



BRASCO INTERNATIONAL, INC.

INSTALLATION GUIDELINES

Thank you for your order. Enclosed with these guidelines are engineering instructions specific to your order. Please review all pages in full before proceeding with your installation.

Storage

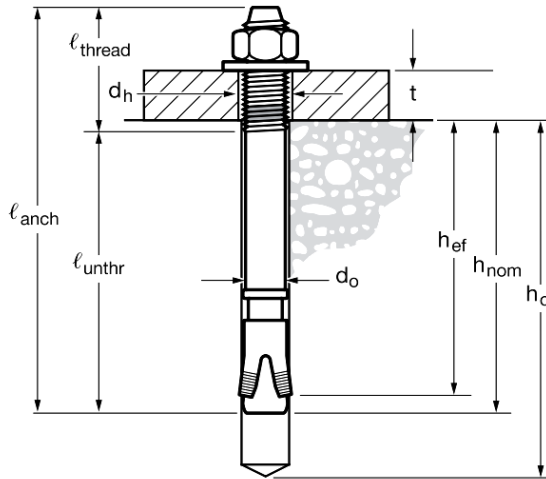
1. Products stored outside must be fully tarped. Wooden crates, cardboard boxes and identifying labels are not weatherproof and will deteriorate in the elements.
2. If your order includes solar lighting, be cautious when handling batteries as they are capable of generating hazardous short-circuit currents. Remove all jewelry (bracelets, metal watches, rings) before attempting to handle or disassemble batteries.
3. Batteries should be stored indoors at a recommended 68 degrees Fahrenheit for max shelf life.
4. Batteries should be installed no later than 3 months from delivery or battery warranties will be void.

TOOLS NEEDED

<input type="checkbox"/> Drill Motor	<input type="checkbox"/> Cordless Drill	<input type="checkbox"/> Rivet Gun
<input type="checkbox"/> 1/4" Drill Bit	<input type="checkbox"/> Air Compressor	<input type="checkbox"/> Tape Measure
<input type="checkbox"/> #11 Drill Bit	<input type="checkbox"/> Steel Hammer	<input type="checkbox"/> Torque Wrench
<input type="checkbox"/> 8" Long 1/2" Masonry Drill Bits	<input type="checkbox"/> Dead Blow Hammer or Mallet	<input type="checkbox"/> 60" Bar Clamps
<input type="checkbox"/> 5/8" and 3/4" Socket and Wrench	<input type="checkbox"/> Bubble Level, Line / String Level	<input type="checkbox"/> Generator or Other Power Source
<input type="checkbox"/> HD Drill Motor or Hammer Drill	<input type="checkbox"/> Min. 6ft. Step Ladder	<input type="checkbox"/> Shop Vac or Broom for Clean Up

Installing Expansion Anchors

Expansion Anchor Installed



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)		

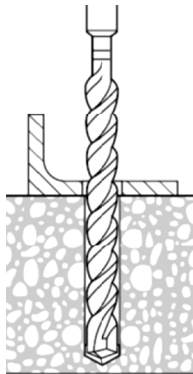
Expansion Anchor Technical Chart

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 the installation torque. If fixtures are thin, it is recommended that embedment be increased accordingly.

Step 1.

Prepping the Concrete

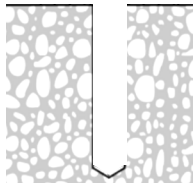
Using anchor boot as a template, mark hole locations and move anchor boot out of the way. Drill a hole the same diameter as the expansion anchor to a minimum depth of 1/2" deeper than the anchor will penetrate to allow debris to fall during installation.



Step 2.

Prepping the Hole

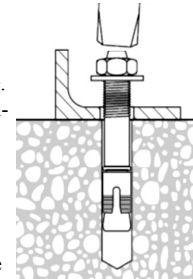
Clean debris from holes using a wire brush, vacuum, or compressed air.



Step 3.

Anchor Installation

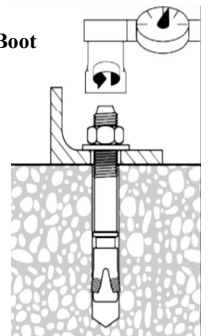
Replace the anchor boot and align with holes in the concrete. Make sure the nut on the expansion anchor is threaded to the top of the threaded rod to prevent damage to the threads. Insert the expansion anchor through the base plate and into the hole in the concrete. Hit the expansion anchor with sharp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



Step 4.

Securing the Anchor Boot

Tighten the nut to the recommended installation torque.



