



# DirectX Exhaust Fan



INSTALLATION MANUAL

REV09102025

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# 1. GENERAL

## 1.1 INTRODUCTION

Our DirectX Exhaust Fan is meticulously engineered to deliver optimal performance with minimal maintenance. Designed with a molded fiberglass housing, Brushless Magnet Motor, and Robust stainless steel Direct-Drive Structure and hardware.

Before installing the DirectX Exhaust Fan, we highly recommend that you carefully review this manual. Keeping it safely on hand for future reference will ensure that you can always access important information regarding operation, maintenance, and troubleshooting.

## 1.2 NOTES

Double L reserves the right to make alterations to specifications, quantities, dimensions, and other product details for production or other reasons after publication. While we strive to provide accurate and complete information, Double L makes no warranty or representation regarding the suitability of the product for any particular purpose.

It is essential that this manual is read and followed by all personnel involved in the system's operation, installation, and maintenance. This includes, but is not limited to, those responsible for: Operation including preparation, troubleshooting, and cleaning; Maintenance including servicing, inspection, and repair; and Deactivation including shutdown and disposal procedures.

## 1.3 DELIVERY CHECK

Before opening any boxes, carefully inspect the external packaging for any signs of damage. If any damage is found, contact your forwarding agent immediately before proceeding with unpacking. If the packaging appears safe, proceed to open the boxes. Carefully compare the contents of each box with the item list provided. Verify that the quantities and types of products match the list. If there are any discrepancies, such as missing or incorrect items, please contact Double L immediately for resolution. Retain all packaging and documentation until the issue is resolved. Please note that the boxes may contain small and numerous items that are easily lost. If the products are not being used immediately, do not open the boxes. Instead, keep them sealed and store them in a safe, dry, and secure location to prevent loss or damage. Retain all delivery documentation, including item lists, packing slips, and any communication with the forwarding agent or Double L. This will be essential in case of any future issues or claims.

## 1.4 SAFETY & WARNINGS

### Warning



This product has inherent dangers, which can cause damage or loss to persons or equipment if the warnings in this manual are not adhered to. Please read and follow all instructions.

### Personnel Requirements



This product must only be used by persons adequately trained in the hazards, dangers, and risks of the equipment.

All users of this product must be trained in the following areas:

- Health and safety hazards relating to use of this machine throughout its entire life cycle
- Devices provided for safety of the operator
- Instructions for safe shutdown in case of emergency

The customer must assume the following responsibilities:

- To ensure the fan is wired by a licensed electrician
- To provide necessary personal protective equipment required
- To ensure normal maintenance operations are carried out
- To provide necessary repair parts in a timely manner

## General Requirements



Safety devices must remain in good working condition and may not be bypassed or rendered ineffective. The fan must not be operated with guards removed. All maintenance work must be done with electrical power isolated from the machine via proper device in accordance with local and national laws. The user must ensure that the environmental and electrical supply conditions in which the fan operates are within the limits specified in this manual or on product labels. Modification to this machine in any way are prohibited unless given written consent by Double L Group LLC. Unauthorized modifications will render the warranty void and can lead to hazardous situations.

### Safety Devices



This machine has been designed to operate with fixed guards in order to protect users from physical hazards on both inlet and outlet sides of this fan. They were designed in accordance with national standards. They must not be altered. They must remain in their fixings at all times of operation. If damage or destruction should occur, exact replacements should be fitted immediately. **Reference the technical documentation section in this manual for more information.**

At the time of installation, a proper device should be fitted in the direct vicinity of the fan to act as an emergency stop device. This device must be supplied by the installer. The device must be of a type to satisfy the emergency stop device requirements below.

- EN-IEC 60204-1 Section 10.7.2: a push-button operated switch with a palm or mushroom head type.
- EN-IEC 60204-1 Section 10.7.3: actuators of emergency stop devices shall be colored RED.

Carefully read all safety messages in this manual and on your equipment safety signs. Follow recommended precautions and safe operating practices. Keep safety signs in good condition. Replace missing or damaged safety signs.

## 1.5 LIMITED WARRANTY

Double L Group, LLC ("Double L") warrants new Double L Direct X Exhaust Fans manufactured by Double L to be free from defects in material or workmanship under normal usage and conditions, for One (1) year from the date of installation by the original purchaser ("Warranty"). Double L provides for an extension of the aforementioned Warranty period ("Extended Warranty Period") with respect to certain Product parts ("Component Part") as set forth in the table below. If such a defect is determined by Double L to exist within the applicable period, Double L will, at its option, (a) repair the Product or Component Part free of charge, F.O.B. the factory of manufacture or (b) replace the Product or Component Part free of charge, F.O.B. the factory of manufacture. This Warranty is not transferable, and applies only to the original purchaser of the Product.

Component Part	Extended Warranty Period
Housing	Lifetime

## Conditions and Limitations

THIS WARRANTY CONSTITUTES DOUBLE L'S ENTIRE AND SOLE WARRANTY AND DOUBLE L EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSES. DOUBLE L shall not be liable for any direct, indirect, incidental, consequential or special damages which any purchaser may suffer or claim to suffer as a result of any defect in the Product. Consequential or Special Damages as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs, and operational inefficiencies. *Some jurisdictions prohibit limitations on implied warranties and/or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the original purchaser specific legal rights. You may also have other rights based upon your specific jurisdiction.*

Compliance with federal, state and local rules which apply to the location, installation and use of the Product are the responsibility of the original purchaser, and DOUBLE L shall not be liable for any damages which may result from non-compliance with such rules.

The following circumstances shall render this Warranty void:

- Modifications made to the Product not specifically delineated in the Product manual.
- Product not installed and/or operated in accordance with the instructions published by Double L.
- All components of the Product are not original equipment supplied by Double L.
- Product was not purchased from and/or installed by a Double L authorized distributor or certified representative.
- Product experienced malfunction or failure resulting from misuse, abuse, mismanagement, negligence, alteration,
- Accident, or lack of proper maintenance, or from lightning strikes, electrical power surges or interruption of electricity.
- Product experienced corrosion, material deterioration and/or equipment malfunction caused by or consistent with the application of chemicals, minerals, sediments or other foreign elements.
- Product was used for any purpose other than for the care of poultry and livestock.

The Warranty and Extended Warranty may only be modified in writing by an officer of Double L. Double L shall have no obligation or responsibility for any representations or warranties made by or on behalf of any distributor, dealer, agent or certified representative.



## 1.6 PARTS LIST

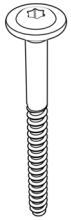
### Tools Needed

- Tape Measure
- Level
- Electric Drill
- Allen Wrench Set
- Ratchet
- 5/16" Wrench/Socket
- 7/16" Wrench/Socket
- 10mm Wrench/Socket
- 9/16" Wrench/Socket
- 1/2" Wrench/Socket
- 16mm Wrench/Socket
- T25 Head Drill Bit
- Rivet Gun

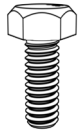
### Provided Hardware

	Part #	Description	QTY.
A	031066	1/4"x2" Flat Head Wood Screw	12
B	090050	5/16" x 1" Hex Head Bolt	4
C	600001BO	1/4 x 1-1/4" Hex Head Bolt	48
D	031012	#10 x 3/4",TEK SCREW, SS	12
E	090864BE	Shutter Clip	12
F	090051	5/16"ID x 1"OD Washer	4
G	090060	1/4" ID x 3/4"OD Washer	92
H	090573	Wire Loop Clamp	12
I	090052	5/16" Lock Nut	4
J	090061	1/4" Lock Nut	48
K	90928	M6 Lock Nut	1
L	90932	M6x25 Hex Head Bolt	2
M	090063	#10X5/8" Flat Socket Cap Screw	8
N	090064	3/16"ID X 1/2" OD Flat Washer, SS	8
O	LN1024	#10 Nylon Lock Nut, SS	8
P	090067	#10 x 1 1/2" Truss Head Screw SS	12
Q	090055	3/8"x2.5" Hex Head Bolt	4
R	090057	M10x25 Hex Head Bolt	8
S	090066	M8x20 Socket Head Screw	2
T	090062	M10 Lock Nut	8
U	600360LN	3/8" Lock Nut	4
V	090054	3/8"x1.5" Rubber Washer	4
W	090053	3/8" Flat Washer	16

## Provided Hardware



A



B



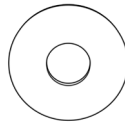
C



D



E



F



G



H



I



J



K



L



M



N



O



P



Q



R



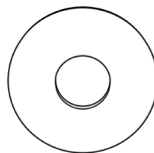
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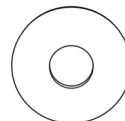
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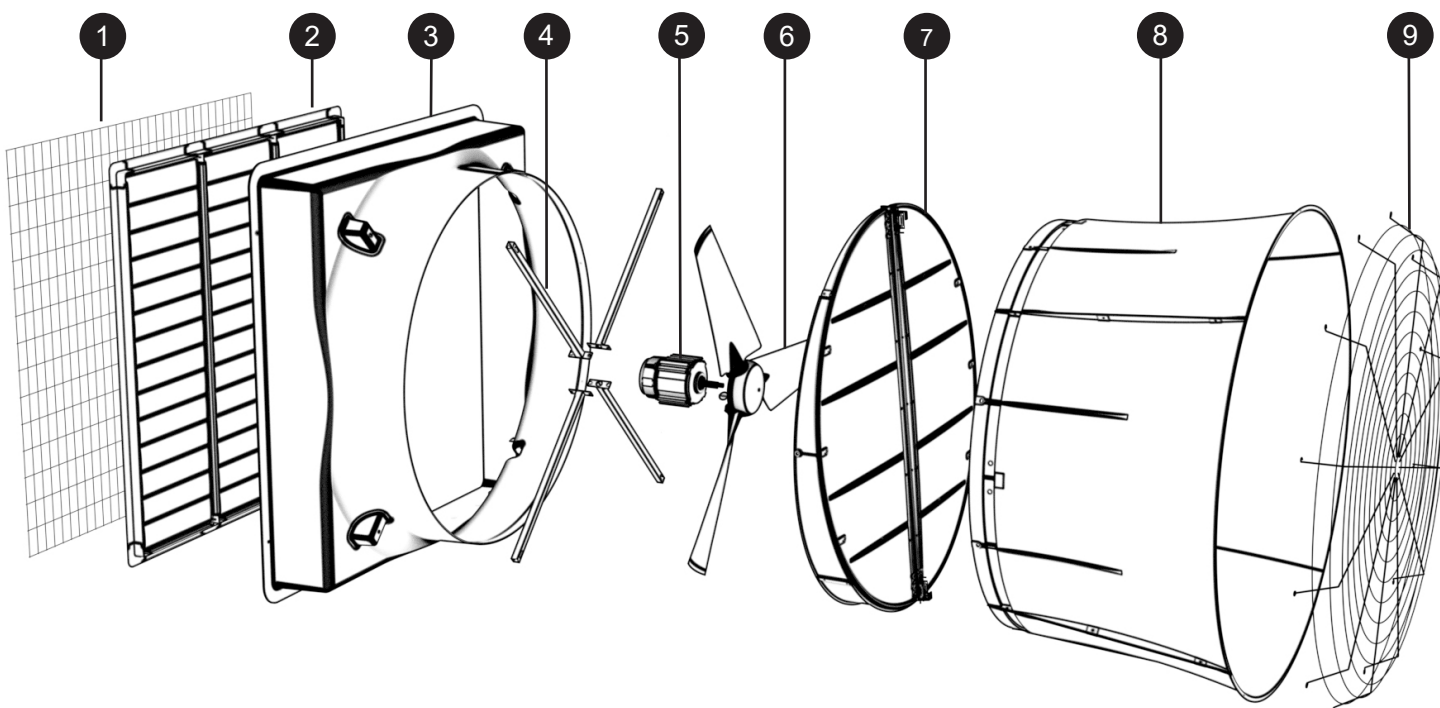


