Q-PAC

# ASSEMBLY GUIDE

## MULTIMOTOR PLENUM FAN

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# TABLE OF CONTENTS

# SAFETY INFORMATION

The system design and installation must follow accepted industry practice as described in the ASHRAE Handbook, the National Electric Code, UL 60335-2-40, and other applicable standards. The equipment must be installed in accordance with regulations of authorities having jurisdiction and all applicable codes. Best practices shall be used to determine fan and control panel locations in the air handler. Installation and maintenance must be performed by qualified personnel familiar with the applicable codes and regulations, and experienced with this type of equipment.

Sheet metal parts, screws, mounting frames, clips, and other components may inherently have sharp edges which could cause injury; the installer must exercise caution. For optimum safety and operation, the Q-PAC Fan must be installed at least one blade diameter away from upstream components or surfaces, and at least three feet (3 ft) from all downstream components or surfaces.

For additional information and support, contact **Q-PAC Support** at (**904**) **863-5300** or **support@q-pac.com**.

### HEAVY EQUIPMENT

Component weights may exceed 50 lbs. Use appropriate lifting methods in accordance with all applicable codes and best practices.

### QUALIFIED PERSONNEL

Installation and servicing should be performed by qualified personnel only. Appropriate personal protective equipment recommended.

### INSTALL AS DIRECTED

Improper installation, adjustment, alteration, or use outside of rated performance will void warranty coverage and may result in a weakened assembly and/or component failure.

### DO NOT STACK

Unless otherwise noted, packaging is not designed for stacking during transport or storage. Items should not be placed on top of any packaging to prevent component damage.

### ELECTRICAL HAZARD

Turn off power and lock out all switches and devices before beginning installation or servicing.

### SUPERVISION

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

### DO NOT STORE ON INCLINE

Packaging is rated for transport and storage in a flat, upright position. Angling during transport or storing on an incline may cause components to shift presenting risk of component damage or danger during unpacking.

# RECEIVING AND HANDLING

The Q-PAC Fan as referenced in this guide is shipped as a knockdown unit - arriving as a set of pallets, crates, and/or boxes. Upon receipt, all packaging should be carefully inspected for signs of damage and tampering. If any signs are found, ensure that the all damages are noted on the Bill of Lading (BOL) and take pictures of the damaged items. Contact **Q-PAC Support** at **(904) 863-5300** or **support@q-pac.com** to report the damages. Q-PAC Support will arrange for replacement of the damaged components and manage the claim with the freight company.

Upon successful receipt of shipment, keep all pallets together and unopened until ready for assembly to ensure that no components are lost or damaged.

For Short Term and Long Term Storage Requirements, refer to the included user manual.

# DOCUMENT OVERVIEW

This document is to be used for the assembly and installation a Q-PAC Fan in an air handler when received as a knockdown kit for field assembly. This document covers preparation of the air handler, assembly of the Q-PAC Fan, and the installation of multiple Q-PAC Fans. For information on wiring and electrical connections, start-up, and/or maintenance, refer to the Q-PAC User Manual received with your fan.

Images contained within this document are intended only as visual guides; actual product shape and components may differ. To ensure successful assembly and fan performance, read this guide thoroughly before beginning assembly. Contact **Q-PAC Support** at **(904) 863-5300** or **support@q-pac.com** for assistance.

# Q-PAC FAN OVERVIEW

The Q-PAC Fan is a multimotor plenum fan for use in commercial air handlers. This fan type is characterized by:

- Multiple motors (motorized impellers) operating in unison
- Single point of connection for power and controls
- Unique, tested performance profile reflecting impellers running in parallel
- Resilient operation, with the ability to increase motor speed to maintain airflow in the event of a motor failure

The Q-PAC Fan can be installed in any commercial handler though the use of Q-PAC's Perimeter Angles or an existing flange in the air handler (5/8" - 1-1/4" flange recommended).

This fan consists of a structural frame, a Fan Controller serving as a single point of wiring for power and controls, a set of plug fans (motorized impellers), and plug-terminated power/control harnesses connecting each motor to the Fan Controller.

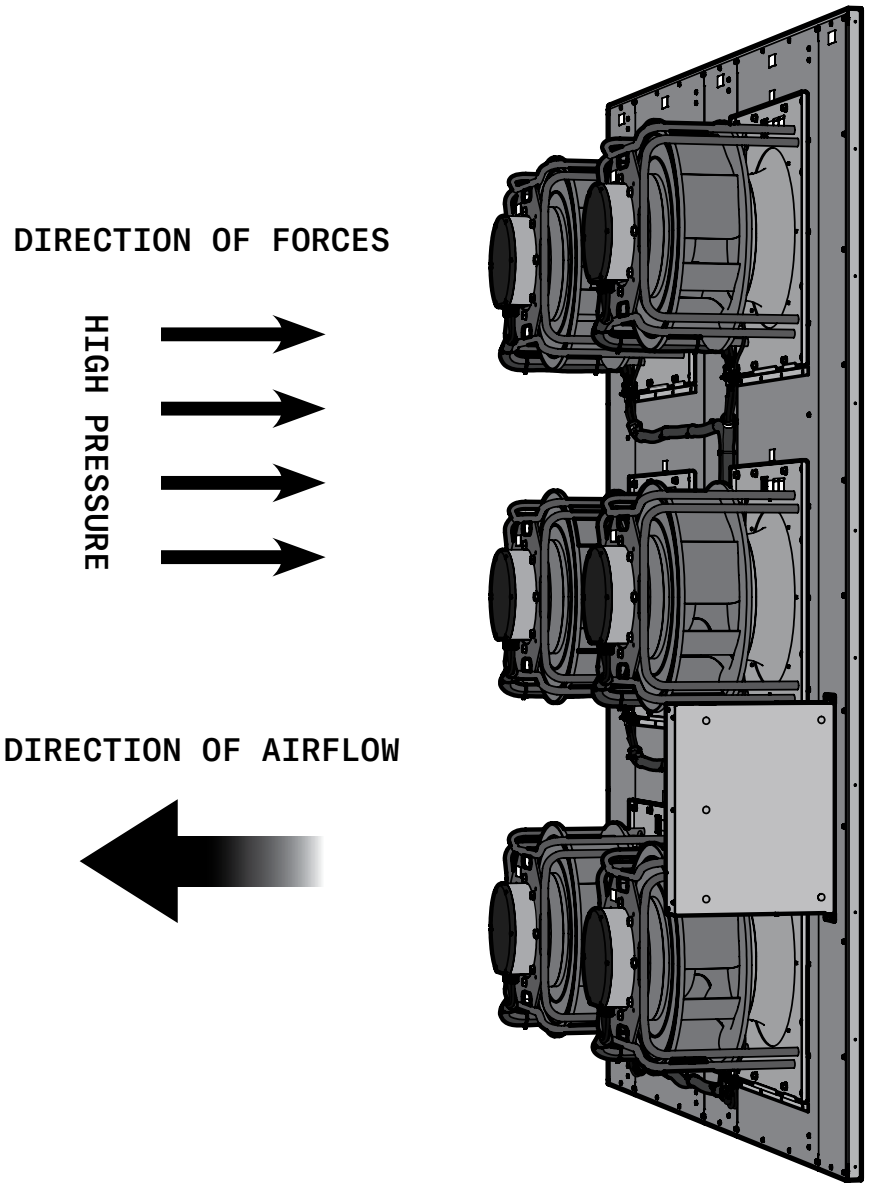
Assembly of the product is comprised of a series of stages.  If the air handler does not have a suitable mounting flange or the flange is in a poor location, install the included Perimeter Angles to create a mounting surface for the fan. Install each of the frame panels from left to right, in numerical order, with the left flange of one panel nesting into the channel of the previous panel. Fasten the panels together with the included self-drilling screws and the pre-punched holes traveling up the panel channel. Fasten the Fan Controller to the frame using the pre-punched holes on either the left or right end panel. Press the cable tie mounts into the pre-punched holes of the harness routes, as shown on the Assembly Diagrams included with the fan. Route each of the frame harnesses through these cable ties, connecting the plugs to the Fan Controller and Plug Fan Ledge corresponding to the harness label. Finally, install the Plug Fans onto the frame and connect the motor harness plugs to the Frame Harness plugs.

# DIRECTION OF AIRFLOW AND FORCES

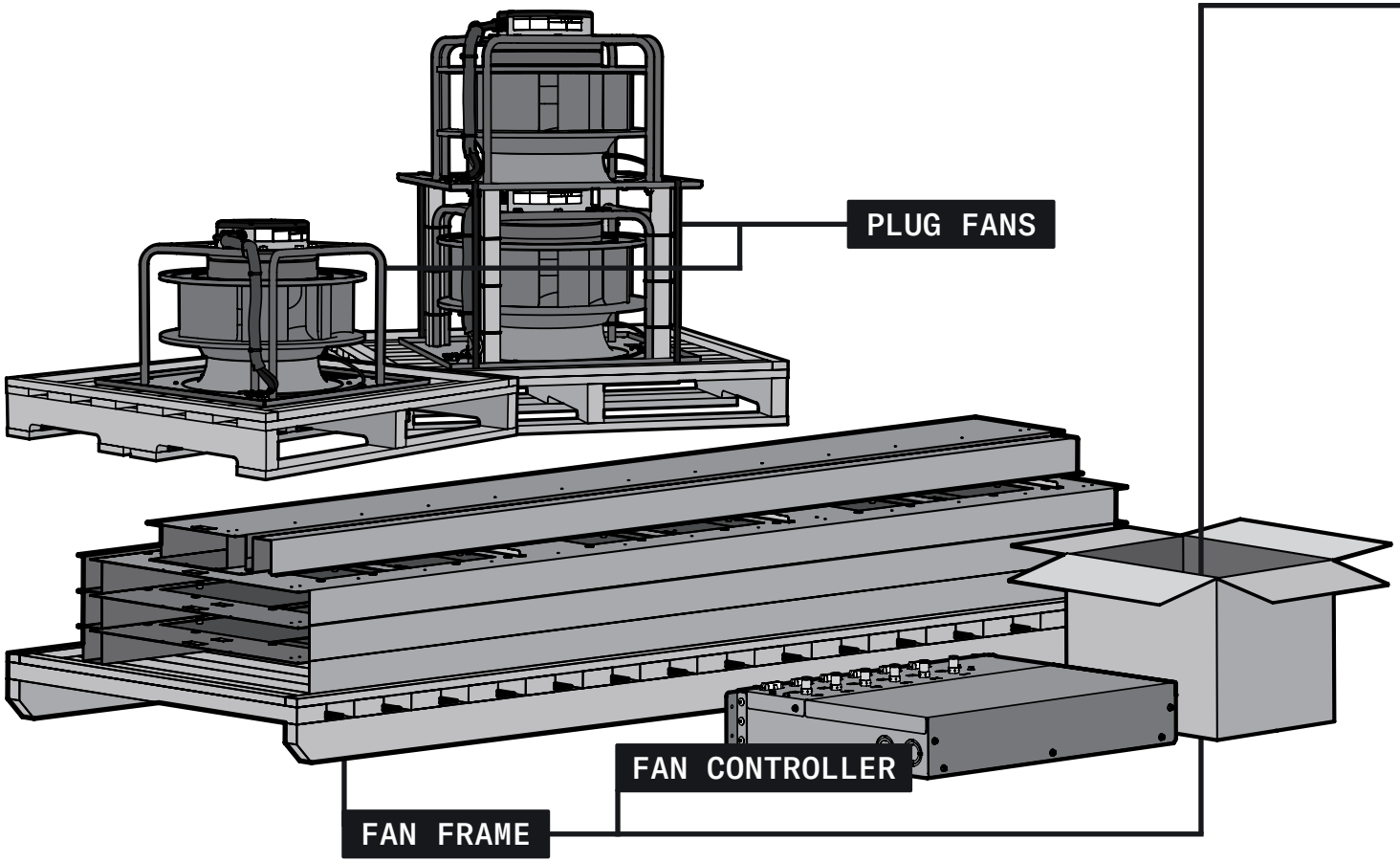
The Fan Frame serves a secondary purpose acting as pressure wall in the airstream.

The Q-PAC Fan uses backward curved impellers, which direct the airflow radially, pressurizing the plenum in order to move air through the ductwork. The result is that the frame is only experiencing load in the form of static pressure, not thrust.

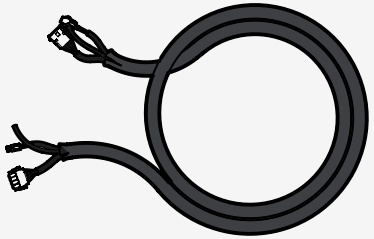
The Q-PAC Fan is designed to withstand operating pressures up to 9 inWc.



# FAN COMPONENTS

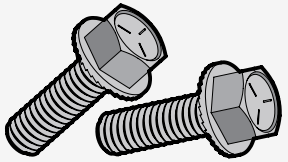



## HARDWARE BOX



FRAME HARNESSES

SELF-DRILLING SCREWS



FLANGE BOLTS

CABLE TIES

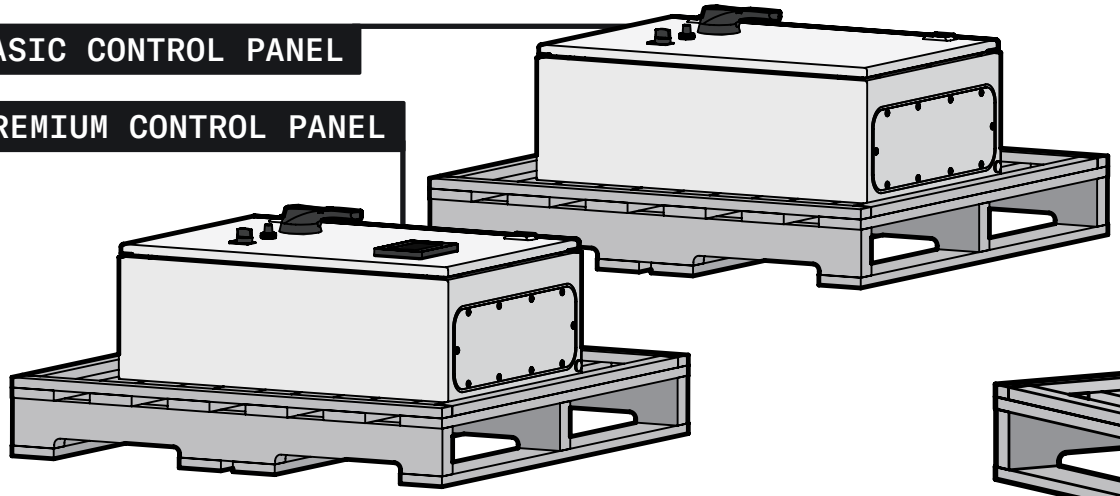
Actual components will vary by order. Refer to the order documents for more information.

Refer to **Receiving and Handling** (**Page 5**) for guidance on incomplete or damaged shipments.

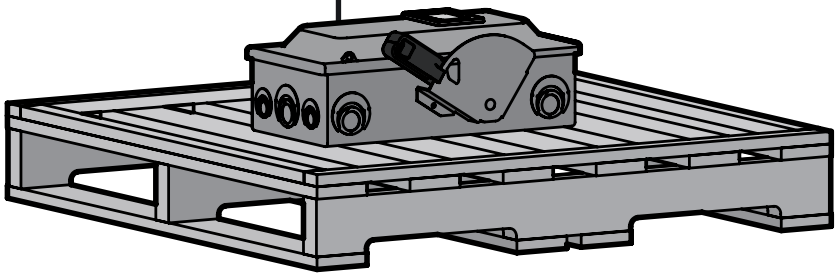
## OPTIONAL FAN ACCESSORIES

BASIC CONTROL PANEL

PREMIUM CONTROL PANEL



FUSED DISCONNECT



## RECOMMENDED TOOLS

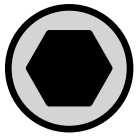
IMPACT DRIVER

**5/16” DRIVE**

Fan Frame self-drilling screws

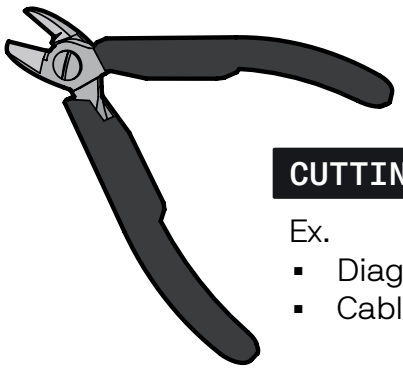
**1/2” DRIVE**

Fan Frame self-drilling screws



**3/4” DRIVE**

Plug fan mounting screws
(1700091, 17000523 only)



**CUTTING TOOL**

Ex.

