbs	153 lbs	-	227 lbs	297 lbs	1.200
1.150	389 lbs	336 lbs	387 lbs	165 lbs	-	240 lbs	316 lbs	1.150
1.100	415 lbs	-	411 lbs	177 lbs	-	254 lbs	338 lbs	1.100
1.050	-	-	-	-	-	269 lbs	360 lbs	1.050
1.000	-	-	-	-	-	283 lbs	380 lbs	1.000
0.950	-	-	-	-	-	-	-	0.950
Coil Bind	1.040 w/.050 step	1.080	0.985	1.000	1.280	0.910	0.980	
7° Titanium Retainer	86030 / 86046	87028T (LS1)	86037T	-	-	86033	87040	
7° Titanium Retainer	86031	87029	-	-	-	87041	-	
7° Titanium Ret 3/8	-	-	-	-	-	87042	87042	
Titanium Ret 10°	-	-	-	-	-	86067M	-	
Titanium Super 7°	-	-	-	-	-	-	-	
7° Steel Retainer 5/16	-	87018T	86037	87044	-	87044	87044	
7° Steel Retainer 11/32	87045	87029	-	-	-	87050	87050	
7° Steel Retainer 3/8	-	-	-	-	-	87049	87049	
Steel Retainer 10°	-	-	-	-	-	87060M	-	
Seat Cup	-	-	-	-	-	-	68930	
Seat Disc	-	-	-	-	-	68943	68938 or 68940	

VALVE SPRING SPECIFICATIONS
- Listed According to O.D.

Valve Springs

	1.405/1.055	1.430/1.040	1.440/1.050	1.440/1.070	1.440/1.085	1.450/1.065	1.455/1.050	
O.D./I.D. Outer	1.405/1.055	1.430/1.040	1.440/1.050	1.440/1.070	1.440/1.085	1.450/1.065	1.455/1.050	
O.D./I.D. Middle	-	-	-	-	-	-	-	
O.D./I.D. Inner	1.045/.780	-	.975/.700	1.085/.811	1.075/.795	.975/.705	-	
Installed Height	1.600	1.650	1.800	1.800	1.850	1.900	1.850	
Rate	338	367	450	324	340	463	360	
Part #	68404	68305X1	68390X3	68100X200	68100X209	68382	68315	
Type	Dual	Single	Dual	Dual	Dual	Dual	Single	
Color Code	Blue/Grey	Grey	Yellow/White	None	None	Purple/Orange	Lavender/Yellow	
Damper	No	Yes	Yes	No	No	Yes	Yes	
Free Length	1.920	1.900	2.100	2.370	2.360	2.220	2.160	
Wire Diameter	.175/.134	0.200	.190/.133	.179/.133	.178/.140	.198/.133	0.205	
Material	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	-	2.050
2.000	-	-	-	-	-	91 lbs	-	2.000
1.950	-	-	-	-	135 lbs	110 lbs	68 lbs	1.950
1.900	-	-	76 lbs	83 lbs	150 lbs	137 lbs	87 lbs	1.900
1.850	-	-	96 lbs	94 lbs	166 lbs	159 lbs	105 lbs	1.850
1.800	-	-	116 lbs	107 lbs	182 lbs	179 lbs	120 lbs	1.800
1.750	-	51 lbs	136 lbs	121 lbs	197 lbs	201 lbs	136 lbs	1.750
1.700	82 lbs	68 lbs	156 lbs	134 lbs	212 lbs	221 lbs	153 lbs	1.700
1.650	96 lbs	84 lbs	175 lbs	147 lbs	229 lbs	246 lbs	169 lbs	1.650
1.600	113 lbs	101 lbs	194 lbs	161 lbs	245 lbs	269 lbs	185 lbs	1.600
1.550	128 lbs	116 lbs	215 lbs	175 lbs	262 lbs	292 lbs	203 lbs	1.550
1.500	143 lbs	138 lbs	238 lbs	190 lbs	279 lbs	315 lbs	221 lbs	1.500
1.450	157 lbs	156 lbs	261 lbs	205 lbs	296 lbs	341 lbs	241 lbs	1.450
1.400	177 lbs	174 lbs	284 lbs	221 lbs	314 lbs	364 lbs	260 lbs	1.400
1.350	192 lbs	191 lbs	307 lbs	238 lbs	331 lbs	391 lbs	282 lbs	1.350
1.300	208 lbs	210 lbs	331 lbs	255 lbs	349 lbs	415 lbs	303 lbs	1.300
1.250	225 lbs	229 lbs	355 lbs	274 lbs	368 lbs	443 lbs	322 lbs	1.250
1.200	244 lbs	250 lbs	389 lbs	291 lbs	388 lbs	477 lbs	-	1.200
1.150	263 lbs	268 lbs	-	309 lbs	-	-	-	1.150
1.100	282 lbs	-	-	330 lbs	-	-	-	1.100
1.050	302 lbs	-	-	-	-	-	-	1.050
1.000	319 lbs	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	-	0.950
Coil Bind	0.950	1.050	1.110	1.030	1.110	1.115	1.150	
7° Titanium Retainer	87040	87040	86033	86033	86033	86033	87040	
7° Titanium Retainer	-	-	87041	87041	87041	87041	-	
7° Titanium Ret 3/8	87042	87042	87042	87042	87042	87042	87042	
Titanium Ret 10°	-	86067C	86067M	87065	87065	86067M	86067C	
Titanium Super 7°	86771	-	86767M	86767M	86767M	86767M	-	
7° Steel Retainer 5/16	87044	87044	87047	87047	87047	87047	87044	
7° Steel Retainer 11/32	87050	87050	87048	87062	87062	87048	87050	
7° Steel Retainer 3/8	87049	87049	87049	87063	87063	87049	87049	
Steel Retainer 10°	87060M	-	87060M	87060	87060	87060M	-	
Seat Cup	68930	68931 or 68951	68931	68931	68931	68957	68931	
Seat Disc	68938 or 68940	-	68939 or 68941	68943	68938 or 68940	68939 or 68941	-	

Valve Springs

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- Listed According to O.D.