W



## DirectX Exhaust Fan Assembly

	Description	PN-36" Fan	PN-48" Fan	PN-52" Fan	PN-57" Fan
1	Inlet Guard	090016	090046	090096	090036
2	Shutter	84142	84152AB	84153AC	84162
3	Fan Housing	090018	090048	090098	090038
4	Cross Bar Struts	090014	090044	090094	090034
5	Direct Drive Motor	VARIES	VARIES	VARIES	VARIES
6	Prop	090012	090042	090092	090032
7	Butterfly Damper	090015	090045	090095	090035
8	Cone Pieces	090013	090043	090093	090033
9	Outlet Guard	090017	090047	090097	090037

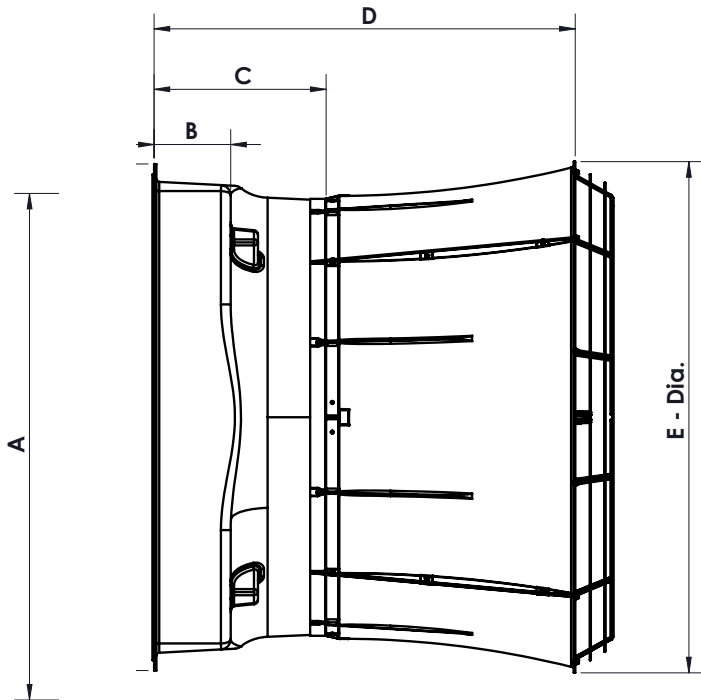




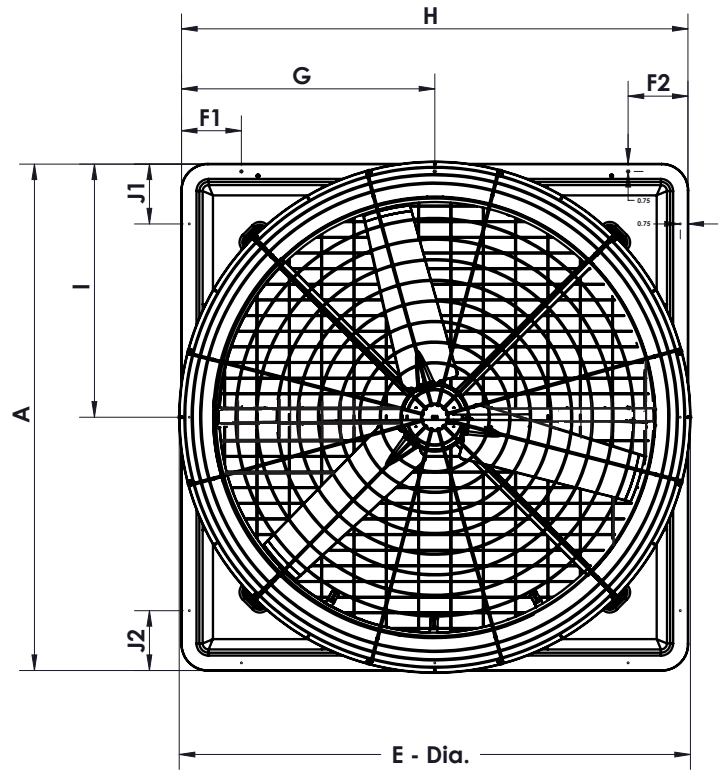


## 2. ASSEMBLY

### 2.1 DIMENSIONS



SIDE VIEW



FRONT VIEW

FAN DIA.	A	B	C	D	E Dia.	F	G	H	I	J	FRAMED ROUGH OPENING	
24"	31 1/4"	5 1/2"	19 1/4"	37 1/2"	28 5/8"	4 1/2"	15 5/8"	31 1/4"	15 5/8"	4 1/2"	28 1/2"	28 1/2"
36"	45 1/4"	8 3/4"	24"	46 5/8"	46 5/8"	6 7/8"	22 5/8"	45 1/4"	22 5/8"	6 7/8"	43"W	43"H
48"	58 1/2"	8 1/2"	22 1/2"	60 1/4"	58"	8 7/8"	27 1/4"	58 1/2"	27 1/4"	8 7/8"	54 3/4"W	54 3/4"H
52"	57 3/4"	7 1/2"	21"	56 1/4"	57 1/2"	8 1/4"	28 7/8"	57 3/4"	28 7/8"	8 1/4"	54 3/4"W	54 3/4"H
57"	67 3/4"	10 1/4"	23"	56 1/4"	68 1/4"	8"	33 7/8"	67 3/4"	33 7/8"	8"	63 1/2"W	63 1/2"H

\*Dimensional Plus/Minus 1/4"

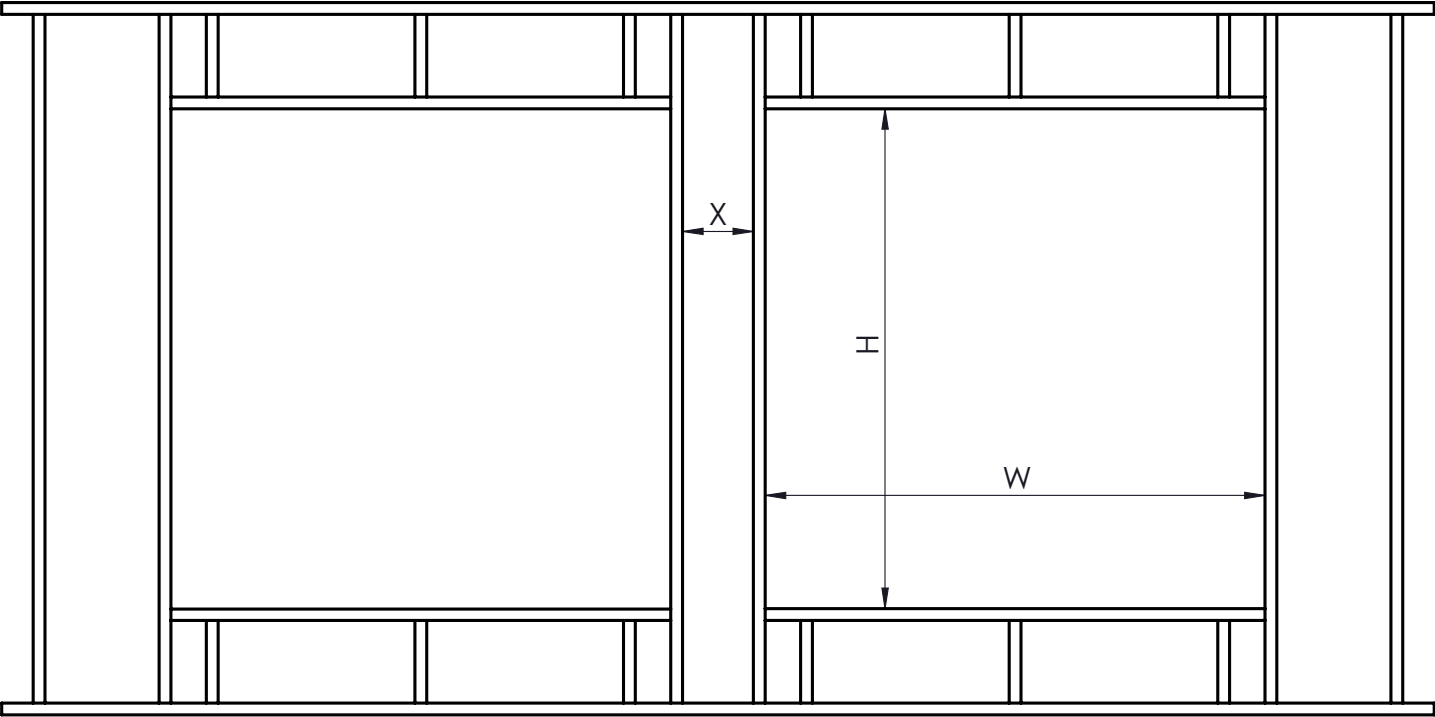


## 2.2 FRAMING

### Step 1

Create the wall framing as specified in the figure below. Use the chart to determine what size opening to make for your fan.

FAN DIA.	FRAMED WALL OPENING	MINIMUM SPACING (X)
24"	28 1/2"W. x 28 1/2"H.	1"
36"	43"W. x 43"H.	1"
48"	54 3/4"W. x 54 3/4"H.	1"
52"	54 3/4"W. x 54 3/4"H.	1"
57"	63 1/2"W. x 63 1/2"H.	1"