Brasco Standard Anchoring Guidelines

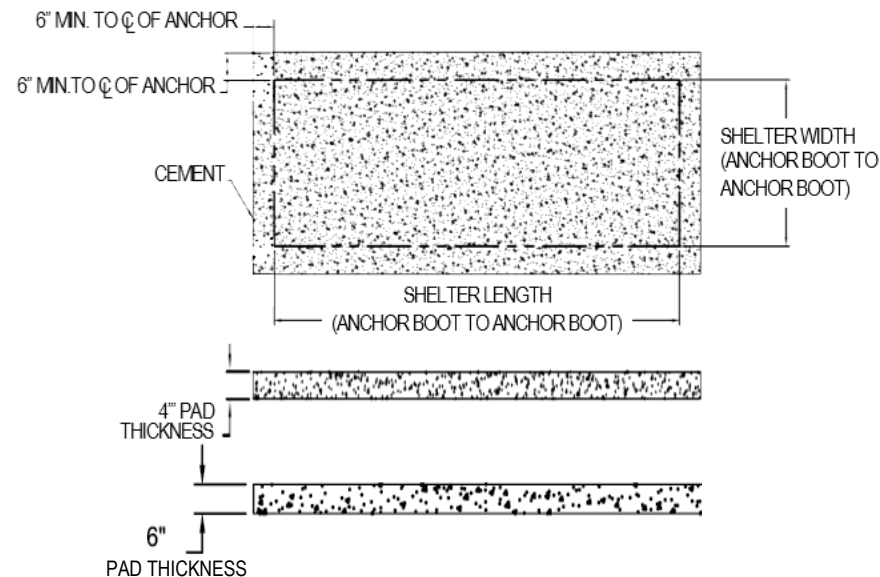
Expansion Anchor Installed

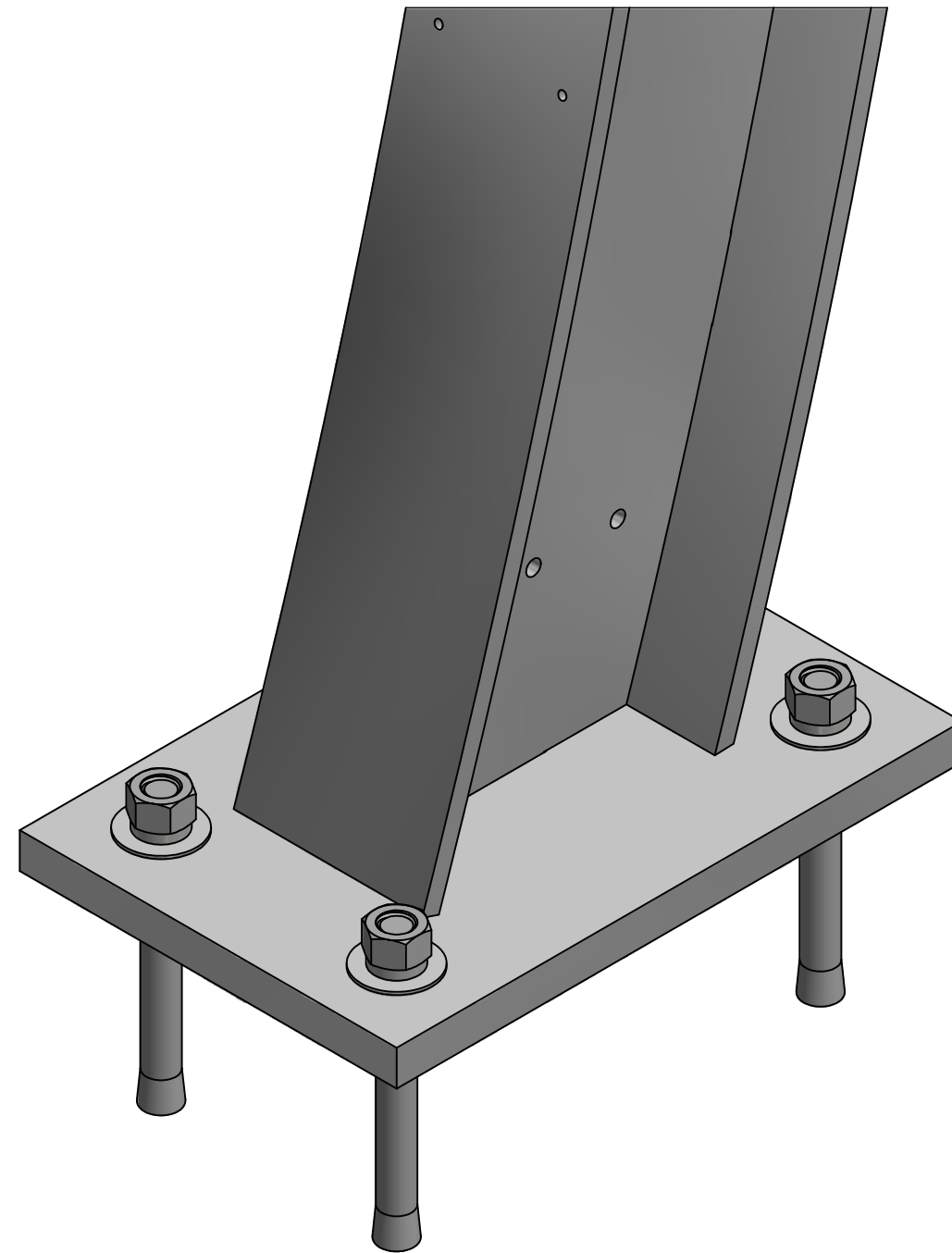
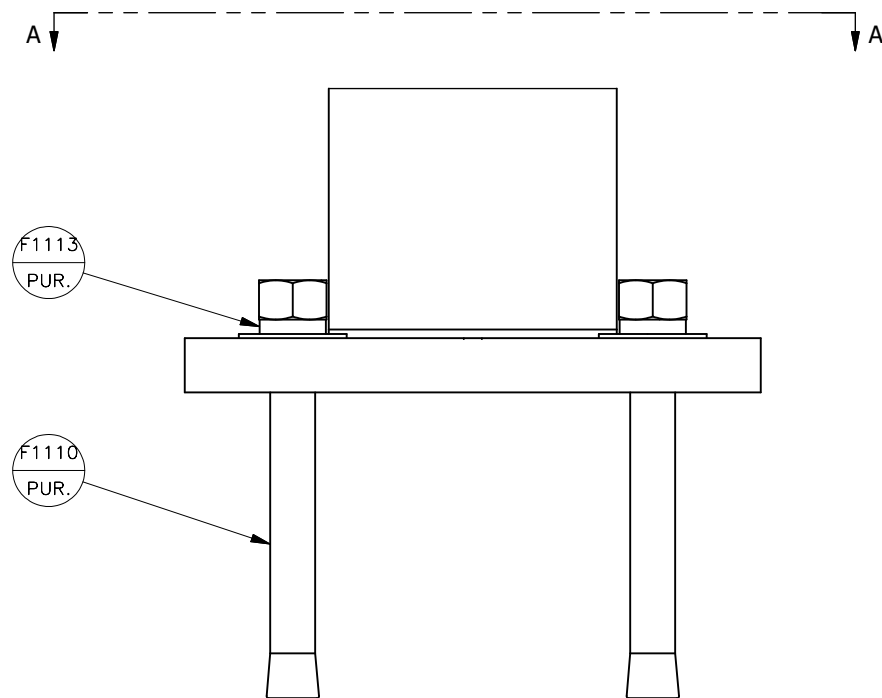
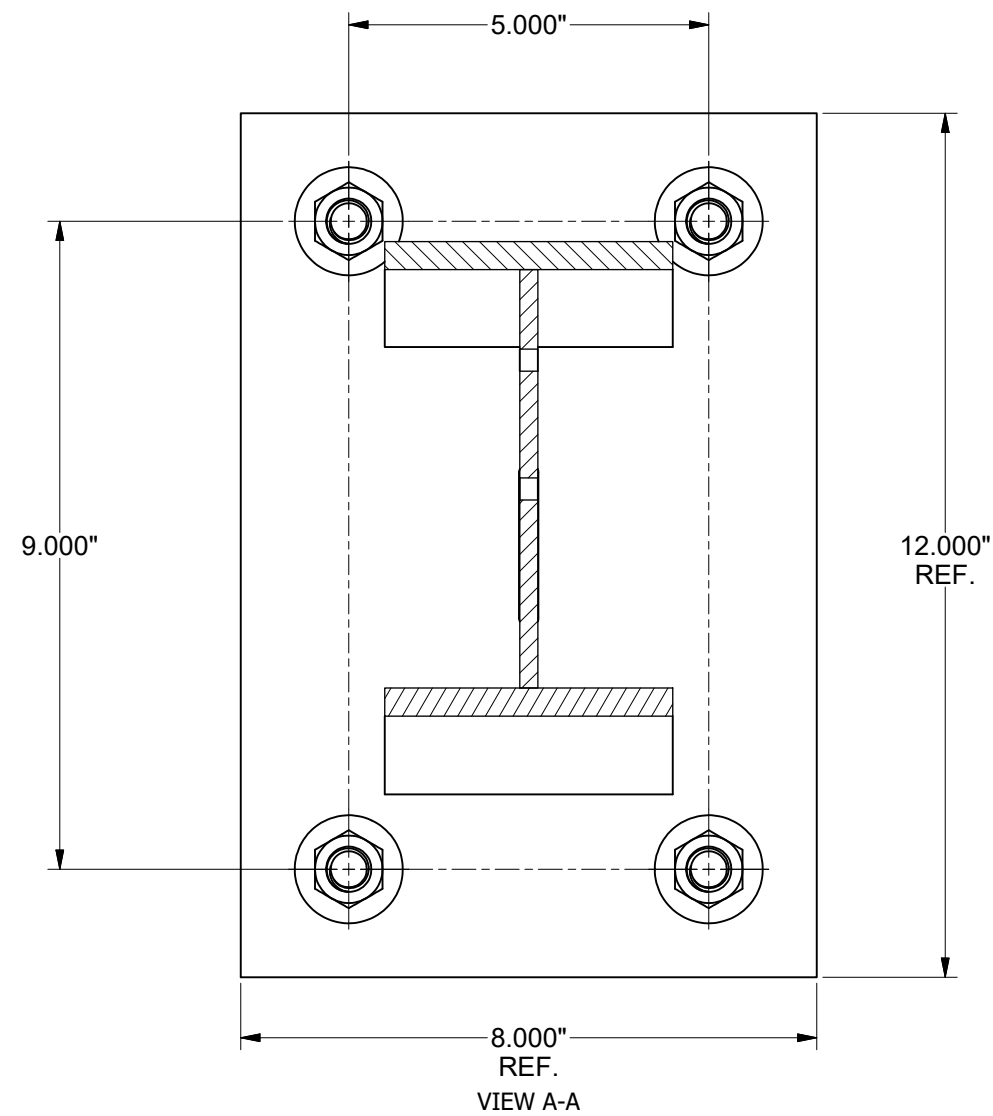
1. Locating proper column locations is critical. Care must be taken to keep columns plumb and walls square to each other.
2. Shelter should be sloped slightly to the rear for proper drainage. Approximately 1/4 inch slope per foot from front to rear of shelter is recommended. Columns should be shimmed as necessary.
3. Anchors to be installed in conjunction with manufacturers recommendations only. (See Expansion Anchor Technical Chart on previous page.)
4. Anchors need to be installed a minimum of 6 inches from the edge of the concrete pad. See below for reference.

Standard Concrete Pad Overview

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 areas with wind speeds lower than 110 MPH. For areas 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 concrete breakage when anchoring. Concrete may or may not require additional reinforcement.





BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST

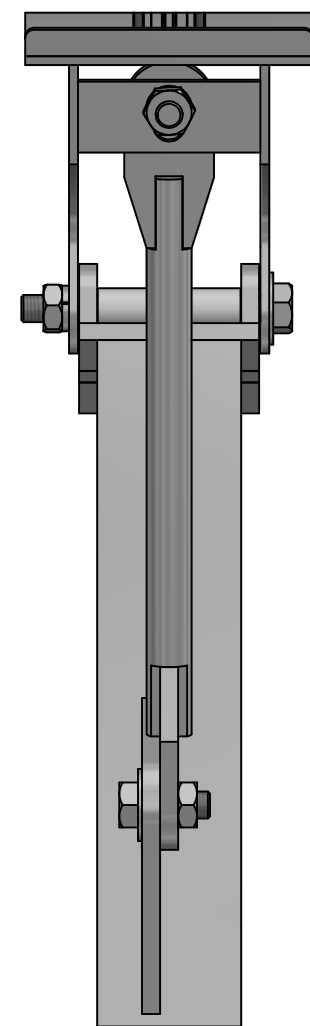
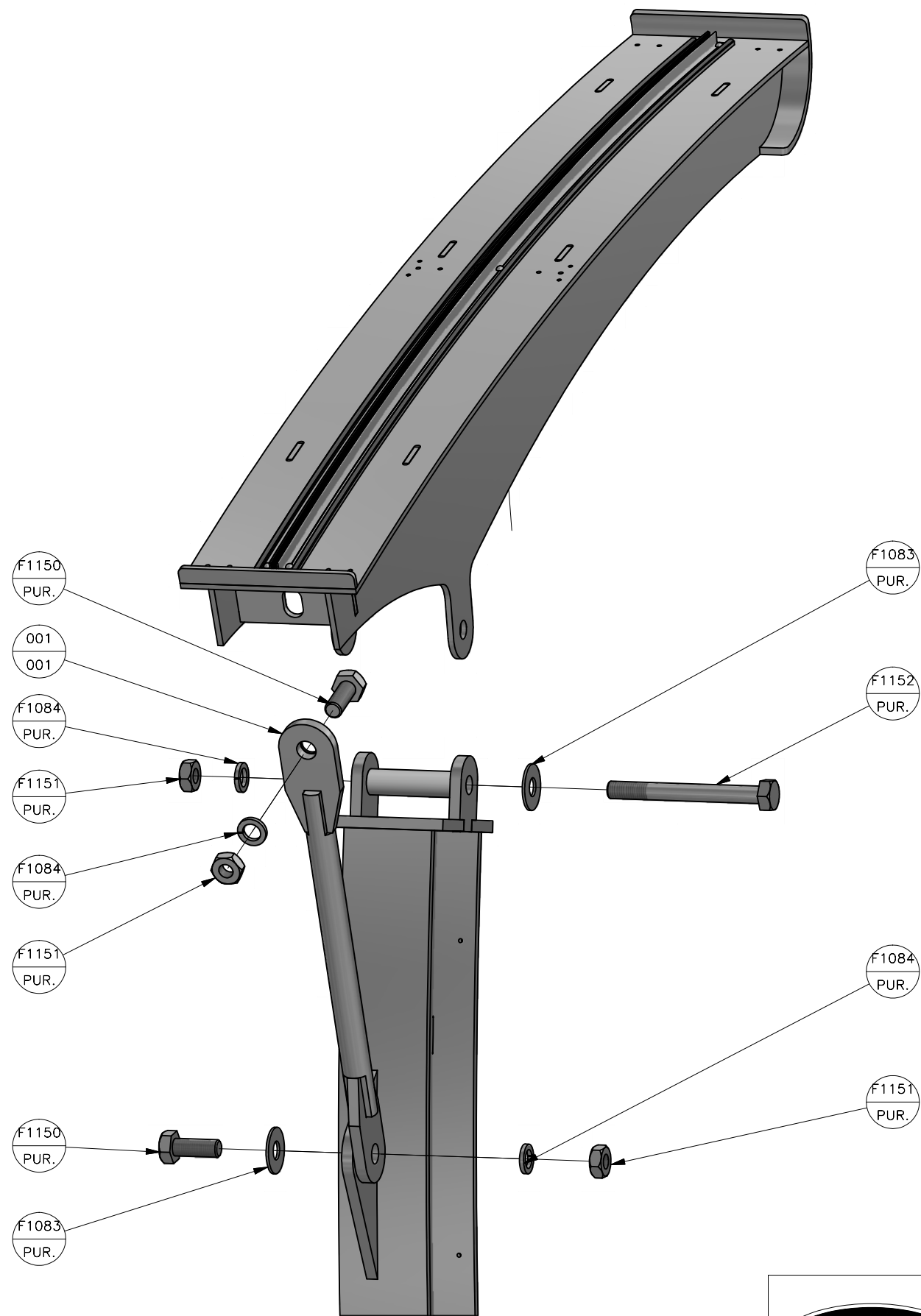
ITEM	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER	NOTES
F1105	PUR.	1/4-20 X 3/4" LG. S.S. TAMPER RESISTANT SCREW		F1105	
F1110	PUR.	5/8-11 X 6" S.S. WEDGE ANCHOR W/NUT AND FLAT WASHER		F1110	
F1113	PUR.	5/8" S.S. LOCK WASHER		F1113	



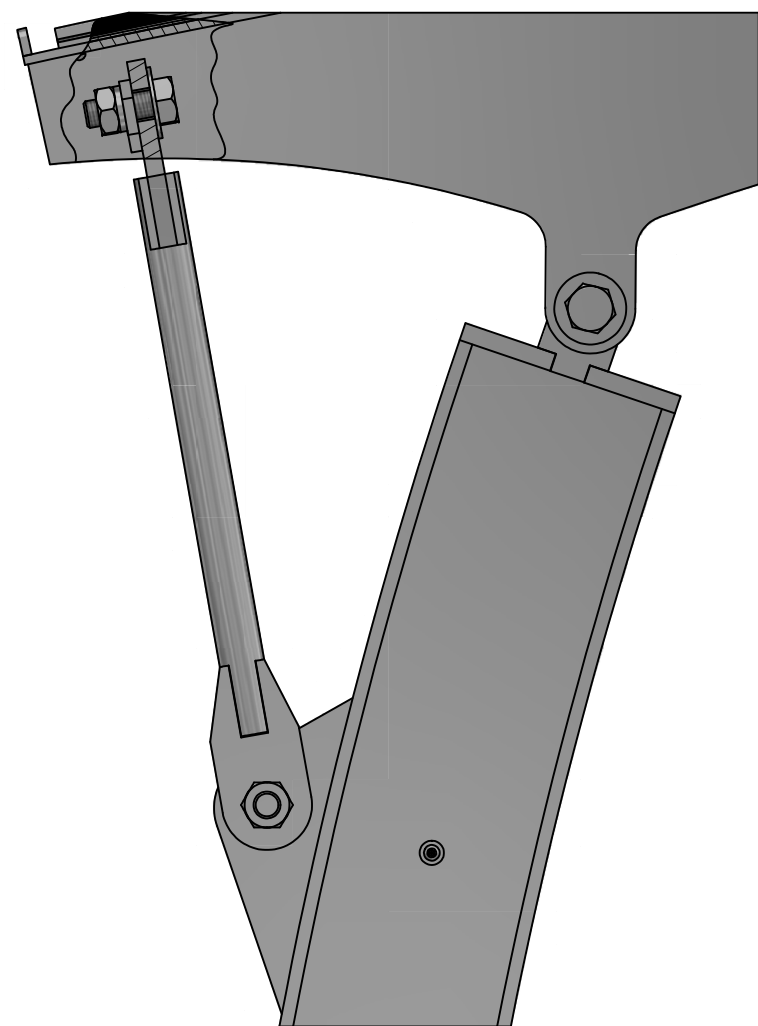
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CUSTOMER: BRASCO INTERNATIONAL			DESIGNER: M.FINK	CHECKER: BMB
PROJECT: INTERLUDE TRANSIT SHELTER			DATE: 5/10/19	DATE: 5/10
DESCRIPTION: SHELTER ANCHOR		JOB # STD.	SHEET: 1	REVISION: A



