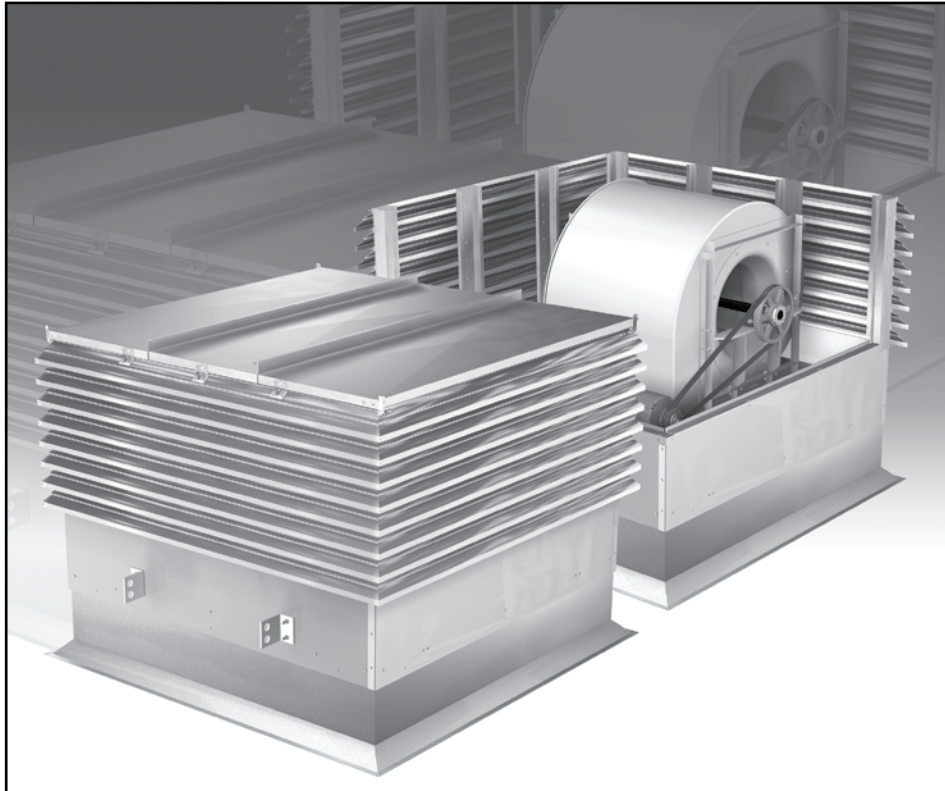


Assembly Instructions



How to use this manual

Read and save these instructions. This manual is designed to assist with the assembly of Greenheck Model LSF Louvered Supply Fans. It contains detailed assembly instructions, parts and hardware lists, as well as step-by-step renderings.

Complete descriptions and renderings of all parts and hardware items can be found on pages 2-4. Procedures described in this manual should be followed in the order they appear.

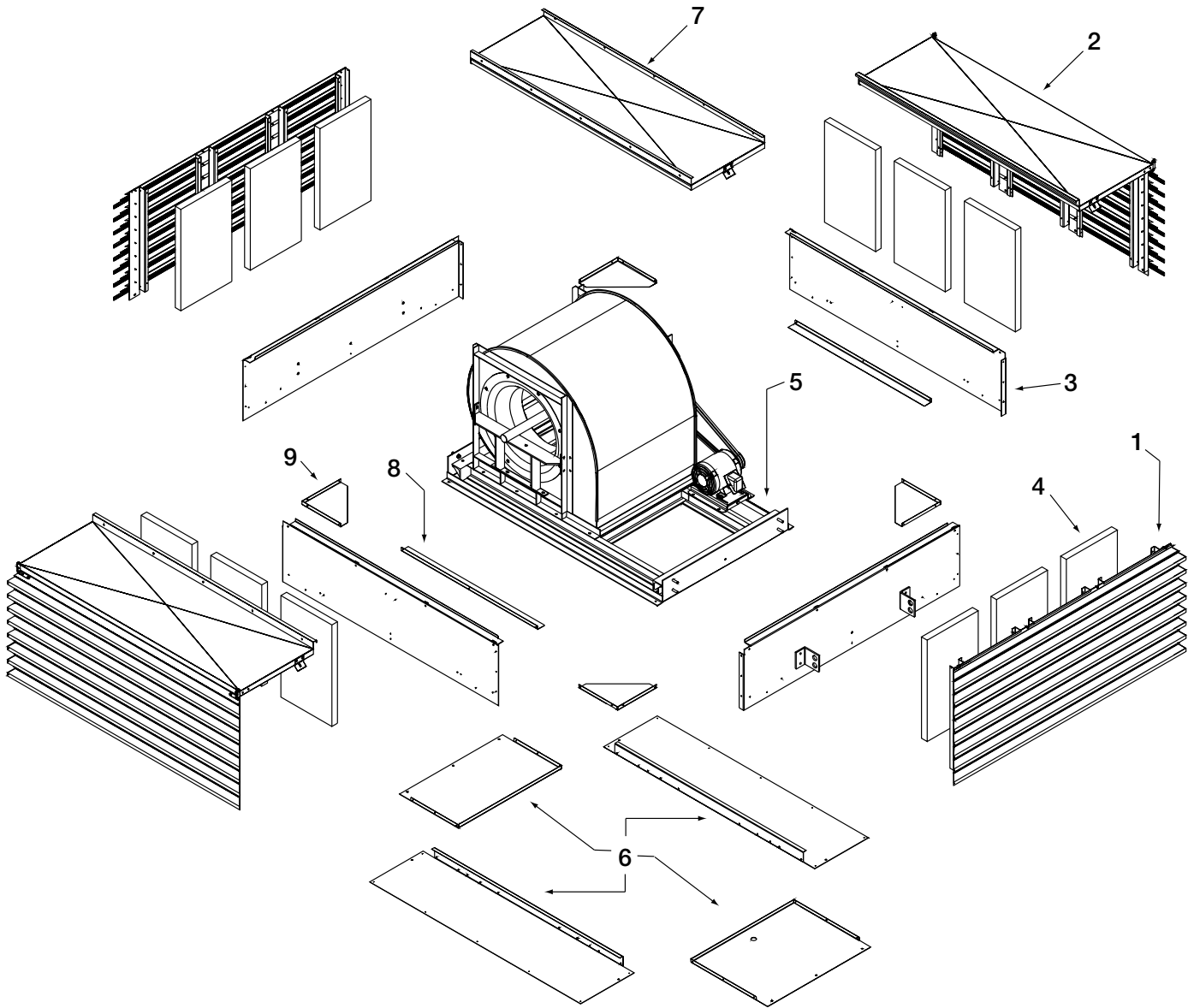
Receiving and Handling

Upon receiving the equipment, check for both obvious and hidden damage. If damage is found, record all necessary information on the bill of lading and file a claim with the final carrier. Check to be sure that all parts of the shipment, including accessories and hardware, are present.

