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PRIME-LINE SP 9610

Prime-Line SP 9610 Extension Spring Instruction Manual

PRODUCT OVERVIEW

The Prime-Line SP 9610 Extension Spring is constructed from durable spring steel with a corrosion-resistant nickel-plated finish. These springs are designed for a wide range of household and professional applications, providing reliable retraction when stretched. This manual provides essential information for proper selection, installation, and maintenance.

Key Features

- **Versatile Application:** Suitable for appliances, automotive, marine, tools, and various mechanical devices.
- **Single Loop Open Ends:** Designed for easy and secure fastening to both fixed and moving components.
- **Durable Construction:** Made from tempered spring steel for optimal performance and longevity.
- **Corrosion Resistant:** Nickel-plated finish allows for indoor and outdoor use.



Image: A single Prime-Line SP 9610 Extension Spring, showcasing its nickel-plated finish and single loop open ends.

SPECIFICATIONS

Understanding the spring's dimensions and load capacity is crucial for correct application.

- **Outside Diameter:** 5/8 inch (0.625 inches)
- **Length:** 2-1/2 inches (2.5 inches)
- **Wire Diameter:** 0.072 inch (14 GA)
- **Maximum Safe Load:** 19.1 lbs.
- **Maximum Deflection:** 0.92 inch
- **Material:** Alloy Steel
- **Finish:** Nickel-Plated
- **Number of Pieces:** 2 (per pack)

