INSTALLATION INSTRUCTIONS

ECLIPSE ARCHED

Brasco INTERNATIONAL

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32400 Industrial Drive, Madison Heights, MI 48071

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ECLIPSE SERIES INSTALLATION INSTRUCTIONS

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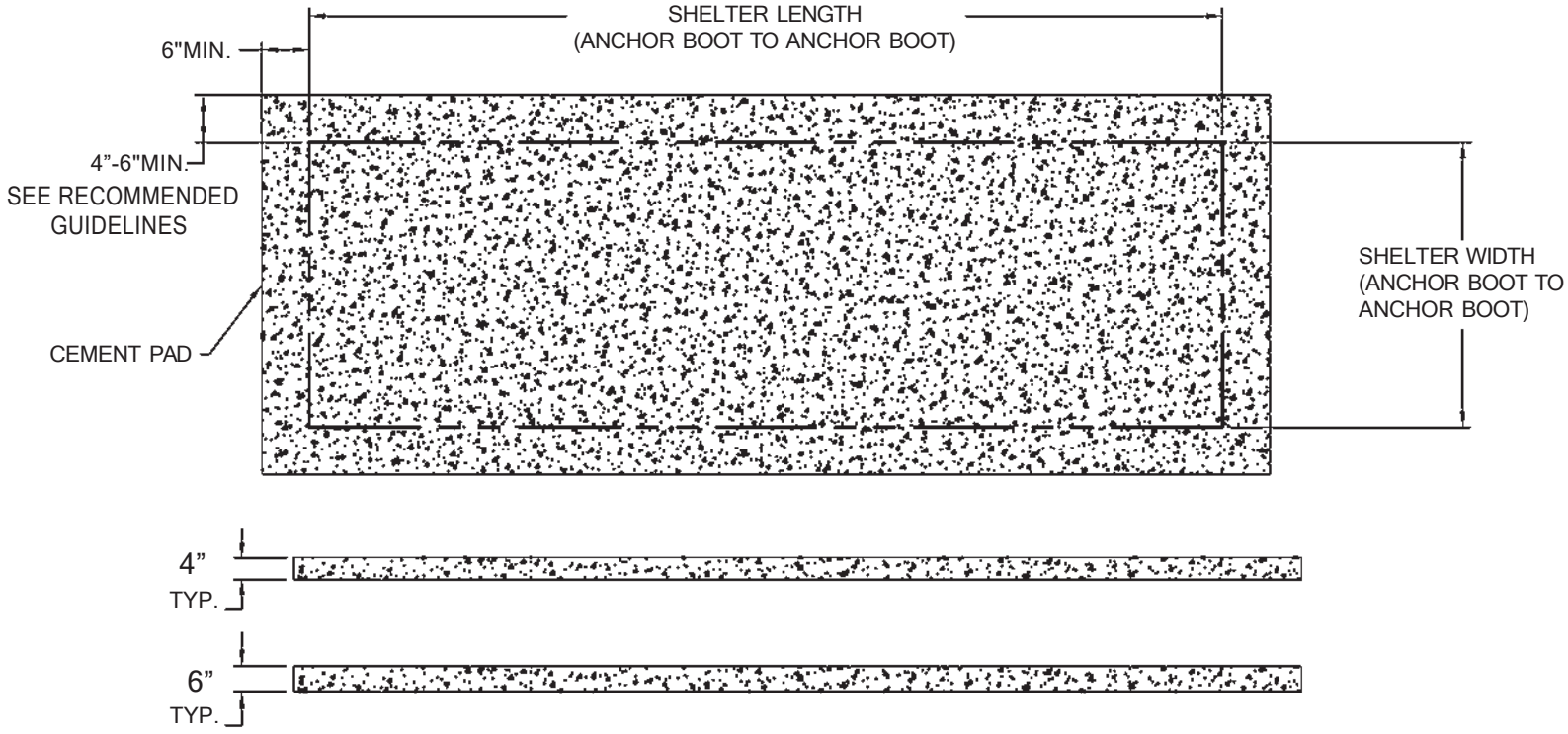
Standard Concrete Pad Recommendation

Note: This visual is for reference only. Brasco is not liable for concrete installation instructions unless structural concrete calculations are included with an order. Consult your local building codes for specific concrete pad requirements.