NEXT GENERATION
VALVE SPRING

NEXT GENERATION
VALVE SPRING

	1.460/1.070	1.460/1.060	1.475/1.075	1.490/1.120	1.500/1.050	1.500/1.050	
O.D./I.D. Outer	1.460/1.070	1.460/1.060	1.475/1.075	1.490/1.120	1.500/1.050	1.500/1.050	
O.D./I.D. Middle	-	-	-	-	-	-	
O.D./I.D. Inner	.975/.710	.975/.710	1.070/.750	-	.726	.726	
Installed Height	1.800	1.800	1.800	1.850	2.175	2.100	
Rate	483	456	538	250	780	780	
Part #	68390X2	68380X2	68501	68140	68855	68856	
Type	Dual	Dual	Dual	Single	Dual	Dual	
Color Code	2 Yellow	Blue/Yellow	Lavender/Yellow	Green	-	-	
Damper	Yes	Yes	No	Yes	Yes	Yes	
Free Length	2.100	2.220	2.225	2.300	-	-	
Wire Diameter	.198/.133	.200/.130	.200/.155	0.190	-	-	
Material	Silicone	Silicone	H11 Vasco	Silicone	Super Clean Silicone	Super Clean Silicone	
2.175	-	-	-	-	420 lbs	-	2.175
2.150	-	-	-	-	-	-	2.150
2.100	-	-	-	-	-	300 lbs	2.100
2.050	-	-	-	-	-	-	2.050
2.000	-	-	-	-	-	-	2.000
1.950	48 lbs	-	-	79 lbs	-	-	1.950
1.900	69 lbs	152 lbs	171 lbs	90 lbs	-	-	1.900
1.850	90 lbs	173 lbs	204 lbs	102 lbs	-	-	1.850
1.800	113 lbs	197 lbs	230 lbs	113 lbs	-	-	1.800
1.750	134 lbs	218 lbs	254 lbs	126 lbs	-	-	1.750
1.700	156 lbs	241 lbs	280 lbs	139 lbs	-	-	1.700
1.675	-	-	-	-	810 lbs	-	1.675
1.650	187 lbs	263 lbs	308 lbs	151 lbs	-	650 lbs	1.650
1.600	208 lbs	283 lbs	334 lbs	162 lbs	-	-	1.600
1.550	231 lbs	308 lbs	362 lbs	175 lbs	-	-	1.550
1.500	254 lbs	328 lbs	390 lbs	187 lbs	-	-	1.500
1.450	278 lbs	353 lbs	417 lbs	199 lbs	-	-	1.450
1.425	-	-	-	-	1005 lbs	-	1.425
1.400	302 lbs	377 lbs	443 lbs	212 lbs	-	885 lbs	1.400
1.350	325 lbs	399 lbs	472 lbs	227 lbs	-	-	1.350
1.300	349 lbs	424 lbs	499 lbs	242 lbs	-	-	1.300
1.250	377 lbs	446 lbs	525 lbs	257 lbs	-	-	1.250
1.200	408 lbs	470 lbs	-	274 lbs	-	1080 lbs	1.200
1.175	-	-	-	-	1200 lbs	-	1.175
1.150	439 lbs	-	-	-	-	-	1.150
1.100	-	-	-	-	-	-	1.100
1.050	-	-	-	-	-	-	1.050
1.000	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	0.950
Coil Bind	1.070	1.110	1.180	1.100	1.130	1.130	
7° Titanium Retainer	86033	86033	86033	-	-	-	
7° Titanium Retainer	87041	87041	87041	-	-	-	
7° Titanium Ret 3/8	87042	87042	-	-	-	-	
Titanium Ret 10°	86067M	86067M	86067M	86067	-	-	
Titanium Super 7°	86767M	86767M	86767M	86754	86784 or 86785	86784 or 86785	
7° Steel Retainer 5/16	87047	87047	87044	-	-	-	
7° Steel Retainer 11/32	87050	87050	87062	87054	-	-	
7° Steel Retainer 3/8	87049	87049	87049	87053	-	-	
Steel Retainer 10°	87060M	87060M	87060M	87055	-	-	
Seat Cup	68931	68931	68957	68933	68941A-16	68941A-16	
Seat Disc	68939 or 68941	68939 or 68941	68938 • 940 • 942	-	-	-	

VALVE SPRING SPECIFICATIONS

- Listed According to O.D.

Valve Springs

NEXT GENERATION

VALVE SPRING

	1.500/1.050	1.500/1.120	1.505/1.090	1.505/1.130	1.510/1.115	1.525/1.125	
O.D./I.D. Outer	1.500/1.050	1.500/1.120	1.505/1.090	1.505/1.130	1.510/1.115	1.525/1.125	
O.D./I.D. Middle	-	-	-	-	-	-	
O.D./I.D. Inner	.726	1.030/.755	-	1.085/.805	1.115/.830	1.030/.750	
Installed Height	2.150	1.900	1.850	1.900	1.800	1.900	
Rate	780	452	342	353	419	432	
Part #	68857	68340	68302X1	68101X202	68398	68385X2	
Type	Dual	Dual	Single	Dual	Dual	Dual	
Color Code	-	Green	Green/White	None	None	Purple	
Damper	Yes	Yes	Yes	No	No	Yes	
Free Length	-	2.270	2.170	2.390	2.280	2.330	
Wire Diameter	-	.191/.141	0.204	.192/.148	.198/.146	.198/.141	
Material	Super Clean Silicone	Silicone	Silicone	Silicone	Silicone	Silicone	
2.350	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	2.200
2.150	375 lbs	-	-	-	-	-	2.150
2.100	-	-	-	-	-	-	2.100
2.050	-	-	-	-	-	-	2.050
2.000	-	-	-	116 lbs	-	123 lbs	2.000
1.950	-	100 lbs	61 lbs	131 lbs	106 lbs	144 lbs	1.950
1.900	-	118 lbs	77 lbs	146 lbs	124 lbs	166 lbs	1.900
1.850	-	143 lbs	91 lbs	162 lbs	140 lbs	187 lbs	1.850
1.800	-	165 lbs	107 lbs	178 lbs	158 lbs	207 lbs	1.800
1.750	-	184 lbs	121 lbs	194 lbs	176 lbs	228 lbs	1.750
1.700	-	206 lbs	136 lbs	211 lbs	194 lbs	249 lbs	1.700
1.650	765 lbs	228 lbs	150 lbs	229 lbs	212 lbs	269 lbs	1.650
1.600	-	249 lbs	164 lbs	249 lbs	234 lbs	291 lbs	1.600
1.550	-	271 lbs	179 lbs	268 lbs	256 lbs	310 lbs	1.550
1.500	-	293 lbs	194 lbs	287 lbs	279 lbs	333 lbs	1.500
1.450	-	313 lbs	211 lbs	304 lbs	300 lbs	353 lbs	1.450
1.400	960 lbs	336 lbs	229 lbs	323 lbs	323 lbs	375 lbs	1.400
1.350	-	359 lbs	250 lbs	342 lbs	347 lbs	398 lbs	1.350
1.300	-	384 lbs	270 lbs	363 lbs	370 lbs	422 lbs	1.300
1.250	-	407 lbs	292 lbs	383 lbs	393 lbs	445 lbs	1.250
1.200	1116 lbs	437 lbs	-	-	417 lbs	469 lbs	1.200
1.150	-	477 lbs	-	-	-	-	1.150
1.100	-	-	-	-	-	-	1.100
1.050	-	-	-	-	-	-	1.050
1.000	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	0.950
Coil Bind	1.130	1.080	1.150	1.140	1.080	1.100	
7° Titanium Retainer	-	87043	86033	-	-	-	
7° Titanium Retainer	-	-	87041	-	-	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	
Titanium Ret 10°	-	86067	86067M	86067B	86067	86067B	
Titanium Super 7°	86784 or 86785	86767	86767M	86781	86767	86781	
7° Steel Retainer 5/16	-	87044	87047	-	-	-	
7° Steel Retainer 11/32	-	87062	87062	-	87054	-	
7° Steel Retainer 3/8	-	87053	87063	87053	87053	87053	
Steel Retainer 10°	-	87055	87060	87055	87055	87055	
Seat Cup	68941A-16	68933	68933	68933	68933	68933	
Seat Disc	-	68938 or 68940	-	68938 or 68940	68943	68938 or 68940	

Valve Springs

VALVE SPRING SPECIFICATIONS

- Listed According to O.D.