VIEW OF REAR TOP COLUMN
NOTE ARM TOP PLACEMENT
IS ATTACHED TO INNER PLATE
OF RAFTER AS SHOWN



BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST

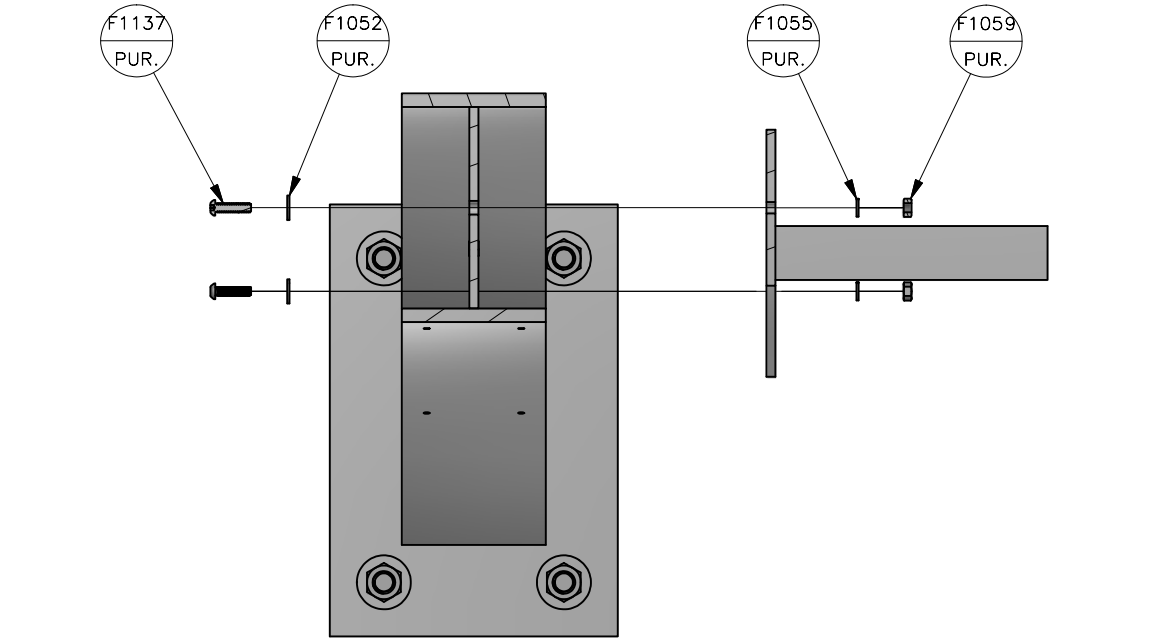
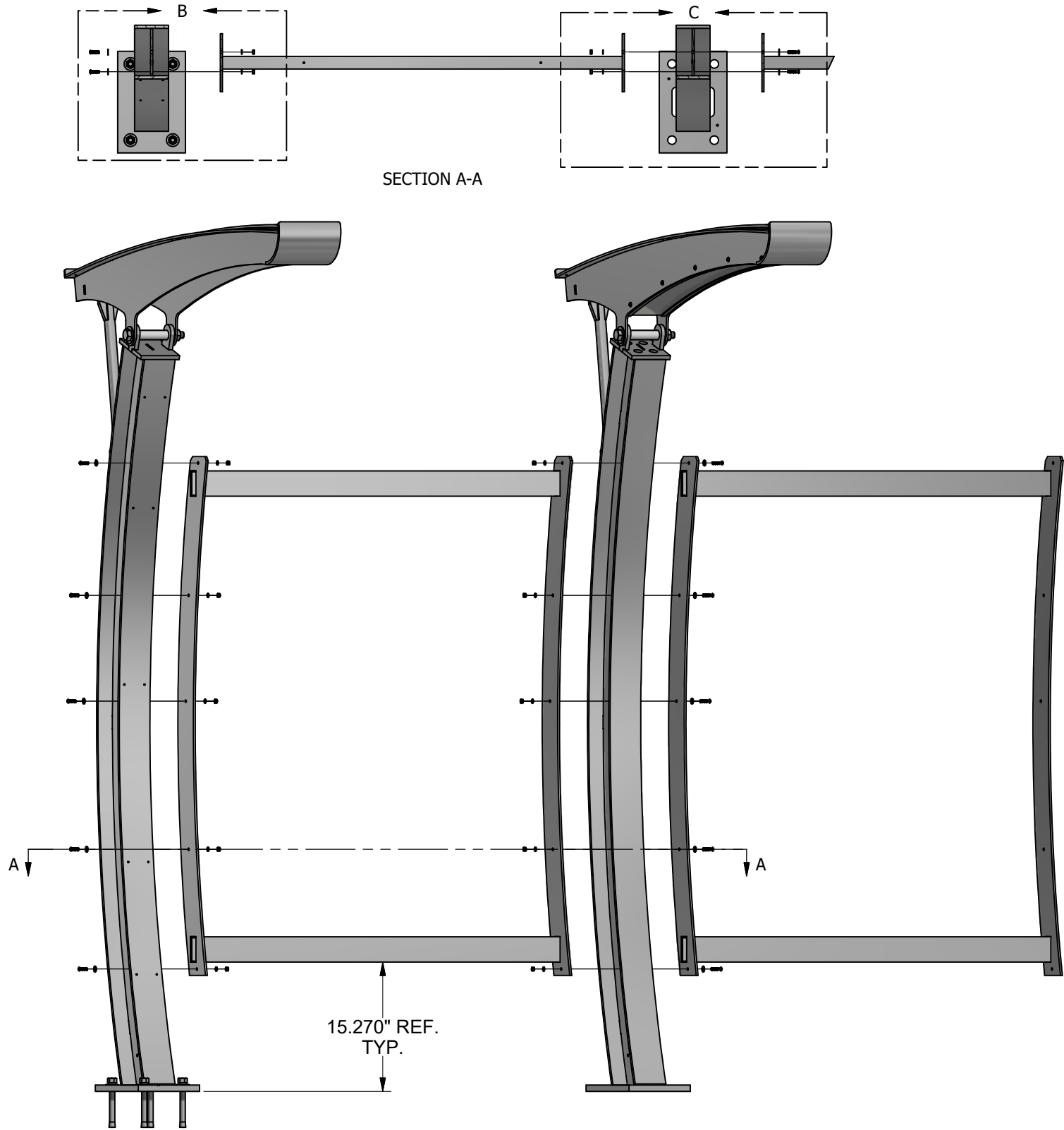
ITEM	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER	NOTES
F1083	PUR.	3/4" FLAT WASHER		F1083	
F1084	PUR.	3/4" S.S. LOCK WASHER		F1084	
F1105	PUR.	1/4-20 X 3/4" LG. S.S. TAMPER RESISTANT SCREW		F1105	
F1150	PUR.	HEX HEAD BOLT - 3/4-10 X 2" LG.		F1150	
F1151	PUR.	JAM NUT - 3/4-10		F1151	
F1152	PUR.	SOCKET HEAD CAP SCREW - 3/4-10 X 7" LG.		F1152	



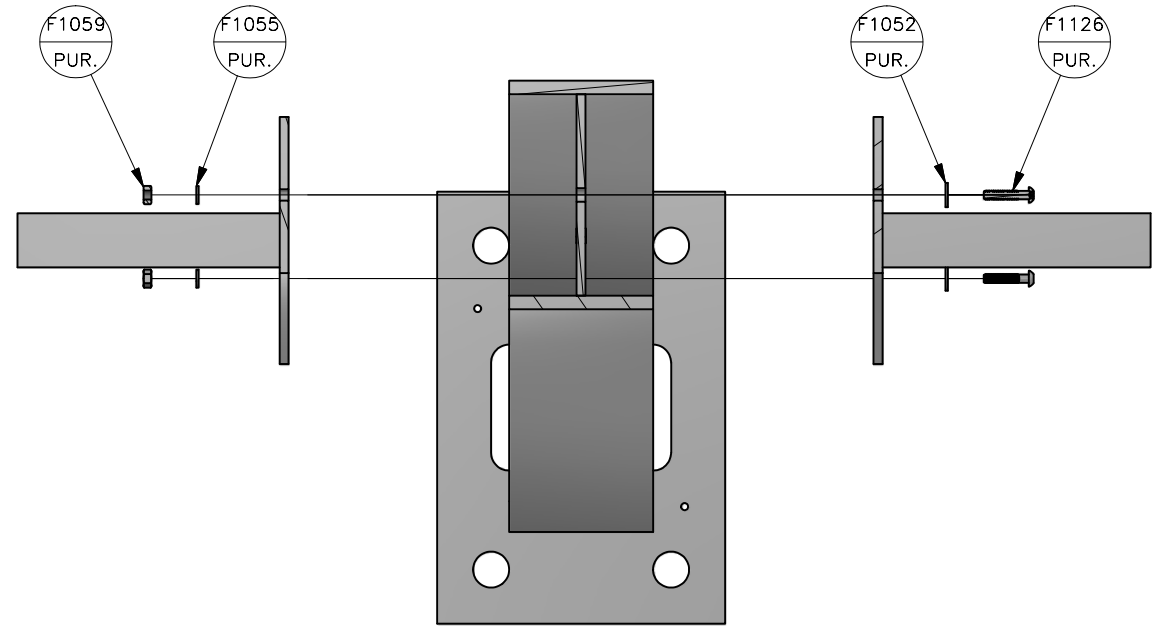
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CUSTOMER: BRASCO INTERNATIONAL		DESIGNER: M.FINK	CHECKER: BMB
PROJECT: INTERLUDE TRANSIT SHELTER		DATE: 5/10/19	DATE: 5/10
DESCRIPTION: RAFTER TO COLUMN ASSEMBLY	JOB # STD.	SHEET: 2	REVISION: A



