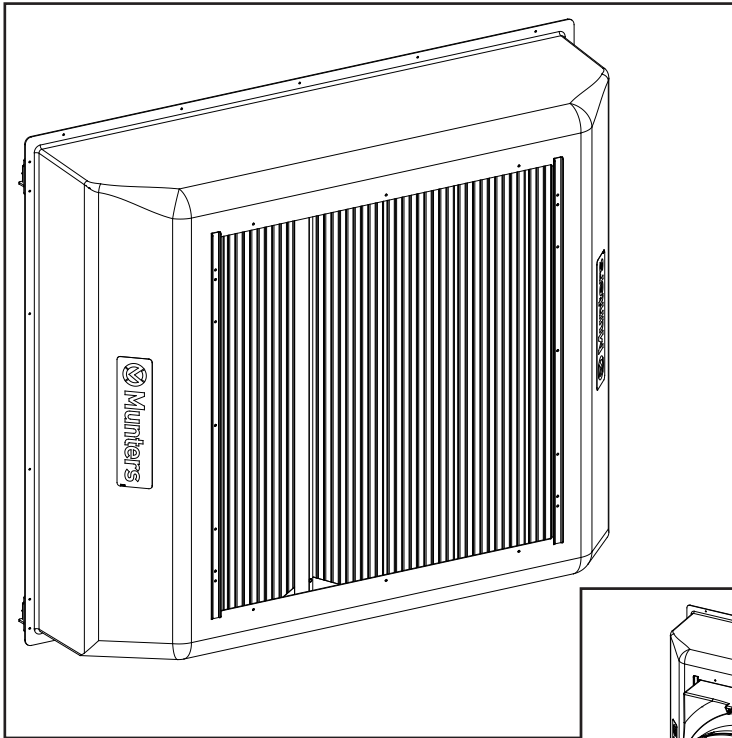
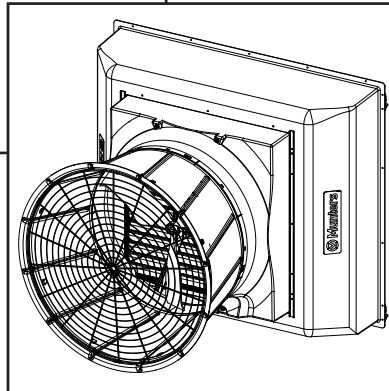


Instruction Manual

Aerotech LTX Housing for Vortex Fans VX36, VX51 & VX55



51LTX



51LTX w/ VX51

LTX Housing for Vortex Fans 36", 51", 55"

Models: 36LTX-1PK • 36LTX-2PK • 36LTX-3PK • 51LTX-1PK •
51LTX-2PK • 51LTX-3PK • 55LTX-1PK • 55LTX-2PK •
55LTX-3PK



LTX Housing for Vortex Fans 36LTX, 51LTX & 55LTX

Instructions for Use and Maintenance

Thank You:

Thank you for purchasing a Munters LTX Housing. Munters equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

Please Note:

To achieve maximum performance and insure long life from your Munters product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@munters.com.

Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters Corporation.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

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Unpacking the Equipment

1.

Before beginning installation, check the overall condition of the equipment. Remove packing materials, and examine all components for signs of shipping damage. Any shipping damage is the customer's responsibility and should be reported immediately to your freight carrier. LTX Housing is shipped with all accessories for assembly, (fan not included).

1.1 Parts List

Each LTX Housing Includes:

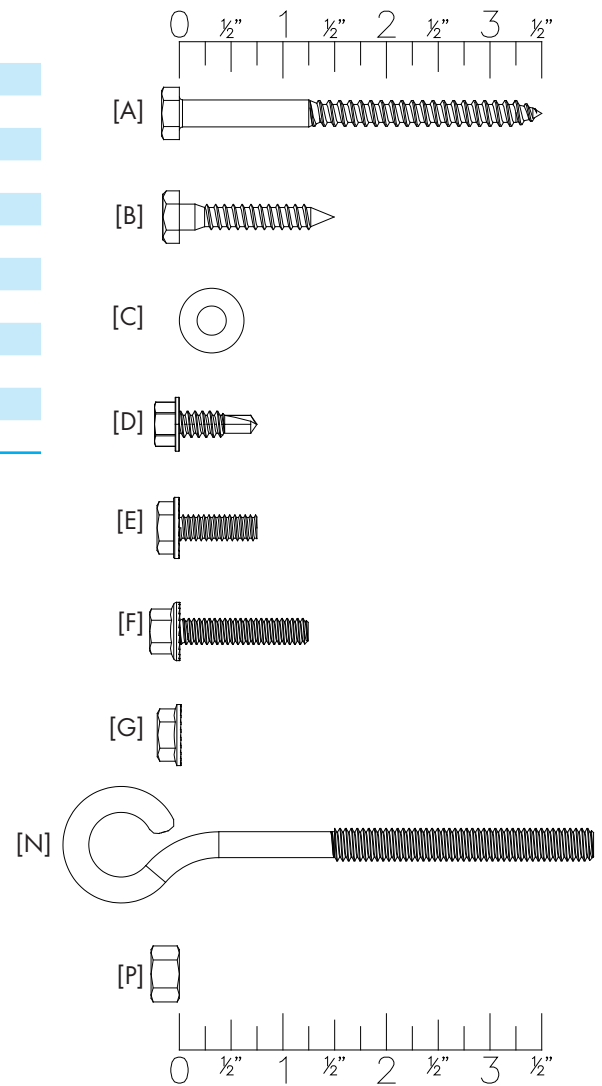
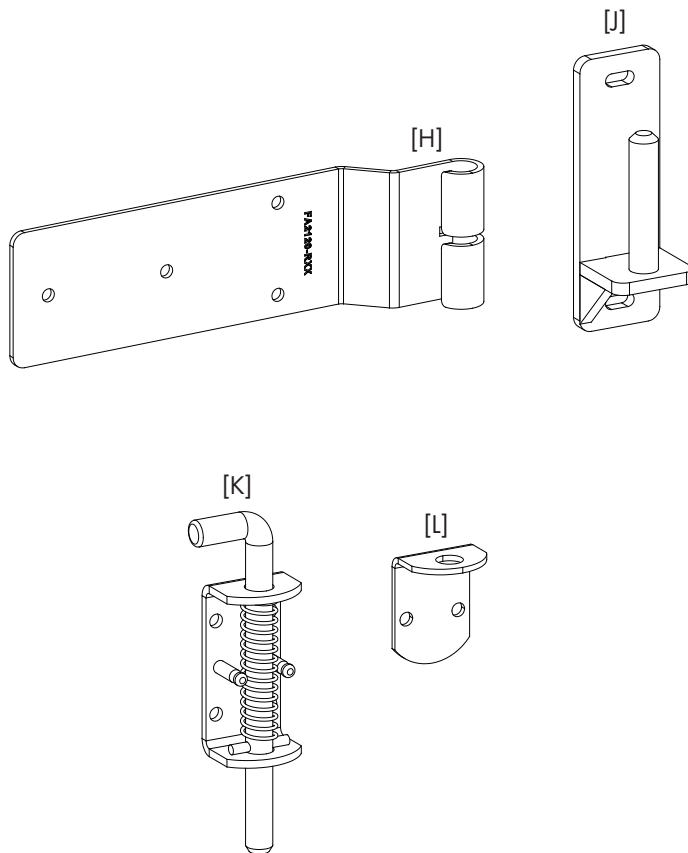
Qty	Cat. No.	Description
1	FA2136 - FA2151 - FA2155	LTX Housing, 36LTX - 51LTX - 55LTX, FG
1	FA1621	Right/Left LTX Doors Kit
1	BK2001	Bulk Pack, R.H. Door Side Panels
1	FA2103	Door Hinge Panel, GZ
1	FA2105	R.H. Center Door Panel, GZ
1	BK2002	Bulk Pack, L.H. Door Side Panels
1	FA2103	Door Hinge Panel, GZ
1	FA2107	L.H. Center Door Panel, GZ
1	BK2003	Bulk Pack, R.H. Door Top/Bottom Panels
2	FA2104	R.H. Top/Bottom Door Panel, GZ
2	FA2110	1/2 Darkout Bracket, 36"L., GZ
1	BK2004	Bulk Pack, L.H. Door Top/Bottom Panels
2	FA2106	L.H. Top/Bottom Door Panel, GZ
2	FA2111	1/2 Darkout Bracket, 48"L., GZ
1	BK2005	Bulk Pack, R.H. Door Corners/Hardware
1	FA2124	R.H. Center Top Corner Bracket, GZ
1	FA2125	R.H. Center Bottom Corner Bracket, GZ
2	FA2123	Top/Bottom Hinge Panel Corner Bracket, GZ
2	FA2120 [H]	Lift-Off Style, Leaf Hinge, CTD-STEEL, BK
2	FA2121 [J]	Lift-Off Style Hinge Pin, CTD-STEEL, BK
22'	KA7101	Brush Seal, 0.31"W. x 0.75"H. BLK, PVC
1	HP1188	Hardware Package One Door
1	HP1189	Hardware Package TEK Screws One Door
1	BK2006	Bulk Pack, L.H. Door Corners/Hardware
1	FA2126	L.H. Center Top Corner Bracket, GZ
1	FA2127	L.H. Center Bottom Corner Bracket, GZ
2	FA2119	Top/Bottom Hinge Panel Corner Bracket, GZ
2	FA2120 [H]	Lift-Off Style, Leaf Hinge, CTD-STEEL, BK
2	FA2121 [J]	Lift-Off Style Hinge Pin, CTD-STEEL, BK
22'	KA7101	Brush Seal, 0.31"W. x 0.75"H. BLK, PVC
1	HP1188	Hardware Package One Door
1	HP1189	Hardware Package TEK Screws One Door
1	BK2007	Bulk Pack, Darkout, Rods & Gap Cover
1	FA2114	Light Gap Cover, Darkout, GZ
1	FA2147	Light Gap Cover Bracket, GZ
2	FA2141	JHook Rod, 2 Ends, 0.25"D, 71"L, STL
2	FA2142	JHook Rod, 2 Ends, 0.25"D, 66"L, STL
2	FA2130	Reinforcing Plate, LTX Housing, 60"L, CTD-GZ

Continued on next page

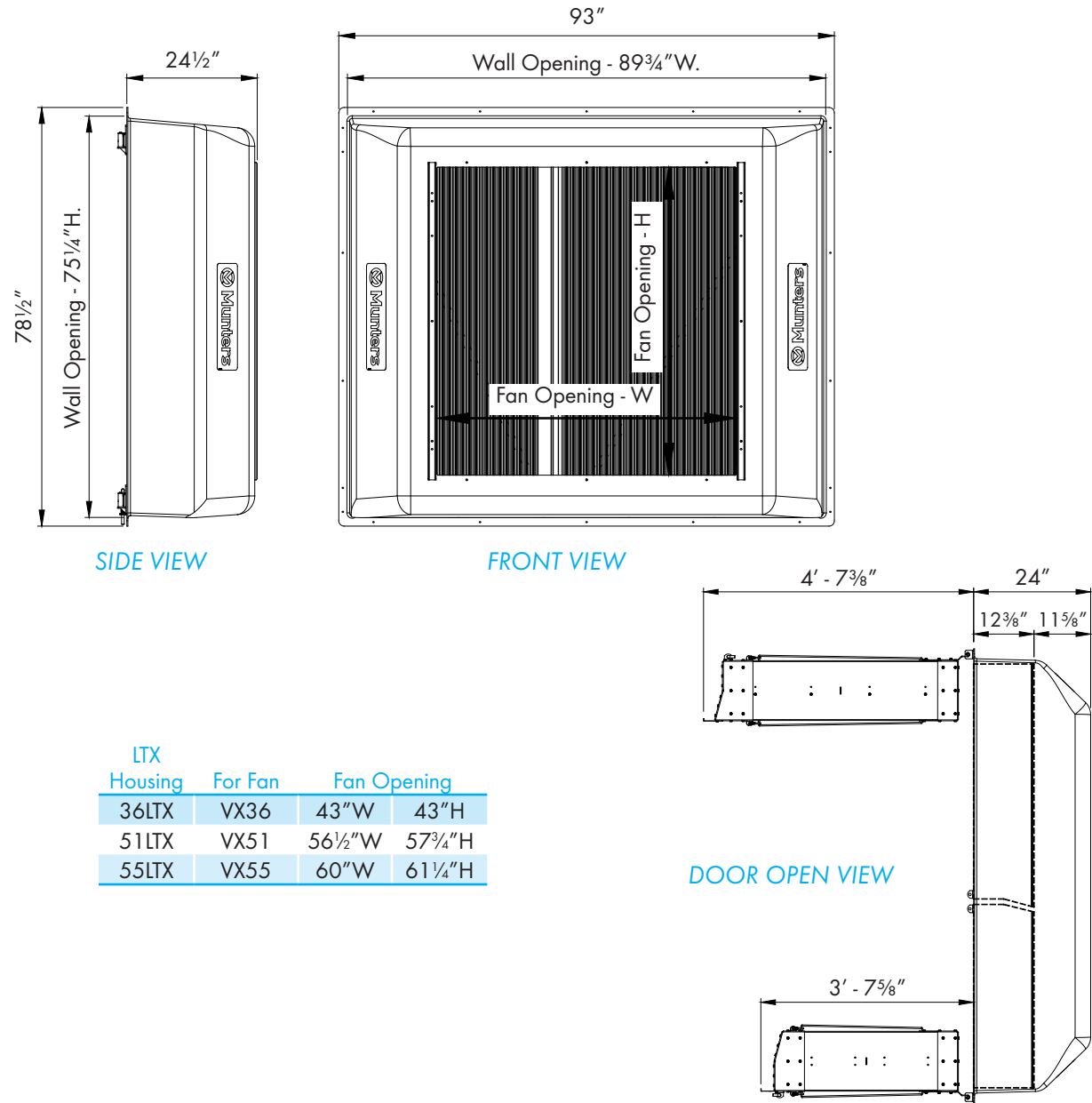
Parts List (continued)

HP1188 - Hardware Package One Door

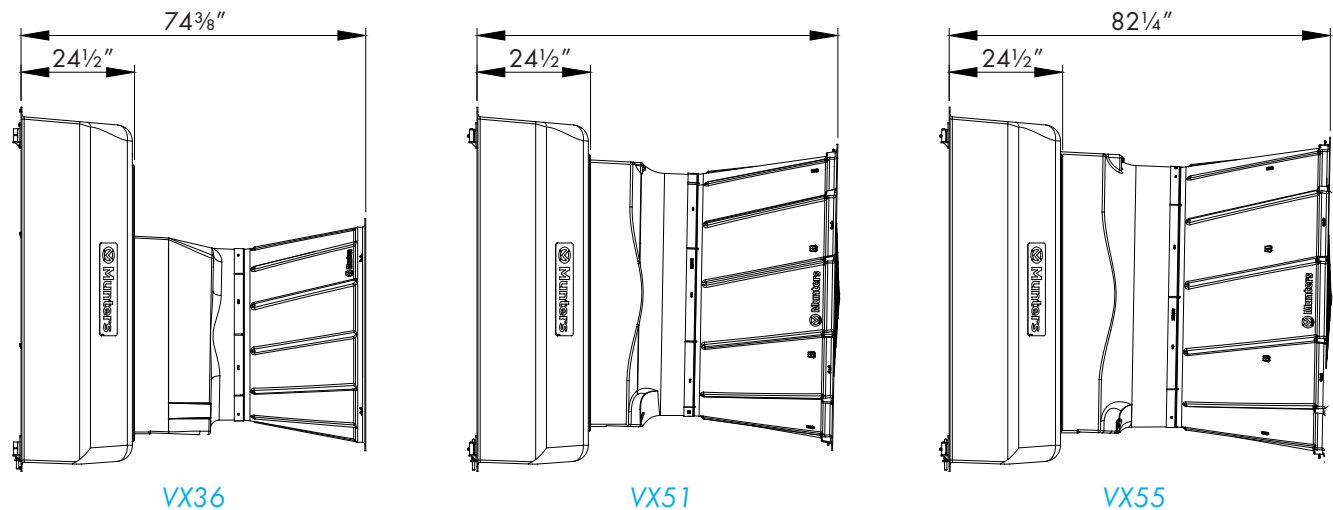
ID	Qty	Cat. No.	Description
[A]	11	KS2467	1/4" x 3 1/2" HX Lag Screw, ZP
[B]	2	KS2463	1/4" x 1 1/2" HX Lag Screw, ZP
[C]	19	KW3001	1/4" Type-A Narrow, Flat Washer, ZP
[E]	9	KS1151	1/4"-20 x 3/4" SRTD HX Flange Bolt, ZP
[F]	6	KS1154	1/4"-20 x 1 1/2" SRTD HX Flange Bolt, ZP
[G]	15	KN0730	1/4"-20 Serrated Hex Flange Nut, ZP
[K]	1	KX1350	Spring Latch, ZP
[L]	1	KX1351	Spring Latch Catch, GZ
[N]	2	KS2751	5/16"-18 x 4"L, Closed Eye Bolt, SS
[P]	2	KN1004	5/16"-18 Hex Nut, SS
<i>HP1189 - Hardware Package TEK Screws One Door</i>			
[D]	100	KS2254	1/4" x 3/4" HXWSHR TEK Screw, ZP



