

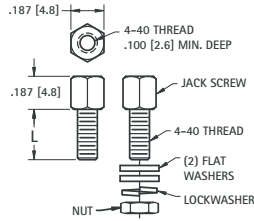
**SECTION CONTENTS**

<b>FAN FILTERS &amp; GUARDS</b> .....	88-89	<b>SCREWS</b>	
<b>HANDLES</b>		Panel Mounting .....	82
Contemporary .....	86	Jack Screws .....	82
Ferrules / Screws .....	87	Captive Panel .....	83
Instrumentation .....	86-87	Shoulder .....	84
<b>KNOBS (INSTRUMENTATION)</b> .....	85	Thumb .....	83
<b>LED HARDWARE</b>		<b>MISCELLANEOUS HARDWARE</b>	
Holders .....	90	Panel Bearing .....	84
Lens and Caps .....	90	Panel Nuts .....	84
Spacers .....	91	Shaft Coupling .....	84
<b>INSTRUMENT CASES</b> .....	85	Shaft Locks .....	84
		Volume Control Extender .....	84

# JACK SCREWS

- Equivalent to AMP, CANNON & TRW Jack Screws • "D" subminiature connector mounting screw • Custom lengths available • Hardware supplied unassembled and in bulk
- SPECIFICATIONS:** **YELLOW:** Steel, Zinc Plate and Yellow Chromate; **CLEAR:** Steel, Zinc Plate and Clear Chromate; **STAINLESS:** Stainless Steel

## STANDARD JACK SCREWS

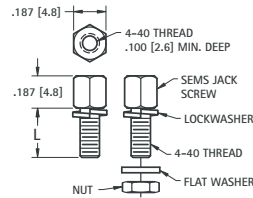


JACK ONLY			L LENGTH	JACK WITH HARDWARE*		
YELLOW CAT. NO.	CLEAR CAT. NO.	STAINLESS CAT. NO.		YELLOW CAT. NO.	CLEAR CAT. NO.	STAINLESS CAT. NO.
7228	7228-5	7248	.250 (6.4)	7229	7229-5	7249
7230	7230-5	7250	.312 (7.9)	7231	7231-5	7251
7241	7241-5	7252	.375 (9.5)	7242	7242-5	7253
7243	7243-5	7254	.500 (12.7)	7244	7244-5	7255
7232	7232-5	7256	.625 (15.8)	7233	7233-5	7257

\*Hardware supplied unassembled in bulk

## SEMS JACK SCREWS

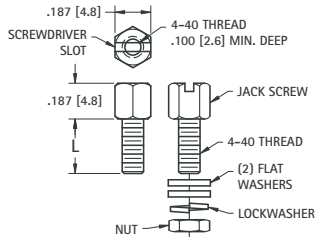
- Captivated helical spring lockwasher, simplifies use



SEMS JACK ONLY		L LENGTH	SEMS JACK WITH HARDWARE*	
CLEAR CAT. NO.	CLEAR CAT. NO.		CLEAR CAT. NO.	CLEAR CAT. NO.
7235	7235	.285 (7.3)	7236	7236
7237	7237	.347 (8.8)	7238	7238
7239	7239	.660 (16.8)	7240	7240

\*Hardware supplied unassembled in bulk

## SLOTTED JACK SCREWS

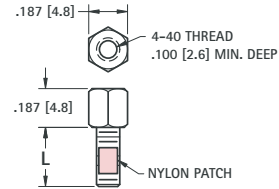


- Slot provides ability to install jack with a screwdriver.

JACK ONLY			L LENGTH	JACK WITH HARDWARE*	
YELLOW CAT. NO.	CLEAR CAT. NO.	CLEAR CAT. NO.		YELLOW CAT. NO.	CLEAR CAT. NO.
7270	7275	7275	.250 (6.3)	7290	7295
7271	7276	7276	.312 (7.9)	7291	7296
7272	7277	7277	.375 (9.5)	7292	7297
7273	7278	7278	.500 (12.7)	7293	7298
7274	7279	7279	.625 (15.8)	7294	7299

\*Hardware supplied unassembled in bulk

## JACK SCREWS WITH NYLON PATCH

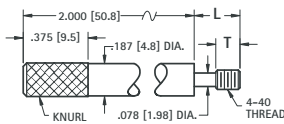


- Nylon patch holds jack firmly in vibration applications.

JACK WITH NYLON PATCH			
YELLOW CAT. NO.	CLEAR CAT. NO.	STAINLESS CAT. NO.	L LENGTH
7260	7261	7262	.250 (6.4)
7263	7264	7265	.312 (7.9)
7266	7267	7268	.375 (9.5)

# TURNABLE JACK SCREWS

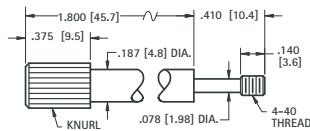
## DIRECT ACCESS



**MATERIAL:** Steel, Black Oxide

WITHOUT SLOT CAT. NO.	WITH SLOT CAT. NO.	T DIM.	L DIM.
2064	2065	.125 (3.2)	.250 (6.4)
2066	2067	.250 (6.4)	.437 (11.1)

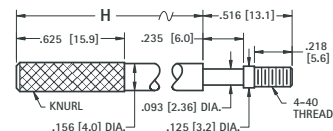
## STRAIGHT KNURL



**MATERIAL:** Steel, Zinc Plate & Clear Chromate

WITHOUT SLOT CAT. NO.	WITH SLOT CAT. NO.
2072	2073

## SLIM LINE



**MATERIAL:** Steel, Nickel Plate

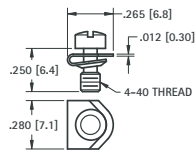
WITHOUT SLOT CAT. NO.	WITH SLOT CAT. NO.	H DIM.
2068	2069	1.250 (31.8)
2070	2071	1.750 (44.5)

# PANEL MOUNTING HARDWARE

## "U" CLIP



Supplied Unassembled



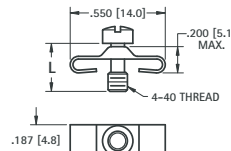
**MATERIAL:**  
Clip & Screw: Steel, Zinc Plate & Yellow Chromate

**CAT. NO. 2062**

## "BOW TIE" RETAINING CLIP



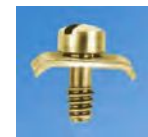
Supplied Unassembled



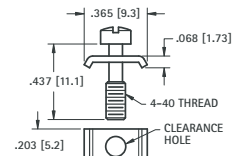
**MATERIAL:**  
Clip & Screw: Steel, Zinc Plate & Yellow Chromate

CAT. NO.	L
2060	.250 (6.4)
2061	.281 (7.1)

## SADDLE WASHER



Supplied Unassembled

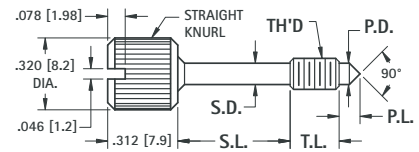
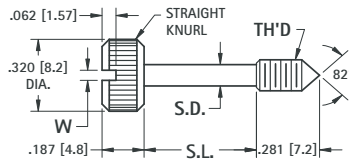


**MATERIAL:**  
Clip & Screw: Steel, Zinc Plate & Yellow Chromate

**CAT. NO. 2063**

# CAPTIVE PANEL SCREWS

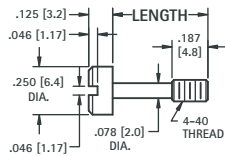
MATERIAL: Stainless Steel per ASTM-A581/A-582