Recommended: Brasco recommends a minimum 4 inch thick, 3000 PSI concrete pad for locations with wind speeds lower than 110 MPH. For locations with wind speeds higher than 110 MPH, Brasco recommends a minimum 6 inch thick, 3000 PSI concrete pad. The concrete pad should allow a minimum of 6 inches around the shelter's perimeter to prevent damage to the pad while anchoring. Concrete may or may not require additional reinforcement.



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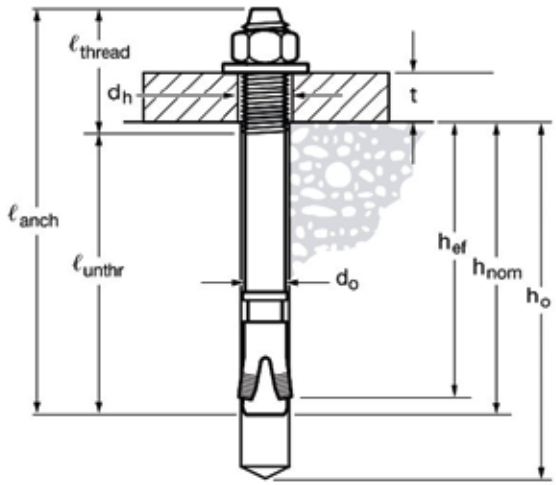
Standard Expansion Anchor Guidelines

Expansion Anchor Installed:



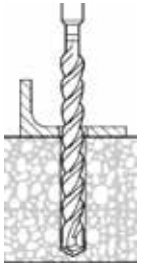
Expansion Anchor Technical Reference Chart:

Setting information	Symbol	Units	Nominal anchor diameter d_o													
			3/8			1/2				5/8				3/4		
Nominal bit diameter	d_{bit}	in.	3/8			1/2				5/8				3/4		
Minimum nominal embedment	h_{nom}	in.	2-5/16			2-3/8		3-5/8		3-9/16		4-7/16		4-5/16		5-9/16
		(mm)	(59)			(60)		(91)		(91)		(113)		(110)		(142)
Effective minimum embedment	h_{ef}	in.	2			2		3-1/4		3-1/8		4		3-3/4		4-3/4
		(mm)	(51)			(51)		(83)		(79)		(102)		(95)		(121)
Min. hole depth	h_o	in.	2-5/8			2-5/8		4		3-3/4		4-3/4		4-5/8		5-3/4
		(mm)	(67)			(67)		(102)		(95)		(121)		(117)		(146)
Min. thickness of fixture[1]	t_{min}	in.	1/8			1/8		n/a		1/8		n/a		1/8		n/a
		(mm)	(3)			(3)				(3)				(3)		
Max. thickness of fixture	t_{max}	in.	2-1/4			4		2-3/4		5-5/8		4-3/4		4-5/8		3-5/8
		(mm)	(57)			(101)		(70)		(143)		(121)		(117)		(92)
Installation torque	T_{inst}	ft-lb	25			40				60				110		
		(Nm)	(34)			(54)				(81)				(149)		
Fixture hole diameter	d_h	in.	7/16			9/16				11/16				13/16		
		(mm)	(11.1)			(14.3)				(17.5)				(20.6)		
Available anchor lengths	ℓ_{anch}	in.	3	3-3/4	5	3-3/4	4-1/2	5-1/2	7	4-3/4	6	8-1/2	10	5-1/2	8	10
		(mm)	(76)	(95)	(127)	(95)	(114)	(140)	(178)	(121)	(152)	(216)	(254)	(140)	(203)	(254)
Threaded length including dog point	ℓ_{thread}	in.	7/8	1-5/8	2-7/8	1-5/8	2-3/8	3-3/8	4-7/8	1-1/2	2-3/4	5-1/4	6-3/4	1-1/2	4	6
		(mm)	(22)	(41)	(73)	(41)	(60)	(86)	(178)	(38)	(70)	(133)	(171)	(38)	(102)	(152)
Unthreaded length	ℓ_{unthr}	in.	2-1/8			2-1/8				3-1/4				4		
		(mm)	(54)			(54)				(83)				(102)		

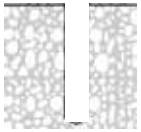
Minimum thickness of fixture is a concern only when the anchor is installed at the minimum nominal embedment. When KWIK Bolt TZ anchors are installed at this embedment, the anchor threading ends near the surface of the concrete. If the fixture is sufficiently thin, it could be possible to run the nut to the bottom of the threading during application of installation torque. If fixtures are thin, it is recommended that embedment be increased accordingly.