1.2 LTX Housing Dimensions



1.3 LTX Housing and Fan Depth



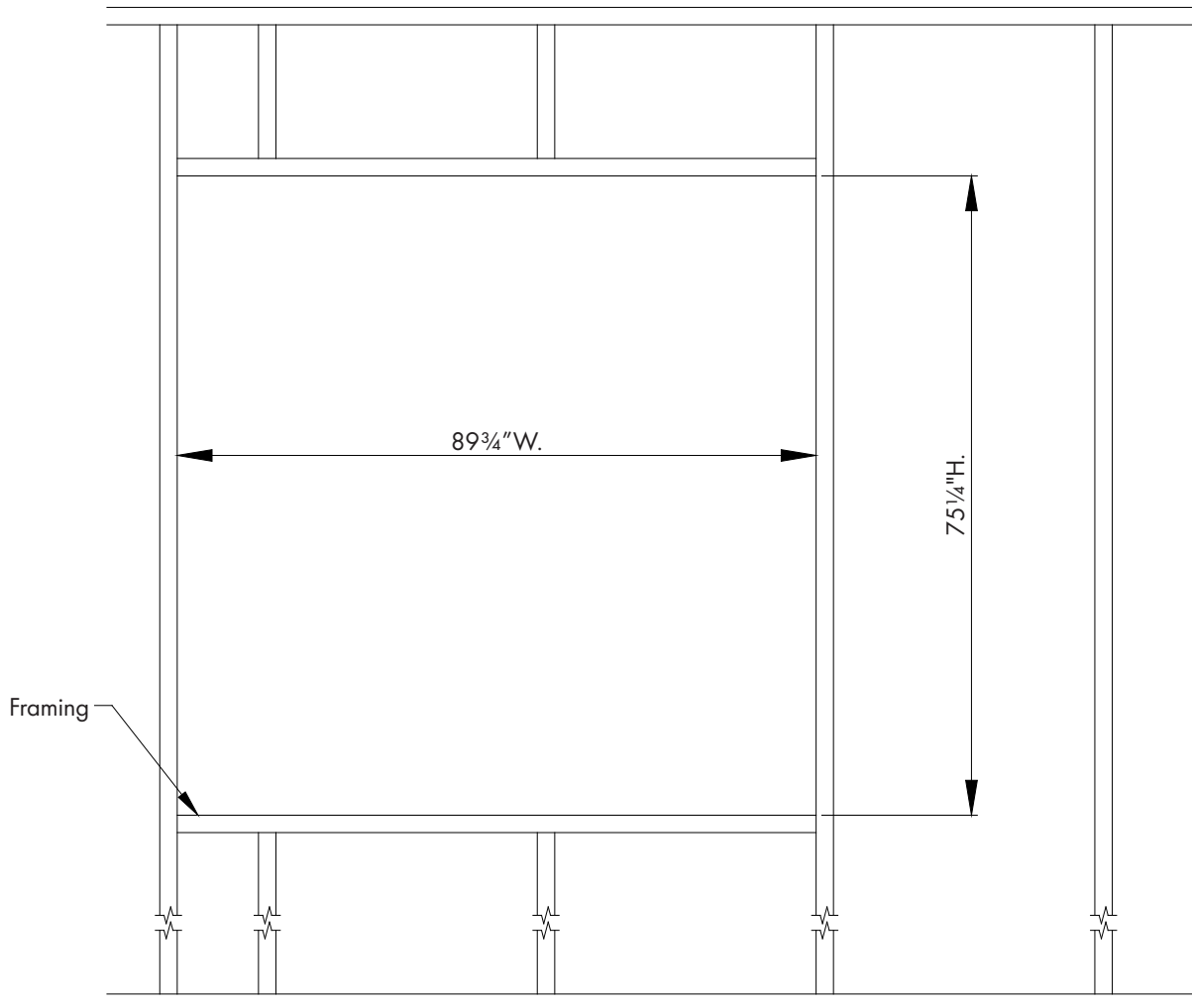
Installation Instructions

2.

2.1 LTX Housing Installation

Step 1

Construct the framed opening of $89\frac{3}{4}"$ W. x $75\frac{1}{4}"$ H.. See [Figure 1](#).



[Figure 1](#)

Step 2

Insert LTX Housing into the framed opening from the inside. While Box sits on bottom framing, fasten top of Box with (5) Lag Screws [A] and Washers [C]. Next, fasten bottom of Box using (5) Lag Screws [A] and Washers [C], then both sides using (4) Lag Screws [A] and Washers [C] in the center 2 holes in each side flange. [See Figure 2A and 2B.](#) Install flashing around opening tight to LTX Housing and caulk around Box to seal.

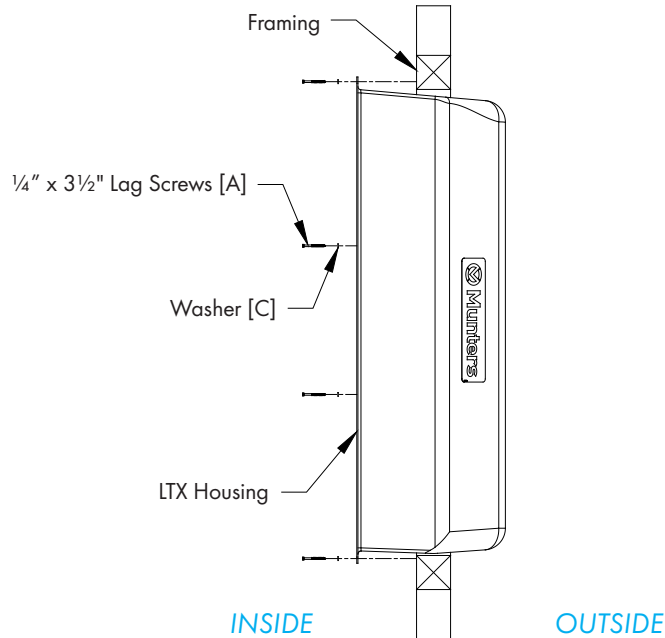


Figure 2A

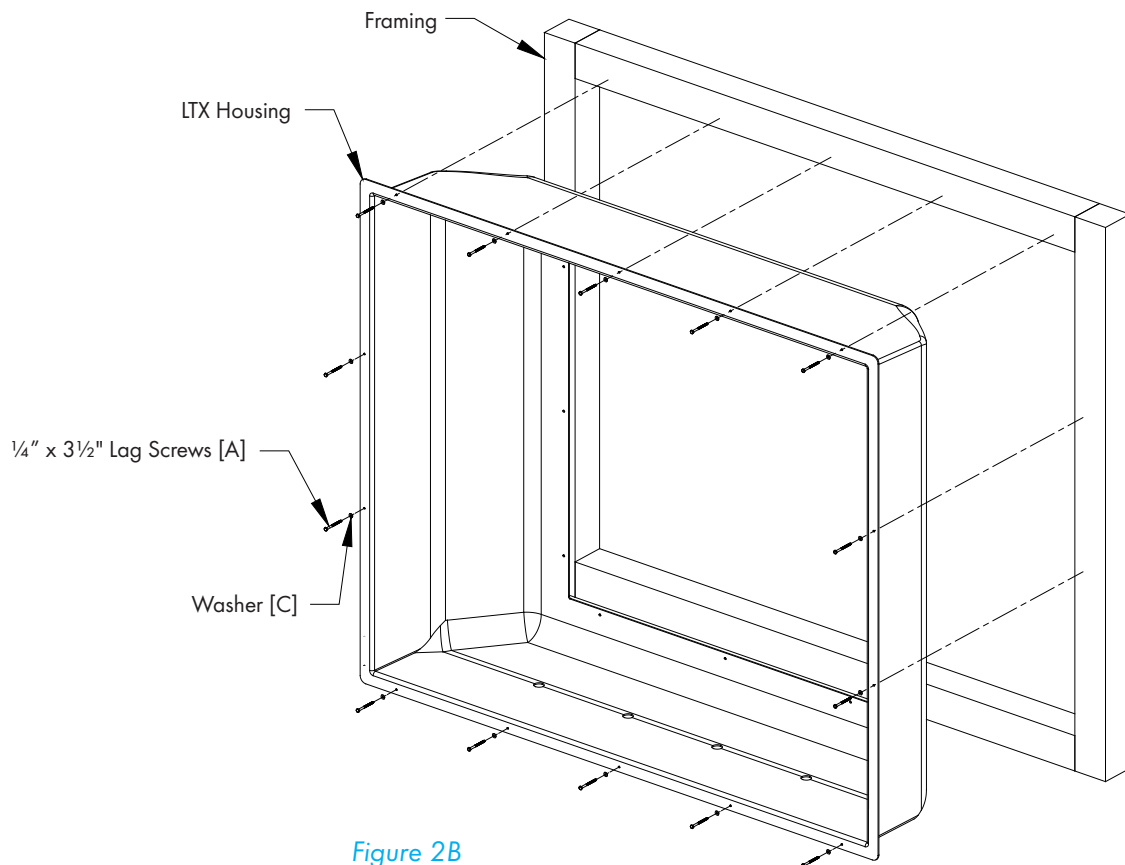


Figure 2B

Step 3

Snap a vertical chalk line on each side flange of the LTX Housing, $\frac{3}{4}$ " from the outside edge of flange. Then drill (4) $\frac{9}{32}$ " holes in the flange, making sure to only drill $\frac{1}{4}$ " into the framing. All holes should be positioned on the chalk line and measured vertically from the inside bottom of the housing. The 1st hole (bottom hole) should be $\frac{1}{2}$ " up, 2nd hole 5" up, 3rd hole 68" up, and 4th hole 72 $\frac{1}{2}$ " up. [See Figure 3.](#)

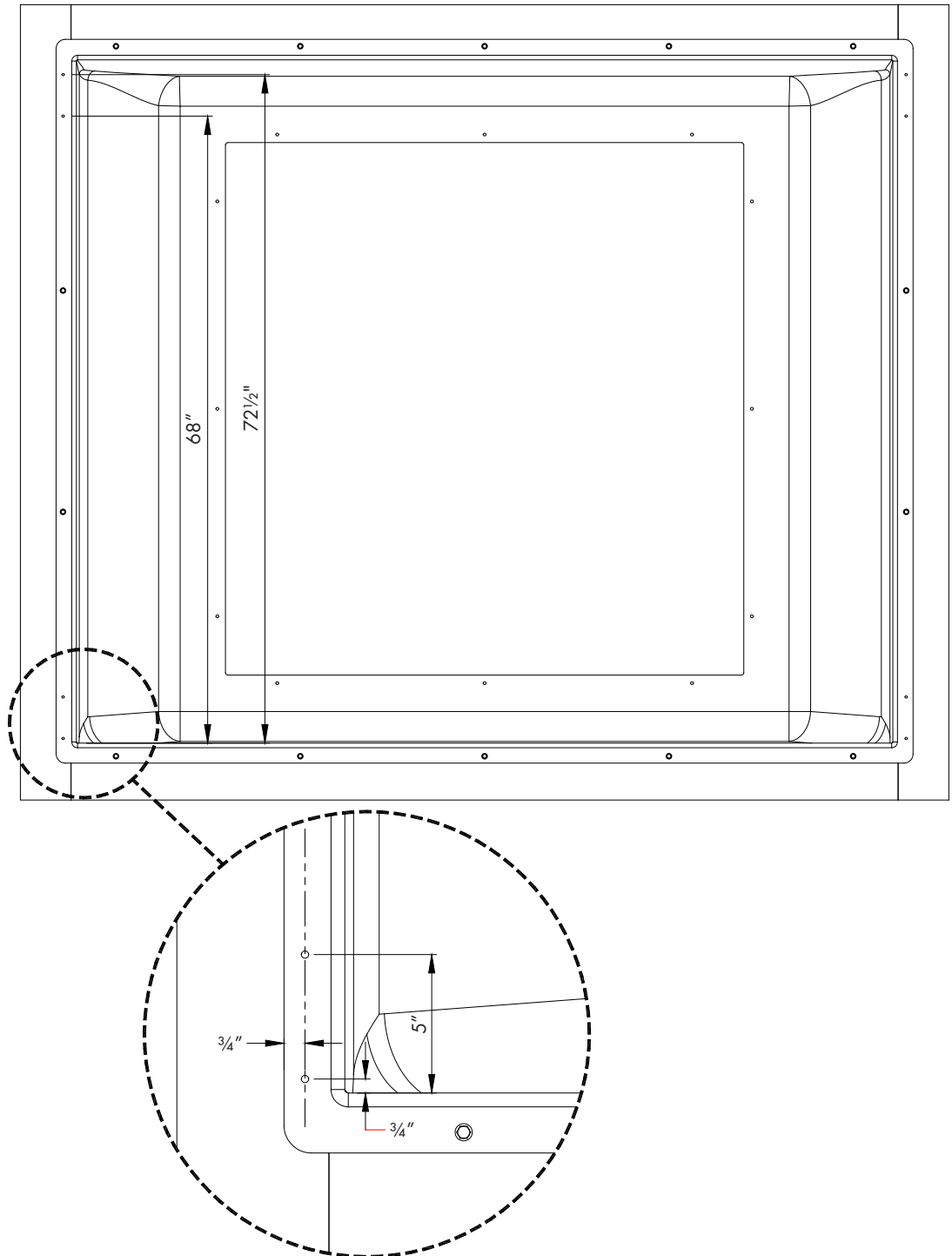


Figure 3

Step 4

Attach 4 Lift-Off Style Hinge Pin Brackets [J] to the flange of the LTX Housing mounting holes drilled in the previous step, using (2) Lag Screws [A] and Washers [C]. *See Figure 4.* Make sure the Pin is facing up.

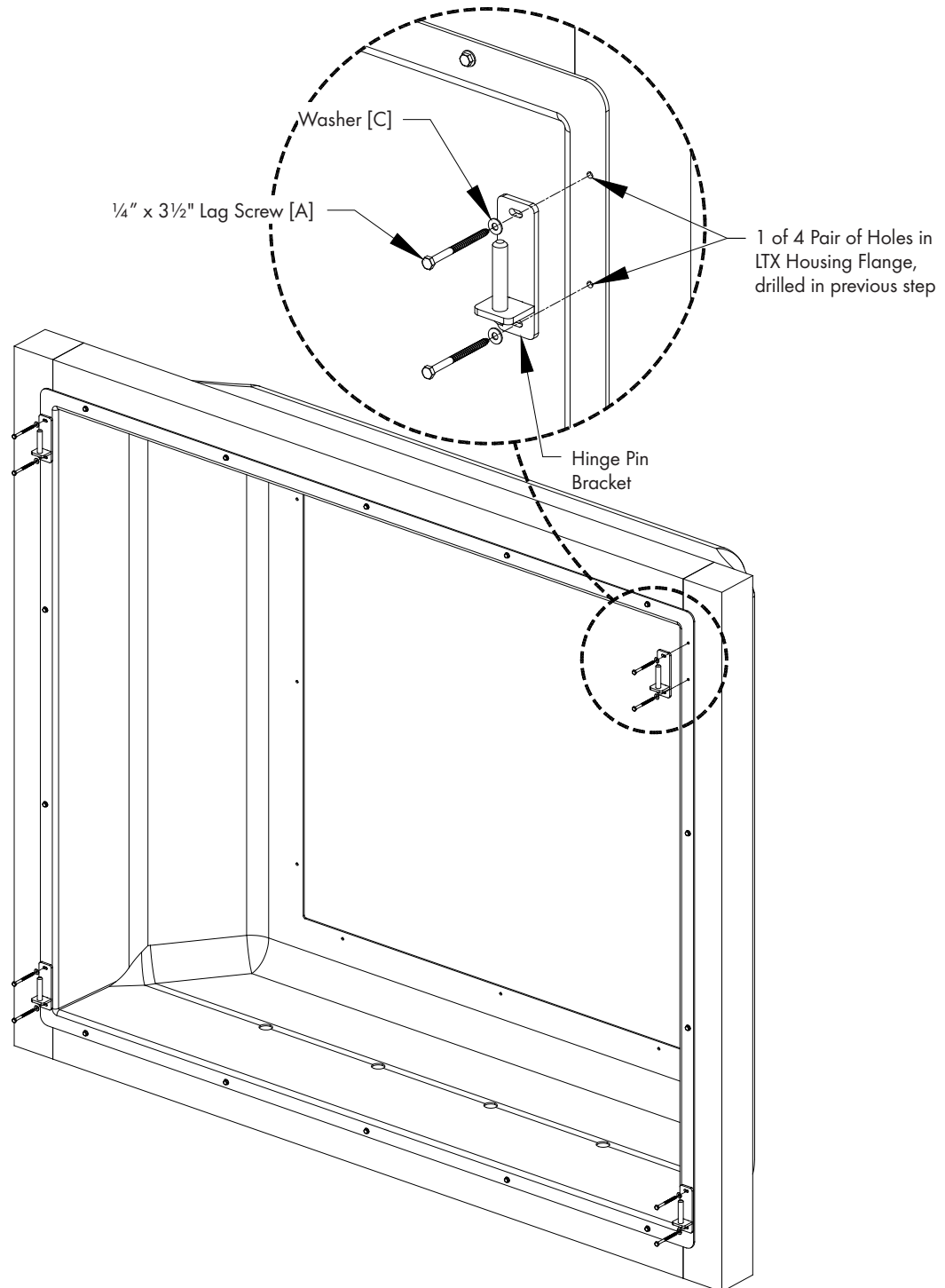


Figure 4

2.2 Fan Installation

Step 5A

Snap a horizontal chalk line 2" above the 3 mounting holes above the top edge of the fan opening and 1½" below the 3 mounting holes below the bottom edge of the fan opening. Then drill (3) ⅝" holes in the face of the LTX Housing directly above the upper holes and (3) ⅝" holes directly below the lower holes. [See Figure 5A.](#)