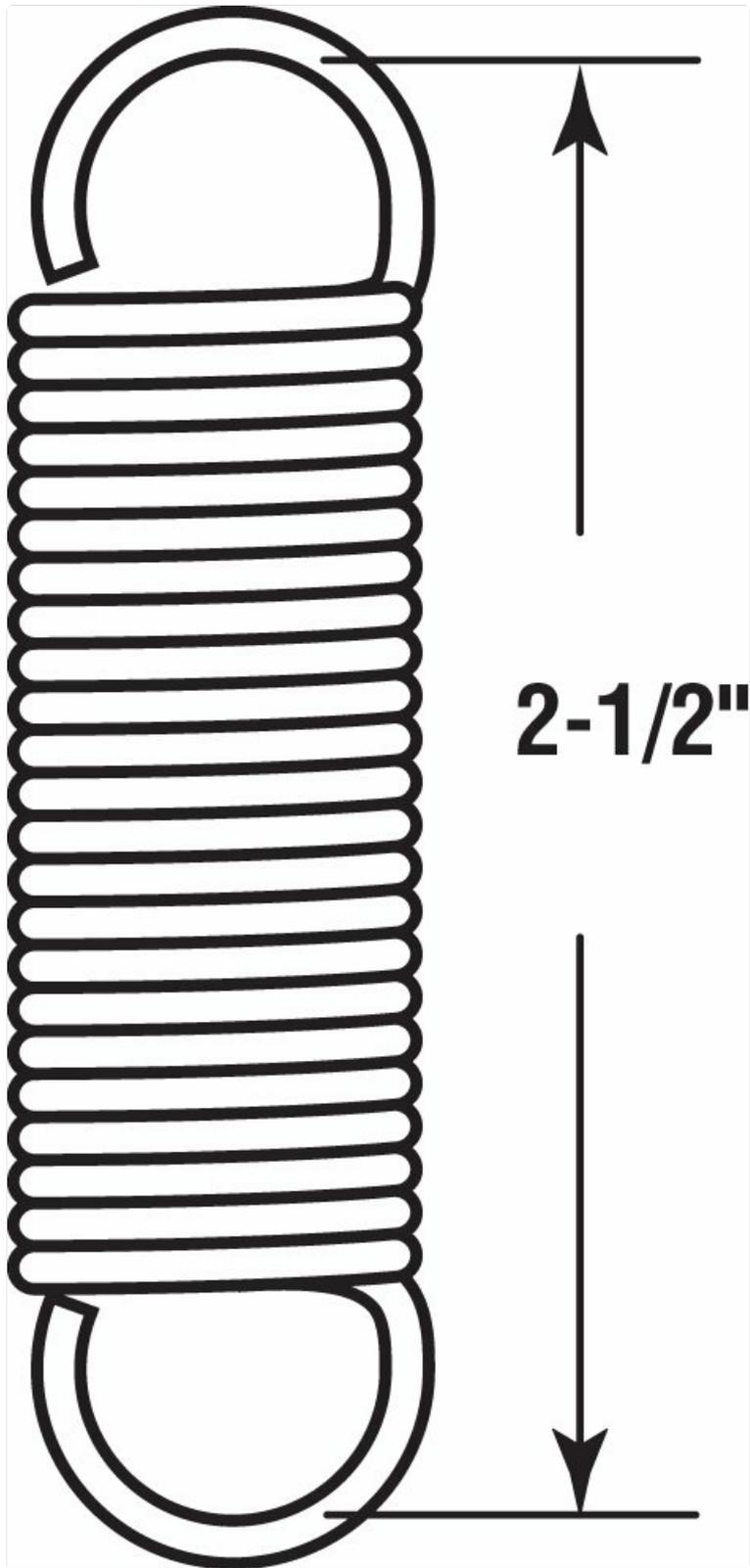


Image: Technical diagram illustrating the dimensions of the extension spring, including its 2-1/2 inch length.

EXTENSION

PART #	REF #	O.D.	LGTH	WIRE DIA	PK QTY	MAX SAFE LOAD LBS.	MAX DEFLECTION
SP 9600	C-19	1/4"	1 1/2"	.035	2	8.46	1.11
SP 9601	C-25	5/16"	1 1/2"	.020	2	1.39	7.62
SP 9602	C-33	7/16"	1 1/2"	.047	2	11.50	1.71
SP 9603	C-69	1/4"	1 7/8"	.035	2	8.46	1.47
SP 9604	C-77	1 1/32"	1 7/8"	.025	2	2.40	7.26
SP 9605	C-83	7/16"	1 7/8"	.047	2	11.50	2.40
SP 9606	C-105	5/32"	2 1/2"	.020	2	2.69	2.92
SP 9607	C-115	1/4"	2 1/2"	.016	2	.90	15.50
SP 9608	C-133	7/16"	2 1/2"	.047	2	11.50	3.51
SP 9609	C-135	7/16"	2"	.062	2	18.00	.76
SP 9610	C-141	5/8"	2 1/2"	.072	2	19.10	.92
SP 9611	C-143	9/16"	3"	.054	2	9.55	3.64
SP 9612	C-161	7/16"	2 3/4"	.034	2	3.57	6.08
SP 9613	C-165	1/2"	1 5/8"	.080	2	31.30	.36
SP 9614	C-171	3/4"	2"	.105	2	46.20	.51
SP 9615	C-173	3/4"	2 1/4"	.105	2	46.20	.64
SP 9616	C-175	3/4"	2 7/8"	.105	2	46.20	.74
SP 9617	C-177	3/4"	2 5/8"	.105	2	46.20	.82
SP 9618	C-181	5/8"	3 1/4"	.072	2	19.10	2.01
SP 9619	C-187	3/4"	2 7/8"	.105	2	46.20	.95
SP 9620	C-189	3/4"	3 1/8"	.105	2	46.20	1.08
SP 9621	C-219	1 1/32"	4 1/2"	.041	2	5.28	8.33
SP 9622	C-243	5/8"	6 1/2"	.054	2	8.64	11.90
SP 9623		1 1/16"	3 1/8"	.125	2	61.70	.77
SP 9624	C-259	1 3/16"	4"	.120	2	61.70	.73
SP 9625	C-261	1 1/16"	5 1/2"	.120	1	48.20	3.62
SP 9627	C-263	7/8"	6"	.091	1	32.50	5.60
SP 9628	C-265	1 1/16"	7"	.105	1	33.40	7.19
SP 9629	C-267	1 1/4"	6 1/2"	.162	1	93.70	3.00
SP 9630	C-269	1"	7"	.135	1	69.90	2.93
SP 9631	C-277	3/4"	6 1/2"	.091	1	31.30	4.20
SP 9632	C-313	1/2"	8 1/2"	.047	1	7.47	13.30
SP 9633	C-315	7/16"	8 1/2"	.047	1	8.47	9.30
SP 9634	C-319	9/16"	8 1/2"	.054	1	9.55	12.40
SP 9635	C-323	5/8"	8 1/2"	.080	1	25.60	5.20
SP 9636	C-337	1"	8 1/2"	.120	1	51.00	5.38
SP 9637	C-303	1"	12"	.105	1	35.40	11.70
SP 9638	C-311	7/16"	10 1/4"	.041	1	5.60	17.50
SP 9639	C-253	9/16"	16 1/2"	.054	1	9.50	25.20
SP 9640	#3 CA	5/16"	16 3/8"	.050	1	13.80	25.20
SP 9641	#4 CA	23/64"	16 3/8"	.059	1	15.70	25.20
SP 9642	#5 CA	13/32"	16 3/8"	.060	1	19.60	25.20
SP 9643	#6 CA	15/32"	16 3/8"	.065	1	23.10	25.20
SP 9644	#7 CA	1/2"	16 3/8"	.075	1	26.40	25.20
SP 9645	C-251	1 1/8"	16"	.105	1	31.20	22.00
SP 9649	PRIME SPRING	1 9/16"	7 3/4"	.227	1	342.00	2.30
SP 9651	#4 BL	5/16"	16 3/8"	.050	1	13.80	25.20
SP 9652	#5 BL	23/32"	16 3/8"	.060	1	19.60	25.20
SP 9655		1"	7"	.135	1	69.90	
SP 9656	C-1	1/8"	1 1/2"	.015	2	1.45	2.08
SP 9657	C-13	7/32"	1 1/2"	.023	2	3.00	2.64
SP 9658	C-29	1 1/32"	1 1/2"	.028	2	3.33	4.03
SP 9659	C-31	7/16"	1 1/2"	.028	2	2.64	6.18
SP 9660	C-55	5/32"	1 7/8"	.020	2	2.69	2.13
SP 9661	C-73	9/32"	1 7/8"	.025	2	2.92	4.78
SP 9662	C-81	7/16"	1 7/8"	.028	2	2.64	8.79
SP 9663	C-119	1/4"	2 1/2"	.035	2	8.46	2.03