Anchoring Expansion Anchors into Concrete

Step 1: Prepping the Concrete

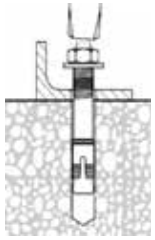


Using the anchor boot as a template, mark hole locations and move anchor boot out of the way. Drill a hole the same diameter as the expansion anchor to a minimum depth of 1/2" deeper than the anchor will penetrate to allow debris to fall during installation.



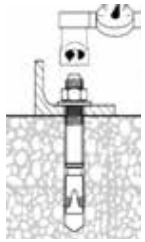
Step 2: Prepping the Hole

Clean debris from holes using a wire brush, vacuum, or compressed air.



Step 3: Anchor Installation

Align anchor boot with prepped holes in the concrete. Make sure the nut on the expansion anchor is threaded to the top of the threaded rod to prevent damage to the threads. Insert expansion anchor through the base plate and into the hole in the concrete. Hit the expansion anchor with sharp blows until the washers are snug against the base plates.



Step 4: Secure the Anchor Boot

Tighten the nut to the recommended installation torque. Reference "Expansion Anchor Technical Reference Chart," the above.

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Before You Begin

Please read through the installation instructions in full before proceeding with the installation. Depending on the quantity of shelters and amenities ordered, the shipment will be crated by like items (walls together, roofs together, hardware boxes together) unless otherwise stated on your order.

Part and Hardware Verification

Prompt inspection of the crate(s) is required when receiving shipment. Crated contents must be checked for freight damage and/or missing items. Each shipment will include a crate index which lists crate sizes and materials packaged in each crate. Any visible damage that occurred in transit must be noted on the Bill of Lading (BOL) and acknowledged by the carrier, prior to the truck leaving the site.

Each order comes with a hardware box containing all fasteners and anchor bolts necessary for installation. Verify all hardware is accounted for against the packing list provided at receipt of shipment.

If you have any questions or concerns about your order please contact Brasco International at (313) 393-0393.

Suggested Tools

- Drill Motor
- ¼" Drill Bit
- #11 Drill Bit
- 8" x ½" Masonry Drill Bits
- 5/8" and ¾" Socket and Wrench
- HD Drill Motor or Hammer Drill
- Cordless Drill
- Air Compressor
- Steel Hammer
- Dead Blow Hammer or Mallet
- Bubble Level, Line/String Level
- Minimum 6 Foot Step Ladder
- Rivet Gun
- Tape Measure
- Torque Wrench
- 60" Bar Clamps
- Generator or Other Power Source
- Shop Vacuum or Broom For Clean Up

Hardware Reference Key

F1173 - 3/8-16 x 3/4" S.S Button Head Socket Cap Screw
F1057 - 3/8" S.S. Lock Washer
For connecting header column to sleeve assembly

MC#546 - 1/4-20 x 1-1/2" S.S. Button Head Socket Cap Screw
F1059 - 1/4" - 20 S.S. Nut
For securing sill support to anchor boot

F1163 - Setting Block
For cushioning glass wall glazing

F1169 - 3/8-16 x 3" S.S. Button Head Screw
F1057 - 3/8" S.S. Lock Washer
F1061 - 3/8-16 S.S. Nut
Through-bolt assembly for connecting anchor boots to columns and columns to roof

F1022 - 1/2" Wedge Anchor
F1062 - 1/2-13 S.S. Hex Nut (included with anchor)
F1054 - 1/2" S.S. Flat Washer (included with anchor)
F1058 - 1/2" S.S. Lock Washer
Anchor bolt assembly for mounting shelter to concrete pad