- Diagonal cutting pliers
- Cable cutting pliers

# SUPPORTING DOCUMENTS

Supporting documents for the Q-PAC Fan are separated based upon other accessories in the system, if included. If purchasing an fan system with a Control Panel or Fused Disconnect, the system features and connection points will vary accordingly.

All user documents are available on **q-pac.com**.

## Q-PAC FAN WITH NO ACCESSORIES

These documents are for fan systems consisting of only one or more Q-PAC Fans, without a Control Panel or Fused Disconnect. The fan(s) will be connected directly to an external controller and power supply.

| | |
|---|---|
| **Q-PAC FAN WIRING GUIDE** | One-page reference guide for the Fan Controller terminals and connection points for field wiring. |
| **Q-PAC FAN USER MANUAL** | Detailed manual containing information on fan components, power harmonics, airflow measurement, fan wiring, Modbus objects, and fan maintenance. |
| **BACKDRAFT DAMPER ASSEMBLY GUIDE** | Detailed reference guide for the assembly and installation of backdraft dampers. |

## Q-PAC FAN WITH FUSED DISCONNECT

These documents are for fan systems consisting of one or more Q-PAC Fans connected to a Fused Disconnect. The fan(s) will be connected to the Fused Disconnect and an external controller for power and controls, respectively.

| | |
|---|---|
| **WIRING GUIDE FOR FUSED DISCONNECT** | One-page reference guide for the Fan Controller terminals and connection points for field wiring the fan to the Fused Disconnect. Separate documents for single- and multiple-fan systems. |
| **Q-PAC FAN USER MANUAL** | Detailed manual containing information on fan components, power harmonics, airflow measurement, fan and disconnect wiring, and fan maintenance. |
| **BACKDRAFT DAMPER ASSEMBLY GUIDE** | Detailed reference guide for the assembly and installation of backdraft dampers. |

## Q-PAC FAN WITH BASIC CONTROL PANEL

These documents are for fan systems consisting of only one or more Q-PAC Fans with a Basic Control Panel.
The fan(s) will be connected directly to the Control Panel, which will be connected to an external power supply and controller.

| | |
|---|---|
| **WIRING GUIDE FOR BASIC CONTROLS** | One-page reference guide for the Fan Controller terminals and connection points for field wiring the fan to the Control Panel. Separate documents for single- and multiple-fan systems. |
| **USER MANUAL FOR BASIC CONTROLS** | Detailed manual containing information on fan components, power harmonics, airflow measurement, fan and Control Panel wiring, and fan maintenance. |
| **BACKDRAFT DAMPER ASSEMBLY GUIDE** | Detailed reference guide for the assembly and installation of backdraft dampers. |

## Q-PAC FAN WITH PREMIUM CONTROL PANEL

These documents are for fan systems consisting of only one or more Q-PAC Fans with a Premium Control Panel.
The fan(s) will be connected directly to the Control Panel, which will be connected to an external power supply and controller.

| | |
|---|---|
| **WIRING GUIDE FOR PREMIUM CONTROLS** | One-page reference guide for the Fan Controller terminals and connection points for field wiring the fan to the Control Panel. Separate documents for single- and multiple-fan systems. |
| **USER MANUAL FOR PREMIUM CONTROLS** | Detailed manual containing information on fan components, power harmonics, airflow measurement, fan and Control Panel wiring, BACnet/IP and MS/TP objects, and fan maintenance. |
| **BACKDRAFT DAMPER ASSEMBLY GUIDE** | Detailed reference guide for the assembly and installation of backdraft dampers. |

# INSTALLATION SITE REQUIREMENTS

## RECOMMENDED CLEARANCES

Recommended clearances refer to the distance between the Q-PAC Fan and other equipment or obstructions in the airstream, as measured at the closest point between the fan and equipment.

| | |
|---|---|
| MINIMUM UPSTREAM CLEARANCE | Maintain 45° inlet angle, or a minimum of one impeller diameter (approximately 14-22 in.) |
| MINIMUM DOWNSTREAM CLEARANCE | 1.6 x Impeller Diameter (approximately 23-36 in.) |

The 45° inlet angle refers to an imaginary line drawn tangent to and extending from the inlet cone to the perpendicular surfaces of the air handler, drawn toward the nearest surface. This angle should not exceed 45° for ideal fan performance. If this angle cannot be determined, rule of thumb shall be to use a minimum distance of one impeller diameter.

## BEFORE INSTALLATION

! Verify interior dimensions of the air handler. Measured dimensions shall be within 1/2 in of the design dimensions, as given in <>. Measurements should be taken in multiple locations to ensure all deviations are within a 1/2 in tolerance.

! Ensure that air handler surfaces are square. All interior measurements of the air handler must lie within the 1/2 in tolerance of the design.

! Check for any hollows or bulges in the mounting surfaces. Significant deformations in the mounting surface may cause bowing of the Perimeter Angles which may impact installation of the frame panels.

! For fan replacement applications, ensure that the original fan and accompanying equipment have been completely removed prior to beginning assembly and installation of the Q-PAC Fan.

## FAN MOUNTING

The Q-PAC Fan is designed to be installed into any air handler–packaged air handling unit or built-up air handler.

There are two methods for installing the Q-PAC Fan in the air handler:

### EXISTING FLANGE

When using an existing flange in the air handler, ensure that the flange is sturdy and travels the full perimeter of the air handler.

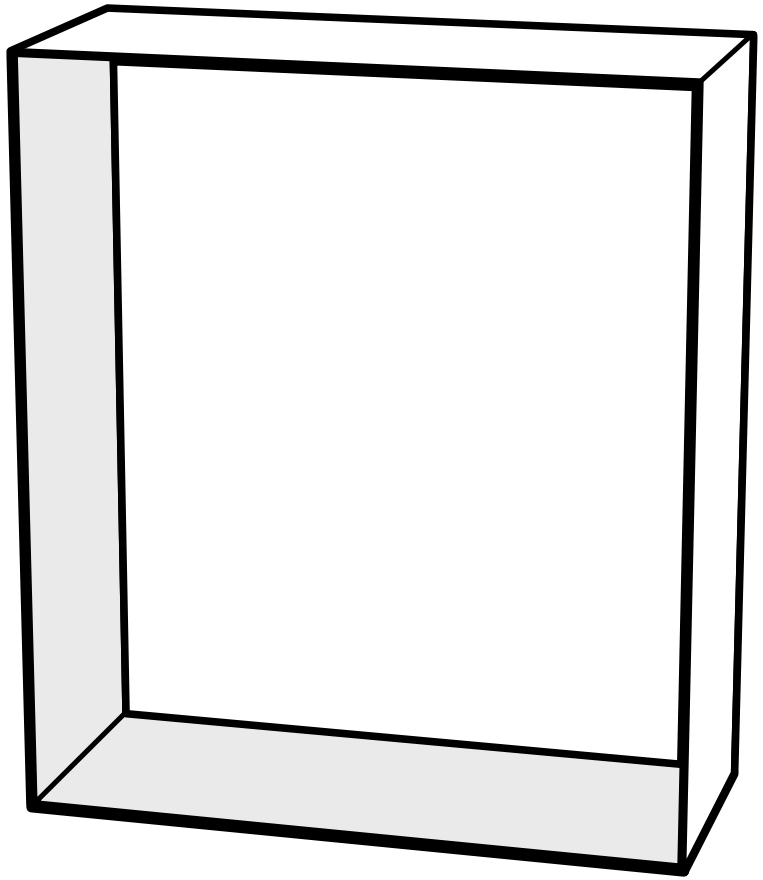
The existing flange should be between 5/8 in and 1-1/4 in.

### NO FLANGE

If there is no existing flange, the Q-PAC Fan ships with a set of Perimeter Angles which install into the air handler to create an adapter for installation of the fan. It is recommended that the interior surface of the air handler is a minimum of 20-gauge steel.

When using a field-fabricated flange or other customer-supplied mount, it is recommended to use a minimum 16-gauge steel.

When using the Perimeter Angles, ensure that each is attached to a smooth, sturdy surface. The ability of the fan to serve as a pressure wall may be compromised if secured to temporary or otherwise unstable surfaces.



## SEISMIC REQUIREMENTS

The Q-PAC Multimotor Plenum Fan is seismically certified as a complete assembly rather than as individual motors, impellers, or other components. It is listed under HCAI Special Seismic Certification Preapproval OSP-0875, which verifies that the fan can withstand earthquake shaking, stay anchored, and keep operating when installed as directed—the same way it was tested.

For the Q-PAC Fan, OSP-0875 covers:

- SDS up to 2.50 g at grade (ground level)
- SDS up to 1.61 g at roof or elevated locations (including height effects)
- Importance factor Ip = 1.5 for essential facilities

SDS up to 1.61 at the fan location covers most of the United States, including most of California. Sites very close to major faults may exceed this and require project-specific engineering. The preapproval can be applied for both fans installed in air handlers at the OEM factory and retrofit applications with fans installed in the field, so long as mounting and support conditions match the tested configuration.

## MEETING SEISMIC COMPLIANCE

To maintain seismic compliance, the Q-PAC Fan must be installed in accordance with this assembly guide. This assembly does not require any additional seismic bracing; the key consideration is how the fan is secured to the air handler.

As stated in FAN MOUNTING (Page 13), there are two methods for mounting the fan to the air handler:

1. Using a Q-PAC-supplied set of Perimeter Angles or customer-supplied mount secured to the interior surface of the air handler.
2. Using an existing flange inside the air handler, integral to the air handler structure.

## 1. PERIMETER ANGLES

1. The interior (inner-most) liner of the air handler must be a minimum of 20-gauge steel to ensure proper fastener engagement.
2. If using Q-PAC Perimeter Angles, secure the angles to a sheet metal liner using #14 self-drilling screws or larger through the provided guide holes. For other surfaces, select fasteners appropriate for the material to ensure adequate strength.
3. If using a field-fabricated or third party mount, the mount must be a minimum of 16-gauge steel, with a maximum distance of 3.75 inches between fasteners.
4. The installation must ensure that all Fan Frame mounting holes are fully-fastened without using any worn or previously used holes in the angles or mounting system.

## 2. EXISTING FLANGE

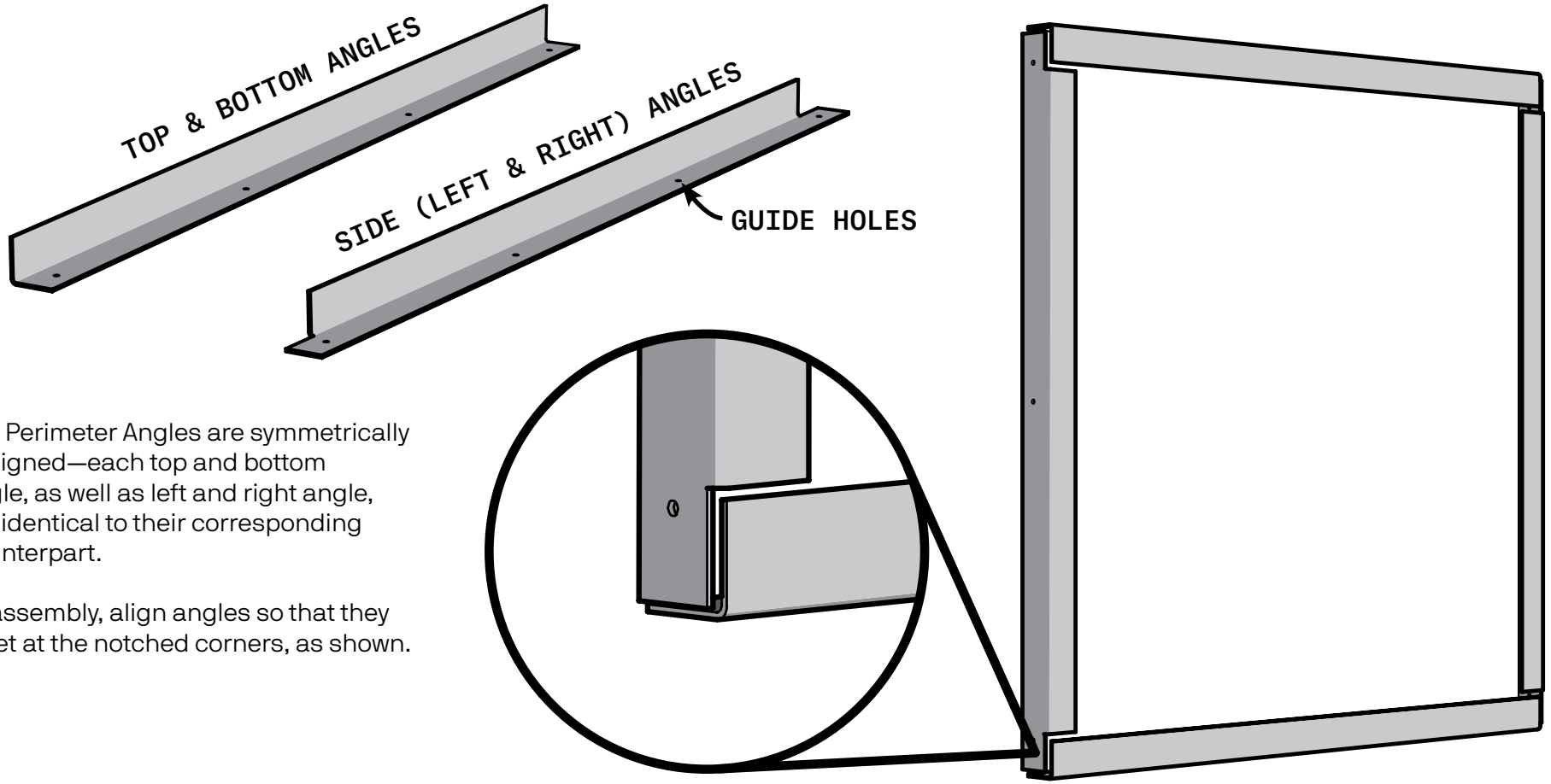
**!** This case does not include flanges that were added after manufacturing or are not part of the original air handler construction; these cases shall be covered by method 1 (above).

1. The existing flange must be a minimum of 16-gauge steel.
2. The installation must ensure that all Fan Frame mounting holes are fully-fastened without using any worn or previously used holes in the angles or mounting system.

# PERIMETER ANGLES

This page covers the use of Perimeter Angles as an adapter for the installation of the Q-PAC Fan in the air handler.
If the air handler includes an existing flange, approximately 1-1/4 inches in size, continue to the next assembly step on **Page 18.**

## OVERVIEW




The Perimeter Angles are symmetrically designed—each top and bottom angle, as well as left and right angle, are identical to their corresponding counterpart.

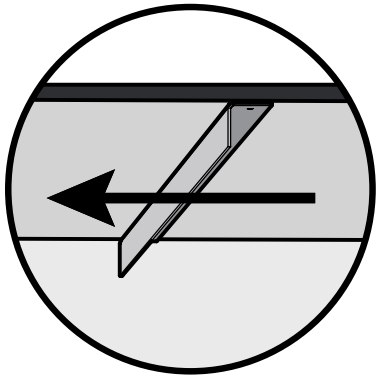
To assembly, align angles so that they meet at the notched corners, as shown.

## INSTALLATION

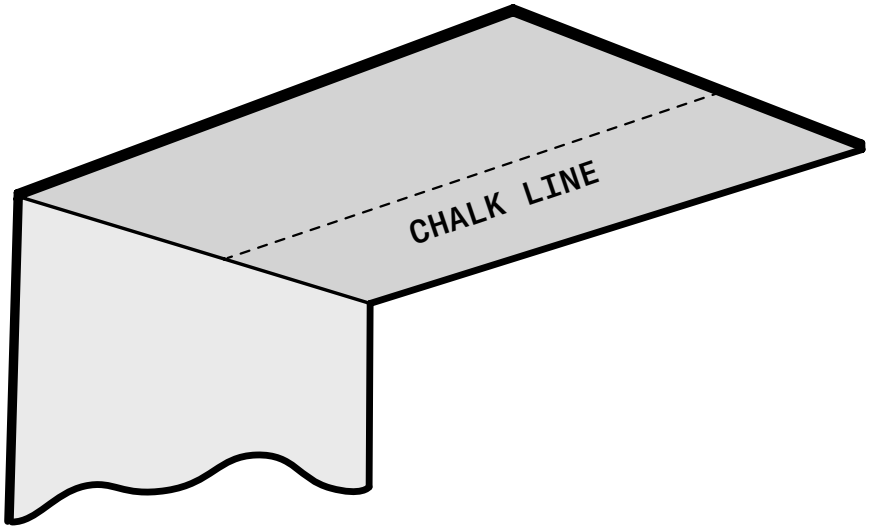
**1** FASTEN THE TOP PERIMETER ANGLE TO THE TOP SURFACE OF THE AIR HANDLER.

