B Connectors

Connectors & Fasteners

Nuts & Bolts

These provide a high strength, accurate right angle connection between two profiles. The webbing is off-center allowing easy access for tightening fasteners. Cast tabs help align the gusset in the center of the profile. Breaking off the tabs allows the gusset to be moved off the centerline. This enables a 6mm (.25 in) panel to be mounted flush with the edge of a profile.

Material: Die Cast Aluminum

Machining Required: None

Assembly Tip: Loosely attach all nuts & bolts to gusset before sliding the gusset assembly into position.
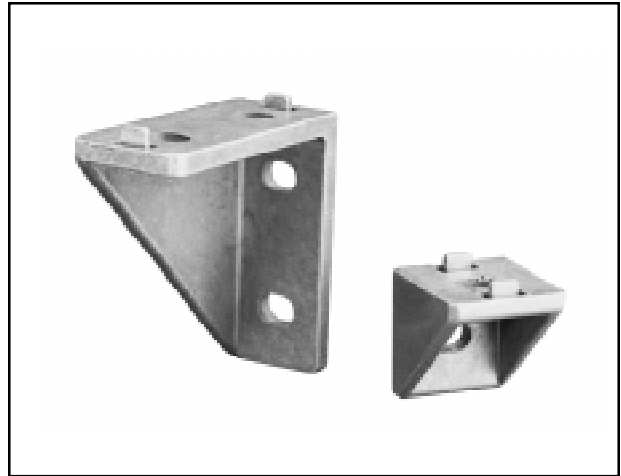
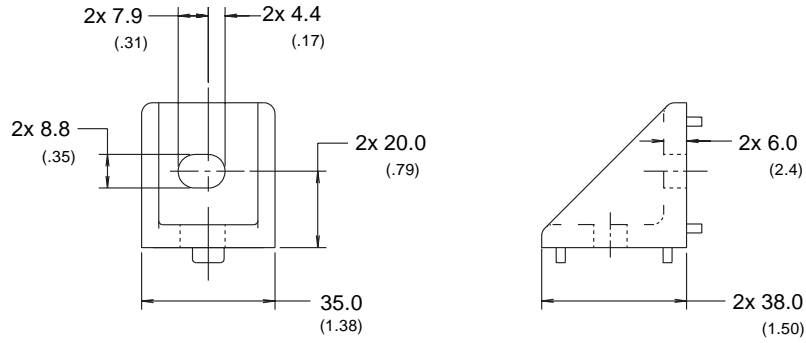| Part No.	Profile Connection	Weight	
		kg	**lb**
ESG4040	Attaches 40x40 profile to 40x40 profile	0.06	0.13
ESG8040	Attaches 40x40 or 40x80 profile to 40x40 or 40x80 Any 40 or 80 to 40 or 80 profile	0.14	0.30

RECOMMENDED FASTENERS

Type	**ESG4040**	**ESG8040**
Metric	(2) ESF4008-18 BHSCS (2) ESF3008 Std T-Nut or (2) ESF3208 Drop-in T-Nut	(4) ESF4008-18 BHSCS (2) ESF3042 Double T-Nut or (4) ESF3208 Drop-in T-Nut
SAE	(2) ESF9031-063 BHSCS (2) ESF8031 Std T-Nut or (2) ESF8231 Drop-in T-Nut	(4) ESF9031-063 BHSCS (2) ESF8042 Double T-Nut or (4) ESF8321 Drop-in T-Nut

Automation

ESG4040

2x 7.9 (.31)   2x 4.4 (.17)

2x 8.8 (.35)

2x 20.0 (.79)

35.0 (1.38)

2x 6.0 (2.4)

2x 38.0 (1.50)

B Connectors

ESG8040

4x 7.9 (.31)   4x 4.4 (.17)

4x 8.8 (.35)

2x 40.0 (1.58)

2x 20.0 (.79)

35.0 (1.38)

2x 6.0 (.24)