CAT. NO.	THREAD	S.D. ±.005 (.13)	S.L. ±.010 (.25)	W +.015 (+.38)-.000
8700	4-40	.078 (2.0)	.375 (9.5)	.036 (.091)
8701	4-40	.078 (2.0)	.500 (12.7)	.036 (.091)
8702	4-40	.078 (2.0)	.625 (15.9)	.036 (.091)
8703	6-32	.095 (2.41)	.375 (9.5)	.045 (1.14)
8704	6-32	.095 (2.41)	.500 (12.7)	.045 (1.14)
8705	6-32	.095 (2.41)	.625 (15.9)	.045 (1.14)

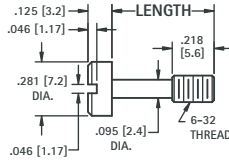
CAT. NO.	THREAD	T.L. ±.015 (.38)	S.D. ±.005 (.13)	S.L. ±.010 (.25)	P.D. +000, -.016 (-.40)	P.L. ±.015 (.38)
8706	4-40	.125 (3.2)	.078 (2.0)	.171 (4.3)	.078 (2.0)	.078 (2.0)
8707	4-40	.125 (3.2)	.078 (2.0)	.296 (7.5)	.078 (2.0)	.078 (2.0)
8708	4-40	.125 (3.2)	.078 (2.0)	.421 (10.7)	.078 (2.0)	.078 (2.0)
8709	6-32	.218 (5.5)	.095 (2.41)	.187 (4.7)	.095 (2.41)	.093 (2.36)
8710	6-32	.218 (5.5)	.095 (2.41)	.312 (7.9)	.095 (2.41)	.093 (2.36)
8711	6-32	.218 (5.5)	.095 (2.41)	.437 (11.1)	.095 (2.41)	.093 (2.36)

## 4-40



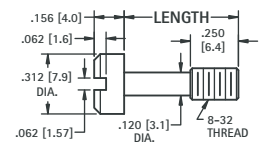
CAT. NO.	LENGTH
2413	.469 (11.9)
2414	.531 (13.4)

## 6-32



CAT. NO.	LENGTH
2415	.531 (13.5)
2416	.593 (15.1)
2417	.656 (16.7)

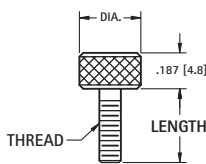
## 8-32



CAT. NO.	LENGTH
2418	.656 (16.7)
2419	.718 (18.2)
2420	.781 (19.8)

# THUMB SCREWS

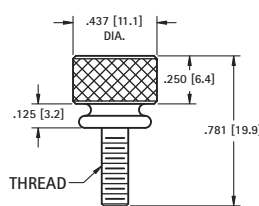
## STAINLESS



MATERIAL: Stainless Steel

CAT. NO.	LENGTH	THREAD	DIA
2400	.312 (7.9)	4-40	.312 (7.9)
2401	.375 (9.5)		
2402	.437 (11.1)		
2403	.500 (12.7)		
2404	.312 (7.9)	6-32	.312 (7.9)
2405	.375 (9.5)		
2406	.437 (11.1)		
2407	.500 (12.7)		
2408	.375 (9.5)	8-32	.375 (9.5)
2409	.437 (11.1)		
2410	.500 (12.7)		

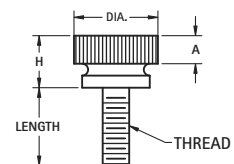
## BRASS



MATERIAL: Brass, Nickel Plate

CAT. NO.	THREAD
1708	6-32
1709	8-32
1710	10-32

## NYLON

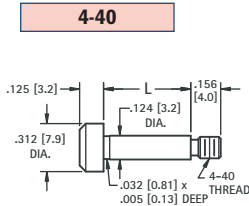


MATERIAL: Nylon 6/6, UL Rated 94V-2

CAT. NO.	LENGTH	THREAD	DIA.	H	A
2500	.250 (6.4)	4-40	.300 (7.6)	.280 (7.1)	.125 (3.2)
2501	.375 (9.5)				
2502	.500 (12.7)				
2503	.250 (6.4)	6-32	.360 (9.1)	.275 (7.0)	.125 (3.2)
2504	.375 (9.5)				
2505	.500 (12.7)				
2506	.250 (6.4)	8-32	.425 (10.8)	.305 (7.7)	.140 (3.6)
2507	.375 (9.5)				
2508	.500 (12.7)				

# PRECISION GROUND SHOULDER SCREWS

Shoulder ground to  $+.000/-0.001$  Dia,  $+.002 /-.000$  Length. **Material:** Stainless Steel, ASTM A581/A582

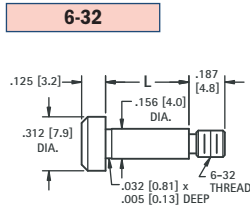


SLOTTED



SOCKET

CAT. NO.	LENGTH	CAT. NO.
2421	.125 (3.2)	2441
2422	.250 (6.4)	2442
2423	.375 (9.5)	2443
2424	.500 (12.7)	2444

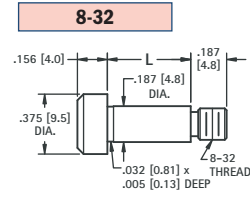


SLOTTED



SOCKET

CAT. NO.	LENGTH	CAT. NO.
2425	.125 (3.2)	2445
2426	.250 (6.4)	2446
2427	.375 (9.5)	2447
2428	.500 (12.7)	2448



SLOTTED



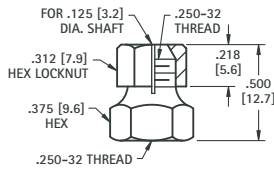
SOCKET

CAT. NO.	LENGTH	CAT. NO.
2431	.125 (3.2)	2451
2432	.250 (6.4)	2452
2433	.375 (9.5)	2453
2434	.500 (12.7)	2454
2435	.625 (15.9)	2455

## SHAFT LOCKS

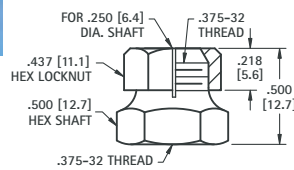
**MATERIAL:** Brass, Nickel Plate

For .125 (3.2) SHAFT



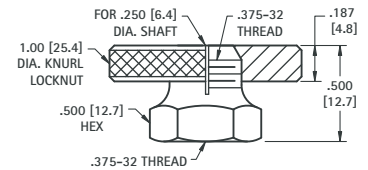
CAT. NO. 1700

For .250 (6.4) SHAFT



CAT. NO. 1701

For .250 (6.4) SHAFT



CAT. NO. 1702

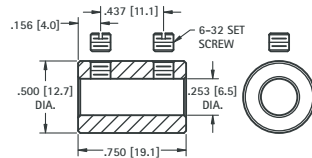
## .250 (6.4) SHAFT COUPLING



- Two set screws hold shaft securely

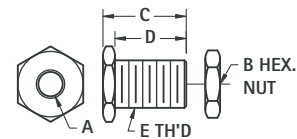
**MATERIAL:** Brass, Nickel Plate  
Set Screws: Steel, Zinc Plate  
Supplied unassembled

CAT. NO. 1453



## PANEL BEARINGS

STANDARD and MINIATURE



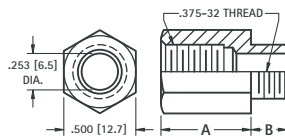
**MATERIAL:** Brass, Nickel Plate  
Supplied unassembled

CAT. NO.	A	B (HEX)	C	D	E THREAD
1705	.253 (6.5)	.437 (11.1)	.500 (12.7)	.437 (11.1)	.375-32 Standard
1706	.128 (3.3)	.343 (8.7)	.437 (11.1)	.375 (9.5)	.250-32 Miniature

## VOLUME CONTROL EXTENDERS



For .250 (6.4) volume control shafts having .375-32 threaded bushings.