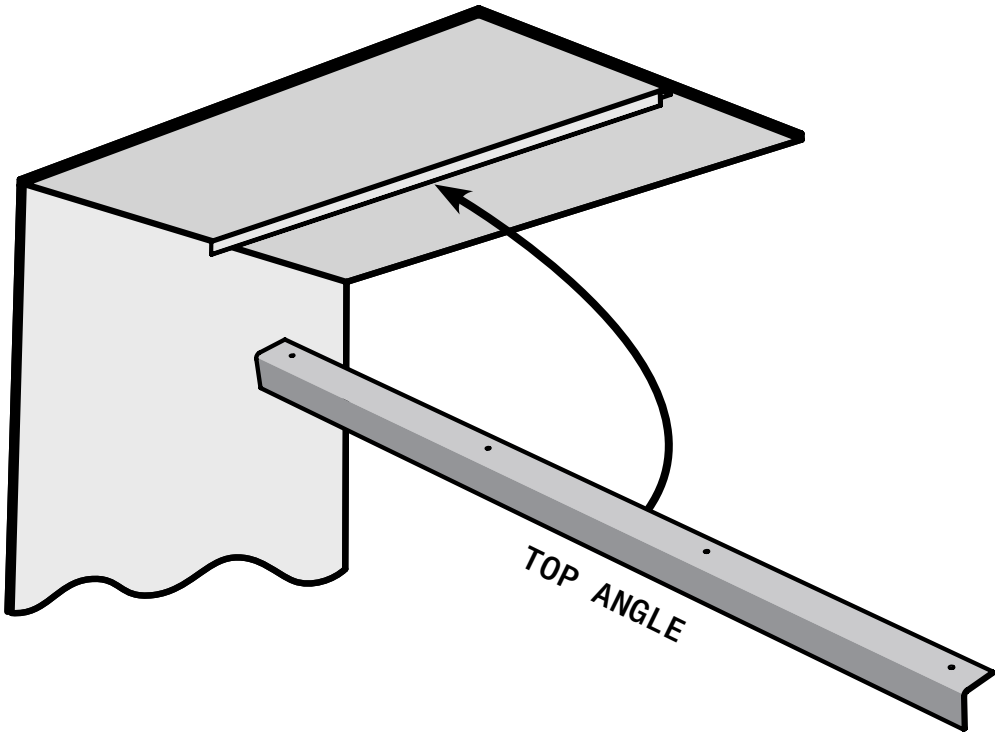
Following INSTALLATION SITE REQUIREMENTS, determine the mounting location for the Top Perimeter Angle. It is recommended to mark this location with a chalk line or similar indicator and ensure that it is perpendicular with the walls of the air handler. This is especially helpful for wider installations which may divide the Top and Bottom Perimeter Angles into multiple segments; an indicating line will help align consecutive angles to ensure a flat, continuous mounting surface for the Fan Frame.

Place the Top Perimeter Angle on the top surface of the air handler with the pre-punched holes flat on this surface and the blank flange aligned to the direction of airflow, downstream (as shown). Fasten the angle(s) to the air handler.



**DIRECTION OF AIRFLOW**



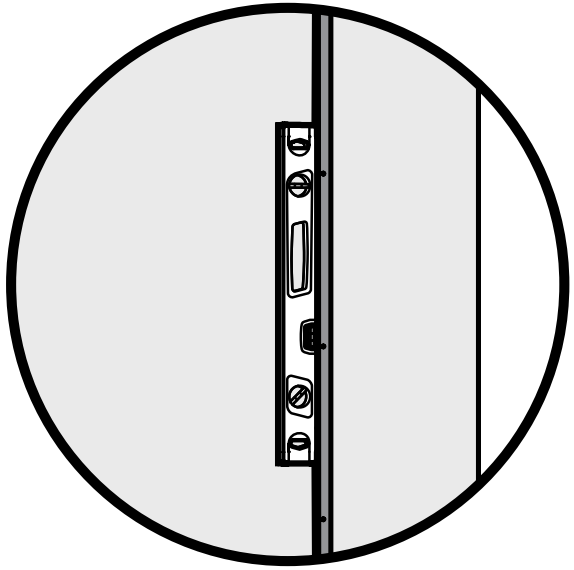

**!** **FASTENERS NOT PROVIDED**
Use fasteners of the proper material and design for the mounting surface of the air handler.

## 2 FASTEN THE LEFT AND RIGHT PERIMETER ANGLES TO THE WALLS OF THE AIR HANDLER.

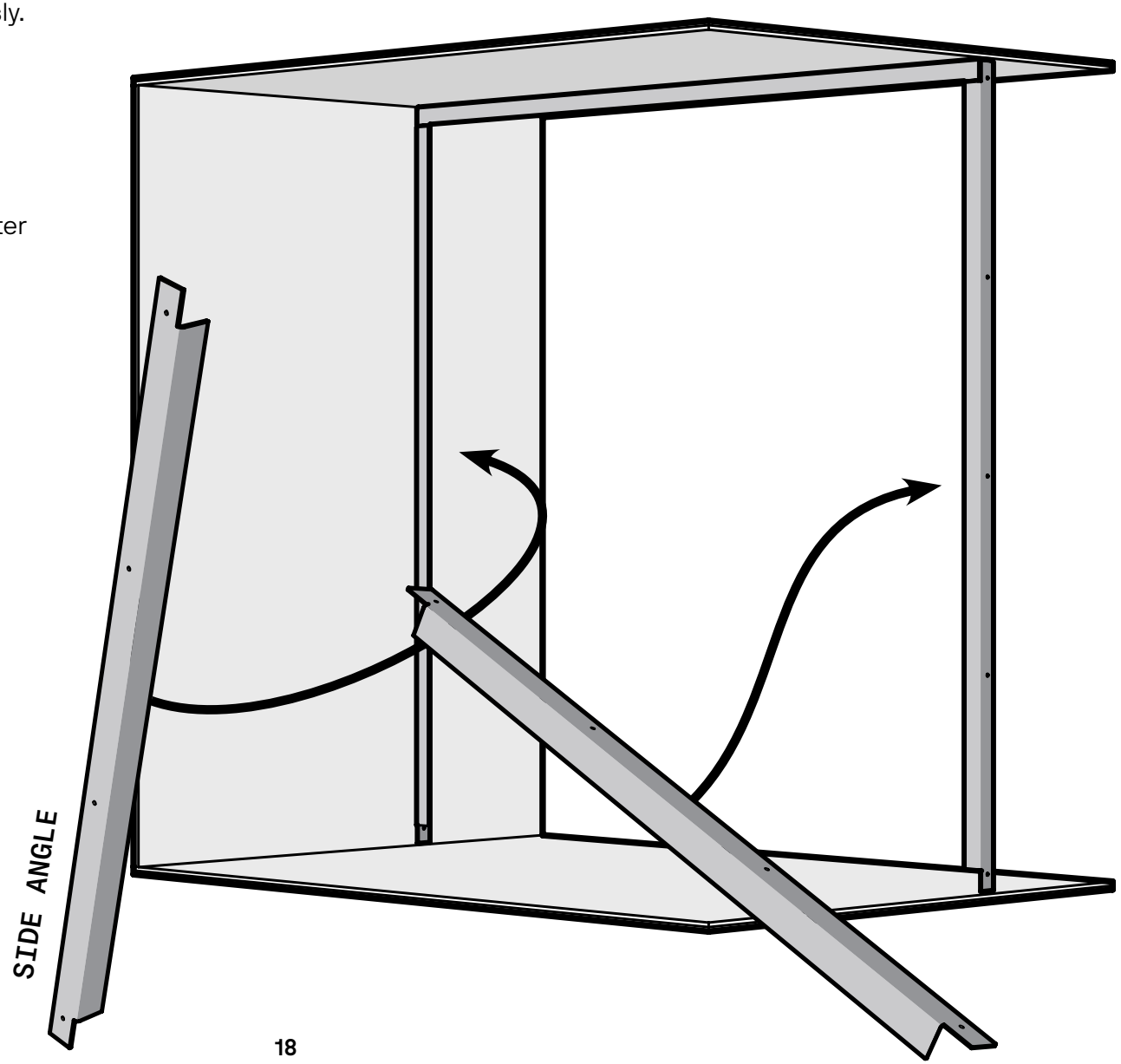
Align the Side Perimeter Angles with the Top Perimeter Angle installed previously. Using a level, align the side angles vertically along the sides of the air handler.

Ensure that blank surface is perpendicular to the walls of the air handler and flush with the Top Perimeter angle.

Fasten the angles to the side of the air handler.



**! FASTENERS NOT PROVIDED**
Use fasteners of the proper material and design for the mounting surface of the air handler.

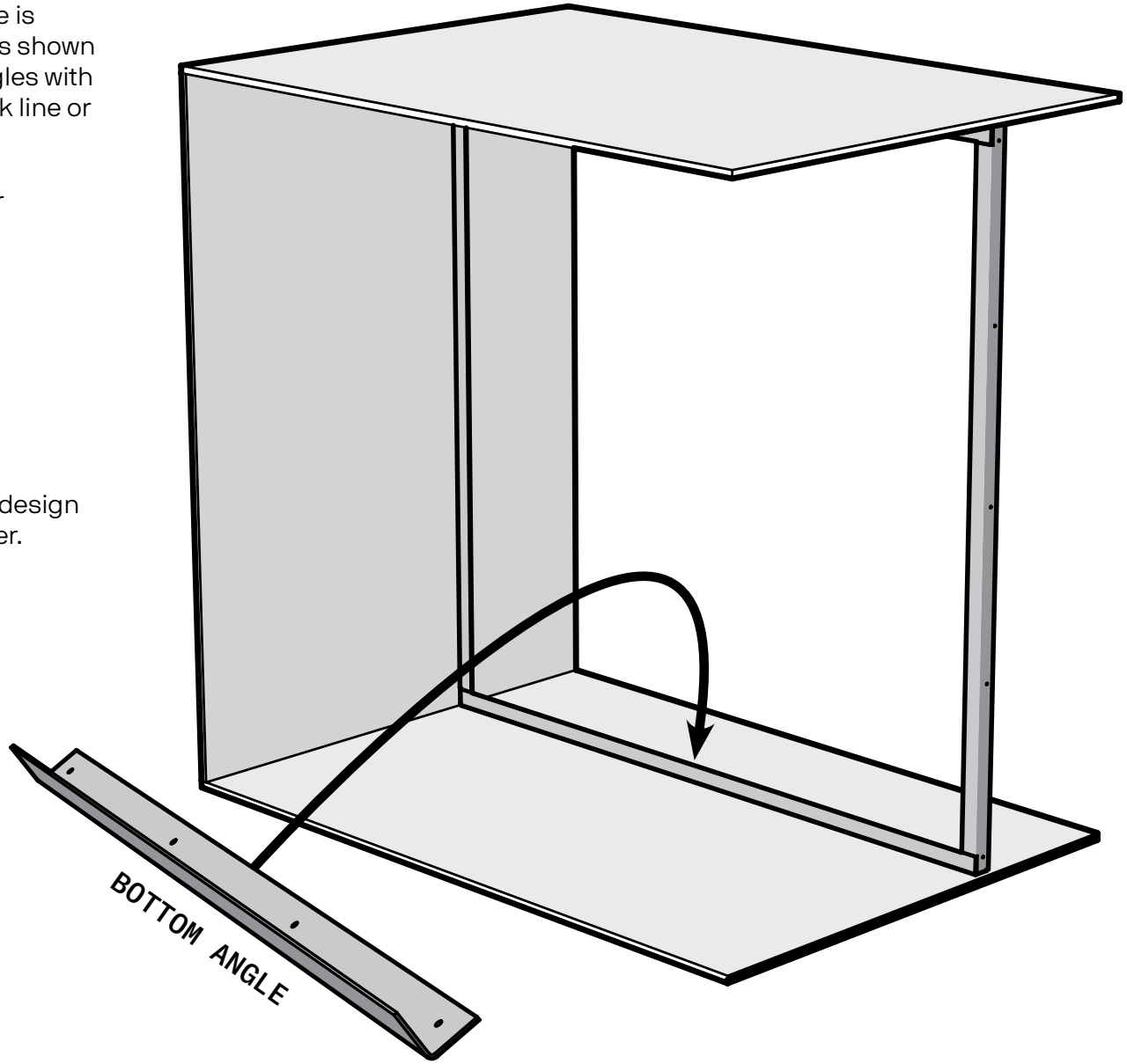


## 3 FASTEN THE BOTTOM PERIMETER ANGLE TO THE FLOOR OF THE AIR HANDLER.

Place the Bottom Perimeter Angle(s) on the floor of the air handler. Ensure the angle is oriented along the direction of airflow as shown on **Pages 7 and 15**. Align ends of the angles with the Side Perimeter Angles, using a chalk line or similar indicator to ensure alignment.

Fasten the angle(s) to the floor of the air hander.

**!** **FASTENERS NOT PROVIDED**
Use fasteners of the proper material and design for the mounting surface of the air handler.

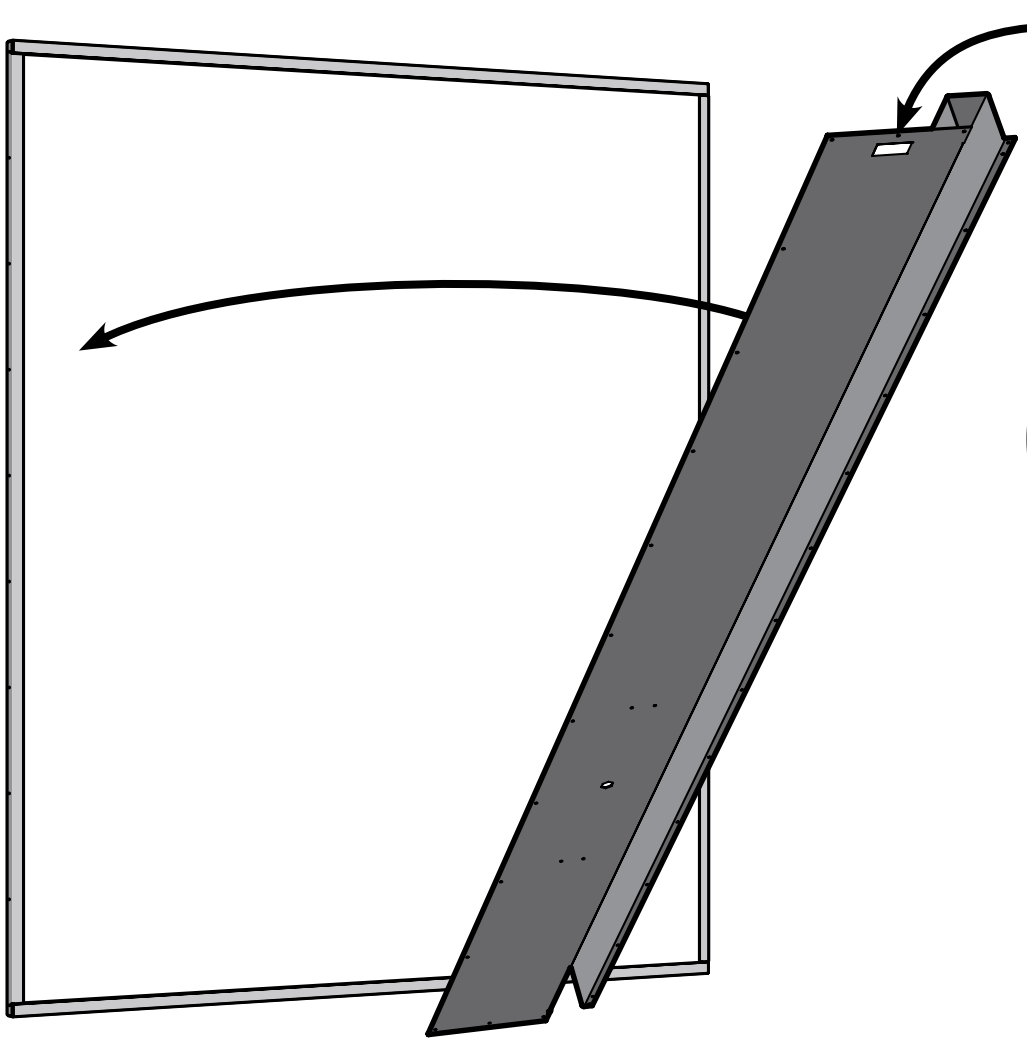


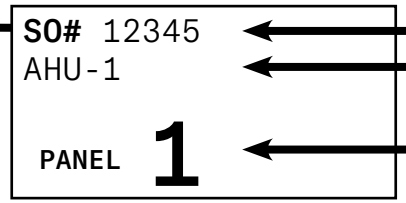
# FAN FRAME PANELS

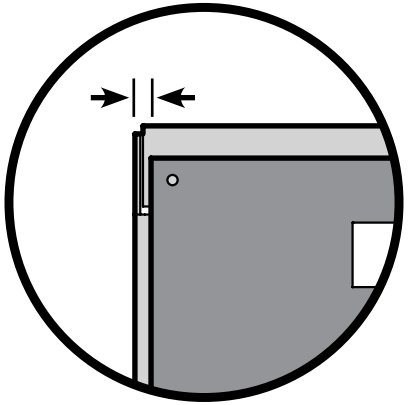
## 1

INSTALL THE FIRST FRAME PANEL, MARKED **PANEL 1.**

Locate the panel labeled “Panel 1.” If there are multiple fans to be installed, ensure that the panel label matches the system name and fan designation. Place the panel against the Perimeter Angles or air handler flange such that the channel is oriented to the right, and seated on top of the Bottom Perimeter Angle or flange.