NOTE

Rooftop assembly is recommended. Fan should be assembled on previously mounted roof curb.

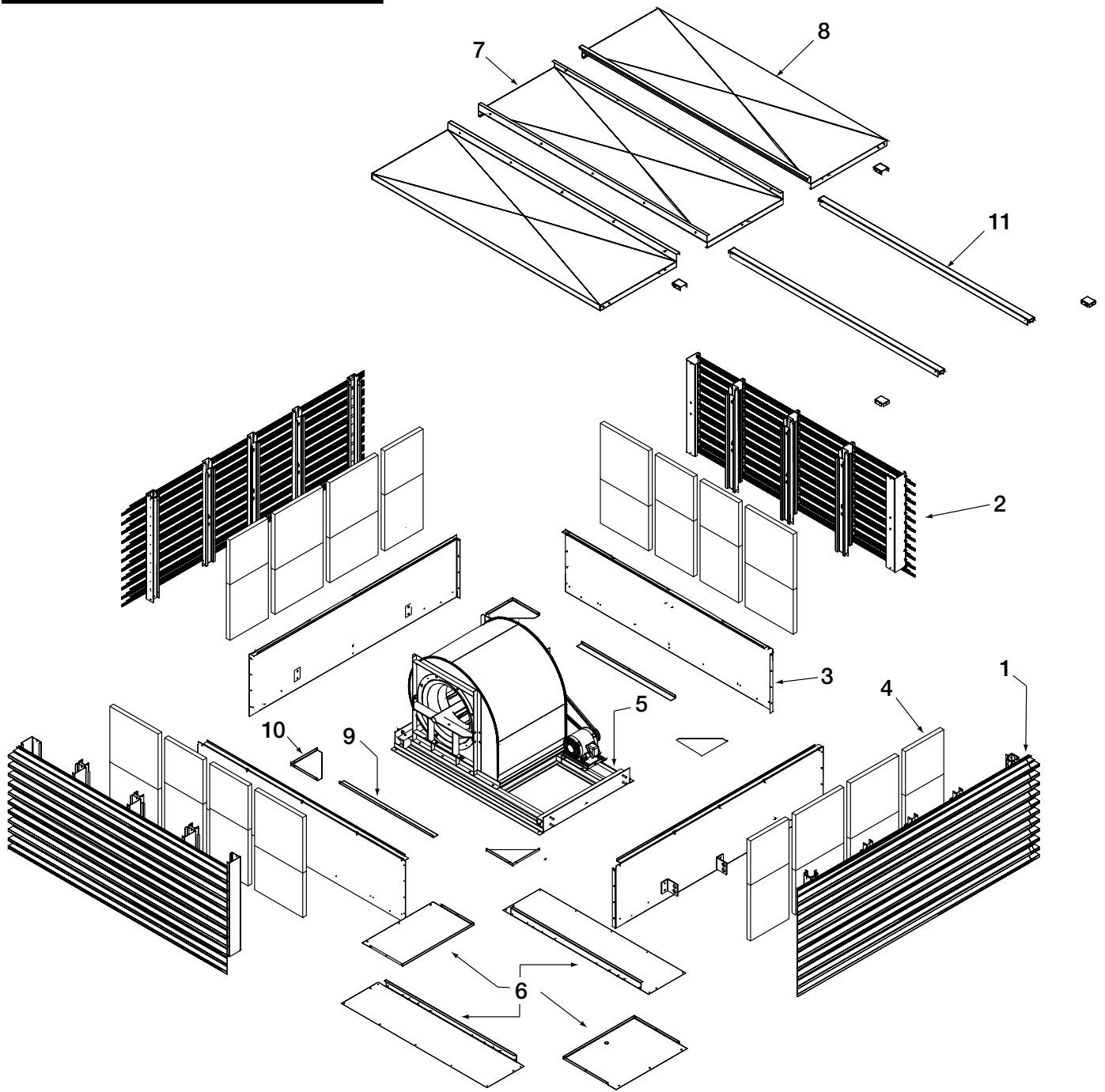
LSF 24, 27 AND 30



PARTS LIST

Item No.	Description	Quantity
1	Louver Assembly, End	2
2	Louver Assembly, Side	2
3	Base Panel	4
4	Filters	See page 12
5	Blower Assembly	
6	Duct Adapter Panel (shown upside down)	4
7	Hood Panel, Center	1
8	Reinforcing Angle for Base Panel	2
9	Gusset	4
	Hardware Package #821385	See page 4

LSF 33 AND 36

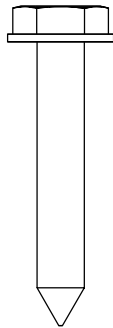


PARTS LIST

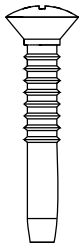
Item No.	Description	Quantity
1	Louver Assembly, End	2
2	Louver Assembly, Side, with Spacer	2
3	Base Panel	4
4	Filters	See page 12
5	Blower Assembly	
6	Duct Adapter Panel (shown upside down)	4
7	Hood Panel, Center	1
8	Hood Panel, Side	2
9	Reinforcing Angle for Base Panel	2
10	Gusset	4
11	Hood Support Rail	2
	Hardware Package #821246	See page 4

