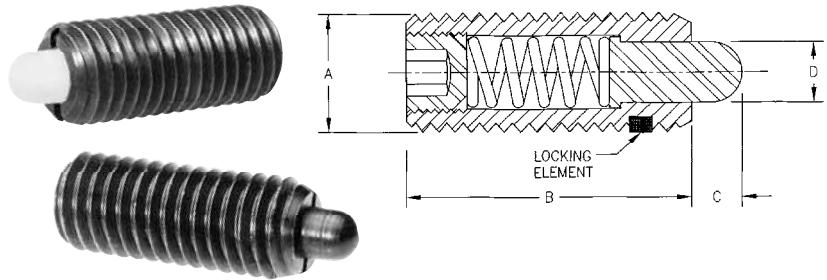


Standard Spring Plungers

- Steel Body Plungers:
 - 12L14 Steel Body, Black
 - Light End Force: Zinc Plated
 - Heavy End Force: Black Oxide Finish
- Stainless Steel Body Plungers:
 - 303 Stainless Steel Body
- Excellent wear resistance



Carbon & Stainless Steel Nose

LIGHT END FORCE				HEAVY END FORCE				Thread A	B	C	+.000 -.001 D	Weight (lbs/100pcs)
Steel Part No.	Stainless Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final	Steel Part No.	Stainless Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final					
–	–			52002	53202	1.00	1.60	6-32	3/8	.062	.046	.10
52201	53301	.50	1.50	52001	53201	1.50	4.50	6-32	17/32	.062	.046	.10
52202	53302	.70	2.30	52003	53203	1.00	1.60	8-32	5/8	.093	.070	.22
52203	53303	1.30	2.70	52004	53204	2.70	7.30	10-32	3/4	.125	.093	.37
52217	53308	.25	2.00	52007	53207	2.90	11.10	1/4-20	3/4	.125	.119	.65
52204	53305	1.00	4.00	52005	53205	3.00	13.00	1/4-20	1	.187	.119	.75
52205	53306	1.00	4.00	52006	53206	3.00	13.00	1/4-28	1	.187	.119	.75
52206	53304	1.50	4.50	52008	53208	2.00	9.00	5/16-18	1	.187	.135	1.40
52207	53307	2.80	7.20	52009	53209	3.00	15.00	3/8-16	1-1/8	.187	.186	2.00
52208	53309	2.70	9.30	52010	53210	5.50	14.50	1/2-13	1-1/4	.250	.248	4.50
52209	53310	3.50	10.50	52011	53211	6.60	17.40	5/8-11	1-1/2	.312	.310	8.00
52210	53311	4.00	16.00	52012	53212	6.70	37.30	3/4-10	1-3/4	.312	.374	14.00
52211	53312	4.00	31.00	52013	53213	16.00	68.00	1-8	2-13/32	.500	.499	32.00

- Nose – Light End Force: Case Hardened 12L14 Steel, Zinc Plated
- Nose – Heavy End Force: Case Hardened 12L14 Steel, Black Oxide Finish

Delrin® Nose

LIGHT END FORCE: WHITE NOSE				HEAVY END FORCE: BLACK NOSE				Thread A	B	C	+.000 -.002 D	Weight (lbs/100pcs)
Steel Part No.	Stainless Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final	Steel Part No.	Stainless Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final					
52301	53313	.70	2.30	52101	53220	2.70	7.30	8-32	5/8	.093	.070	.20
52302	53314	1.30	2.70	52102	53221	2.90	11.10	10-32	3/4	.125	.093	.33
52309	53321	.25	2.00	52109	53228	3.00	13.00	1/4-20	3/4	.125	.119	.65
52303	53315	1.00	4.00	52103	53222	3.00	13.00	1/4-20	1	.187	.119	.70
52308	53320	1.00	4.00	52108	53227	3.00	13.00	1/4-28	1	.187	.119	.70
52304	53316	1.50	4.50	52104	53223	3.00	15.00	5/16-18	1	.187	.135	1.20
52305	53317	2.80	7.20	52105	53224	5.50	14.50	3/8-16	1-1/8	.187	.186	1.80
52306	53318	2.70	9.30	52106	53225	6.60	17.40	1/2-13	1-1/4	.250	.248	3.80
52307	53319	3.50	10.50	52107	53226	10.60	25.50	5/8-11	1-1/2	.312	.310	7.00

- Nose – Light End Force: White Delrin
- Nose – Heavy End Force: Black Delrin

Phenolic Nose

LIGHT END FORCE			HEAVY END FORCE			Thread A	B	C	+.000 -.002 D	Weight (lbs/100pcs)
Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final	Steel Part No.	End Force (lbs) Initial	End Force (lbs) Final					
57409	0.70	2.30	57401	2.70	7.30	8-32	5/8	.093	.070	.20
57410	1.30	2.70	57402	2.90	11.10	10-32	3/4	.125	.092	.33
57411	1.00	4.00	57403	3.00	13.00	1/4-20	1	.187	.118	.70
57412	1.00	4.00	57404	3.00	13.00	1/4-28	1	.187	.118	.70
57413	1.50	4.50	57405	3.00	15.00	5/16-18	1	.187	.135	1.20
57414	2.80	7.20	57406	5.50	14.50	3/8-16	1-1/8	.187	.187	1.80
57415	2.70	9.30	57407	6.60	17.40	1/2-13	1-1/4	.250	.248	3.80
57416	3.50	10.50	57408	10.50	25.50	5/8-11	1-1/2	.312	.310	7.00

- Nose – Brown Phenolic
- Ideal for aluminum, brass, or any soft easily marred material
- High tensile strength

Special sizes quoted upon request – see quotation form on page 115.
For information concerning installation, see page 125.