EXTENSION

PART #	REF #	O.D.	LGTH	WIRE DIA	PK QTY	MAX SAFE LOAD LBS.	MAX DEFLECTION
SP 9664	C-131	7/16"	2 1/2"	.028	2	2.64	13.20
SP 9665	C-155	3/16"	3"	.028	2	2.85	5.37
SP 9666	C-157	1/4"	3 1/4"	.025	2	2.64	4.10
SP 9667	C-163	7/16"	3 1/2"	.074	2	8.47	3.50
SP 9668	C-179	3/16"	2 7/8"	.072	2	2.11	1.48
SP 9669	C-183	3/16"	4"	.047	2	6.70	7.42
SP 9670	C-215	3/8"	3 3/8"	.041	2	6.52	3.88
SP 9671	C-231	9/16"	6"	.072	2	21.10	3.61
SP 9672	C-239	3/8"	6 1/2"	.047	2	9.77	4.67
SP 9673	C-293	3/8"	6 3/4"	.062	1	20.70	2.05
SP 9674	C-321	3/8"	8 1/2"	.062	1	12.90	10.70
SP 9675	C-325	7/8"	8 1/2"	.062	1	9.37	23.90
SP 9676	C-329	7/8"	8 1/2"	.105	1	40.10	5.56
SP 9677	C-339	1 1/4"	10"	.148	1	73.7	6.18
SP 9678	PRIME SPRING	1 9/16"	8 3/4"	.148	2	352.00	2.30