CAT. NO.	A	B
1464	.625 (15.9)	.250 (6.4)
1465	.625 (15.9)	.375 (9.5)
1466	.687 (17.4)	.500 (12.7)
1467	.750 (19.1)	.250 (6.4)

**MATERIAL:** Brass, Nickel Plate

## PANEL NUTS



For Volume Controls, Switches, Tip Jacks, etc.

CAT. NO.	FOR	THREAD	DIAMETER	THICKNESS
1448	Mounting	1/4-32	.375 Hex	.093 (2.38)
1449	Mini. Control	1/4-32	.312 Hex	.078 (1.98)
1456	Vol. Control	3/8-32	.500 Hex	.093 (2.38)
1458	Switch	15/32-32	.562 Hex	.078 (1.98)
1459	Switch Ring	15/32-32	.625 Knurled	.062 (1.57)
1472	Filter	15/16-32	.375 Hex	.093 (2.38)

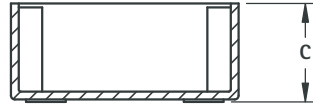
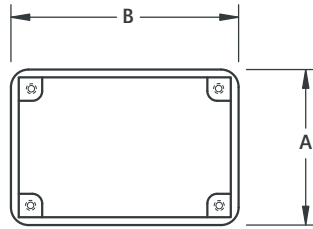
**MATERIAL:** Brass, Nickel Plate

# PHENOLIC INSTRUMENT CASES

- Choice of Sizes
- Sturdy construction
- Flush mounting panels



- Aluminum or Phenolic Panels Available



- MATERIALS:**  
**Phenolic Cases:** .125 (3.2) Wall thickness, Molded Glossy Black Phenolic, MIL-M-14, CFG

**MATERIALS:**

**Phenolic Panels:** .062 (1.57) Glossy Black Phenolic, MIL-P3115C

**Aluminum Panels:** .062 (1.57), 5052-H34 per QQ 318 C; Bright finished surface with pressure sensitive protective covering tape

- Cases and panels are sold separately
- Covers available in Phenolic or Aluminum
- Covers can be machined to accept dials, switches, displays
- Panel mounting screws available - Refer to page 133
- Sturdy case can be machined for wiring access
- Ideal for prototype or lab use

COVER PANEL	
PHENOLIC PANEL	ALUMINUM PANEL
CAT. NO.	CAT. NO.
2050	2051
2042	2044
2042	2044
2043	2045
2037*	2046
2052*	2053
2038*	2047
2039*	2048

\*.093 (2.36)

PHENOLIC CASE				
CAT. NO.	A	B	C	THREAD SIZE AND TYPE
715	2.500 (63.5)	3.500 (88.9)	1.250 (31.8)	4-40 TAPPED
703	2.875 (73.0)	4.000 (101.6)	1.562 (39.7)	4-40 TAPPED
705	2.875 (73.0)	4.000 (101.6)	1.562 (39.7)	USE #4 SELF TAPPING SCREW
704	3.125 (73.0)	5.875 (101.6)	2.250 (39.7)	4-40 TAPPED
700	3.750 (79.4)	6.250 (149.2)	2.000 (57.2)	6-32 BRASS INSERT
716	4.250 (95.3)	5.000 (158.8)	1.750 (50.8)	6-32 BRASS INSERT
701	5.250 (108.0)	6.812 (127.0)	2.312 (44.5)	6-32 BRASS INSERT
702	7.375 (133.4)	8.375 (173.0)	3.000 (58.7)	6-32 BRASS INSERT

# INSTRUMENTATION KNOBS

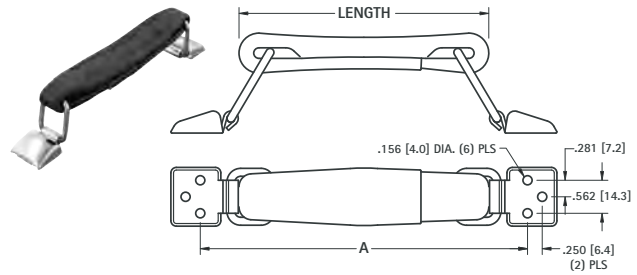
- All knobs supplied with two set screws installed

SPECIFICATIONS Knob: ABS Inlay: Spun Aluminum Insert: Brass, Nickel Plate		CAT. NO.	SHAFT (DIA.)	D (DIA.)	H (HEIGHT)	M (MAX.)	SHAFT ATTACHMENT DETAILS		NUT CLEARANCE	
							L (LOCATION)	B (DEPTH)	I.D. (DIA.)	C (C'BORE DEPTH)
		8554	.125 (3.2)	.500 (12.7)	.660 (16.8)	-	.320 (8.1)	.570 (14.5)	.360 (9.1)	.170 (4.3)
		8555	.250 (6.4)	.700 (17.8)	.780 (19.8)	-	.360 (9.1)	.680 (17.3)	.500 (12.7)	.180 (4.6)
		8556	.250 (6.4)	.920 (23.4)	1.010 (25.7)	-	.460 (11.7)	.910 (23.1)	.640 (16.3)	.330 (8.4)
		8557	.250 (6.4)	1.250 (31.8)	.828 (21.0)	-	.400 (10.2)	.700 (17.8)	1.010 (25.7)	.250 (6.4)
		8558	.125 (3.2)	.500 (12.7)	.660 (16.8)	.915 (23.4)	.320 (8.1)	.570 (14.5)	.360 (9.1)	.170 (4.3)
		8559	.250 (6.4)	.700 (17.8)	.780 (19.8)	1.150 (29.2)	.357 (9.1)	.660 (16.7)	.480 (12.2)	.180 (4.6)
		8560	.250 (6.4)	.920 (23.4)	1.010 (25.7)	1.520 (38.6)	.500 (12.7)	.910 (23.1)	.640 (16.3)	.240 (6.1)
		8561	.250 (6.4)	1.250 (31.8)	.920 (23.4)	1.860 (47.2)	.470 (11.9)	.800 (20.3)	.780 (19.8)	.350 (8.9)
		8567	.125 (3.2)	.500 (12.7)	.500 (12.7)	.610 (15.5)	.160 (4.0)	.405 (10.3)	.410 (10.4)	.030 (0.8)
		8568	.250 (6.4)	.700 (17.8)	.625 (15.9)	.820 (20.8)	.210 (5.3)	.480 (12.2)	.468 (11.9)	.030 (0.8)
		8569	.250 (6.4)	.920 (23.4)	.780 (19.8)	1.090 (27.7)	.240 (6.1)	.660 (16.8)	.640 (16.3)	.100 (2.5)
		8565	.250 (6.4)	.700 (17.8)	.630 (16.0)	1.187 (30.2)	.210 (5.3)	.510 (13.0)	.570 (14.5)	.030 (0.8)
		8566	.250 (6.4)	.920 (23.4)	.640 (16.3)	1.510 (38.6)	.260 (6.6)	.540 (13.7)	.730 (18.5)	.120 (3.1)

## CARRYING HANDLES

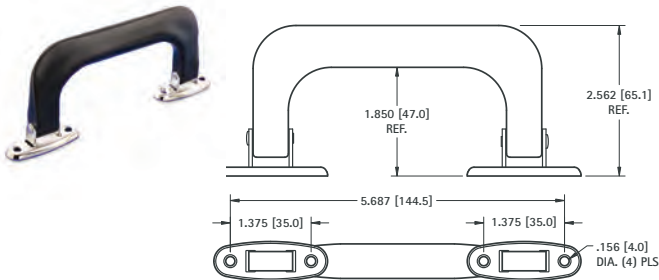


This retractable handle is manufactured with black leather-like material and Nickel Plated steel hardware. Handle folds flat when not in use. Mounts with #6 screws (not supplied).