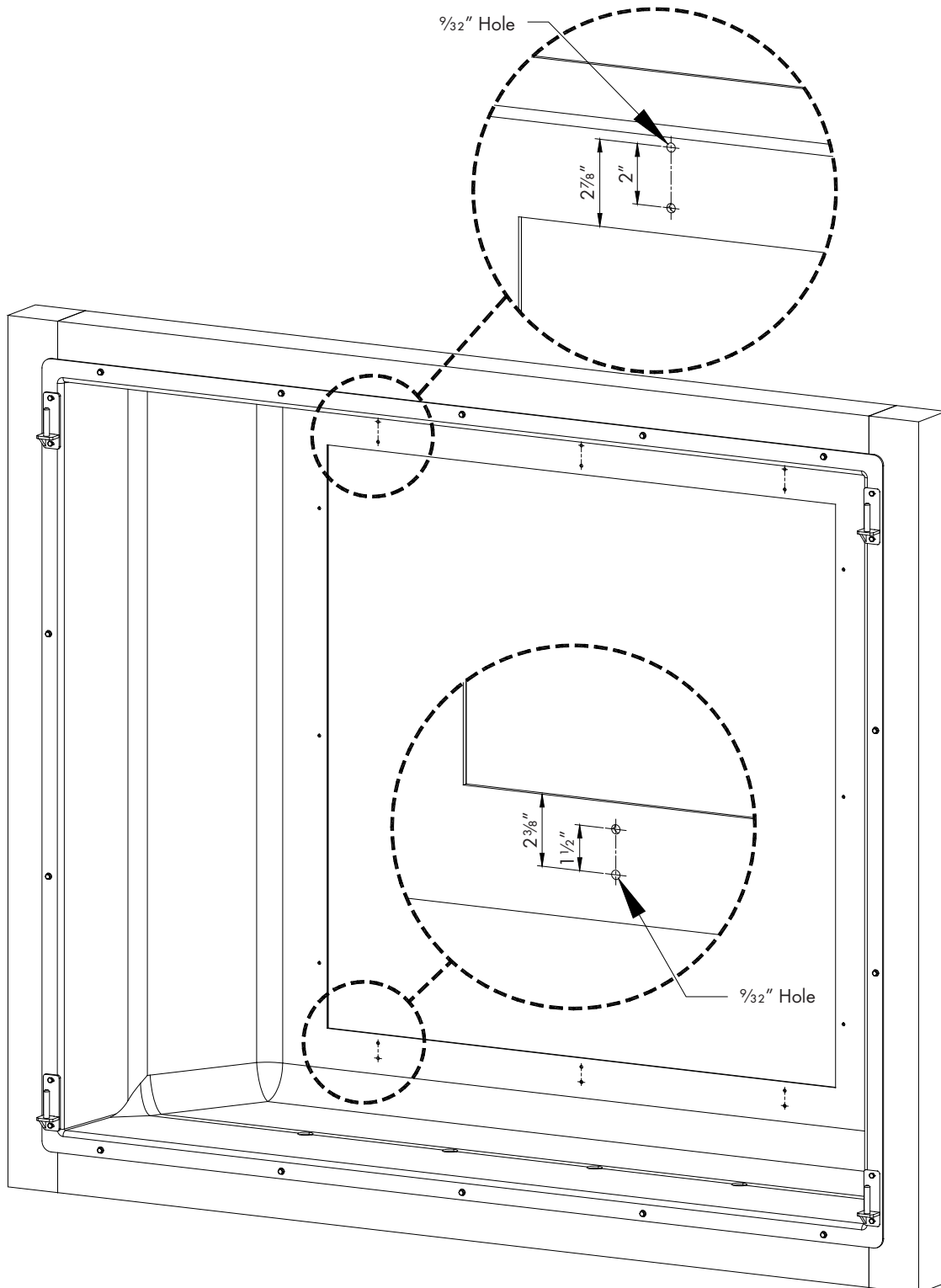


Figure 5A

Step 5B

Attach (2) Reinforcing Plates [FA2130] to the inside of the LTX Housing horizontally using (6) Bolts [F], (12) Washers [C] and (6) Flange Nuts [G]. The bolt head should be on the inside of the LTX Housing and the nut on the outside. [See Figure 5B.](#)

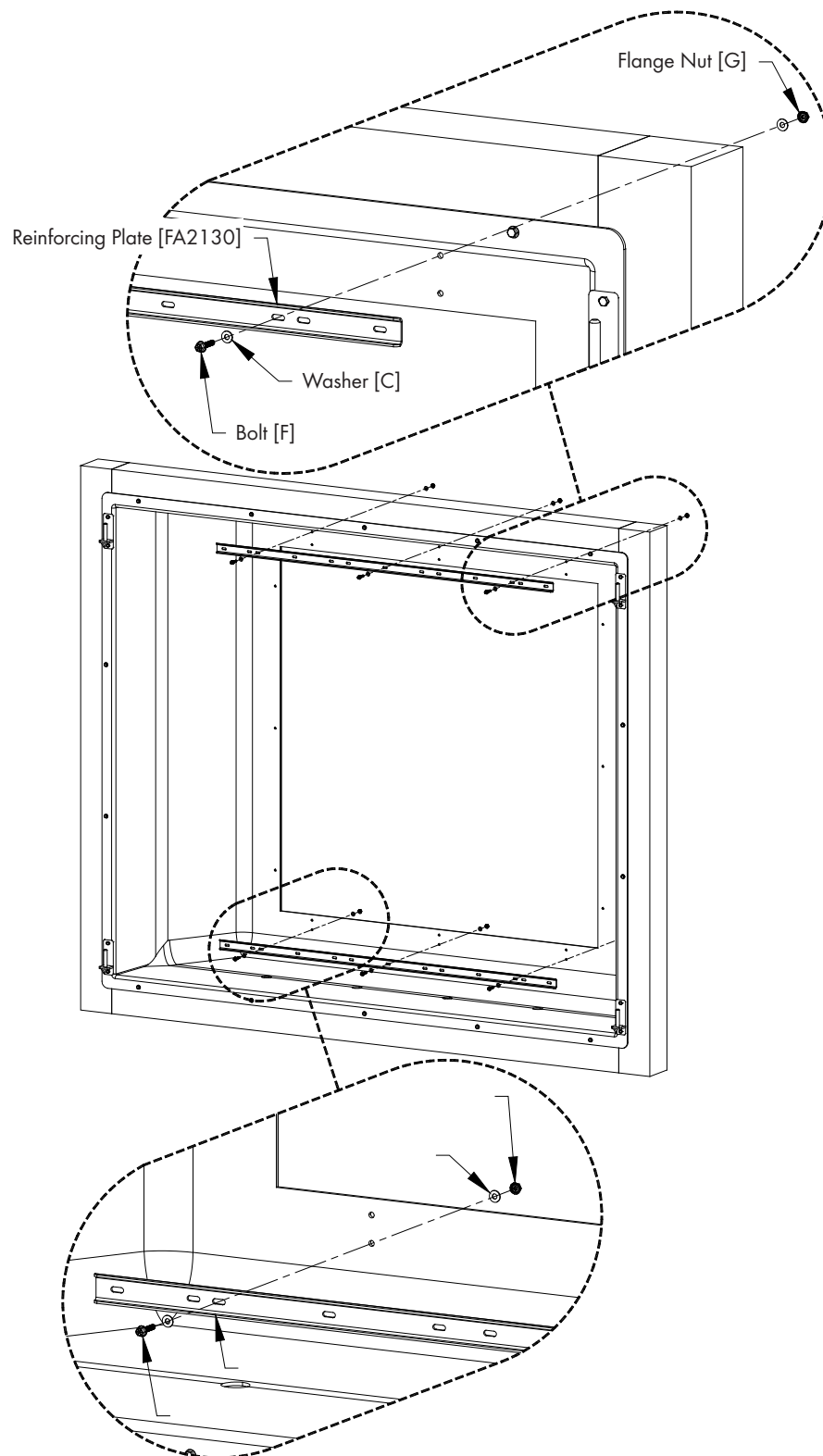


Figure 5B

Step 5C

Install the proper fan into the LTX Housing and secure in place using (12) Bolts [F], (24) Washers [C] and (12) Flange Nuts [G]. On the outside of the LTX Housing, a Reinforcing Plate [FA2130] will run vertically along each side of the opening for the fan. The bolt head should be on the fan flange in the housing and the nut should be on the outside of the LTX Housing. *See Figure 5C.*

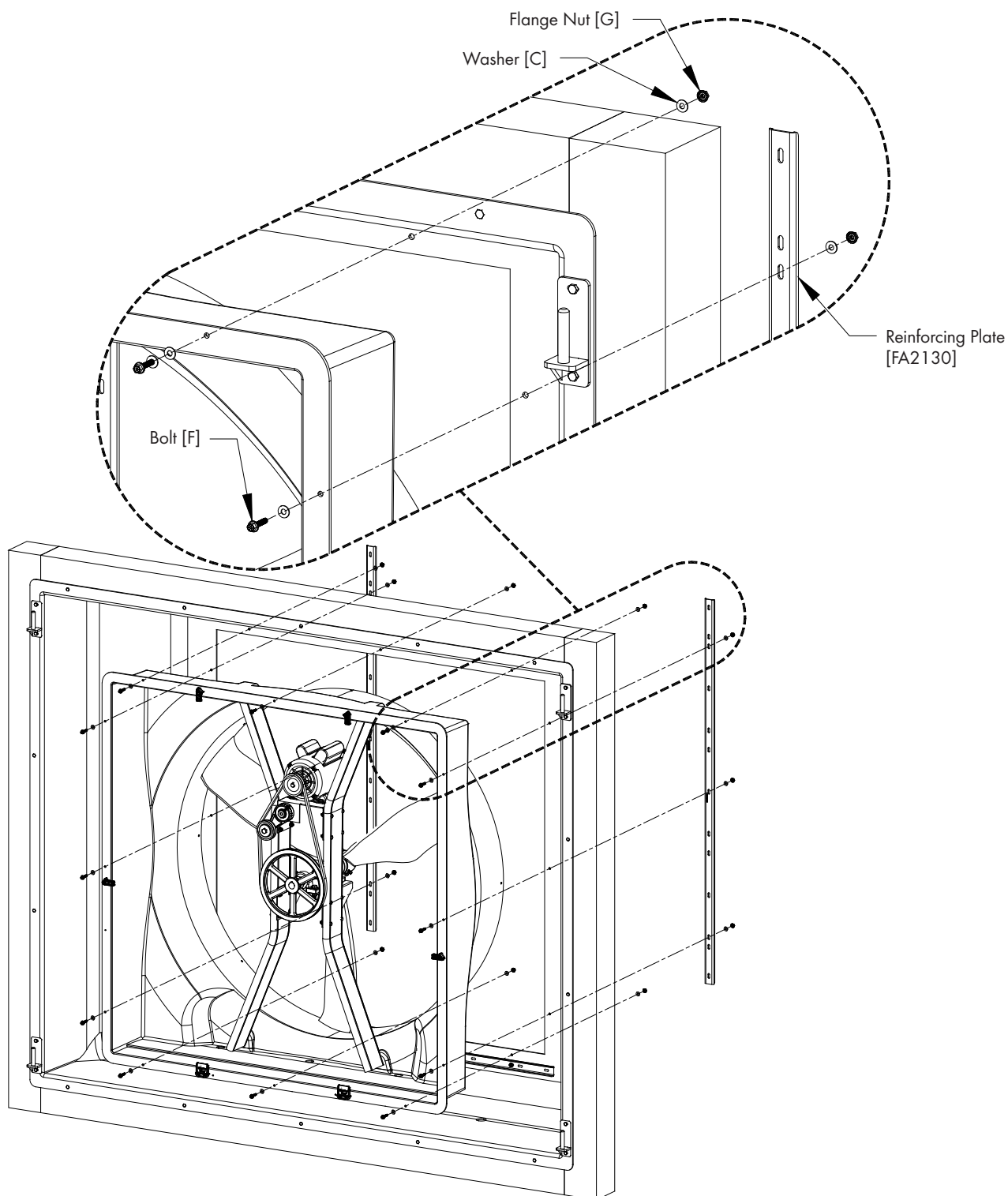


Figure 5C

Step 6

Complete the installation of the fan installed in the previous step by following the appropriate installation manual for the fan and making electrical connections, installing cone and shutter. Make sure nothing runs across or is mounted in the shaded area shown the figure below. *See Figure 6.*

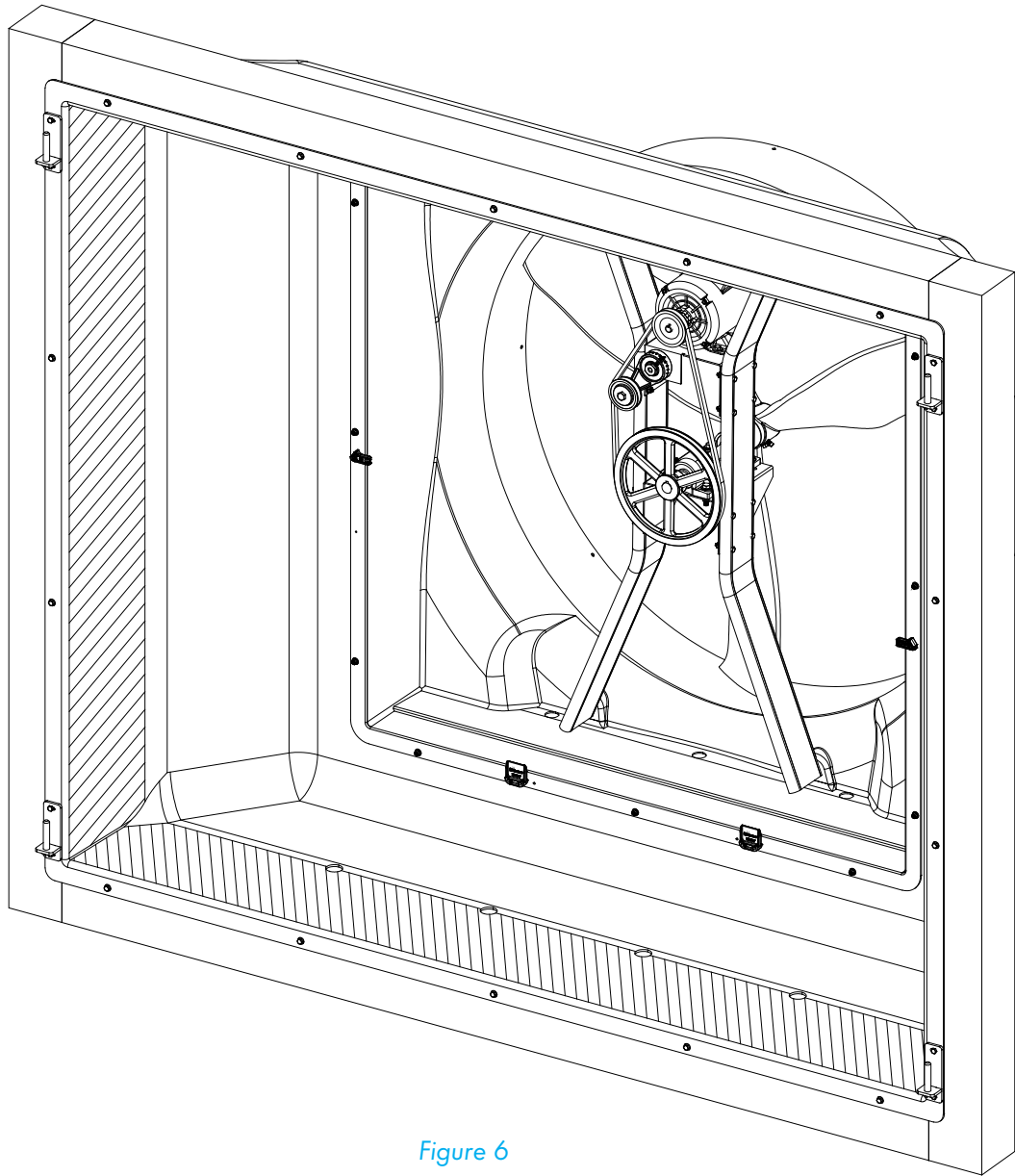


Figure 6

2.3 L.H. Door (48") Assembly

Step 7

Start assembly of the L.H. LTX Door, by securing (2) Top/Bottom Corner Brackets [FA2119] to (1) LTX Door Hinge Panel [FA2103] and (2) L.H. Top/Bottom LTX Door Panel [FA2106] using (40) TEK Screws [D].

See Figure 7.

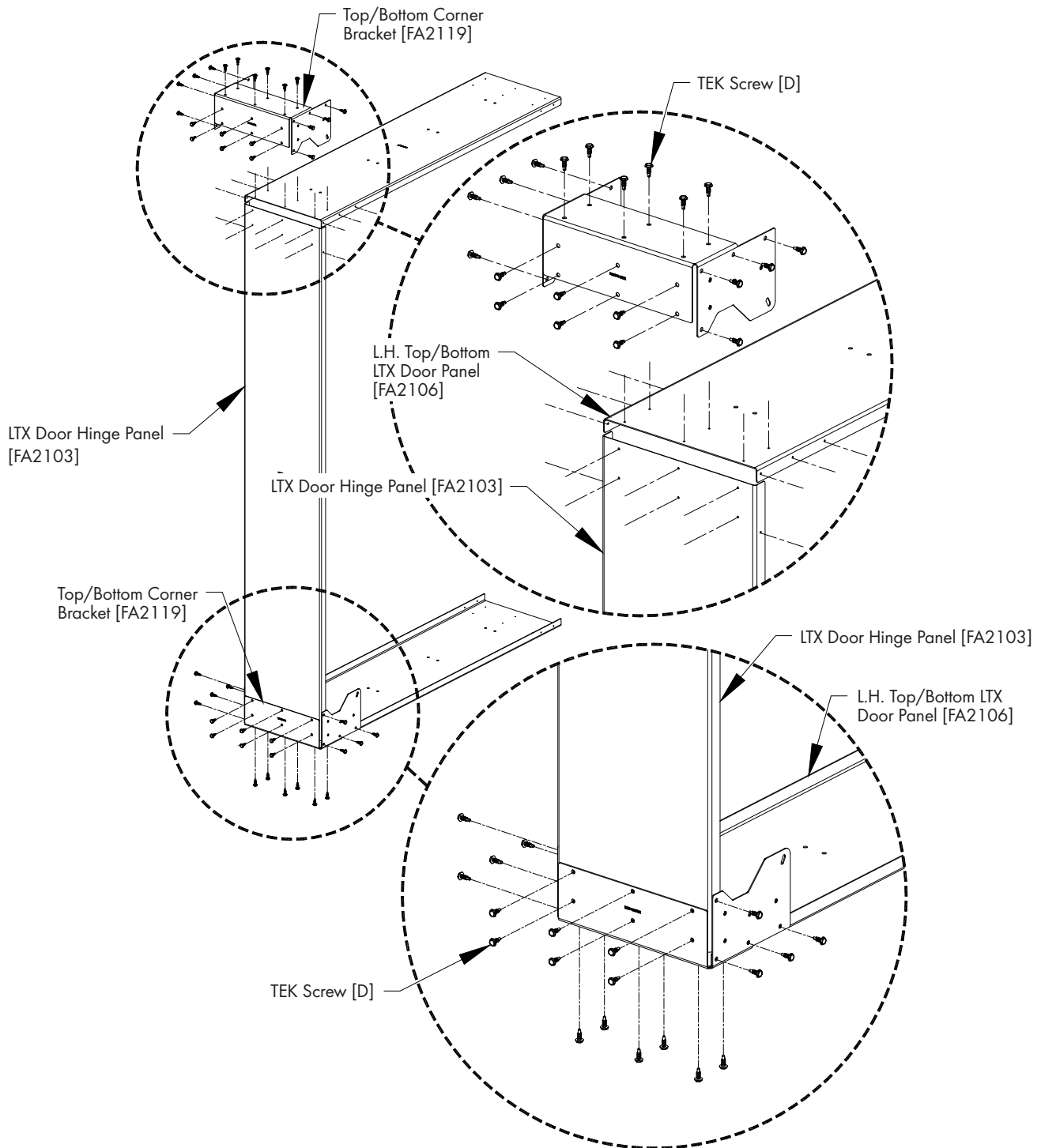


Figure 7

Step 8

If you will be installing Full Depth Light Trap into the door then proceed to Step 9. If installing Half Depth Light Trap, proceed with this step. Attach a 48"L. 1/2 Darkout Bracket [FA2111] to the Top and Bottom Door Panels using (4) TEK Screws [D] per bracket. [See Figure 8](#). The flat edge of the baracket should be facing the inlet side of the door.