HARDWARE PACKAGE AND FASTENER DETAILS		LSF 24 - 30 Hardware Package #821385	LSF 33 - 36 Hardware Package #821246
		Quantity	
415006	Sheet Metal Screw, Indented Hex Washer, Zinc Plated, #14 x 1-1/2 inch	6	6
415203	Sheet Metal Screw, Phillips Oval Head, Stainless Steel, #10 x 1-1/4 inch	96	96
415439	Sheet Metal Screw, Indented Hex Washer, Stainless Steel, #12 x 5/8 inch	70	70
415041	Thread Cutting Screw, Indented Hex Washer Head, Zinc Plated, 5/16 inch - 18 x 1 inch	21	33
415005	Thread Cutting Screw, Indented Hex Washer Head, Zinc Plated, 3/8 inch - 16 x 1 inch	2	2
415225	Thread Cutting Screw, Indented Hex Washer Head, Zinc Plated, 5/16 inch - 18 x 5/8 inch	0	8
415729	Machine Screw, Phillips Truss Head, Stainless Steel, 1/4 inch - 20 x 5/8 inch	10	0
415486	Serrated Flange Fastener (Whiz Lock Screw), Zinc Plated, 5/16 inch - 18 x 1 inch	8	8
415837	Lock Washer, Stainless Steel, 1/4 inch	10	0
415457	Nut, Serrated, Zinc Plated, 3/8 inch - 16	2	2
415456	Nut, Zinc Plated, 5/16 inch - 18	8	8
415099	Nut, Stainless Steel, 1/4 inch - 20	10	0
370022	Grommet, Neoprene	1	1
416097	Pin, Cotter (not shown)	4	0
506023	Louver Bracket (not shown)	4	0

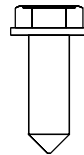
Note: Depending on unit size, all hardware may not be used. Drawing is not to scale.



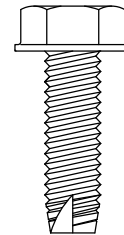
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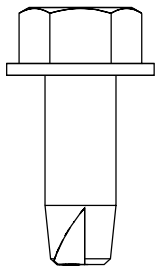
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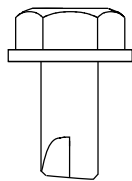
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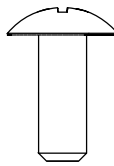
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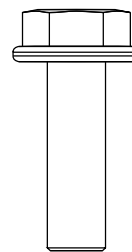
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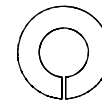
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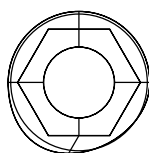
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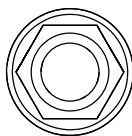
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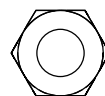
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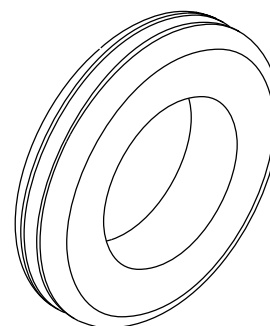
415457



415456



415099



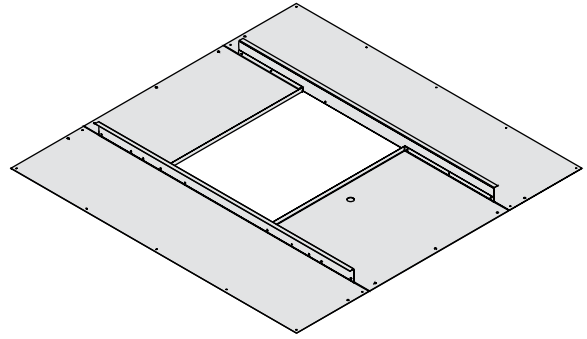
370022

Step 1

Locate and identify parts as listed on Parts List and Hardware Package and Fastener Details List on pages 2 and 3. See exploded view for assistance in identifying parts.

Step 2

Place duct adapter panels upside down so that the screws can be inserted into the predrilled holes in the flanges. Fasten the panels together as shown using the #12 x 5/8 inch stainless sheet metal screws.



Step 3

Install the neoprene grommet in wiring hole.

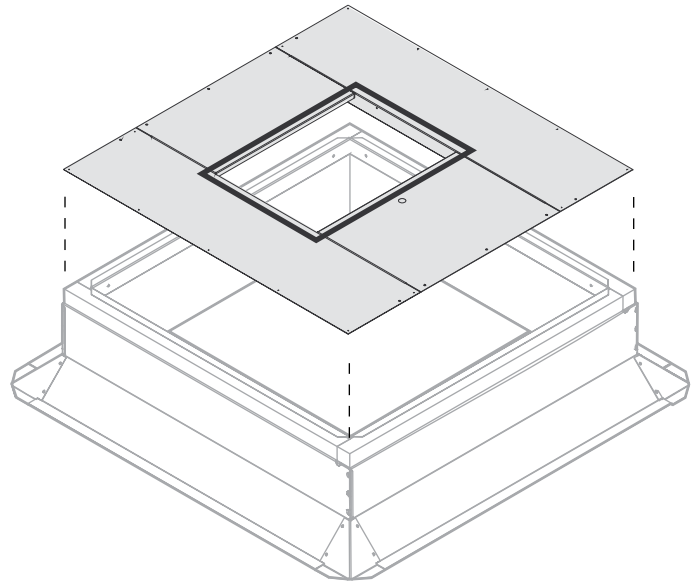
Step 4

Flip over the duct adapter panels and apply 3/4 x 3/4 inch gray adhesive-backed foam tape to top of duct adapter around the edge of the opening at the proper location; noting the size of the unit. (The roll of foam tape will be attached to the blower assembly).

Sizes 24, 27, 30 – flush with edge, all around

Size 33 – flush with edge on long sides, 3/4 inch away from edge on short sides

Size 36 – flush with edge on long sides, 1-1/4 inch away from edge on short sides



Step 5

Mount assembled duct adapter onto preexisting roof curb. Align the adapter squarely on the curb and nail through the prepunched mounting holes (nails not provided).

Step 6

Place and align the blower assembly on the duct adapter—being sure to place the motor near the wiring hole in the duct adapter. **NOTE:** Blower frame will extend 3/4 inch over each end of the curb. Make sure the frame is centered on the curb.