COMPRESSION

PART #	REF #	O.D.	LGTH	WIRE DIA	PK QTY	MAX SAFE LOAD LBS.	SOLID HEIGHT
SP 9700	C-510	1/8"	1 1/2"	.035	6	11.40	.262
SP 9701	C-562	1/4"	1"	.035	6	11.40	
SP 9702	C-566	3/8"	3/4"	.032	6	4.47	.23
SP 9703	C-624	3/8"	1 1/8"	.041	4	9.00	.461
SP 9704	C-650	7/32"	1 3/4"	.020	4	2.60	.375
SP 9705	C-676	7/16"	2 1/8"	.031	4	3.85	.402
SP 9706	C-704	1/2"	1 1/2"	.041	2	6.84	.400
SP 9707	C-706	9/16"	1 3/8"	.072	2	28.20	.738
SP 9708	C-712	1 1/16"	1 1/4"	.091	2	44.70	.755
SP 9709	C-730	1 3/32"	2 3/4"	.047	2	12.40	1.128
SP 9710	C-736	1/2"	2 3/4"	.072	2	31.30	1.560
SP 9711	C-756	23/32"	3 1/2"	.041	2	4.82	.461
SP 9712	C-766	3/16"	3"	.051	2	19.90	.954
SP 9713	C-836	7/8"	4"	.080	2	24.80	1.28
SP 9714	C-516	5/32"	1"	.011	6	.62	.138
SP 9715	C-526	3/16"	1"	.028	6	7.86	.483
SP 9716	C-580	3/16"	1 3/8"	.028	6	7.86	.652
SP 9717	C-582	3/16"	1 3/8"	.016	6	1.57	.260
SP 9718	C-608	1/4"	1 3/8"	.025	4	2.29	.250
SP 9719	C-612	9/32"	1 3/8"	.025	4	4.42	.444
SP 9720	C-614	9/16"	1 1/4"	.041	4	10.60	.615
SP 9721	C-632	7/16"	1 1/8"	.041	4	7.77	.359
SP 9722	C-652	7/32"	1 3/8"	.028	4	7.77	.526
SP 9723	C-660	3/16"	1 3/4"	.016	4	.84	.156
SP 9724	C-664	1 1/32"	1 1/2"	.047	4	14.40	.796
SP 9725	C-672	3/8"	1 3/4"	.035	4	5.75	.505
SP 9726	C-680	3/16"	2"	.047	4	15.70	1.15
SP 9727	C-692	5/8"	1 1/2"	.041	2	5.52	.301
SP 9728	C-702	9/16"	1"	.054	2	12.90	.396
SP 9729	C-742	3/8"	2 3/4"	.054	3	11.70	.770
SP 9730	C-782	3/8"	3"	.080	2	44.20	1.34
SP 9731	C-792	7/8"	3"	.105	2	52.70	1.503
SP 9732	C-732	1 1/16"	4"	.148	2	124.00	2.632
SP 9733	C-826	1"	3 1/2"	.120	2	66.60	1.717
SP 9734	C-830	1 1/8"	3"	.105	2	41.60	1.108
SP 9735	C-832	1"	3"	.120	2	66.6	1.536
SP 9736	C-892	1 1/8"	7"	.162	1	134.00	4.15



Image: A comprehensive table detailing specifications for various Prime-Line extension and compression springs, including part numbers, dimensions, and load capacities.

INSTALLATION GUIDELINES

Proper installation ensures the spring functions as intended and prevents premature failure. Always wear appropriate safety gear, such as eye protection, when handling springs.

- Select Correct Spring:** Verify that the chosen spring matches the required dimensions (outside diameter, length, wire diameter) and load capacity for your specific application. Incorrect spring selection can lead to malfunction or damage.
- Secure Attachment Points:** Ensure that the points where the spring will be attached are robust and capable of withstanding the spring's tension.
- Attach Securely:** Utilize the single loop open ends to securely fasten the spring to the designated components. Ensure there is no binding or obstruction that could impede the spring's movement.
- Test Functionality:** After installation, carefully test the mechanism to confirm the spring provides the desired tension and movement without excessive strain or slack.

OPERATION

Extension springs operate by resisting a pulling force. When stretched, they store mechanical energy and exert a contracting force to return to their original length. The SP 9610 is designed to provide consistent tension and retraction in applications where components need to be pulled together or returned to a closed position.

