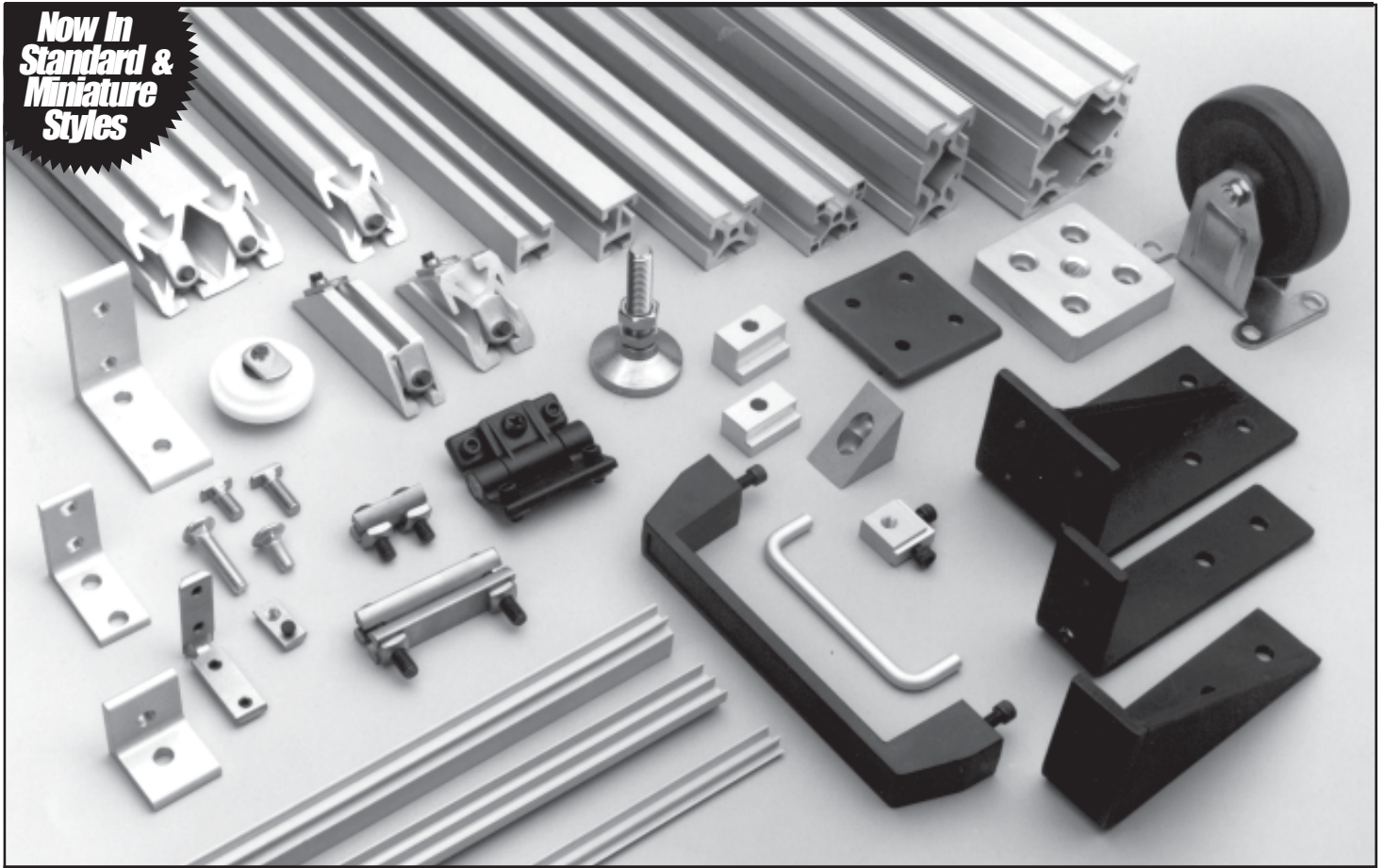


# MODULAR FRAMING ELEMENTS STRUCTURAL EXTRUSIONS

## MOUNTING HARDWARE AND ACCESSORIES

*Now In  
 Standard &  
 Miniature  
 Styles*



**PIC-STIX\*** modular framing elements offer a simplified approach to structural construction that is becoming State-of-the-Art for industrial and laboratory applications.

The system consists of an assortment of anodized aluminum **PIC-STIX** extrusions in combination with a wide range of joining and fastening elements and accessories.

The **PIC-STIX** system allows you to construct structures of many configurations and sizes. It is easy to assemble various structures without special training or tooling. A few simple hand tools are all that is required.

All joint connections are fastened together to provide flexibility and quick changeover as well as reuse of all elements.

**PIC-STIX** —

Extrusions with T-Slot grooves are clear anodized for corrosion free finish. The longitudinal slots are utilized for inserting

T-Bolts and nuts anywhere along its length to attach connecting brackets and accessories.

The **PIC-STIX** elements consists of:

- Extrusions: Light and regular extrusions of various constructions
- Mounting Components: Extrusion Corners, various Brackets and Braces
- Fastening Hardware: T-Nuts, Cross and End Connectors, Turn & Lock T-Bolts, T-Bolts, Mounting Screws and Washers
- Accessories: Leveling and Anchoring Plates, Adjustable Legs, Casters, Handles, Hinges, End Plates, Gaskets, and Door Slide Tracks.

**Typical applications for modular construction elements:**

- Industrial & Laboratory Apparatus
- Machine Support Frames
- Linear Motion Systems
- Work Stations - Benches
- Handling & Robotic Systems
- Tooling & Fixture Supports
- Machine Guarding Structures

**Ordering Flexibility**

PIC Design makes it easy for you to incorporate **PIC-STIX** in your design. Order any of the following options:

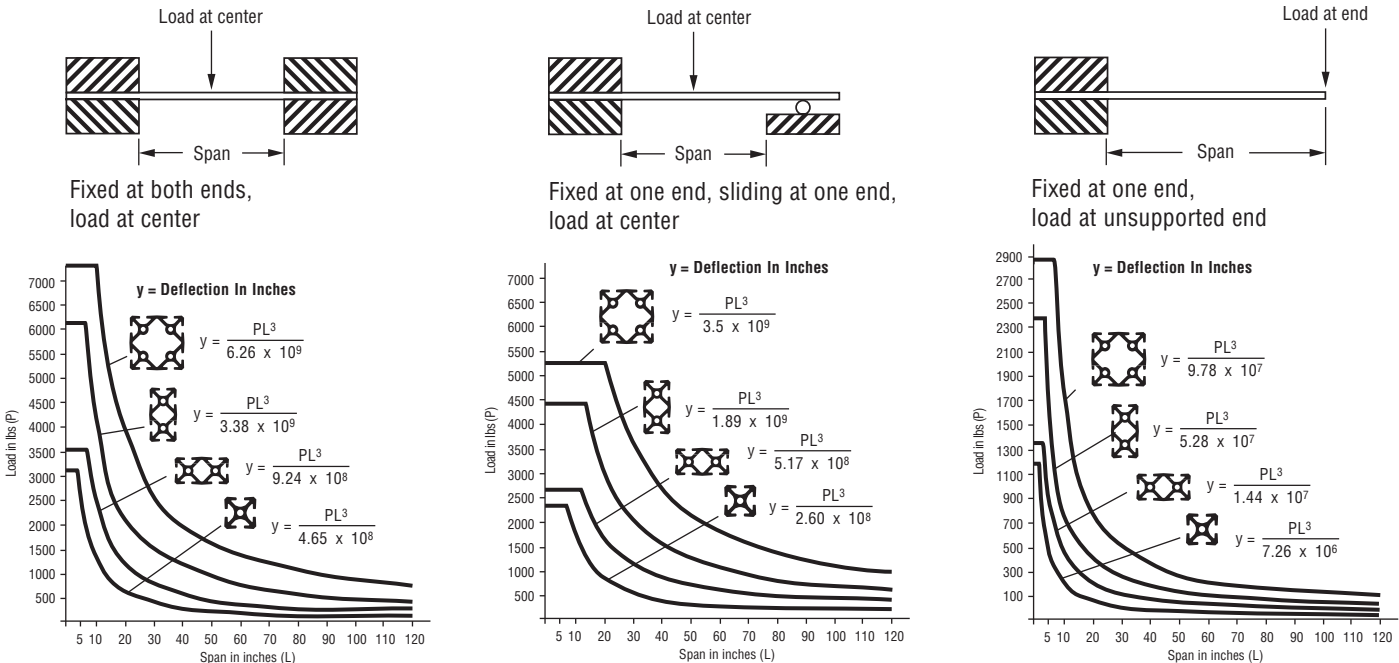
- Order **PIC-STIX** system components so that you can design, cut and assemble in your shop the system you need when you need it.
- Design the system you want including detailed extrusion lengths, provide a bill of material and let PIC provide you with a kit of components ready for assembly in your shop.
- Provide PIC with a detailed print and bill of materials, and have PIC assemble and ship the completed system to you. This option works best when **PIC-STIX** are used as a platform for a PIC Linear Motion System.
- Now also available in miniature size using 1/4"-20 hardware.