Step 7

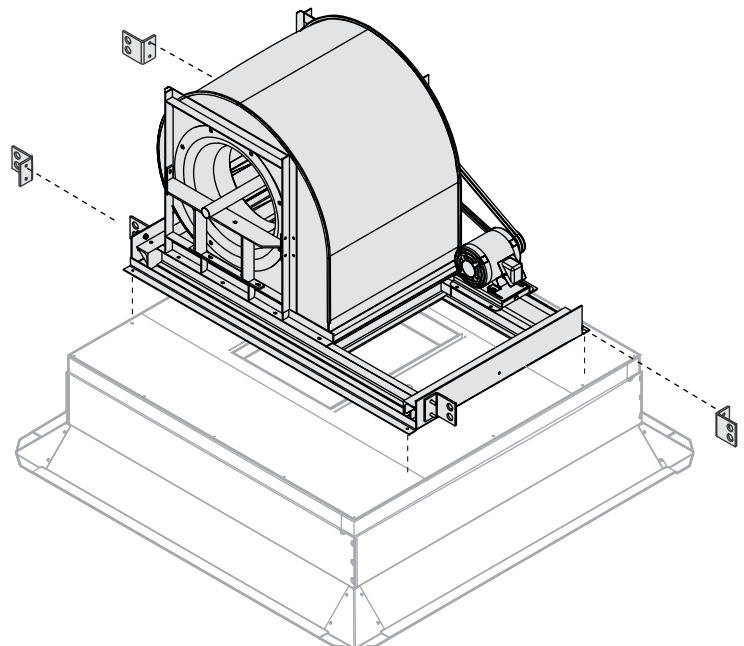
Using the 1/4 inch x 1-1/2 inch lag bolts, fasten the blower assembly to the curb aligning the prepunched holes in the blower assembly and duct adapter.

Step 8

Locate the two (2) wood shipping blocks between blower assembly frame and isolation base. Remove and discard the hardware and the blocks.

Step 9

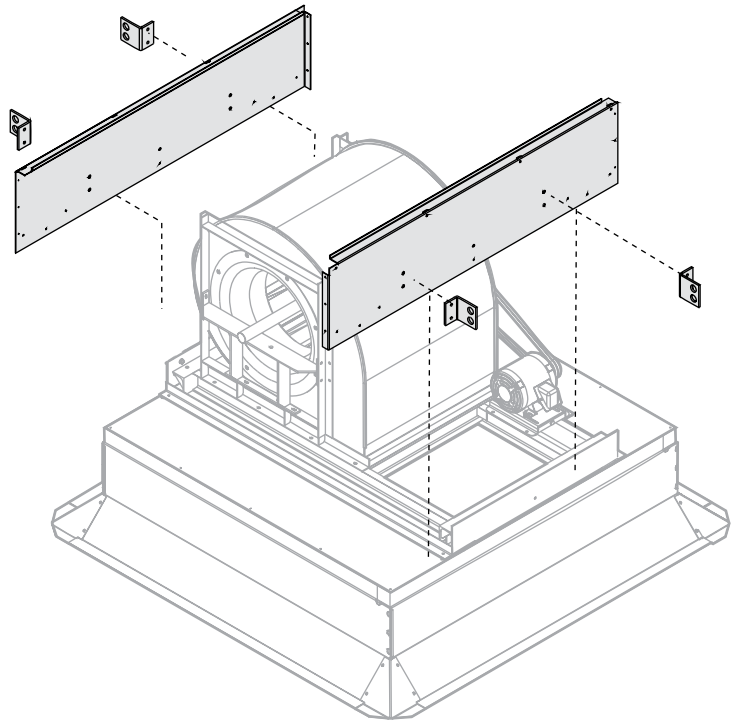
To begin installation of the base panels, remove the lifting lugs. Save the lifting lugs and mounting hardware. They will be reused in Step 10.



Step 10

Set one (1) end panel in place on the end of the support frame.

Replace the lifting lugs, reusing the hardware to fasten the panel in place. Do not tighten the hardware completely until instructed to do so. Use a 3/8 inch - 16x1 inch thread cutting screw in the center of the end base panel between the lifting lugs. Do not tighten completely Repeat Step 10 for the other end base panel.



Step 11

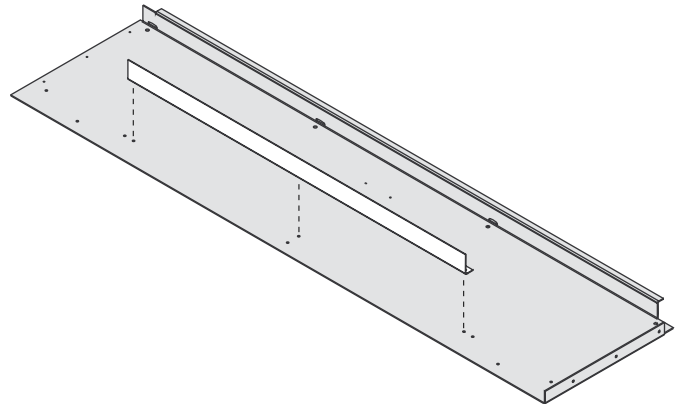
Install reinforcing angle on the two (2) side base panels. Use #12 x 5/8 inch stainless sheet metal screws for each reinforcing angle.

Step 12

Place the side base panel with reinforcing angle on the duct adapter and fasten at both ends using #12 x 5/8 inch stainless metal screws along both vertical edges. Repeat Step 12 for the other side base panel.

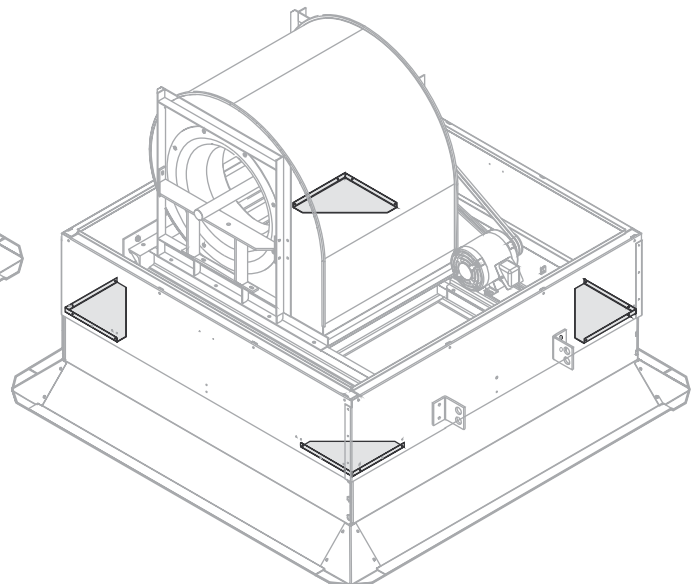
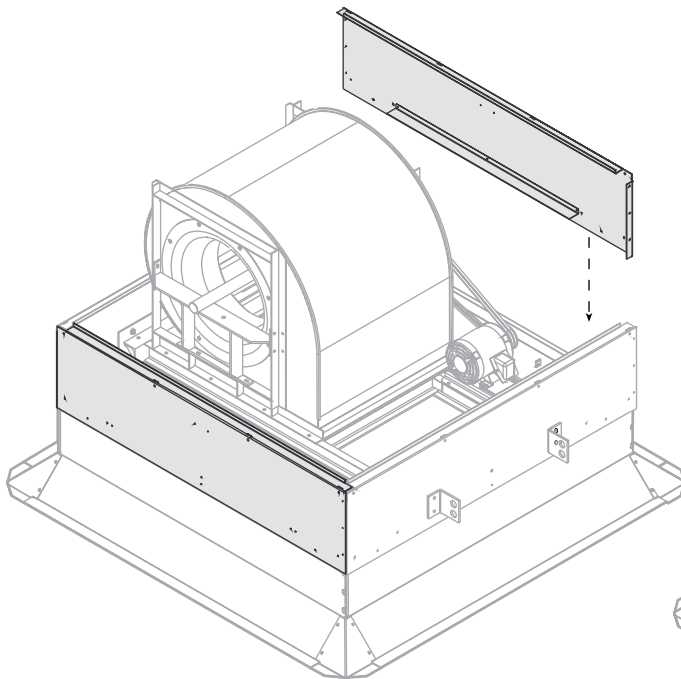
Step 13