2x 78.0 (3.07)
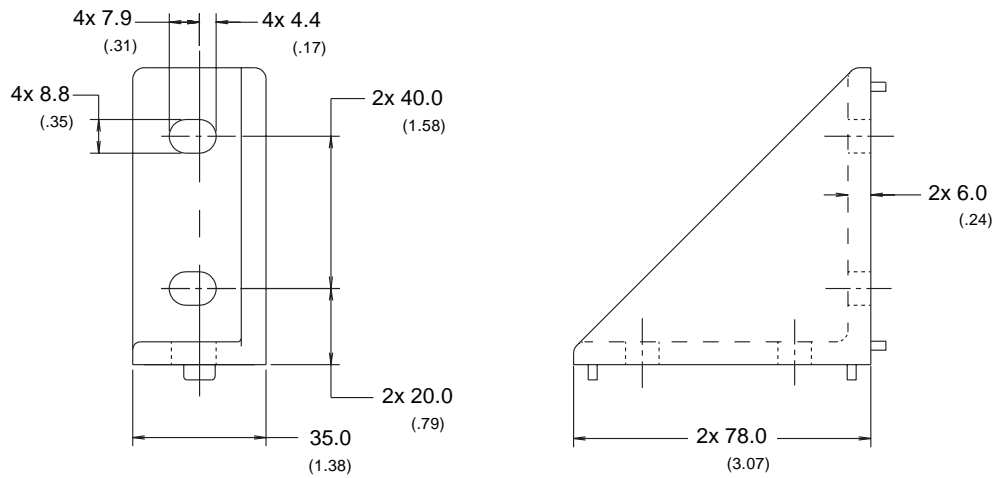
Note: All dimensions in mm (in)

Parker Automation

This assembly provides a hidden right angle connection between two extrusion profiles. The bolt threads into a tapped hole at the end of an extruded profile. End fasteners resist rotation better than a single bolt connection.

Material: Zinc Plated Carbon Steel

Machining Required: A fastener assembly requires two machining operations:
1. Tap the end of one profile - refer to page G3.
2. Drill an access hole in the other profile - refer to page G5 for details

Part No.	Description	Profiles
ESF0028	End Fastener with M8 x 16 BHSCS	28 & 56
ESF0026	End Fastener with M8 x 20 BHSCS	40 & 80

Parker Automation

Anchor Fastening Assembly

Structural Framing System
Connectors & Fasteners

Anchor fasteners provide a clean, high strength, low-profile, right angle connection between two extrusion profiles where the T-slots are in line. Anchor fastened beams can easily be added to existing structures and are position adjustable.

Material: Zinc Die Casting, Zinc Plated Carbon Steel

Machining Required: The Anchor Fastening Assembly requires a counterbore operation – refer to page G4 for details.

Design Tip: Two anchor fasteners should be located in opposite T-slots.

| Part No.	Description	Profiles	Weight
ESF0014	Includes M6 x 25 SHCS and Nut	28	.02 kg (.05 lb)
ESF0022	Includes M8 x 30 BHSCS and Nut	40 & 80	.03 kg (.07 lb)

B Connectors

Parker Automation

These connectors attach profiles at 90° angles.

Material: 6061-T6 Aluminum Alloy, Clear Anodized

Design Tip: Low cost connector has limited strength. Use gussets for a stronger connection.

