

Spring Information

SPRING TYPES

Compression

Shorten under load to absorb impact, apply pressure to surfaces, or protect against the effects of shock. See pages 2159 and 2160.

Convex discs generate high force within a very short length. Discs can be used singly or stacked in numerous combinations to achieve desired load and travel with minimal movement. See grainger.com/fasteners.



Extension (Tension)

Expand and elongate under load and have a hook, eye, or some other means of attachment at either end to allow attached pieces to give way and absorb impact, shock, or other forces. See page 2158.

Torsion

Ends rotate in angular deflection to offer resistance to externally applied torque. Commonly used over an arbor or mandrel for support, and in other applications where pressure needs to be maintained over a short distance. See page 2159.



1NDW4

Spring Assortments Note: See Grainger.com for specific contents.

No. of Sizes	es No. of Pieces Material		Item No.	
Spring Assortment	140. 01 1 10000	matoriui	140.	
Compression				
8	16	Carbon Steel	3HPU6	
50	100	Carbon Steel	3HPU4	
Cut-to Length Compression	, Double Loop Extension, ar			
40	90	Carbon Steel	3HPU2	
Double Loop Extension				
25	25	Carbon Steel	3HPU3	
Extension				
50	100	Carbon Steel	3HPU5	
Extension, Cot Extension, C				
111	600	Carbon Steel	3HPU8	
Extension and Compression				
20	20	Carbon Steel	3HPU7	
40	123	High Carbon Steel	1NDW4	
79	218	High Carbon Steel	1NDW2	
Left Hand Torsion Spring				
12	36	Stainless Steel	3HPV5	
44	44	Music Wire	3HPV3	
Precision Compression				
75	150	High Carbon Steel	1NDW6	
75	150	302 Stainless Steel	1NDW8	
Right Hand Torsion Spring				
12	36	Stainless Steel	3HPV6	
44	44	Music Wire	3HPV4	



Overall Outside Wire Load Item Pka. (lb.) Qty. 0.25 in 0.3125 in 1NA.17 1 1/4 in 1NAK1 1NAK2 1NAK3 0.3125 in 0.029 in 3.53 INAK5 0.3125 in 0.035 in 2.77 INAK4 0.375 in 0.048 in 10.03 INAK5 0.25 in 0.029 in 3.53 INAK6 0.3125 in 0.035 in 4.91 INAK7 0.3125 in 0.035 in 3.99 INAK9 1 3/4 in 0.375 in 0.375 in 0.375 in 0.3125 in 0.375 in 0.375 in 0.048 in 1 0.4375 in 0.048 in 1 0.375 in 0.048 in 1 0.4375 in 0.048 in 1 0.4375 in 0.048 in 1 0.375 in 0.048 in 1 0.4375 in 0.048 in 1 0.578 in 0.063 in 1 1NAL7 in 10.03 1NAL8 in 8.5 1NAL9 in 10.03 1NAN1 0.4375 in 0.4375 in 1NAN4 0.5781 in

Length	Dia.	Dia.	(lb.)	No.	n ky.
Length	Did.	el, Zinc-P	(ID.)	NU.	Qty.
nigii Ga	0.1875 in	o coo :-	lateu	1MZX5	10
	0.1873 lil	0.023 in	2.3		12
1 in	0.3125 in	0.029 in	3.28 2.62	1MZX6	12
	0.3125 in	0.029 in	2.62	1MZX7	12
	0.3125 III 0.1875 in	0.035 in	4.65	1MZX8	12
	0.1875 III	0.023 in	2.33	1MZX9	12
	0.25 in	0.029 in	3.31	1MZY1	12
1 ¼ in		0.029 in	2.62	1MZY2	12 12 12
	0.3125 in	0.035 in	4.61	1MZY3	12
	0.375 in	0.035 in	3.79	1MZY4	12
	0.1875 in	0.023 in	2.43	1MZY5	12
	0.25 in	0.029 in	3.37 2.62	1MZY6	12
1 ½ in	0.3125 in	0.029 in	2.62	1MZY7	12
1 72 111	0.3125 in	0.035 in	4.67	1MZY8	12 12 12
	0.375 in	0.035 in	3.76	1MZY9	12
	0.375 in	0.048 in	9.59	1MZZ1	3
	0.25 in	0.029 in	3.35	1MZZ3	12
	0.3125 in	0.029 in	2.61	1MZZ4	12
1 3/4 in	0.3125 in	0.035 in	4.64	1MZZ5	12 12 12
	0.375 in	0.035 in	3.8	1MZZ6	12
	0.375 in	0.048 in	9.54	1MZZ7	- 3
	0.1875 in	0.023 in	2.34	1MZZ8	12 12
	0.25 in	0.029 in	3.35	1MZZ9	12
0.	0.3125 in	0.029 in	2.61	1NAA1	12
2 in	0.3125 in	0.035 in	4.65	1NAA2	6
	0.375 in	0.035 in	3.81	1NAA3	12
	0.375 in	0.048 in	9.53	1NAA4	3
	0.25 in	0.029 in	3.37	1NAA6	12
	0.3125 in	0.029 in	2.62	1NAA7	12
2 1/4 in	0.3125 in	0.035 in	4.57	1NAA8	12
2 /4 111	0.375 in	0.035 in	3.8	1NAA9	3
	0.375 in	0.048 in	9.53	1NAB1	3
		0.0 10 111	0.00		