Install corner gussets on the surface of the duct adapter and fasten to the bottom corners of the base panels, using four (4) #12 x 5/8 inch stainless sheet metal screws in each gusset.



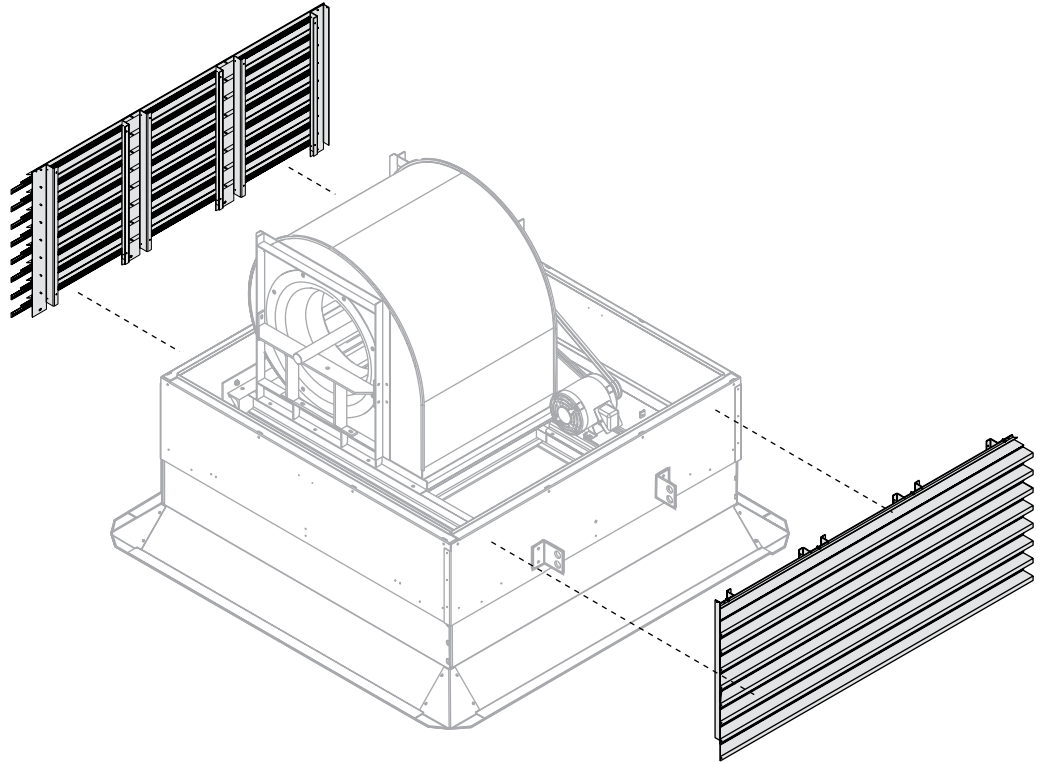
Step 14

Tighten the two (2) bolts in each lifting lug as well as the one in the center of the base panel that were not tightened in Step 10.



Step 15

Set one (1) section of the end louver assemblies (without a cover) in place on an end base panel (panels with lifting lugs). Fasten posts on louver assemblies with 5/16 inch - 18x1 inch thread cutting screws, using the prepunched holes in the posts. Repeat Step 15 for opposite louver end assembly.

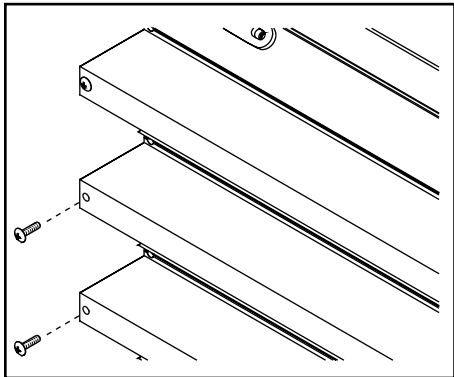
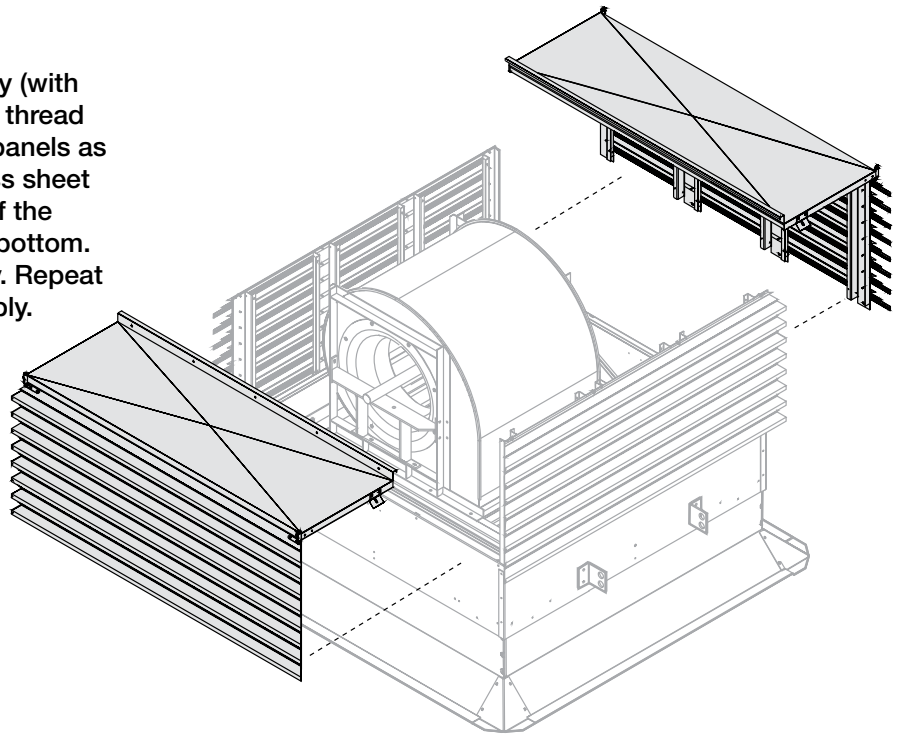