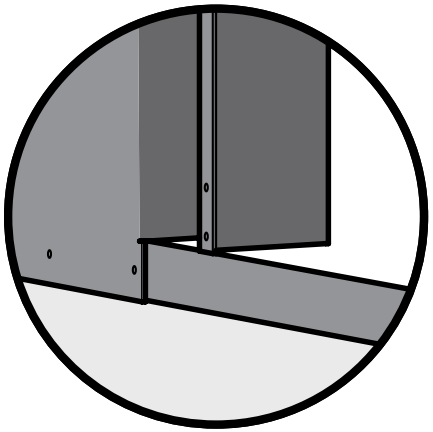




**!** The Q-PAC Fan has a nominal clearance of 1/2 in. Actual clearance will vary based on measured air handler dimensions.

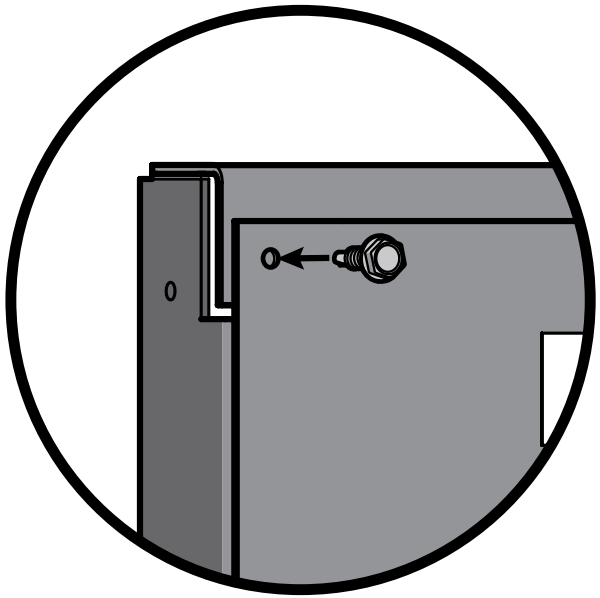
**!** Ensure that the bottom edge of the panel channel is seated on the Bottom Perimeter Angle or existing flange.

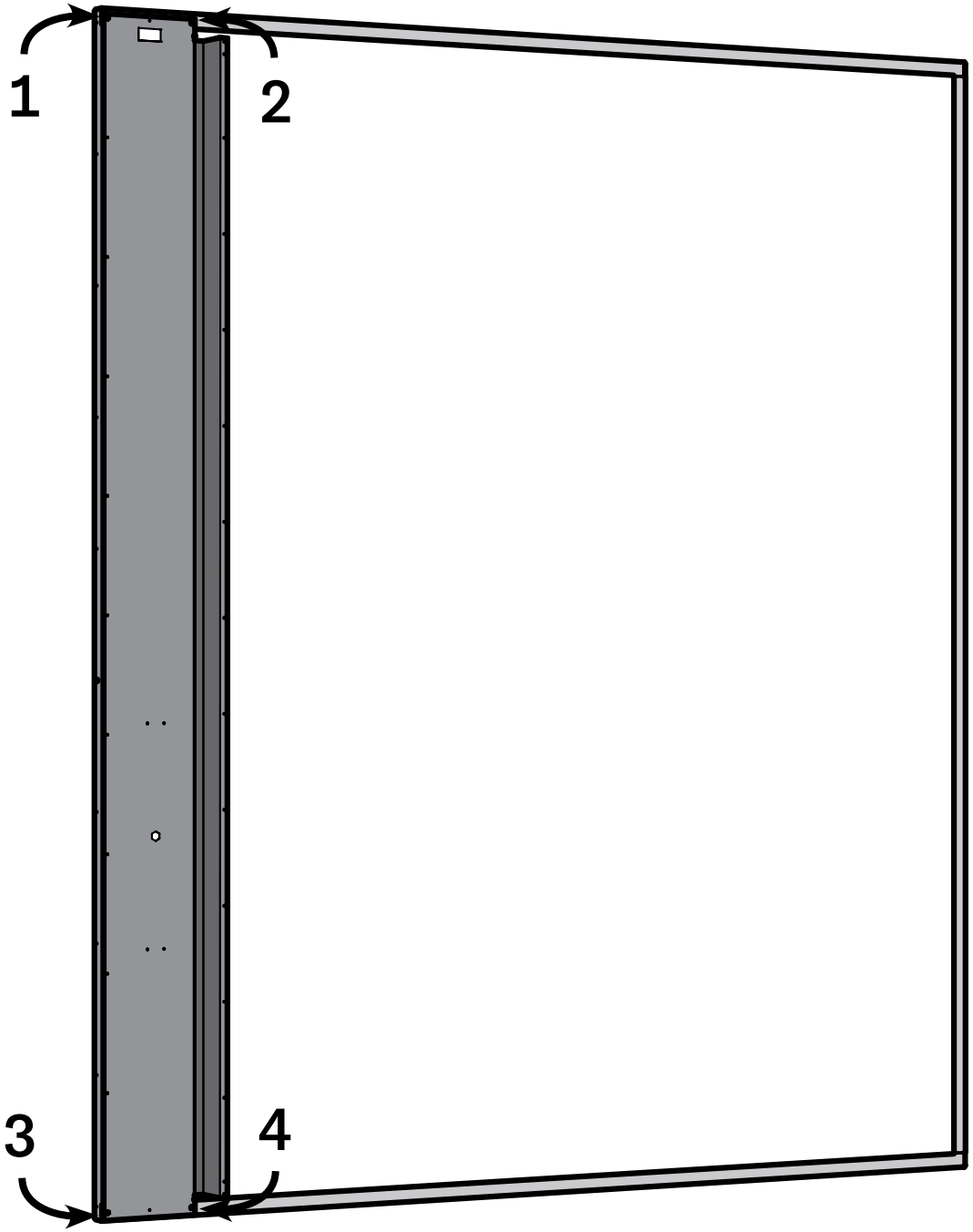


## 2

FASTEN **PANEL 1** TO THE PERIMETER ANGLE.

Each panel contains pre-punched holes along the perimeter flange of the panel. Use the self-drilling holes (included in the hardware box) to fasten the panel to the Perimeter Angle or existing flange by fastening one screw into each corner of the panel. The remaining screws can be installed after all panels are in place.






### FASTENERS & TOOLS

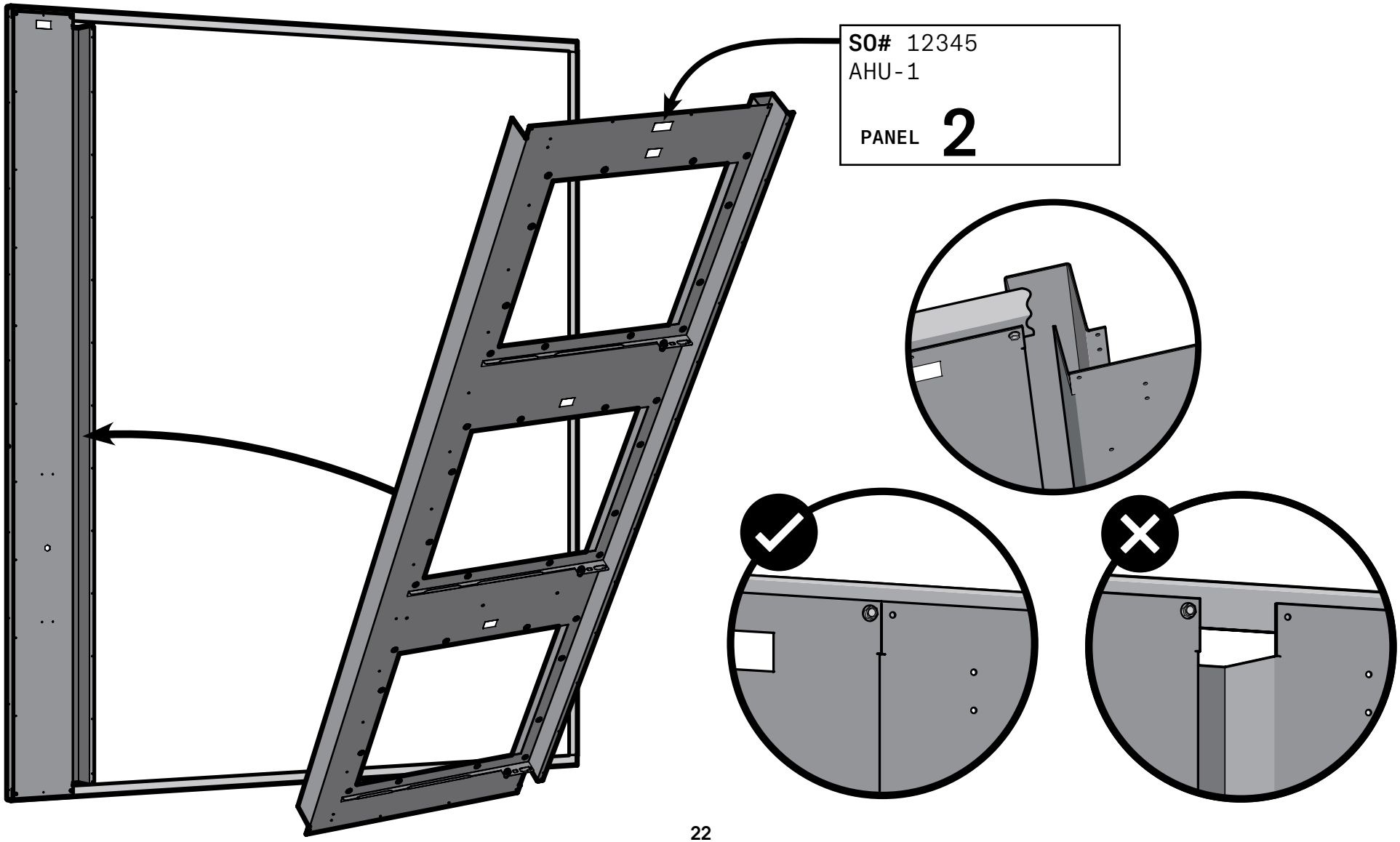
#10-16 x 3/4" Hex
Self-Drilling Screw

5/16" Hex Head
Drive

## 3

INSTALL THE SECOND FRAME PANEL, MARKED **PANEL 2.**

Locate the panel labeled “Panel 2.” If there are multiple fans to be installed, ensure that the panel label matches the system name and fan designation. Insert the left tab (opposite the panel channel) into the open channel of Panel 1. Press the left edge of Panel 2 against the far side of the Panel 1 channel so there is no gap between panels. When properly aligned, there pre-punched holes along the channel will align.

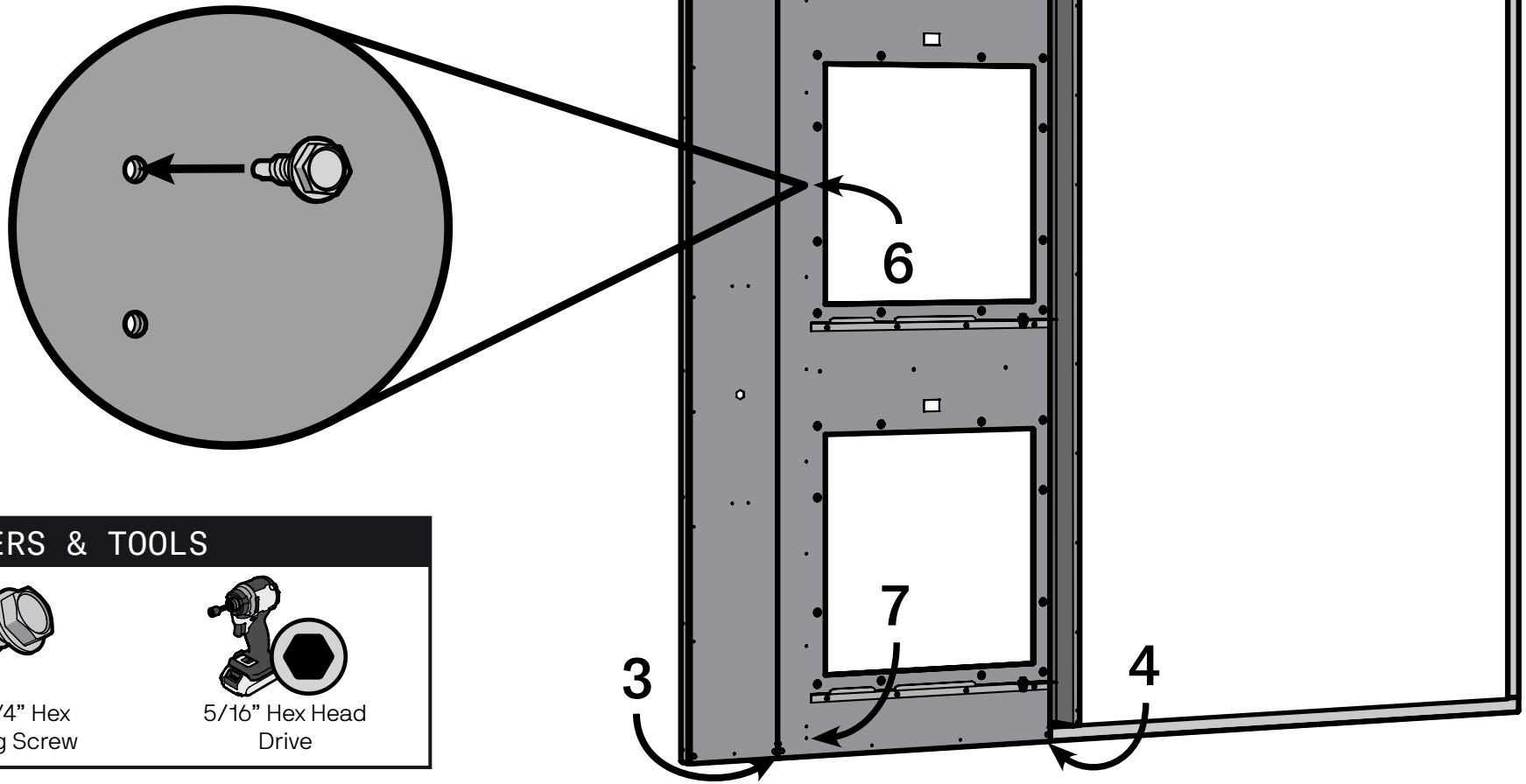


## 4

FASTEN **PANEL 2** TO **PANEL 1** AND THE PERIMETER ANGLE.

Use the self-drilling holes (included in the hardware box) to fasten the panel to the Perimeter Angle or existing flange by fastening one screw into each corner of the panel, as done in **STEP 2** [LOC 1-4].

Fasten one screw into each of the middle, top-, and bottom-most holes along the channel of Panel 2 [LOC 5-7].