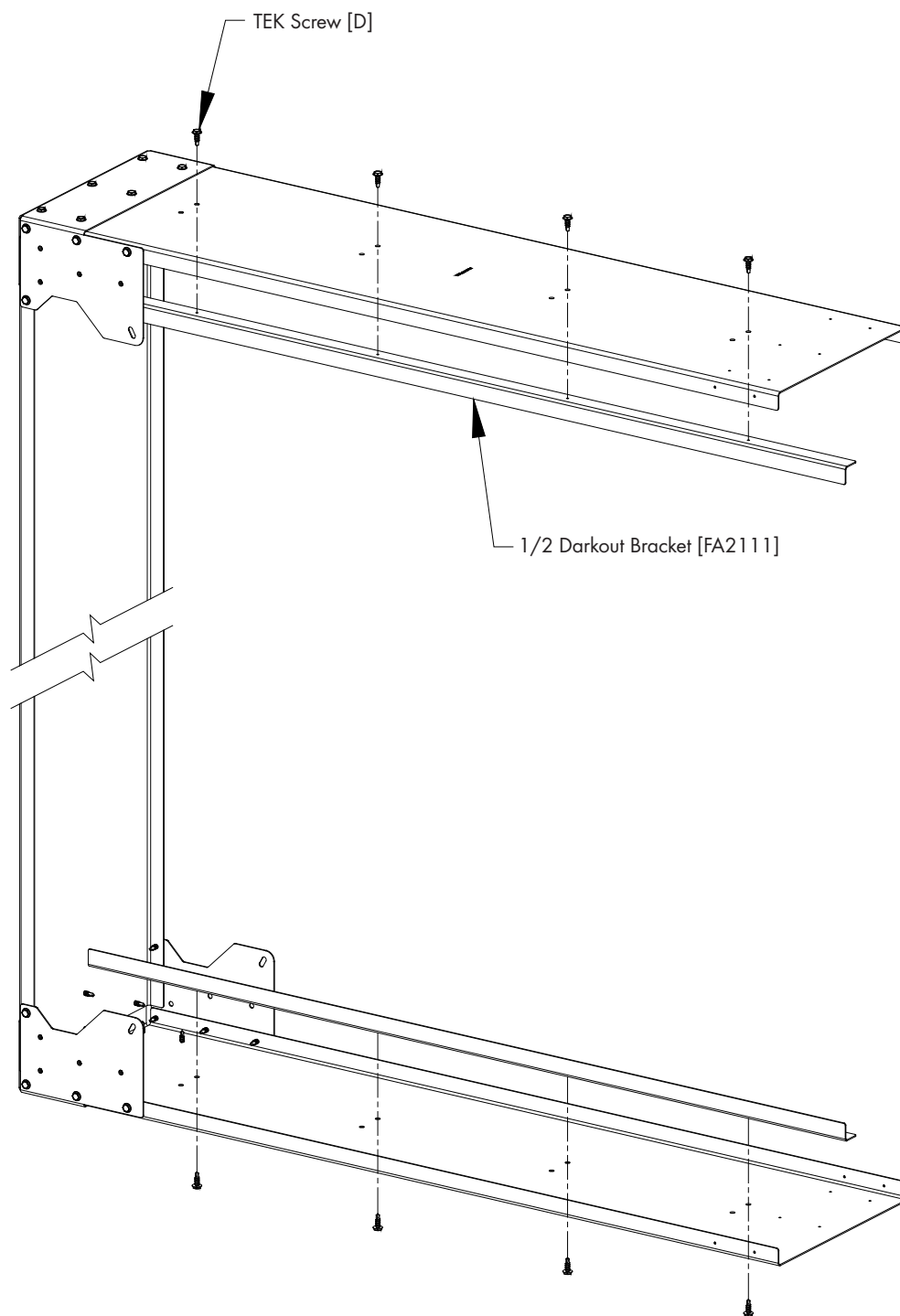


Figure 8

Step 9

Attach (1) Leaf Hinge [FA2120] to Top Corner Cap and one to the Bottom Corner Cap assembled in the previous step using (4) Bolts [E] and Nuts [G]. *See Figure 9.*

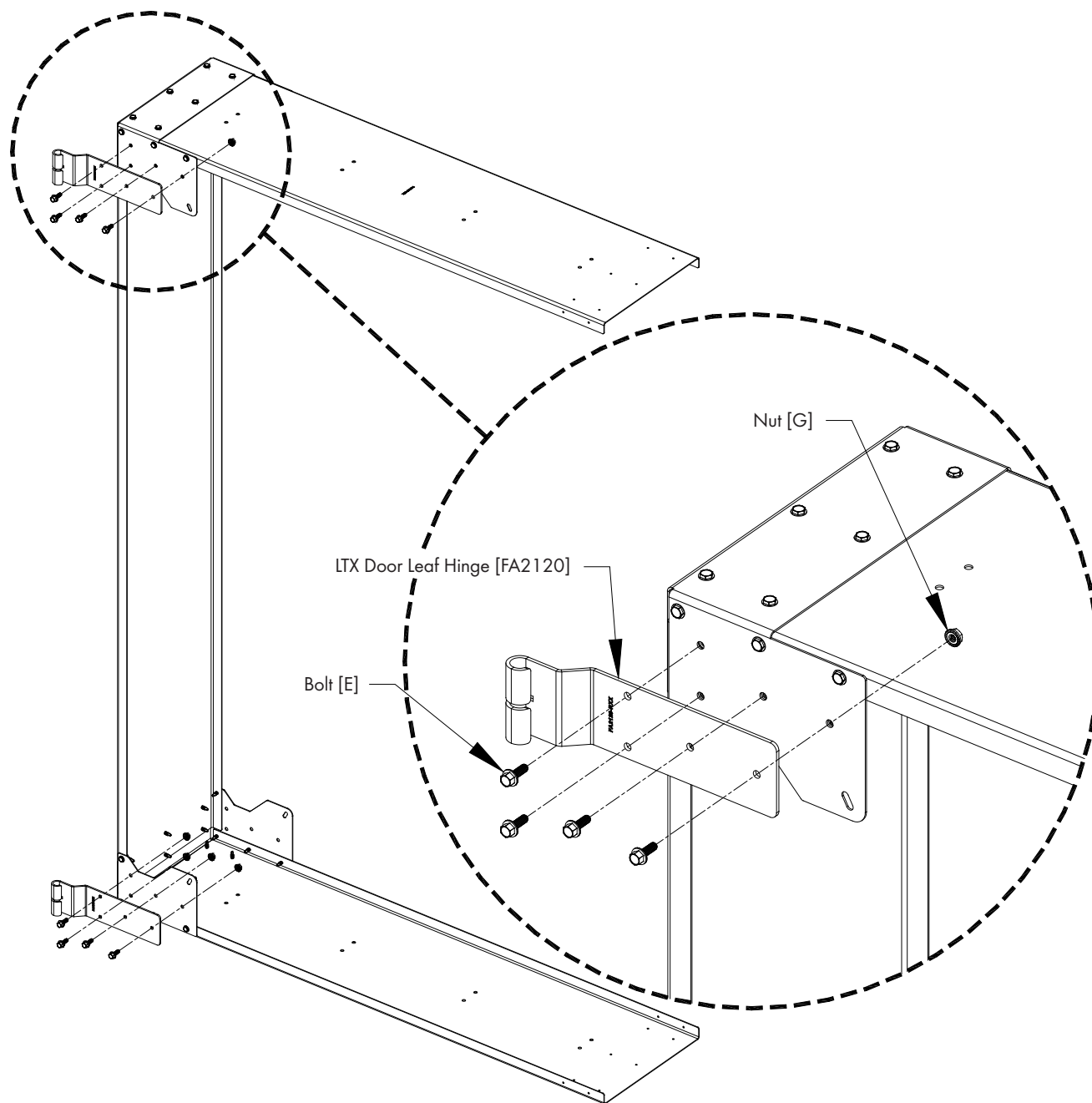


Figure 9

Step 10

Attach L.H. Center Top Corner Bracket [FA2126] and L.H. Center Bottom Corner Bracket [FA2127] to the L.H. Center Panel [FA2107] using (14) TEK Screws [D]. Make sure the Arrow on the L.H. Center Panel [FA2107] is pointing up. Secure Spring Latch [K] to front of Bottom Corner Bracket using (3) TEK Screws [D] so that the Spring Latch will be on the same side of the door as the Leaf Hinge. Also attach the Light Gap Cover Plate [FA2114] on the side opposite the Spring Latch using (6) TEK Screws [D].

See Figure 10.

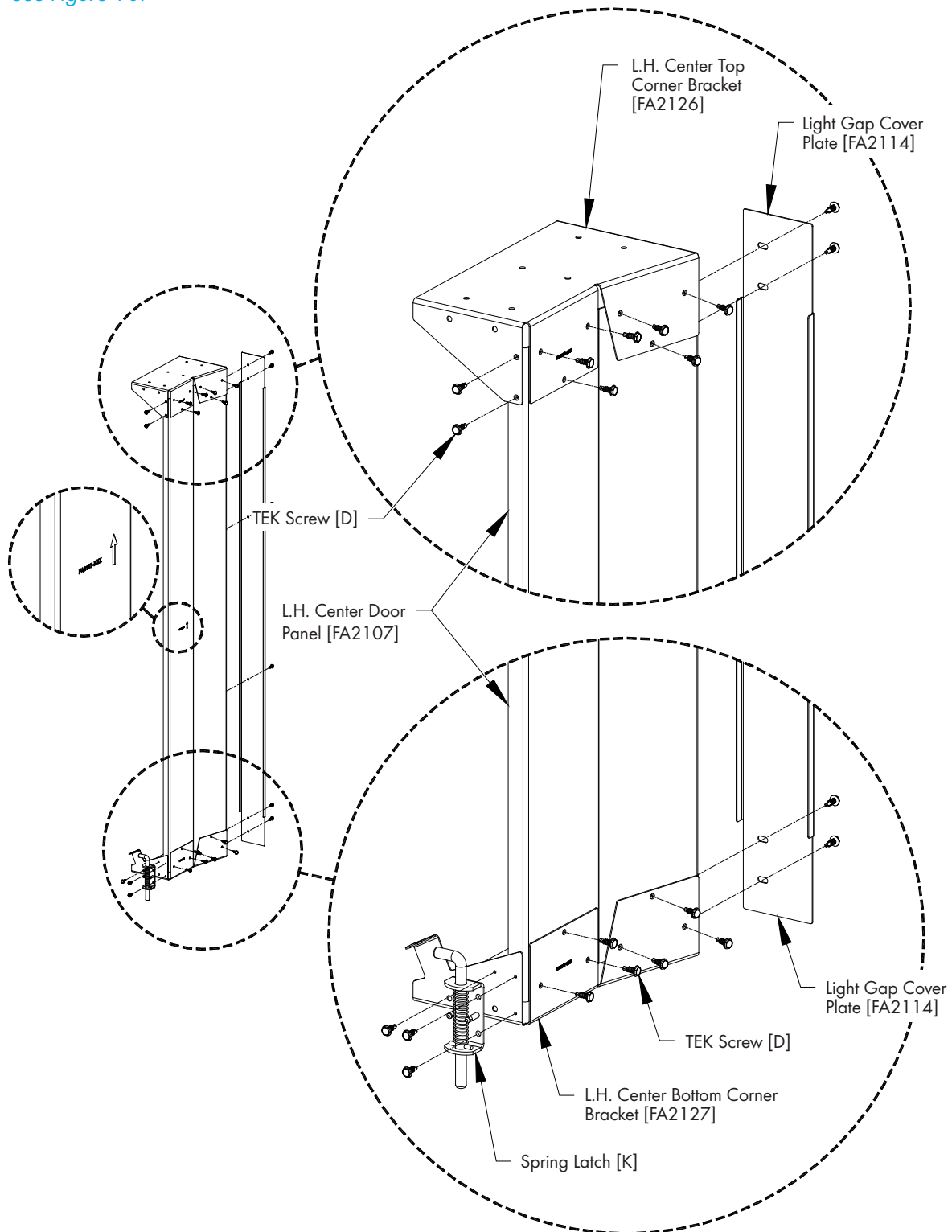


Figure 10

Step 11

Slide 4 pieces of the Light Trap into the LH Door Assembly. [See Figure 11A.](#) When installing the 2nd, 3rd and 4th pieces of Light Trap make sure the Stand-off on one piece of Light Trap rests against the dimple in the other piece and does not nest into the back of the other Stand-off. [See Figure 11B.](#)

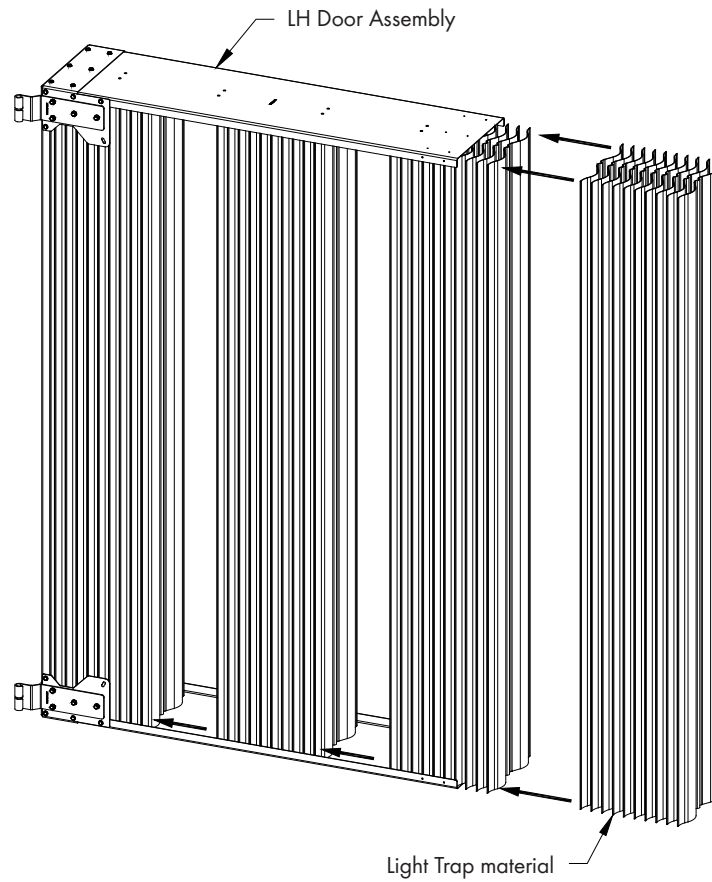


Figure 11A



Figure 11B

Step 12

Place the Assembly from the previous step over the L.H. Door to hold the Light Trap in place, so that the Spring Latch is at the bottom on the same side as the Leaf Hinge and fasten in place using (10) TEK Screws [D] in the Top Corner Bracket and (10) TEK Screws [D] in the Bottom Corner Bracket. *See Figure 12.*