LSF Sizes 24–30 continue on page 8
LSF Sizes 33–36 continue on page 10

LSF Sizes 24, 27 and 30

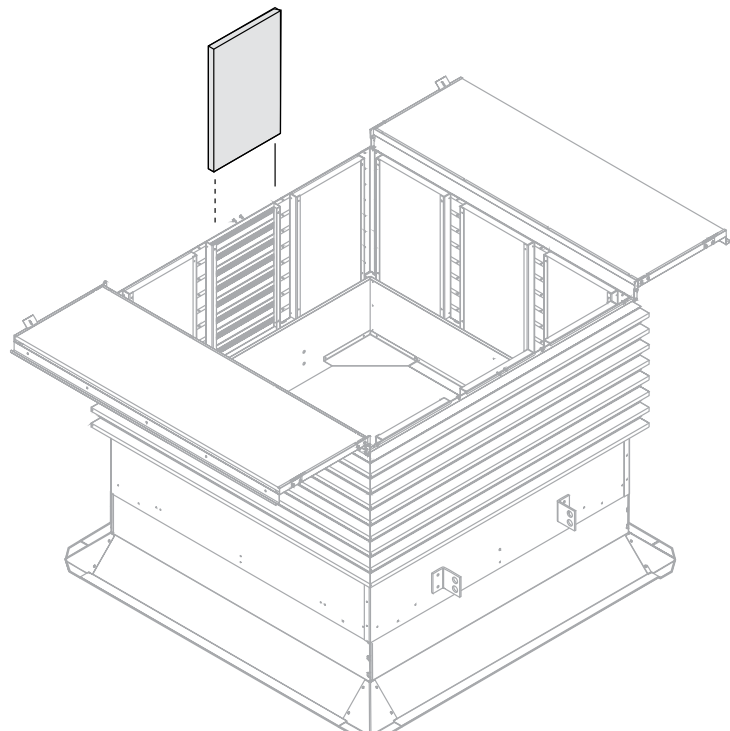
Step 16

Set in place one (1) side louver assembly (with hood panel). Use 5/16 inch - 18 x 1 inch thread cutting screws to fasten posts to base panels as in Step 15. Using #12 x 5/8 inch stainless sheet metal screws, fasten the corner posts of the adjoining sides together at the top and bottom. Use four (4) screws per louver assembly. Repeat Step 16 for opposite side louver assembly.



Step 17

Fasten mitered louver corners with #10 x 1-1/4 inch sheet metal screws.



Step 18

Slide the filters into their racks using the diagram on page 12 as a guide for proper size, location and orientation of the filters.

LSF Sizes 24, 27 and 30

Step 19

Set center hood cover on top of louver assemblies. Slowly close the side hood panels, one at a time, adjusting the center section slightly—if necessary—to attain a proper alignment of all three hood panels.

Step 20

To secure the center hood, locate the center hood latch. Mark where the slot meets the top louver. Drill a 9/64 inch hole and insert one (1) sheet metal screw through center hood latch and top louver. Repeat Step 20 for opposite side of center hood.

Step 21

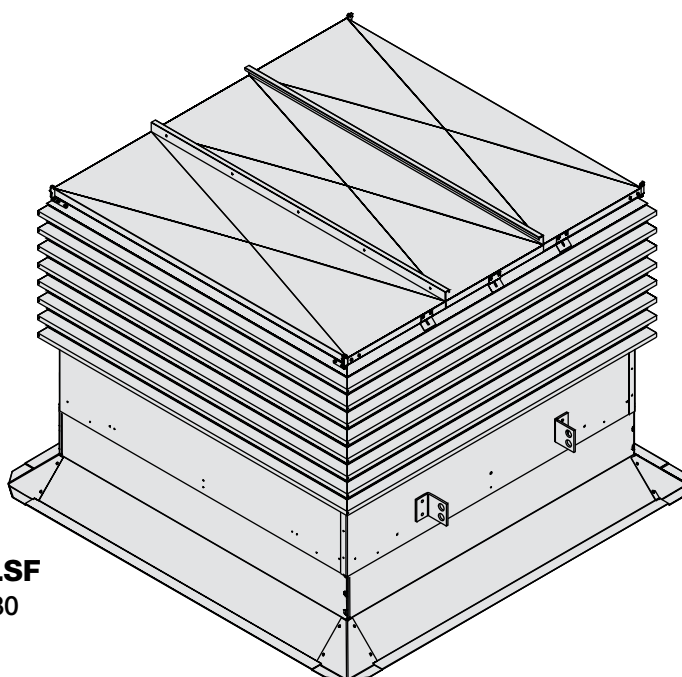
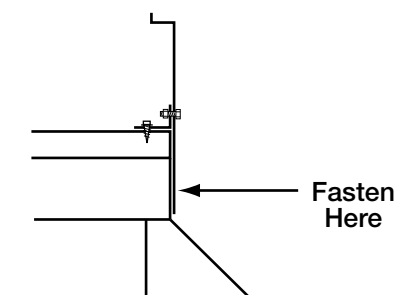
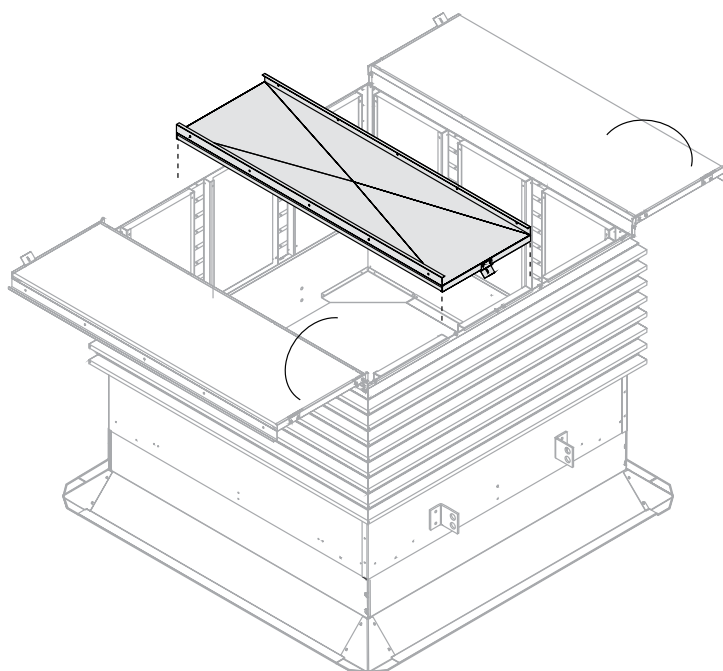
Set in place hasp bracket through hood latch. Hold hasp bracket in place and swing hood panel open. Mark hasp hole locations on top louver and drill 1/4 inch holes at each mark. Insert one (1) 1/4 inch - 20 x 1/2 inch machine screw through the hasp bracket and top louver. Fasten by attaching one (1) 1/4 inch lock washer and one (1) 1/4 inch x 20 hex nut to each screw. Follow the same procedure for the other end of the hood. Repeat Step 21 for the opposite side hood.