### FASTENERS & TOOLS

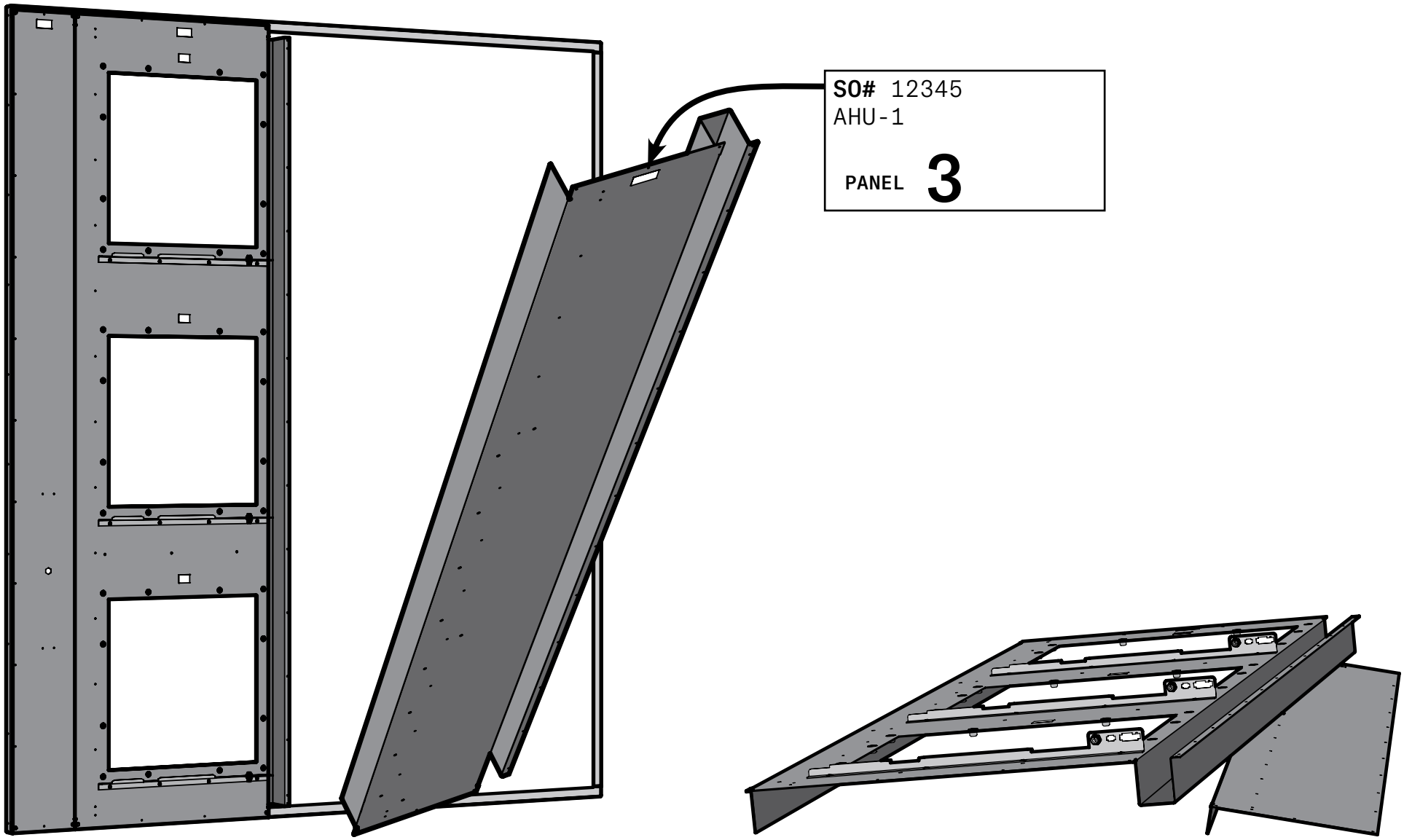
#10-16 x 3/4" Hex Self-Drilling Screw



5/16" Hex Head Drive

## 5 INSTALL THE REMAINING PANELS.

Repeat STEP 3 and STEP 4 for the remaining panels, if any. Ensure panels are installed in numerical order, as shown in the ASSEMBLY DIAGRAMS. For systems of two or more Q-PAC Fans, refer to APPENDIX A for guidance installing the Coupler and assembling additional Q-PAC Fans.

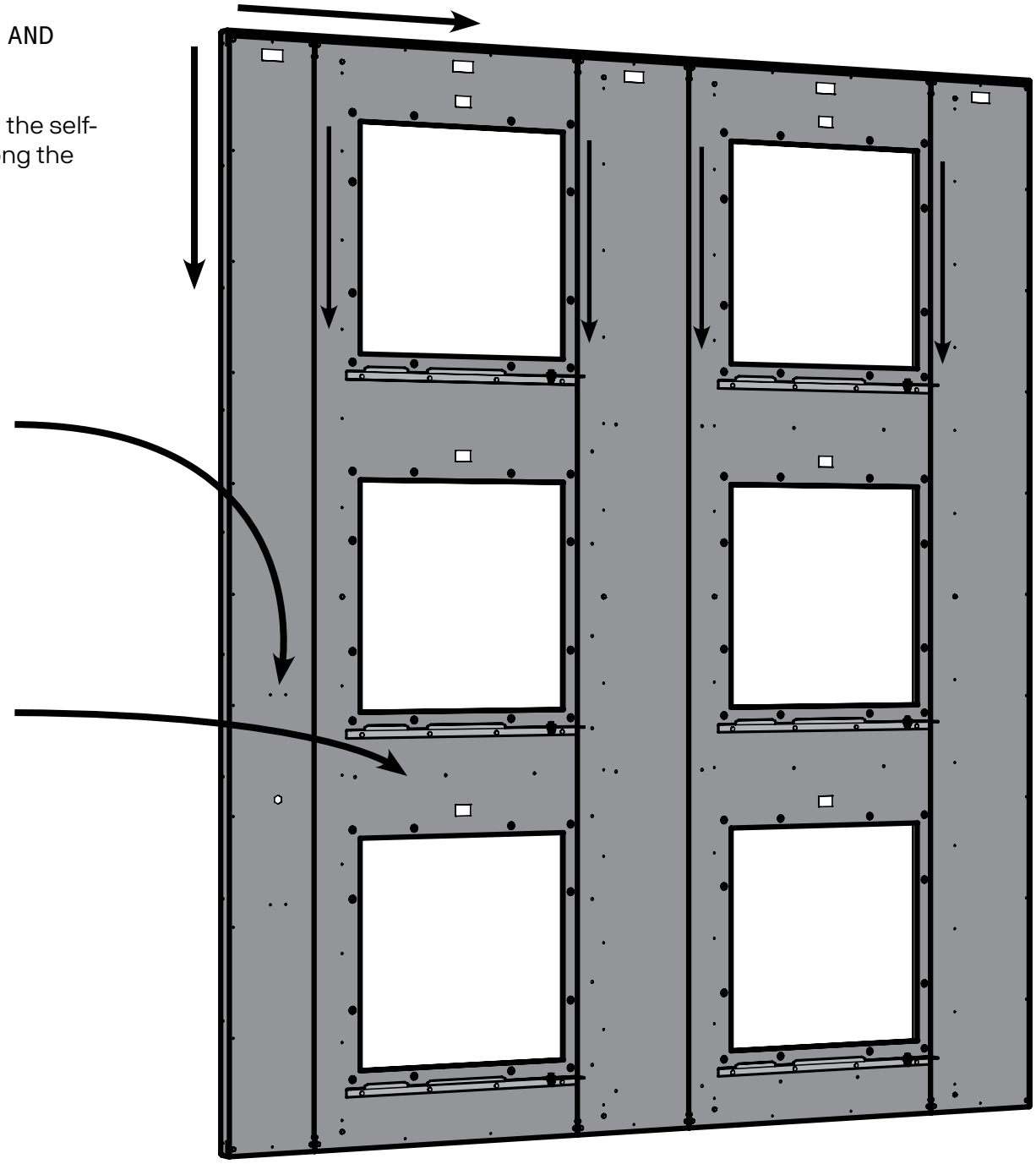


## 6 FINISH FASTENING PANEL CHANNELS AND PERIMETER ANGLES

Complete the frame assembly by fastening the self-drilling screws into the remaining holes along the frame perimeter and panel channels.

**!** There are a set of holes above and below a hexagonal cutout. These are used to mount the Fan Controller. Do not drive screws into these locations.

**!** There is a series of larger diameter holes (1/4 in) that travel vertically and horizontally along the frame. These are used to mount the Frame Harnesses. Do not drive screws into these locations.



### FASTENERS & TOOLS

#10-16 x 3/4" Hex Self-Drilling Screw

5/16" Hex Head Drive

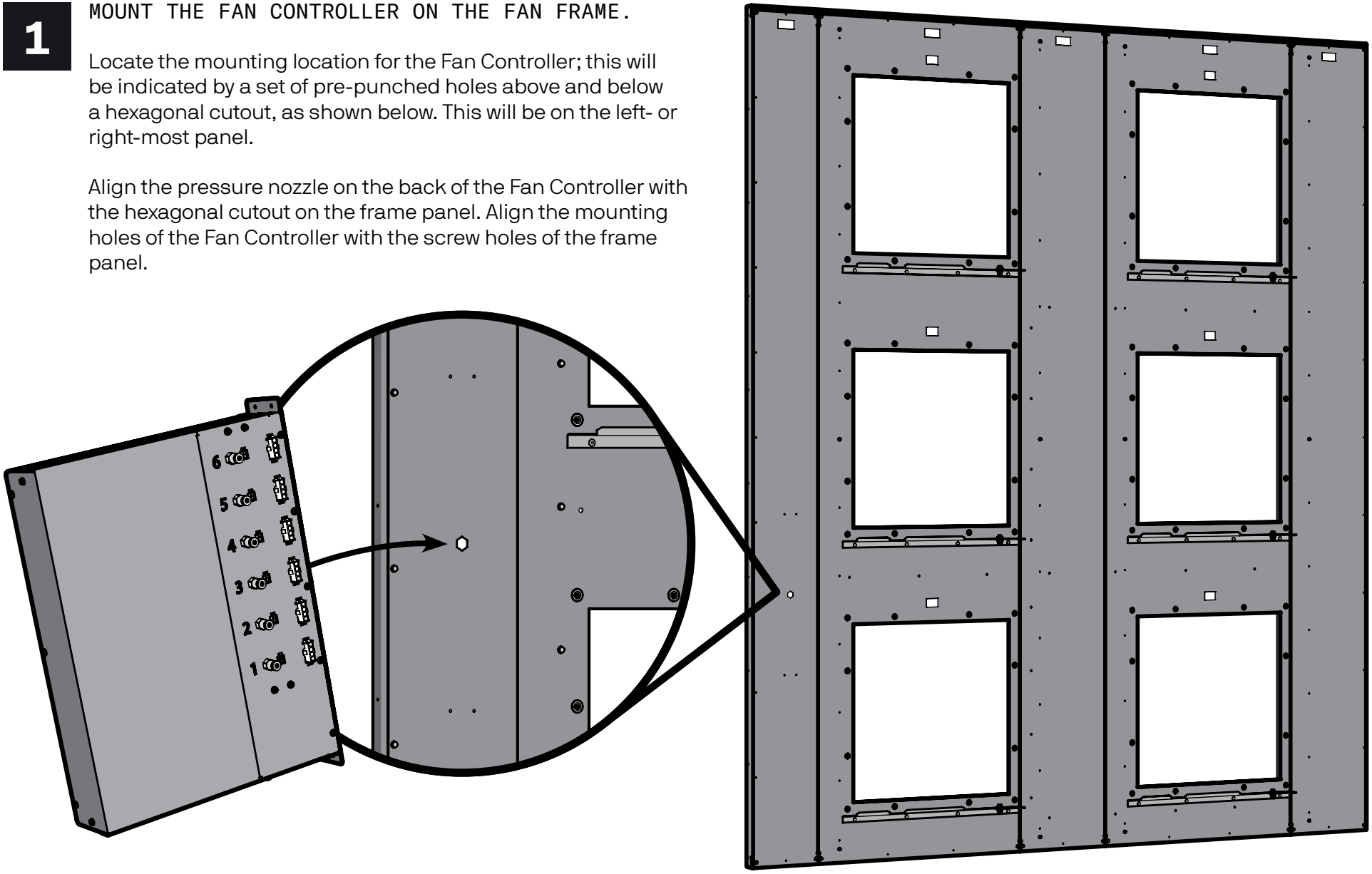
# FAN CONTROLLER

## 1

MOUNT THE FAN CONTROLLER ON THE FAN FRAME.

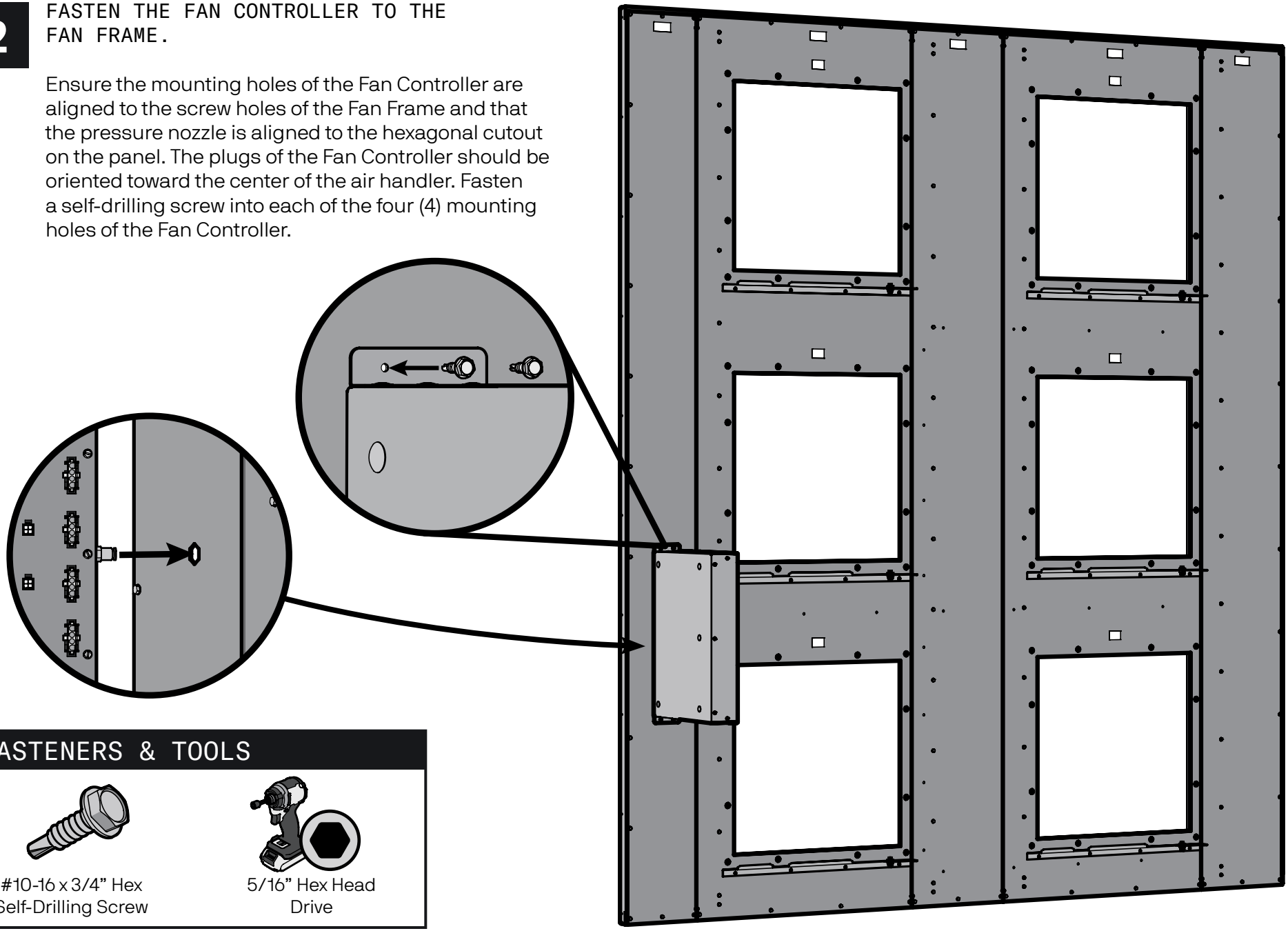
Locate the mounting location for the Fan Controller; this will be indicated by a set of pre-punched holes above and below a hexagonal cutout, as shown below. This will be on the left- or right-most panel.

Align the pressure nozzle on the back of the Fan Controller with the hexagonal cutout on the frame panel. Align the mounting holes of the Fan Controller with the screw holes of the frame panel.



## 2 FASTEN THE FAN CONTROLLER TO THE FAN FRAME.

Ensure the mounting holes of the Fan Controller are aligned to the screw holes of the Fan Frame and that the pressure nozzle is aligned to the hexagonal cutout on the panel. The plugs of the Fan Controller should be oriented toward the center of the air handler. Fasten a self-drilling screw into each of the four (4) mounting holes of the Fan Controller.