Assembly Tip: Pre-assemble fasteners loosely to angle bracket before slipping into profile.
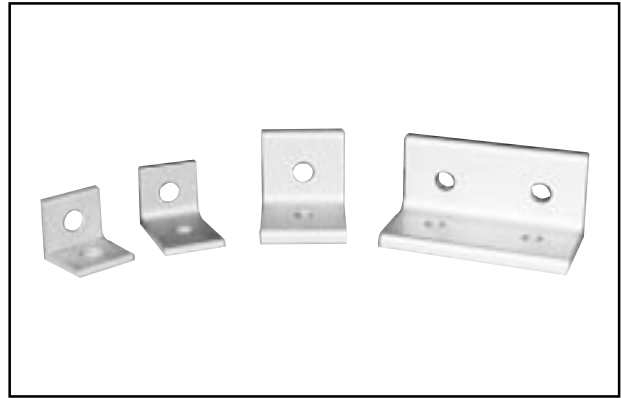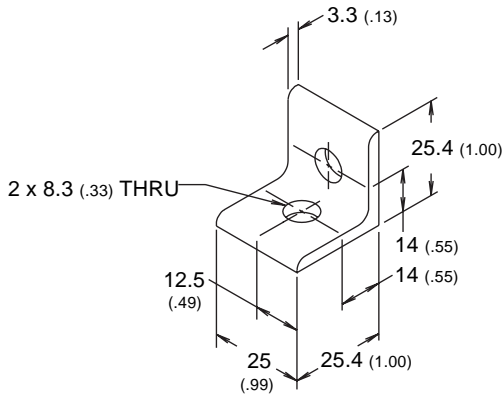

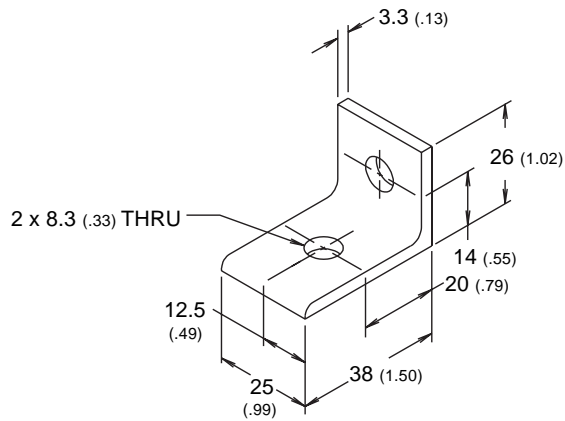| Part No.	Profile Connection	Weight	
		kg	lb
ESB2828	Attaches 28x28 profile to 28x28 profile	0.02	0.04
ESB2840	Attaches 28x28 profile to 40x40 or 40x80 profile	0.02	0.05
ESB4040	Attaches 40x40 or 40x80 profile to 40x40 or 40x80 profile	0.04	0.08
ESB4080	Attaches 40x80 or 80x80 profile to 40x80 or 80x80 profile	0.09	0.20

RECOMMENDED FASTENERS

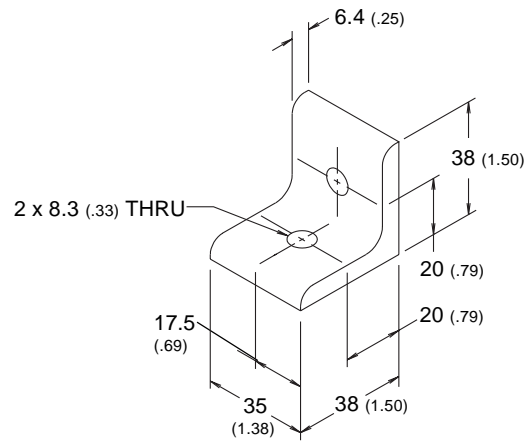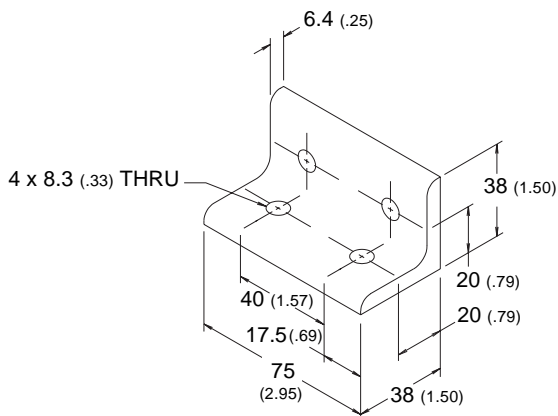| Part No.	Metric	
ESB2828	(2) ESF4008-10 BHSCS (2) ESF3008A Std T-Nut	
ESB2840	(1) ESF4008-10 BHSCS (1) ESF4008-16 BHSCS (2) ESF3008A Std T-Nut	
ESB4040	(2) ESF4008-18 BHSCS (2) ESF3008 Std T-Nut or (2) ESF3208 Drop-in T-Nut	
ESB4080	(4) ESF4008-18 BHSCS (4) ESF3008 Std T-Nut or (4) ESF3208 Drop-in T-Nut	