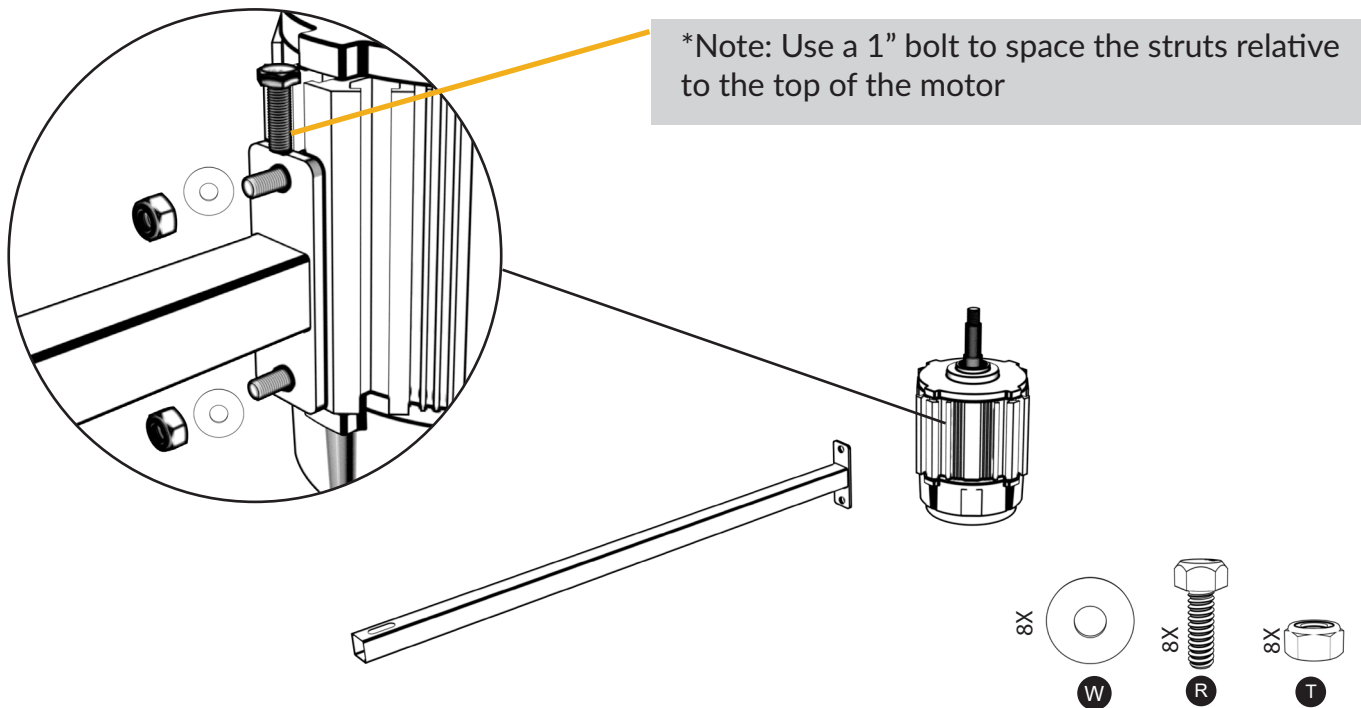


\*Note: Image framed with 2x dimensional lumber

## 2.3 MOTOR/STRUT ASSEMBLY

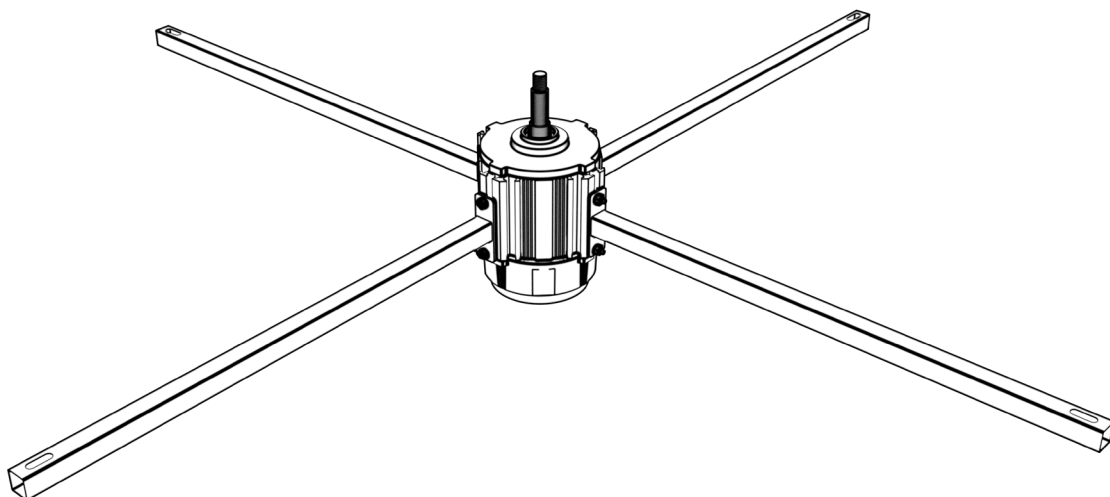
### Step 1

Slide two bolts (R) into the channel on one corner of the motor. Align the plated end of a strut (4) with the bolts and insert them through the holes. Measure down 1" or hook the head of a 1" bolt to the edge of the aluminum and use as a spacer to position the strut, then secure it with washers (w) and nuts (T).



### Step 2

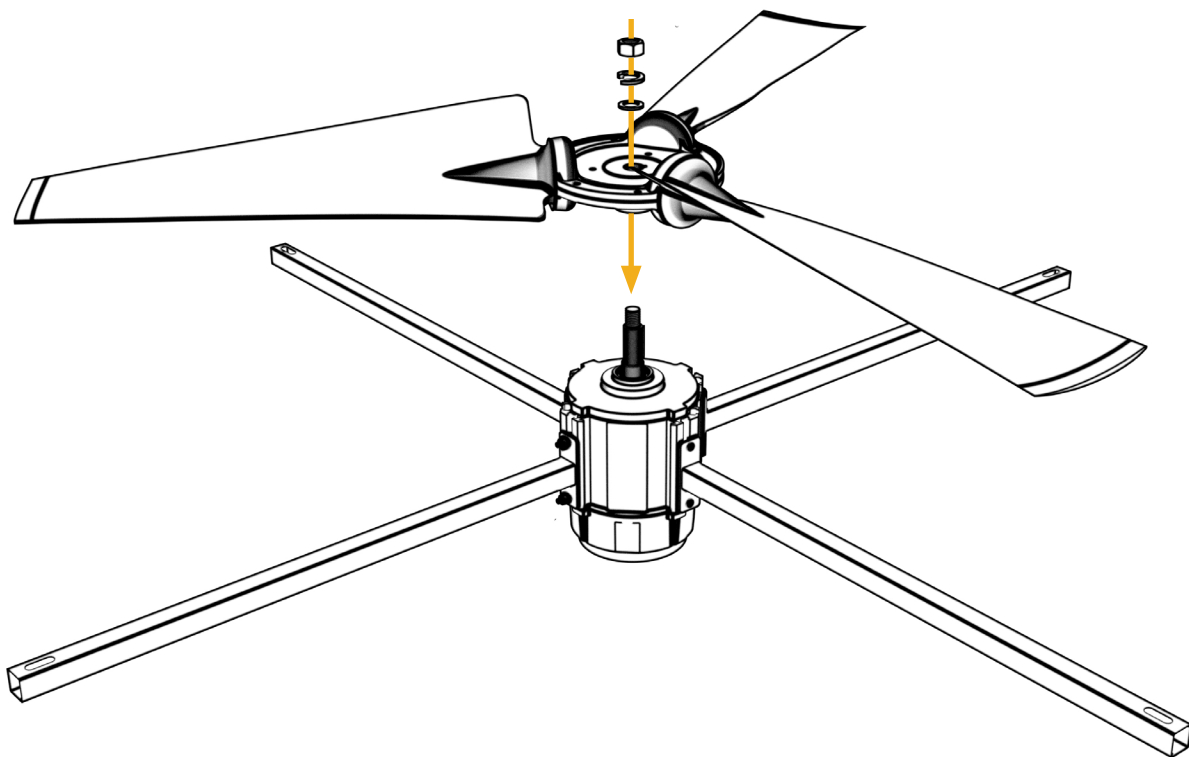
Repeat step 1 in attaching struts (4) to all four corners of the motor.





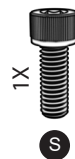
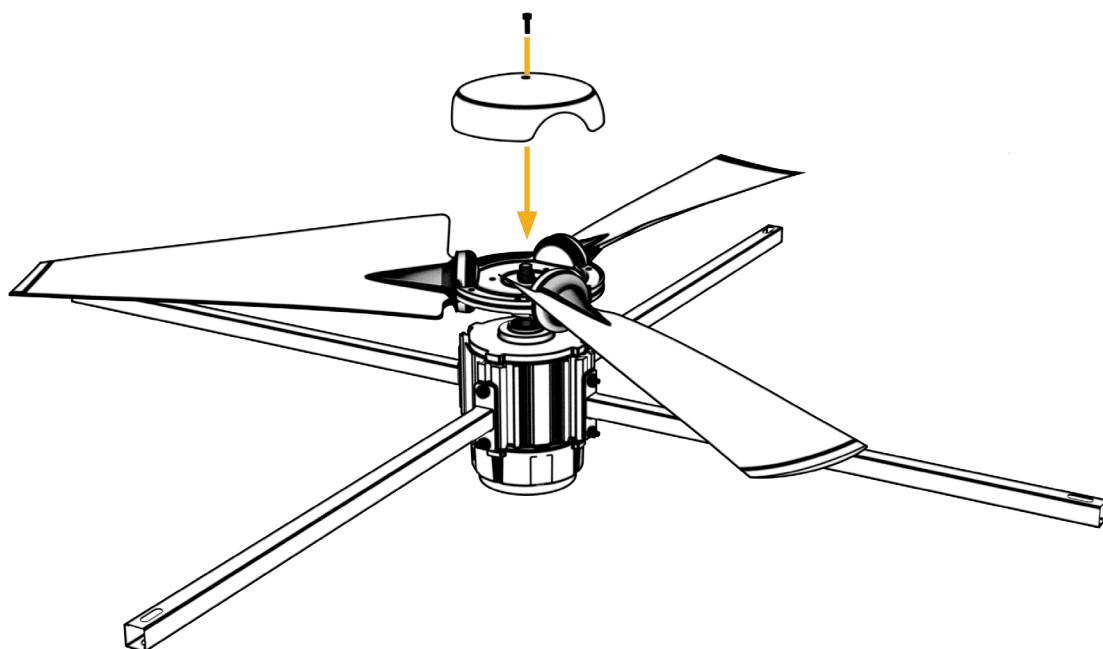
### Step 3

Start by taking the tape off of the key and removing the large nut, lock washer, and washer from the shaft. Slide on the propeller (6) then replace the washer, lock washer, and nut to the top of the shaft. Tighten the nut firmly using a standard wrench or socket to ensure the propeller is secured.



### Step 4

Place the propeller cap over the exposed nut and washers. Secure in place with a cap screw (S) and tighten with an allen wrench.