### FASTENERS & TOOLS



#10-16 x 3/4" Hex Self-Drilling Screw



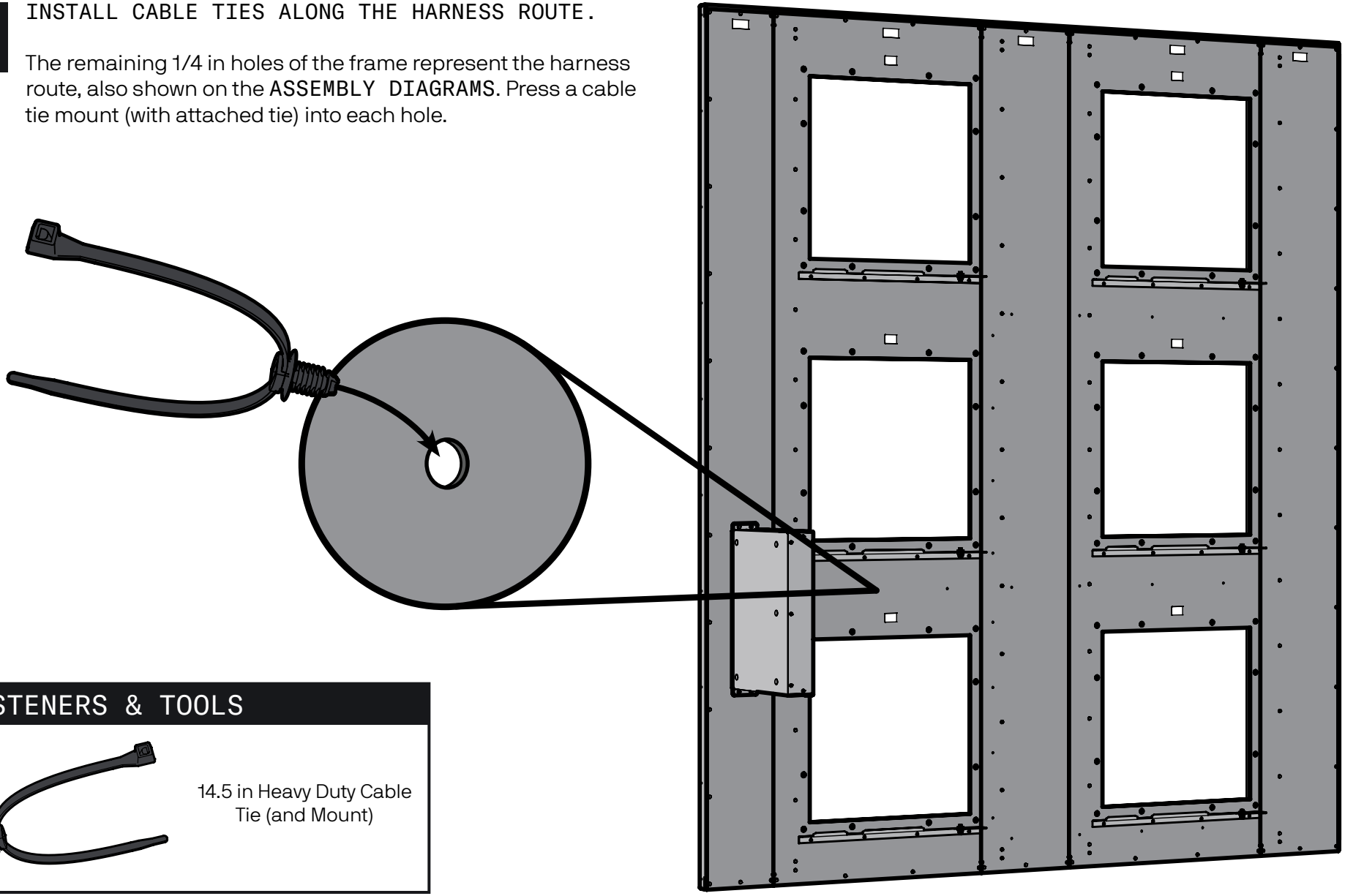
5/16" Hex Head Drive

# FRAME HARNESSES

**1**

INSTALL CABLE TIES ALONG THE HARNESS ROUTE.

The remaining 1/4 in holes of the frame represent the harness route, also shown on the ASSEMBLY DIAGRAMS. Press a cable tie mount (with attached tie) into each hole.



## FASTENERS & TOOLS



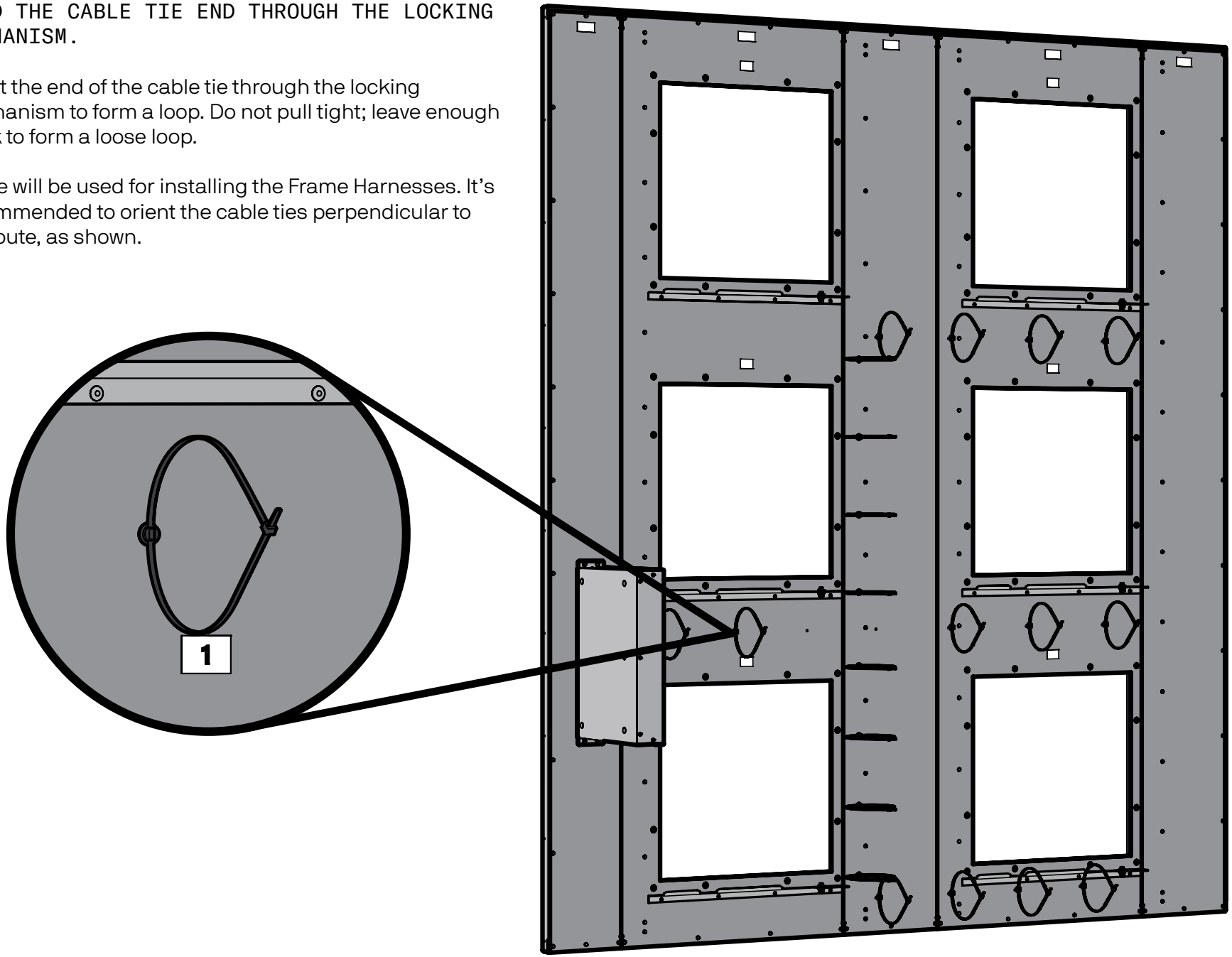
14.5 in Heavy Duty Cable Tie (and Mount)

## 2

FEED THE CABLE TIE END THROUGH THE LOCKING MECHANISM.

Insert the end of the cable tie through the locking mechanism to form a loop. Do not pull tight; leave enough slack to form a loose loop.

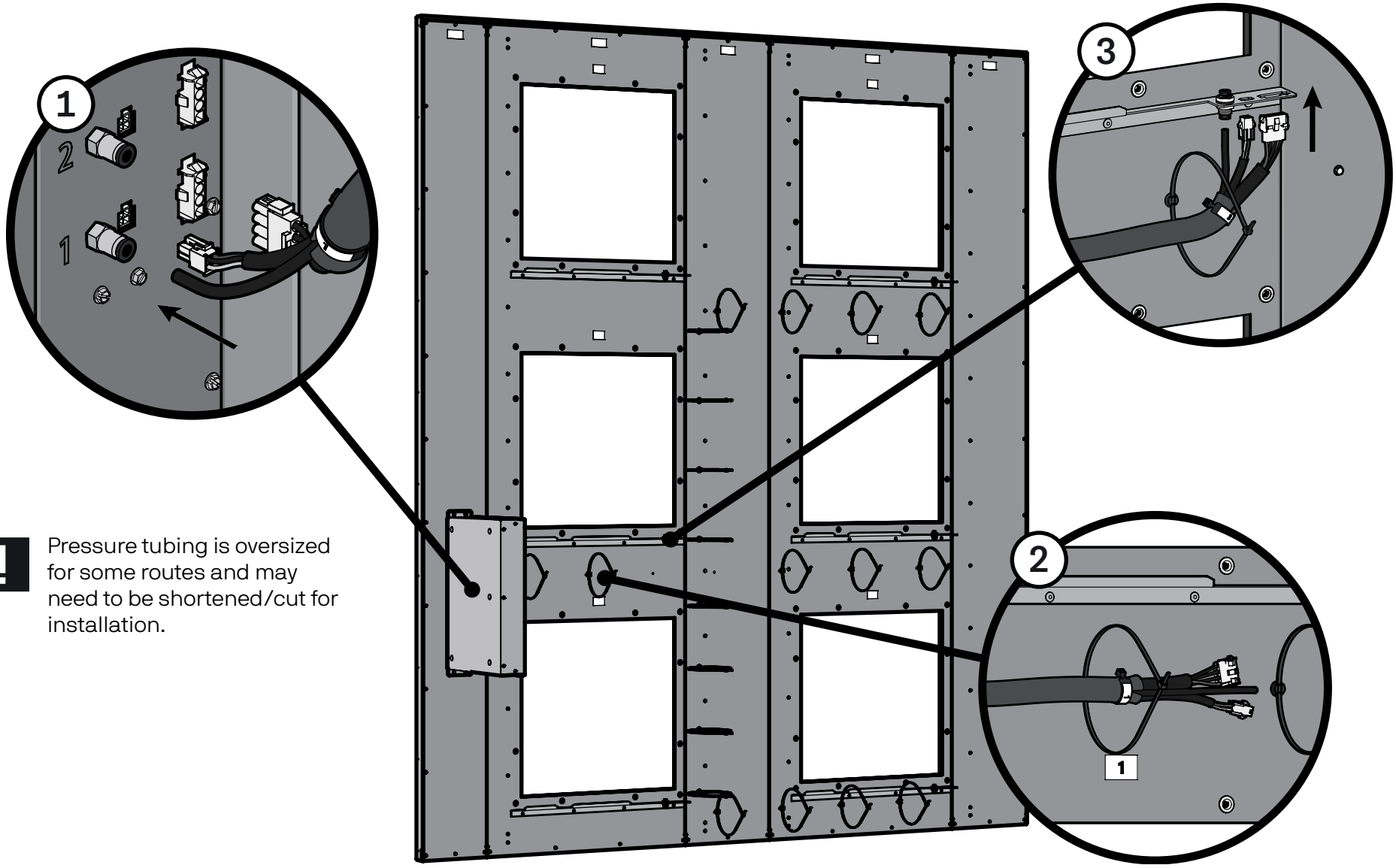
These will be used for installing the Frame Harnesses. It's recommended to orient the cable ties perpendicular to the route, as shown.



## 3

MOUNT THE FRAME HARNESSES ON THE FAN FRAME.

Run each harness through the open cable ties, connecting the pressure tube and plugs to the Fan Controller and each Plug Fan Ledge. Each harness unique length and is labeled with the number of the corresponding plug fan location (above each panel cutaway) and set of plugs on the Fan Controller.



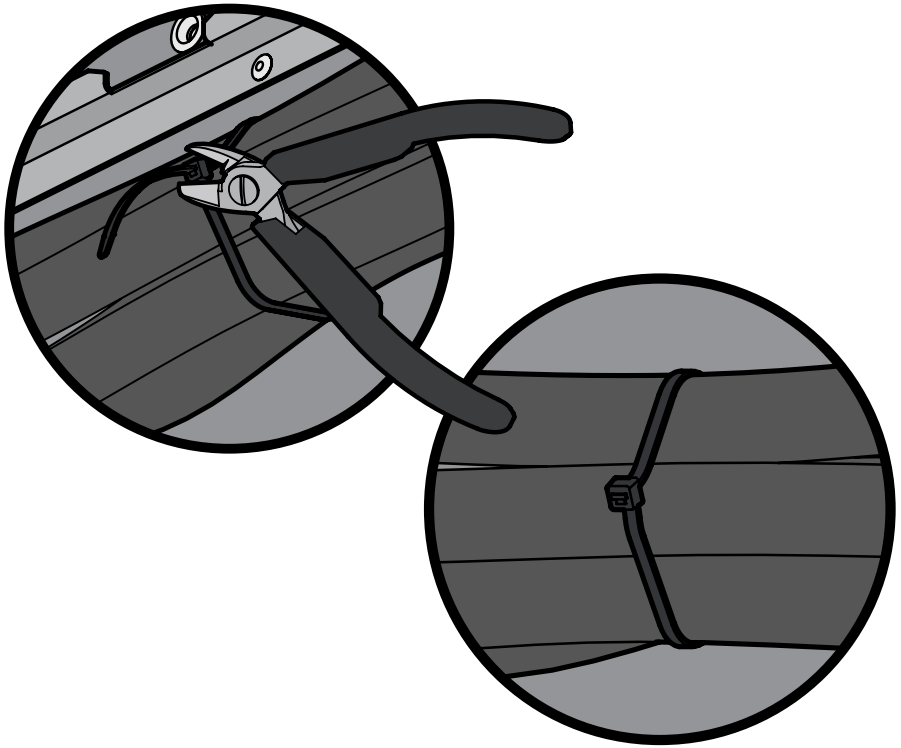

**!** Pressure tubing is oversized for some routes and may need to be shortened/cut for installation.

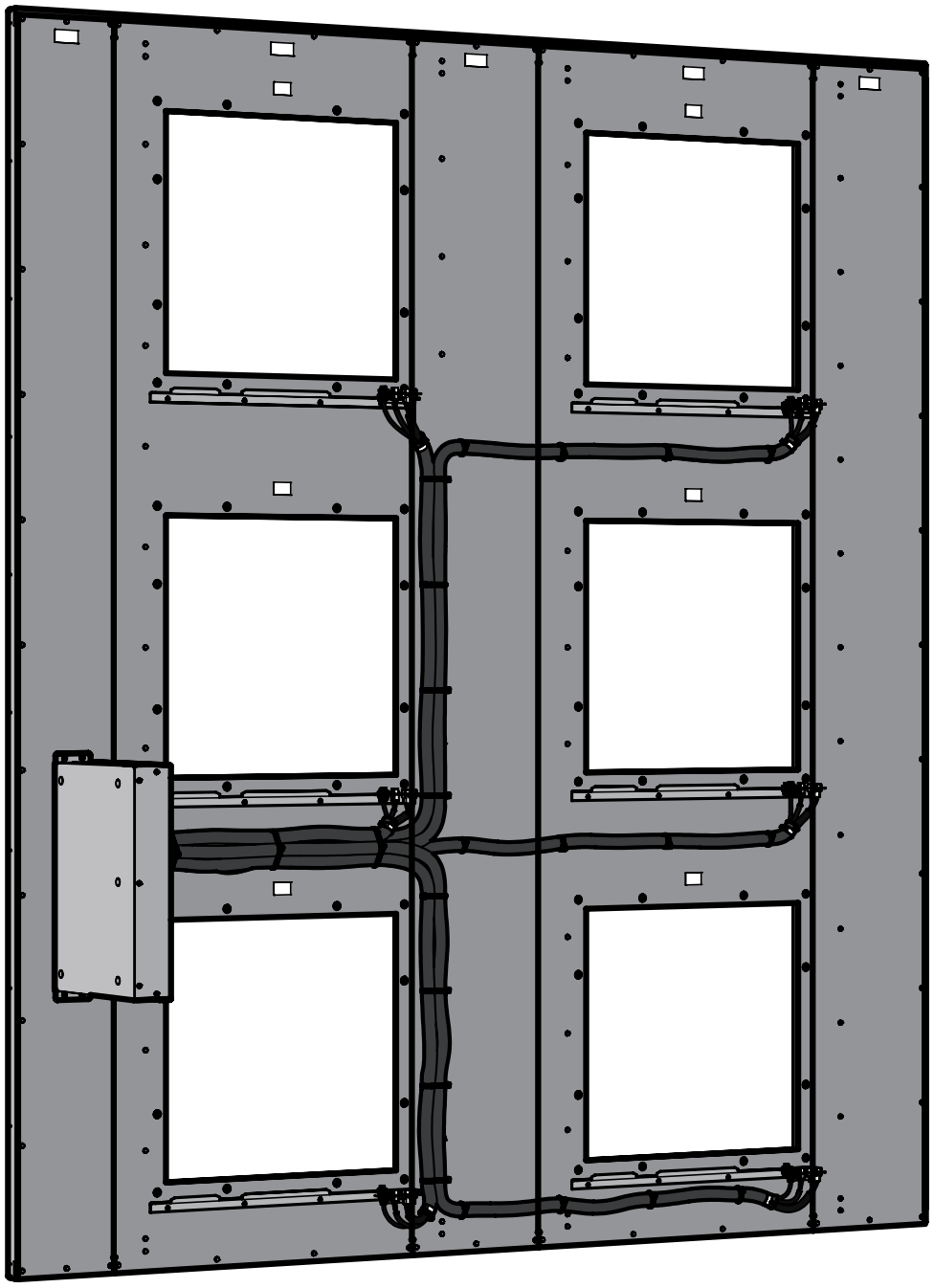
## 4

TIGHTEN THE CABLE TIES.