Utility Extension Springs

For use with OEM or maintenance and repair applications. Crossover center loop ends. Type 302 stainless steel meet ASTM A313 and AISI Type 302/304 standards. High carbon steel meet ASTM A227 standard.

Note: Additional sizes and ultra-precision extension springs are available on Grainger.com; search for "extension springs" or "ultra-precision extension springs."

Length Dia. Dia.	Overall	Outside	Wire	Load	Item	Pkg.
0.25 in 0.029 in 3.36 1NAB3 12 0.3125 in 0.029 in 2.61 1NAB4 12 0.375 in 0.029 in 2.61 1NAB5 12 0.375 in 0.035 in 3.81 1NAB6 3 0.375 in 0.048 in 9.53 1NAB7 6 0.4375 in 0.048 in 9.53 1NAB7 6 0.4375 in 0.048 in 9.53 1NAB7 6 0.4375 in 0.048 in 9.53 1NAC4 6 0.4375 in 0.048 in 9.53 1NAC4 6 0.4375 in 0.048 in 9.53 1NAC6 12 0.375 in 0.048 in 8.02 1NAC6 12 0.383 in 0.048 in 1.52 1NAD2 12 0.258 in 0.026 in 1.52 1NAD3 12 0.258 in 0.026 in 1.52 1NAD5 12 0.258 in 0.035 in 7.08 1NAD6 6 0.3281 in 0.044 in 7.37 1NAD8 6 0.3375 in 0.048 in 13.32 1NAD9 6 0.4375 in 0.048 in 13.32 1NAD9 6	Length					
0.375 in 0.035 in 3.81 NAB6 3						_12_
0.375 in 0.035 in 3.81 NAB6 3				3.36		12
0.375 in 0.035 in 3.81 NAB6 3			0.029 in	2.61		12
0.375 in 0.035 in 3.81 NAB6 3	2 ½ in			4.67		12
0.375 in 0.035 in 3.81 NAB9 3.2						3
0.375 in 0.035 in 3.81 NAB9 3.2			0.048 in			6
2 94 in						6
0.4375 in 0.048 in 8.03 1NAC2 12 0.375 in 0.035 in 3.8 1NAC3 3 3 3 3 3 3 3 3 3			0.035 in		1NAB9	3
0.375 in 0.035 in 3.8 1NAC3 3 3 in 0.375 in 0.048 in 9.53 1NAC4 6 0.4375 in 0.048 in 8.01 1NAC5 12 3 1/4 in 0.4375 in 0.048 in 8.02 1NAC6 12 3 1/2 in 0.4375 in 0.048 in 8.02 1NAC6 12 3 1/2 in 0.4375 in 0.048 in 8.02 1NAC6 12 0.1375 in 0.048 in 8.02 1NAC8 12 0.1583 in 0.028 in 1.04 1NAC9 12 0.1583 in 0.028 in 1.02 1NAD2 12 0.2381 in 0.028 in 1.02 1NAD4 12 0.2381 in 0.029 in 3.72 1NAD5 12 0.2381 in 0.035 in 7.08 1NAD6 6 0.375 in 0.048 in 13.82 1NAD9 6 0.3328 in 0.041 in 7.37 1NAD8 6 0.3375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.048 in 7.79 1NAE1 6	2 ¾ in			9.53		6
0.4375 in 0.048 in 8.01 1NAC5 12 3 14 in 0.375 in 0.048 in 8.02 1NAC6 12 3 14 in 0.375 in 0.048 in 8.02 1NAC6 12 3 14 in 0.375 in 0.048 in 8.02 1NAC7 12 0.375 in 0.048 in 8.02 1NAC8 12 0.375 in 0.048 in 8.02 1NAC8 12 0.325 in 0.048 in 1.04 1NAC9 12 0.325 in 0.026 in 1.04 1NAC9 12 0.325 in 0.026 in 2.52 1NAD4 12 0.325 in 0.032 in 4.56 1NAD5 12 0.325 in 0.032 in 4.56 1NAD6 6 0.325 in 0.032 in 7.08 1NAD6 6 0.325 in 0.048 in 7.37 1NAD8 6 0.325 in 0.048 in 7.32 1NAD6 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.51 in 0.054 in 18.21 10.21 10.22 10.054 in 11.92 1NAE2 6				8.03		12
0.4375 in 0.048 in 8.01 1NAC5 12 3 14 in 0.375 in 0.048 in 8.02 1NAC6 12 3 14 in 0.375 in 0.048 in 8.02 1NAC6 12 3 14 in 0.375 in 0.048 in 8.02 1NAC7 12 0.375 in 0.048 in 8.02 1NAC8 12 0.375 in 0.048 in 8.02 1NAC8 12 0.325 in 0.048 in 1.04 1NAC9 12 0.325 in 0.026 in 1.04 1NAC9 12 0.325 in 0.026 in 2.52 1NAD4 12 0.325 in 0.032 in 4.56 1NAD5 12 0.325 in 0.032 in 4.56 1NAD6 6 0.325 in 0.032 in 7.08 1NAD6 6 0.325 in 0.048 in 7.37 1NAD8 6 0.325 in 0.048 in 7.32 1NAD6 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.51 in 0.054 in 18.21 10.21 10.22 10.054 in 11.92 1NAE2 6						3
