

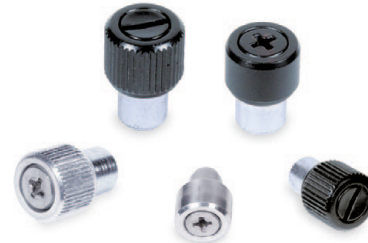


CP

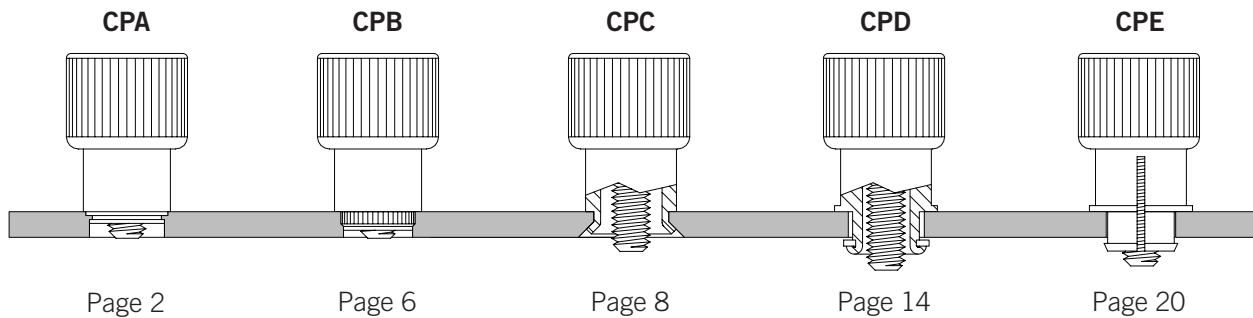
Captive Screw

FEATURES

- Large stylized knob enables threading by hand.
- Accommodates significant misalignment between mating components.
- Concealed spring keeps screw retracted when not fastened.
- Wide variety of thread sizes, recess types and installation styles.
- Eliminates loose hardware.



TYPES



COMPARISON MATRIX

Type	Style	Application Advantage	Installation Sheet Material				Installs Close to Edge
			Aluminum	Carbon Steel	PCB	Any	
CPA	Self-Clinching	Simple, common installation	•	•			Good
CPB	Broaching	Easily presses into aluminum or PCB	•		•		Good
CPC	Flare-in	Requires low installation force	•	•	•	•	Better
CPD	Floating	Maximum float of all styles	•	•	•	•	Best
CPE	Snap-in	Easy hand installation	•	•	•	•	Best

SELECTION GUIDE

1. Determine which captive screw type fits your application as shown in the table above and go to the appropriate page.
2. Select a thread size, screw length and shank length (Types CPC, CPD and CPE).
3. Select a knob style, recess type and material/finish (pages 26 and 27).
4. Pencom offers many options. See pages 5, 8, 14, 20, and 21 for details.



CPA

Self-Clinching Captive Screw

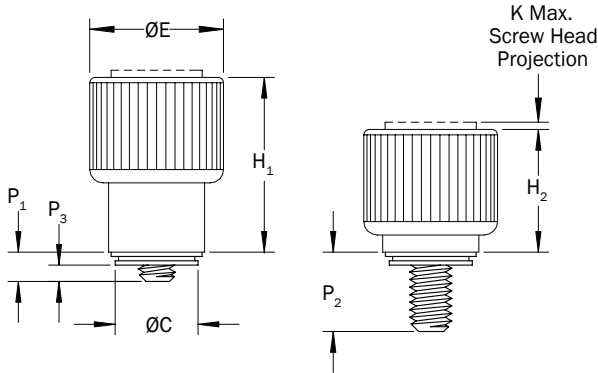
PART DESCRIPTION EXAMPLE

CPA — 440 — .030 — SL — KN — E

T
T
T
T
T

Thread Code
Screw Length Code
Drive Code
Knurled Cap*
Material/Finish Code

*Omit KN for smooth cap



DRIVE

Drive Code	Description	
SL	Slotted	
PH	Cross-recess	
SL-PH	Slotted Cross-recess	
TX	Six-lobe Recess	
SL-TX	Slotted Six-lobe Recess	

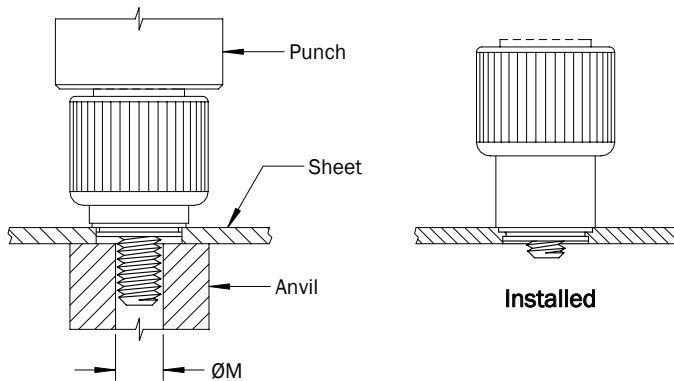
GENERAL

	Thread	Thread Code	Screw Length Code	Sheet			ØC	ØE	P ₁
				Min. Thickness	Hole Size	Min. Dist. Hole Center to Edge			
INCH	4-40	440	.030	.036	.222/.219	.329	.217	.420	.030
			.100						.100
			.160						.160
			.200						.220
	6-32	632	.020	.036	.253/.250	.375	.250	.450	.020
			.080						.080
			.150						.150
			.210						.210
	8-32	832	.020	.036	.315/.312	.473	.311	.510	.020
			.080						.080
			.150						.150
			.210						.210
10-32	1032	.020	.036	.315/.312	.473	.311	.510	.020	
		.080						.080	
		.150						.150	
		.210						.210	
1/4-20	0420	.020	.036	.378/.375	.563	.372	.580	.020	
		.080						.080	
		.150						.150	
		.210						.210	

(1) All dimensions are reference unless toleranced.

INSTALLATION

1. Punch or drill hole in sheet. Do not deburr edges.
2. Insert captive screw in sheet hole and anvil as shown.
3. Squeeze the captive screw and sheet between parallel punch and anvil surfaces. Use only enough pressure to seat the retainer shoulder flush with the sheet. Punch and anvil should be made from hardened steel.



CPA Self-Clinching Captive Screws provide a permanent and reliable installation that installs flush on the back side of thin aluminum and carbon steel sheets.