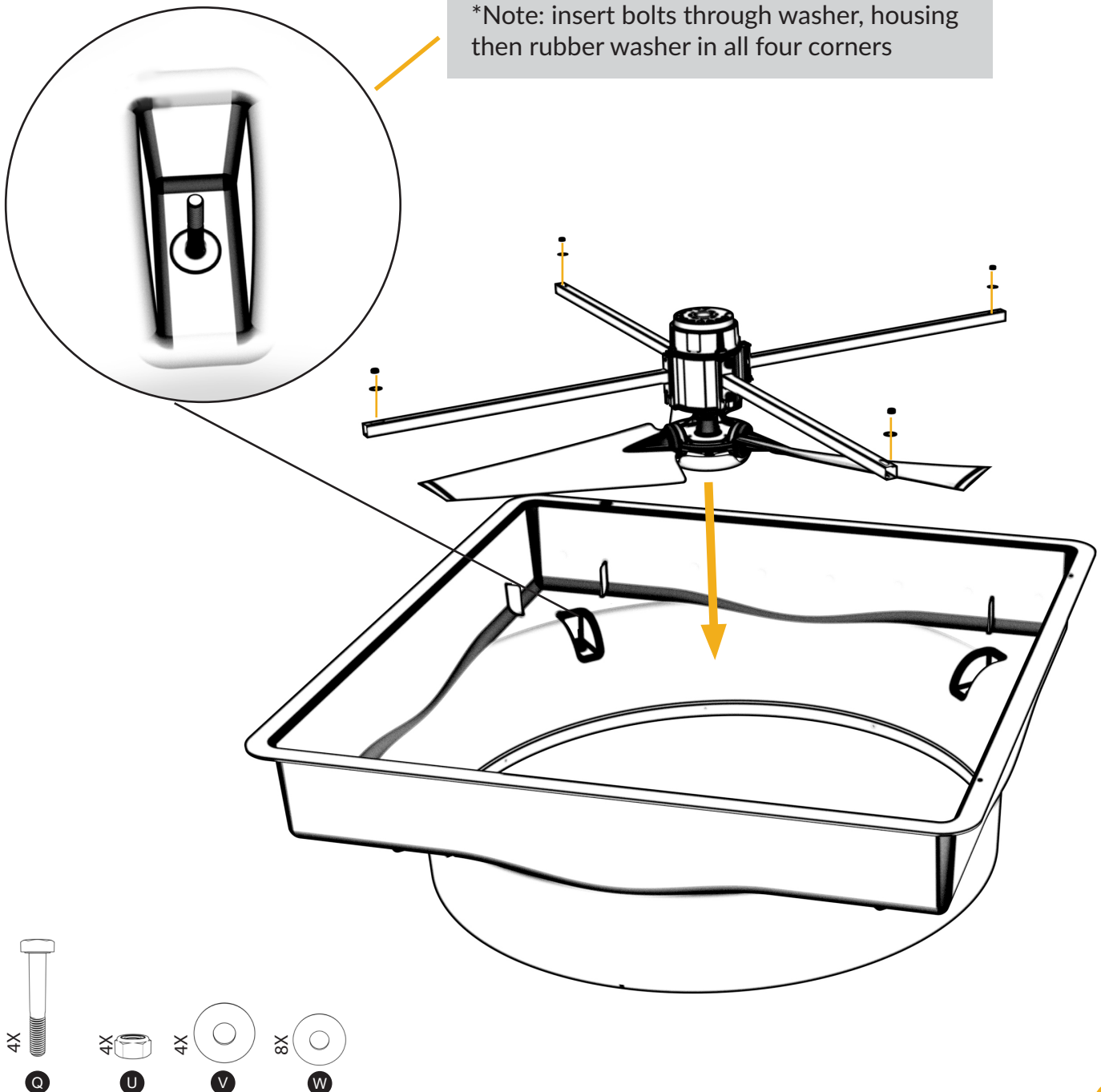


## 2.4 SECURING MOTOR ASSEMBLY TO THE HOUSING

### Step 1

Place the fan housing (3) with the orifice facing down. Slide a washer (W) onto a bolt (Q) and insert it through a corner hole from the outside of the housing. Add a rubber washer (V) on the inside to hold the bolt in place. Position the motor assembly so the bolts push through the slots on the struts (4). Test spin the propeller to ensure it is centered, then secure it with washers (W) and nuts (U).

\*Note: insert bolts through washer, housing then rubber washer in all four corners

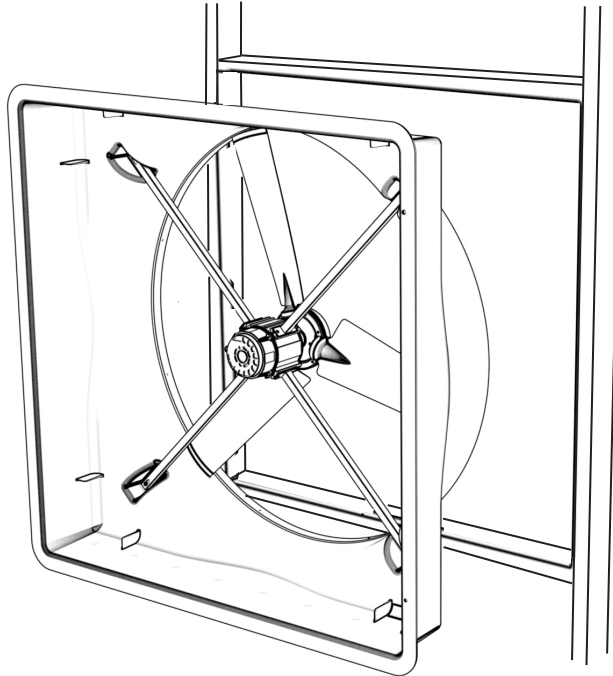




## 2.5 FAN INSTALL

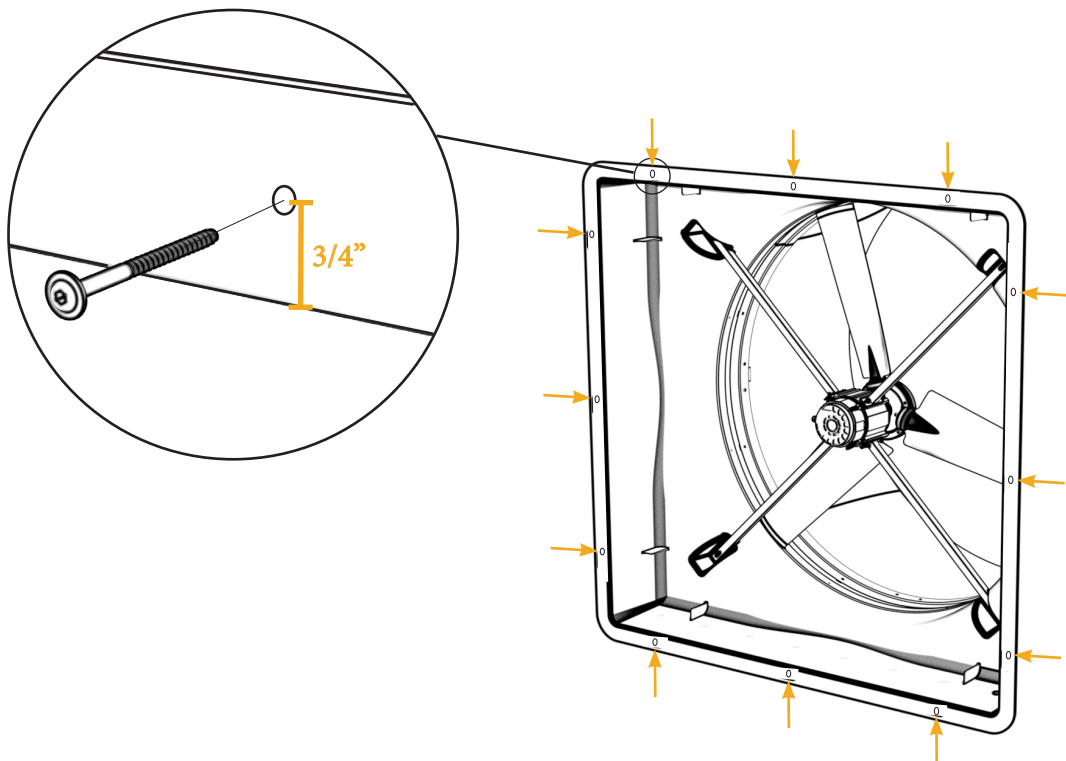
### Step 1

Start by inserting the fan housing (3) into the framed out rough opening with the cord facing down or to the side.



### Step 2

Measure 3/4" from the fan opening, and drill out 1/4" holes in the locations shown below. Once holes are drilled use lag screws (A) to secure fan housing (3) to the framing.



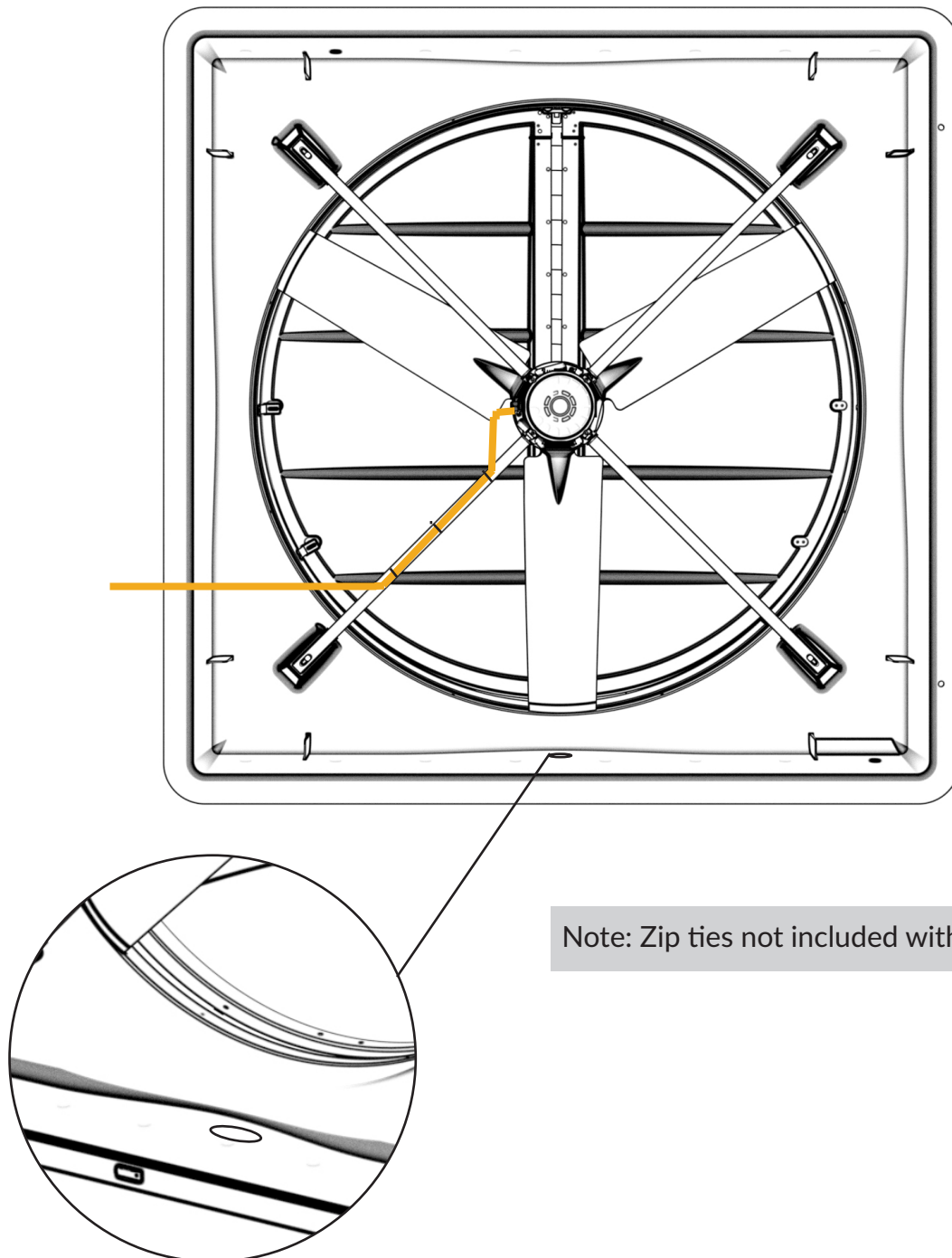
## 2.6 CORD ROUTING/DRAIN HOLE PLACEMENT

### Step 1

To keep away from blades, rout the cord down either side of the motor. Secure the cord in place by zip tying to the struts (4).

### Step 2

Drill a 1" hole in the center of the bottom of the fan housing for moisture to drain out.