# TECHNICAL SECTION

## Structural Design Guidelines — Standard

Individual profile length and load requirements should not exceed the curve in any load example. If this occurs, choose a profile with a larger section modulus to stay below the curve.

### Load Condition:

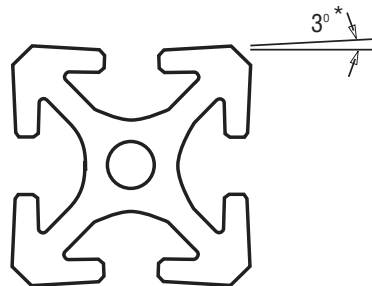


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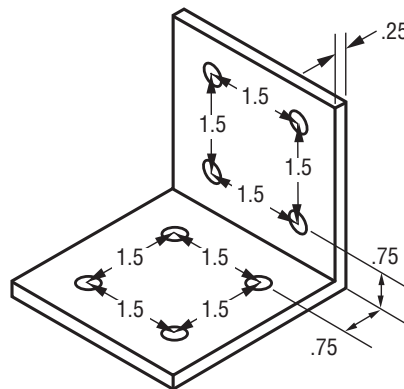


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PIC-STIX					
Profile Part Number	SX3030	SX1530	SX1530	SX1515	SX1515L
Moment of Inertia-in <sup>4</sup>	3.26	.481	1.173	.242	.108
Section Modulus-in <sup>3</sup>	2.173	.641	1.76	.323	.136



\* Angle is 1° on SX1010L, SX1015L, SX1515L, and SX1545L



All **PIC-STIX** extrusions have a 1 or 3 degree decline from extrusion edge to slot centerline. When fasteners are properly tightened, the feature serves as a lock mechanism to keep them tight.

Standard mounting and connecting brackets have clearance holes for 5/16" dia. connecting screws which are all on .75" and 1.5" centers.

PIC fastener brackets, extrusions, hardware and accessories provide an unlimited system for structural design and assembly.

### Suggested Applications

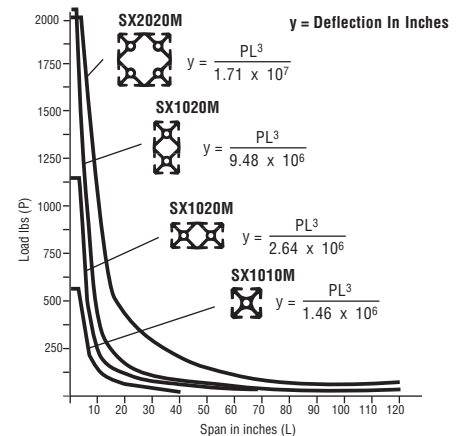
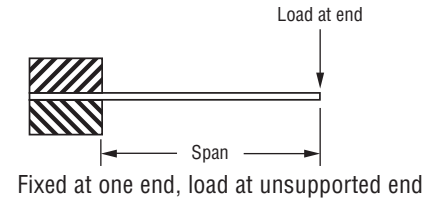
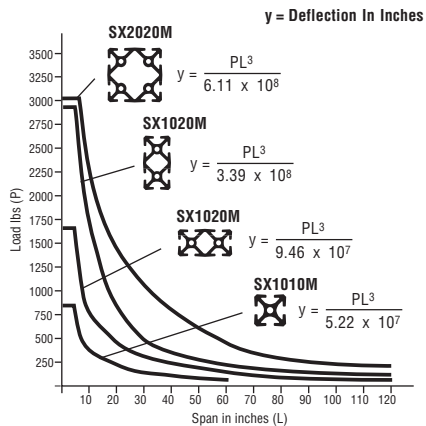
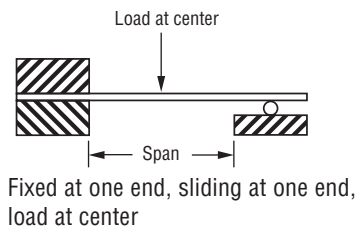
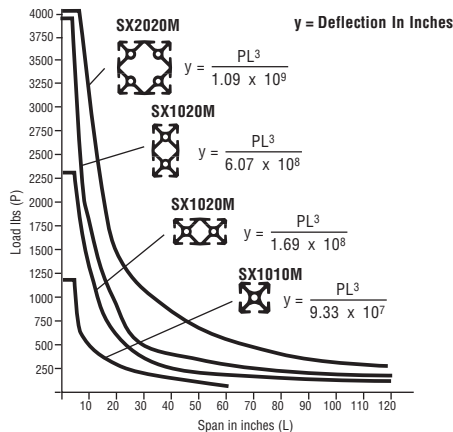
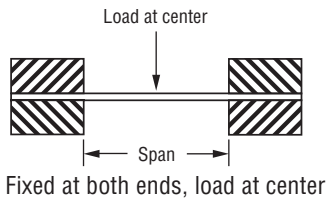
- **SX1010L** (1" x 1") — Light  
Ideal for machine guards, enclosures, and displays.
- **SX1015L** (1" x 1 1/2") — Light  
Enclosures, benches.
- **SX1515L** (1 1/2" x 1 1/2") — Light  
Light load bearing structures, guarding and lightweight support frames.
- **SX1515** (1 1/2" x 1 1/2") —  
Medium load bearing structures, a good combination of structural strength in a compact size.
- **SX1530** (1 1/2" x 3") —  
Used for larger and stronger structures and machine frames. The center of this extrusion can be used to run air or electrical lines.
- **SX3030** (3" x 3") —  
For larger structures where maximum strength is desired. The center of these extrusions can also be used to run air or electrical lines.

# TECHNICAL SECTION

## Structural Design Guidelines — [Miniature]

Individual profile length and load requirements should not exceed the curve in any load example. If this occurs, choose a profile with a larger section modulus to stay below the curve.

### Load Condition:



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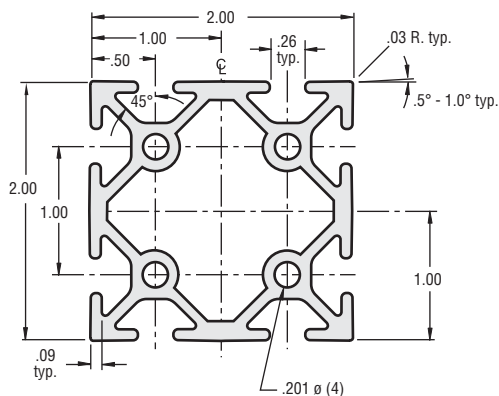
PIC-STIX				
Profile Part Number	SX2020M	SX1020M	SX1020M	SX1010M
Moment of Inertia-in <sup>4</sup>	.570	.316	.088	.049
Section Modulus-in <sup>3</sup>	.570	.316	.176	.097
Est. Area-in <sup>2</sup>	1.248	.807		.451
Weight / ft - lbs.	1.468	.949		.530

**Material:** 6105-T5 Aluminum

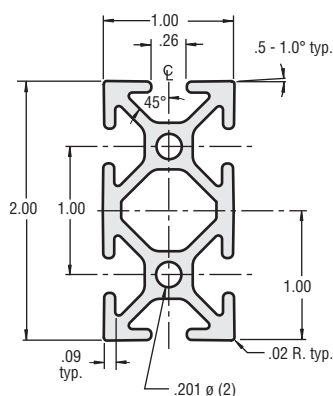
**Finish:** Clear Anodize

Miniature Framing Elements use 1/4-20 Hardware and appropriately noted components