NEXT GENERATION

VALVE SPRING

	1.540/1.100	1.550/1.140	1.550/1.050	1.555/1.155	1.565/1.140	1.600/1.175	
O.D./I.D. Outer	1.540/1.100	1.550/1.140	1.550/1.050	1.555/1.155	1.565/1.140	1.600/1.175	
O.D./I.D. Middle	-	-	-	-	-	-	
O.D./I.D. Inner	.990/.720	1.035/.755	0.726	0.726	1.035/.740	1.160/.850	
Installed Height	1.900	1.950	1.900	2.300	2.000	2.100	
Rate	671	473	459	1015	640	552	
Part #	68670S	68369	68363	68854	68671	68844	
Type	Dual	Dual	Dual	Dual	Dual	Dual	
Color Code	Lt. Purple	Yellow/Purple	Blue/Purple	-	None	Yellow	
Damper	Yes	Yes	Yes	Yes	Yes	No	
Free Length	2.180	2.460	2.430	-	2.440	2.554	
Wire Diameter	.220/.136	.207/.140	.206/.133	-	.219/.148	.221/.155	
Material	H11 Vasco	Silicone	Silicone	Super Clean Silicone	H11 Vasco	Super Clean Silicone	
2.350	-	-	-	-	-	-	2.350
2.300	-	-	-	425	-	-	2.300
2.250	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	2.200
2.150	-	-	-	-	-	-	2.150
2.100	-	-	-	-	174 lbs	229 lbs	2.100
2.050	-	173 lbs	-	-	205 lbs	253 lbs	2.050
2.000	129 lbs	192 lbs	172 lbs	-	233 lbs	276 lbs	2.000
1.950	164 lbs	215 lbs	194 lbs	-	263 lbs	305 lbs	1.950
1.900	196 lbs	236 lbs	212 lbs	-	291 lbs	331 lbs	1.900
1.850	227 lbs	260 lbs	233 lbs	-	322 lbs	357 lbs	1.850
1.800	262 lbs	281 lbs	254 lbs	932 lbs	351 lbs	384 lbs	1.800
1.750	292 lbs	301 lbs	273 lbs	-	379 lbs	409 lbs	1.750
1.700	324 lbs	322 lbs	294 lbs	-	411 lbs	435 lbs	1.700
1.650	354 lbs	345 lbs	315 lbs	-	441 lbs	462 lbs	1.650
1.600	385 lbs	366 lbs	335 lbs	-	475 lbs	489 lbs	1.600
1.550	418 lbs	390 lbs	356 lbs	1186 lbs	507 lbs	516 lbs	1.550
1.500	451 lbs	413 lbs	380 lbs	-	537 lbs	544 lbs	1.500
1.450	482 lbs	437 lbs	403 lbs	-	577 lbs	572 lbs	1.450
1.400	517 lbs	462 lbs	429 lbs	-	610 lbs	601 lbs	1.400
1.350	549 lbs	489 lbs	457 lbs	-	648 lbs	626 lbs	1.350
1.300	582 lbs	515 lbs	484 lbs	1440 lbs	678 lbs	660 lbs	1.300
1.250	617 lbs	546 lbs	515 lbs	-	718 lbs	-	1.250
1.200	654 lbs	584 lbs	560 lbs	-	752 lbs	-	1.200
1.150	694 lbs	-	-	-	-	-	1.150
1.100	734 lbs	-	-	-	-	-	1.100
1.050	-	-	-	-	-	-	1.050
1.000	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	0.950
Coil Bind	1.010	1.100	1.100	1.230	1.110	1.210	
7° Titanium Retainer	-	-	-	-	-	-	
7° Titanium Retainer	-	-	-	-	-	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	
Titanium Ret 10°	86067	86067B	86067B	-	86067	86068	
Titanium Super 7°	86767	86781	86781	86784 or 86785	86781	86780	
7° Steel Retainer 5/16	-	-	-	-	-	-	
7° Steel Retainer 11/32	-	-	-	-	-	-	
7° Steel Retainer 3/8	-	87053	87053	-	-	-	
Steel Retainer 10°	87055	87055M	87055M	-	87055	-	
Seat Cup	68953X1	68953X1	68953X1	68941A-16	-	68955	
Seat Disc	68939 or 68941	68938 or 68940	68938 or 68940	-	68938 • 940 • 942	68943	

VALVE SPRING SPECIFICATIONS
- Listed According to O.D.

Valve Springs

O.D./I.D. Outer	1.610/1.215	1.630/1.190	1.630/1.180	1.635/1.190	1.255/.865	
O.D./I.D. Middle	1.205/.890	-	-	-	-	
O.D./I.D. Inner	.890/.665	1.050/.760	1.050/.750	1.185/.874	-	
Installed Height	1.850	1.900	2.000	2.050	1.750	
Rate	514	704	666	646	522	
Part #	68694	S68555X2	68555X1	68860	68311X1	
Type	Triple	Dual	Dual	Dual	Single	
Color Code	None	Pink/Red	Red	Blue	None	
Damper	No	Yes	Yes	No	Yes	
Free Length	2.440	2.240	2.400	2.470	1.995	
Wire Diameter	.199/.155/.112	.227/.147	.226/.149	.223/.162	0.198	
Material	Silicone	H11 Vasco	H11 Vasco	Super Clean Silicone	Super Clean Silicone	
2.350	-	-	-	-	-	2.350
2.300	-	-	-	-	-	2.300
2.250	-	-	-	-	-	2.250
2.200	-	-	-	-	-	2.200
2.150	-	-	-	-	-	2.150
2.100	-	-	176 lbs	206 lbs	-	2.100
2.050	-	-	206 lbs	236 lbs	-	2.050
2.000	-	155 lbs	239 lbs	257 lbs	-	2.000
1.950	161 lbs	188 lbs	273 lbs	287 lbs	-	1.950
1.900	181 lbs	219 lbs	305 lbs	316 lbs	-	1.900
1.850	203 lbs	254 lbs	336 lbs	350 lbs	73 lbs	1.850
1.800	226 lbs	285 lbs	371 lbs	381 lbs	97 lbs	1.800
1.750	250 lbs	318 lbs	409 lbs	411 lbs	120 lbs	1.750
1.700	273 lbs	348 lbs	441 lbs	442 lbs	146 lbs	1.700
1.650	305 lbs	380 lbs	474 lbs	472 lbs	169 lbs	1.650
1.600	329 lbs	410 lbs	510 lbs	504 lbs	194 lbs	1.600
1.550	355 lbs	442 lbs	542 lbs	537 lbs	220 lbs	1.550
1.500	380 lbs	477 lbs	571 lbs	567 lbs	246 lbs	1.500
1.450	404 lbs	513 lbs	605 lbs	599 lbs	274 lbs	1.450
1.400	431 lbs	551 lbs	640 lbs	633 lbs	302 lbs	1.400
1.350	456 lbs	590 lbs	674 lbs	667 lbs	331 lbs	1.350
1.300	494 lbs	630 lbs	705 lbs	702 lbs	359 lbs	1.300
1.250	519 lbs	670 lbs	745 lbs	741 lbs	389 lbs	1.250
1.200	545 lbs	712 lbs	770 lbs	771 lbs	424 lbs	1.200
1.150	572 lbs	765 lbs	817 lbs	818 lbs	459 lbs	1.150
1.100	-	807 lbs	870 lbs	864 lbs	-	1.100
1.050	-	-	-	-	-	1.050
1.000	-	-	-	-	-	1.000
0.950	-	-	-	-	-	0.950
Coil Bind	1.050	1.020	1.020	1.010	1.070	
7° Titanium Retainer	-	-	-	-	86037T	
7° Titanium Retainer	-	-	-	86044	86031	
7° Titanium Ret 3/8	-	-	-	-	-	
Titanium Ret 10°	86069	86068	-	86068	-	
Titanium Super 7°	-	86780	86780	86780	-	
7° Steel Retainer 5/16	-	-	-	-	86037	
7° Steel Retainer 11/32	-	-	-	-	86032	
7° Steel Retainer 3/8	-	-	-	-	-	
Steel Retainer 10°	87056	87056	87056	87056	-	
Seat Cup	68955	68955	68955	68959	-	
Seat Disc	68939 or 68941	68938 or 68940	68938 or 68940	-	-	