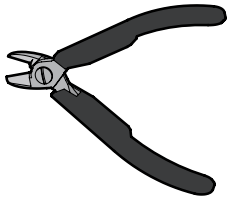
Once all harnesses have been mounted and connected to the Fan Controller and their respective ledges, tighten the cable ties until the harnesses are secured in place.

Cut excess length from the end of the cable tie.





### FASTENERS & TOOLS



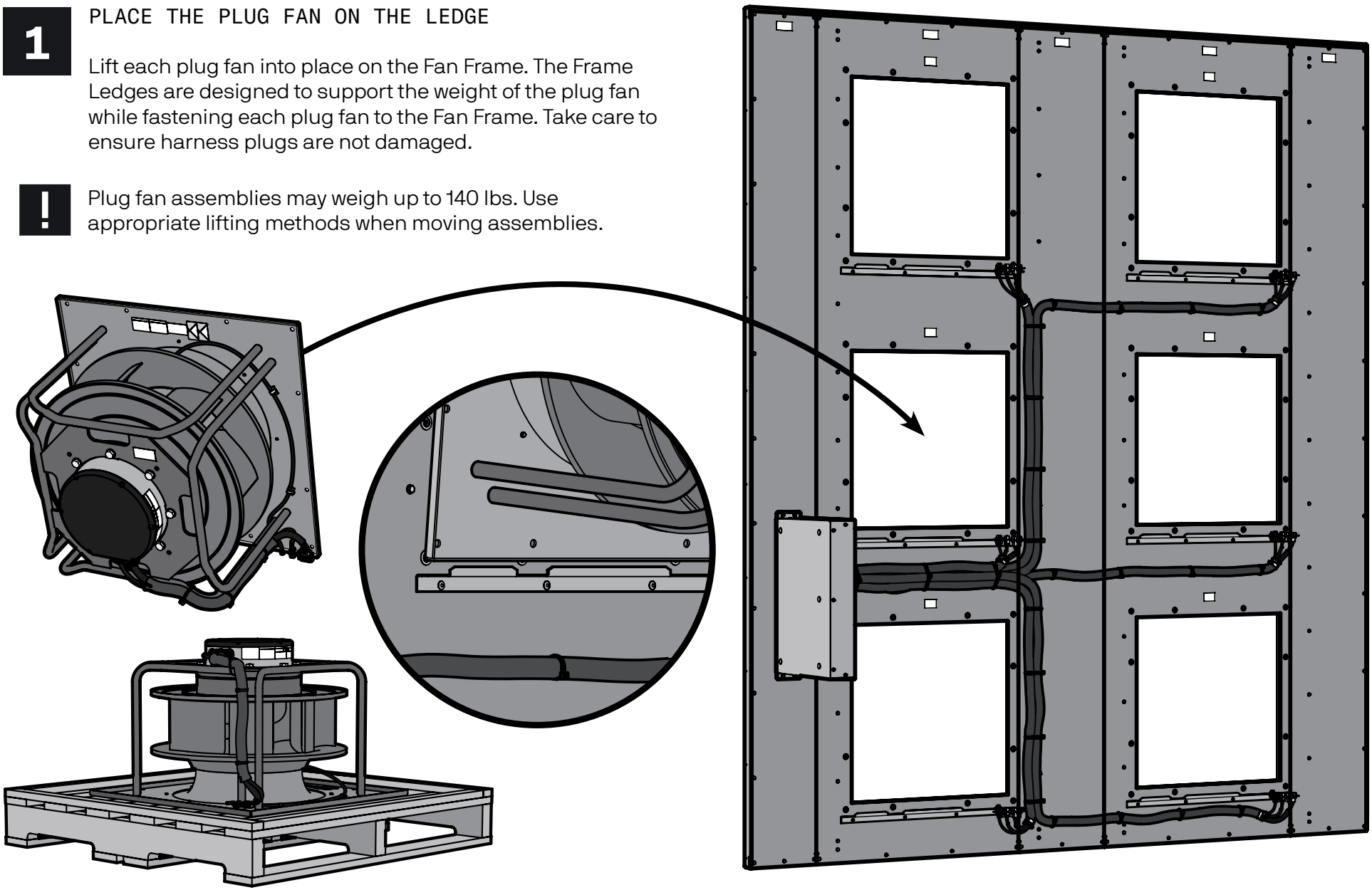
Wire Cutters

# PLUG FANS

## 1 PLACE THE PLUG FAN ON THE LEDGE

Lift each plug fan into place on the Fan Frame. The Frame Ledges are designed to support the weight of the plug fan while fastening each plug fan to the Fan Frame. Take care to ensure harness plugs are not damaged.

**!** Plug fan assemblies may weigh up to 140 lbs. Use appropriate lifting methods when moving assemblies.

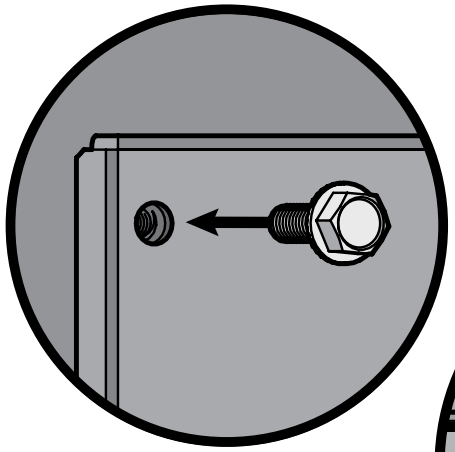


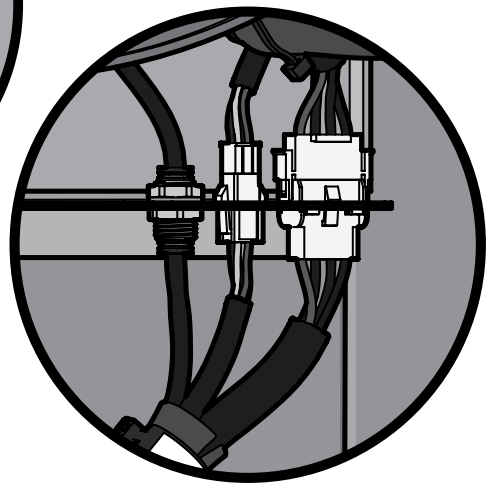
## 2

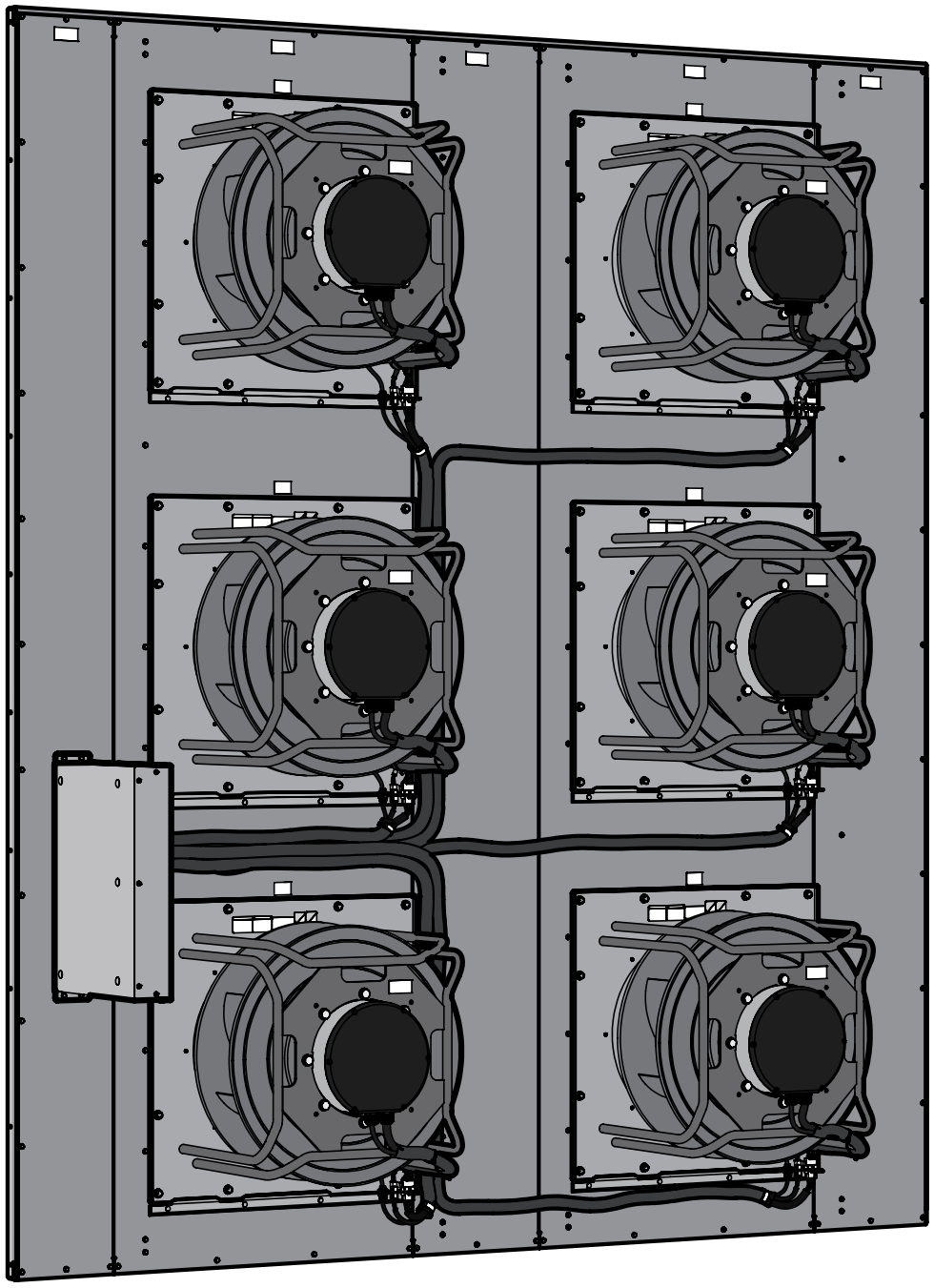
FASTEN THE PLUG FAN TO THE FAN FRAME.

Brace the plug fan against the fan frame. Use the flange bolts (included in the hardware box) to fasten the plug fan to the fan frame.

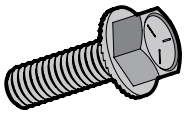
Connect the motor harness plugs and pressure tubing into the connections on the Plug Fan Ledge.







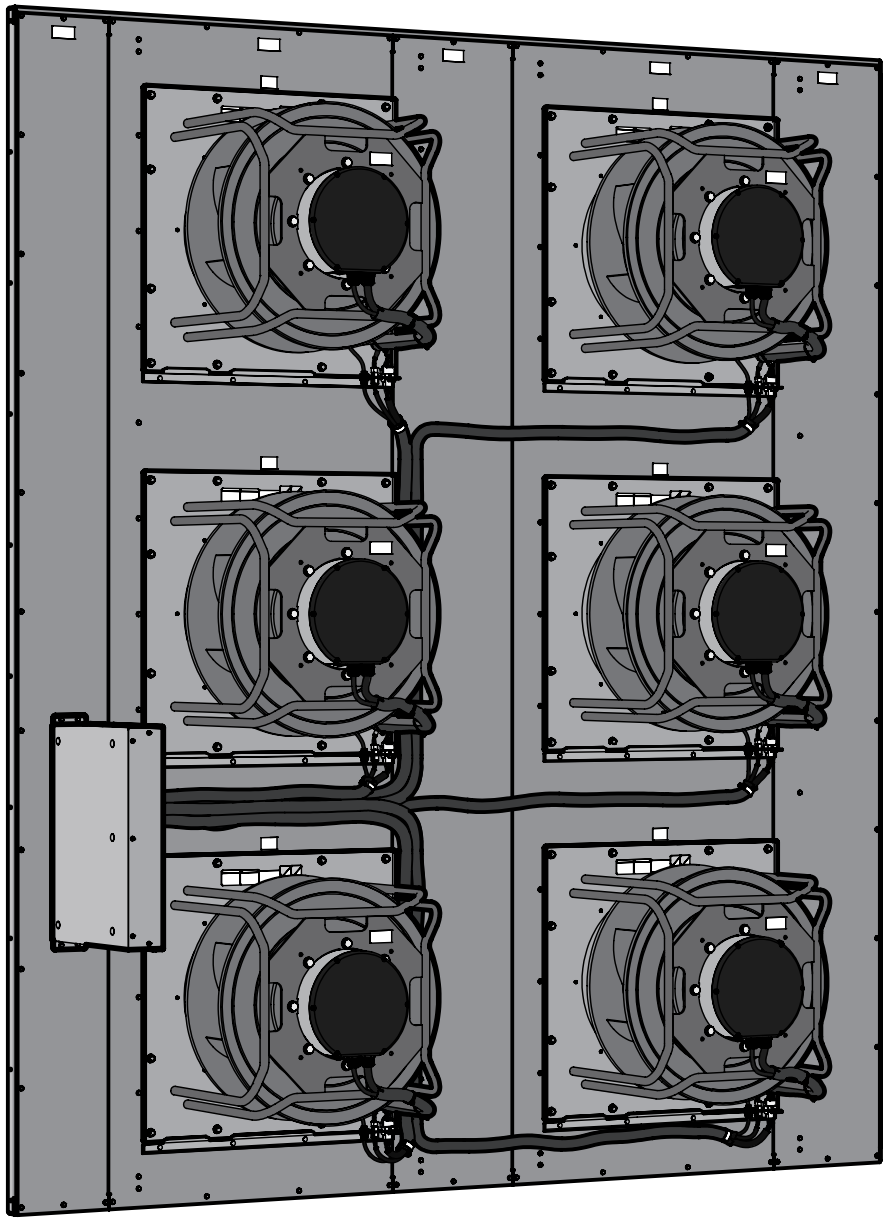
### FASTENERS & TOOLS



**5/16”-18 x 1”** or **1/2”-13-1**
Hex Serrated Flange Bolt

1/2” or 3/4” Hex
Head Drive

# COMPLETED ASSEMBLY



THE Q-PAC FAN ASSEMBLY IS COMPLETE.

If there are multiple Q-PAC Fans in the system, continue to APPENDIX A for the installation of the Coupler. Repeat the steps of this assembly guide to complete the assembly of the other fans.

Refer to SUPPORTING DOCUMENTS and accompanying order documentation for information on wiring and start-up of the Q-PAC Fan and any other system accessories.