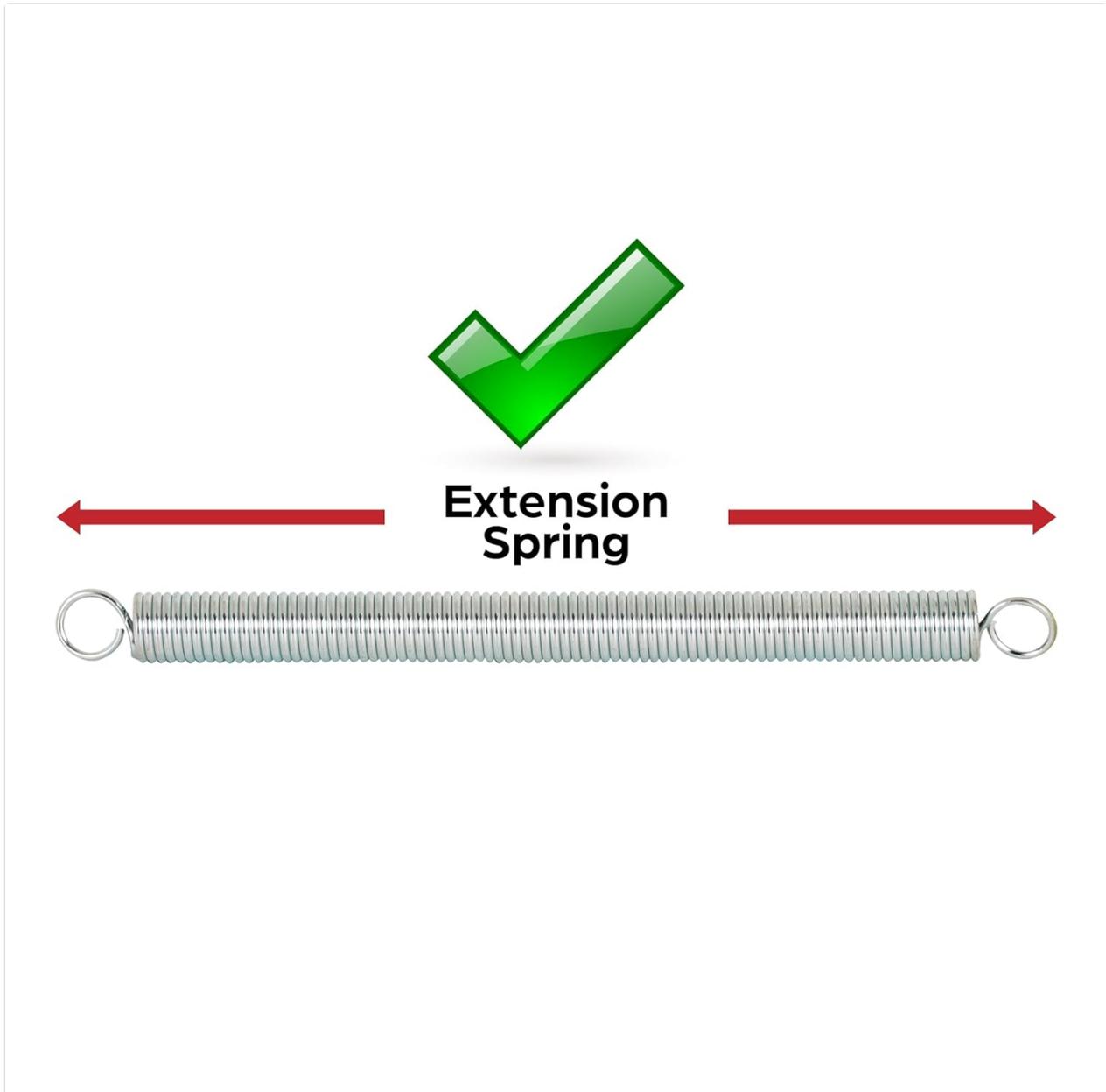


Image: An illustration showing an extension spring with arrows indicating the direction of extension, confirming its function.

MAINTENANCE

Regular inspection and basic maintenance can extend the lifespan of your extension springs.

- **Visual Inspection:** Periodically check the spring for signs of wear, corrosion, cracks, or deformation. Pay close attention to the loops and coils.
- **Cleanliness:** Keep the spring and its surrounding area free from dirt, debris, and corrosive substances.
- **Lubrication:** In some applications, light lubrication may be beneficial to reduce friction and prevent rust, especially in high-cycle environments. Use a lubricant compatible with the spring material and operating conditions.
- **Replacement:** If any signs of damage or excessive wear are observed, replace the spring immediately to prevent failure of the associated mechanism.

TROUBLESHOOTING

Common issues with extension springs and potential solutions.

- **Spring Does Not Retract Fully:**
 - Check for obstructions preventing full retraction.
 - Verify the spring is not overstretched beyond its maximum deflection.
 - The spring may be fatigued and require replacement.
- **Spring Breaks:**
 - Indicates excessive load, fatigue, or material defect. Replace with a spring of appropriate specifications.
 - Inspect attachment points for sharp edges that could cause stress concentrations.
- **Excessive Noise During Operation:**
 - Ensure the spring is not rubbing against other components. Adjust positioning if necessary.
 - Apply a suitable lubricant if friction is the cause.

WARRANTY INFORMATION

For specific warranty details regarding the Prime-Line SP 9610 Extension Spring, please refer to the manufacturer's official warranty policy. Warranty coverage typically addresses defects in materials and workmanship under normal use. Keep your purchase receipt for any warranty claims.

CUSTOMER SUPPORT

If you have questions, require technical assistance, or need to report an issue, please contact Prime-Line customer support. You can find contact information and additional resources on the official Prime-Line website.

Visit the [PRIME-LINE Store](#) for more products and information.