(CONTINUED)

P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Anvil ØM
				Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads				
.150	.000	.450	.330	.000	.000	.03	#1	T10	.133/.121
.220	.064								
.280	.124								
.340	.184								
.210	.000	.630	.440	.000	.000	.03	#2	T15	.154/.142
.270	.044								
.340	.114								
.400	.174								
.220	.000	.640	.440	.012	.050	.03	#2	T25	.181/.169
.280	.044								
.350	.114								
.410	.174								
.220	.000	.640	.440	.000	.040	.03	#2	T25	.213/.201
.280	.044								
.350	.114								
.410	.174								
.280	.000	.790	.530	.000	.040	.03	#2	T30	.268/.256
.340	.044								
.410	.114								
.470	.174								

All dimensions in inches

GENERAL

METRIC	Thread	Thread Code	Screw Length Code	Sheet			ØC	ØE	P ₁
				Min. Thickness	Hole Size	Min. Dist. Hole Center to Edge			
M3 x 0.5	M3	M3	0.80	0.90	5.64/5.56	8.40	5.50	10.60	0.80
			2.50						2.50
			4.00						4.00
			5.60						5.60
M3.5 x 0.6	M3.5	M3.5	0.50	0.90	6.43/6.35	9.60	6.30	11.50	0.50
			2.10						2.10
			3.70						3.70
			5.30						5.30
M4 x 0.7	M4	M4	0.60	0.90	8.00/7.92	12.00	7.90	13.00	0.60
			2.20						2.20
			3.80						3.80
			5.40						5.40
M5 x 0.8	M5	M5	0.60	0.90	8.00/7.92	12.00	7.90	13.00	0.60
			2.20						2.20
			3.80						3.80
			5.40						5.40
M6 x 1.0	M6	M6	0.50	0.90	9.60/9.50	14.25	9.50	14.70	0.50
			2.10						2.10
			3.70						3.70
			5.30						5.30

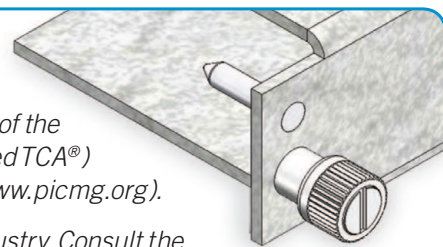
(1) All dimensions are reference unless toleranced.

CPA Self-Clinching Captive Screw



When used in conjunction with Pencom 3mm guide pins, CP Captive Screws satisfy the requirements of PICMG 3.0 of the Advanced Telecom Computing Architecture (Advanced TCA®) specifications for telecommunications rack equipment (www.picmg.org).

Pencom offers the largest variety of guide pins in the industry. Consult the Pencom website or contact an Account Representative to learn how Pencom can meet your alignment needs.



(CONTINUED)

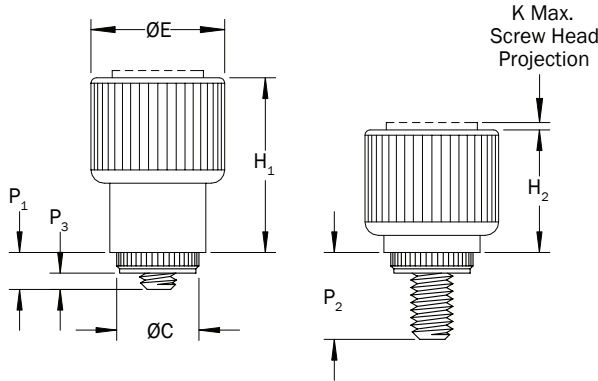
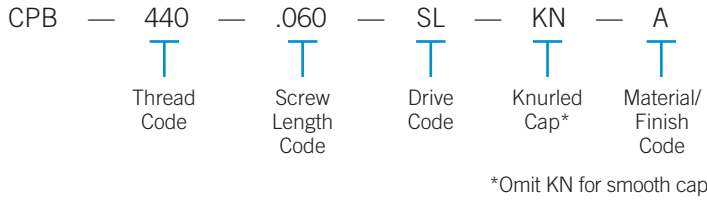
P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Anvil ØM
				Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads				
3.80	0.00	11.30	8.30	0.00	0.00	0.7	#1	T10	3.40/3.10
5.50	1.60								
7.00	3.10								
8.60	4.70								
5.30	0.00	15.90	11.10	0.00	0.00	0.8	#2	T15	3.90/3.60
6.90	1.20								
8.50	2.80								
10.10	4.40								
5.50	0.00	16.20	11.30	0.30	1.30	0.8	#2	T25	4.60/4.30
7.10	1.30								
8.70	2.90								
10.30	4.50								
5.50	0.00	16.20	11.30	0.30	1.30	0.6	#2	T25	5.40/5.10
7.10	1.30								
8.70	2.90								
10.30	4.50								
7.10	0.00	20.00	13.40	0.30	1.30	0.8	#2	T30	6.40/6.10
8.70	1.20								
10.30	2.80								
11.90	4.40								

All dimensions in millimeters



Broaching Captive Screw

PART DESCRIPTION EXAMPLE



DRIVE

Drive Code	Description	
SL	Slotted	
PH	Cross-recess	
SL-PH	Slotted Cross-recess	
TX	Six-lobe Recess	
SL-TX	Slotted Six-lobe Recess	

GENERAL

INCH	Thread	Thread Code	Screw Length Code	Sheet		ØC	ØE	P ₁	P ₂			
				Min. Thickness	Hole Size							
4-40	440	.060	.063	.223/.217	.240	.420	.060	.180				
									.130	.240		
											.190	.300
6-32	632	.060	.063	.256/.248	.270	.450	.060	.240				
									.120	.300		
											.180	.360

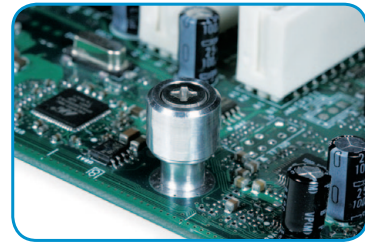
- (1) All dimensions are reference unless toleranced.
- (2) Pull-out force 80 lbs and side load force against unfastened knob 45 lbs based on drilled holes in G-10 PC board. Variations in panel hole size, thickness, material and installation methods will affect the loads. Pencom recommends testing in the application. Contact your account representative for samples.