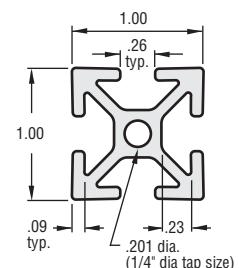
**Note:** Miniature dimensions and part numbers are in [brackets]



**SX2020M**



**SX1020M**



**SX1010M**

# MODULAR FRAMING ELEMENTS

## PIC-STIX Structural T-Slot Extrusions

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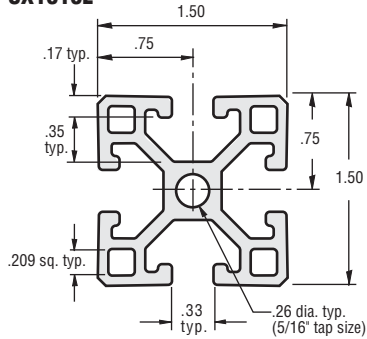
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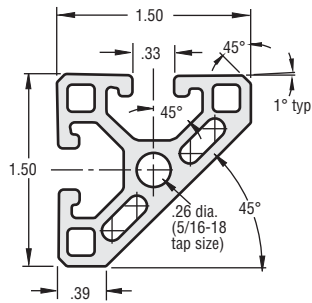
sales@electromate.com

### Light Aluminum Extrusions

#### SX1515L

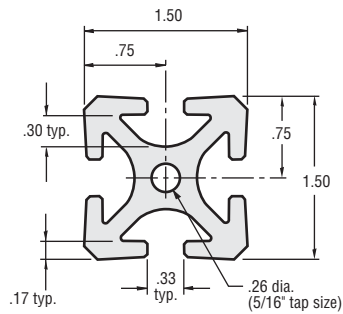


#### SX1545L

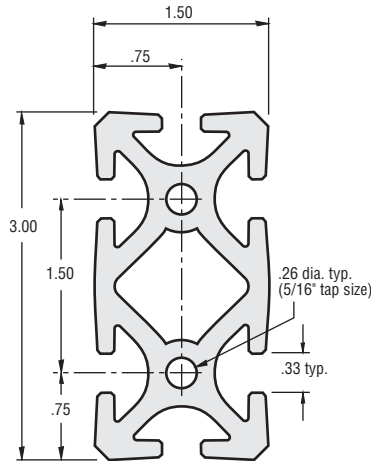


### Aluminum Extrusions

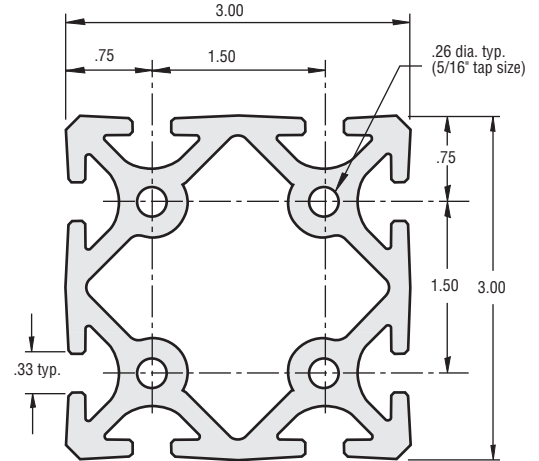
#### SX1515



#### SX1530



#### SX3030



**Material:** 6105-T5 Aluminum

**Finish:** Clear Anodize

**Modulus Of Elasticity:** 11,000,000 PSI

### PIC-STIX — T-Slot Extrusions

Basic Size (Inch)	Wall Type	Maximum Length (Inch)	Weight per Foot (lbs.)	Estimated Area (Square Inch)	* Part Number (Length Code)
1.5 x 1.5	Light	144	1.03	.878	<b>SX1515L</b> - □□□□
1.5 x 1.5 corner	Light	144	.86	.729	<b>SX1545L</b> - □□□□
1.5 x 1.5	Standard	144	1.40	1.164	<b>SX1515</b> - □□□□
1.5 x 3.0	Standard	144	2.48	2.051	<b>SX1530</b> - □□□□
3.0 x 3.0	Standard	144	3.83	3.188	<b>SX3030</b> - □□□□
1.0 x 1.0	Miniature	144	.53	.451	<b>SX1010M</b> - □□□□
1.0 x 2.0	Miniature	144	.95	.807	<b>SX1020M</b> - □□□□
2.0 x 2.0	Miniature	144	1.47	1.248	<b>SX2020M</b> - □□□□

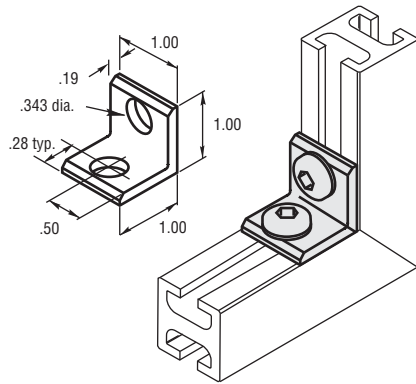
- NOTES:**
1. Custom cut lengths on request — contact factory
  2. Pre-drilled access holes, connector holes, tapped end holes available on request — contact factory
  3. Up to 106 inch lengths shipped via UPS; over 106 inch lengths shipped via truck

- \* Custom lengths may be ordered to .01" increments up to the maximum length. The tolerance on cuts is  $\pm 1/32"$ . For a precision milled cut with a tolerance of  $\pm .005"$ , add "P" after length in the part number. All custom lengths will carry an appropriate cut off charge.

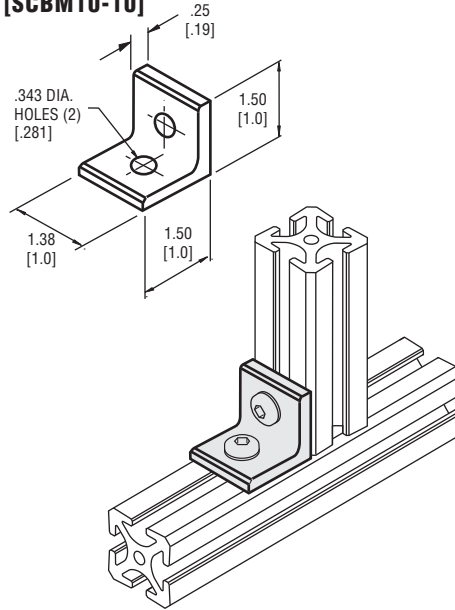
# MOUNTING COMPONENTS

Connecting Angle Brackets — Standard & [Miniature]