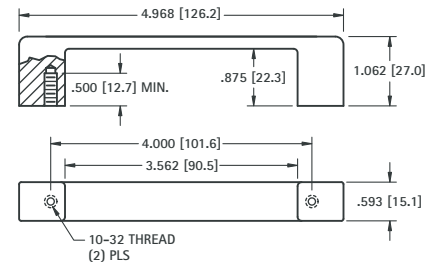
CAT. NO.	LENGTH	A
8351	4.500 (114.3)	6.000 (152.4)
8352	5.500 (139.7)	7.000 (177.8)
8353	6.000 (152.4)	7.500 (190.5)

Folds flat on case when not in use. Mounts with rivets or #6 screws (not supplied).



**MATERIAL:**  
**Grip:** Polypropylene, Black  
**Post:** Steel, Nickel Plate  
**Pin:** Steel, Nickel Plate

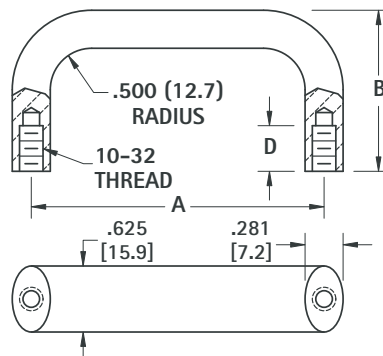
CAT. NO.	COLOR
8356	BLACK



CAT. NO. 7196

MATERIAL: Zinc, Satin Brushed, Nickel Plate

## OVAL INSTRUMENTATION HANDLES



**MATERIAL:**  
**Aluminum:** QQ-A-200, Alloy 6061-T6, Black Anodized per MIL-A-8625

ALUMINUM CAT. NO.	A MTG. CTRS.	B HEIGHT	D DEPTH	
7186	4.000 (101.6)	1.750 (44.5)	.500 (12.7)	
544	4.000 (101.6)	2.000 (50.8)		
540	4.500 (114.3)	1.750 (44.5)		
545	4.500 (114.3)	2.000 (50.8)		
541	5.000 (127.0)	1.750 (44.5)		
546	5.000 (127.0)	2.000 (50.8)		
542	5.500 (139.7)	1.750 (44.5)		
547	5.500 (139.7)	2.000 (50.8)		
7187	6.000 (152.4)	1.375 (34.9)		.375 (9.5)
543	6.000 (152.4)	1.750 (44.5)		.500 (12.7)
548	6.000 (152.4)	2.000 (50.8)		
7188	6.437 (163.5)	1.750 (44.5)		

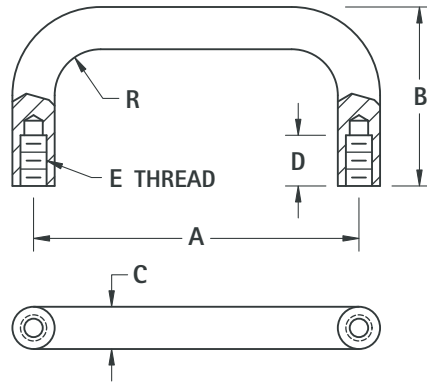
## CUSTOM HANDLES

Keystone is fully integrated to meet your total design and production needs. Our specialty is manufacturing custom designs and modifications of standard items. Forward your CAD drawing or print to our Engineering Department for a quote on your specific production requirements or visit our "Part Builder" at [www.keyelco.com](http://www.keyelco.com)

# ROUND INSTRUMENTATION HANDLES



CHOICE of BRASS or ALUMINUM



**MATERIAL:**

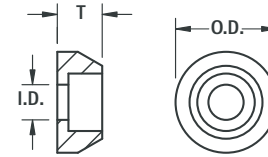
**Brass:** ASTM-B16, Nickel Plate  
**Aluminum:** QQ-A-200, Alloy 6061-T6,  
 Black Anodized per MIL-A-8625

BRASS CAT. NO.	ALUMINUM CAT. NO.	A MTG. CTRS.	B HEIGHT	D DEPTH	E THREAD	R RADIUS	C DIAMETER				
7140	7170	1.250 (31.8)	1.000 (25.4)	.375 (9.5)	4-40	.156 (4.0)	<b>.156 (4.0)</b>				
7141	7171	2.000 (50.8)	1.000 (25.4)								
7142	7172	3.000 (76.2)	1.000 (25.4)								
9100	9110	1.250 (31.8)	.625 (15.9)	.156 (4.0)	4-40	.187 (4.7)	<b>.187 (4.7)</b>				
9101	9111	1.500 (38.1)	.625 (15.9)								
9104	9114	1.500 (38.1)	.750 (19.1)								
9102	9112	1.750 (44.5)	.625 (15.9)								
9105	9115	1.750 (44.5)	.750 (19.1)								
9103	9113	2.000 (50.8)	.625 (15.9)								
9106	9116	1.250 (31.8)	1.000 (25.4)								
9107	9117	1.500 (38.1)	1.000 (25.4)	.250 (6.4)	6-32	.187 (4.7)	<b>.187 (4.7)</b>				
9108	9118	2.000 (50.8)	1.000 (25.4)								
9109	9119	3.000 (76.2)	1.000 (25.4)								
7143	7173	3.000 (76.2)	1.500 (38.1)								
485	515	3.000 (76.2)	1.750 (44.5)	.562 (14.3)	8-32	.250 (6.4)	<b>.250 (6.4)</b>				
480	510	3.500 (88.9)	1.500 (38.1)								
7144	7174	4.000 (101.6)	1.500 (38.1)								
486	516	4.000 (101.6)	1.750 (44.5)								
481	511	4.500 (114.3)	1.500 (38.1)								
487	517	4.500 (114.3)	1.750 (44.5)								
482	512	5.000 (127.0)	1.500 (38.1)								
488	518	5.000 (127.0)	1.750 (44.5)								
483	513	5.500 (139.7)	1.500 (38.1)								
484	514	6.000 (152.4)	1.500 (38.1)								
489	519	6.000 (152.4)	1.750 (44.5)								
7145	7175	3.000 (76.2)	1.500 (38.1)					.562 (14.3)	10-32	.312 (7.9)	<b>.312 (7.9)</b>
7146	7176	4.000 (101.6)	1.500 (38.1)								
493	523	4.000 (101.6)	1.750 (44.5)								
490	520	4.500 (114.3)	1.500 (38.1)								
494	524	4.500 (114.3)	1.750 (44.5)								
7147	7177	4.562 (115.9)	1.500 (38.1)								
491	521	5.000 (127.0)	1.500 (38.1)								
495	525	5.000 (127.0)	1.750 (44.5)								
492	522	5.500 (139.7)	1.500 (38.1)								
7148	7178	6.000 (152.4)	1.500 (38.1)								
496	526	6.000 (152.4)	1.750 (44.5)								
7149	7179	6.437 (163.5)	1.750 (44.5)								
7150	7180	4.000 (101.6)	1.375 (34.9)	.375 (9.5)	10-32	.375 (9.5)	<b>.375 (9.5)</b>				
7151	7181	6.000 (152.4)	1.375 (34.9)								