METRIC	Thread	Thread Code	Screw Length Code	Sheet		ØC	ØE	P ₁	P ₂			
				Min. Thickness	Hole Size							
M3 x 0.5	M3	1.50	1.6	5.70/5.55	6.10	10.60	1.50	4.60				
									3.30	6.10		
											4.80	7.60
M3.5 x 0.6	M3.5	1.40	1.6	6.50/6.30	6.90	11.50	1.40	6.20				
									3.00	7.80		
											4.60	9.40

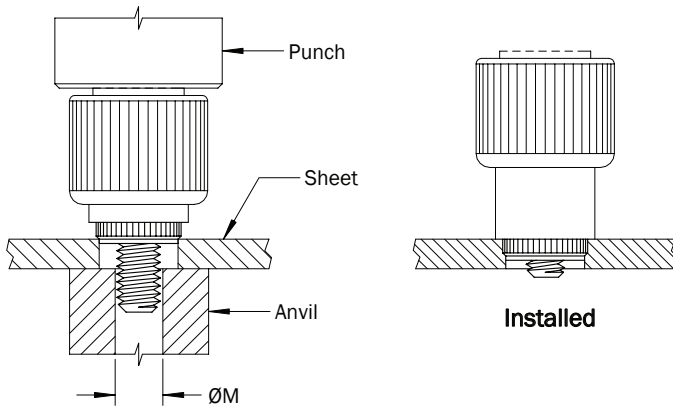
- (1) All dimensions are reference unless toleranced.
- (2) Pull-out force 360N and side load force against unfastened knob 200N based on drilled holes in G-10 PC board. Variations in panel hole size, thickness, material and installation methods will affect the loads. Pencom recommends testing in the application. Contact your account representative for samples.

INSTALLATION

1. Punch or drill hole in sheet. Do not deburr edges.
2. Insert captive screw in sheet hole and anvil as shown.
3. Squeeze the captive screw and sheet between parallel punch and anvil surfaces. Use only enough pressure to seat the retainer shoulder flush with the sheet. Punch and anvil should be made from hardened steel.



CPB Broaching Captive Screws provide permanent and reliable installation in P.C. boards, aluminum and other soft materials.



(CONTINUED)

P_3	H_1	H_2	Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Anvil $\varnothing M$
.000	.440	.330	.03	#1	T10	.120
.067						
.127						
.187						
.000	.580	.390	.03	#2	T15	.144
.057						
.117						
.177						

All dimensions in inches

P_3	H_1	H_2	Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Anvil $\varnothing M$
0.00	11.20	8.40	0.7	#1	T10	3.20
1.70						
3.20						
4.80						
0.00	14.80	10.00	0.8	#2	T15	3.70
1.40						
3.00						
4.60						

All dimensions in millimeters

CPB Broaching Captive Screw



CPC

Flare-In Captive Screw

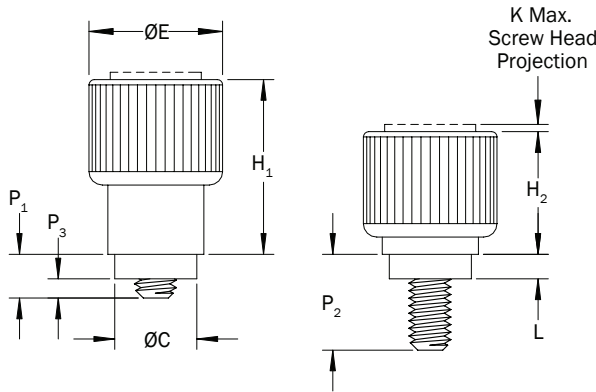
PART DESCRIPTION EXAMPLE

CPC — 440 — .030 — A — SL — KN — J

T
T
T
T
T
T

Thread Code
Screw Length Code
Shank Length Code
Drive Code
Knurled Cap*
Material/Finish Code

*Omit KN for smooth cap



DRIVE

Drive Code	Description	
SL	Slotted	
PH	Cross-recess	
SL-PH	Slotted Cross-recess	
TX	Six-lobe Recess	
SL-TX	Slotted Six-lobe Recess	

OPTION



A nylon thread locking element can be added to the screw threads to prevent loosening due to vibration. To specify, insert **PATCH** at the end of the part description. Other locking elements available by request.

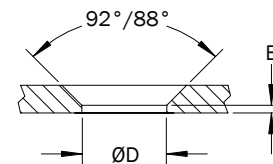
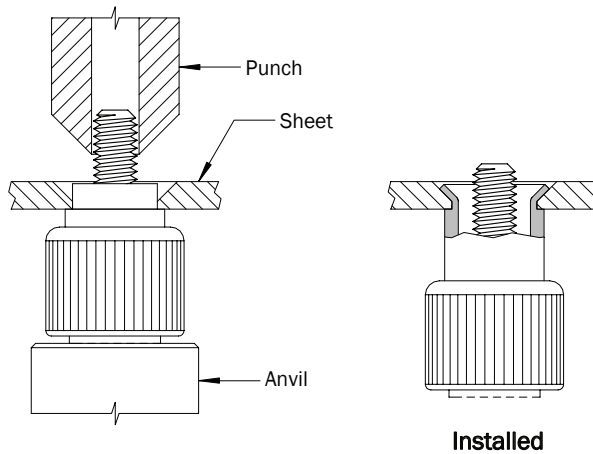
Ex: CPA-440-.030-SL-KN-E-**PATCH**

INSTALLATION

1. Prepare sheet as shown.
2. Insert captive screw shank in sheet hole and center punch over screw thread.
3. Squeeze the captive screw between a smooth anvil surface and punch. Flare retainer shank into sheet countersink using light pressure. Punch and anvil should be made from hardened steel.



CPC Flare-In Captive Screws are popular choices for painted sheet and close-to-edge applications.



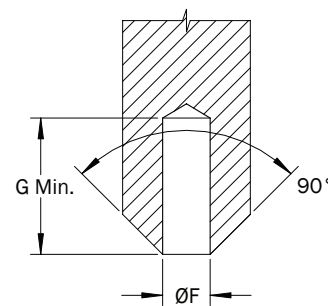
PUNCH DIMENSIONS

INCH	Thread	ØF +0.003 -0.000	G Min.
	4-40	.123	.75
	6-32	.143	.75
	8-32	.169	.75
	10-32	.202	.75
	1/4-20	.253	1.00

All dimensions in inches

METRIC	Thread	ØF +0.08 -0.00	G Min.
	M3	3.12	19.0
	M3.5	3.63	19.0
	M4	4.29	19.0
	M5	5.13	19.0
	M6	6.43	25.4

All dimensions in millimeters



(CONTINUED)