Step 22

Close side hood panels and insert rod retainer pin through louver bracket to secure side hood panel. Join side hoods to center hood along hood seams using four (4) 5/16 inch - 18 x 1 inch serrated flange fasteners and four (4) 5/16 inch - 18 nuts on each flange.

Step 23

Using prepunched mounting holes in base panels, fasten unit to roof curb nailer (fasteners not provided).

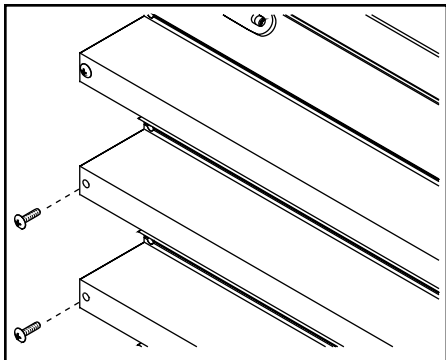
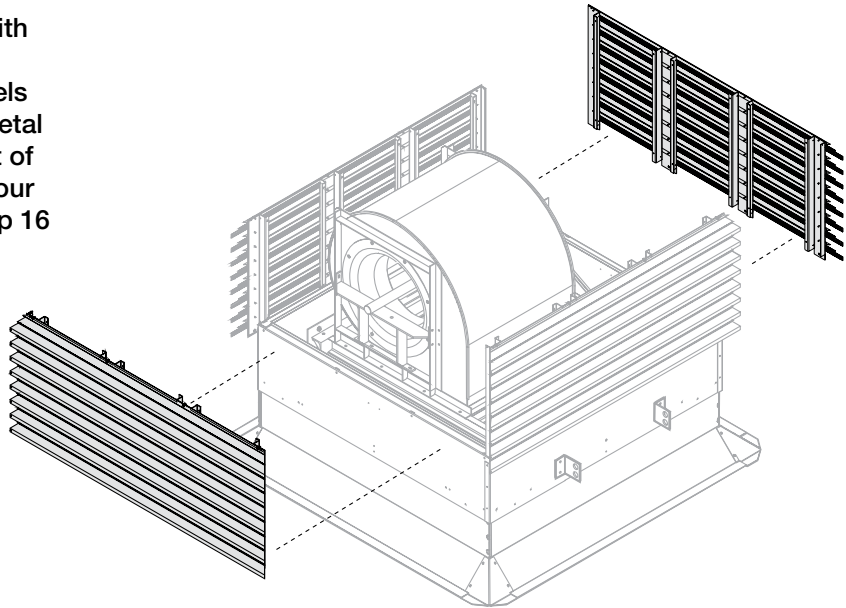


Completed LSF
Size 24, 27 or 30

LSF Sizes 33 and 36

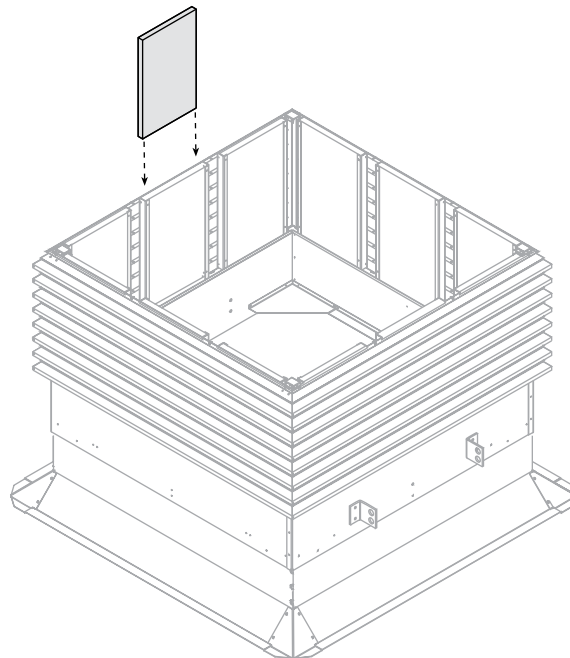
Step 16

Set in place one (1) side louver assembly with spacer. Use 5/16 inch - 18 x 1 inch thread cutting screws to fasten posts to base panels as in Step 16. Using #12 x 5/8 inch sheet metal screws, fasten louver spacer to corner post of end assembly at the top and bottom. Use four (4) screws per louver assembly. Repeat Step 16 for opposite side louver assembly.



Step 17

Fasten mitered louver corners with #10 x 1-1/4 inch sheet metal screws.