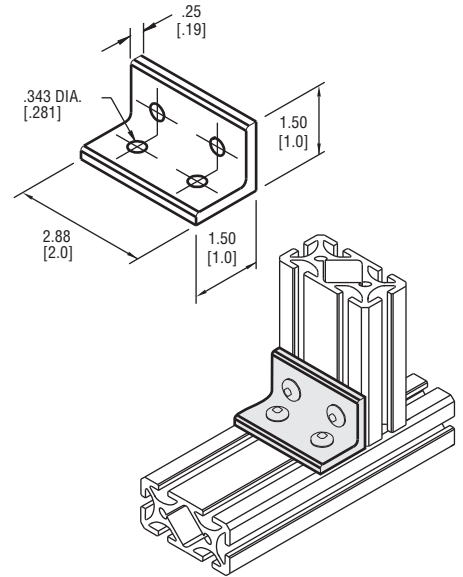
**SCB1-10\***



**SCB15-15**  
**[SCBM10-10]**



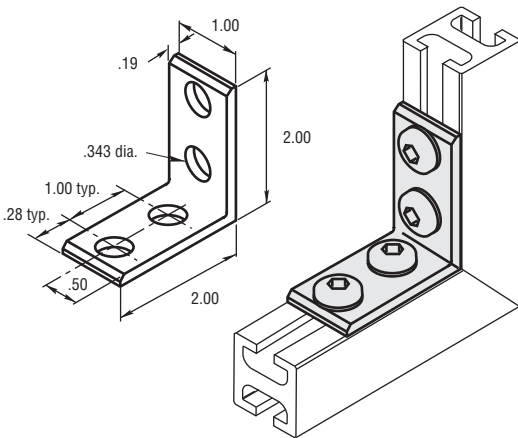
**SCB30-15**  
**[SCBM20-10]**



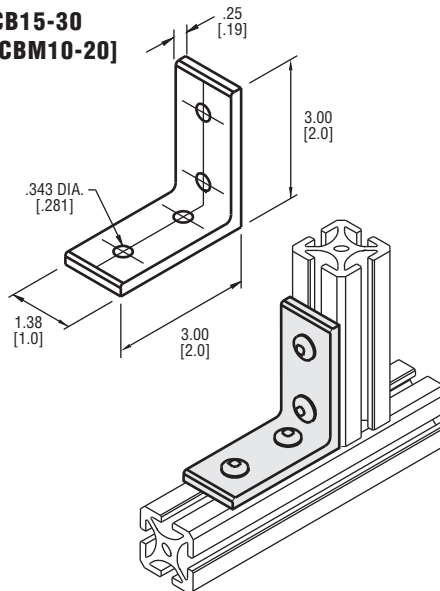
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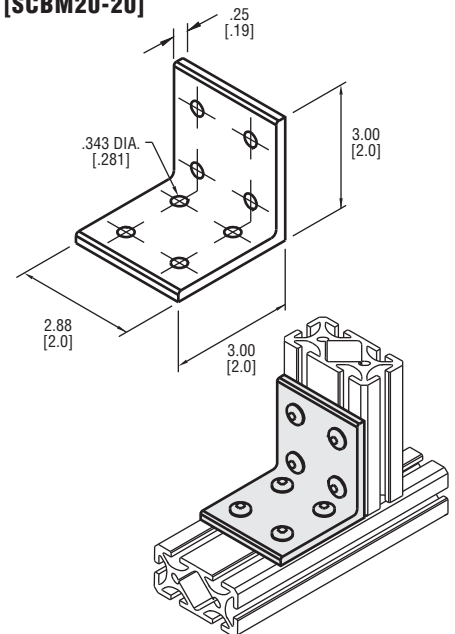
**SCB1-20\***



**SCB15-30**  
**[SCBM10-20]**



**SCB30-30**  
**[SCBM20-20]**



Requires user to select and order separately .63" length button or socket head capscrews and T-Nut from Fastening Hardware section.

\*Note: Use .5" length screws.

Inside corner brackets eliminate special machining operations and allow you to construct your framework without counterbores or access holes using only simple hand tools.

**[Miniature]**

Select and order separately 1/4 x .5" button or socket head capscrews and T-Nut from Fastening Hardware section

**Material:** 6061 Aluminum

**Finish:** Clear Anodize



# MOUNTING COMPONENTS

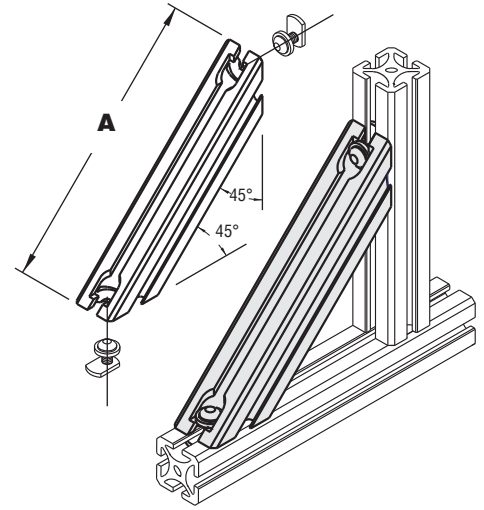
## Extrusion Corners / 45° Supports — Standard & [Miniature]

Extrusion corners /45° supports are designed to strengthen corners and provide a flush and clean connection. The support connects with hardware consisting of socket head cap screws, washers and economy T-nuts (hardware Included).

**Material:** 6061-T6 Aluminum

**Finish:** Clear Anodize

PIC-STIX Extrusion Part Number	A (Inches)	Corner Part Number
SX1010L	4.00	SCX1010-4
SX1515L	3.00	SCX1515-3
SX1515L	9.00	SCX1515-9
SX1515	3.00	SCX1515-3
SX1515	9.00	SCX1515-9
SX1530	3.00	SCX1530-3
SX1530	9.00	SCX1530-9
SX3030	3.00	SCX3015-3
SX3030	9.00	SCX3015-9
SX1010M	6.00	SCX1010M-6
SX1020M	6.00	SCX1020M-6



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# MOUNTING BRACKETS

## Panel Mounting Angle, Corner Joint & Straight Bracket — Standard & [Miniature]

### Corner Brackets

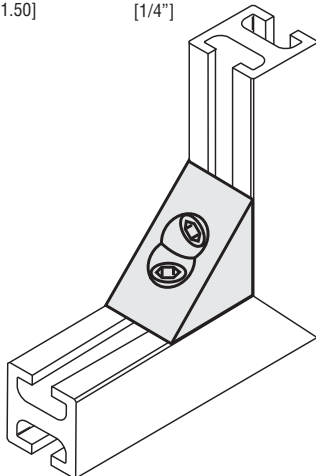
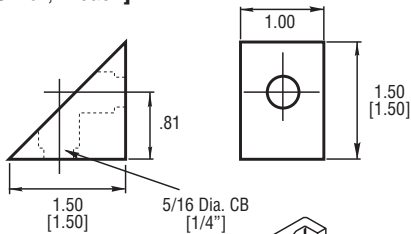
Use with extrusion part numbers SX1010L and SX1015L. Requires SCH8-05 screw and SCH2-10 nut (2ea).

**Material:** Aluminum

**Finish:** Clear Anodize

#### SCX1010-1

[SCX1010M-1 requires SCH8M-05 & SCH2M-10 Nut, 2 each]



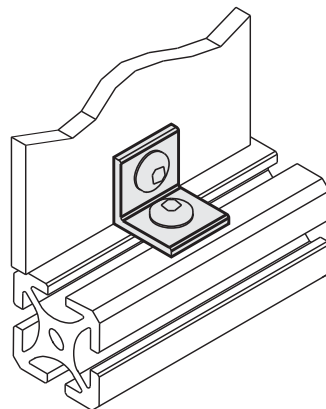
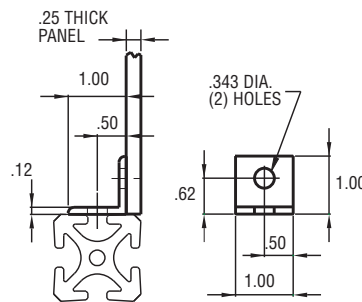
### Panel Mounting Angle

Requires SCH9-06 and nut, plus appropriate panel mounting hardware.

**Material:** Aluminum

**Finish:** Clear Anodize

#### SCB1



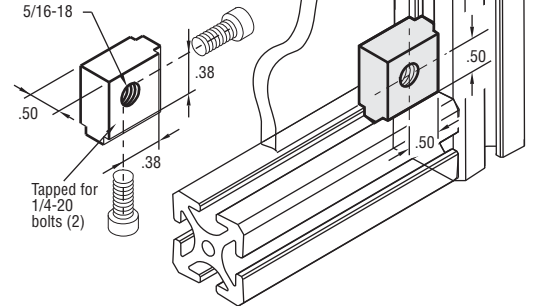
### Corner Joint and Panel Bracket

Hardware Included. Access hole suggested for tightening screw.

**Material:** Aluminum

**Finish:** Clear Anodize

#### SCB1-CP

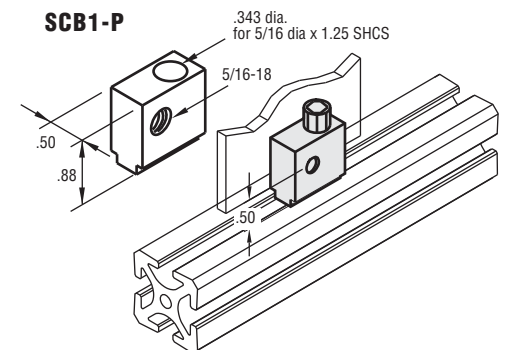


### Panel Mount

Hardware Included.