Valve Springs - Premium Crower



Cycle tested and race proven to be the absolute best springs available. Features unparalleled processing and materials.

O.D./I.D. Outer	1.550/1.115	1.550/1.135	1.600/1.170	1.600/1.170	1.590/1.145	1.650/1.205	1.650/1.205	
O.D./I.D. Middle	-	-	-	-	-	1.195/.880	1.200/.880	
O.D./I.D. Inner	1.015/.705	1.026/.740	1.060/.765	1.055/.760	1.025/.735	.880/.640	.875/.640	
Installed Height	2.000	1.950	2.050	2.050	2.050	2.100	2.200	
Rate	660	505	547	604	617	687	692	
Part #	68803	68804	68805	68806	68808	68547	68548	
Type	Dual	Dual	Dual	Dual	Dual	Triple	Triple	
Color Code	Green/Yellow	None	Red/Blue	Red/Purple	Red/Purple	Red/Purple	Red/Purple	
Damper	Yes	Yes	Yes	Yes	Yes	No	No	
Free Length	2.352	2.550	2.630	2.552	2.515	2.520	2.620	
Wire Diameter	.225/.142	.205/.141	.218/.148	.225/.147	.219/.148	.215/.162/.119	.215/.162/.119	
Material	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	
2.350	-	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	279 lbs	2.200
2.150	141 lbs	-	-	-	-	255 lbs	312 lbs	2.150
2.100	174 lbs	-	233 lbs	227 lbs	228 lbs	287 lbs	343 lbs	2.100
2.050	207 lbs	-	258 lbs	255 lbs	261 lbs	321 lbs	375 lbs	2.050
2.000	240 lbs	212 lbs	280 lbs	279 lbs	295 lbs	351 lbs	405 lbs	2.000
1.950	273 lbs	235 lbs	305 lbs	306 lbs	315 lbs	380 lbs	439 lbs	1.950
1.900	306 lbs	257 lbs	329 lbs	331 lbs	347 lbs	416 lbs	470 lbs	1.900
1.850	339 lbs	279 lbs	353 lbs	356 lbs	375 lbs	448 lbs	502 lbs	1.850
1.800	372 lbs	301 lbs	379 lbs	382 lbs	403 lbs	480 lbs	534 lbs	1.800
1.750	405 lbs	327 lbs	406 lbs	410 lbs	433 lbs	512 lbs	570 lbs	1.750
1.700	438 lbs	349 lbs	431 lbs	440 lbs	465 lbs	541 lbs	602 lbs	1.700
1.650	471 lbs	373 lbs	461 lbs	469 lbs	493 lbs	580 lbs	636 lbs	1.650
1.600	504 lbs	398 lbs	489 lbs	498 lbs	525 lbs	610 lbs	667 lbs	1.600
1.550	537 lbs	422 lbs	516 lbs	529 lbs	553 lbs	645 lbs	705 lbs	1.550
1.500	570 lbs	448 lbs	544 lbs	559 lbs	583 lbs	679 lbs	740 lbs	1.500
1.450	603 lbs	473 lbs	574 lbs	593 lbs	615 lbs	715 lbs	772 lbs	1.450
1.400	636 lbs	499 lbs	603 lbs	626 lbs	650 lbs	750 lbs	810 lbs	1.400
1.350	669 lbs	526 lbs	633 lbs	661 lbs	684 lbs	790 lbs	850 lbs	1.350
1.300	702 lbs	555 lbs	663 lbs	696 lbs	720 lbs	825 lbs	890 lbs	1.300
1.250	735 lbs	582 lbs	695 lbs	733 lbs	755 lbs	863 lbs	927 lbs	1.250
1.200	-	620 lbs	-	-	-	905 lbs	966 lbs	1.200
1.150	-	-	-	-	-	947 lbs	1006 lbs	1.150
1.100	-	-	-	-	-	-	-	1.100
1.050	-	-	-	-	-	-	-	1.050
1.000	-	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	-	0.950
Coil Bind	1.180	1.100	1.180	1.160	1.170	1.085	1.080	
7° Titanium Retainer	-	-	-	-	-	-	-	
7° Titanium Retainer	-	-	-	-	-	-	-	
7° Titanium Ret 3/8	-	87063M	-	-	-	-	-	
Titanium Ret 10°	86067	86067D	86068	86068	86067	86069	86069	
Titanium Super 7°	86767	86781	86780	86780	86781	86769	86769	
7° Steel Retainer 5/16	-	-	-	-	-	-	-	
7° Steel Retainer 11/32	-	-	-	-	-	-	-	
7° Steel Retainer 3/8	-	-	-	-	-	-	-	
Steel Retainer 10°	87055	87064	87056	87056	-	87056	87056	
Seat Cup	68953X1	68953X1	68955	68955	68955	68956	68956	
Seat Disc	68939/68941	68938/68940	68938/68940	68938/68940	68938/68940	-	-	

VALVE SPRING SPECIFICATIONS
- Listed According to O.D.