3 ¼ in 0.4375 in 0.048 in 8.02 1NAC6 12 3 ¼ in 0.4375 in 0.048 in 8.02 1NAC7 12 3 ¼ in 0.4375 in 0.048 in 8.02 1NAC8 12 0.125 in 0.016 in 1.04 1NAC9 12 0.125 in 0.016 in 1.04 1NAD2 12 0.125 in 0.023 in 2.2 1NAD3 12 0.231 in 0.026 in 2.52 1NAD4 12 0.234 in 0.029 in 3.72 1NAD5 12 0.25 in 0.032 in 4.56 1NAD6 6 4 in 0.25 in 0.032 in 4.56 1NAD6 6 0.328 in 0.041 in 7.37 1NAD8 6 0.3328 in 0.041 in 7.37 1NAD8 6 0.4375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.505 in 0.054 in 11.92 1NAE2 6	3 in		0.048 in			6
3 ½ in 0.4375 in 0.048 in 8.02 1NAC7 12 3 ¾ in 0.4375 in 0.048 in 8.02 1NAC8 12				8.01		12
0.1583 in 0.02 in 1.52 1NAD2 12 0.1875 in 0.025 in 2.2 1NAD3 12 0.2031 in 0.026 in 2.52 1NAD4 12 0.2234 in 0.029 in 3.72 1NAD5 12 0.251 in 0.032 in 4.56 1NAD6 6 0.281 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 3				8.02		12
0.1583 in 0.02 in 1.52 1NAD2 12 0.1875 in 0.025 in 2.2 1NAD3 12 0.2031 in 0.026 in 2.52 1NAD4 12 0.2234 in 0.029 in 3.72 1NAD5 12 0.251 in 0.032 in 4.56 1NAD6 6 0.281 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 3	3 ½ in					12
0.1583 in 0.02 in 1.52 1NAD2 12 0.1875 in 0.025 in 2.2 1NAD3 12 0.2031 in 0.026 in 2.52 1NAD4 12 0.2234 in 0.029 in 3.72 1NAD5 12 0.251 in 0.032 in 4.56 1NAD6 6 0.281 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 6 0.4375 in 0.054 in 11.2 1NAE2 3	3 ¾ in			8.02		12
0.1875 in 0.023 in 2.2 1NAD3 12 0.2031 in 0.026 in 2.2 1NAD4 12 0.22344 in 0.026 in 3.72 1NAD5 12 0.2516 0.032 in 4.56 1NAD6 6 4 in 0.032 in 4.56 1NAD7 6 0.3281 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.044 in 7.37 1NAD8 6 0.4375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.516 0.054 in 11.92 1NAE2 6				1.04		12
02344 in 0,029 in 3,72 1NAD5 12 02516 0,032 in 4,56 1NAD6 6 02813 in 0,035 in 7,08 1NAD7 6 03281 in 0,041 in 7,37 1NAD8 6 0375 in 0,048 in 13,82 1NAD9 6 04375 in 0,048 in 7,79 1NAE1 6 04375 in 0,054 in 11,22 1NAE2 6 055 in 0,054 in 16,61 1NAE3 3				1.52		12
02344 in 0.029 in 3.72 1NAD5 12 0251 in 0.032 in 4.56 1NAD6 6 0251 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.29 1NAE2 6 0.51 in 0.056 in 16.61 1NAE3 3				2.2		12
02344 in 0.029 in 3.72 1NAD5 12 0251 in 0.032 in 4.56 1NAD6 6 0251 in 0.035 in 7.08 1NAD7 6 0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.29 1NAE2 6 0.51 in 0.056 in 16.61 1NAE3 3	4 in			2.52		12
0.25 in 0.032 in 4.56 1NAD6 6 4 in 0.281 in 0.035 in 7.08 1NAD7 6 0.281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 17.99 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.5 in 0.053 in 16.61 1NAE3 3				3.72		12
0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.51 in 0.063 in 16.61 1NAE3 3				4.56		-6
0.3281 in 0.041 in 7.37 1NAD8 6 0.375 in 0.048 in 13.82 1NAD9 6 0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.51 in 0.063 in 16.61 1NAE3 3			0.035 in	7.08		6
0.4375 in 0.048 in 7.79 1NAE1 6 0.4375 in 0.054 in 11.92 1NAE2 6 0.5 in 0.063 in 16.61 1NAE3 3			0.041 in	7.37		6
0.4375 in 0.054 in 11.92 1NAE2 6 0.5 in 0.063 in 16.61 1NAE3 3			0.048 in			6
0.5 in 0.063 in 16.61 1NAE3 3						6
0.5 in 0.063 in 16.61 1NAE3 3				11.92	1NAE2	6
0.5781 in 0.070 in 00.00 4MAEA 0				16.61		3
0.072 III 22.20 INAE4 3		0.5781 in	0.072 in	22.28	1NAE4	3