# FERRULES

FERRULES FOR ROUND HANDLES

- To protect and support panel surface



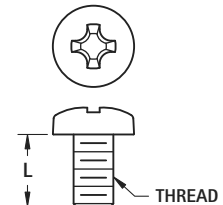
**MATERIAL:**

**Brass:** ASTM-B16, Nickel Plate  
**Aluminum:** QQ-A-200, Alloy 6061-T6, Black Anodized per MIL-A-8625

BRASS CAT. NO.	ALUMINUM CAT. NO.	FOR THREAD	FOR DIAMETER	O.D.	I.D.	T
7162	7192	4-40	.156 (4.0)	.250 (6.4)	.120 (3.0)	.125 (3.2)
9120	9122	4-40	.187 (4.7)	.312 (7.9)	.120 (3.0)	.125 (3.2)
9121	9123	6-32	.187 (4.7)	.312 (7.9)	.144 (3.7)	.125 (3.2)
7163	7193	8-32	.250 (6.4)	.375 (9.5)	.170 (4.3)	.187 (4.7)
7164	7194	10-32	.312 (7.9)	.562 (14.3)	.196 (5.0)	.250 (6.4)

# HANDLE MOUNTING SCREWS

- Phillips drive pan head machine screws



**MATERIAL:** Stainless Steel

CAT. NO.	L LENGTH	THREAD	DRIVER SIZE
9900	.250 (6.4)	4-40	1
9901	.375 (9.5)		
9902	.500 (12.7)		
9903	.250 (6.4)	6-32	2
9904	.375 (9.5)		
9905	.500 (12.7)		
9906	.375 (9.5)	8-32	2
9907	.500 (12.7)		
9908	.750 (19.1)		
9909	.375 (9.5)	10-32	2
9910	.500 (12.7)		
9911	.750 (19.1)		

# PLASTIC FAN FILTER ASSEMBLY

A unique package consisting of guard, filter media and retainer. The guard and retainer are manufactured with UL Rated 94V-0 material. The filter media is made of polyurethane foam (30PPI) and allows free passage of air with minimum air resistance and pressure drop. A major feature of this assembly is that when the filter media requires maintenance you simply remove the snap-fit retainer to clean or replace the filter, leaving the guard attached to the fan. This assures protection to the fan blade and eliminates damage to the fan during cleaning.

## RETAINER

**MATERIAL:** ABS, UL Rated 94V-0

- Snap-fit construction
- Designed for minimum air restriction

## MEDIA

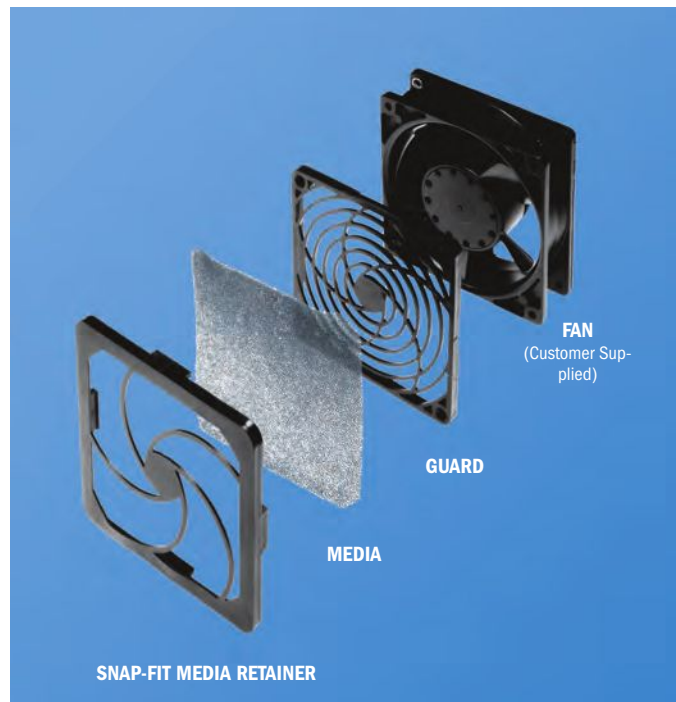
**MATERIAL:** Polyurethane foam

- Constructed to allow free passage of air with minimum resistance and pressure drop
- Has a high surface-area contact for impingement of dust particles
- 30PPI material gives a wide range of particle filtration (PPI denotes pores per inch)
- Helps reduce external fan noise
- Easily cleaned by vacuuming or washing with mild soap, detergent or cleaning solvent
- Replacement media available

## GUARD

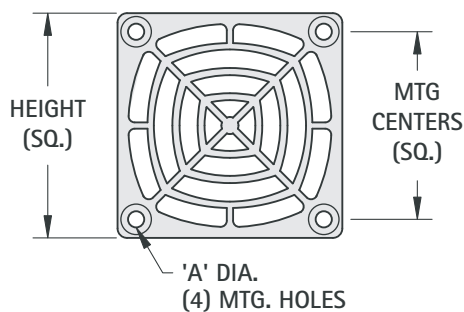
**MATERIAL:** ABS, UL Rated 94V-0

- .250 (6.4) maximum ring spacing
- Decreased noise level due to design
- Countersunk mounting holes (4)
- Withstands high impact

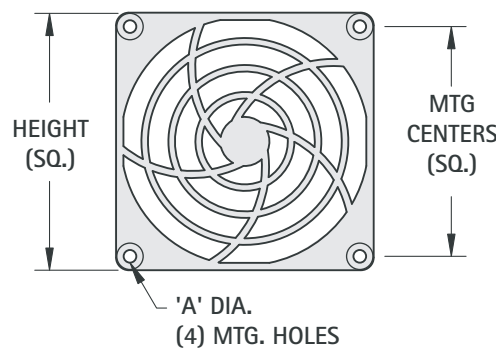


## FAN GUARD ASSEMBLIES

### MINI-FAN GUARD ASSEMBLIES



### STANDARD GUARD ASSEMBLIES



#### FILTER ASSEMBLIES INCLUDE GUARD, MEDIA and RETAINER

CAT. NO.	FOR FAN SIZE	HEIGHT	THICKNESS	MTG. CENTERS	A MTG. HOLES
8464	1.50" (40mm)	1.570 (39.9)	.240 (6.1)	1.260 (32.0)	.144 (3.7)
8465	2.50" (60mm)	2.360 (59.9)	.260 (6.6)	1.970 (50.0)	.170 (4.3)

#### FILTER ASSEMBLIES INCLUDE GUARD, MEDIA and RETAINER

CAT. NO.	FOR FAN SIZE	HEIGHT	THICKNESS	MTG. CENTERS	A MTG. HOLES
8458	3.12 (80mm)	3.290 (83.6)	.393 (10.0)	2.810 (71.4)	.155 (3.9)
8459	3.62 (92mm)	3.800 (96.5)	.393 (10.0)	3.245 (82.4)	.175 (4.4)
8460	4.50 (120mm)	4.870 (123.7)	.420 (10.7)	4.125 (104.8)	.180 (4.6)