**Material:** Aluminum, **Finish:** Clear Anodize

#### SCB1-P



# MOUNTING COMPONENTS

Adjustable Joint and Steel Corner Braces — Standard & [Miniature]

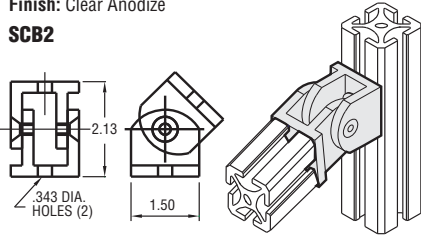
## Adjustable Joint Connector

Suggested hardware SCH8-06 screw with T-Nuts (2).

**Material:** Aluminum

**Finish:** Clear Anodize

**SCB2**



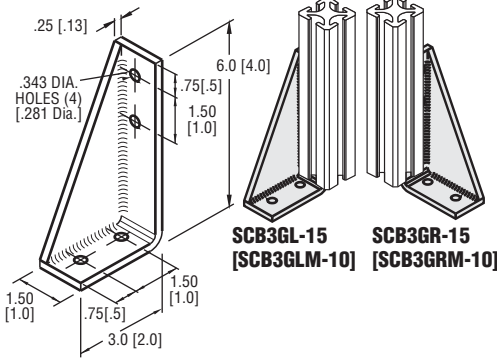
## Reinforced Corner Brace

Suggested hardware SCH9-06 screw and SCH1 nut (4).

[SCH9M-04 screw and SCH2M-10 nut (4)]

**Material:** Alloy Steel

**Finish:** Black Powder Coat



## Corner Brace

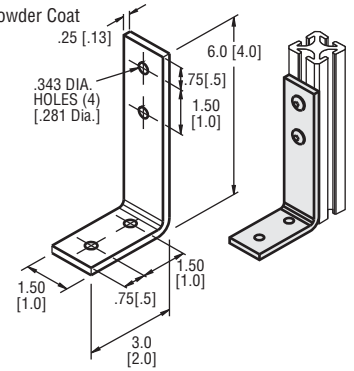
Suggested hardware SCH9-06 screw and SCH1 nut (4).

[SCH9M-04 screw and SCH2M-10 nut (4)]

**Material:** Alloy Steel

**Finish:** Black Powder Coat

**SCB3-15**  
**[SCB3M-10]**



## Corner Brace Reinforced

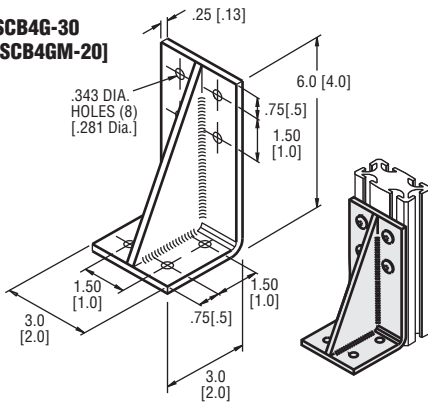
Suggested hardware SCH9-06 screw and SCH1 nut (8).

[SCH9M-04 screw and SCH2M-10 nut (8)]

**Material:** Alloy Steel

**Finish:** Black Powder Coat

**SCB4G-30**  
**[SCB4GM-20]**



## Corner Brace

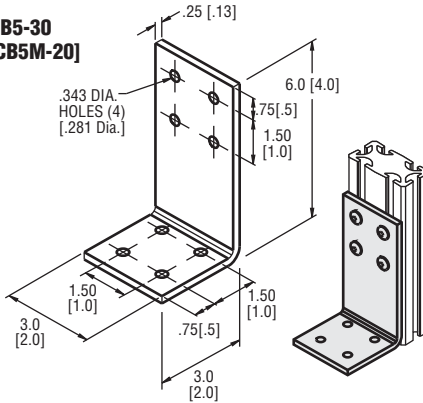
Suggested hardware SCH9-06 and SCH1 nut (8).

[SCH9M-06 screw and SCH2M-10 nut (8)]

**Material:** Alloy Steel

**Finish:** Black Powder Coat

**SCB5-30**  
**[SCB5M-20]**



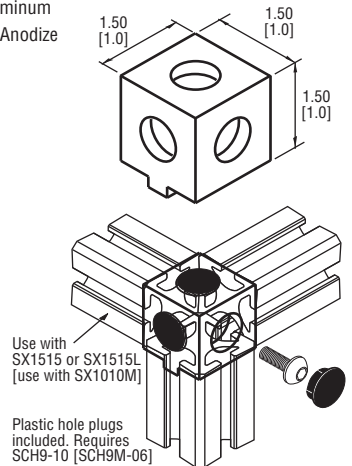
## Corner Block

**Material:** Aluminum

**Finish:** Clear Anodize

**SCB6**

**[SCB6M]**



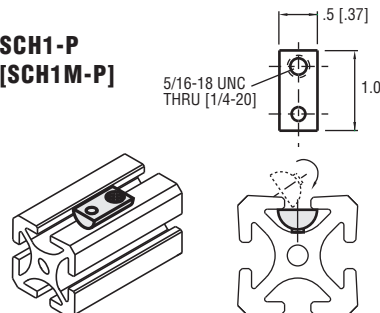
# FASTENING HARDWARE — STANDARD & [MINIATURE]

## Pivot T-Nuts

Loads into extrusion from the side.

Not to be used on SX1010L and SX1015L.

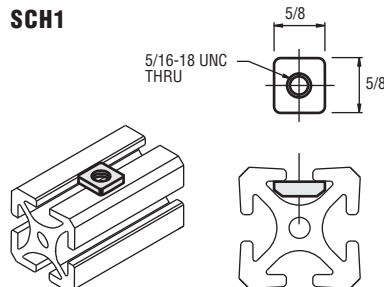
**SCH1-P**  
**[SCH1M-P]**



## Connector T-Nuts

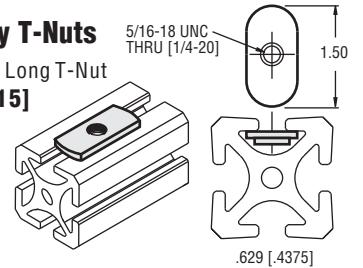
Loads into extrusion from end only.

**SCH1**

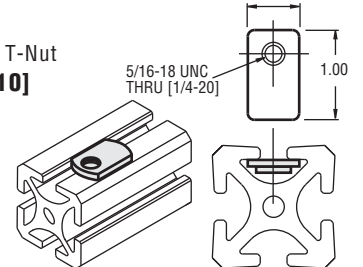


## Economy T-Nuts

**SCH2-15** Long T-Nut  
**[SCH2M-15]**



**SCH2-10** T-Nut  
**[SCH2M-10]**



**Material:** Alloy Steel

**Finish:** Zinc Plate

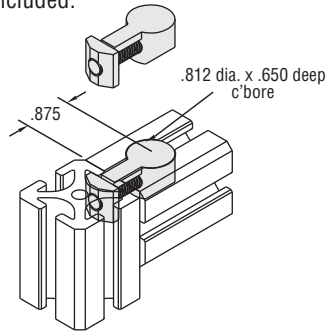
# FASTENING HARDWARE

## Standard Connectors

### Single Anchor Fastener for 5/16" Slots

Hardware Included.

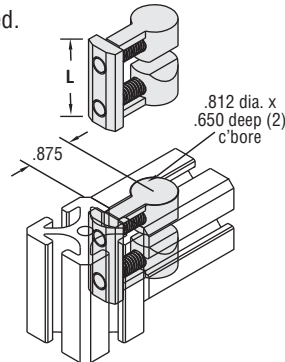
**SCH3R**



### Double Anchor Fastener for 5/16" Slots

Hardware Included.