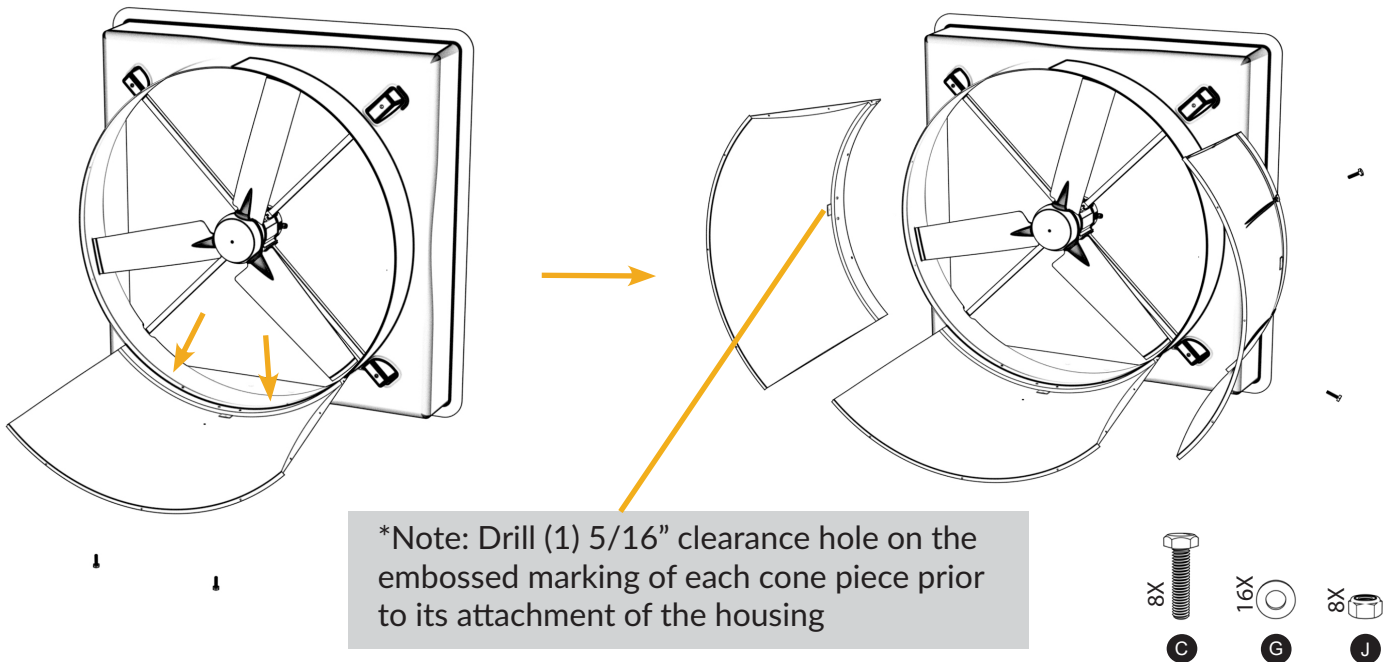
Note: Zip ties not included with hardware



## 2.7 CONE ASSEMBLY

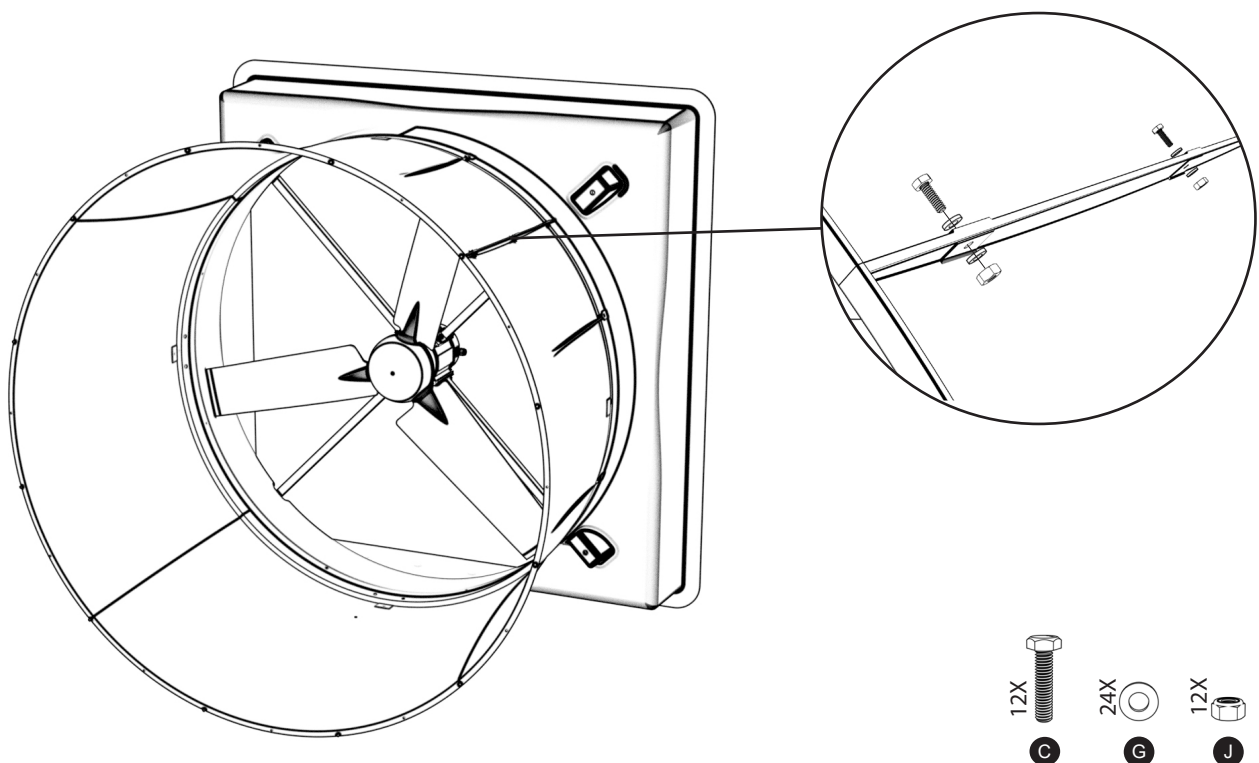
### Step 1

Use marked areas as guides to drill two 1/4" clearance holes in the bottom of the fan orifice. Once completed, align the holes from one quarter of cone (8). Use bolts (C), washers (G), and nuts (J) to hand tighten into place. Repeat with either side of the cone and then the top.



### Step 2

As you fasten each piece of cone (8) to the housing, fasten the subsequent pieces to each other using bolts (C), washers (G), and nuts (J) Machine tighten all bolts in the cone assembly.

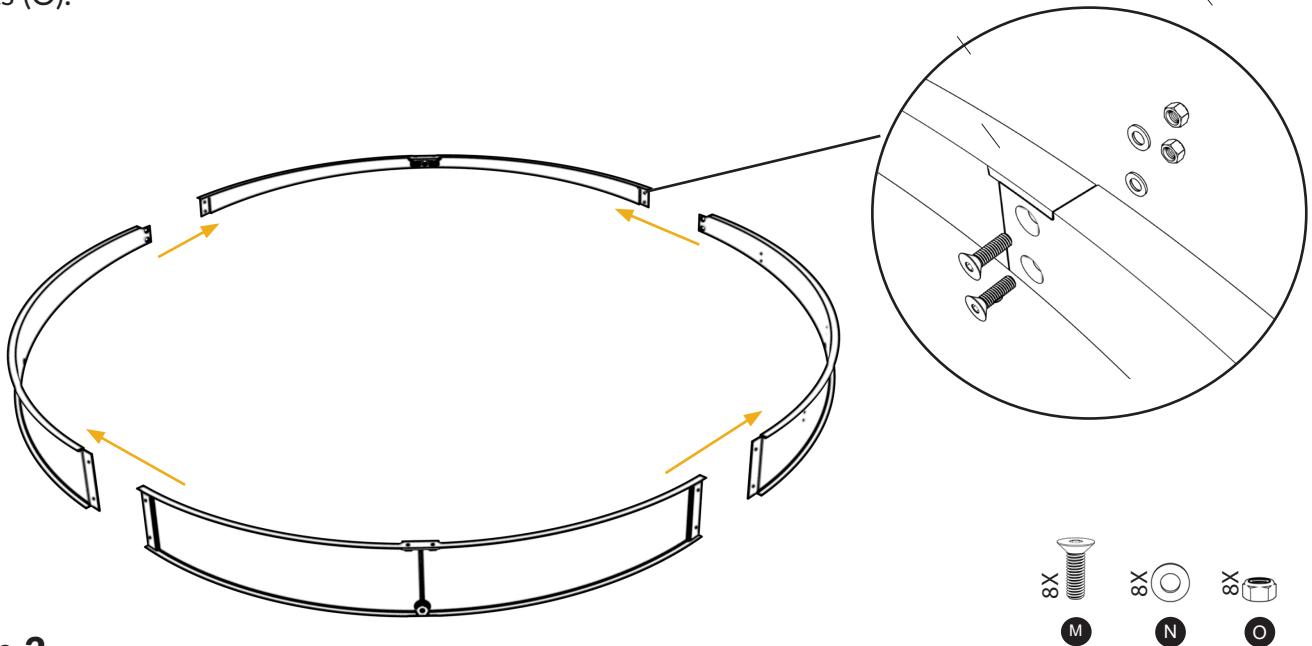




## 2.8 DAMPER ASSEMBLY

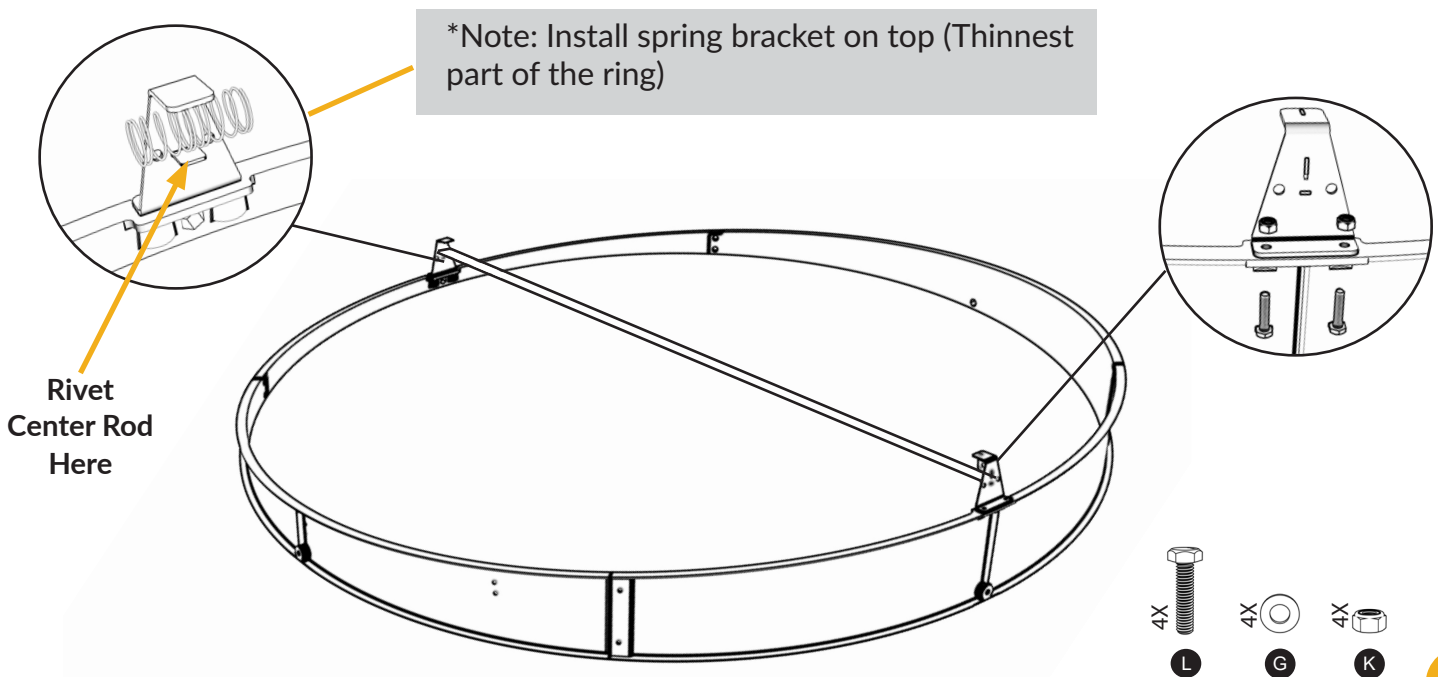
### Step 1

(IF USING SHUTTER SKIP TO STEP 2.9 STEP 3) Locate the 4 pieces of the damper ring. Place the thickest and thinnest pieces of the ring across from each other, with holes towards the top. Place the medium pieces on either side. Next, fasten them all together with cap screws (M), washers (N), and bolts (O).