### FAN GUARDS

CAT. NO.	FOR FAN SIZE	HEIGHT	THICKNESS	MTG. CENTERS	A MTG. HOLES
8466	1.50" (40mm)	1.570 (39.9)	.240 (6.1)	1.260 (32.0)	.144 (3.7)
8467	2.50" (60mm)	2.360 (59.9)	.260 (6.6)	1.970 (50.0)	.170 (4.3)

### FAN GUARDS

CAT. NO.	FOR FAN SIZE	HEIGHT	THICKNESS	MTG. CENTERS	A MTG. HOLES
8461	3.12 (80mm)	3.150 (80.0)	.257 (6.5)	2.810 (71.4)	.155 (3.9)
8462	3.62 (92mm)	3.620 (91.9)	.250 (6.4)	3.245 (82.4)	.175 (4.4)
8463	4.50 (120mm)	4.650 (118.1)	.279 (7.1)	4.125 (104.8)	.180 (4.6)



# METAL GUARDS

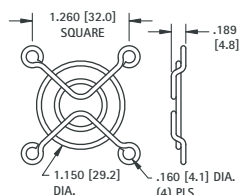
Made of high quality steel wire which combines strength with superior forming. The units offer clean, strong butt welds with minimum flash and have consistent guard diameters to enhance maximum air-flow and venting.

- Available for most popular size fans
- Protects fingers as well as fan blades
- Same mounting hole pattern as standard fans
- Chrome Plate offers a high luster finish



**MATERIAL:** Steel, Nickel Chrome Plate

## FITS 1.50" (40mm) FANS

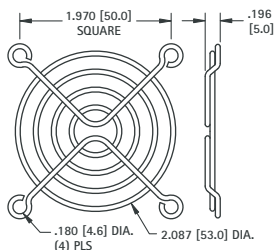


### CONSTRUCTION

Rings: .063 (1.60) wire diameter  
Ribs: .063 (1.60) wire diameter

**CAT. NO. 8447**

## FITS 2.50" (60mm) FANS

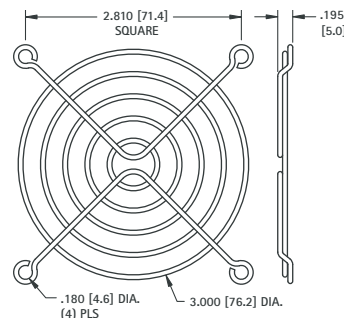


### CONSTRUCTION

Rings: .063 (1.60) wire diameter  
Ribs: .063 (1.60) wire diameter

**CAT. NO. 8449**

## FITS 3.12" (80mm) FANS

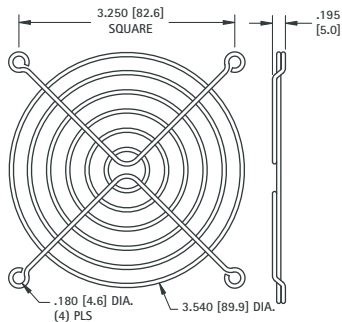


### CONSTRUCTION

Rings: .063 (1.60) wire diameter  
Ribs: .063 (1.60) wire diameter

**CAT. NO. 8450**

## FITS 3.62" (92mm) FANS

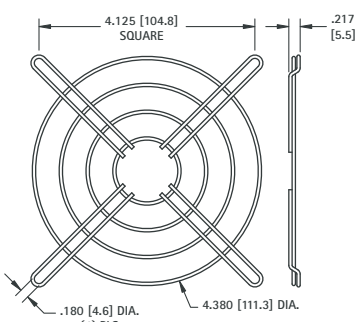


### CONSTRUCTION

Rings: .063 (1.60) wire diameter  
Ribs: .063 (1.60) wire diameter

**CAT. NO. 8451**

## FITS 4.50" (120mm) FANS

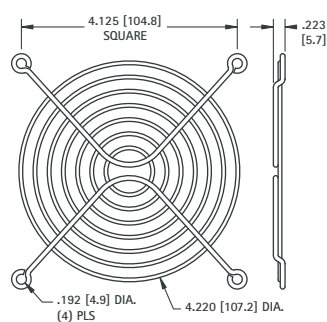


### CONSTRUCTION

Rings: .063 (1.60) wire diameter  
Ribs: .063 (1.60) wire diameter

**CAT. NO. 8448**

## FITS 4.50" (120mm) FANS

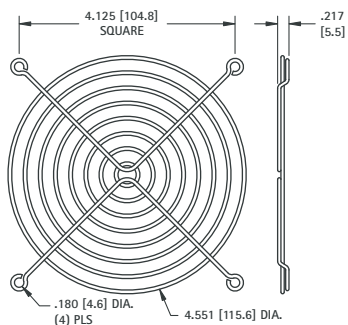


### CONSTRUCTION

Rings: .071 (1.80) wire diameter  
Ribs: .091 (2.31) wire diameter

**CAT. NO. 8452**

## FITS 4.50" (120mm) FANS

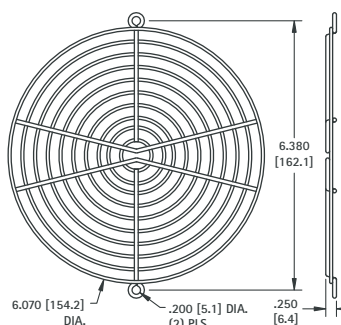


### CONSTRUCTION

Rings: .071 (1.80) wire diameter  
Ribs: .071 (1.80) wire diameter

**CAT. NO. 8453**

## FITS 6.00" (150mm) FANS

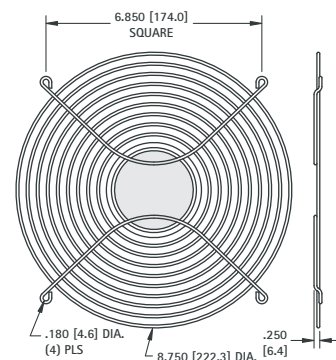


### CONSTRUCTION

Rings: .071 (1.80) wire diameter  
Ribs: .091 (2.31) wire diameter

**CAT. NO. 8455**

## FITS 10.00" (250mm) FANS



### CONSTRUCTION

Rings: .091 (2.31) wire diameter  
Ribs: .091 (2.31) wire diameter

**CAT. NO. 8457**

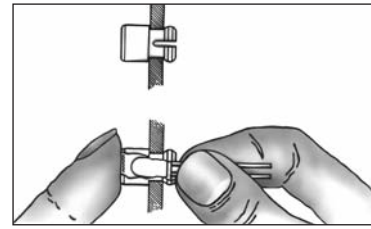
# LED LENS CAPS

Designed for use with T-1 or T-1 3/4 LEDs, these Lens Caps are available in round or square configurations. They snap-mount through the front panel for easy, light-finger pressure, installation. The LED is inserted into the cap from behind the panel and held securely in place.

The Lens Cap protects the LED from physical damage while guarding the components from electrostatic discharge (ESD), up to 16KV. More economical than indicator light assemblies, the caps feature striated lines and fresnel rings which permit up to 180 viewing angles with either diffused or non-diffused LED's. They provide exceptionally high contrast and visibility.