DETAIL B



DETAIL C

BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST

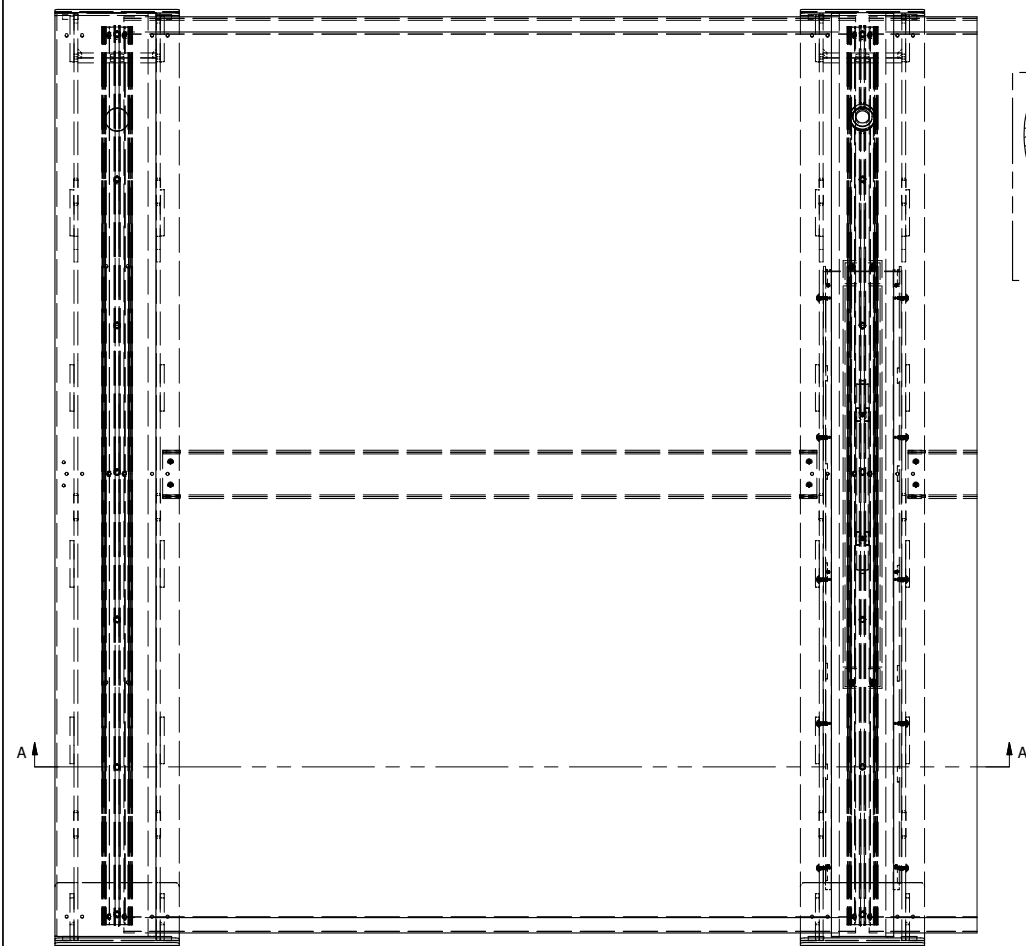
ITEM	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER	NOTES
F1052	PUR.	1/4" S.S. FLAT WASHER		F1052	
F1055	PUR.	1/4" S.S. LOCKWASHER		F1055	
F1059	PUR.	1/4"-20 S.S. NUT		F1059	
F1105	PUR.	1/4-20 X 3/4" LG. S.S. TAMPER RESISTANT SCREW		F1105	
F1137	PUR.	1/4-20 X 1" LG. S.S. TAMPER RESISTANT BUTTON SOCKET CAP SCREW		F1137	



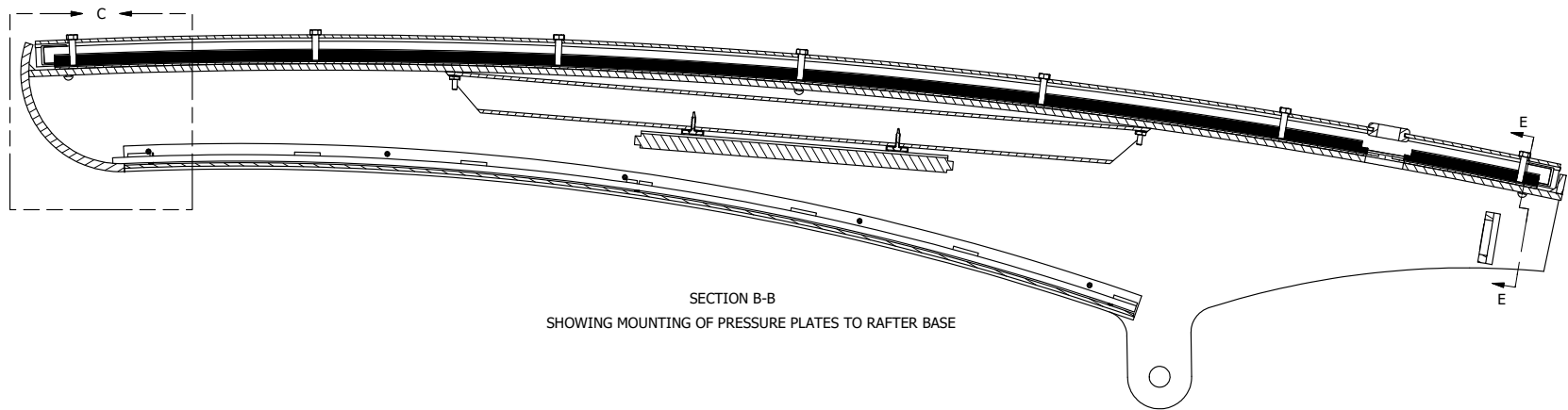
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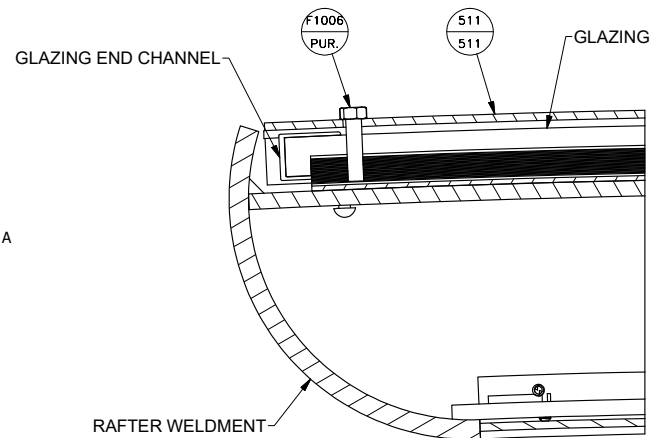
CUSTOMER: BRASCO INTERNATIONAL		DESIGNER: M.FINK	CHECKER: BMB
PROJECT: INTERLUDE TRANSIT SHELTER		DATE: 5/10/19	DATE: 5/10
DESCRIPTION: REAR WALL TO COLUMN ASSEMBLY	JOB # STD.	SHEET: 3	REVISION: A



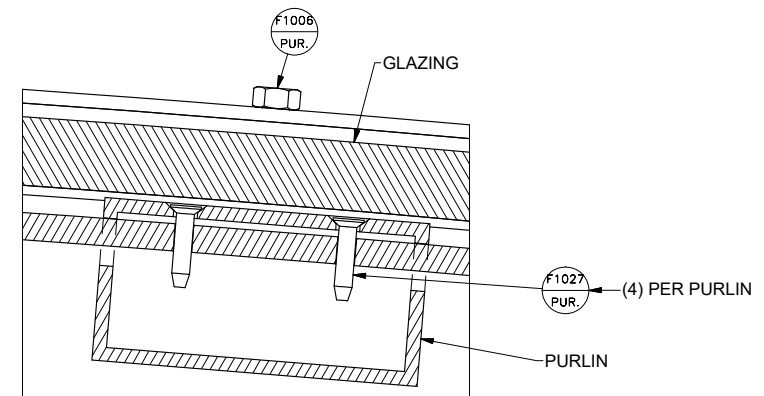
VIEW SHOWING END RAFTER (LEFT)
AND MID RAFTER (RIGHT)