Overall Length	Dia.	Wire Dia.	Load (lb.)	Item No.	Pkg Qty.
	0.125 in	0.016 in	1.07	1NAE5	6
	0.1563 in	0.02 in	1.5	1NAE7	6
	0.1875 in	0.023 in	1.8	1NAE8	6
	0.2031 in	0.026 in	2.6	1NAE9	6
	0.2344 in	0.029 in	3.9	1NAF1	6
6 in	0.25 in	0.032 in	4.8	1NAF2	6 3 6
O III	0.2813 in	0.035 in	5.7	1NAF3	6
	0.3281 in	0.041 in	6.7	1NAF4	6
	0.375 in	0.048 in	9.6	1NAF5	6
	0.4375 in	0.054 in	10.8	1NAF6	6
	0.5 in	0.063 in	16.8	1NAF7	3
	0.5781 in	0.072 in	19.8	1NAF8	3
	0.125 in	0.016 in	1.31	1NAF9	3 6
	0.1563 in	0.02 in	2.04	1NAH2	6
	0.1875 in	0.023 in	1.8	1NAH3	6
8 in	0.25 in	0.032 in	4.5	1NAH6	6
	0.2813 in	0.035 in	7.2	1NAH7	6
	0.3281 in	0.041 in	7	1NAH8	6
	0.375 in	0.048 in	10.2	1NAH9	6
	0.4375 in	0.054 in	10.9	1NAJ1	6
	0.5 in	0.063 in	18.5	1NAJ2	6
	0.5781 in	0.072 in	24.6	1NAJ3	6

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