**MATERIAL:** Polycarbonate  
Available in Red, Green, Yellow and Clear



## ROUND CAPS

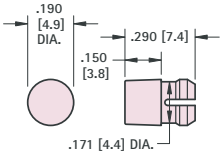


FIG. 1 T-1

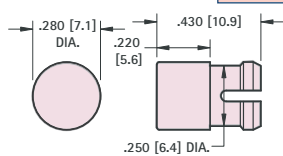


FIG. 2 T-1 3/4

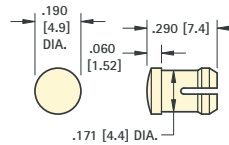


FIG. 3 T-1

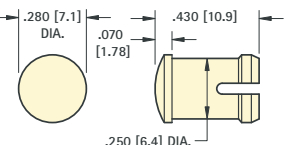


FIG. 4 T-1 3/4

### STANDARD HEIGHT

CAT. NO.	COLOR	FIG. NO.	LED SIZE	MTG. HOLE SIZE	MIN. MTG. CENTERS	PANEL THICKNESS
8650	RED	1	T-1	.171 (4.3)	.250 (6.4)	.031 - .062 (.79/1.57)
8651	GREEN					
8652	YELLOW					
8653	CLEAR	2	T-1 3/4	.250 (6.4)	.375 (9.5)	.062 - .125 (1.57/3.18)
8662	RED					
8663	GREEN					
8664	YELLOW					
8665	CLEAR					

### LOW PROFILE

CAT. NO.	COLOR	FIG. NO.	LED SIZE	MTG. HOLE SIZE	MIN. MTG. CENTERS	PANEL THICKNESS
8656	RED	3	T-1	.171 (4.3)	.250 (6.4)	.062 - .125 (1.57/3.18)
8657	GREEN					
8658	YELLOW					
8659	CLEAR	4	T-1 3/4	.250 (6.4)	.375 (9.5)	.031 - .250 (.79/6.4) (See Note)
8668	RED					
8669	GREEN					
8670	YELLOW					
8671	CLEAR					

## SQUARE CAPS

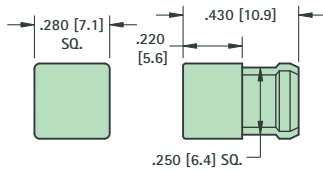


FIG. 5 T-1 3/4

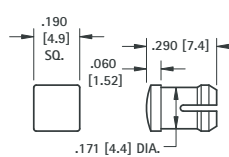


FIG. 6 T-1

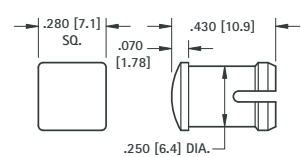


FIG. 7 T-1 3/4

### STANDARD HEIGHT

CAT. NO.	COLOR	FIG. NO.	LED SIZE	MTG. HOLE SIZE	MIN. MTG. CENTERS	PANEL THICKNESS
8680	RED	5	T-1 3/4	.250 (6.4) SQUARE	.375 (9.5)	.062 - .125 (1.57/3.18)
8681	GREEN					
8682	YELLOW					
8683	CLEAR					

### LOW PROFILE

CAT. NO.	COLOR	FIG. NO.	LED SIZE	MTG. HOLE SIZE	MIN. MTG. CENTERS	PANEL THICKNESS
8674	RED	6	T-1	.171 (4.3)	.250 (6.4)	.062 - .125 (1.57/3.18)
8675	GREEN					
8676	YELLOW					
8677	CLEAR	7	T-1 3/4	.250 (6.4)	.375 (9.5)	.031 - .250 (.79/6.4) (See Note)
8686	RED					
8687	GREEN					
8688	YELLOW					
8689	CLEAR					

Note: When mounting T-1 3/4 Low Profile Caps (Fig. 4 or Fig. 7) in panels .125 (3.2) thick or less a spacer must be used. **Spacer CAT. NO. 8692 MATERIAL:** White Nylon .375 (9.5) O.D. x 1/4 I.D. x 1/8 Lg.

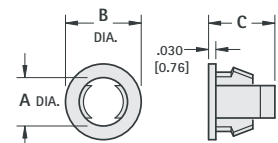
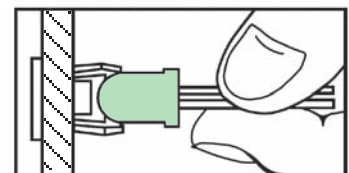
## "SNAP-IN" T-1 & T-1 3/4 LED HOLDERS

Designed for use with T-1 or T-1 3/4 LED's in .060 (1.52) - .070 (1.78) thick panels. The holder snaps into the front panel with easy, light-finger pressure. The LED snaps into the holder from behind the panel and is held securely in place.

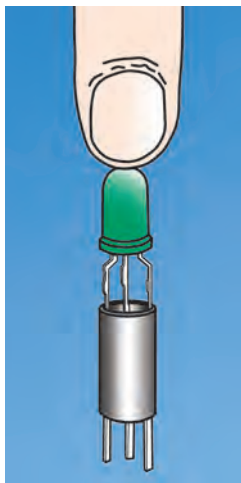


**MATERIAL:** Nylon 6/6, Black

CAT. NO.	LED SIZE	A	B	C	MTG. HOLE SIZE
8309	T-1	.114 (2.9)	.232 (5.9)	.188 (4.8)	.171 (4.3)
8310	T-1 3/4	.200 (5.0)	.315 (8.0)	.274 (6.9)	.250 (6.4)

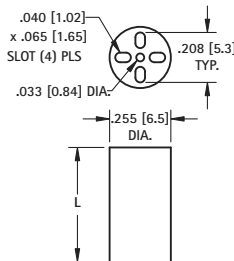


# "UNIVERSAL" FOR T-1 & T-1 3/4



- Unique design separates leads and retains Tri-Lead and Bi-Lead components.
- Designed for PC board mounting of Tri-Lead and Bi-Lead T-1 and T-1 3/4 LEDs
- Provides height control, lead retention and stability.
- Also suitable for mounting lamps, resistors, transistors, diodes, capacitors, etc.

**MATERIAL:** Black PVC, UL Rated 94V-0



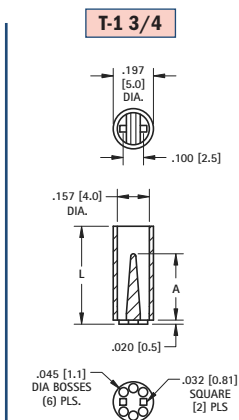
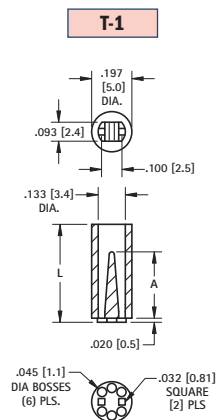
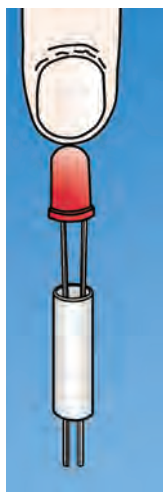
FOR T-1 3/4 and T-1			
CAT. NO.	L LENGTH	CAT. NO.	L LENGTH
8900	.120 (3.0)	8916	.400 (10.2)
8901	.140 (3.6)	8917	.420 (10.7)
8902	.160 (4.1)	8918	.440 (11.2)
8903	.180 (4.6)	8919	.450 (11.4)
8904	.200 (5.1)	8920	.460 (11.7)
8905	.220 (5.6)	8921	.480 (12.2)
8906	.240 (6.1)	8922	.500 (12.7)
8907	.250 (6.4)	8923	.550 (14.0)
8908	.260 (6.6)	8924	.600 (15.2)
8909	.280 (7.1)	8925	.650 (16.5)
8910	.300 (7.6)	8926	.700 (17.8)
8911	.320 (8.1)	8927	.750 (19.1)
8912	.340 (8.6)	8928	.800 (20.3)
8913	.350 (8.9)	8929	.850 (21.6)
8914	.360 (9.1)	8930	.900 (22.9)
8915	.380 (9.7)	8931	.925 (23.5)

# "SELF-ALIGNING" FOR BI-LEAD T-1 & T-1 3/4

### KEY FEATURES

- Positive self-alignment of leads on .100 (.25) centers.
- No special tools required

**MATERIAL:** Natural Nylon, UL Rated 94V-2



- This features an internally tapered barrier which guides the leads and eliminates crimping or shorting.
- The bottom bosses serve the dual purpose of heat dissipation and easy post soldering cleanup.