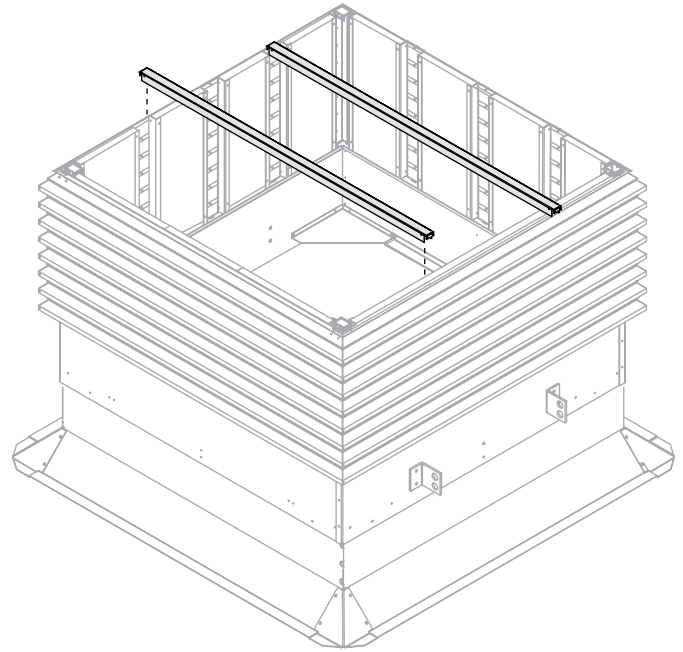
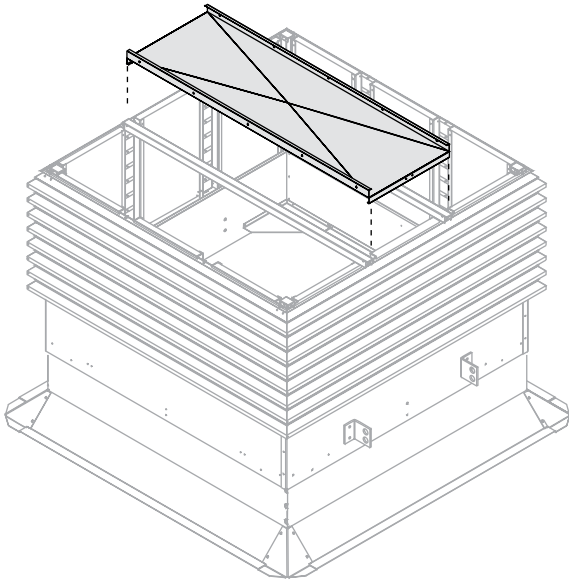
Step 18

Slide the filters into their racks using the diagram on page 12 as a guide for proper size, location and orientation of the filters.

LSF Sizes 33 and 26

Step 19

Set in place hood support rails over center posts, leaving one (1) post between for spacing. Use 5/16 inch - 18 x 5/8 inch thread cutting screws to fasten hood support rails to center posts; four (4) screws per center post.

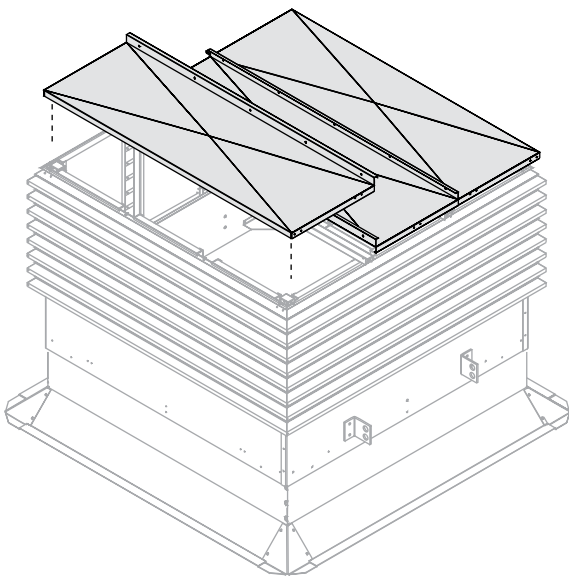


Step 20

Set center hood cover on top of hood support rails. Align slots in center hood to holes in hood support rails.

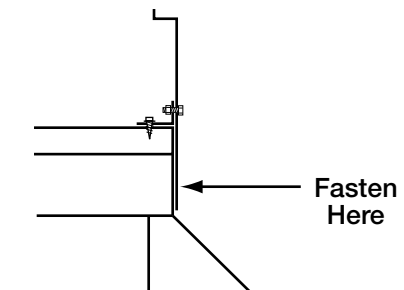
Step 21

Set side hood cover panels on top of unit, one on each side of center hood. Use thread cutting screws to fasten hood panels to corner mount brackets and hood support rails. Join side hoods to center hood along hood seams using four (4) 5/16 inch - 18 x 1 inch serrated flange fasteners and four (4) 5/16 inch - 18 nuts on each flange.



Step 22

Using prepunched mounting holes in base panels, fasten unit to roof curb nailer (fasteners not provided).



LSF Filter Sizes and Quantities

All sides are identical.

Size 24			Size 27			Size 30		
16 x 20	16 x 20	16 x 20	16 x 20	16 x 25	16 x 20	16 x 25	16 x 25	16 x 25
16 x 20	16 x 20	16 x 20	16 x 20	16 x 25	16 x 20	20 x 25	20 x 25	20 x 25

Size 33				Size 36			
20 x 20	20 x 20	20 x 20	20 x 20	20 x 20	20 x 25	20 x 25	20 x 20
20 x 20	20 x 20	20 x 20	20 x 20	25 x 20	25 x 25	25 x 25	25 x 20

Filter Size	Unit Size				
	24	27	30	33	36
16 x 20	24	16			
20 x 20				32	8
20 x 25			12		16
16 x 25		8	12		
25 x 25					8

Our Commitment

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Product warranties can be found online at Greenheck.com, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.

Greenheck Model LSF catalog provides additional information describing the equipment, fan performance, available accessories, and specification data.

AMCA Publication 410-96, Safety Practices for Users and Installers of Industrial and Commercial Fans, provides additional safety information. This publication can be obtained from AMCA International, Inc. at www.amca.org.



Phone: (715) 359-6171 • Fax: (715) 355-2399 • E-mail: gfcinfo@greenheck.com • Website: www.greenheck.com