NYLON THREAD LOCKING ELEMENT IS STANDARD ON ALL SIZES

To order ball plungers without a locking element, simply add an "X" to the end of the part number (ex. 52821X). Pricing is the same with or without locking element.

GENERAL INFORMATION

- Metric sizes available, see page 97
- Many sizes conform to TCMAI standards
- Typical uses: positioning, locating, ejecting, detents, contacts, lifters, insulators, and latches
- Easy installation



SPRING LOADED DEVICES

Installation Information for TE-CO Spring Loaded Devices

Most TE-CO Spring & Ball Plungers can be installed using a screwdriver, hex key wrench, or spring/ball plunger wrench (see page 100). Also, many Hand Retractable Spring Plungers can be installed without using any tools by simply using its knob to engage the threads. Because spring loaded devices have hollow bodies, the maximum installation torques they can withstand are significantly less than bolts or screws. The table below should be used as a guideline for installing spring loaded devices.

Unified Thread Size	Metric Thread Size	Max Installation Torque (inch pounds)
No. 4	M2.5 x 0.45	.60
No. 5	M3 x 0.5	1.25
No. 6	M3.5 x 0.6-6g	1.65
No. 8	M4 x 0.7-6g	2.15
No. 10	M5 x 0.8-6g	3.15
1/4	M6 x 1-6g	6.0
5/16	M8 x 1.25	11.0
3/8	M10 x 1.5	16.0
7/16	M11 x 1.5	22.0
1/2	M12 x 1.75	28.0
9/16	M14 x 2.0	36.0
5/8	M16 x 2.0	55.0
3/4	M20 x 2.5	70.0
7/8	M22 x 2.5	95.0
1	M24 x 3.0	130.0
1-1/8	M30 x 3.5	160.0
1-1/4	M33 x 3.5	190.0

Most TE-CO Spring Loaded Devices can be ordered with or without a nylon thread locking element (see each product group for details). The nylon-locking element forces the threads on the opposite side of a spring loaded device to compress against the mating threads of a tapped hole, providing the thread locking property. The nylon-locking element can cause installation problems when installing into softer metals or aluminum. This can be prevented by either using a larger tap drill when tapping, by ordering a spring plunger without a locking element, or by requesting a quote for a special plunger that will fit your needs.

When installing spring loaded devices with a nylon thread locking element pellet (thread sizes 5/16" and larger or M8 and larger), TE-CO recommends that the tapped installation hole be countersunk 90 degrees by 1/32 larger than major thread diameter to prevent damage to the locking element.

For more detailed information you may contact any of our knowledgeable TE-CO Customer Service Representatives at 800-543-4071.

Inch Tap Drill Sizes Table for Spring Plungers

Tap	Tap Drill	Decimal Equiv. of Tap Drill	Probable Hole Size	Percent Of Thread %
4-48	42	0.0935	0.0955	61
	3/32	0.0938	0.0958	60
	41	0.0960	0.0980	52
5-40	40	0.098	0.1003	76
	39	0.0995	0.1018	71
	38	0.1015	0.1038	65
	37	0.1040	0.1063	58
	37	0.1040	0.1063	78
6-32	36	0.1065	0.1091	71
	7/64	0.1094	0.1120	64
	35	0.1100	0.1126	63
	34	0.1110	0.1136	60
	33	0.1130	0.1156	55
6-40	34	0.1110	0.1136	75
	33	0.1130	0.1156	69
	32	0.1160	0.1186	60
8-32	29	0.1360	0.1389	62
	28	0.1405	0.1434	51
8-36	29	0.1360	0.1389	70
	28	0.1405	0.1434	57
	9/64	0.1406	0.1435	57
10-32	5/32	0.1563	0.1595	75
	22	0.1570	0.1602	73
	21	0.1590	0.1622	68
	20	0.1610	0.1642	64
	19	0.1660	0.1692	51
1/4-20	9	0.1960	0.1998	77
	8	0.1990	0.2028	73
	7	0.2010	0.2048	70
	13/64	0.2031	0.2069	66
	6	0.2040	0.2078	65
	5	0.2055	0.2093	63
	4	0.2090	0.2128	57
1/4-28	3	0.2130	0.2168	72
	7/32	0.2188	0.2226	59
	2	0.2210	0.2248	55
5/16-18	F	0.257	0.2608	72
	G	0.261	0.2651	66
	17/64	0.2656	0.2697	59
	H	0.2660	0.2701	59
3/8-16	5/16	0.3125	0.3169	72
	O	0.3160	0.3204	68
	P	0.3230	0.3274	59
1/2-13	27/64	0.4219	0.4266	73
	7/16	0.4375	0.4422	58
5/8-11	17/32	0.5313	0.5362	75
	36/64	0.5469	0.5518	62
3/4-10	41/64	0.6406	0.6456	80
	21/32	0.6563	0.6613	68
1-8	55/64	0.8594	0.8653	83
	7/8	0.8750	0.8809	73
	57/64	0.8906	0.8965	64
	29/32	0.9063	0.9122	54