Valve Springs - P.S.I. Brand

O.D./I.D. Outer	1.525/1.120	1.530/1.125	1.560/1.140	1.560/1.150	1.560/1.145	1.560/1.145	1.560/1.145	1.615/1.175	1.625/1.175	
O.D./I.D. Middle	-	-	-	-	-	-	-	-	-	
O.D./I.D. Inner	1.015/.745	1.000/.745	1.140/.830	1.040/.745	1.040/.745	1.040/.745	1.040/.745	1.060/.775	1.075/.770	
Installed Height	1.950	1.950	2.000	2.000	2.000	2.000	2.000	2.100	2.000	
Rate	500	501	489	516	508	521	546	530	595	
Part #	68725	68705	68735	68765	68775	68785	68795	68755	68745	
Type	Dual	Dual	Dual	Dual	Dual	Dual	Dual	Dual	Dual	
Color Code	Gold/White	Gold/Pink	Gold	Gold/Green	Gold/Orange	Gold/Lt. Blue	Gold/Yellow	Gold	Gold/White	
Damper	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	
Free Length	2.370	2.360	2.540	2.550	2.520	2.620	2.620	2.665	2.520	
Wire Diameter	.205/.133	.205/.134	.205/.162	.206/.148	.206/.147	.206/.147	.210/.147	.225/.147	.225/.147	
Material	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	Super Clean Silicone	
2.350	-	-	-	-	-	-	-	-	-	2.350
2.300	-	-	-	-	-	-	-	-	-	2.300
2.250	-	-	-	-	-	-	-	-	-	2.250
2.200	-	-	-	-	-	-	-	234 lbs	-	2.200
2.150	-	-	-	-	-	-	-	261 lbs	-	2.150
2.100	129 lbs	95 lbs	178 lbs	182 lbs	196 lbs	203 lbs	237 lbs	287 lbs	203 lbs	2.100
2.050	151 lbs	115 lbs	199 lbs	208 lbs	217 lbs	226 lbs	262 lbs	312 lbs	227 lbs	2.050
2.000	168 lbs	134 lbs	220 lbs	229 lbs	237 lbs	244 lbs	284 lbs	336 lbs	253 lbs	2.000
1.950	194 lbs	160 lbs	244 lbs	253 lbs	262 lbs	274 lbs	310 lbs	361 lbs	282 lbs	1.950
1.900	215 lbs	183 lbs	267 lbs	277 lbs	284 lbs	298 lbs	335 lbs	388 lbs	307 lbs	1.900
1.850	242 lbs	205 lbs	291 lbs	302 lbs	310 lbs	322 lbs	359 lbs	414 lbs	333 lbs	1.850
1.800	264 lbs	227 lbs	314 lbs	326 lbs	333 lbs	352 lbs	381 lbs	442 lbs	361 lbs	1.800
1.750	287 lbs	250 lbs	337 lbs	352 lbs	359 lbs	376 lbs	408 lbs	466 lbs	389 lbs	1.750
1.700	311 lbs	273 lbs	361 lbs	375 lbs	381 lbs	399 lbs	431 lbs	491 lbs	423 lbs	1.700
1.650	334 lbs	297 lbs	384 lbs	400 lbs	406 lbs	423 lbs	457 lbs	521 lbs	452 lbs	1.650
1.600	359 lbs	320 lbs	407 lbs	426 lbs	431 lbs	448 lbs	485 lbs	548 lbs	481 lbs	1.600
1.550	385 lbs	345 lbs	438 lbs	453 lbs	456 lbs	469 lbs	510 lbs	578 lbs	510 lbs	1.550
1.500	408 lbs	370 lbs	464 lbs	481 lbs	481 lbs	494 lbs	538 lbs	610 lbs	542 lbs	1.500
1.450	444 lbs	396 lbs	490 lbs	508 lbs	508 lbs	532 lbs	567 lbs	640 lbs	575 lbs	1.450
1.400	463 lbs	422 lbs	516 lbs	535 lbs	536 lbs	560 lbs	595 lbs	671 lbs	609 lbs	1.400
1.350	498 lbs	451 lbs	543 lbs	568 lbs	565 lbs	589 lbs	627 lbs	706 lbs	643 lbs	1.350
1.300	525 lbs	479 lbs	568 lbs	595 lbs	593 lbs	621 lbs	660 lbs	738 lbs	680 lbs	1.300
1.250	556 lbs	511 lbs	595 lbs	634 lbs	628 lbs	654 lbs	699 lbs	-	713 lbs	1.250
1.200	-	548 lbs	-	-	-	-	-	-	-	1.200
1.150	-	-	-	-	-	-	-	-	-	1.150
1.100	-	-	-	-	-	-	-	-	-	1.100
1.050	-	-	-	-	-	-	-	-	-	1.050
1.000	-	-	-	-	-	-	-	-	-	1.000
0.950	-	-	-	-	-	-	-	-	-	0.950
Coil Bind	1.150	1.125	1.150	1.150	1.160	1.160	1.160	1.190	1.150	
7° Titanium Retainer	-	-	-	-	-	-	-	-	-	
7° Titanium Retainer	-	-	-	-	-	-	-	-	-	
7° Titanium Ret 3/8	-	-	-	-	-	-	-	-	-	
Titanium Ret 10°	86067D	86067D	-	86067D	86067D	86067D	86067D	86068	86068	
Titanium Super 7°	86767	86767	86781	86781	86781	86781	86781	86780	86780	
7° Steel Retainer 5/16	-	-	-	-	-	-	-	-	-	
7° Steel Retainer 11/32	-	-	-	-	-	-	-	-	-	
7° Steel Retainer 3/8	-	-	-	-	-	-	-	-	-	
Steel Retainer 10°	87055M	87055M	-	87064	87064	87064	87064	-	87056	
Seat Cup	68933	68933	68953X1	68953X1	68953X1	68953X1	68953X1	68955	68955	
Seat Disc	68938 or 68940	68938 or 68940	68943	68938 or 68940	68938 or 68940	68938 or 68940	68938 or 68940	68938 or 68940	68938 or 68940	



Valve spring retainers



CALIBRATION SPRINGS

Crower's calibration springs help calibrate your spring tester with accurate seat and nose open spring pressures based on a plotted graph included with the spring. Available in low or high pressure design. A must for any engine shop.

Part No.	Description
68000-1	Low Pressure Calibration Spring (Single)
68001-1	High Pressure Calibration Spring (Dual)

BUICK 11° STEEL RETAINERS

Part No.	Stem	"A"	"B"	"C"	Step	Height
87019	3/8	1.370	0.940	0.670	.185	-
87021	3/8	1.370	1.000	0.670	.185	-
87022	3/8	1.490	1.080	0.730	.115	-

Note: Requires factory keepers.