P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size
					Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads			
.030	.160	.000	.450	.320	.000	.000	.03	#1	T10
.100	.220	.059							
.160	.280	.119							
.220	.350	.179							
.060	.190	.000							
.130	.250	.060							
.190	.310	.120							
.250	.370	.180							
.100	.220	.000							
.160	.280	.056							
.220	.350	.116							
.160	.280	.000							
.100	.220	.000							
.220	.350	.000							
.040	.240	.000	.600	.410	.000	.000	.03	#2	T15
.110	.300	.040							
.170	.360	.100							
.230	.430	.160							
.110	.300	.000							
.170	.360	.035							
.230	.430	.095							
.170	.360	.000							
.230	.430	.000							
.230	.430	.130							
.040	.240	.000	.610	.410	.012	.050	.03	#2	T25
.110	.300	.040							
.170	.360	.100							
.230	.430	.160							
.110	.300	.000							
.170	.360	.035							
.230	.430	.095							
.170	.360	.000							
.230	.430	.000							
.230	.430	.130							
.040	.240	.000	.610	.410	.000	.040	.03	#2	T25
.110	.300	.040							
.170	.360	.100							
.230	.430	.160							
.110	.300	.000							
.170	.360	.035							
.230	.430	.095							
.170	.360	.000							
.230	.430	.033							
.230	.430	.000							
.050	.310	.000	.760	.500	.000	.040	.03	#2	T30
.110	.370	.000							
.170	.430	.000							
.240	.500	.000							
.110	.370	.040							
.170	.430	.100							
.240	.500	.017							
.170	.430	.035							
.240	.500	.105							
.240	.500	.043							

All dimensions in inches

CPC Flare-In Captive Screw

GENERAL

	Thread	Thread Code	Screw Length Code	Shank Length Code	L	Sheet			ØC	ØE
						Thickness	ØD	B ±0.13		
METRIC	M3 x 0.5	M3	0.80	A	1.00	1.50/0.80	4.93/4.80	0.40	4.60	10.60
			2.50							
			4.00							
			5.60							
			1.50	B	1.80	2.50/1.50	4.93/4.80	0.40	4.60	10.60
			3.30							
			4.80							
			6.40	C	2.60	4.00/2.50	4.93/4.80	0.80	4.60	10.60
			2.50							
			4.00							
			5.60							
			4.00							
			2.50	D	4.20	5.60/4.00	4.93/4.80	2.40	4.60	10.60
			5.60							
			5.60	E	5.80	7.10/5.60	4.93/4.80	4.00	4.60	10.60
M3.5 x 0.6	M3.5	1.10	A	1.80	3.20/1.50	5.53/5.40	0.40	5.30	11.50	
		2.70								
		4.30								
		5.90								
		2.70	B	3.40	4.80/3.20	5.53/5.40	1.60	5.30	11.50	
		4.30								
		5.90								
		4.30	C	5.00	6.40/4.80	5.53/5.40	3.20	5.30	11.50	
		5.90								
		5.90								
		5.90								
		5.90	D	6.60	7.90/6.40	5.53/5.40	4.80	5.30	11.50	
M4 x 0.7	M4	1.20	A	1.80	3.20/1.50	6.88/6.76	0.40	6.70	13.00	
		2.80								
		4.40								
		6.00								
		2.80	B	3.40	4.80/3.20	6.88/6.76	1.60	6.70	13.00	
		4.40								
		6.00								
		4.40	C	5.00	6.40/4.80	6.88/6.76	3.20	6.70	13.00	
		6.00								
		6.00								
		6.00								
		6.00	D	6.60	7.90/6.40	6.88/6.76	4.80	6.70	13.00	
M5 x 0.8	M5	1.20	A	1.80	3.20/1.50	6.88/6.76	0.40	6.70	13.00	
		2.80								
		4.40								
		6.00								
		2.80	B	3.40	4.80/3.20	6.88/6.76	1.60	6.70	13.00	
		4.40								
		6.00								
		4.40	C	5.00	6.40/4.80	6.88/6.76	3.20	6.70	13.00	
		6.00								
		6.00								
		6.00								
		6.00	D	6.60	7.90/6.40	6.88/6.76	4.80	6.70	13.00	
M6 x 1	M6	1.20	A	1.80	3.20/1.50	8.3/8.2	0.40	8.10	14.70	
		2.80								
		4.40								
		6.00								
		2.80	B	3.40	4.80/3.20	8.3/8.2	1.60	8.10	14.70	
		4.40								
		6.00								
		4.40	C	5.00	6.40/4.80	8.3/8.2	3.20	8.10	14.70	
		6.00								
		6.00								
		6.00								
		6.00	D	6.60	7.90/6.40	8.3/8.2	4.80	8.10	14.70	

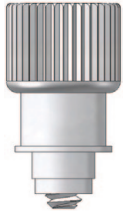
(1) All dimensions are reference unless toleranced.

(CONTINUED)

P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size
					Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads			
0.80	4.00	0.00	11.30	8.10	0.00	0.00	0.7	#1	T10
2.50	5.70	1.50							
4.00	7.20	3.00							
5.60	8.80	4.60							
1.50	4.80	0.00							
3.30	6.40	1.50							
4.80	7.90	3.00							
6.40	9.40	4.60							
2.50	5.70	0.00							
4.00	7.20	1.40							
5.60	8.80	3.00							
4.00	7.20	0.00							
2.50	5.70	0.00							
5.60	8.80	0.00							
1.10	6.00	0.00	15.30	10.40	0.00	0.00	0.8	#2	T15
2.70	7.60	0.90							
4.30	9.20	2.50							
5.90	10.80	4.10							
2.70	7.60	0.00							
4.30	9.20	0.90							
5.90	10.80	2.50							
4.30	9.20	0.00							
5.90	10.80	0.90							
5.90	10.80	0.00							
1.20	6.30	0.00	15.60	10.50	0.30	1.30	0.9	#2	T25
2.80	7.90	1.00							
4.40	9.50	2.60							
6.00	11.10	4.20							
2.80	7.90	0.00							
4.40	9.50	1.00							
6.00	11.10	2.60							
4.40	9.50	0.00							
6.00	11.10	1.00							
6.00	11.10	0.00							
1.20	6.30	0.00	15.60	10.50	0.30	1.30	0.9	#2	T25
2.80	7.90	1.00							
4.40	9.50	2.60							
6.00	11.10	4.20							
2.80	7.90	0.00							
4.40	9.50	1.00							
6.00	11.10	2.60							
4.40	9.50	0.00							
6.00	11.10	1.00							
6.00	11.10	0.00							
1.20	7.80	0.00	19.30	12.70	0.30	1.30	0.9	#2	T30
2.80	9.40	1.00							
4.40	11.00	2.60							
6.00	12.60	4.20							
2.80	9.40	0.00							
4.40	11.00	1.00							
6.00	12.60	2.60							
4.40	11.00	0.00							
6.00	12.60	1.00							
6.00	12.60	0.60							