### Step 2

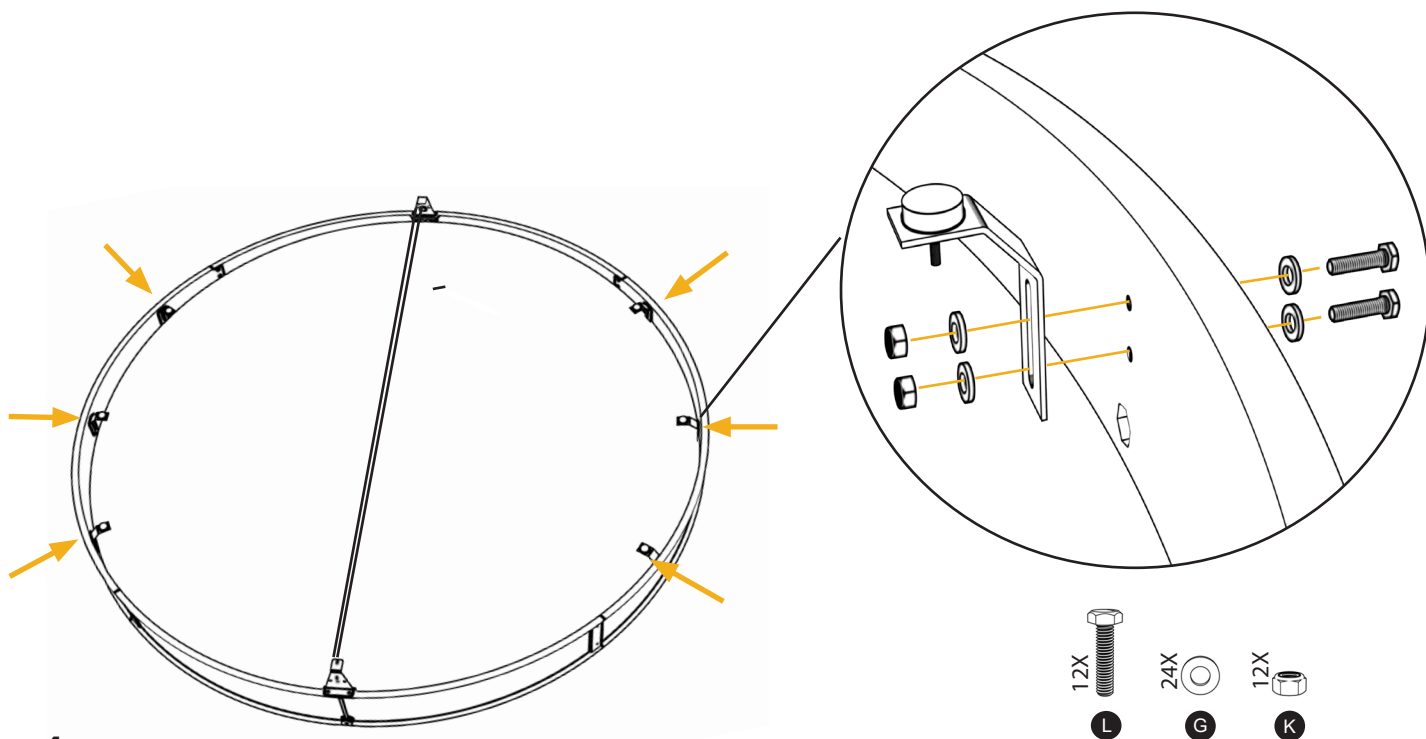
Locate the top and bottom damper brackets and fasten them on to the designated holes using bolts (L), washers (G), and nuts (K). Next, locate the light blocking center rod and use a 3/16-inch diameter blind rivet with a grip range of 0.125" to 0.187" to secure the rod to the protruding tabs on the two brackets just installed.





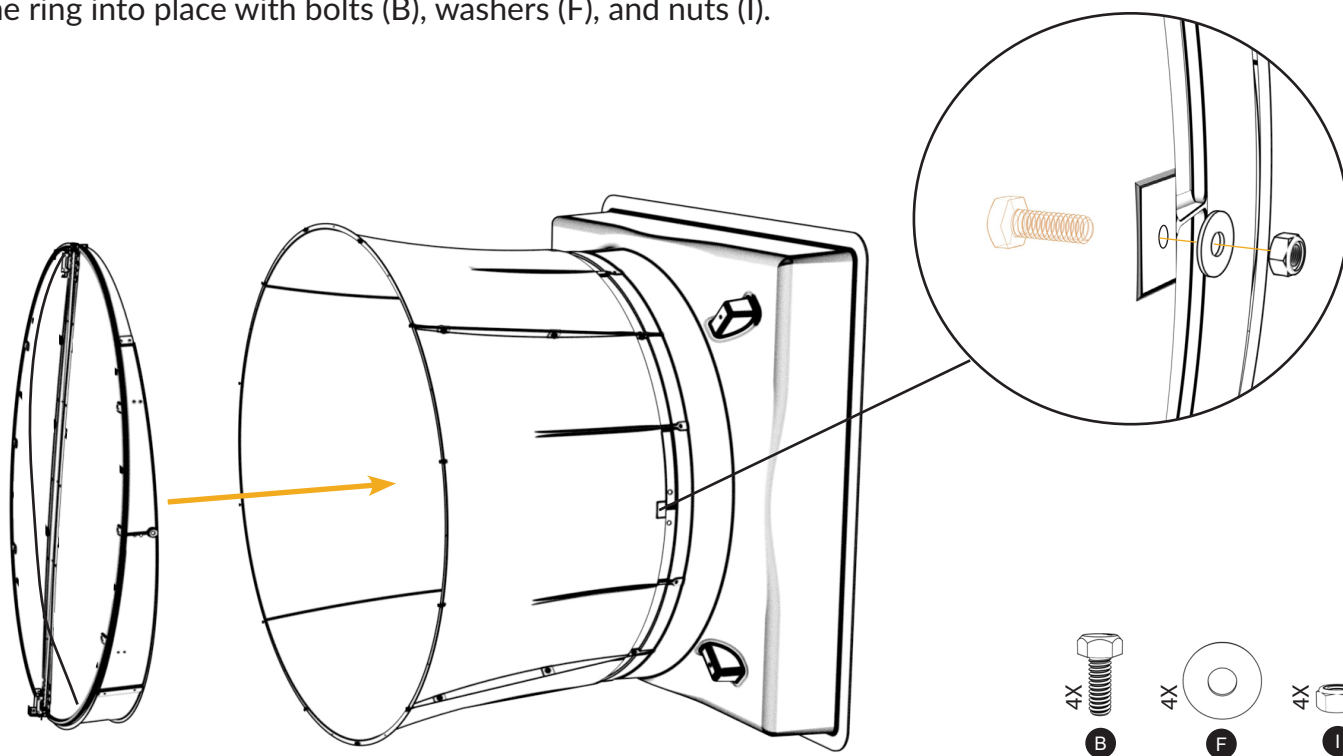
### Step 3

Install 6 magnet brackets to the damper ring at the indicated spots. Secure using bolts (L), washers (G), and nuts (K). Place brackets with the magnet 3/8" above the top of the damper ring.



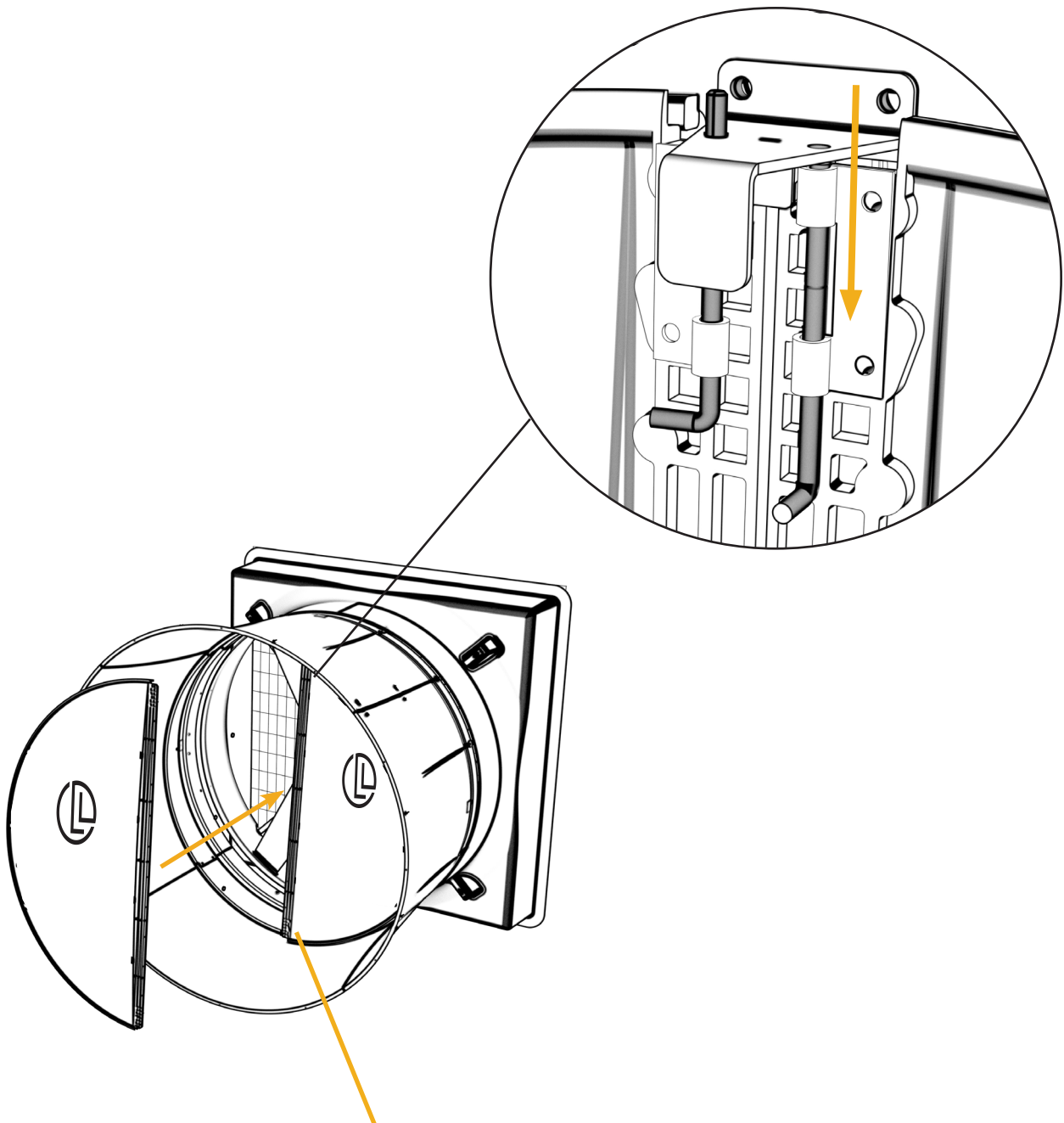
### Step 4

Insert the damper ring into the opening, aligned with the previously drilled holes (SEE STEP ONE OF CONE ASSEMBLY), of the cone with the widest part on the bottom. Align holes then machine tighten the ring into place with bolts (B), washers (F), and nuts (I).