MISCELLANEOUS RETAINERS

Part No.	Engine	Type	Stem	"A"	"B"	"C"	Step	Height
86036T	LS1 Chevy	T	8 _{mm}	1.250	.880	.625	.075	+0.50
87011	VW	S	8 _{mm}	1.200	.890	.680	.125	Stk
87020	4.6/5.4 Ford	S	7 _{mm}	.872	.567	.480	.105	Stk
87020T	4.6/5.4 Ford	T	7 _{mm}	.872	.567	.480	.105	Stk
87023	4.6/5.4 Ford	S	6 _{mm}	.875	.630	.480	.105	Stk
87023T	4.6/5.4 Ford	T	6 _{mm}	.875	.630	.480	.105	Stk
87024	4.6/5.4 Ford	S	7 _{mm}	.875	.620	.480	.100	Stk
87024T	4.6/5.4 Ford	T	7 _{mm}	.875	.620	.480	.100	Stk
87025	4.6/5.4 Ford	S	7 _{mm}	.875	.620	.480	.100	+0.60
87025T	4.6/5.4 Ford	T	7 _{mm}	.875	.620	.480	.100	+0.60
87026	4.6/5.4 32v	S	7 _{mm}	1.000	.705	.495	.100	Stk
87026T	4.6/5.4 32v	T	7 _{mm}	1.000	.705	.495	.100	Stk
87082	Ford Focus	T	6 _{mm}	1.030	.735	-	-	+0.50
87028	LS1 Chevy	S	8 _{mm}	1.000	.645	-	-	Stk
87028T	LS1 Chevy	T	8 _{mm}	1.000	.645	-	-	Stk
87029	LT1 Chevy	S	11/32	1.000	.645	-	-	Stk
87029T	LT1 Chevy	T	11/32	1.000	.645	-	-	Stk
87035	5.7-6.1 Hemi	S	-	1.000	.615	-	-	Stk
87035T	5.7-6.1 Hemi	T	-	1.000	.615	-	-	Stk
87076	Patrol 4.8	T	-	1.055	.770	.450	-	+0.50
87083	Duratec 2.3	T	5.5 _{mm}	1.000	.745	.610	-	Stk
87084	DSM 420A	T	6 _{mm}	1.075	.770	.450	-	Stk
87085	Toyota 2JZ	T	6 _{mm}	1.050	.745	.515	.100	Stk
87086	Toyota 1zz	T	5.5 _{mm}	.800	.640	.515	-	Stk
87087	H22 Stk	T	5.5	1.000	.815	.610	.080	Stk
87091	B-VTEC Stk	T	5.5 _{mm}	1.100	.830	.600	.080	Stk
87091S	B-VTEC Stk	S	5.5 _{mm}	1.100	.830	.600	.080	Stk
87092	B18A/B	T	6.5 _{mm}	1.100	.805	.600	.080	Stk
87092S	B18A/B	S	6.5 _{mm}	1.100	.805	.600	.080	Stk
87093	B-VTEC, H22	Ti	5.5	1.150	.870	.610	.080	Stk
87093S	B-VTEC, H22	S	5.5	1.150	.870	.610	.080	Stk
87093D	B-VTEC, H22	Ti	5.5 _{mm}	1.150	.870	.610	.080	+0.60
87093DS	B-VTEC, H22	S	5.5 _{mm}	1.150	.870	.610	.080	+0.60
87094	K20A/K24A	Ti	5.5	1.050	.870	.610	.080	Stk
87095	4G63/Evo	T	6.5 _{mm}	1.050	.740	-	-	Stk
87096	D16/D17A	T	5.5 _{mm}	.875	.610	.450	-	Stk
87097	SR20DE(T)	T	6 _{mm}	1.125	.825	.475	-	Stk
87098	KA24DE(T)	T	6 _{mm}	1.115	.850	-	-	Stk

S = Steel • T = Titanium • Ti = Ti-17 Titanium Alloy

6AL4V Titanium vs Ti-17 Titanium

Crower is the only manufacturer that utilizes Ti-17 titanium alloy in the production of every Honda/Acura B Series, H22 and K Series VTEC application. Ti-17 rates 6-7 points harder on the RC scale than traditional 6AL4V titanium found in all competing brands.

7° STEEL RETAINERS

Part No.	Stem	Grams	"A"	"B"	"C"	Step	Height
86037	5/16	19	1.250	0.855	0.630	.075	+0.50
87045	5/16	20.1	1.250	0.930	0.620	.145	+0.50
87046	5/16	24.6	1.250	0.910	0.615	.100	+0.25
87047	5/16	24.7	1.375	1.020	0.685	.065	-0.50
87044	5/16	27.6	1.375	1.010	0.740	.145	+0.110
86032	11/32	25.4	1.250	0.795	0.660	.130	-0.15
86032D	11/32	21.5	1.250	0.795	0.660	.130	+0.50
86032S	11/32	24.1	1.250	0.795	0.660	.130	-0.65
87050	11/32	31.1	1.375	1.020	0.685	.115	+0.00
87052	11/32	31.1	1.375	1.020	0.685	.115	-0.50
87048	11/32	30.8	1.375	1.020	0.685	.115	+0.85
87048D	11/32	25.5	1.375	1.020	0.685	.140	+0.150
87054*	11/32	29.1	1.375	1.115	0.815	.100	+0.80
87062	11/32	32.3	1.500	1.080	0.730	.115	+0.125
87062S	11/32	32.2	1.500	1.080	0.730	.115	+0.25
87049	3/8	29.6	1.375	1.020	0.685	.115	+0.70
87049D	3/8	28.1	1.375	1.020	0.685	.140	+0.100
87053*	3/8	25.7	1.375	1.115	0.745	.100	+0.80
87063	3/8	31.6	1.500	1.080	0.740	.115	+0.100
87063M	3/8	37	1.500	1.080	0.740	.115	+0.50
87063S	3/8	37.2	1.500	1.080	0.740	.115	+0.00

Note: Requires 7° keepers. * Indicates LightWeight retainer design.

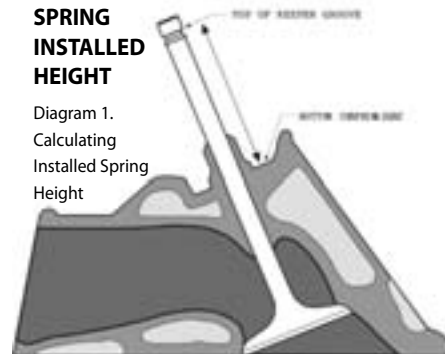
10° STEEL RETAINERS

Part No.	Grams	"A"	"B"	"C"	"D"	Step	Height
86064	34.6	1.500	1.100	-	0.700	.115	-0.20
87055	31.2	1.500	1.100	-	0.700	.115	+0.85
87064	30.2	1.500	1.080	-	0.740	.115	+0.100
87060	28.7	1.500	1.080	-	0.650	.115	+0.070
87055M	32.1	1.500	1.100	-	0.700	.115	+0.50
87055D	28.5	1.500	1.100	-	0.700	.115	+0.110
87060M	27.3	1.440	1.065	-	0.650	.115	+0.050
87056	35.8	1.625	1.180	-	0.650	.100	+0.100

Note: Requires 10° keepers.

SPRING INSTALLED HEIGHT

Diagram 1.
Calculating Installed Spring Height



Measure the height from top of keeper groove to bottom of spring seat. Refer to the "height" column of your retainer and add or subtract the amount given from the original overall measurement.

7° TITANIUM RETAINERS

Part No.	Stem	Grams	"A"	"B"	"C"	Step	Height
86037T	5/16	11	1.250	0.855	0.630	.075	+0.50
86046	5/16	10.4	1.250	0.925	0.630	.075	-
86030	5/16	11.6	1.250	0.925	0.630	.075	+0.090
87040	5/16	17.2	1.375	1.020	0.685	.105	+0.070
86033	5/16	17.2	1.375	1.065	0.700	.100	+0.090
86031	11/32	11.9	1.250	0.795	0.660	.130	+0.050
87041	11/32	-	1.375	1.065	0.670	.115	+0.140
86044	11/32	22.5	1.500	1.185	0.775	.115	+0.065
87042	3/8	16.4	1.375	1.020	0.680	.100	+0.70

Note: Requires 7° keepers.