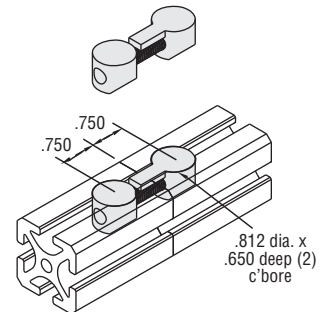
**SCH3-15R**  
for L = 1.5"  
**SCH3-30R**  
for L = 3.0"



### Butt Connector Standard 5/16" Slots

Hardware Included.

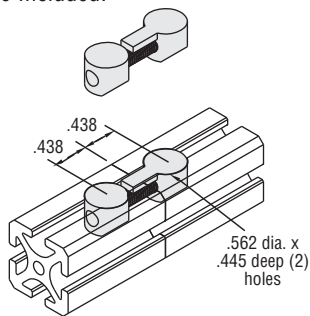
**SCH4R**



### Anchor Butt Connector for Miniature 1/4" Slots

Hardware Included.

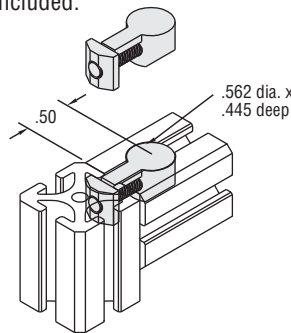
**SCH4M**



### Single Cross Connector for Miniature 1/4" Slots

Hardware Included.

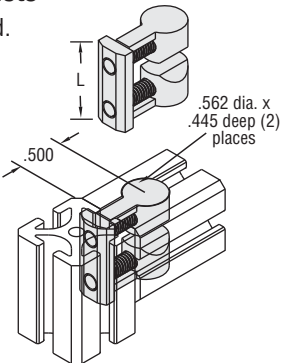
**SCH3M**



### Double Anchor Fastener for Miniature 1/4" Slots

Hardware Included.

**SCH3M-10**  
L or length = 1"  
**SCH3M-20**  
L or length = 2"



**Material:** Alloy Steel

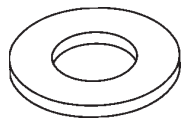
**Finish:** Zinc Plate

## 5/16 Inch Washers, Nuts and Fasteners — Standard & [Miniature]

### 5/16" Washers [1/4"]

Sold in 10 piece increments

**SCH6**  
**[SCH6M]**



**Material:**  
Hardened Steel

**Finish:**  
Black Oxide Coat

### Serrated Belleville

Sold in 10 piece increments

**SCH6-1**



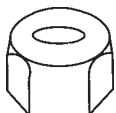
**Material:** Steel

**Finish:**  
Black Oxide Coat

### 5/16" - 18 Hex Nuts [1/4"-20]

Sold in 10 piece increments

**SCH6-2**  
**[SCH6M-2]**



**Material:** Steel

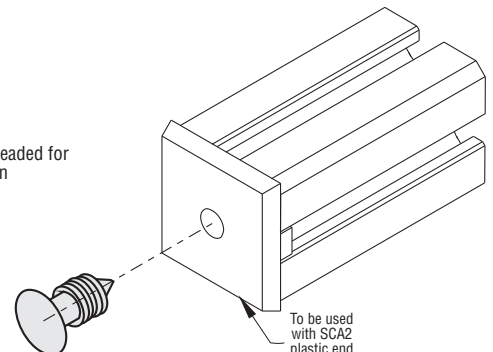
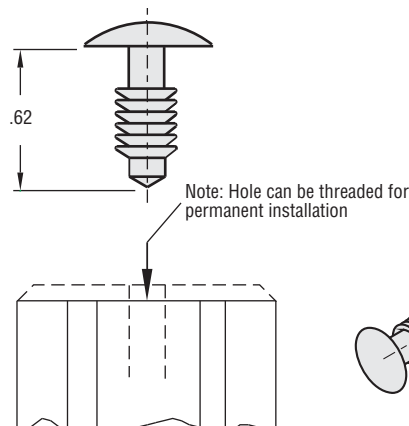
**Finish:** Zinc Plate

### Push Lock Fastener

Sold in 10 piece increments

**Material:** Black Plastic

**SCH5**  
**[SCH5M]**



To be used with SCA2 plastic end  
Solder Serviced By:

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# FASTENING HARDWARE

Fasteners / T-Slot Bolts and Screws — Standard & [Miniature]

## Drop In And Turn 5/16" - 18 T-Bolts

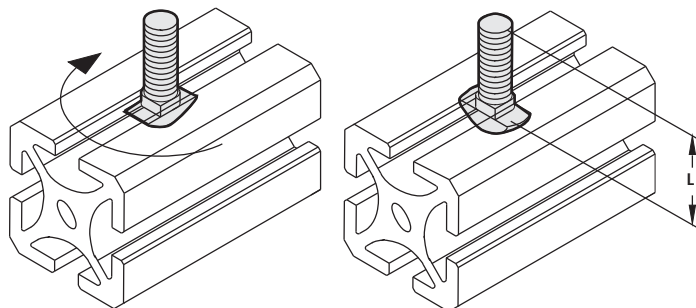
Loads into extrusion from side.

Material: Alloy Steel

Finish: Zinc Plate

L (Inch)	Part Number
.75	SCH6-07
1.00	SCH6-10

SCH6- □ □



## 5/16" - 18 Standard Socket Head Cap Screws [1/4"-20]

Sold in increments of 10 pieces.

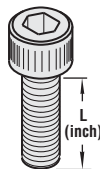
Material: Alloy Steel

Finish: Black Oxide

### Standard Screws

L (Inch)	Part Number
.50	SCH8-05
.63	SCH8-06
.75	SCH8-07
1.0	SCH8-10
1.25	SCH8-12
1.5	SCH8-15
2.0	SCH8-20

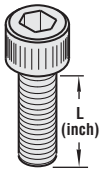
SCH8- □ □



### Miniature Screws

L (Inch)	Part Number
.44	SCH8M-04
.50	SCH8M-05
.63	SCH8M-06
.75	SCH8M-07
1.0	SCH8M-10
1.25	SCH8M-12

SCH8M- □ □



## Economy 5/16" - 18 T-Bolts

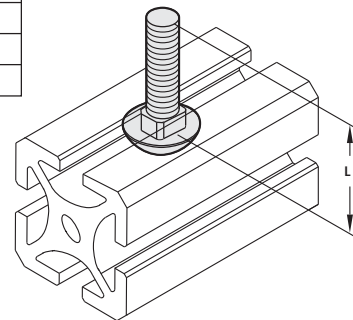
Loads from end only. Sold in increments of 10 pieces.

Material: Alloy Steel

Finish: Zinc Plate

L (Inch)	Part Number
.75	SCH7-07
1.00	SCH7-10
1.25	SCH7-12
1.50	SCH7-15
2.00	SCH7-20

SCH7- □ □



## 5/16" - 18 Standard Button Head Cap Screws [1/4"-20]

Sold in increments of 10 pieces.

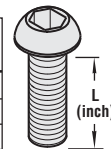
Material: Alloy Steel

Finish: Black Oxide

### Standard Screws

L (Inch)	Part Number
.50	SCH9-05
.63	SCH9-06
.75	SCH9-07
1.0	SCH9-10
1.25	SCH9-12
1.5	SCH9-15

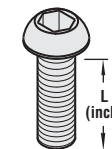
SCH9- □ □



### Miniature Screws

L (Inch)	Part Number
.44	SCH9M-04
.50	SCH9M-05
.63	SCH9M-06
.75	SCH9M-07
1.0	SCH9M-10
1.25	SCH9M-12

SCH9M- □ □



# ACCESSORIES

Door Tracks, Plastic End Plates, Gasket and Covers — Standard & [Miniature]

## Plastic End Plates

Use with part number SCH5. Color: Black

SCH5  
[SCH5M]

SCA2- □ □ □ □

### SCA2-1515

For extrusion SX1515  
[SCA2M-1010] for SX1010M



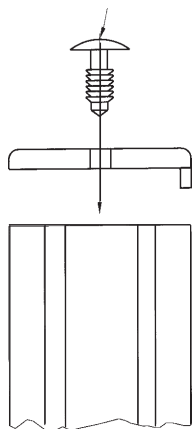
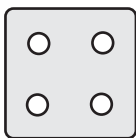
### SCA2-1530

For extrusion SX1530 [SCA2M-1020]  
for SX1020M



### SCA2-3030

For extrusion SX3030  
[SCA2M-2020] for SX2020M

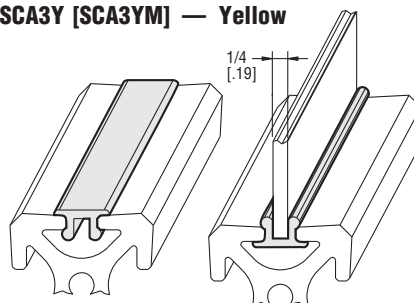


## Plastic T-Slot Cover and Panel Gasket

Sold in 6 foot lengths.