ESB2828

3.3 (.13)

25.4 (1.00)

2 x 8.3 (.33) THRU

14 (.55)

14 (.55)

12.5 (.49)

25 (.99)

25.4 (1.00)

ESB2840

3.3 (.13)

26 (1.02)

2 x 8.3 (.33) THRU

14 (.55)

20 (.79)

12.5 (.49)

25 (.99)

38 (1.50)

ESB4040

6.4 (.25)

38 (1.50)

2 x 8.3 (.33) THRU

20 (.79)

20 (.79)

17.5 (.69)

35 (1.38)

38 (1.50)

ESB4080

6.4 (.25)

4 x 8.3 (.33) THRU

38 (1.50)

20 (.79)

40 (1.57)

20 (.79)

17.5 (.69)

75 (2.95)

38 (1.50)

Note: All dimensions in mm (in)

Parker Automation

These are used to provide a very high strength right angle connection. The chart below provides standard lengths. Custom lengths are available on request.

Machining Required: For a 45° support bracket, the profile requires a miter cut and counterbore operation – see page G6.

Part No.	Length		Weight		Material
	cm	**in**	**kg**	**lb**	
ESS1150	15	5.9	0.10	0.22	ESL2828 Extrusion Profile
ESS1300	30	11.8	0.23	0.51	
ESS1450	45	17.7	0.35	0.77	
ESS2150	15	5.9	0.20	0.44	ESL4040 Extrusion Profile
ESS2300	30	11.8	0.48	1.06	
ESS2450	45	17.7	0.76	1.67	
ESS2600	60	23.6	1.04	2.29	
ESS3150	15	5.9	0.27	0.59	ESH4040 Extrusion Profile
ESS3300	30	11.8	0.63	1.39	
ESS3450	45	17.7	1.00	2.20	
ESS3600	60	23.6	1.36	2.99	
ESS5150	15	5.9	0.37	0.81	ESL4080 Extrusion Profile
ESS5300	30	11.8	0.87	1.91	
ESS5450	45	17.7	1.37	3.01	
ESS5600	60	23.6	1.87	4.11	
ESS6150	15	5.9	0.48	1.06	ESH4080 Extrusion Profile
ESS6300	30	11.8	1.13	2.49	
ESS6450	45	17.7	1.78	3.92	
ESS6600	60	23.6	2.44	5.37	

RECOMMENDED FASTENERS

| Type	28 & 56 Profiles	40 & 80 Profiles
Metric	ESF4006-12 BHSCS ESF3006	(2) ESF4008-18 BHSCS (2) ESF3008 Std T-Nut or (2) ESF3208 Drop-in T-Nut

Parker Automation
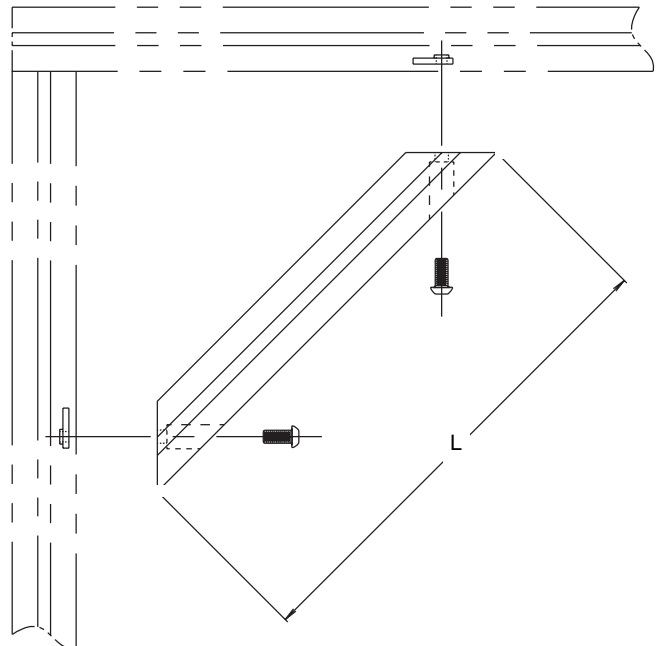
The Butt Fastening Assembly is used to join two similar
extrusions end to end, where a hidden connection is
desired. This fastening method allows lengthening of a
structure and is particularly suited to "seamless" long
conveyor lines with end-to-end connections.