## Step 5

Install the damper doors by pulling back the pin then inserting it into the holes in the bracket installed in step 2.



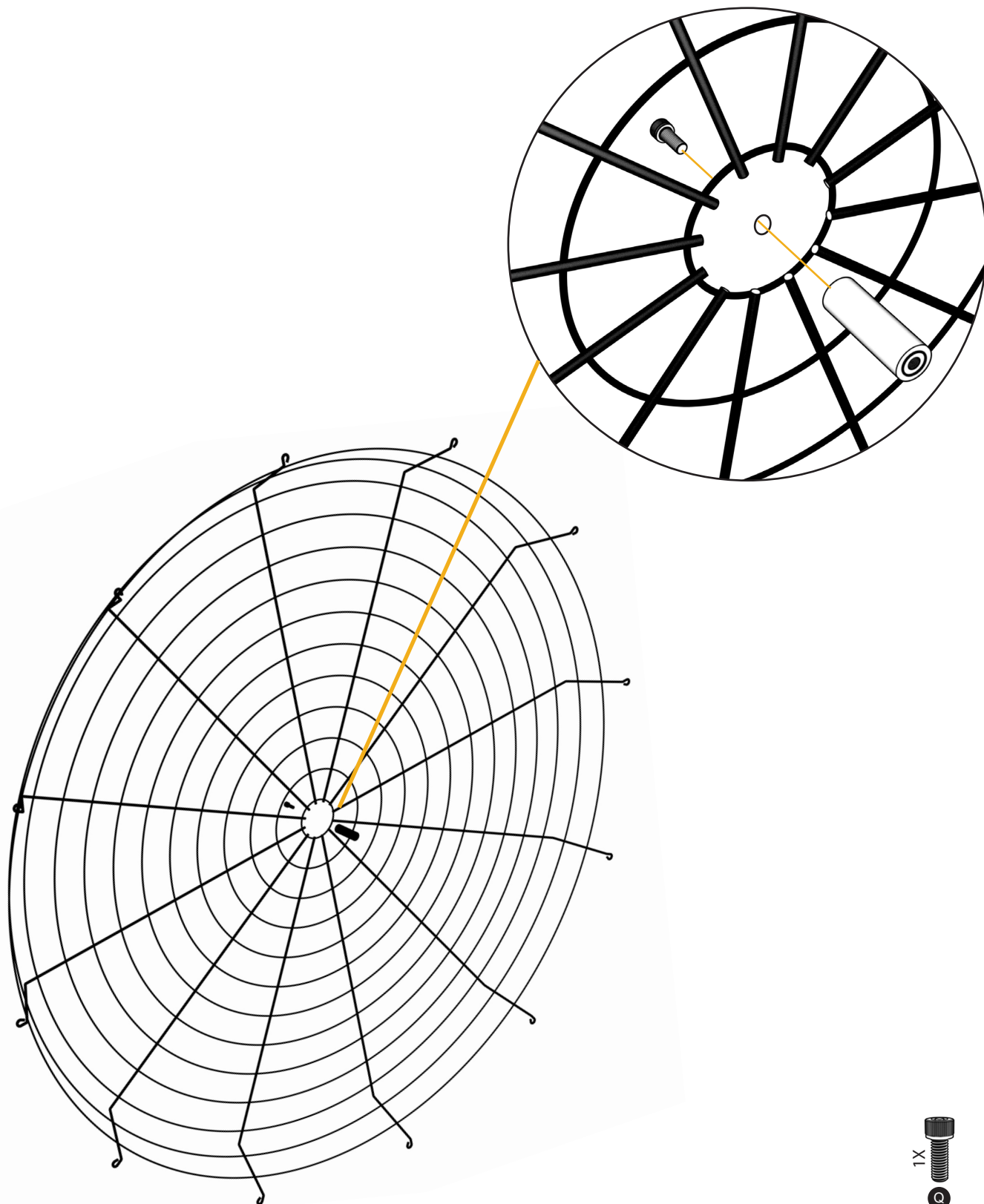
\*Note: Be sure to add the provided 1/4" metal spacer between the pin and the bracket at the **bottom** of each door.



## 2.9 GUARD INSTALL

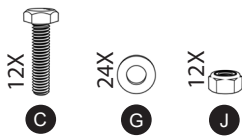
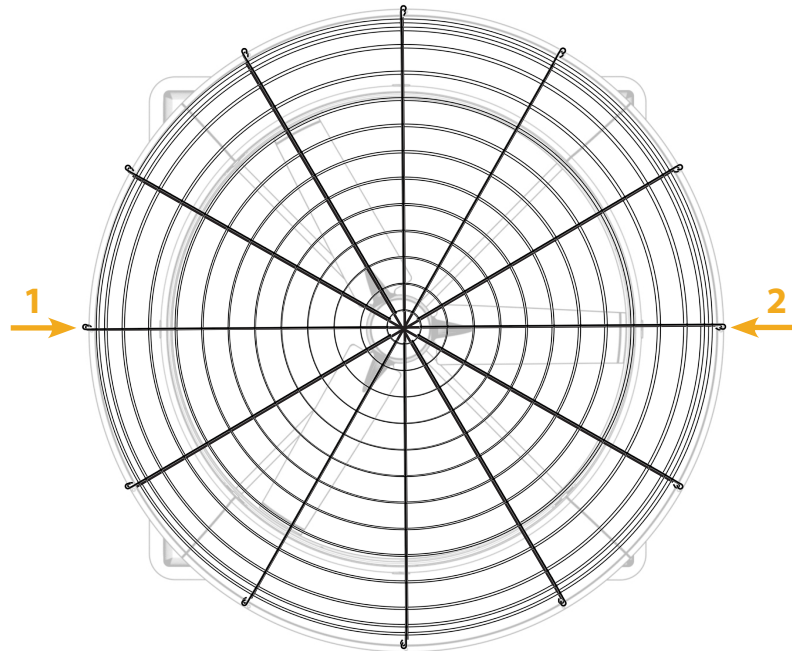
### Step 1

Start by using bolt (Q) to secure the butterfly damper stop onto the center plate of the cone guard (9).



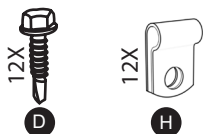
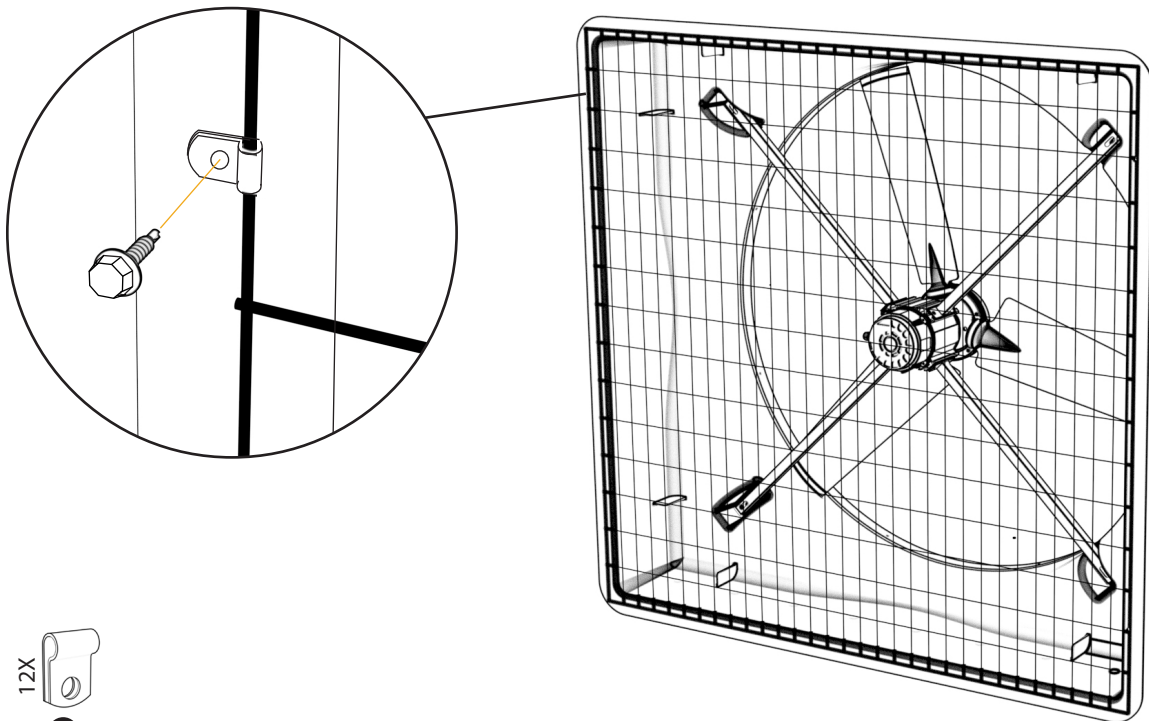
## Step 2

Drill one clearance hole for a 1/4" bolt through the front of the cone then secure one loop of the guard (9) in place. Using the loop as a guide, drill another hole on the opposite side of the cone and secure in place. Repeat this process by drilling holes for the remaining 10 loops then secure all in place with bolts (C), washers (G), and nuts (J).



## Step 3

(IF USING SHUTTER SKIP TO STEP 2.10) Center the square interior guarding (1) on the air intake side of the fan. Use 3 wire loop clamps (H) per side and secure into place with Self Tapping Screws (D).