SCA3 [SCA3M] — Gray

SCA3Y [SCA3YM] — Yellow



T-Slot Cover

Panel Gasket

Sold & Serviced By:

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sales@electromate.com

# ACCESSORIES

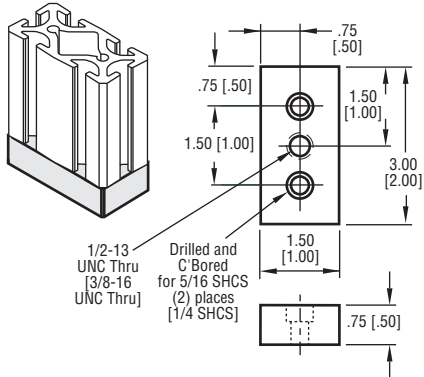
## Leveling, Anchor and Caster Plates. Adjustable Legs and Casters — Standard & [Miniature]

### Leveling Plate

Requires SCH8-10(2) [SCH8M-10].  
Use with SCE4 [SCE4M] adjustable leg.

**Material:** Aluminum  
**Finish:** Clear Anodize

#### SCE1 [SCE1M]

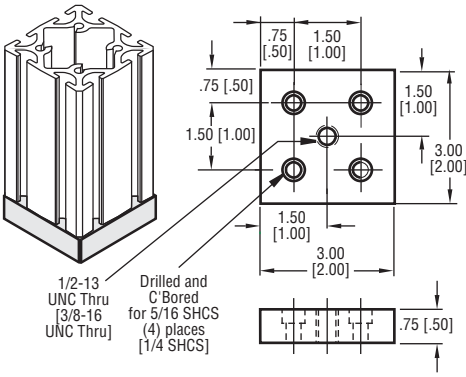


### Leveling Plate

Requires SCH8-10(4) [SCH8M-10].  
Use with SCE4 [SCE4] adjustable leg.

**Material:** Aluminum  
**Finish:** Clear Anodize

#### SCE2 [SCE2M]

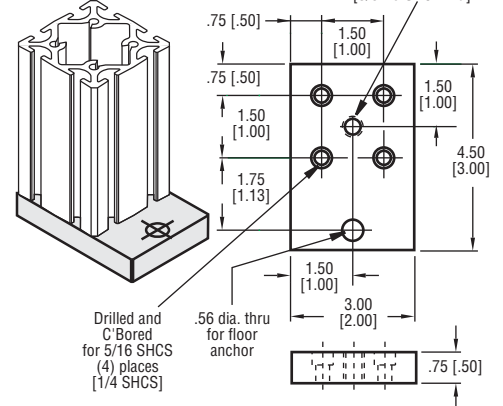


### Leveling Anchor Plate

Requires SCH8-10(4) [SCH8M-10].  
Use with SCE4 [SCE4M] adjustable leg.

**Material:** Aluminum  
**Finish:** Clear Anodize

#### SCE2-A [SCE2M-A]

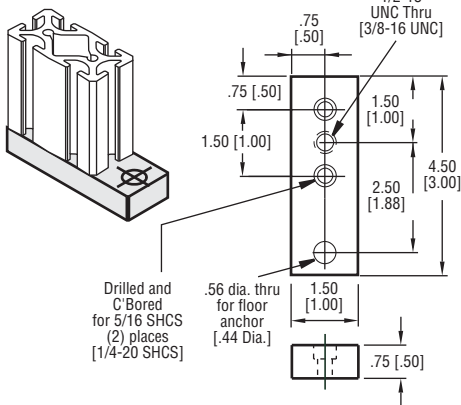


### Leveling Anchor Plate

Requires SCH8-10(2) [SCH8M-10].  
Use with SCE4 [SCE4M] adjustable leg.

**Material:** Aluminum  
**Finish:** Clear Anodize

#### SCE1-A [SCE1M-A]

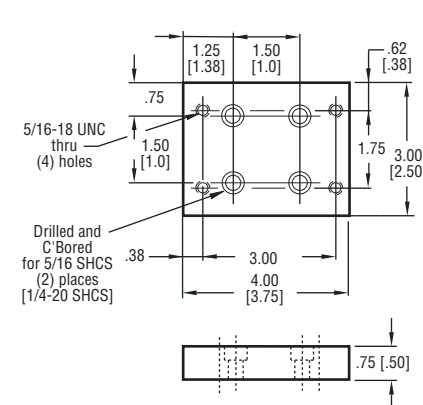


### 3" and 4" Caster Plate

Requires SCH8-10(4).  
Use with SCE5 caster.

**Material:** Aluminum  
**Finish:** Clear Anodize

#### SCE3 [SCE3M]

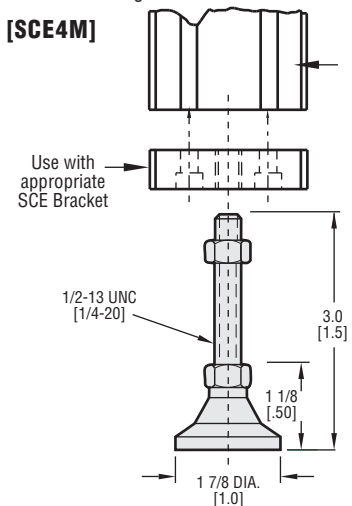


### Adjustable Leg

1,800 pound maximum capacity.

**Material:** Steel  
**Finish:** Bronze Coating

#### SCE4 [SCE4M]



### 3" and 4" Caster

Use with SCE3 caster plate (see above).

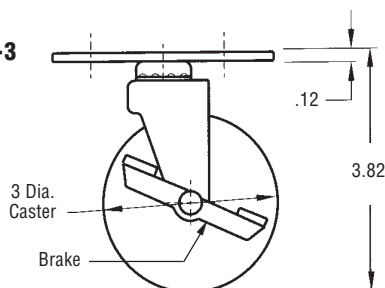
**SCE5-**

Description	Part Number
3" caster-swivel	<b>SCE5-3S</b>
3" caster-fixed	<b>SCE5-3F</b>
3" caster-swivel / brake	<b>SCE5-3B</b>
4" caster-swivel	<b>SCE5-4S</b>
4" caster-fixed	<b>SCE5-4F</b>
4" caster-swivel / brake	<b>SCE5-4B</b>

### 3" Caster

**SCE5-3**  (SCE5-3B shown)  
90 pound maximum capacity.

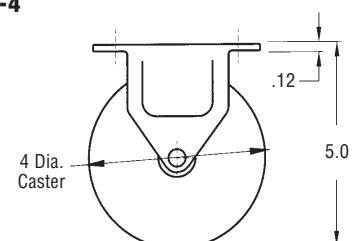
#### SCE5-3



### 4" Caster

**SCE5-4**  (SCE5-4F shown)  
130 pound maximum capacity.

#### SCE5-4



# ACCESSORIES

Standard & [Miniature]

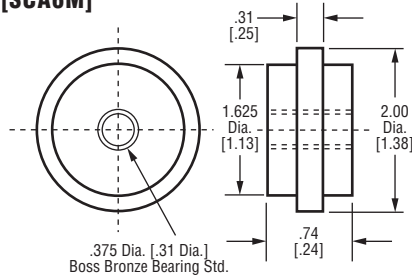
## T-Slot Roller

Ideal for guided linear applications, mount to extrusion end or T-Slot; rolls in the mating T-Slot. Hardware included.