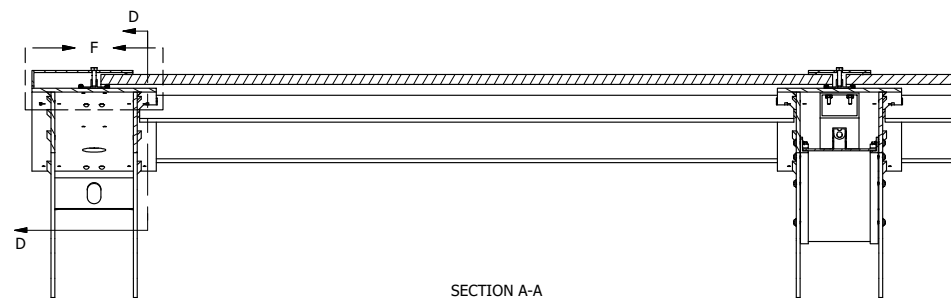
SECTION B-B
SHOWING MOUNTING OF PRESSURE PLATES TO RAFTER BASE



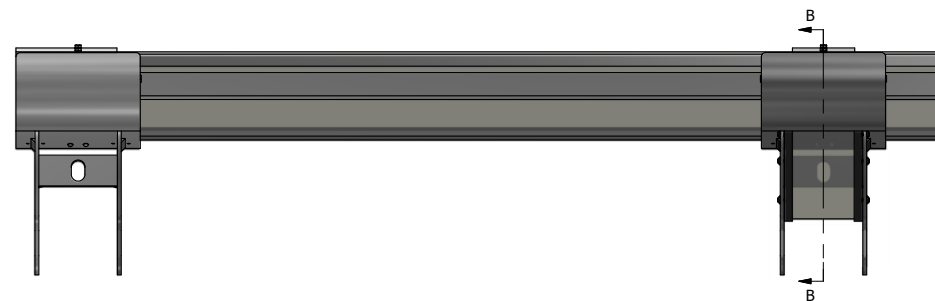
DETAIL C
SHOWING TYPICAL PCSS COVER ON
FRONT AND REAR OF THE SHELTER



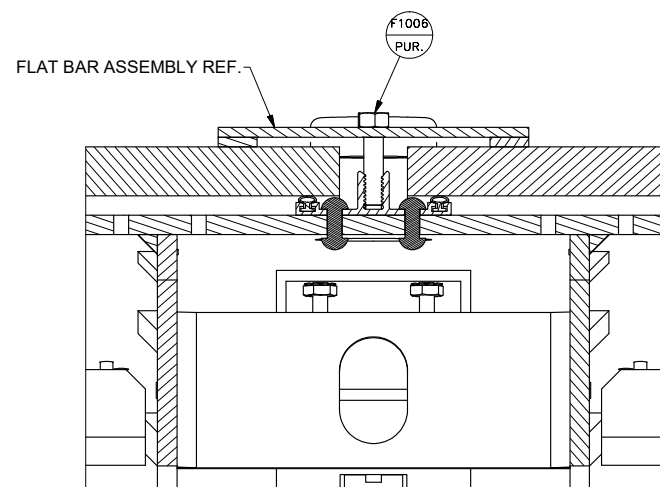
SECTION D-D
SHOWING TYPICAL PURLIN
CONNECTIONS TO COLUMN RAFTERS



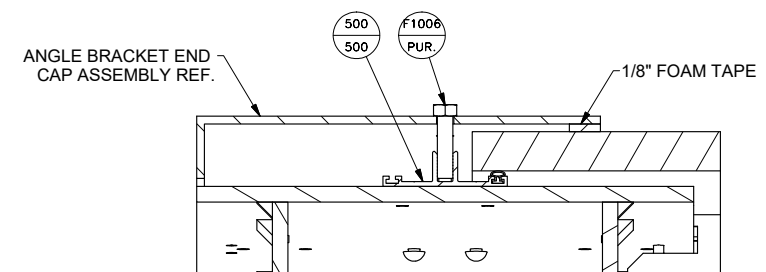
SECTION A-A



SECTION E-E
SHOWING TYPICAL MID PRESSURE
PLATE CONNECTIONS TO RAFTERS




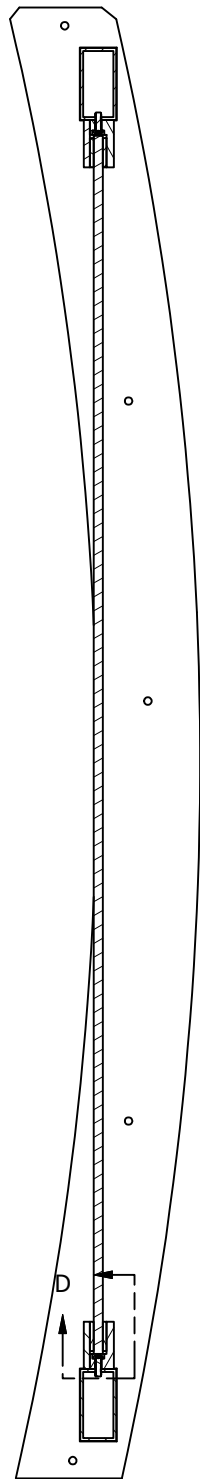
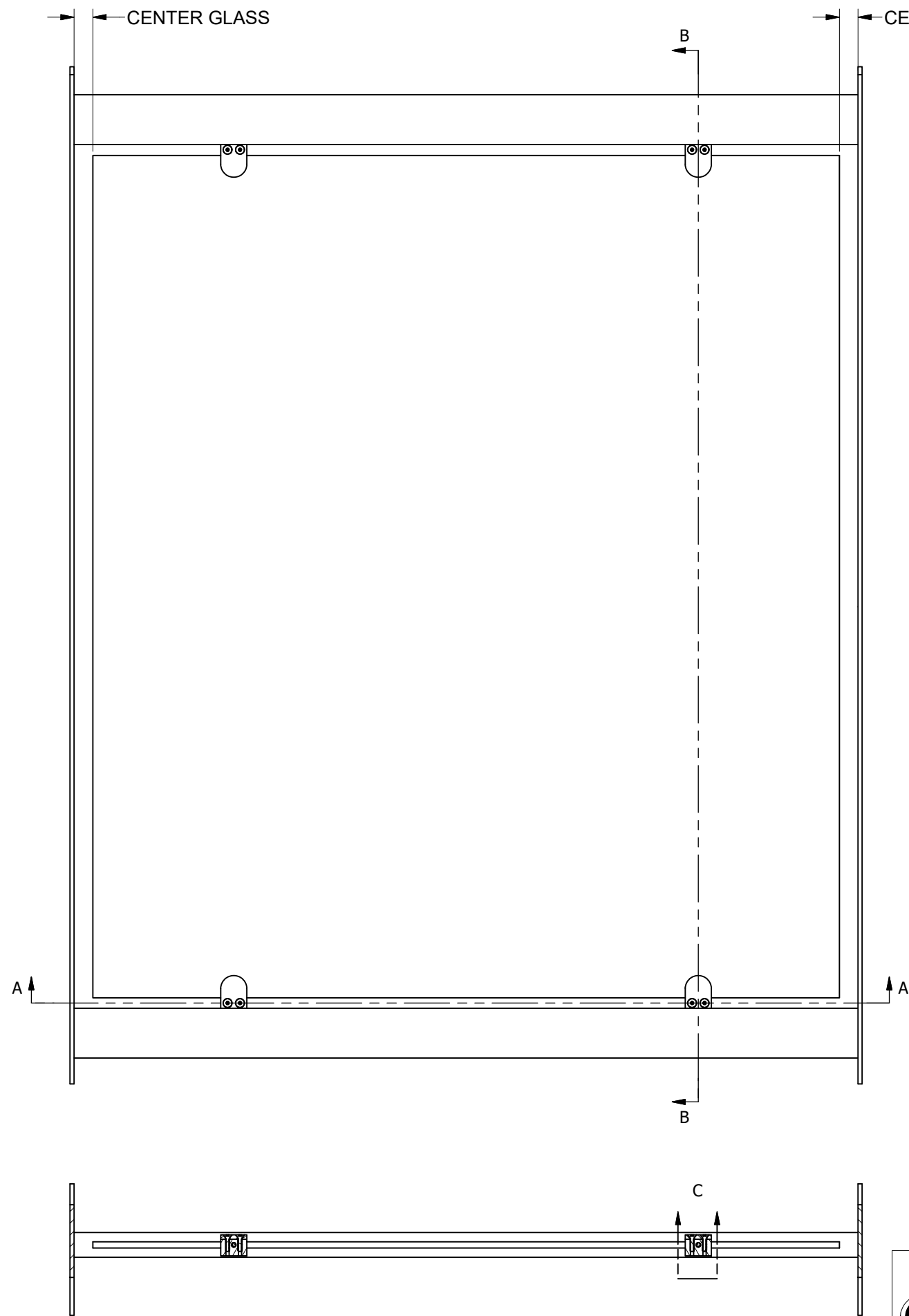
SECTION E-E
SHOWING TYPICAL MID PRESSURE
PLATE CONNECTIONS TO RAFTERS



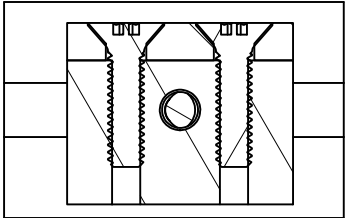
DETAIL F
SHOWING TYPICAL CONNECTIONS OF
ROOF PANELS TO END RAFTERS AND
PRESSURE PLATES TO RAFTER BASE

BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST					
ITEM	QTY	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER
511	1	511	FLAT BAR ASSEMBLY-SOLAR (5 FT.)	IT511	
F1006	21	PUR.	1/4-20 X 1" S.S. HEX HEAD BOLT		F1006
F1027	8	PUR.	#10-24 X 3/4" S.S. FLAT HEAD THREAD CUTTING SCREW		F1027
500	2	500	RAFTER ASSY (5 FT.)	IT500	
					SEE DWG.