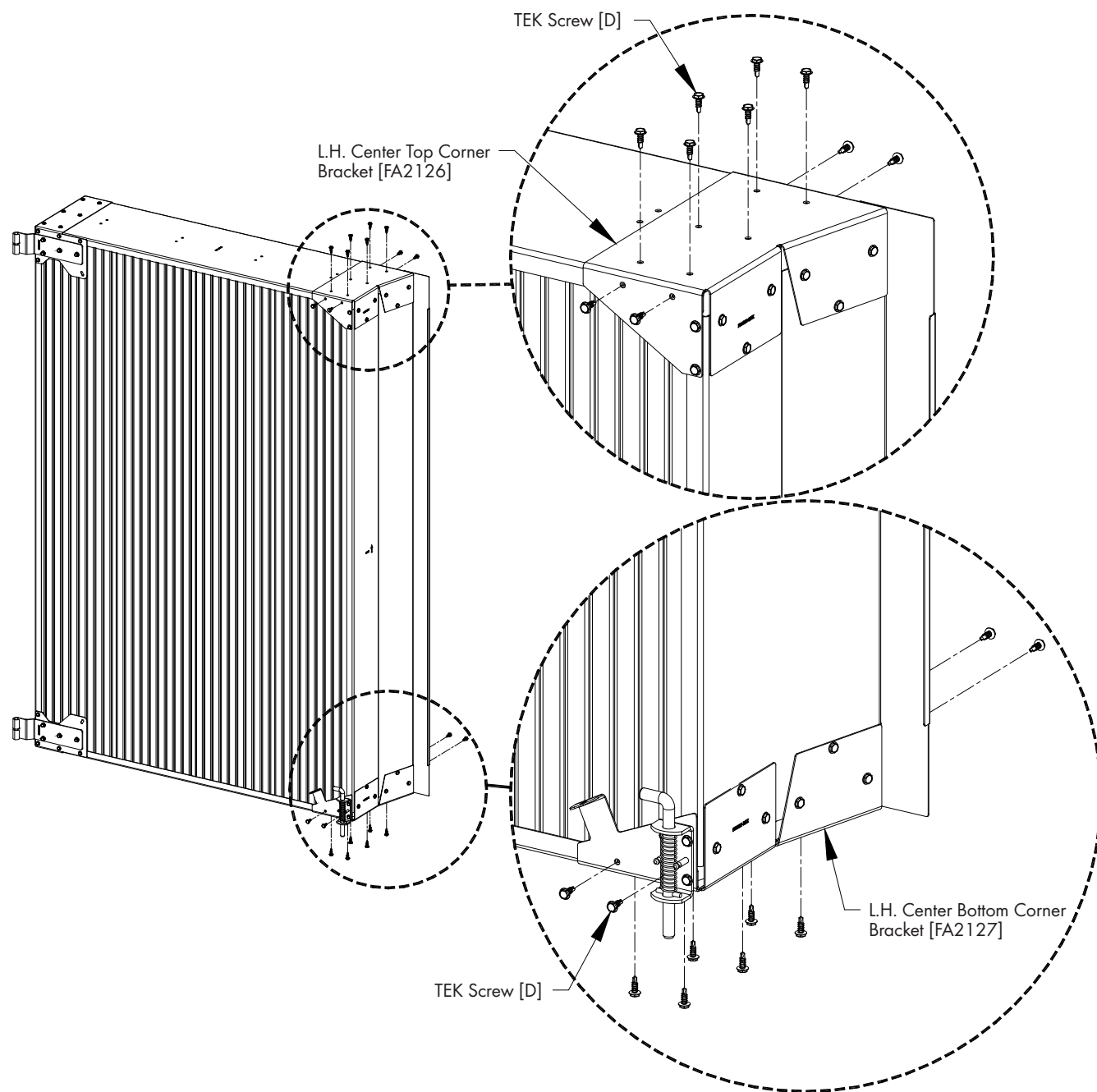
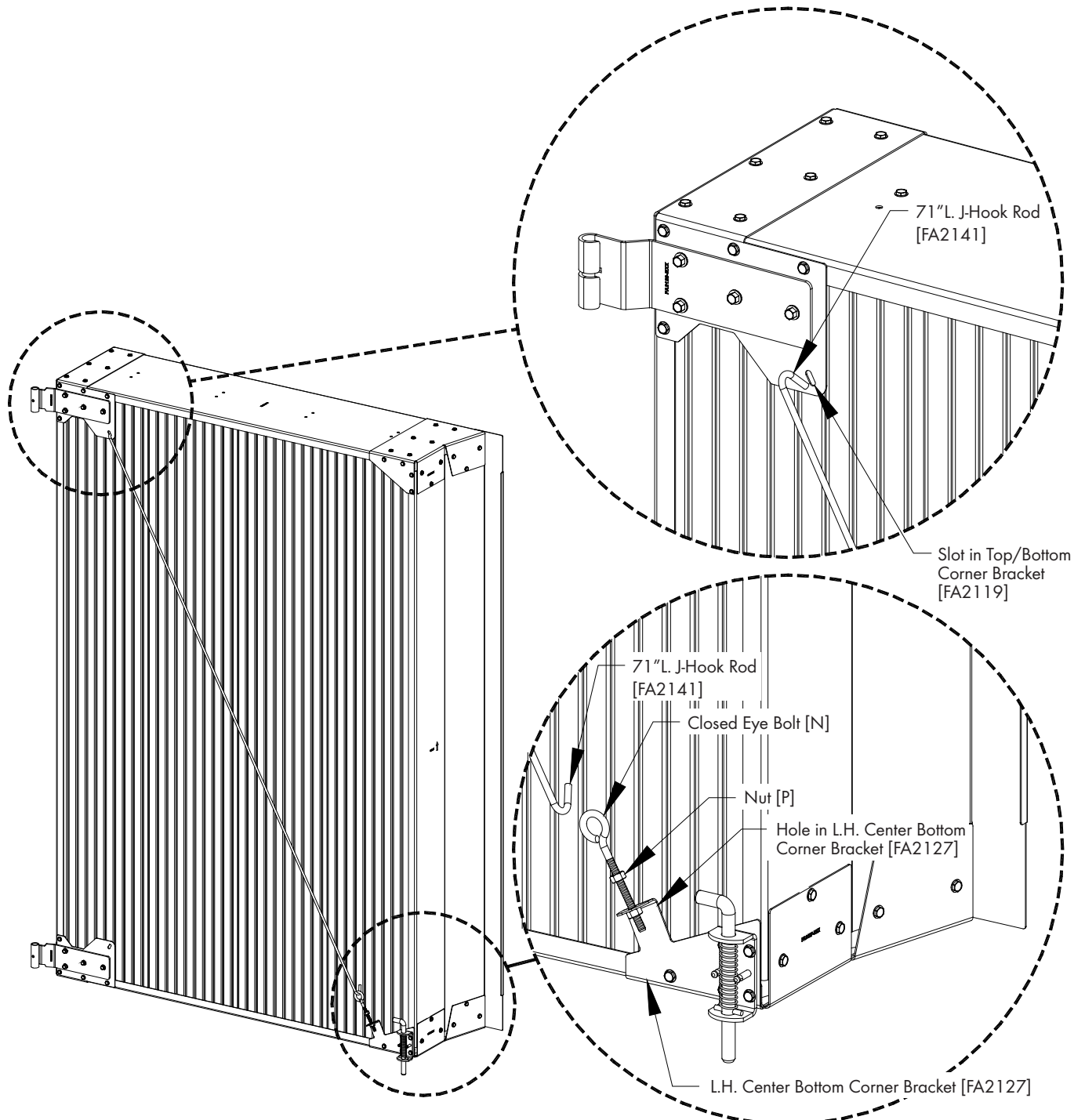


Figure 12

Step 13

Thread (1) Hex Nut [P] onto Closed Eye Bolt [N] most of the way up the threads, then insert the threaded end of the Eye Bolt through the hole in the Center Bottom Corner Bracket and thread 2nd Hex Nut [P] on Eye Bolt 1". Hook the end of the 71"L. J-Hook Rod through the slot in Top Corner Bracket and hook the other end of the Rod on the Closed Eye Bolt and adjust the bottom Hex Nut until the Rod is taut. Repeat for the opposite side of the door. [See Figure 13](#). Adjust both lower Hex Nuts so door is square, Then thread the upper nut down to the Bottom Corner Bracket.

**Figure 13**

Step 14

Clean a 1" strip of the galvanized panels and corner brackets on all 4 sides, along the edge of the door opposite the Leaf Hinge and Spring Latch. Cut the roll of Brush Seal into 4 pieces, (2) at 50"L. and (2) at 72½"L., then peel the backing off of the Brush Seal and carefully stick them to the 4 sides of the door where they were cleaned. *See Figure 14.*

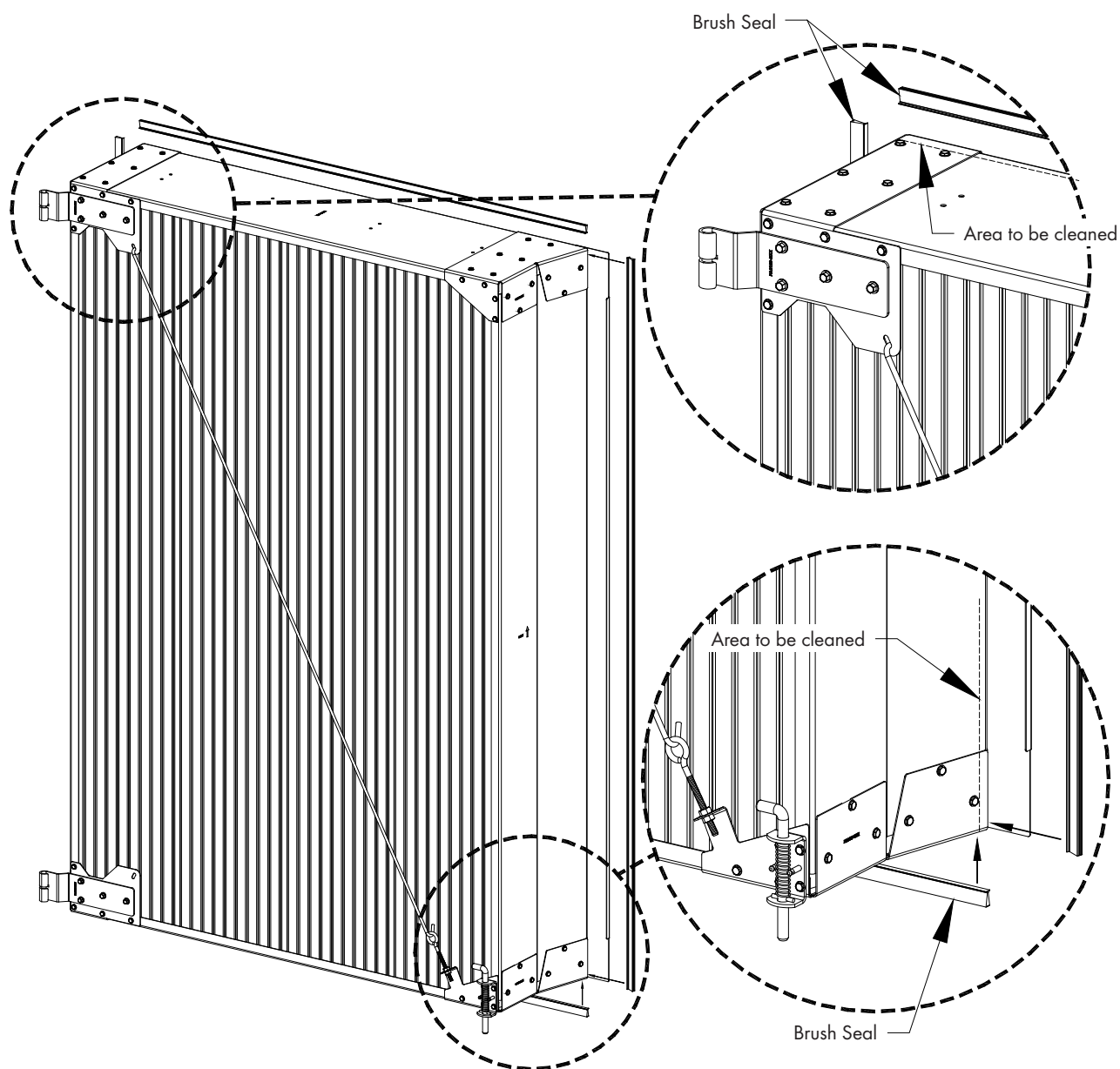


Figure 14

2.4 R.H. Door (36") Assembly

Step 15

Start assembly of the R.H. LTX Door, by securing (2) Top/Bottom Corner Brackets [FA2119] to (1) LTX Door Hinge Panel [FA2103] and (2) R.H. Top/Bottom LTX Door Panel [FA2104] using (40) TEK Screws [D].

See Figure 15.

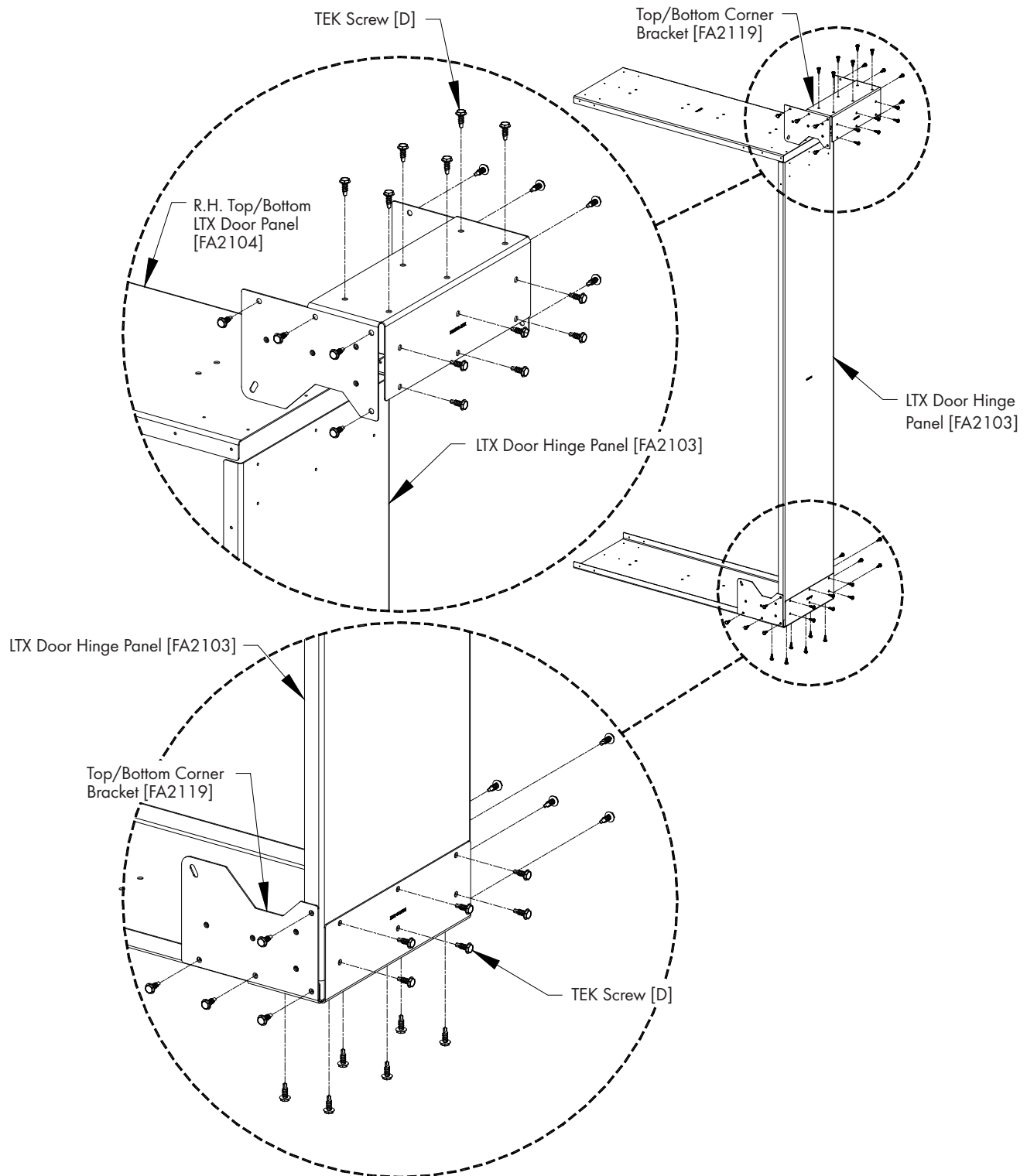


Figure 15

Step 16

If you will be installing Full Depth Light Trap into the door then proceed to Step 17. If installing Half Depth Light Trap, proceed with this step. Attach a 36" L. 1/2 Darkout Bracket [FA2110] to the Top and Bottom Door Panels using (4) TEK Screws [D] per bracket. See [Figure 16](#). The flat edge of the bracket should be facing the inlet side of the door.

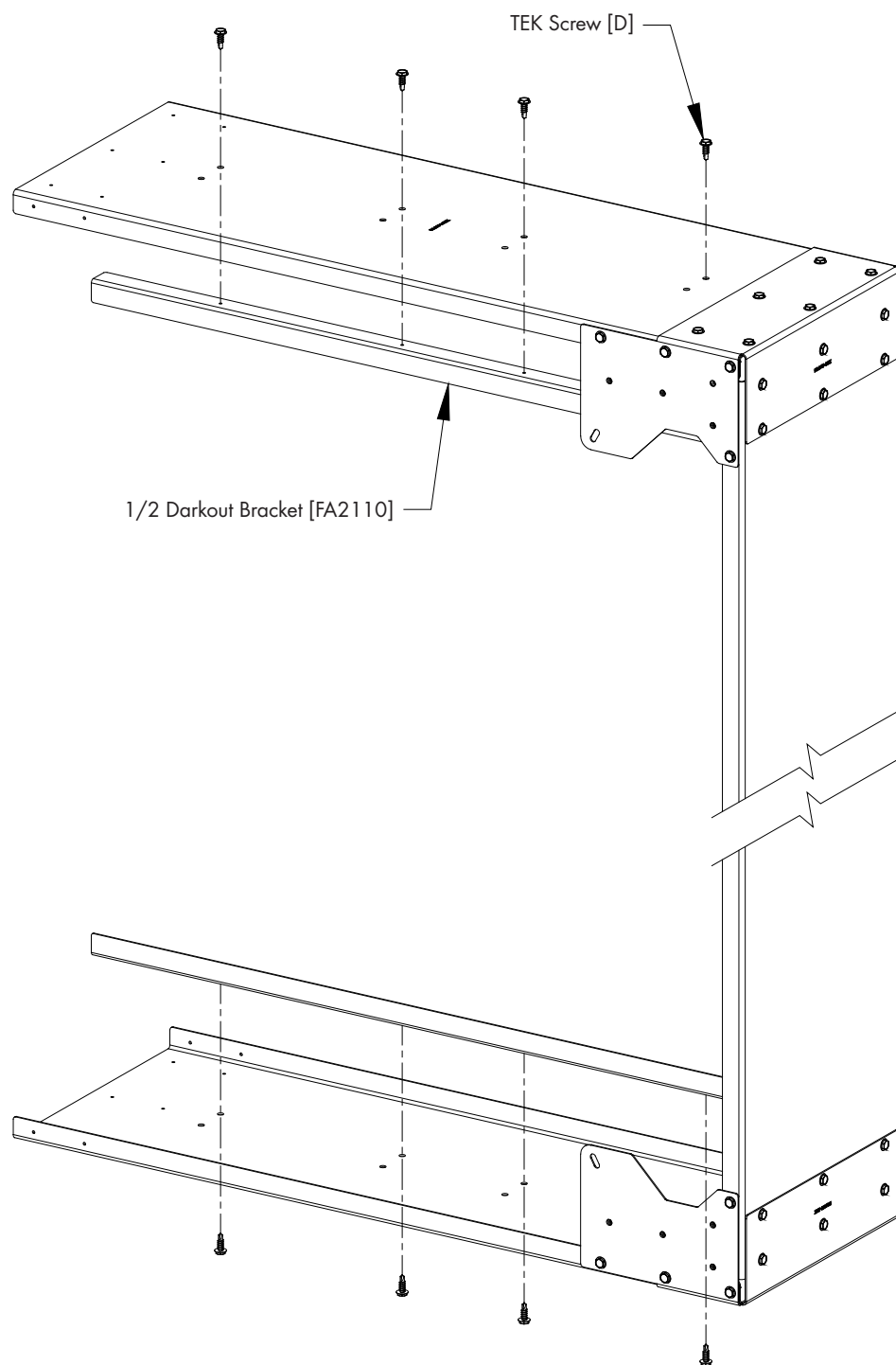


Figure 16

Step 17

Attach (1) Leaf Hinge [FA2120] to Top Corner Cap and one to the Bottom Corner Cap assembled in the previous step using (4) Bolts [E] and Nuts [G]. [See Figure 17.](#)