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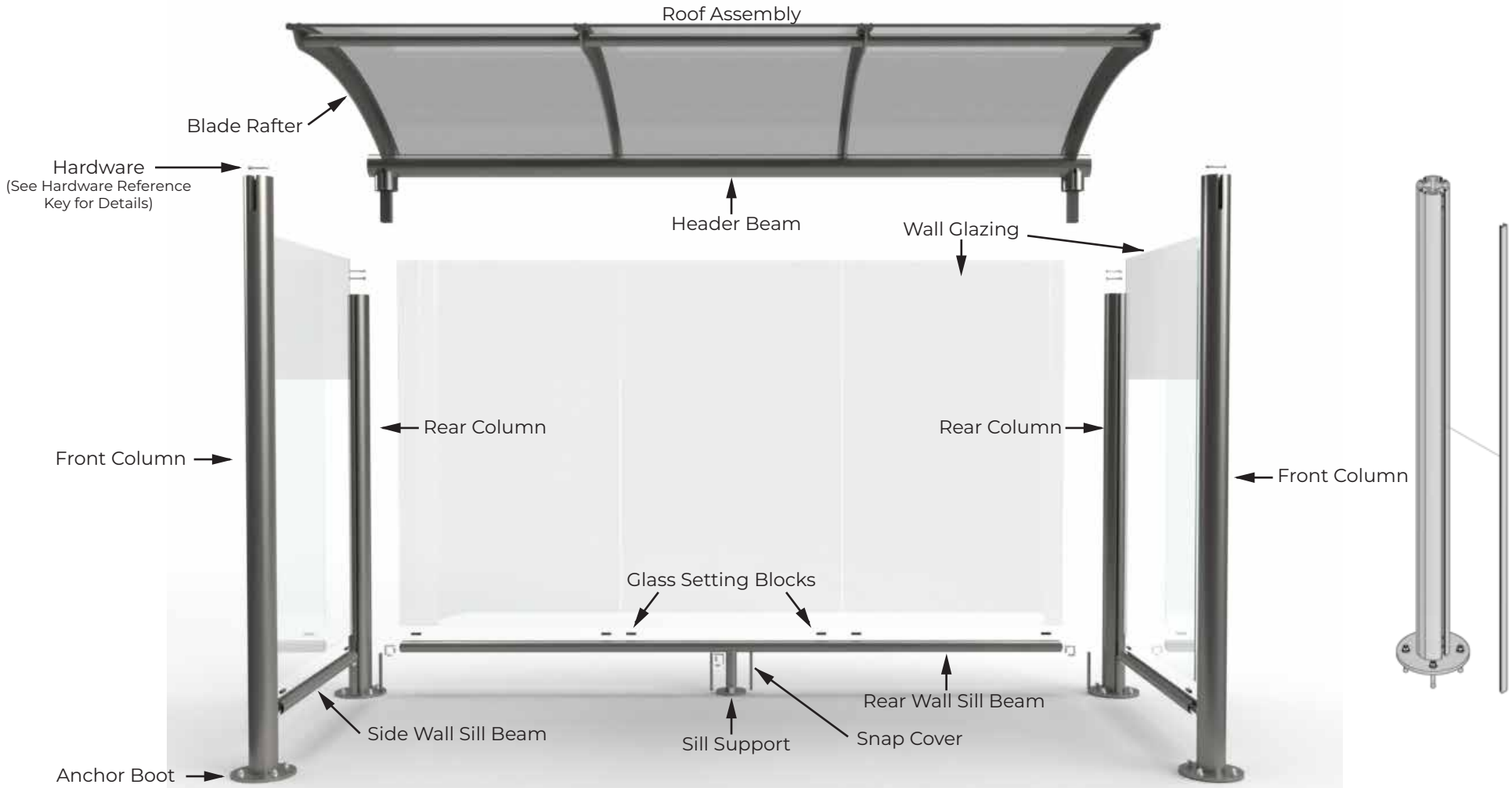
Shelter Assembly Overview

Eclipse Series Shelters consist of columns, sills, anchor boots, wall glazing, and a completed roof assembly which mechanically attach together with the hardware supplied by Brasco in the shipments hardware box(s). Below is a standard shelter layout with three sides and an open front. Each order is unique and may have a different layout than seen below. Note common Eclipse Shelter components shown below. Please reference your orders specific shelter drawing for the exact layout of your order.