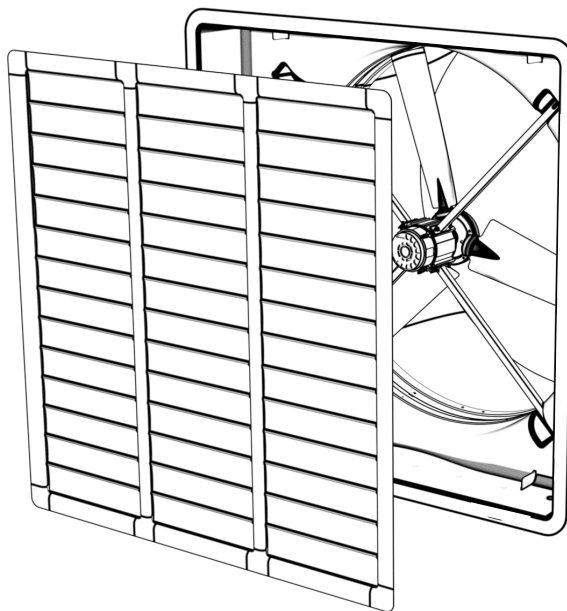




## 2.10 SHUTTER INSTALL

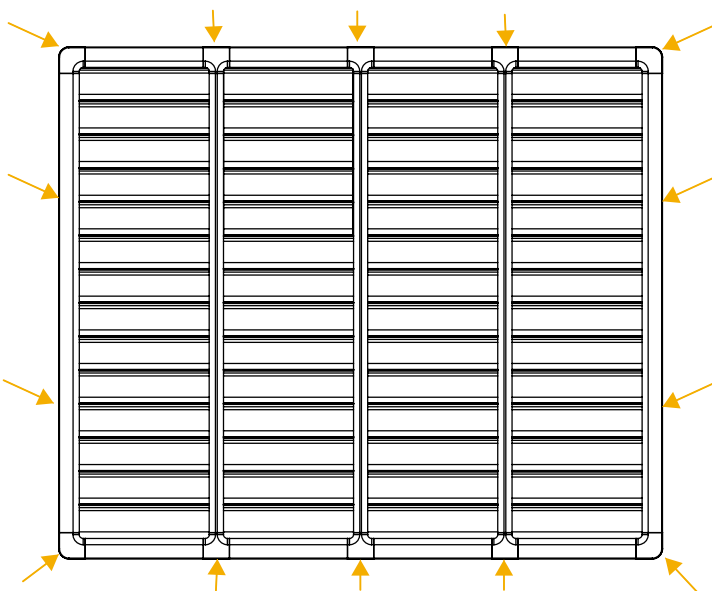
### Step 1

Start by inserting the shutter (2) into the opening of the fan housing.

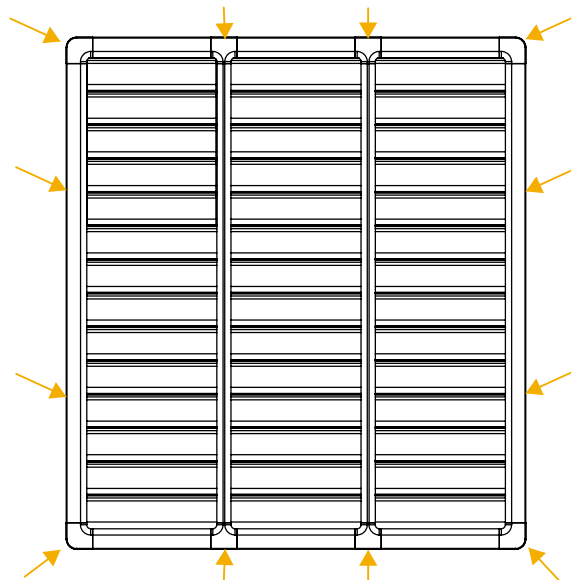


### Step 2

Install shutter clips at the locations indicated below.



Or



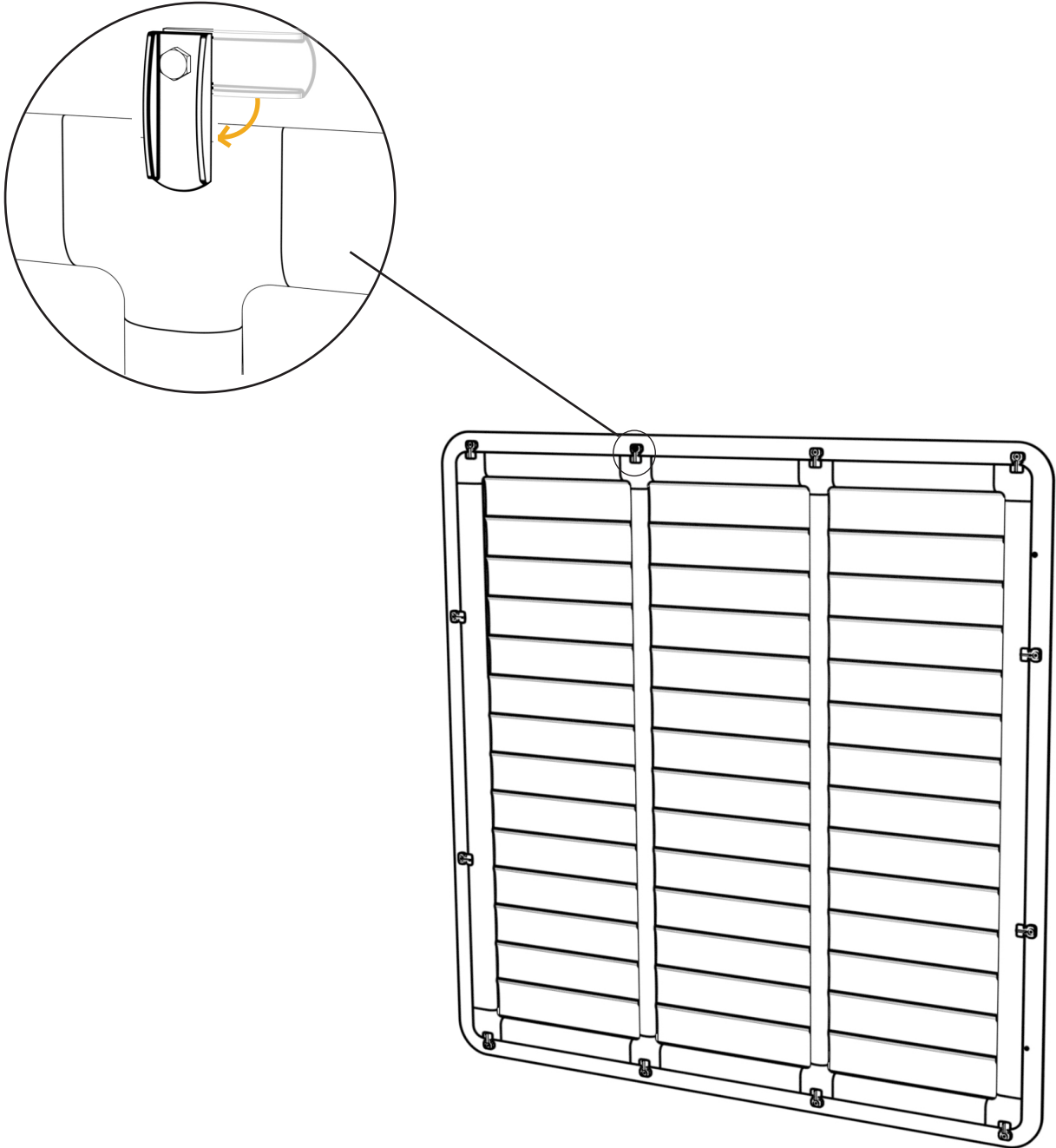
Note: Add 2 clips on either side, one for each corner, and one every "T" on the top and bottom





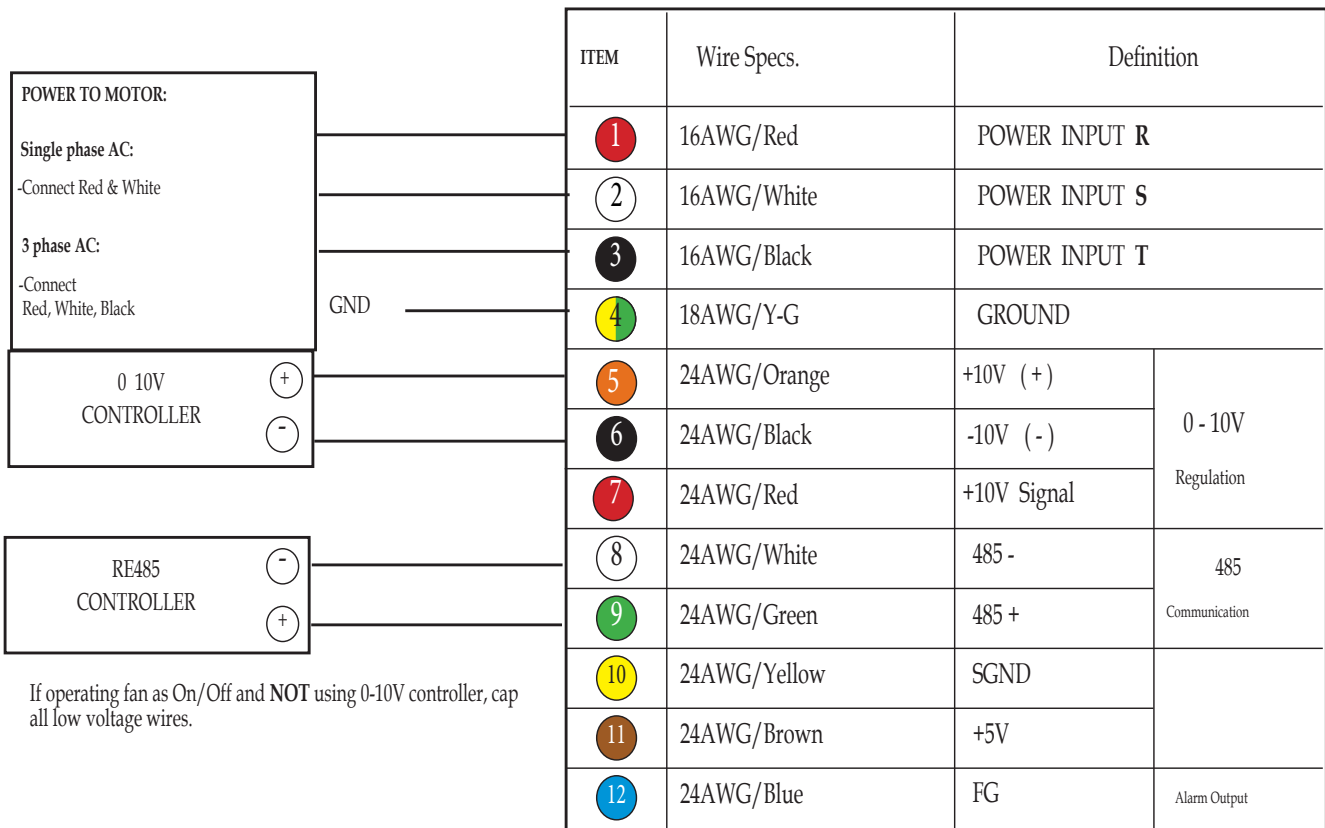
### Step 3

As shutter clips (E) are secured, rotate each one 90 degrees to hold the shutter against the fan housing.





## 2.11 WIRING DIAGRAM



## BACKUP THERMOSTAT WIRING INSTRUCTIONS



TSTAT OUT

TSTAT IN

ITEM	Wire Specs.	Definition	
1	16AWG/Red	POWER INPUT R	
2	16AWG/White	POWER INPUT S	
3	16AWG/Black	POWER INPUT T	
4	18AWG/Y-G	GROUND	
5	24AWG/Orange	+10V (+)	0 - 10V Regulation
6	24AWG/Black	-10V (-)	
7	24AWG/Red	+10V Signal	
8	24AWG/White	485 -	485 Communication
9	24AWG/Green	485 +	
10	24AWG/Yellow	SGND	
11	24AWG/Brown	+5V	
12	24AWG/Blue	FG	Alarm Output





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