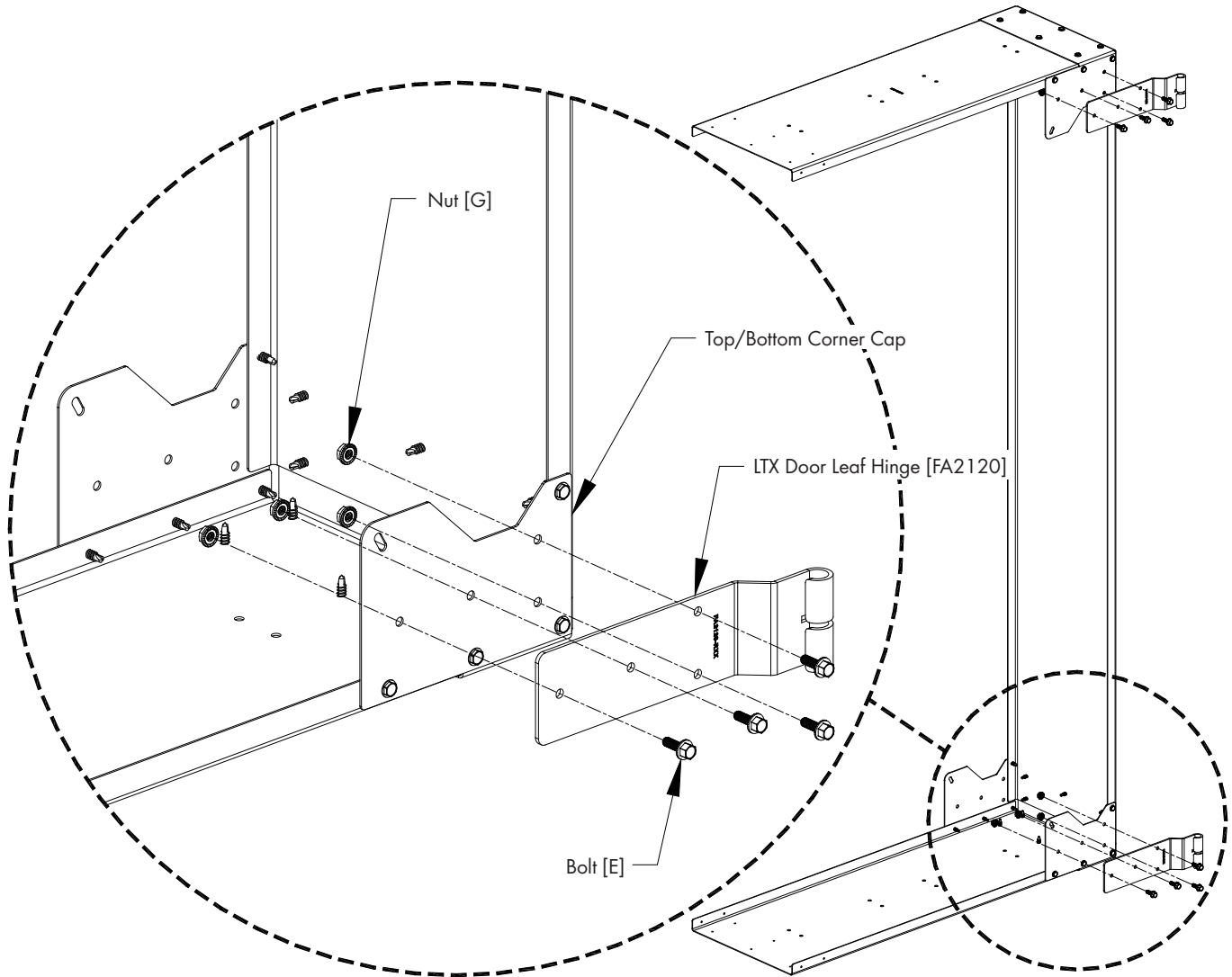


Figure 17

Step 18

Attach R.H. Center Top Corner Bracket [FA2124] and R.H. Center Bottom Corner Bracket [FA2125] to the R.H. Center Panel [FA2105] using (12) TEK Screws [D]. Make sure the Arrow on the R.H. Center Panel [FA2105] is pointing up. Secure Spring Latch [K] to front of Bottom Corner Bracket using (4) TEK Screws [D] so that the Spring Latch will be on the same side of the door as the Leaf Hinge. [See Figure 18.](#)

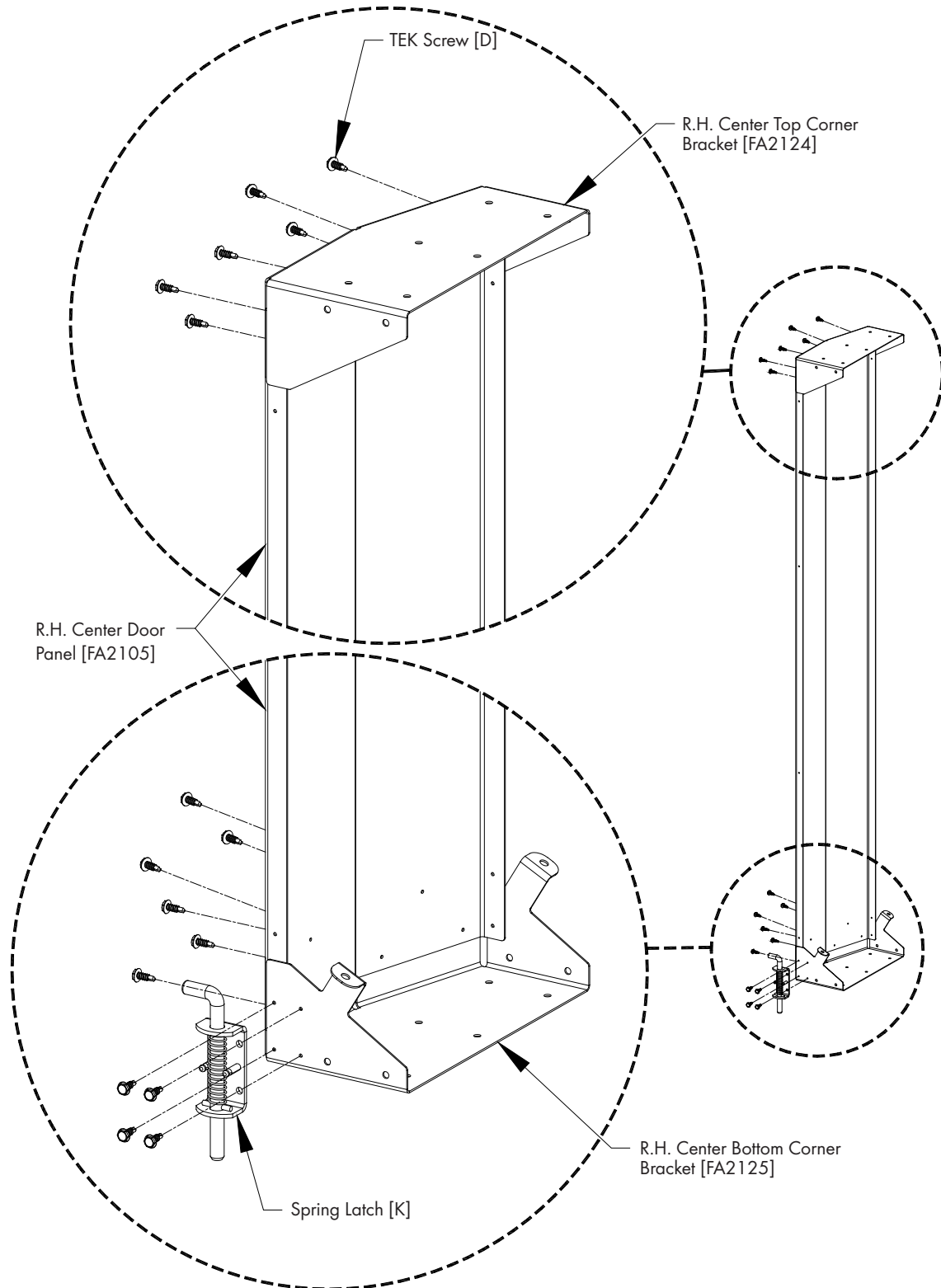


Figure 18

Step 19

Slide 3 pieces of the Light Trap into the RH Door Assembly. [See Figure 19A](#). When installing the 2nd and 3rd pieces of Light Trap make sure the Stand-off on one piece of Light Trap rests against the dimple in the other piece and does not nest into the back of the other Stand-off. [See Figure 19B](#).

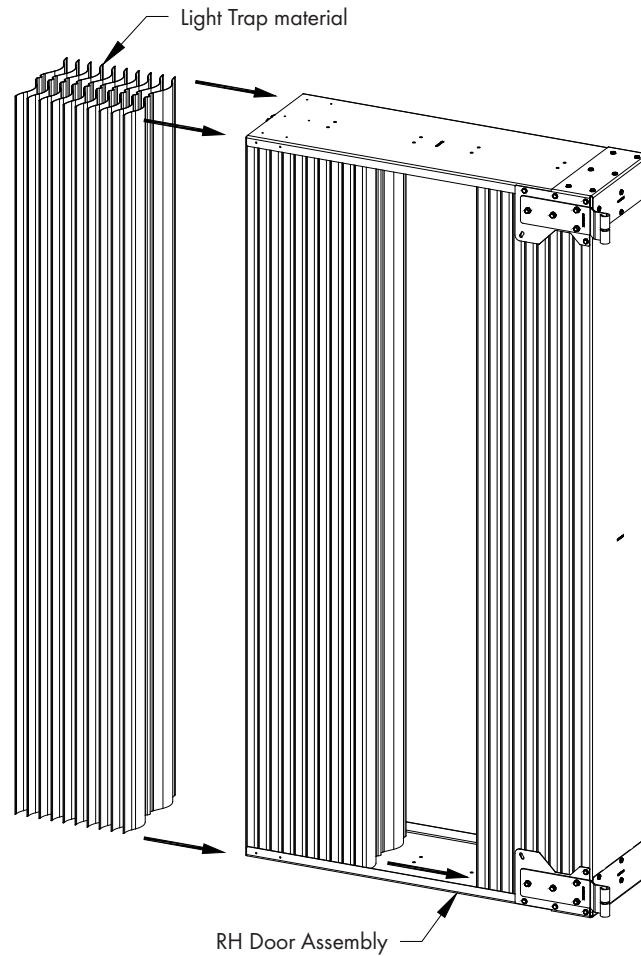


Figure 19A



Figure 19B

Step 20

Place the Assembly from the previous step over the R.H. Door to hold the Light Trap in place, so that the Spring Latch is at the bottom on the same side as the Leaf Hinge and fasten in place using (10) TEK Screws [D] in the Top Corner Bracket and (10) TEK Screws [D] in the Bottom Corner Bracket. *See Figure 20.*

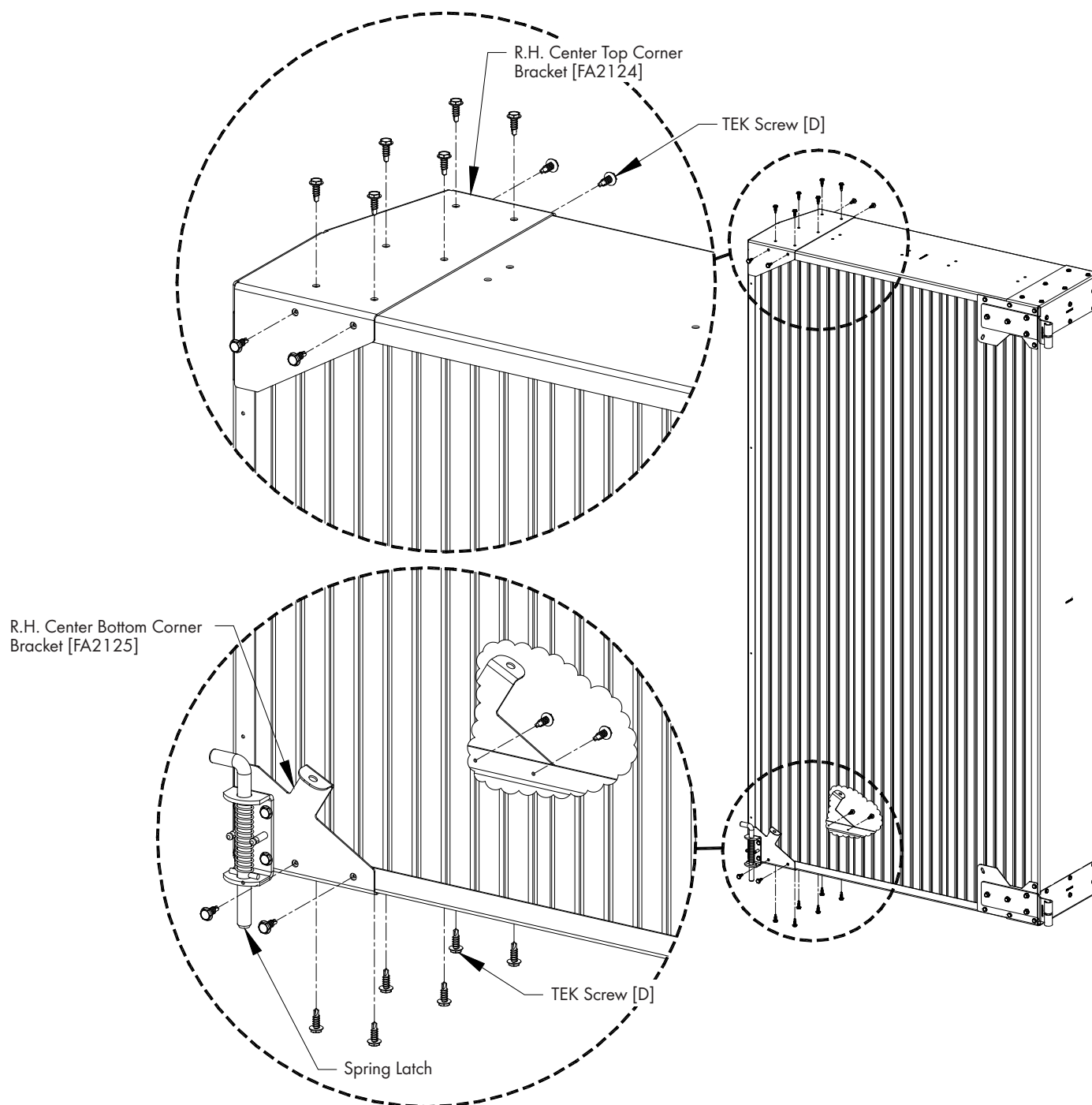


Figure 20

Step 21

Thread (1) Hex Nut [P] onto Closed Eye Bolt [N] most of the way up the threads, then insert the threaded end of the Eye Bolt through the hole in the Center Bottom Corner Bracket and thread 2nd Hex Nut [P] on Eye Bolt 1". Hook the end of the 66"L. J-Hook Rod through the slot in Top Corner Bracket and hook the other end of the Rod on the Closed Eye Bolt and adjust the bottom Hex Nut until the Rod is taut. Repeat for the opposite side of the door. [See Figure 21](#). Adjust both lower Hex Nuts so door is square, Then thread the upper nut down to the Bottom Corner Bracket.