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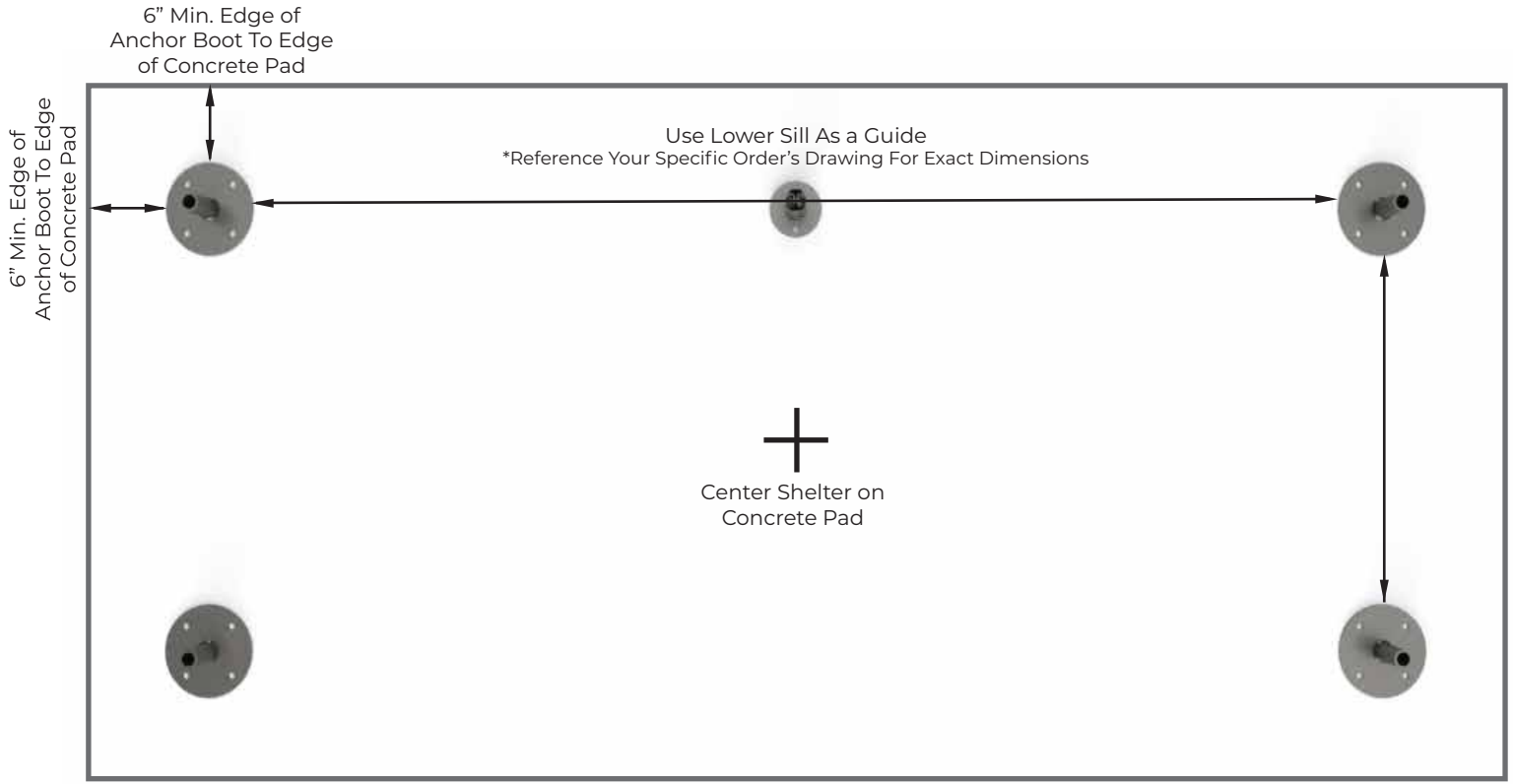
Anchor Boot Placement Guide

In a standard shelter layout, columns will be located at the four (4) corners of the shelter, (reference your specific order drawing for exact layout). Center the shelter on the concrete pad and make sure each anchor boot is placed at least 6 inches from the edge of the concrete pad, as shown below.



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Rear Wall Installation

Begin by locating the rear columns, rear sill assembly(s), sill support, and anchor boots for the rear columns. Place the rear columns over the anchor boots and use the rear sill assembly to lay out the approximate location of the anchor boots.

Secure the sill to the columns by aligning the prepped connections in the sill support angle to the rear columns. Attach with the provided button head screw and lock washer. Repeat at each sill-to-column connection point.

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Sill Support Installation (If Required)

Locate and place the sill support halfway between the two rear columns, underneath the lower sill. Attach with the provided button head screw and lock washer using as electric drill.

Step 3: Place halfway between two rear columns.

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Rear Column Anchoring Guide

Using the anchor boot as a template, drill a hole in the concrete pad the same diameter as the expansion anchor bolt to a minimum depth of 1/2” deeper than the anchor will penetrate. Repeat at each of the two rear anchor boot locations and sill support location.