Material: Zinc Die Casting, Zinc Plated Carbon Steel

Machining Required: The Butt Fastening Assembly
requires a counterbore operation in both profiles being
connected – refer to page G4 for details.

Design Tip: Two butt fasteners should be located in
opposite T-slots. Example: A1A3

B Connectors

Part No.	Description	Profiles	Weight
ESF0012	Includes M6 x 45 SHCS	28	.03 kg (.07 lb)
ESF0020	Includes M8 x 45 BHSCS	40 & 80	.05 kg (.12 lb)

Parker Automation
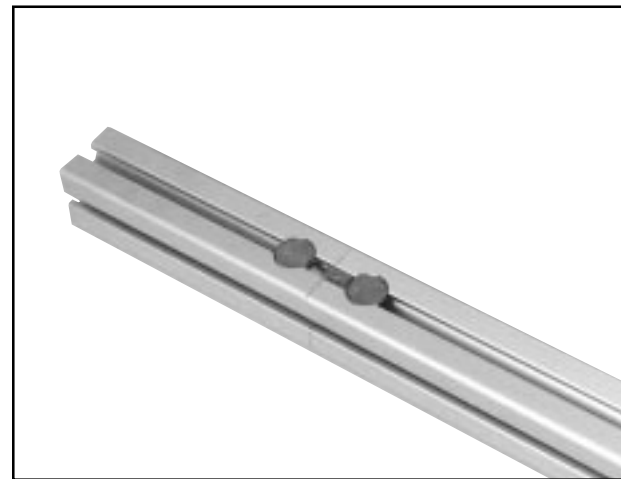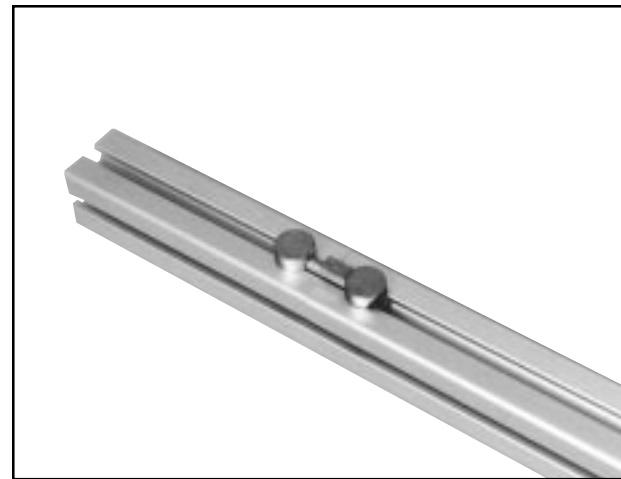
These hinges may be mounted at the end or the side of a profile and are generally used for two purposes. First, they can eliminate miter cuts when mounted like a gusset and fixed (eliminating rotation with a pin). Second, they each provide free rotation as a pivoting joint. The axis of the pivot pin may be orientated parallel or perpendicular to the T-slot allowing maximum flexibility.

Die cast tabs provide alignment with the profile and may be broken off for side-of-profile mounting. A drill point is cast into the body. When drilled through, a pin may be pressed in. A roll pin is provided as standard for gusset-type support applications.

Hinged support brackets may be mounted using a single bolt or a pair of anchor fasteners. The twin anchor fastener mount (for end of profile only) will provide greatest rigidity.