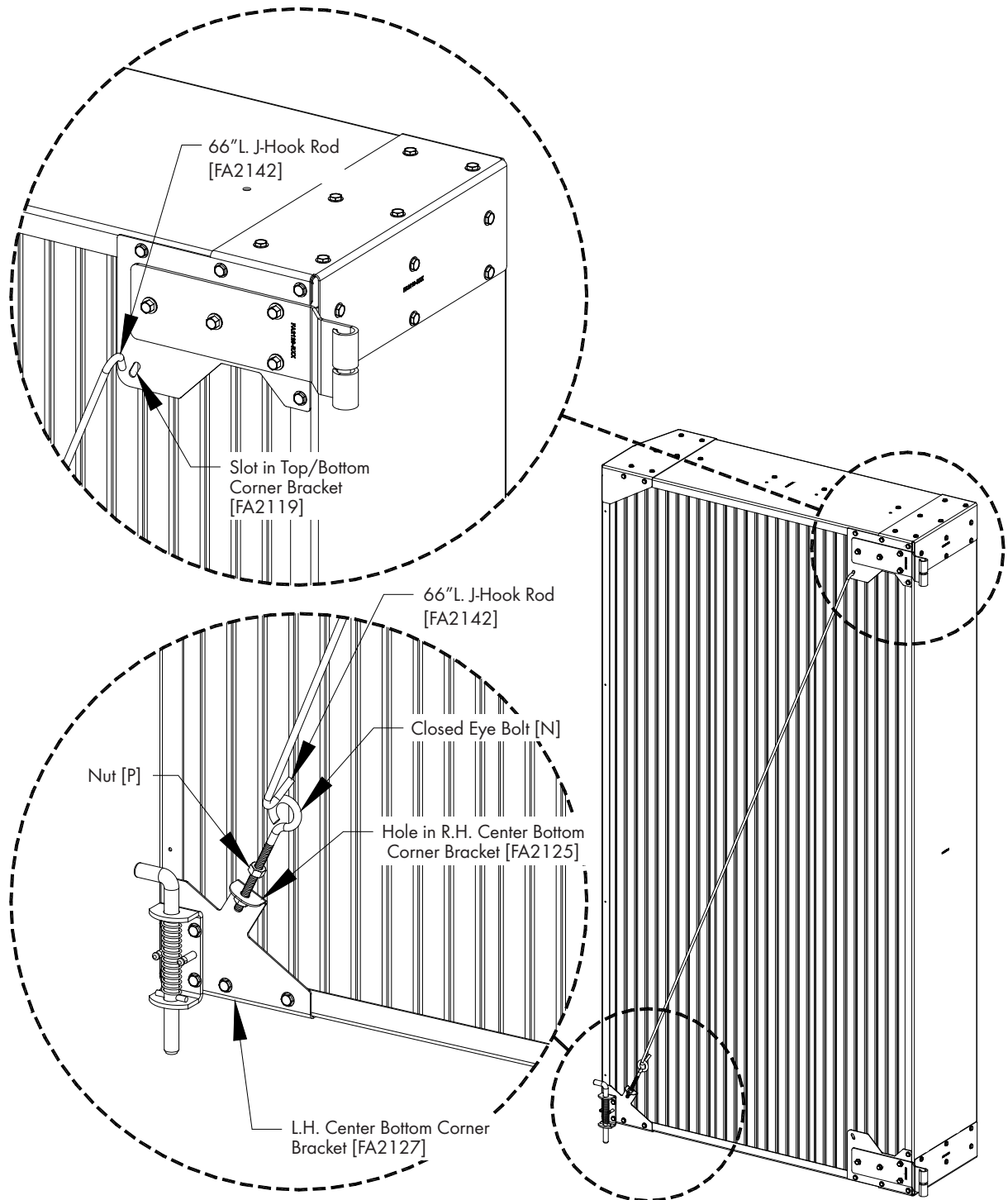


Figure 21

Step 22

Clean a 1" strip of the galvanized panels and corner brackets on all 4 sides, along the edge of the door opposite the Leaf Hinge and Spring Latch. Cut the roll of Brush Seal into 4 pieces, (2) at 36¼"L. and (2) at 72½"L., then peel the backing off of the Brush Seal and carefully stick them to the 4 sides of the door where they were cleaned. *See Figure 22.*

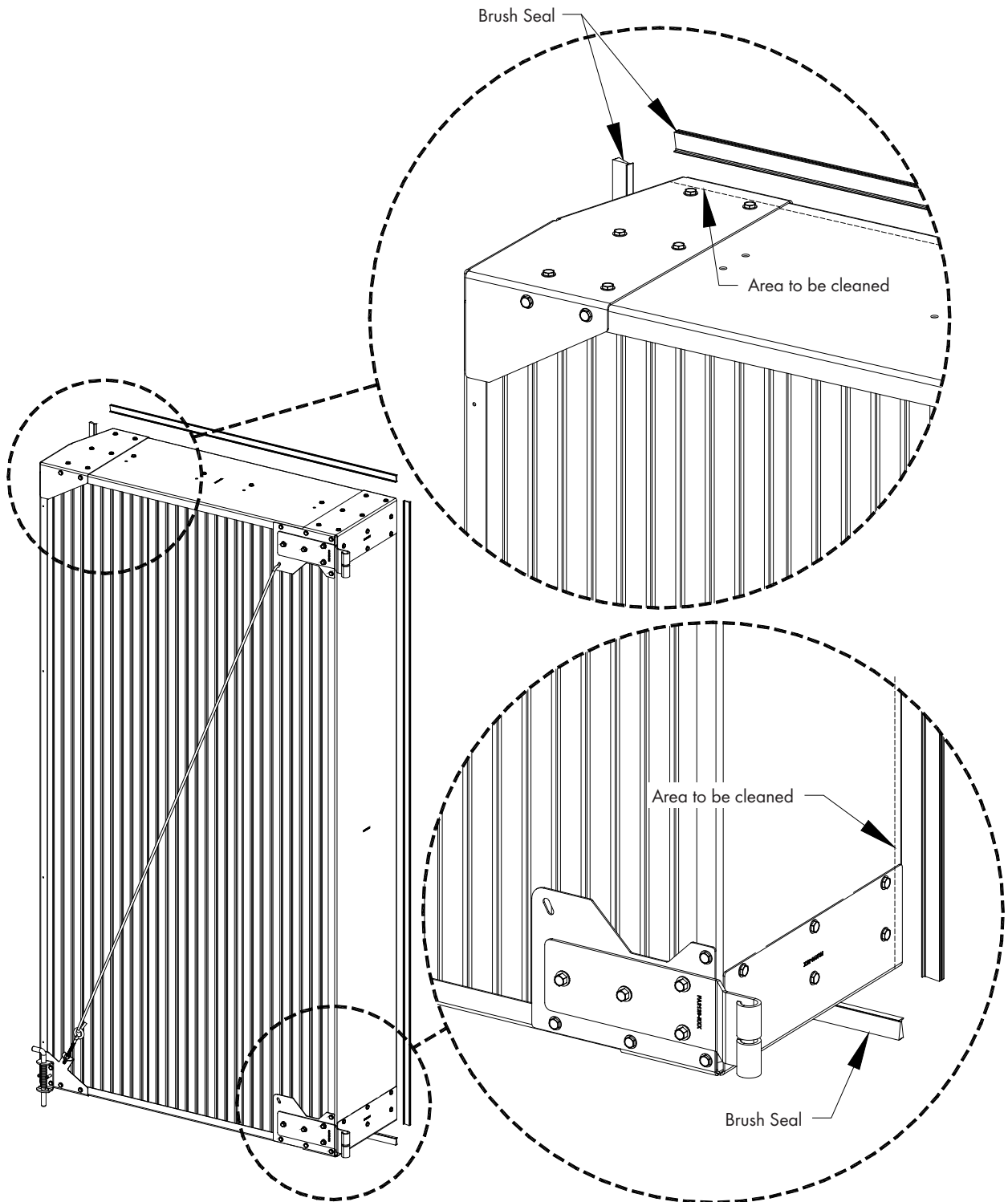


Figure 22

Step 23

Attach the Light Gap Cover Bracket [FA2147] to the left inlet edge of the R.H. Door and fasten in place using (4) TEK Screws [D]. [See Figure 23.](#)

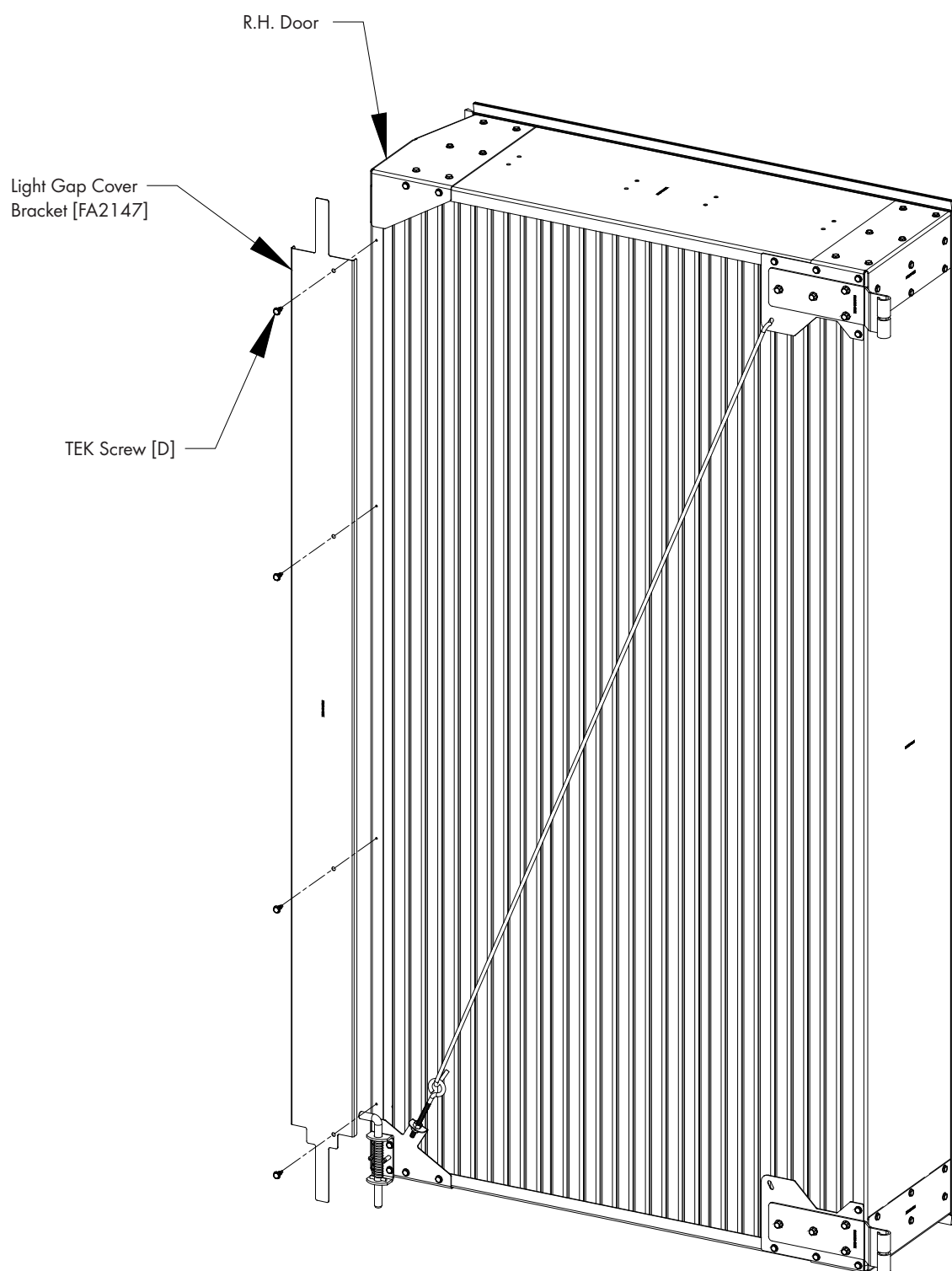


Figure 23

2.5 L.H. Door (48") Installation

Step 24

Attach the L.H. Door to the LTX Housing by sliding each Leaf Hinge over the Hinge Pins mounted to the left side of the LTX Housing. [See Figure 24.](#)

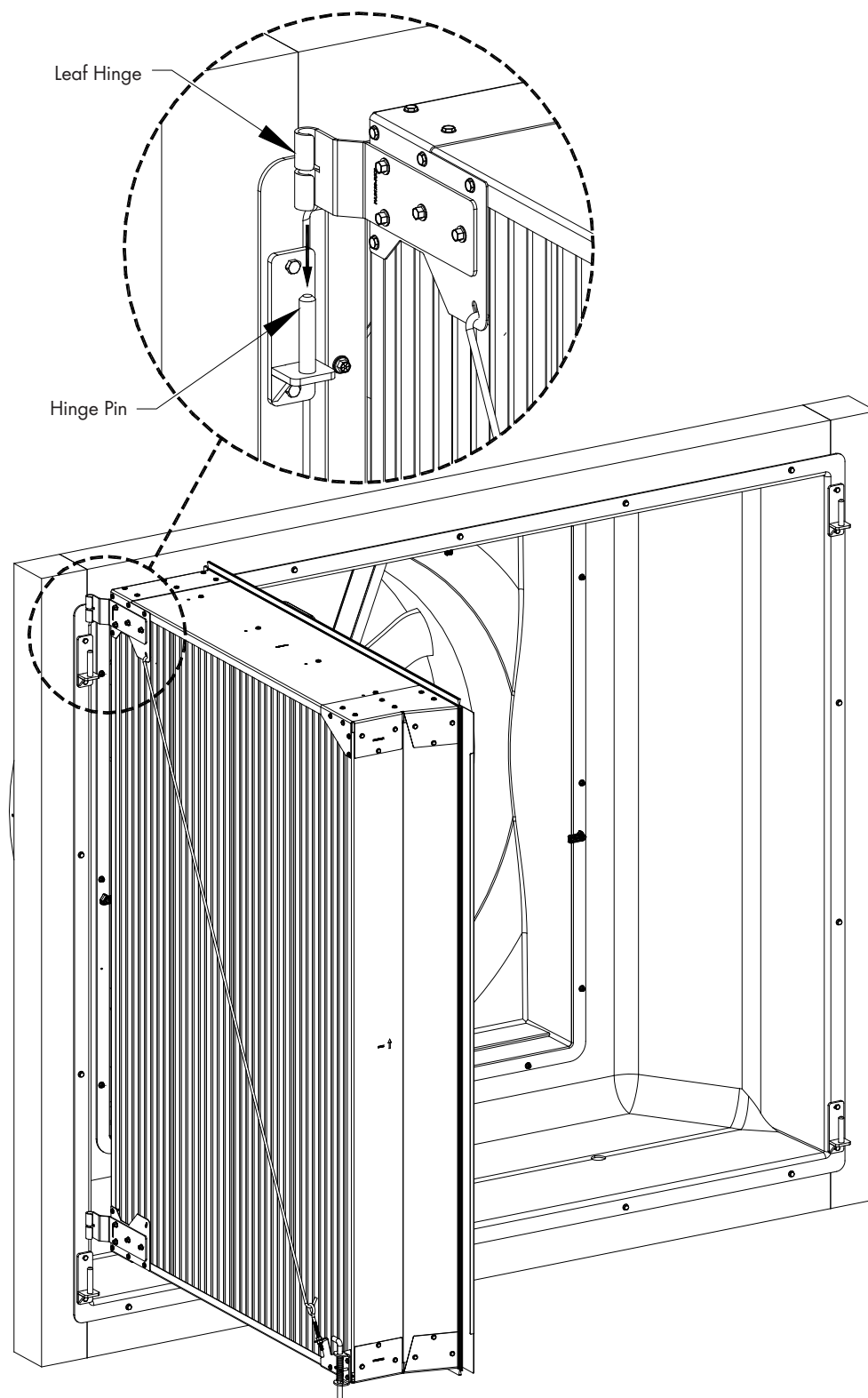


Figure 24

2.6 R.H. Door (36") Installation

Step 25

Attach the R.H. Door to the LTX Housing by sliding each Leaf Hinge over the Hinge Pins mounted to the right side of the LTX Housing. [See Figure 25.](#)

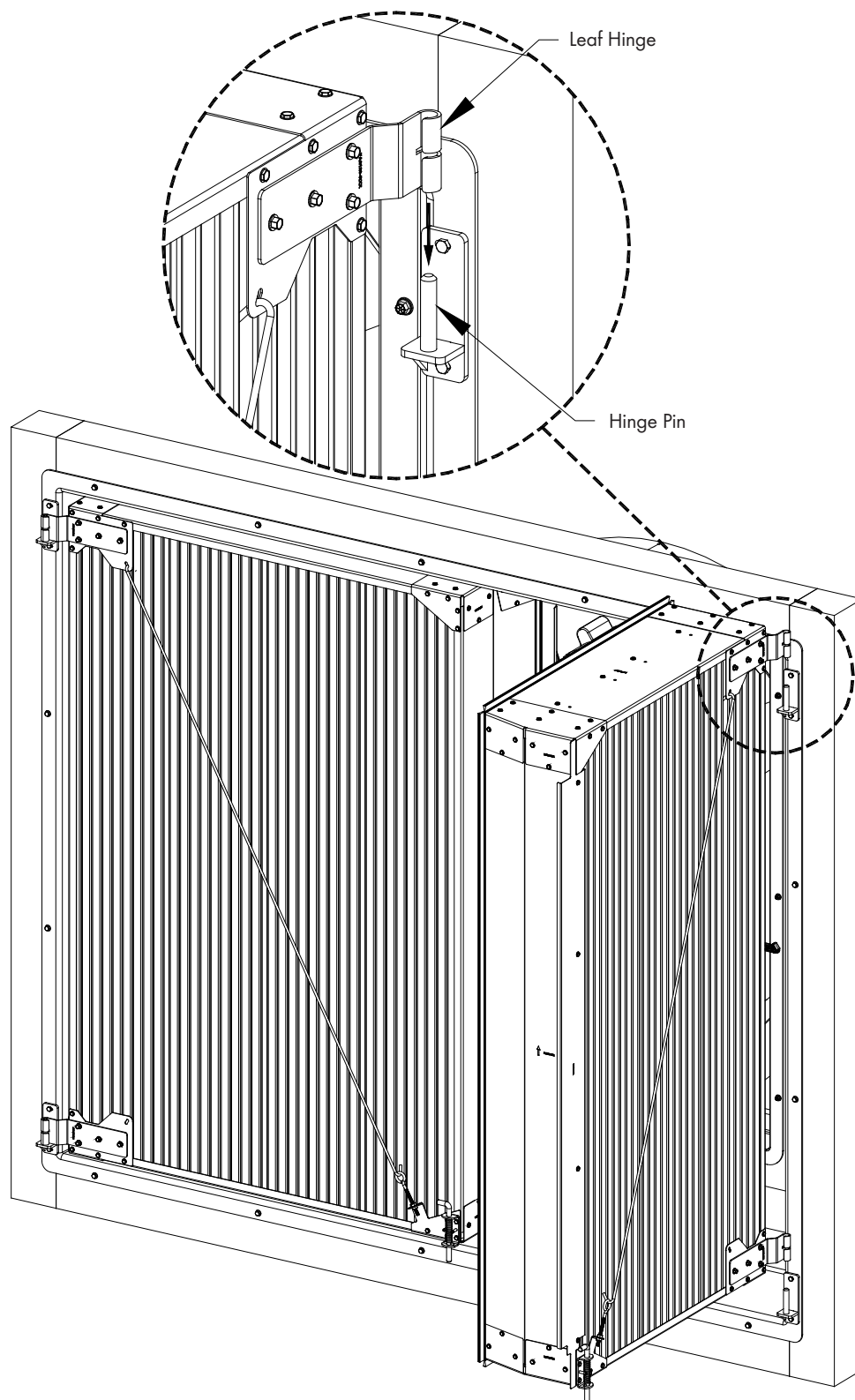


Figure 25

Step 26

With both doors in the close position, slide (1) Spring Latch Catch [L] over each Spring Latch [K] $\frac{3}{4}$ " and fasten to LTX Housing Flange using (2) Lag Screws [B]. See Figure 26. If needed to allow the door to swing open and close easier, grease may be applied to the hinge pin.