Clean debris from the hole. Align the anchor bolt assembly through the anchor boot, hammering the anchor bolt assembly into place and securing the connection by tightening the nut to the recommended installation torque. See page 2 for Expansion Anchor Technical Reference Guide.

Step 5: Drill holes into concrete pad 1/2” deeper than the wedge anchor will penetrate. Clean debris from hole. Align anchor bolt assembly through the anchor boot, hammering into place and tightening to recommended installation torque.

Anchor Bolt Assembly
F1022: Wedge Anchor
F1062: 1/2-13 S.S. Hex Nut (included)
F1054: 1/2” S.S. Flat Washer (included)
F1058: 1/2” S.S. Lock Washer

Standard Eclipse Anchor Boot Detail

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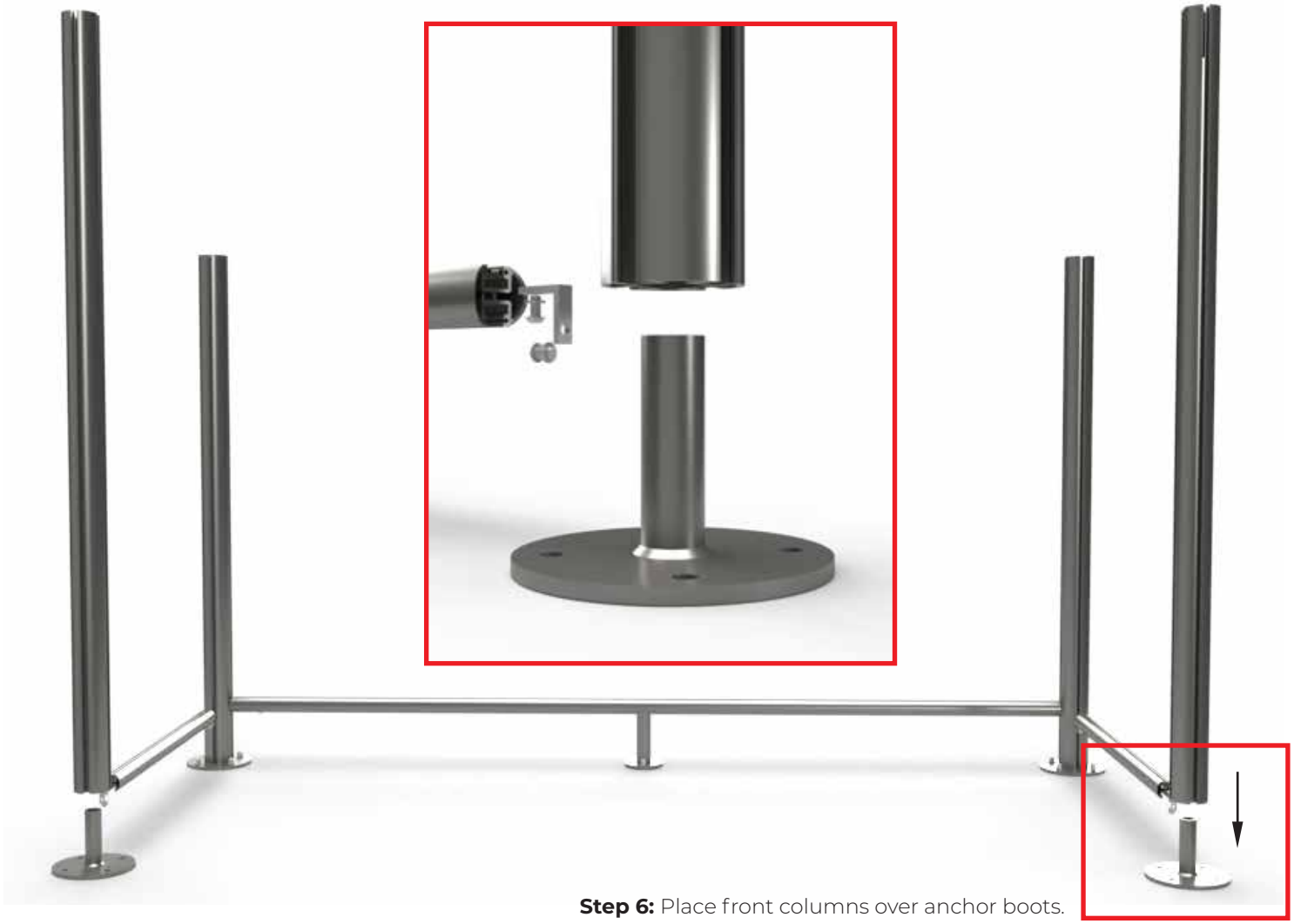
Front Column Installation

Locate the front columns and side wall sill assemblies. Place front columns over anchor boots. Align front columns with rear columns. Use side wall sill support as a guide for where to place the front columns and anchor boots.