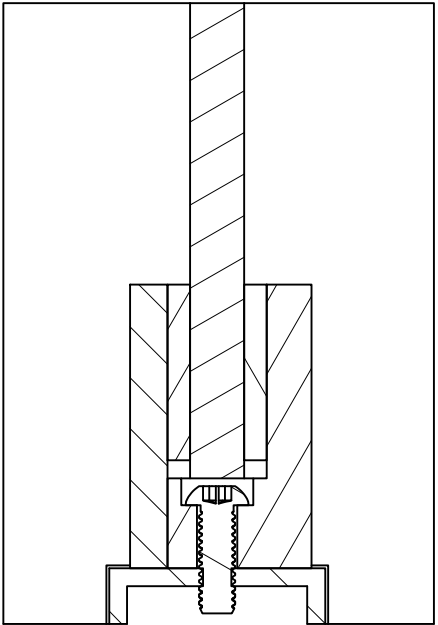
	BRASCO INTERNATIONAL, INC. 32400 INDUSTRIAL DR. MADISON HEIGHTS, MICHIGAN 48071 1-800-893-3665 WWW.BRASCO.COM			CUSTOMER:	DESIGNER:		CHECKER:
				BRASCO INTERNATIONAL	M.FINK		BMB
				PROJECT:	DATE:	DATE:	
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DESCRIPTION:				JOB #	SHEET:	REVISION:	
ROOF DETAIL ASSEMBLY				STD.	4	A	



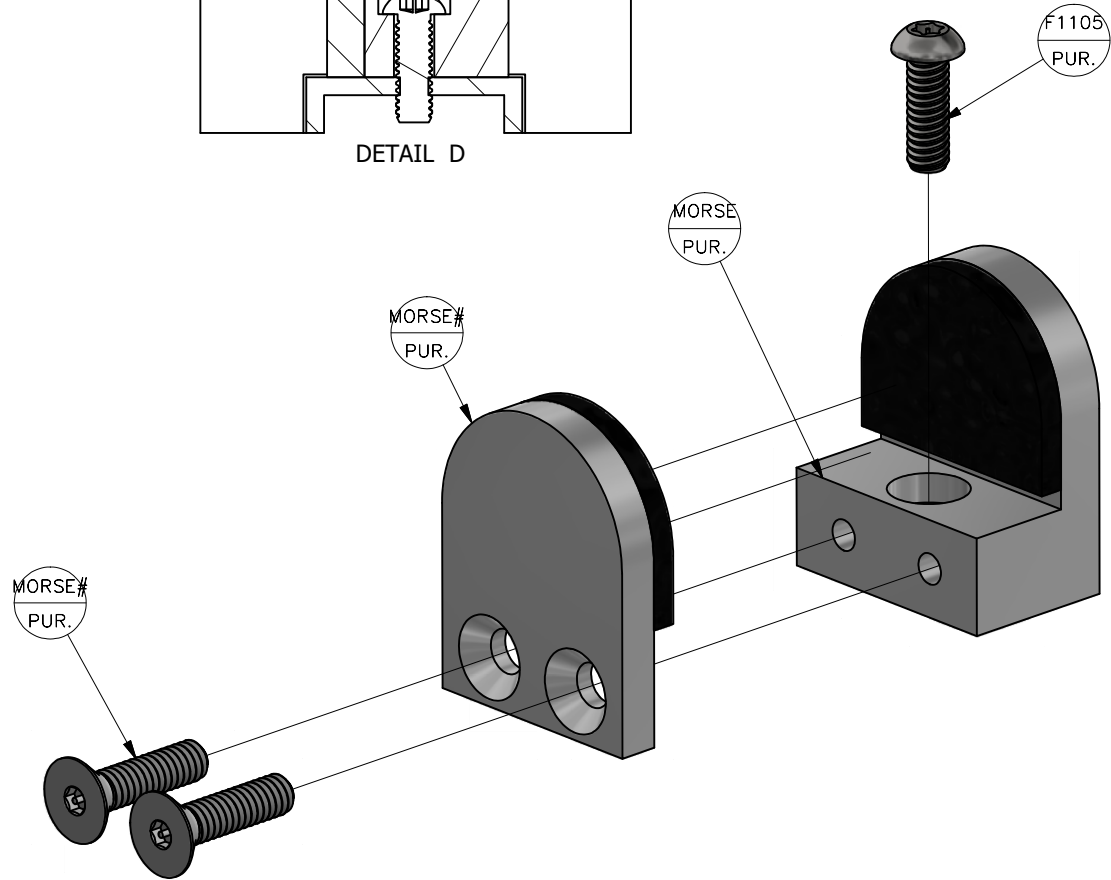
SECTION B-B



DETAIL C



DETAIL D



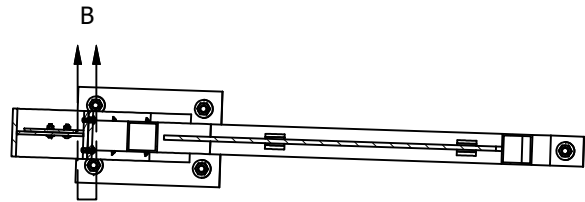
BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST					
ITEM	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER	NOTES
F1105	PUR.	1/4-20 X 3/4" LG. S.S. TAMPER RESISTANT SCREW		F1105	
MORSE	PUR.	3/8" LAMITATED GLASS CLAMP		#M13-2511-000-12	
MORSE#	PUR.	GASKET FOR 3/8" GLASS			
MORSE#	PUR.	GLASS CLAMP CAP			
MORSE#	PUR.	GLASS CLAMP FASTENER			



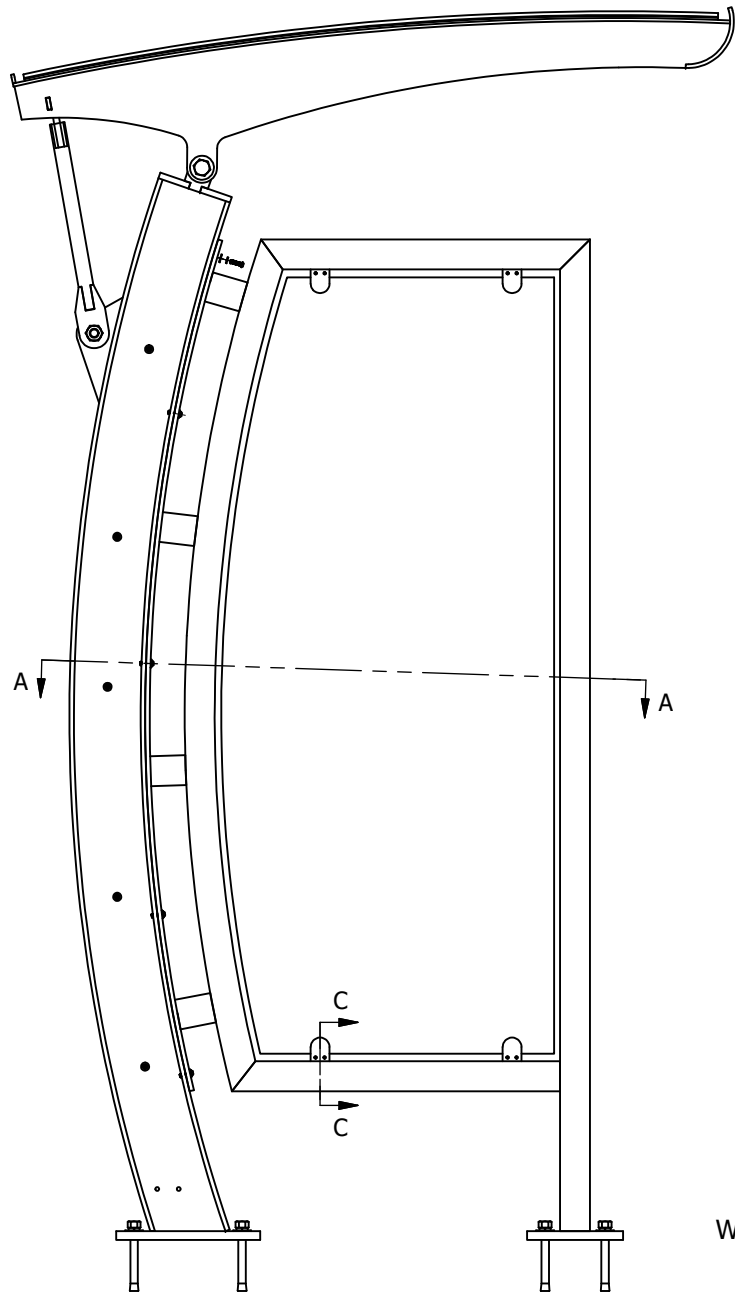
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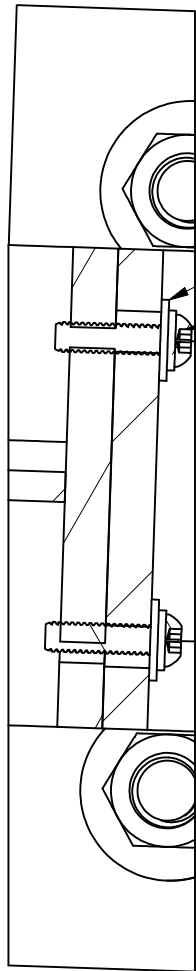
CUSTOMER: BRASCO INTERNATIONAL		DESIGNER: M.FINK	CHECKER: BMB
PROJECT: INTERLUDE TRANSIT SHELTER		DATE: 5/10/19	DATE: 5/10
DESCRIPTION: REAR WALL GLASS INSTALLATION	JOB # STD.	SHEET: 5	REVISION: A