SUPER 7° TITANIUM RETAINERS

Part No.	Grams	"A"	"B"	"C"	"D"	Step	Height
86767	15.3	1.500	1.100	-	0.700	.100	+0.070
86767L	-	1.350	1.125	-	0.730	.100	+0.070
86767B	-	1.500	1.100	-	0.750	.100	+0.070
86767M	15.3	1.440	1.065	-	0.700	.095	+0.070
86767D	15.3	1.500	1.100	-	0.720	.095	+0.100
86754	14.4	1.370	1.115	-	0.815	.100	+0.080
86756	-	1.100	.890	-	0.660	.100	+0.030
86759L	14	1.350	1.145	-	0.825	.100	+0.070
86769	19.9	1.500	1.185	.850	0.640	.100	+0.100
86781	17.3	1.500	1.135	-	0.730	.100	+0.150
86780	19.9	1.500	1.165	-	0.765	.100	+0.150
86780L	15.1	1.350	1.165	-	0.765	.100	+0.150
86783	15	1.400	1.105	-	0.695	.100	+0.150
86790	20.1	1.500	1.165	-	0.765	.100	+0.075
86770	-	1.350	1.070	-	0.720	.100	+0.150
86771	14.6	1.350	1.070	-	0.750	.100	+0.150
86784	16	1.500	1.035	-	0.710	.100	+0.050
86785	16	1.500	1.035	-	0.710	.100	+0.150

10° TITANIUM RETAINERS

Part No.	Grams	"A"	"B"	"C"	"D"	Step	Height
86068	15.5	1.500	1.175	-	0.765	.100	+0.100
86068D	16.5	1.500	1.175	-	0.760	.110	+0.160
86068C	14	1.500	1.050	0.760	0.630	.100	+0.120
86068CL	16.5	1.500	0.970	0.760	0.655	.100	+0.100
86067C	13	1.500	1.020	-	0.740	.040	+0.050
86067M	12	1.440	1.065	-	0.700	.095	+0.070
86067B	19	1.500	1.100	-	0.750	.100	+0.070
86067	13	1.500	1.100	-	0.700	.100	+0.070
86067D	18	1.500	1.100	-	0.720	.095	+0.100
86067A	17.5	1.500	0.970	-	0.695	.095	+0.050
87071	18	1.500	1.100	-	0.675	.115	+0.070
87072	17.5	1.500	1.100	-	0.650	.110	+0.075
87065	18.5	1.500	1.065	-	0.700	.110	+0.070
86065	17.5	1.500	1.100	-	0.700	.110	-0.010
86069	19	1.500	1.185	0.850	0.640	.100	+0.100
86062*	19	1.500	1.185	0.850	0.640	.100	+0.100

Note: Requires 10° keepers. * Indicates LightWeight design.

RETAINER MEASUREMENTS

Valve Spring Accessories



STAMPED STEEL 7° VALVE STEM KEEPERS

Crower valve stem keepers are stamped from the finest grade steel alloy and heat-treated for added strength and wear resistance. Out performs stock keepers.

Part No.	Stem Dia.	Inst. Height
86100-16	11/32	Standard
86102-16	3/8	Standard

Also available in pairs by replacing -16 with -PR.

NEW ITEM



10° LITE WEIGHT TOOL STEEL RETAINERS

Part No.	Grams	"A"	"B"	"C"	"D"	Step	Height
87001-16	19.4	1.375	1.068	.705	-	.098	+ .100
87002-16	21.9	1.390	1.100	.800	.650	.090	+ .085
87003-16	21.4	1.450	1.100	.710	-	.090	+ .085

For keepers, see below.



JUMBO SPLIT-LOCK 10° VALVE STEM KEEPERS

Crower Jumbo valve stem keepers are designed with a 10° taper (twice the strength of the conventional 7° taper). Jumbo keepers are machined from premium chromoly steel and heat-treated for maximum strength. Crower Jumbo keepers are available in standard height, .050" higher or .050" lower positions for added flexibility in achieving the correct installed spring height. Each variation is color coded for easy identification.

Part No.	Stem Dia.	Inst. Height
86109-16	5/16	Standard
86118-16	LS1 8mm Bead lock	Standard
86118X1-16	LS1 8mm Bead lock	+ .050"
86118X2-16	LS1 8mm Bead lock	-.050"
86110-16	11/32	Standard
86110X1-16	11/32	+ .050"
86110X2-16	11/32	-.050"
86111-16	3/8	Standard
86111X1-16	3/8	+ .050"
86111X2-16	3/8	-.050"

Also available in pairs by replacing -16 with -PR.



VALVE STEM SEALS

Crower valve stem seals provide correct oil control at the valve guide. The spring loaded wiper design prevents unwanted oil contamination on the cylinder. Heavy-duty steel and teflon construction.

Part No.	Description	Stem Dia.	I.D.
86070-16	Standard	5/16	.530"
86070T-16	Smaller O.D. (triple spring)	5/16	.500"
86071-16	Standard	3/8	.530"
86071T-16	Smaller O.D. (triple spring)	3/8	.500"
86072-16	Standard	11/32	.530"
86072T-16	Smaller O.D. (triple spring)	11/32	.500"

Also available in singles by replacing -16 with -1.



LASH CAPS

Crower lash caps protect the ends of your valves from excessive wear and help to correct rocker geometry by increasing rocker arm to retainer clearance. Machined from high grade chromoly steel and heat-treated for added strength, Crower lash caps give your valves an added .060" margin of protection. Highly recommended for performance applications, and a must for costly stainless steel or titanium valves.

Part No.	Description	Depth
86120-16	5/16 valve stem (Set/16)	.090"
86120S-16	5/16 valve stem (Set/16)	.060"
86121-16	11/32 valve stem (Set/16)	.090"
86121D-16	11/32 valve stem (Set/16)	.120"
86121S-16	11/32 valve stem (Set/16)	.060"
86122-16	3/8 valve stem (Set/16)	.090"
86122D-16	3/8 valve stem (Set/16)	.120"
86122S-16	3/8 valve stem (Set/16)	.060"
86123-8	5/16 valve stem VW (Set/8)	.090"
86125-24	6mm valve stem Toyota (Set/24)	.050"
86126-8	8mm 2000cc (Set/8)	.055"
86127-8	11/32 2300cc (Set/8)	.100"
86128-16	7mm Ford 4.6/5.4L (Set/16)	.120"

Also available in singles by replacing -16 with -1.



BILLET PERFORMANCE 7° VALVE STEM KEEPERS

Crower billet performance valve stem keepers are precision machined from premium billet bar stock chromoly steel. Heat-treated for maximum strength to insure against shoulder shearing (common with stock and lesser quality keepers). In addition to our standard height, we also offer .050" higher and .050" lower to achieve the correct installed spring height. Each variation is color coded for identification. Serious engine builders should have a complete selection on hand at all times.

Part No.	Stem Dia.	Inst. Height
86106-16	5/16	Standard
86107-16	11/32	Standard
86107X1-16	11/32	+ .050"
86107X2-16	11/32	-.050"
86108-16	3/8	Standard
86108X1-16	3/8	+ .050"
86108X2-16	3/8	-.050"
86115-16	5.5mm	Standard
86115X1-16	5.5mm	+ .050"

SUPER 7° KEEPERS

Part No.	Stem Dia.	Inst. Height
86709-16	5/16	Standard
86709X1-16	5/16	+ .050"
86709X2-16	5/16	-.050"
86710-16	11/32	Standard
86710X1-16	11/32	+ .050"
86710X2-16	11/32	-.050"

Also available in pairs by replacing -16 with -PR.