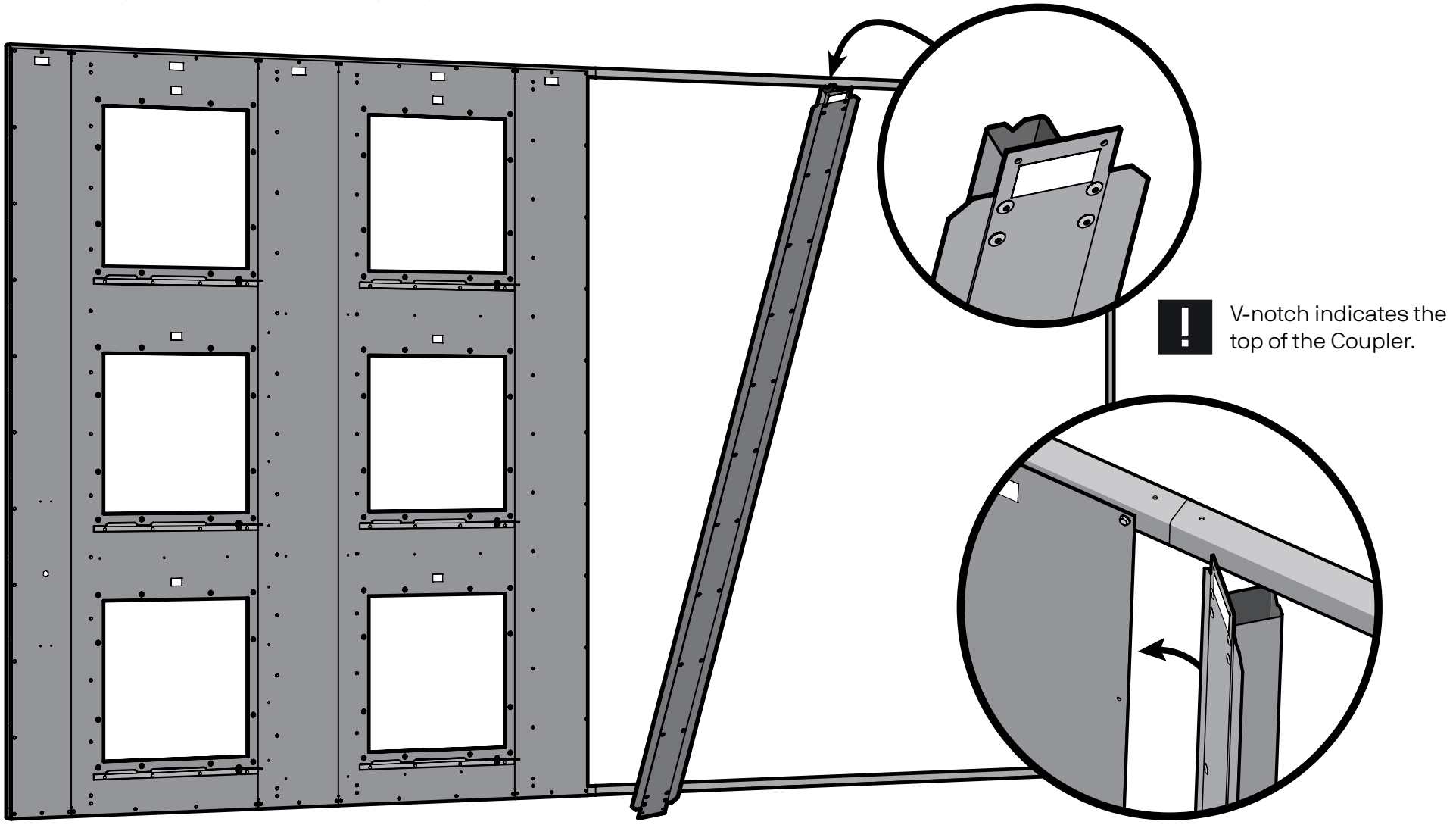
# APPENDIX

# APPENDIX A | INSTALLING MULTIPLE FANS WITH THE FAN COUPLER

**1**

ALIGN THE COUPLER WITH THE PERIMETER ANGLES AND FIRST FAN.

Slide the blank left flange of the Coupler behind the last panel of the Q-PAC Fan, with the top of the Coupler sitting over the Perimeter Angles. Press the Coupler tight against the last fan panel.

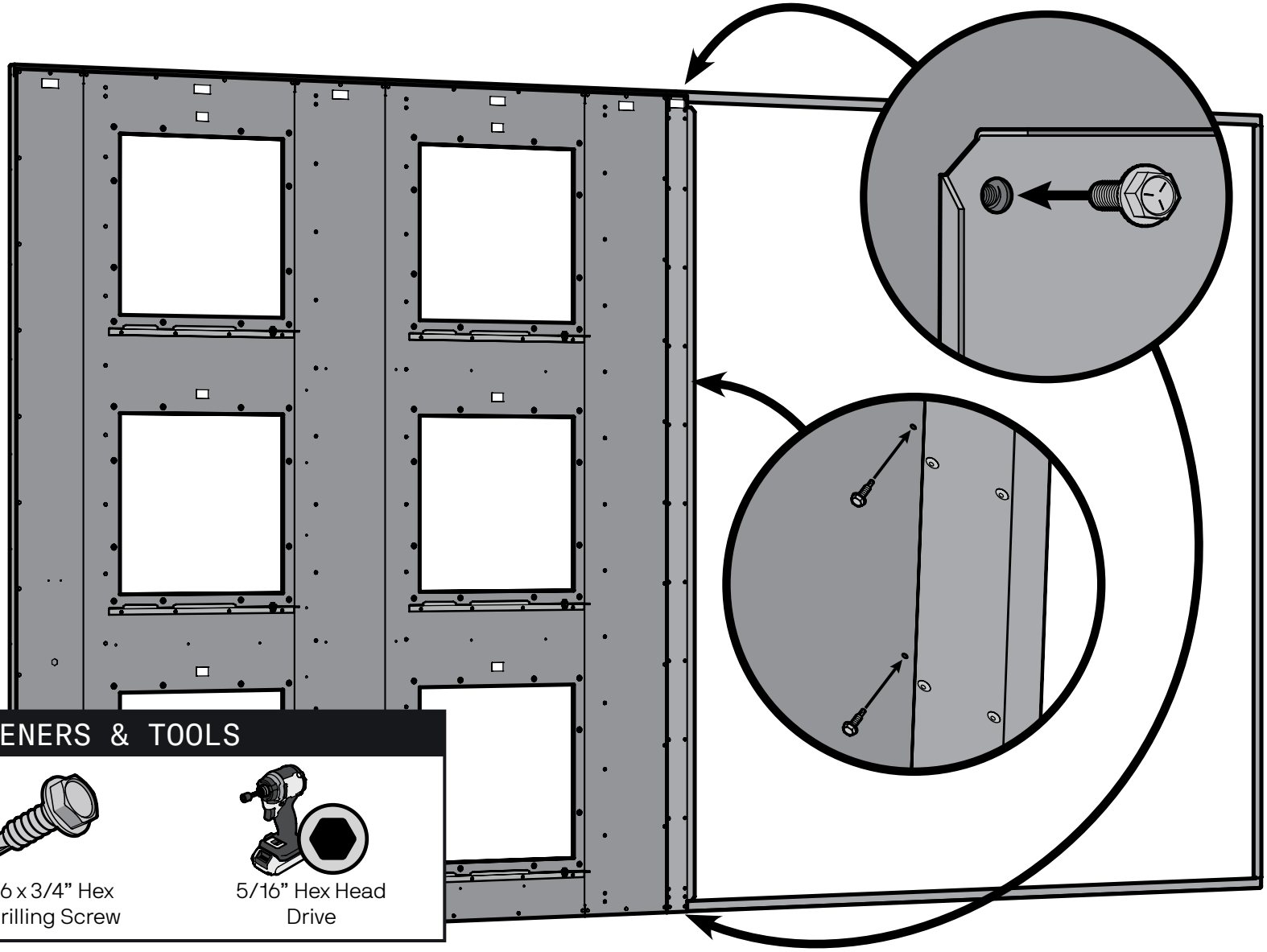


**!** V-notch indicates the top of the Coupler.

## 2

FASTEN THE COUPLER TO THE PERIMETER ANGLE AND FAN PANEL.

Using the same self-drilling screws included in the Hardware Box, fasten the top and bottom to the Perimeter Angles. Then fasten the edge of the last fan panel to the Coupler. The right flange of the Coupler will now serve as the Perimeter Angle when assembling the second Q-PAC Fan.



### FASTENERS & TOOLS



#10-16 x 3/4" Hex
Self-Drilling Screw



5/16" Hex Head
Drive

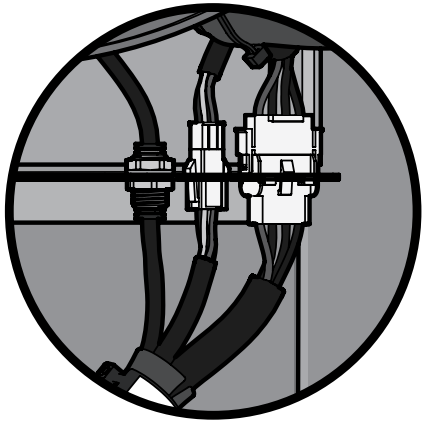
# APPENDIX B | PLUG FAN REPLACEMENT AND THE BLANK-OFF PLATE

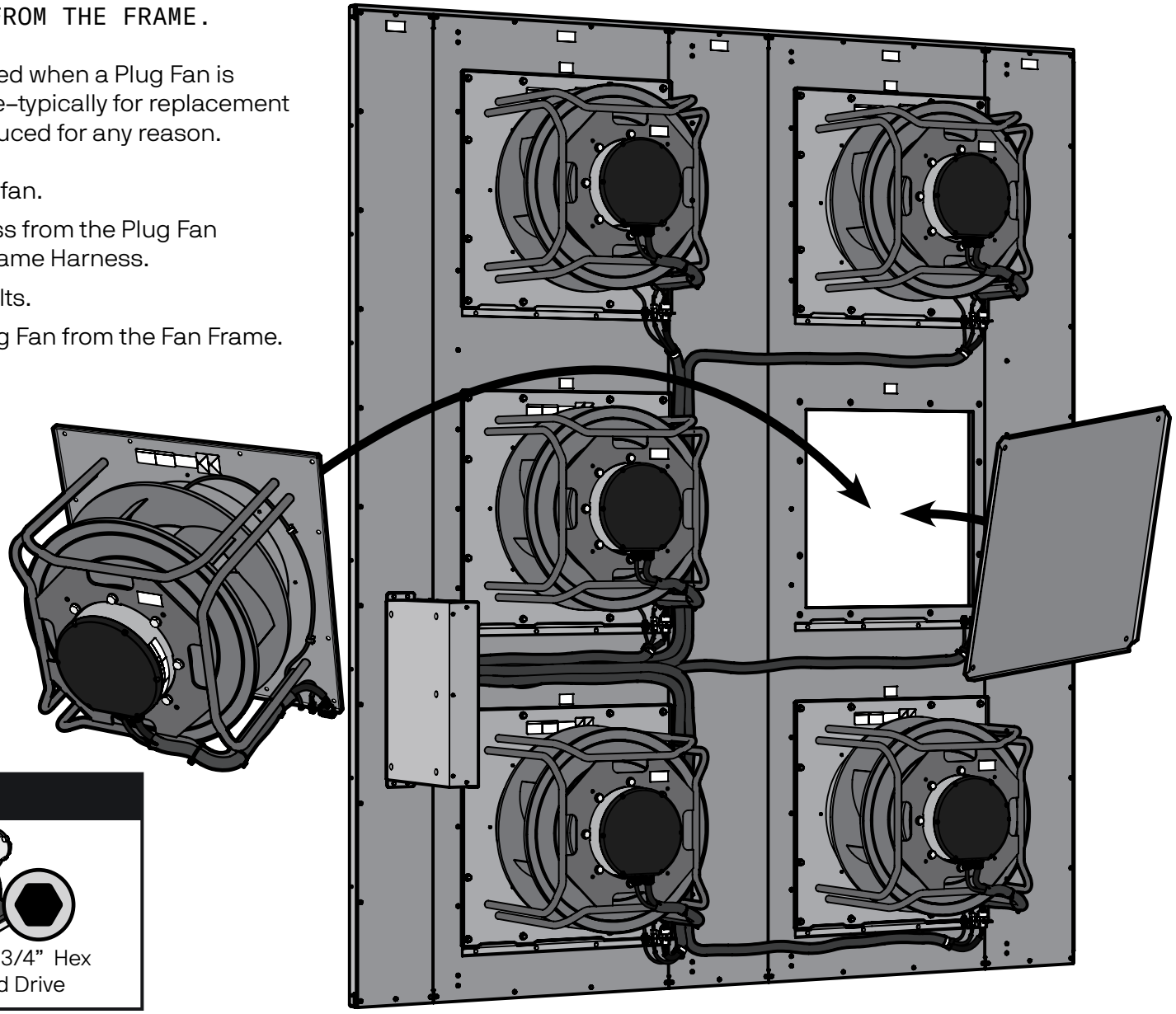
## 1

REMOVE THE PLUG FAN FROM THE FRAME.

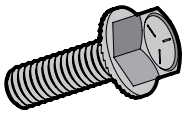
The Blank-Off Plate is installed when a Plug Fan is removed from the Fan Frame–typically for replacement or if fan capacity is to be reduced for any reason.

1. Disconnect power to the fan.
2. Unplug the Motor Harness from the Plug Fan Ledge and connected Frame Harness.
3. Unfasten the plug fan bolts.
4. Lift and removed the Plug Fan from the Fan Frame.





## FASTENERS & TOOLS



**5/16”-18 x 1”** or **1/2”-13-1**
Hex Serrated Flange Bolt

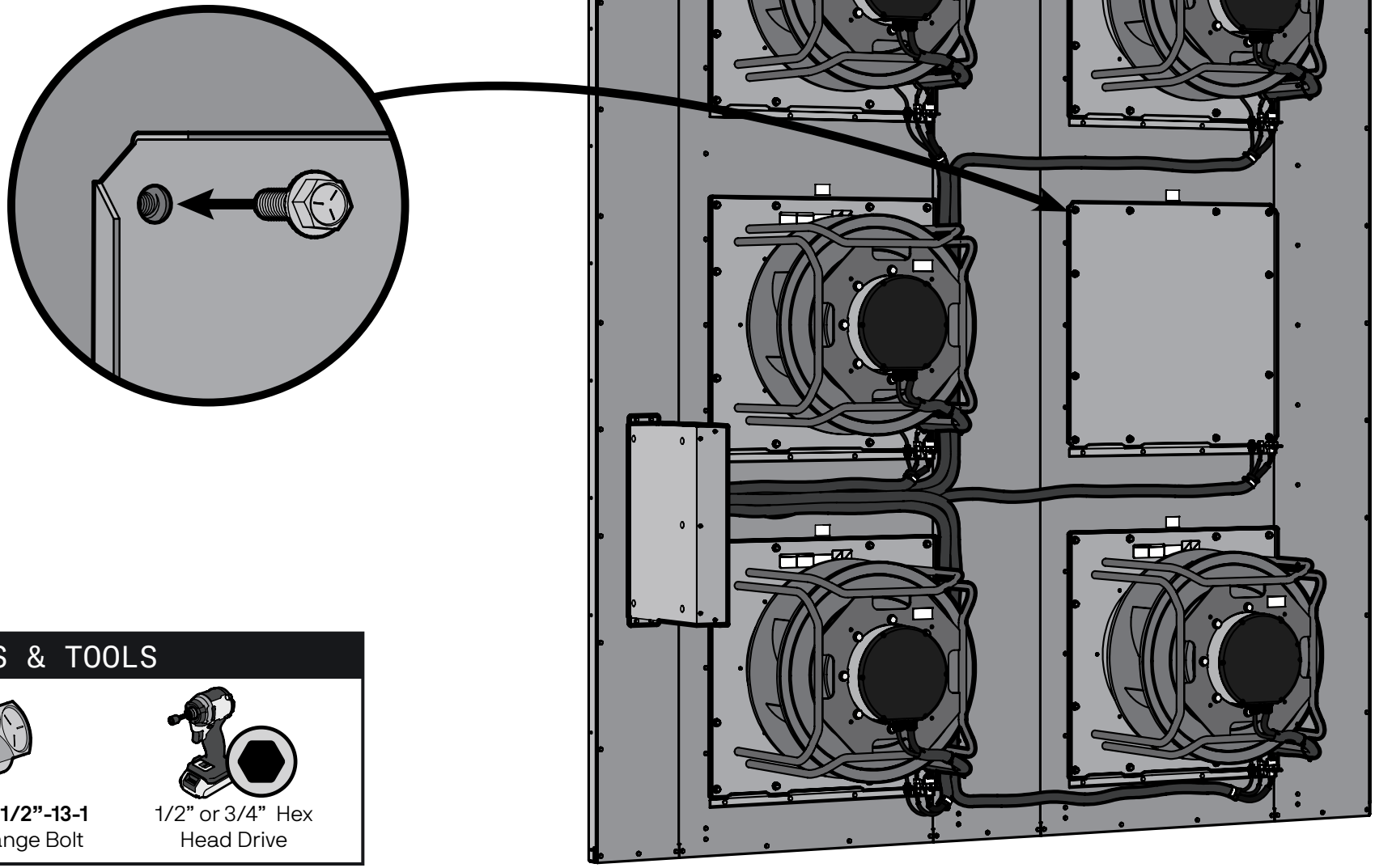


1/2” or 3/4” Hex
Head Drive

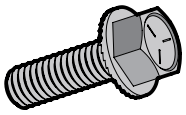
## 2

FASTEN THE BLANK-OFF PLATE TO THE FRAME.

Using the same bolts of the Plug Fan, fasten the Blank-Off Plate to the Fan Frame. Set aside any remaining bolts for use when installing a new Plug Fan.



### FASTENERS & TOOLS



**5/16”-18 x 1”** or **1/2”-13-1**
Hex Serrated Flange Bolt



1/2” or 3/4” Hex
Head Drive

# Q-PAC

For assistance, questions, or troubleshooting, contact
Q-PAC Support at (904) 863-5300 or support@q-pac.com