SECTION A-A

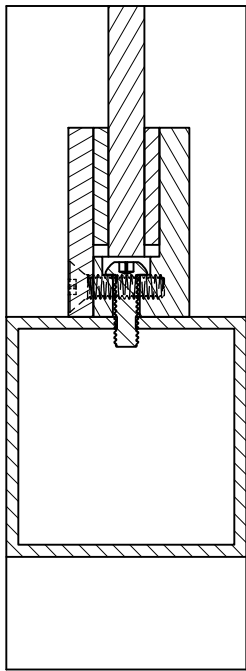


DETAIL B
VIEW SHOWING SIDE
WALL TO COLUMN CONNECTION

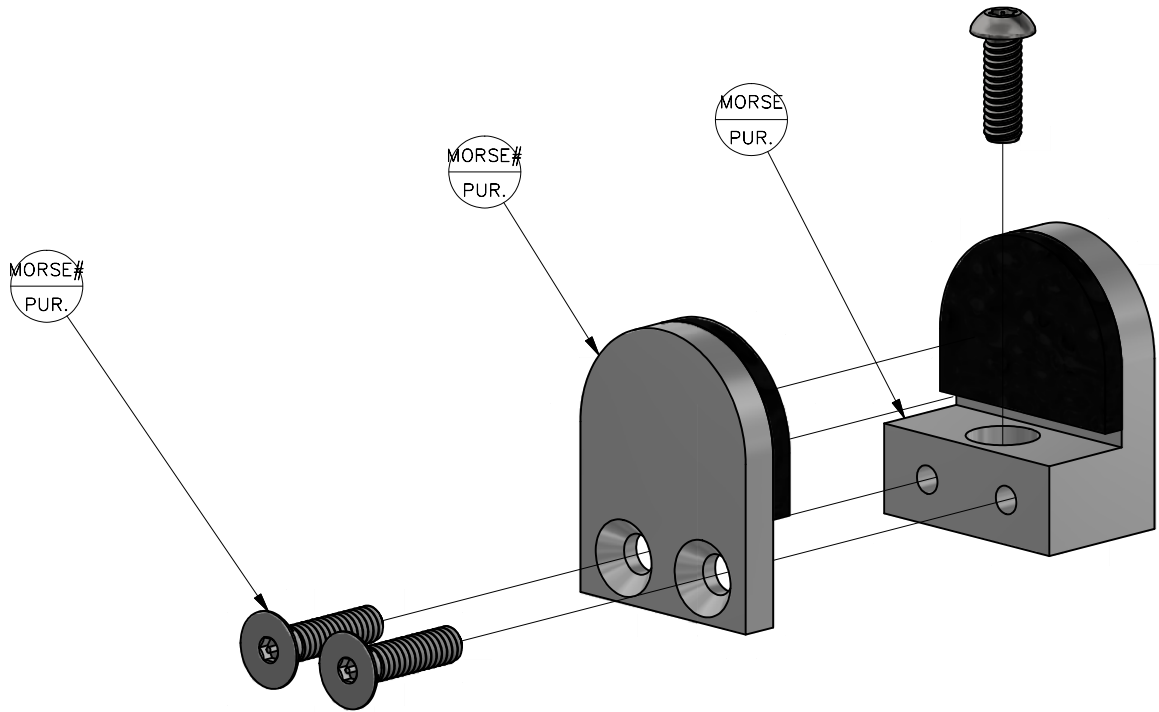


F1052
PUR.

F1137
PUR.



SECTION C-C
VIEW SHOWING GLASS CLAMP
ASSEMBLY TO WALL FRAME



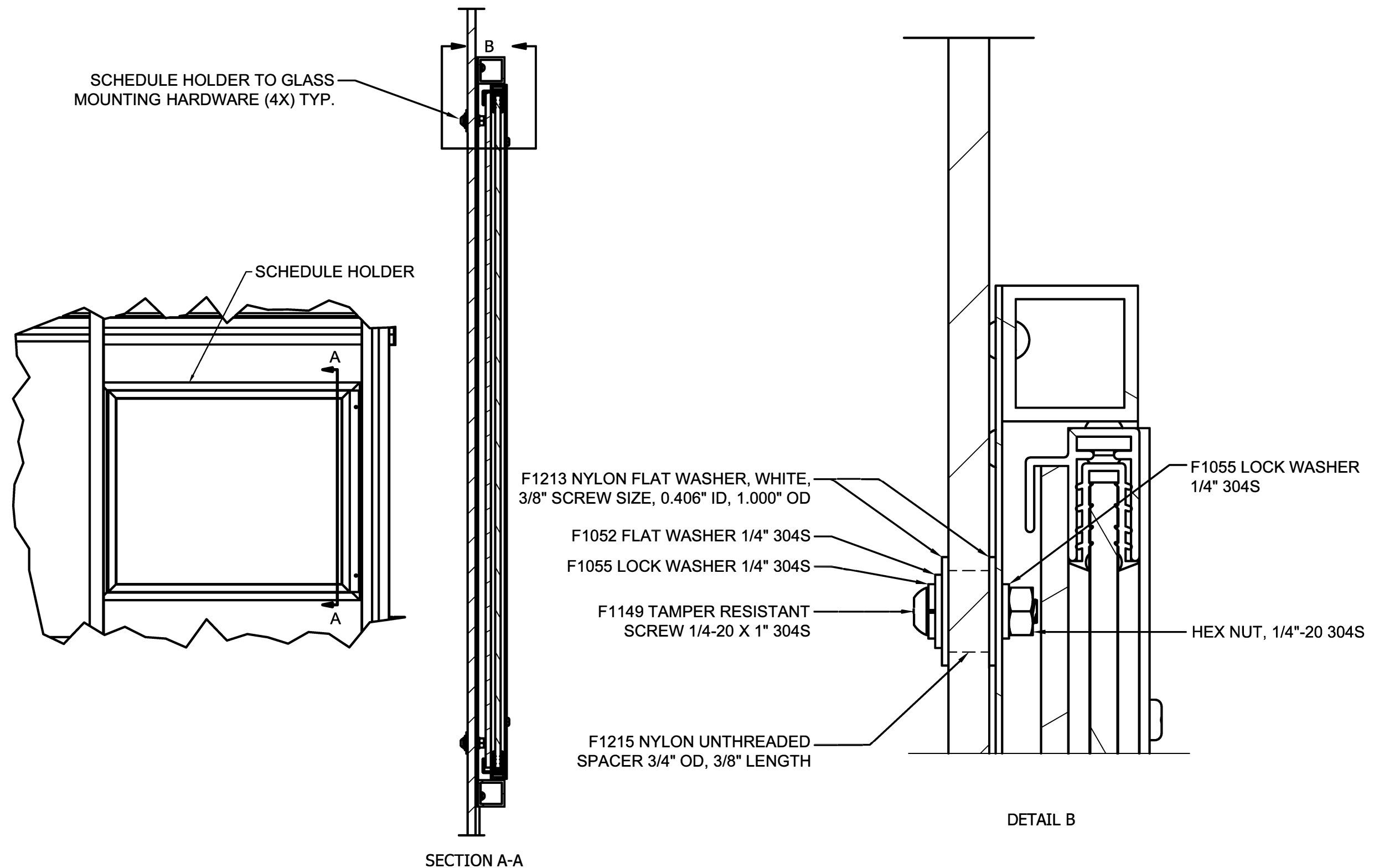
BRASCO INTERNATIONAL SUB ASSEMBLY PARTS LIST					
ITEM	SHT	DESCRIPTION	MODEL NUMBER	PART NUMBER	NOTES
F1052	PUR.	1/4" S.S. FLAT WASHER		F1052	
F1105	PUR.	1/4-20 X 3/4" LG. S.S. TAMPER RESISTANT SCREW		F1105	
F1137	PUR.	1/4-20 X 1" LG. S.S. TAMPER RESISTANT BUTTON SOCKET CAP SCREW		F1137	
MORSE	PUR.	3/8" LAMITATED GLASS CLAMP		#M13-2511-000-12	
MORSE#	PUR.	GLASS CLAMP CAP			
MORSE#	PUR.	GLASS CLAMP FASTENER			



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CUSTOMER: BRASCO INTERNATIONAL		DESIGNER: M.FINK	CHECKER: BMB
PROJECT: INTERLUDE TRANSIT SHELTER		DATE: 5/10/19	DATE: 5/10
DESCRIPTION: SIDE WALL W/GLASS ASSEMBLY	JOB # STD.	SHEET: 6	REVISION: A



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32400 INDUSTRIAL DRIVE
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LEAD TIME BEGINS UPON RECEIPT OF SIGNED APPROVAL.



SIGNED: _____ DATE: _____

VIEW SHOWING SHCEDULE HOLER MOUNTED TO 3/8" GLASS DURING INSTALLATION

CUSTOMER:	INSTALLATION INSTRUCTIONS				ENGINEER:	M.FINK
					DATE:	5/10/19
PROJECT:	GLASS / GROMMET MOUNTED DISPLAY CASE				CHECKER:	BMB
					DATE:	5/10/19
MODEL:	INTERLUDE SERIES	JOB #	STD.	SHEET #:	7	