All dimensions in millimeters

CPC Flare-In Captive Screw



CPD

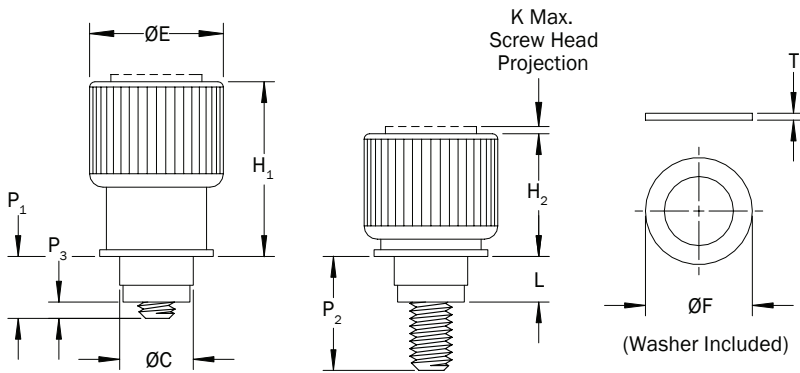
Floating Captive Screw

PART DESCRIPTION EXAMPLE

CPD — 440 — .070 — A — SL — KN — J

Thread Code Screw Length Code Shank Length Code Drive Code Knurled Cap* Material/Finish Code

*Omit KN for smooth cap



DRIVE

Drive Code	Description	
SL	Slotted	
PH	Cross-recess	
SL-PH	Slotted Cross-recess	
TX	Six-lobe Recess	
SL-TX	Slotted Six-lobe Recess	

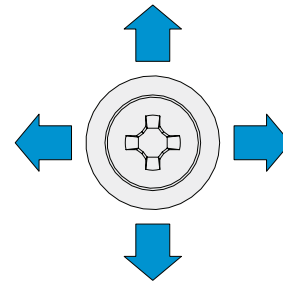
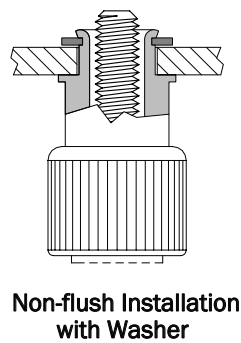
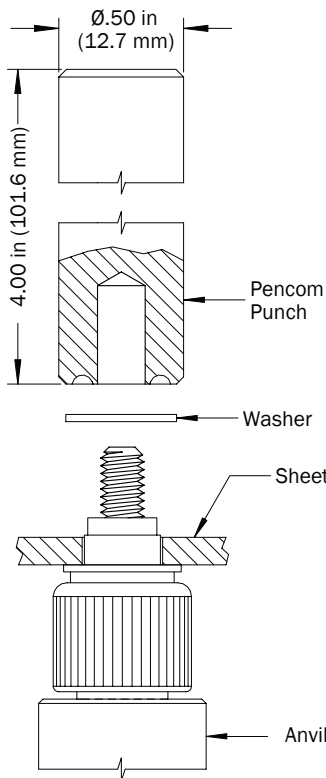
OPTION



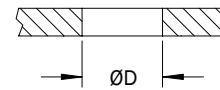
*Custom caps and recess styles available by request.
Contact a Pencom Account Representative for details.*

INSTALLATION

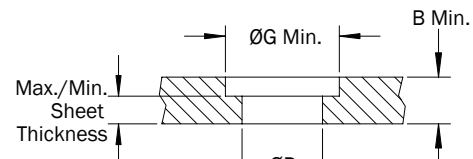
1. Prepare sheet as shown for non-flush or flush installation.
2. Insert captive shank in sheet hole, place washer over shank and center punch over screw thread.
3. Squeeze the captive screw between a smooth anvil surface and Pencom punch. Swage captive screw shank over washer using light pressure. Anvil should be made from hardened steel.



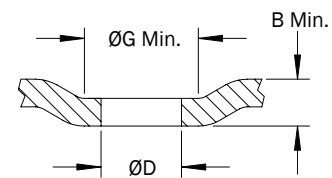
CPD Floating Captive Screws offer the most lateral float of all captive screw types.



Non-flush Installation



Flush Installation - Option A



Flush Installation - Option B

PUNCH

Thread	Punch Part Number
4-40 or M3	TL1140
6-32 or M3.5	TL1141
8-32 or M4	TL1142
M5	TL1143
10-32	TL1144
1/4-20 or M6	TL1145

GENERAL

	Thread	Thread Code	Screw Length Code	Shank Length Code	L	Sheet				ØC	ØE	
						Thickness	ØD	ØG Min.	B			
INCH	4-40	440	.070	A	.101	.031 Max.	.253/.249	.370	.079	.194	.420	
			.130									
			.190									
			.070	B	.132				.063/.031			.110
			.130									
			.190									
			.130	C	.164				.094/.063			.142
			.190									
			.130									D
			.190									
			.190	E	.226				.157/.126			
			.190									F
	6-32	632	.090	A	.113	.031 Max.	.286/.282	.410	.083	.220	.450	
			.160									
			.220									
			.090	B	.144				.063/.031			.114
			.160									
			.220									
			.160	C	.176				.094/.063			.146
			.220									
			.160									D
			.220									
			.220	E	.238				.157/.126			
			.220									F
	8-32	832	.090	A	.127	.031 Max.	.349/.345	.472	.090	.287	.510	
			.160									
.220												
.090			B	.158	.063/.031				.122			
.160												
.220												
.160			C	.190	.094/.063				.153			
.220												
.160									D			.221
.220												
.220			E	.252	.157/.125							
.220									F			.283
10-32	1032	.090	A	.127	.031 Max.	.349/.345	.472	.090		.287	.510	
		.160										
		.220										
		.090	B	.158				.063/.031	.122			
		.160										
		.220										
		.160	C	.190				.094/.063	.153			
		.220										
		.160							D			.221
		.220										
		.220	E	.252				.157/.125				
		.220							F			.283
1/4-20	0420	.080	A	.127	.031 Max.	.416/.412	.531	.090		.349	.580	
		.150										
		.210										
		.080	B	.158				.063/.031	.122			
		.150										
		.210										
		.150	C	.190				.094/.063	.153			
		.210										
		.150							D			.221
		.210										
		.210	E	.252				.157/.125				
		.210							F			.283

(1) All dimensions are reference unless toleranced.