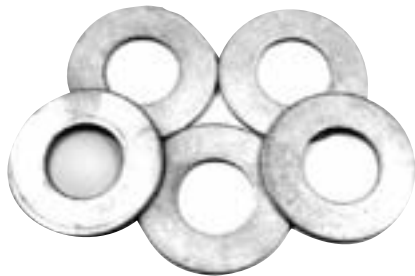
TITANIUM KEEPERS

For the ultimate in lightweight performance, Crower billet titanium keepers are CNC machined to insure the best possible keeper. Available in Super 7°. (4g weight)

Part No.	Stem Dia.	Inst. Height
86115T-16	5.5mm (.216")	Standard
86117T-16	7mm (.274") Bead lock	Standard
86117X1T-16	7mm (.274") Bead lock	+ .050"
86117X2T-16	7mm (.274") Bead lock	-.050"
86709T-16	5/16	Standard
86709X1T-16	5/16	+ .050"
86709X2T-16	5/16	-.050"
86710T-16	11/32	Standard
86710X1T-16	11/32	+ .050"
86710X2T-16	11/32	-.050"

To order bead-lock keeper design, specify "B" after part no.

Valve Spring Accessories



COPPER PLATED SPRING SHIMS

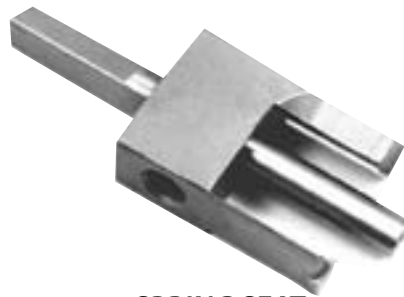
Crower copper plated spring shims are case hardened .005" to .010" deep to a surface hardness of 45RC. Available in single or assorted thickness sets and bulk.

Part No.	Description	O.D. x I.D.	Size
85060-16	Set/16 pcs	1.525 x 0.735	.015
85060B	Bulk/80 pcs (1 size)	1.525 x 0.735	.015
85061-16	Set/16 pcs	1.525 x 0.735	.030
85061B	Bulk/80 pcs (1 size)	1.525 x 0.735	.030
85062-16	Set/16 pcs	1.525 x 0.735	.060
85062B	Bulk/80 pcs (1 size)	1.525 x 0.735	.060
85063A	Asst/16 ea (015,030,060)	1.525 x 0.735	Asst
85065-16	Bulk/80 pcs (1 size)	1.625 x 0.635	.015
85065B	Set/16 pcs	1.625 x 0.635	.015
85066-16	Bulk/80 pcs (1 size)	1.625 x 0.635	.030
85066B	Set/16 pcs	1.625 x 0.635	.030
85067-16	Bulk/80 pcs (1 size)	1.625 x 0.635	.060
85067B	Asst/16 ea (015,030,060)	1.625 x 0.635	.060
85068A		1.625 x 0.635	Asst

CUTTER PILOTS

Pilots available for spring seat and valve seal cutters.

Part No.	Stem Dia.
68970	.516
68971	.38
68972	11/32



SPRING SEAT CUTTERS

Designed to accurately machine cylinder heads for aftermarket spring applications using a drill press or hand drill. Cutter blades are carbide tipped and valve guide pilots are interchangeable. Special spring seat cutters in custom sizes are available. Call for pricing and availability.

Part No.	O.D. x I.D.	Part No.	O.D. x I.D.
68974	1.050 x 0.740	68979	1.555 x 0.630
68978	1.255 x 0.620	68992	1.560 x 0.720
68982	1.365 x 0.760	68977	1.570 x 0.545
68983	1.410 x 0.765	68981	1.575 x 0.610
68997	1.450 x 0.690	68998	1.630 x 0.630
68990	1.450 x 0.800	68984	1.630 x 0.670
68985	1.460 x 0.685	68995X1	1.630 x 0.700
68999	1.485 x 0.675	68995	1.630 x 0.770
68975	1.510 x 0.800	68980	1.635 x 0.630
68986	1.515 x 0.750	68989	1.705 x 0.630
68976	1.520 x 0.690	68996	1.750 x 0.630
68987	1.530 x 0.730	68988	1.800 x 0.630

Note: Must order pilot separately. See pilots listed on the left.



VALVE SEAL CUTTERS

Crower valve seal/valve guide cutter includes cutting tool. Must order pilot separately when ordering.

Part No.	I.D.
86079	.530"
86079T	.500"

Note: Must order pilot separately. See pilots listed on the left.



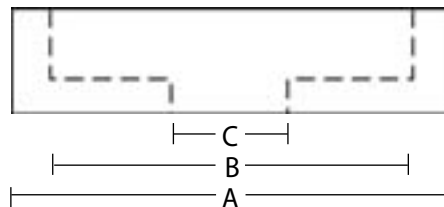
SPRING SEAT CUPS & SEAT DISCS

Crower valve spring seat cups eliminate the need for seat cutting in some instances and shimming in others. Designed to keep springs from wandering, seat cups also protect aluminum heads from "galling." Spring seat discs also available.

SEAT CUPS

Part No.	"A"	"B"	"C"	Cutter
68934-16	1.550	1.450	0.575	68981
68930-16	1.550	1.440	0.635	68979
68951-16	1.550	1.455	1.000	-
68931-16	1.550	1.475	0.635	68979
68957-16	1.590	1.490	0.675	68984
68936-16	1.625	1.515	0.635	68988
68933-16	1.685	1.540	0.635	68989
68953X1-16	1.695	1.565	0.635	68989
68955-16	1.745	1.630	0.635	68996
68959-16	1.740	1.650	0.635	68996
68956-16	1.795	1.700	0.635	68988
68958-16	Rotation Eliminators (396-454 Chevy)			

Diagram 1. Spring Seat Cup



SEAT DISCS

Part No.	"A"	"B"	"C"	"D"	Cutter
68924-16	1.400	0.780	-	0.527	-
68925-16	1.400	0.600	-	0.527	-
68926-16	.842	0.635	-	0.495	-
68928-16	1.250	0.805	-	0.515	-
68929-16	1.100	0.970	0.600	0.482	-
68938-16	1.560	0.740	-	0.505	-
68939-16	1.565	0.660	-	0.505	-
68940-16	1.560	0.740	-	0.562	-
68941-16	1.565	0.660	-	0.562	-
68942-16	1.535	0.730	-	0.635	-
68943-16	1.545	0.805	-	0.565	-

Note: All cups/discs average approximately .060" thick.

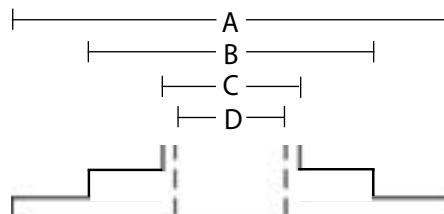


Diagram 2. Spring Seat Disc