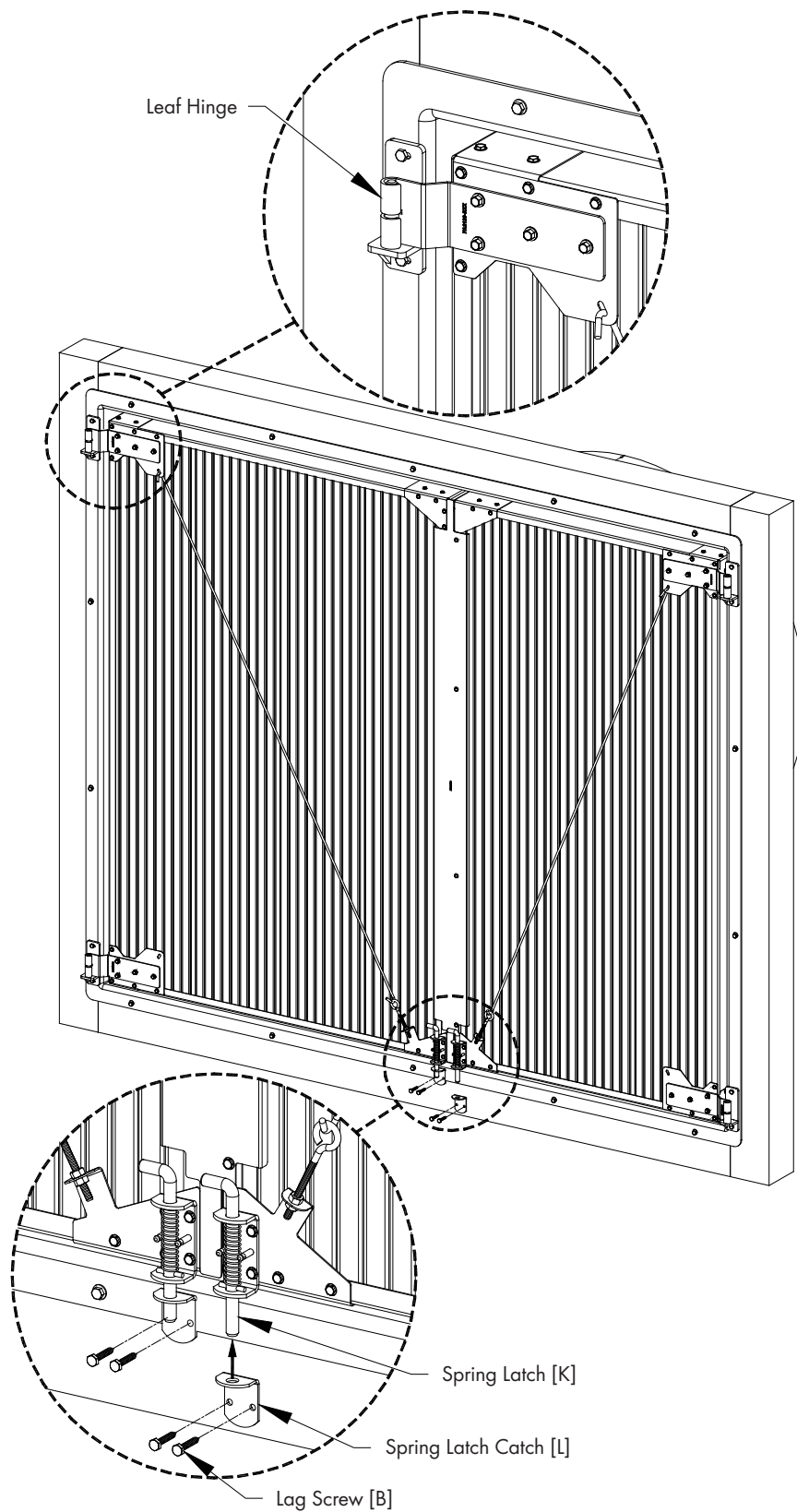


Figure 26

Step 27

Make sure the doors swing open and close freely. If needed loosen the upper nut on the Closed Eye Bolt and adjust the bottom nut on both the inside and outside Eye Bolt until the door opens and closes freely. Then tighten the upper nut back down. [See Figure 27](#). Installation Complete. Continue with the Fan Installation per the manual for the fan.

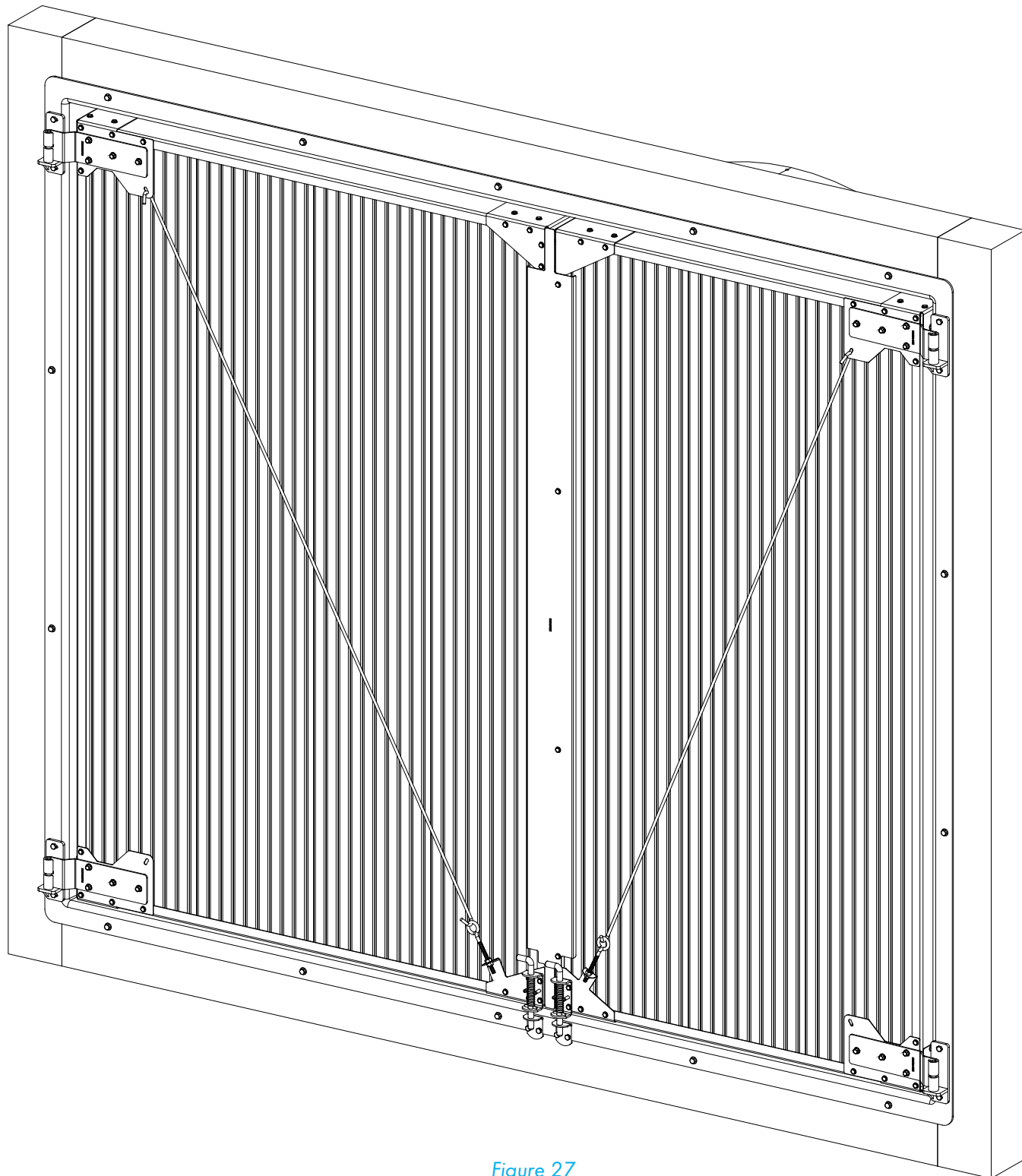


Figure 27

3.1 Maintenance

The following inspection and cleaning procedures should be performed monthly:

Follow maintenance on the fan as called out in the fan operators manual.

- 1) **INSPECT LTX Housing:** Check any damage to housing or doors.
- 2) **CLEAN** regularly for best results:
 - **LTX Housing:** Remove any dust accumulation from housing or hinges using a brush, cloth or compressed air. (DO NOT use a pressure washer).
 - **LTX Doors:** Carefully clean dust from doors and frame so that doors open and close freely. A brush, cloth or compressed air should be used.
 - **Light Trap Material:** Clean any dust or feathers from Light Trap using a brush or blower. Be sure not to damage the Light Trap when cleaning. Dirty Light Trap can reduce airflow. (DO NOT use a pressure washer).
- 3) **GREASE HINGES:** Check that doors swing open and close freely every 4-6 months, grease hinges as needed.
 - A premium non-water based grease is recommended:
 - Shell Alvania #2
 - Mobil Mobilux #2
 - Exxon Unirex N2
 - Texaco Premium RB
 - Mobil 532
 - Texaco Multifak #2



Winterizing

4.

4.1 Winterizing

In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to “winterize” those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

To winterize, turn fan control “off”. Install the insulated closure panel over the fan intake. If you don’t have an insulated closure panel, a piece of rigid insulation material can be used. Remember the insulation panel must be removed before warmer weather returns.

NOTE: At least one single speed fan should be left uncovered and with power available to provide air movement in the event of variable speed control difficulties.

4.2 Winter Weather Protection

To prevent cone or fan damage from snow or ice sliding off building roof, weather protection must be provided. A weather shelter may be constructed to cover the entire fan, *See Figure 28*, or snow guards may be placed on the roof, *See Figure 29*.

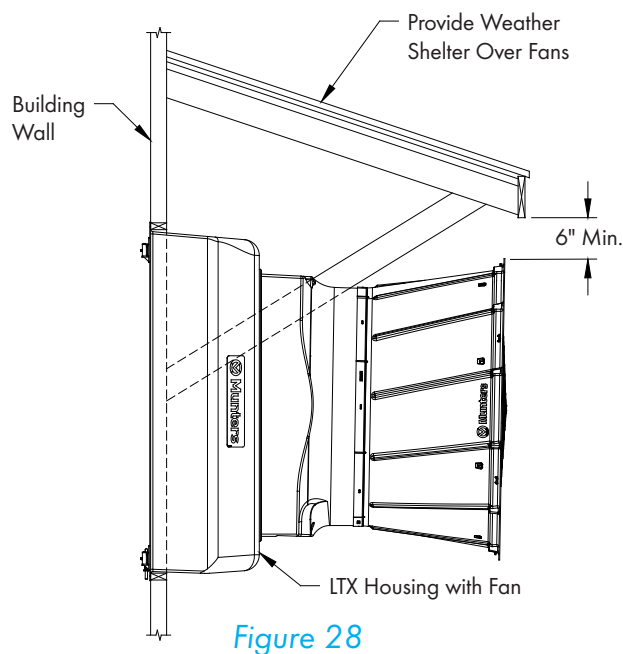


Figure 28

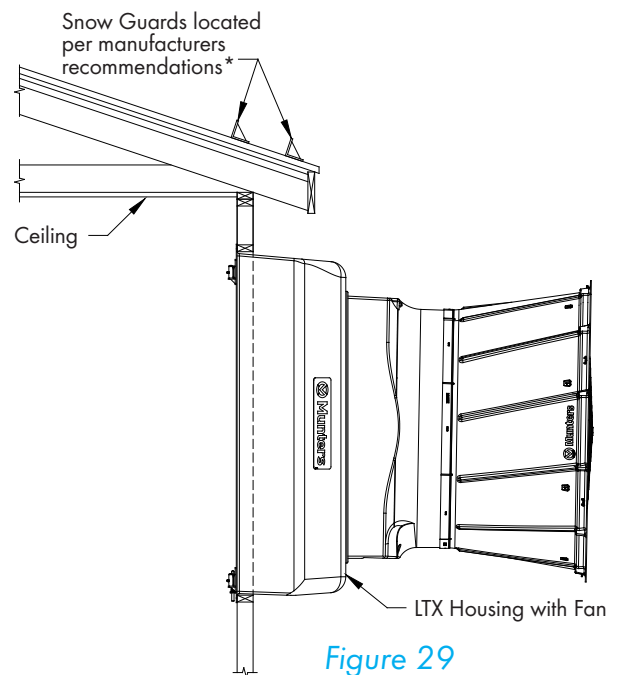


Figure 29

*Snow Guard Suppliers

Company Name	Phone No.	Fax No.	Web Site
Snojax, Inc.	800-766-5291	717-697-2452	www.snojax.com
Polar Blox	800-298-4328	814 629-9090	www.polarblox.com
LM Curbs	800-284-1412	903 759-3598	www.lmcurbs.com
Alpine Snow Guards	888-766-4273	888-766-9994	www.alpinesnowguards.com



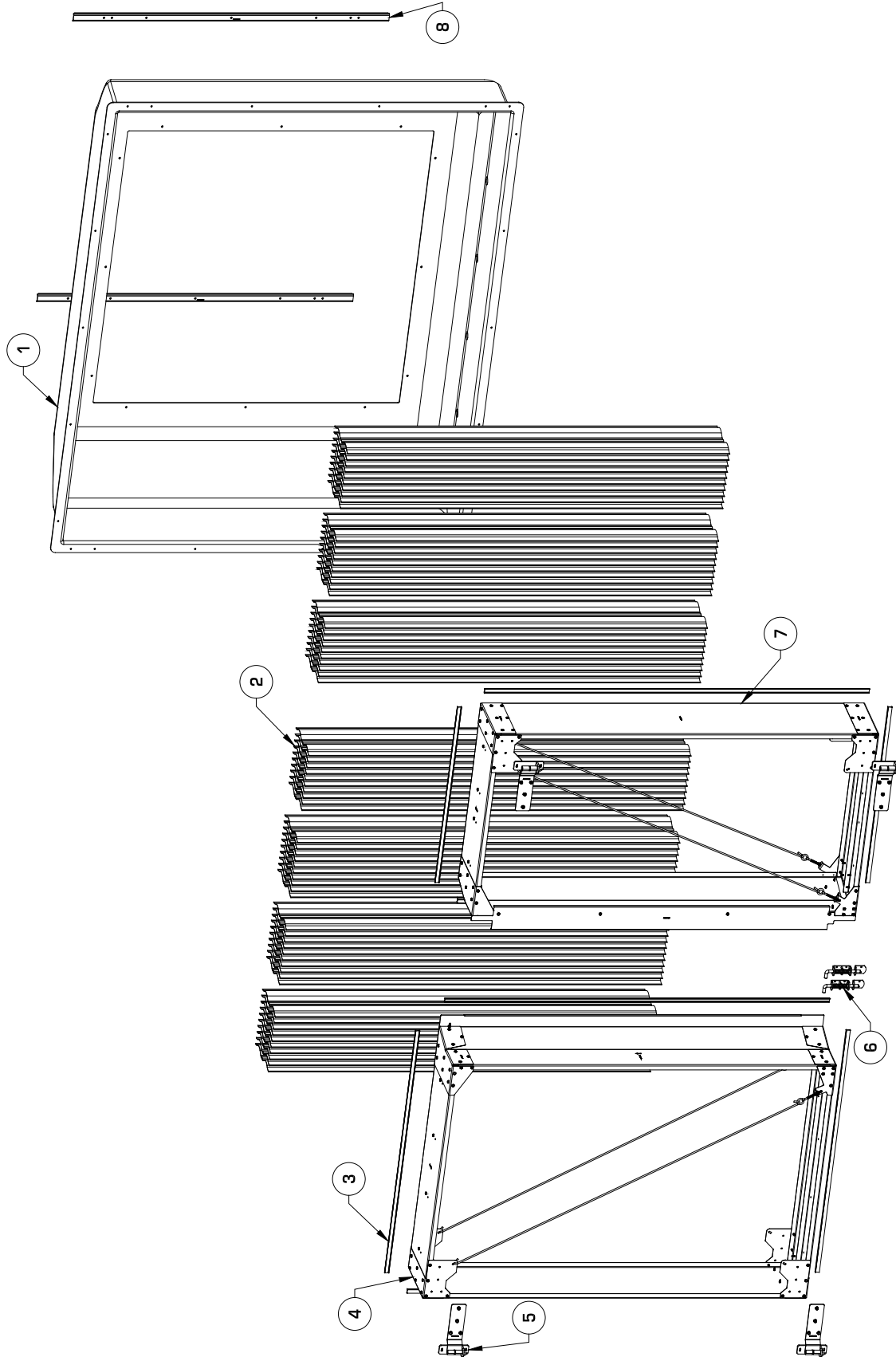
IMPORTANT

Munters Product and System Warranties do not cover cone or fan damage from external sources.

Note: Snow guards are designed to prevent sudden, dangerous snow and ice slides when attached to the building roof according to manufacturers recommendations. The supplier listing above is given as a reference only. Munters does not endorse any specific snow guard product and no performance warranty is implied.

Exploded View

5.



36LTX / 51LTX / 55LTX			
Item	Catalog No.	Description	Qty.
1	FA2236	LTX Housing for VX36, FG, WHT	1
	FA2251	LTX Housing for VX51, FG, WHT	1
	FA2255	LTX Housing for VX55, FG, WHT	1
2	DB1160*	Blade Light Trap, 72"H.x12"W.x11"D., PL, BLK	7
3	FA1599	Kit, LTX Housing Brush Seal for 2 Doors (40')	1
4	FA1598	Kit, LTX Housing, L.H. Door	1
5	FA1595	Kit, LTX Housing, Hinges (1 Door)	2
6	FA1596	Kit, LTX Housing, Latches (2 Doors)	1
7	FA1597	Kit, LTX Housing, R.H. Door	1
8	FA2130	Reinforcing Plate, LTX Housing, 60"L., CTD-GZ	4

*DB1160 is sold as a separate line item and is not included in the Catalog Number for the LTX Housing, 36LTX / 51LTX / 55LTX.

LTX Housing for Vortex Fans is developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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