Part No.: ESA0150

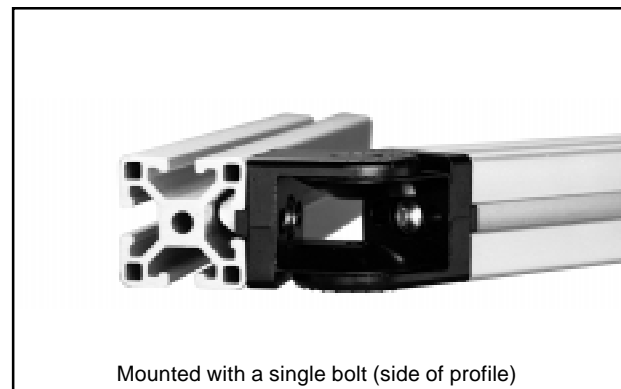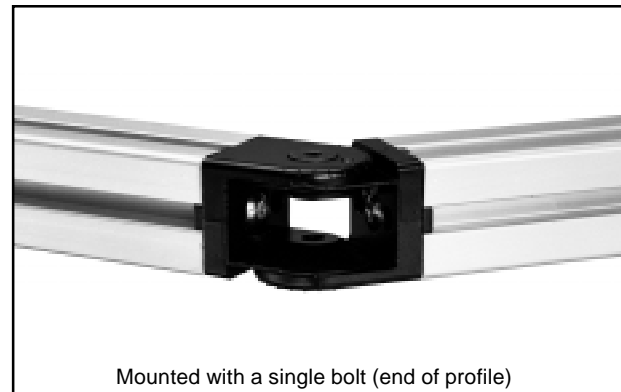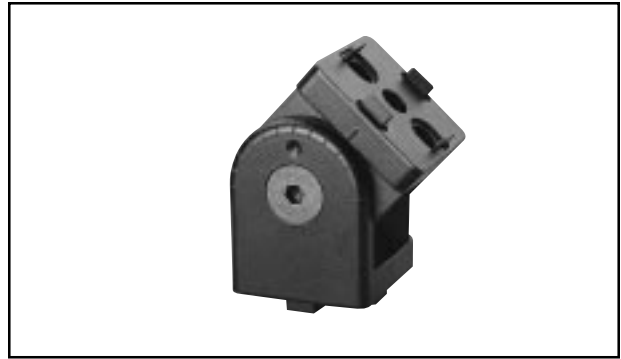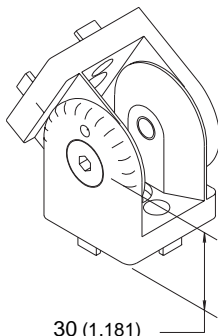**Material:** Zinc Die Casting

Color: Black

Machining Required: Anchor fastening assemblies utilize two counterbore operations. Refer to page G4 for details.

Fastening the hinge to the end of a profile requires tapping the end. Refer to page G3 for details.

Note: Consult factory for use with 28 profiles.

RECOMMENDED FASTENERS

Dimension	Anchor Fasteners	End of Profile	Side of Profile
Metric	ESF4008-35 (2 pcs)	ESF4008-25	ESF4008-18

30 (1.181)

Mounted with anchor fasteners

Mounted with a single bolt (end of profile)

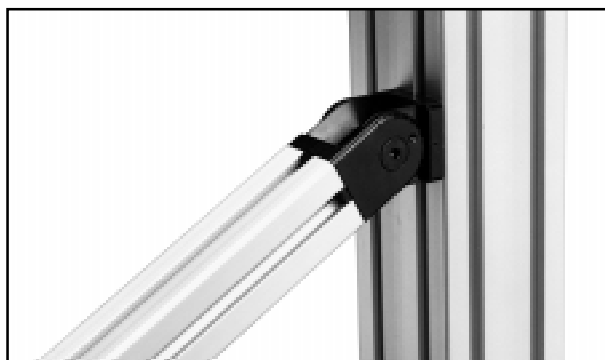Mounted with a single bolt (side of profile)

Note: All dimensions in mm (in)

Parker Automation

Applications

Pivot Axis Parallel to
Vertical Profile's Axis

Pivot Axis Perpendicular
to Vertical Profile's Axis

Bracket allows full range
of angles for custom
strut applications

Parker Automation

Dimensional Data for Strut Application

This example uses a length of 40 x 40 extrusion with hinged support brackets for an inner angled support.