(CONTINUED)

P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Washer	
					Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads				ØF	T
.070	.200	.000	.450	.340	.000	.000	.08	#1	T10	.307	.025
.130	.260	.029									
.190	.320	.089									
.070	.200	.000									
.130	.260	.000									
.190	.320	.058									
.130	.260	.000									
.190	.320	.026									
.130	.260	.000									
.190	.320	.000									
.190	.320	.000									
.190	.320	.000									
.090	.280	.000	.600	.420	.000	.000	.09	#2	T15	.340	.020
.160	.350	.047									
.220	.410	.107									
.090	.280	.000									
.160	.350	.016									
.220	.410	.076									
.160	.350	.000									
.220	.410	.044									
.160	.350	.000									
.220	.410	.013									
.220	.410	.000									
.220	.410	.000									
.090	.280	.000	.630	.440	.012	.050	.09	#2	T25	.402	.025
.160	.350	.033									
.220	.410	.093									
.090	.280	.000									
.160	.350	.002									
.220	.410	.062									
.160	.350	.000									
.220	.410	.030									
.160	.350	.000									
.220	.410	.000									
.220	.410	.000									
.220	.410	.000									
.090	.280	.000	.630	.440	.000	.040	.09	#2	T25	.402	.025
.160	.350	.033									
.220	.410	.093									
.090	.280	.000									
.160	.350	.002									
.220	.410	.062									
.160	.350	.000									
.220	.410	.030									
.160	.350	.000									
.220	.410	.000									
.220	.410	.000									
.220	.410	.000									
.080	.350	.000	.790	.520	.000	.040	.09	#2	T30	.469	.025
.150	.410	.023									
.210	.470	.083									
.080	.350	.000									
.150	.410	.000									
.210	.470	.052									
.150	.410	.000									
.210	.470	.020									
.150	.410	.000									
.210	.470	.000									
.210	.470	.000									
.210	.470	.000									

All dimensions in inches

CPD Floating Captive Screw

GENERAL

	Thread	Thread Code	Screw Length Code	Shank Length Code	L	Sheet				ØC	ØE
						Thickness	ØD	ØG Min.	B		
METRIC	M3 x 0.5	M3	1.90	A	2.60	0.8 Max.	6.48/6.37	9.40	2.00	4.90	10.60
			3.40								
			5.00								
			1.90								
			3.40								
			5.00								
		3.40	B	3.40	1.60/0.80						
		5.00									
		3.40									
		5.00	C	4.20	2.40/1.60						
		3.40									
		5.00									
	3.40	D	5.00	3.20/2.40							
	5.00										
	3.40										
	5.00	E	5.70	4.00/3.20							
	5.00										
	5.00										
	5.00	F	6.50	4.80/4.00							
	5.00										
5.00											
M3.5 x 0.6	M3.5	2.40	A	2.90	0.8 Max.	7.28/7.17	10.30	2.10	5.70	11.50	
		4.00									
		5.60									
		2.40									
		4.00									
		5.60									
	4.00	B	3.70	1.60/0.80							
	5.60										
	4.00										
	5.60	C	4.50	2.40/1.60							
	4.00										
	5.60										
4.00	D	5.30	3.20/2.40								
5.60											
4.00											
5.60	E	6.00	4.00/3.20								
5.60											
5.60											
5.60	F	6.80	4.80/4.00								
5.60											
5.60											
M4 x 0.7	M4	2.40	A	3.20	0.8 Max.	8.88/8.77	12.00	2.30	7.30	13.00	
		4.00									
		5.60									
		2.40									
		4.00									
		5.60									
	4.00	B	4.00	1.60/0.80							
	5.60										
	4.00										
	5.60	C	4.80	2.40/1.60							
	4.00										
	5.60										
4.00	D	5.60	3.20/2.40								
5.60											
4.00											
5.60	E	6.40	4.00/3.20								
5.60											
5.60											
5.60	F	7.20	4.80/4.00								
5.60											
5.60											
M5 x 0.8	M5	2.40	A	3.20	0.8 Max.	8.88/8.77	12.00	2.30	7.30	13.00	
		4.00									
		5.60									
		2.40									
		4.00									
		5.60									
	4.00	B	4.00	1.60/0.80							
	5.60										
	4.00										
	5.60	C	4.80	2.40/1.60							
	4.00										
	5.60										
4.00	D	5.60	3.20/2.40								
5.60											
4.00											
5.60	E	6.40	4.00/3.20								
5.60											
5.60											
5.60	F	7.20	4.80/4.00								
5.60											
5.60											
M6 x 1	M6	2.10	A	3.20	0.8 Max.	10.58/10.47	13.50	2.50	8.90	14.70	
		3.70									
		5.30									
		2.10									
		3.70									
		5.30									
	3.70	B	4.00	1.60/0.80							
	5.30										
	3.70										
	5.30	C	4.80	2.40/1.60							
	3.70										
	5.30										
3.70	D	5.60	3.20/2.40								
5.30											
3.70											
5.30	E	6.40	4.00/3.20								
5.30											
5.30											
5.30	F	7.20	4.80/4.00								
5.30											
5.30											

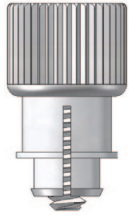
(1) All dimensions are reference unless tolerated.

(CONTINUED)

P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size	Washer	
					Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads				ØF	T
1.90	5.10	0.00	11.40	8.60	0.00	0.00	2.0	#1	T10	7.80	0.60
3.40	6.60	0.80									
5.00	8.20	2.40									
1.90	5.10	0.00									
3.40	6.60	0.00									
5.00	8.20	1.60									
3.40	6.60	0.00									
5.00	8.20	0.80									
3.40	6.60	0.00									
5.00	8.20	0.00									
5.00	8.20	0.00									
5.00	8.20	0.00									
2.40	7.20	0.00	15.40	10.60	0.00	0.00	2.2	#2	T15	8.60	0.60
4.00	8.80	1.10									
5.60	10.40	2.70									
2.40	7.20	0.00									
4.00	8.80	0.30									
5.60	10.40	1.90									
4.00	8.80	0.00									
5.60	10.40	1.10									
4.00	8.80	0.00									
5.60	10.40	0.30									
5.60	10.40	0.00									
5.60	10.40	0.00									
2.40	7.20	0.00	16.00	11.20	0.30	1.30	2.3	#2	T25	10.20	0.60
4.00	8.80	0.80									
5.60	10.40	2.40									
2.40	7.20	0.00									
4.00	8.80	0.00									
5.60	10.40	1.60									
4.00	8.80	0.00									
5.60	10.40	0.80									
4.00	8.80	0.00									
5.60	10.40	0.00									
5.60	10.40	0.00									
5.60	10.40	0.00									
2.40	7.20	0.00	16.00	11.20	0.30	1.30	2.3	#2	T25	10.20	0.60
4.00	8.80	0.80									
5.60	10.40	2.40									
2.40	7.20	0.00									
4.00	8.80	0.00									
5.60	10.40	1.60									
4.00	8.80	0.00									
5.60	10.40	0.80									
4.00	8.80	0.00									
5.60	10.40	0.00									
5.60	10.40	0.00									
5.60	10.40	0.00									
2.10	8.80	0.00	20.00	13.30	0.30	1.30	2.3	#2	T30	11.90	0.60
3.70	10.40	0.50									
5.30	12.00	2.10									
2.10	8.80	0.00									
3.70	10.40	0.00									
5.30	12.00	1.30									
3.70	10.40	0.00									
5.30	12.00	0.50									
3.70	10.40	0.00									
5.30	12.00	0.00									
5.30	12.00	0.00									
5.30	12.00	0.00									