Step 6: Place front columns over anchor boots.

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Side Wall Sill Installation

Secure the sill by aligning the prepped connections in the sill support angle to the front and rear columns. Attach using the provided button head screw and lock washer.

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Roof Installation

Locate and lift roof assembly up to align rear columns with rear header. Lower roof assembly into column pockets. If shelter has a solar USB port or lighting, you will need to feed the wiring down the corresponding column.

To secure the connection between the rear column and header post, insert the header post into the column pocket and feed (2) 3" screws through the prepped holes, secure with a lock washer and nut using a wrench and correspondingly sized air wrench.

To secure connection between the front column and rafter blade, place rafter blade in slotted column and feed (1) 3" screw through the prepped hole in column and rafter blade, secure with a lock washer and nut using a wrench and correspondingly sized air wrench.

Step 8: Lower Roof assembly onto rear columns extrusion opening and front columns blade rafter slot.

Step 9: Feed (2) F1169 Screws through the rear column and roof assembly header posts and secure with lock washer and nut. Repeat on other side.

Step 10: Feed (1) FF169 Screw through front column and rafter blade slot and secure with lock washer and nut. Repeat on other side.

F1169: 3/8-16 x 3" S.S. Button Head Screw
F1057: 3/8" S.S. Lock Washer
F1061: 3/8-16 S.S. Nut

Roof to Rear Column Connection

Roof to Front Column Connection

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Front Column Anchoring Guide

Ensure the front columns are plumb and square with the rear wall. Using the anchor boot as a template, drill a hole in the concrete pad the same diameter as the expansion anchor bolt to a minimum depth of 1/2” deeper than the anchor will penetrate. Repeat at each of the two rear anchor boot locations and sill support location.

Clean debris from the hole. Align the anchor bolt assembly through the anchor boot, hammering the anchor bolt assembly into place and securing the connection by tightening the nut to the recommended installation torque. See page 2 for Expansion Anchor Technical Reference Guide.

Step 11: Drill holes into concrete pad 1/2” deeper than the wedge anchor will penetrate. Clean debris from hole. Align anchor bolt assembly through the anchor boot, hammering into place and tightening to recommended installation torque.

Anchor Bolt Assembly
F1022: Wedge Anchor
F1062: 1/2-13 S.S. Hex Nut (included)
F1054: 1/2” S.S. Flat Washer (included)
F1058: 1/2” S.S. Lock Washer

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Connecting Columns and Sill Support to Anchor Boots

Once all columns are anchored and sills are connected, make sure the structure is plum and level. Our Eclipse Series Shelters allow for approximately 3.5 inches of adjustability. Use shims as needed to adjust the column height to ensure the sills are level. Drill and attach all anchor boots to the columns by feeding the bolt through the drilled hole and secure with a lock washer and nut.

Standard Eclipse Column to Anchor Boot Detail

Step 12: Make sure shelter is level by shimming anchor boots as needed. Secure anchor boots to columns with 3" button head screw, lock washer, and nut. Repeat at each column connection.

Standard Eclipse Sill Support Detail

Step 13: Shim sill support if needed. Secure sill support to sill boot with 1-1/2" button head screw, lock washer, and nut.

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Glass Installation

Place the setting blocks in rear and side sills. Using glass suction cups, insert the top of the glass into the header beam and then place down into the sill. Slide glass into right rear column. Repeat and slide glass panels into the left rear column. Install the middle glass panel last, leaving approximately ¼" spaces between glass panels. Follow the same procedure for the side walls and front windscreen (if applicable).

Step 14: Place two (2) setting blocks per glass panel in rear lower sill and side wall sills.

Step 15: Starting with the right rear glass panel, place onto evenly placed setting blocks in lower sill and slide into right column. Repeat and slide into left column. Place rear middle panel last. Repeat for side walls.
*Using a lubricant such as Windex will help glass panels slide more easily.

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Snap Cover Installation

Install snap covers into corresponding columns as needed and gently tapping into place using a rubber mallet.

Step 16: Gently tap the snap covers into the pockets of the columns using a rubber mallet.

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