**Material:** Delrin with Bronze Bearing

**Color:** White

### SCA6 [SCA6M]

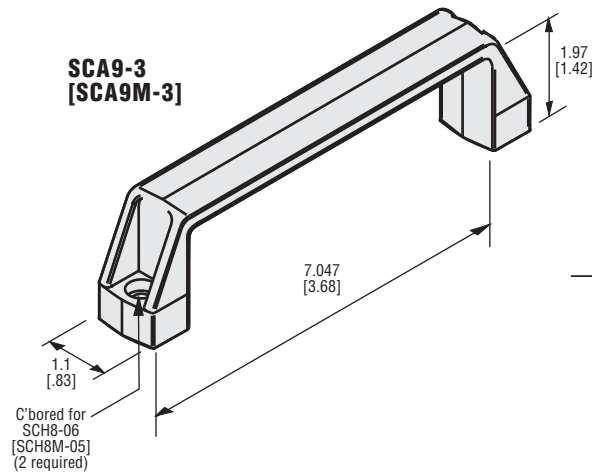


## Plastic Handle

**Color:** Black.

Hardware included.

### SCA9-3 [SCA9M-3]

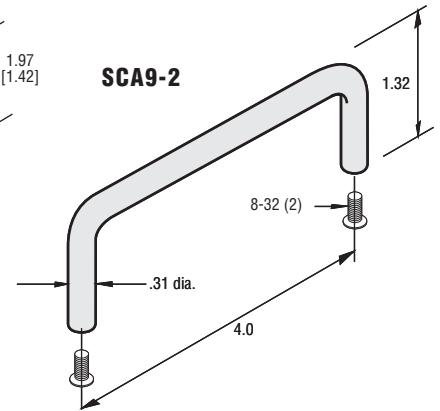


## Aluminum Handle

**Finish:** Clear Anodize.

Hardware included.

### SCA9-2

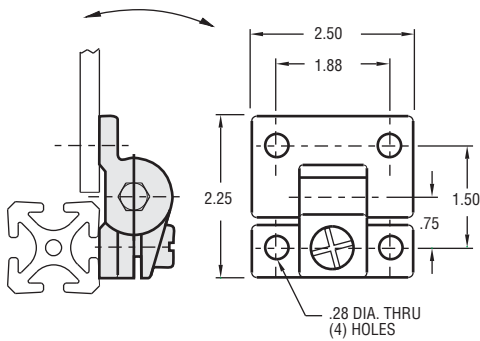


## Plastic Hinge

Hardware included.

**Color:** Black.

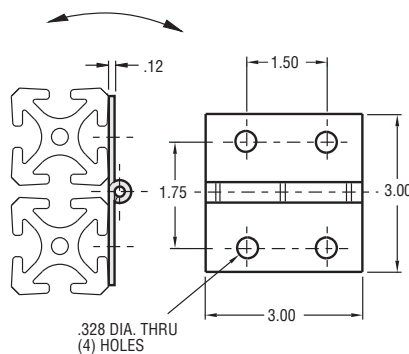
### SCA7-1



## Aluminium Hinge

**Finish:** Clear Anodize.

### SCA7-2



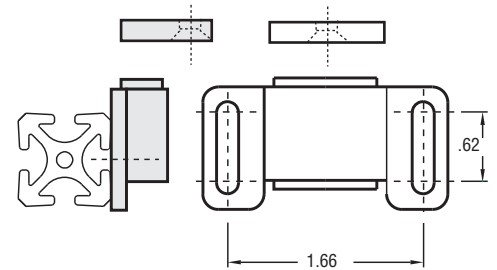
## Magnetic Door Latch Assembly

Hardware included.

**Material:** Plastic with metal magnet

**Color:** Brown

### SCA8



Sold & Serviced By:

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# EXTRUSION END FINISHING

## Ordering Information

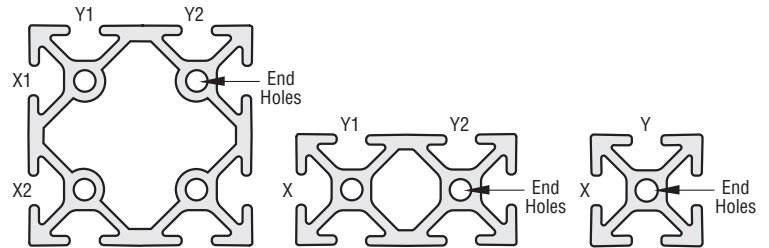
When ordering aluminum extrusions specify quantity, part number with length. Example: **SX1515-144** for standard 144" lengths.

You may also order extrusions cut to your desired length with a nominal cutting charge. Example: **SX1515-72.25** for length of 72 1/4".

**Length Tolerance:** Standard saw cut lengths  $\pm 1/32$   
 Precision milled cut lengths  $\pm .005$ . If precision milled cut desired, add P to end of part number

Example: **SX1515-24P** for length of 24"  $\pm .005$

Lengths shorter than 106" can be shipped by UPS. Lengths over 106" will be shipped by commercial carrier with longer delivery times and increased costs.

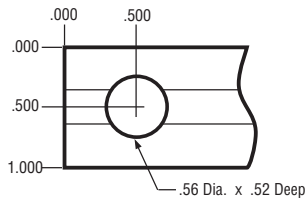


**Predrilled access, connector and tapped holes available.**  
 Call factory for information and quotations.

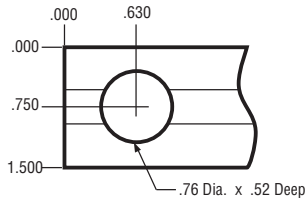
When ordering predrilled access holes, connector holes and tapped end holes, specify T-Slot location and at which end holes are to be drilled.

# DO IT YOURSELF DETAILS — STANDARD

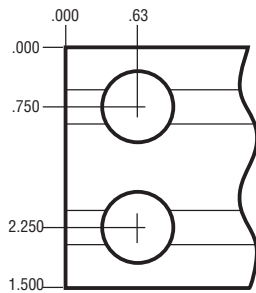
## Mounting Hole Positions For Cross and End Fasteners



For SX1010L & SX1015L

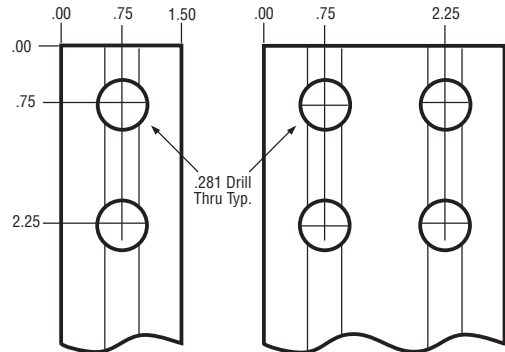


For SX1515L & SX1515



For SX1530 & SX3030

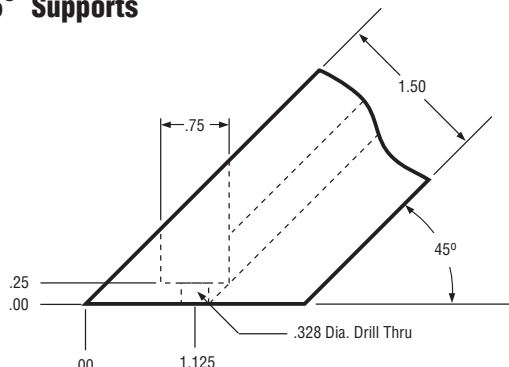
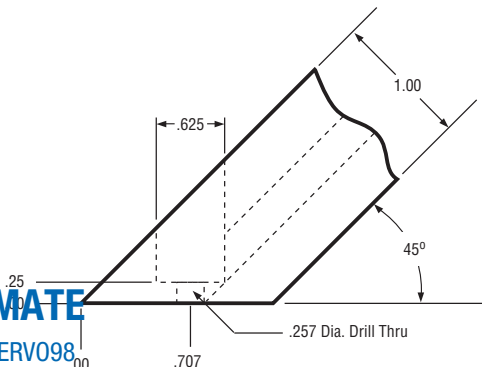
## Access Holes For Corner Brackets



For SX1515L & SX1515

For SX1530 & SX3030

## 45° Supports



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