To determine the length (A) of the extrusion, you must calculate the horizontal (B) and vertical (C) center points of the hinge support brackets.

Horizontal (B) length: Subtract the sum of the extrusion widths and 2.362 from the outside dimension.
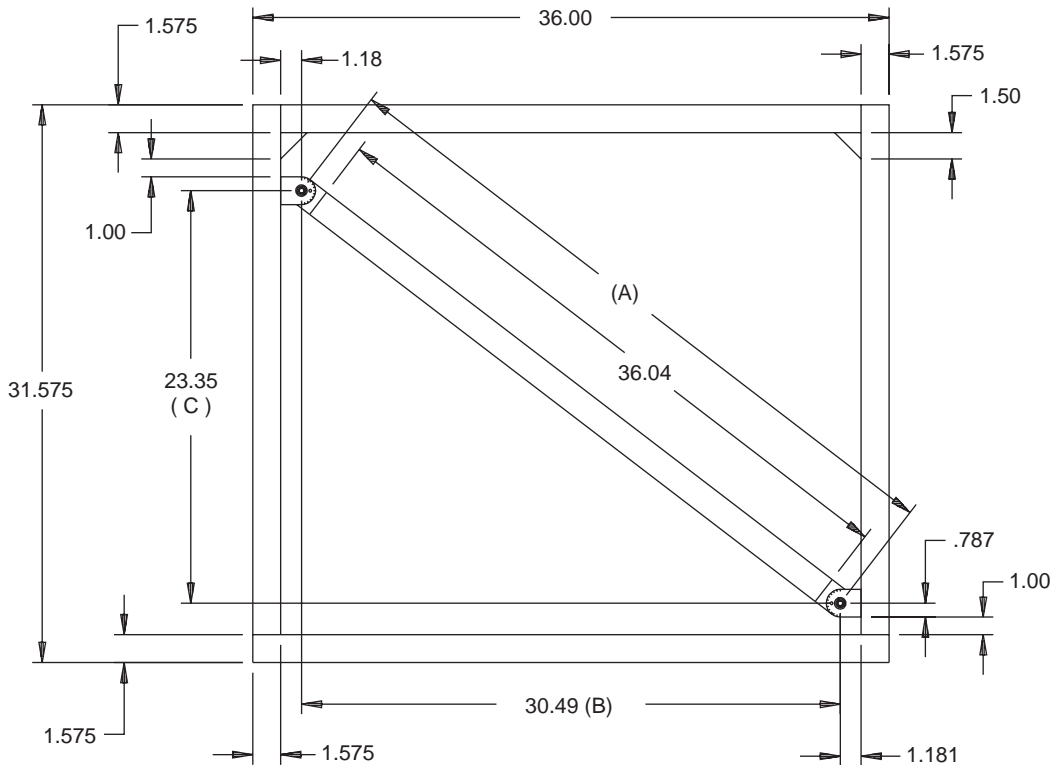
    Example: 36.00 - (1.575 + 1.575 + 2.362)
                  36.00 - 5.50 = 30.49 (B)

Vertical (C) length: Subtract the sum of extrusion widths, support brackets (if any), clearances (if any) and 1.575 from outside vertical dimension.

    Example: 31.575 - (1.575 + 1.575 + 1.50 + 2.00 + 1.575)
                  31.575 - 8.225 = 23.35 (C)

Calculate: $A = \sqrt{B^2 + C^2}$

                  $A = 38.40$

Extrusion cut length   = A - 2.362

                            = 38.40 - 2.362 = 36.04

B Connectors

Automation