T-1 3/4	T-1	L LENGTH	A REF.
8311	7351	.120 (3.0)	.075 (1.9)
8312	7352	.140 (3.6)	
8313	7353	.160 (4.1)	
8314	7354	.180 (4.6)	
8315	7355	.200 (5.1)	
8316	7356	.220 (5.6)	
8317	7357	.240 (6.1)	.190 (4.8)
8318	7358	.250 (6.4)	
8319	7359	.260 (6.6)	
8320	7360	.280 (7.1)	
8321	7361	.300 (7.6)	
8322	7362	.320 (8.1)	
8323	7363	.340 (8.6)	.200 (5.1)
8324	7364	.350 (8.9)	
8325	7365	.360 (9.1)	
8326	7366	.380 (9.7)	
			.325 (8.3)

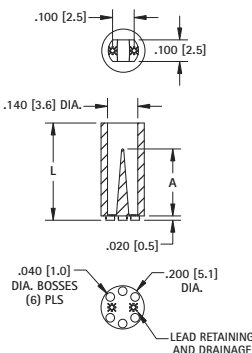
T-1 3/4	T-1	L LENGTH	A REF.
8327	7367	.400 (10.2)	.325 (8.3)
8328	7368	.420 (10.7)	
8329	7369	.440 (11.2)	
8330	7370	.450 (11.4)	
8331	7371	.460 (11.7)	
8332	7372	.480 (12.2)	
8333	7373	.500 (12.7)	.450 (11.4)
8334	7374	.550 (14.0)	
8335	7375	.600 (15.2)	
8336	7376	.650 (16.5)	
8337	7377	.700 (17.8)	.575 (14.6)
8338	7378	.750 (19.1)	
8339	7379	.800 (20.3)	
8340	7380	.850 (21.6)	
8341	7381	.900 (22.9)	
8342	7382	.925 (23.5)	.690 (17.5)

# "SELF-RETAINING" FOR T-1

- Features internal retention "teeth" which secure LED leads onto spacers.
- This features an internally tapered barrier which guides the leads and eliminates crimping or shorting.
- The bottom bosses serve the dual purpose of heat dissipation and easy post soldering cleanup.

### KEY FEATURES

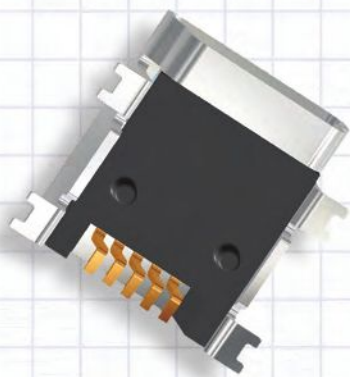
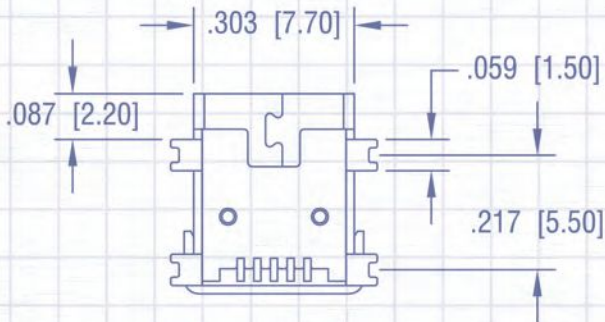
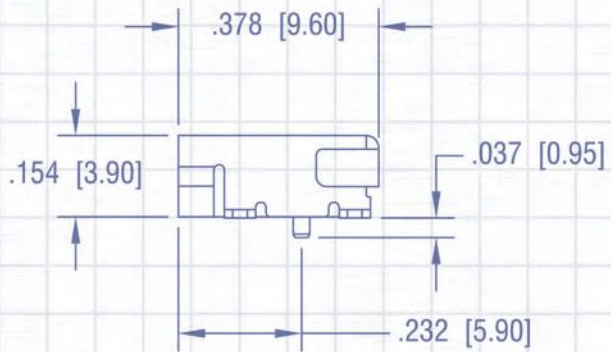
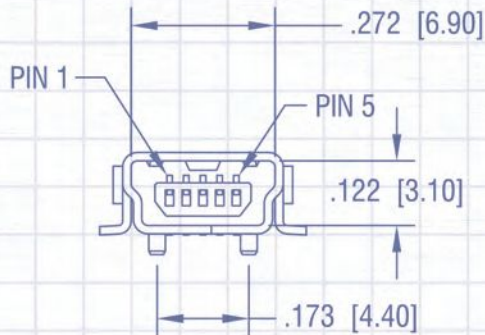
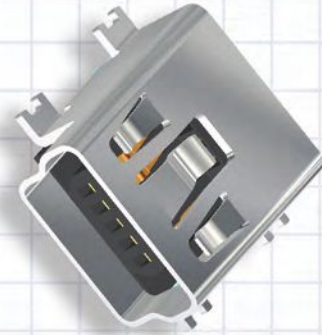
- Internal design eliminates crimping or shorting of leads
- Self alignment of leads on .100 [.25] centers.
- Spacer will stay gripped to LED leads during assembly
- No special tools required



T-1	L LENGTH	A REF.
7030	.120 (3.0)	.060 (1.5)
7031	.140 (3.6)	
7032	.160 (4.1)	
7033	.180 (4.6)	
7034	.200 (5.1)	
7035	.220 (5.6)	
7036	.240 (6.1)	.185 (4.7)
7037	.250 (6.4)	
7038	.260 (6.6)	
7039	.280 (7.1)	
7040	.300 (7.6)	
7041	.320 (8.1)	
7042	.340 (8.6)	.310 (7.9)
7043	.350 (8.9)	
7044	.360 (9.1)	
7045	.380 (9.7)	

T-1	L LENGTH	A REF.
7046	.400 (10.2)	.310 (7.9)
7047	.420 (10.7)	
7048	.440 (11.2)	
7049	.450 (11.4)	
7050	.460 (11.7)	
7051	.480 (12.2)	
7052	.500 (12.7)	.435 (11.0)
7053	.550 (14.0)	
7054	.600 (15.2)	
7055	.650 (16.5)	
7056	.700 (17.8)	.650 (14.2)
7057	.750 (19.1)	
7058	.800 (20.3)	
7059	.850 (21.6)	
7060	.900 (22.9)	
7061	.925 (23.5)	.690 (17.5)

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