CPD Floating Captive Screw

All dimensions in millimeters



CPE

Snap-In Captive Screw

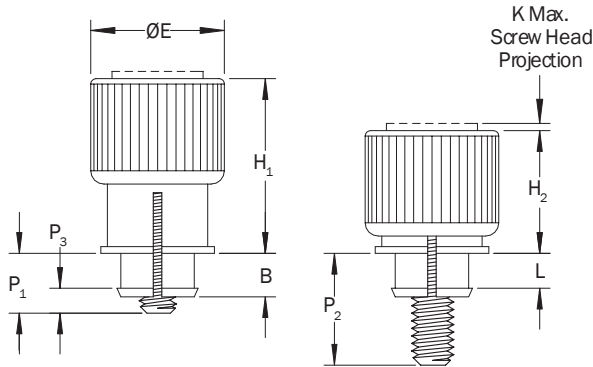
PART DESCRIPTION EXAMPLE

CPE — 632 — .030 — A — SL — KN — J

T
T
T
T
T
T

Thread Code
Screw Length Code
Shank Length Code
Drive Code
Knurled Cap*
Material/Finish Code

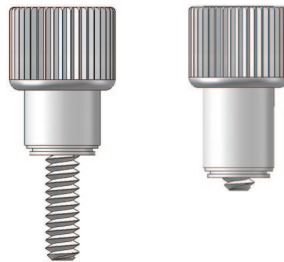
*Omit KN for smooth cap



DRIVE

Drive Code	Description	
SL	Slotted	
PH	Cross-recess	
SL-PH	Slotted Cross-recess	
TX	Six-lobe Recess	
SL-TX	Slotted Six-lobe Recess	

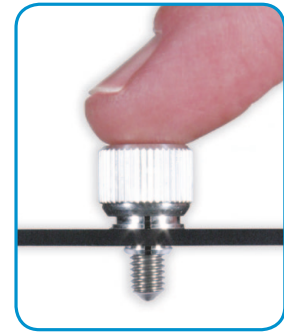
OPTION



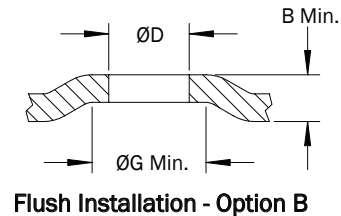
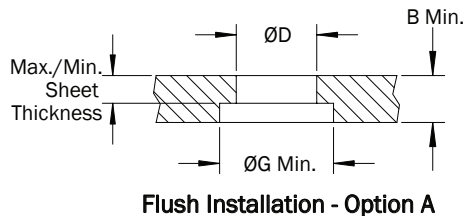
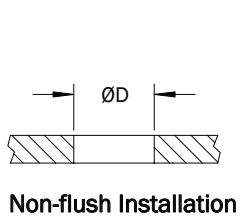
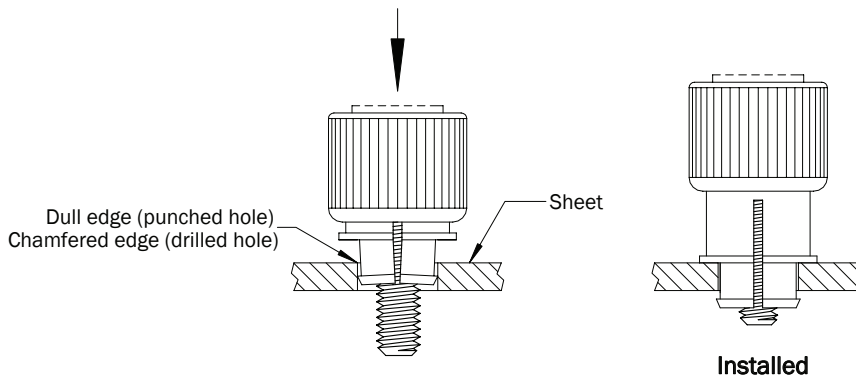
Pencom Engineers can work with you to create captive screws with custom screw lengths and travel to meet specific application needs.

INSTALLATION

1. Prepare sheet as shown for non-flush or flush installation. Lightly chamfer top edge of hole if drilled. For installation with sheet near maximum thickness, lightly deburr outside edge of hole as well.
2. Install captive screw in sheet hole from punched or chamfered side using light pressure.



CPE Snap-In Captive Screws install easily with light pressure and are removable.



GENERAL

	Thread	Thread Code	Screw Length Code	Shank Length Code	L	Sheet													
						Thickness	ØD	ØG Min.	B										
INCH	6-32	632	.030	A	.040	.040/.020	.252/.248	.295	.080										
			.090																
			.160																
			.220																
			.090	B	.070					.060/.040	.252/.248	.295	.080						
			.160																
			.220																
			.090											C	.080	.080/.060	.252/.248	.295	.100
			.160																
			.220																
			.090	D	.100					.100/.060									
			.160																
	.220																		
	.160	E	.130			.130/.100	.252/.248	.295	.140										
	.220																		
	.220																		
	.220			F	.200					.200/.130	.252/.248	.295	.170						
	.220																		
	.220																		
	.220	8-32	832			.040								A	.040	.040/.020	.252/.248	.295	.080
	.110																		
	.170																		
	.230			B	.070	.060/.040				.252/.248									
	.110																		
	.170																		
	.230						C	.100	.100/.060					.252/.248	.295				
	.110																		
.170																			
.230	D			.130	.130/.100	.252/.248					.295	.170							
.170																			
.230																			
.230		E	.200				.200/.130	.252/.248	.295				.240						
.230																			
.230																			
.230	10-32			1032	.040					A						.040	.040/.020	.252/.248	.295
.110																			
.170																			
.230		B	.070		.060/.040		.252/.248							.295	.100				
.110																			
.170																			
.230						C				.100	.100/.060	.252/.248				.295			
.110																			
.170																			
.230		D	.130		.130/.100			.252/.248	.295				.170						
.170																			
.230																			
.230	E			.200		.200/.130				.252/.248	.295						.240		
.230																			
.230																			
.230																			

(1) All dimensions are reference unless toleranced.

CPE Snap-In Captive Screw

(CONTINUED)

ØE	P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size
						Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads			
.450	.030	.220	.000	.610	.420	.000	.000	.03	#2	T15
	.090	.280	.010							
	.160	.350	.080							
	.220	.410	.140							
	.090	.280	.000							
	.160	.350	.060							
	.220	.410	.120							
	.090	.280	.000							
	.090	.280	.000							
	.160	.350	.020							
	.220	.410	.080							
	.160	.350	.000							
	.220	.410	.050							
	.220	.410	.000							
.510	.040	.220	.000	.620	.440	.012	.050	.03	#2	T25
	.110	.280	.030							
	.170	.350	.090							
	.230	.410	.150							
	.110	.280	.010							
	.170	.350	.070							
	.230	.410	.130							
	.110	.280	.000							
	.170	.350	.030							
	.230	.410	.090							
	.170	.350	.000							
	.230	.410	.060							
	.230	.410	.000							
	.510	.040	.220							
.110		.280	.030							
.170		.350	.090							
.230		.410	.150							
.110		.280	.010							
.170		.350	.060							
.230		.410	.130							
.110		.280	.000							
.170		.350	.030							
.230		.410	.090							
.170		.350	.000							
.230		.410	.060							
.230		.410	.000							

All dimensions in inches

CPE Snap-In Captive Screw

GENERAL

	Thread	Thread Code	Screw Length Code	Shank Length Code	L	Sheet			
						Thickness	ØD	ØG Min.	B
METRIC	M3.5 x 0.6	M3.5	0.80	A	1.10	1.00/0.50	6.40/6.30	7.50	2.00
			2.40						
			4.00						
			5.60						
			2.40						
			4.00						
			5.60						
			2.40						
			4.00						
			5.60						
			4.00						
			5.60						
			4.00						
			5.60						
			5.60						
	M4 x 0.7	M4	1.10	A	1.10	1.00/0.50	6.40/6.30	7.50	2.00
			2.70						
			4.30						
			5.90						
			2.70						
			4.30						
			5.90						
			2.70						
			4.30						
			5.90						
			4.30						
			5.90						
			4.30						
			5.90						
			5.90						
M5 x 0.8	M5	1.10	A	1.10	1.00/0.50	6.40/6.30	7.50	2.00	
		2.70							
		4.30							
		5.90							
		2.70							
		4.30							
		5.90							
		2.70							
		4.30							
		5.90							
		4.30							
		5.90							
		4.30							
		5.90							
		5.90							

(1) All dimensions are reference unless tolerated.

(CONTINUED)

ØE	P ₁	P ₂	P ₃	H ₁	H ₂	K Max.		Total Float of Screw in Ferrule	Cross-Recess Size	Six-Lobe Recess Size
						Cross-Recess and/or Slot Heads	Six-Lobe Recess Heads			
11.50	0.80	5.60	0.00	15.40	10.60	0.00	0.00	0.8	#2	T15
	2.40	7.20	0.40							
	4.00	8.80	2.00							
	5.60	10.40	3.60							
	2.40	7.20	0.00							
	4.00	8.80	1.40							
	5.60	10.40	3.00							
	2.40	7.20	0.00							
	4.00	8.80	0.50							
	5.60	10.40	2.10							
	4.00	8.80	0.00							
	5.60	10.40	1.40							
5.60	10.40	0.00								
13.00	1.10	5.60	0.00	15.70	11.20	0.30	1.30	0.9	#2	T25
	2.70	7.20	0.70							
	4.30	8.80	2.30							
	5.90	10.40	3.90							
	2.70	7.20	0.10							
	4.30	8.80	1.70							
	5.90	10.40	3.30							
	2.70	7.20	0.00							
	4.30	8.80	0.80							
	5.90	10.40	2.40							
	4.30	8.80	0.10							
	5.90	10.40	1.70							
5.90	10.40	0.00								
13.00	1.10	5.60	0.00	15.70	11.20	0.30	1.30	0.9	#2	T25
	2.70	7.20	0.70							
	4.30	8.80	2.30							
	5.90	10.40	3.90							
	2.70	7.20	0.10							
	4.30	8.80	1.70							
	5.90	10.40	3.30							
	2.70	7.20	0.00							
	4.30	8.80	0.80							
	5.90	10.40	2.40							
	4.30	8.80	0.10							
	5.90	10.40	1.70							
5.90	10.40	0.00								

All dimensions in millimeters

CPE Snap-In Captive Screw

MATERIAL AND FINISH

Material/Finish Code	Type Availability					Retainer	
	CPA	CPB	CPC	CPD	CPE	Material	Finish
A		•				300-Series Stainless Steel	Passivate ³
B		•					
C		•					
D		•					
E	•					Heat-Treated Carbon Steel	Zinc ¹
F	•						
G	•						
H	•						
J			•	•	•	6000-Series Aluminum	Plain
K			•	•	•		
L			•	•	•		
M			•	•	•		

- (1) Zinc SC1 .0002" (5 µm) min. with Type III Clear Chromate per ASTM B 633.
- (2) Zinc SC1 .0002" (5 µm) min. with Type III Clear Chromate per ASTM B 633 and black powder coat (screw head only).
- (3) Passivate per ASTM A 967
- (4) Passivate per ASTM A 967 and black powder coat (screw head only).

CP Captive Screw

(CONTINUED)

Spring & CPD Washer		Knob		Screw	
Material	Finish	Material	Finish	Material	Finish
300-Series Stainless Steel	Passivate ³	6000-Series Aluminum	Natural	Heat-Treated Carbon Steel	Zinc ¹
			Black Powder Coat		Zinc and Black Powder Coat ²
			Natural	400-Series Stainless Steel	Passivate ³
			Black Powder Coat		Passivate and Black Powder Coat ⁴
300-Series Stainless Steel	Passivate ³	6000-Series Aluminum	Natural	Heat-Treated Carbon Steel	Zinc ¹
			Black Powder Coat		Zinc and Black Powder Coat ²
			Natural	400-Series Stainless Steel	Passivate ³
			Black Powder Coat		Passivate and Black Powder Coat ⁴
300-Series Stainless Steel	Passivate ³	6000-Series Aluminum	Natural	Heat-Treated Carbon Steel	Zinc ¹
			Black Powder Coat		Zinc and Black Powder Coat ²
			Natural	400-Series Stainless Steel	Passivate ³
			Black Powder Coat		Passivate and Black Powder Coat ⁴

This information may be updated periodically. Contact Pencom for current information or see www.pencomsf.com