VIVIDAIR™
ANYTHING ELSE IS STALE

ConZumer120 FAN

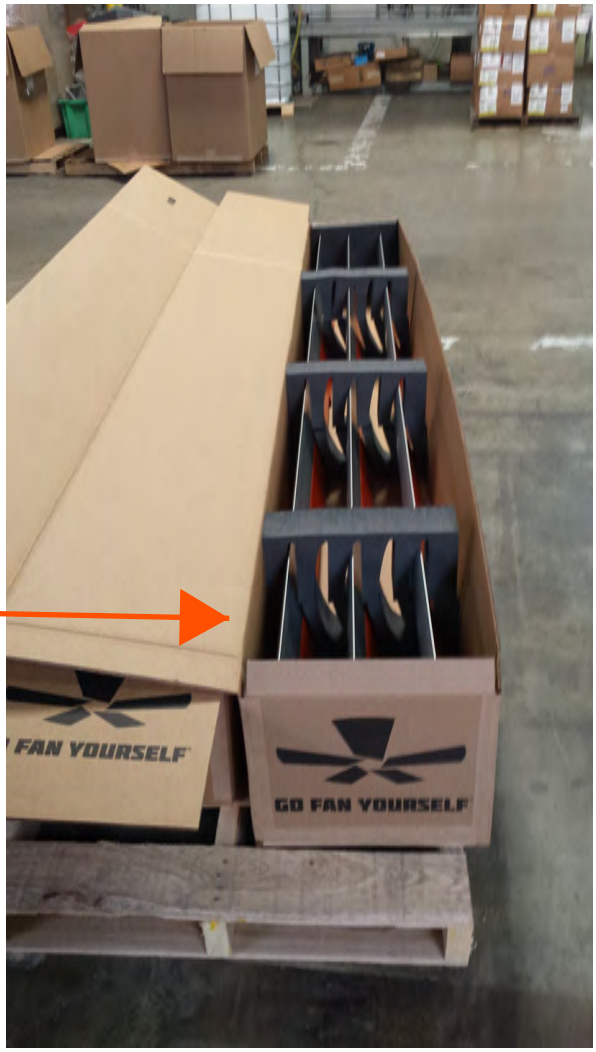
Scan me

INSTALLATION & TECHNICAL OPERATIONS GUIDE

Itemized Checklist - Unpacking Your VividAir Fan

You should receive two skids with your ConZumer120 fan shipment:
A Motor Hub Assembly skid with the motor housing assembly, control, and hardware.
A blade box skid with a box containing the blades and blade stabilizer plates.

Blade Box Skid



Invertek Controller Made In England
Blade Raw Material US or Canadian
ABB Controller Made Overseas - Final Assembly In US

made in AMERICA

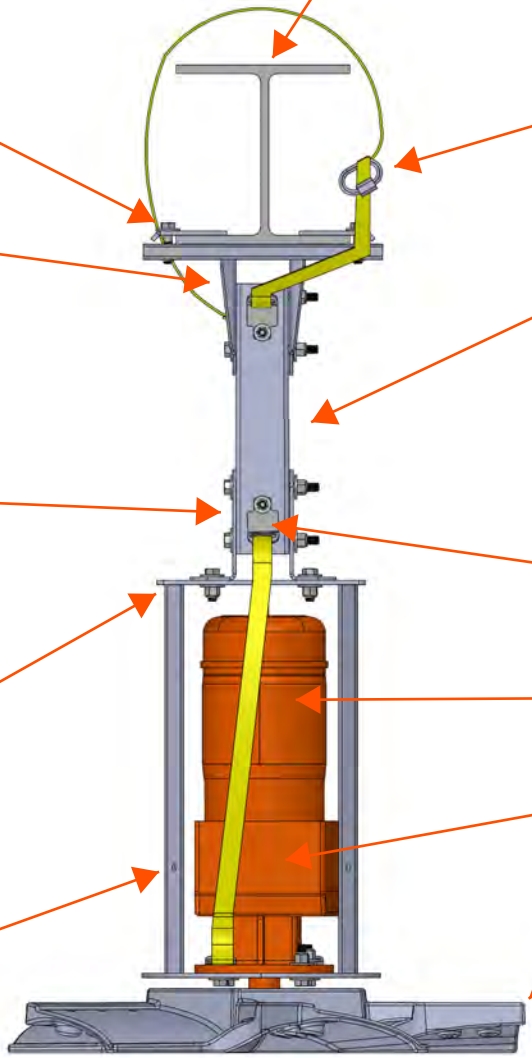
Verify You Received All Components

Itemized Checklist - ABB VFD Controllers, Blade Box, Blade Stabilizer Box

VividAir VFD Controller or
ABB ACS255 Controller
120VAC 1 Phase 20 Amp Receptacle Required
Control Is factory wired Line In
The 50' cable factory wired to the motor needs to be wired on site by the installer to Line Out of the controller.

Itemized Checklist - Fan Blade Box

Blade Set (3 Blades)
Blade Stabilizer Plates (3 Plates)



Invertek Controller Made In England
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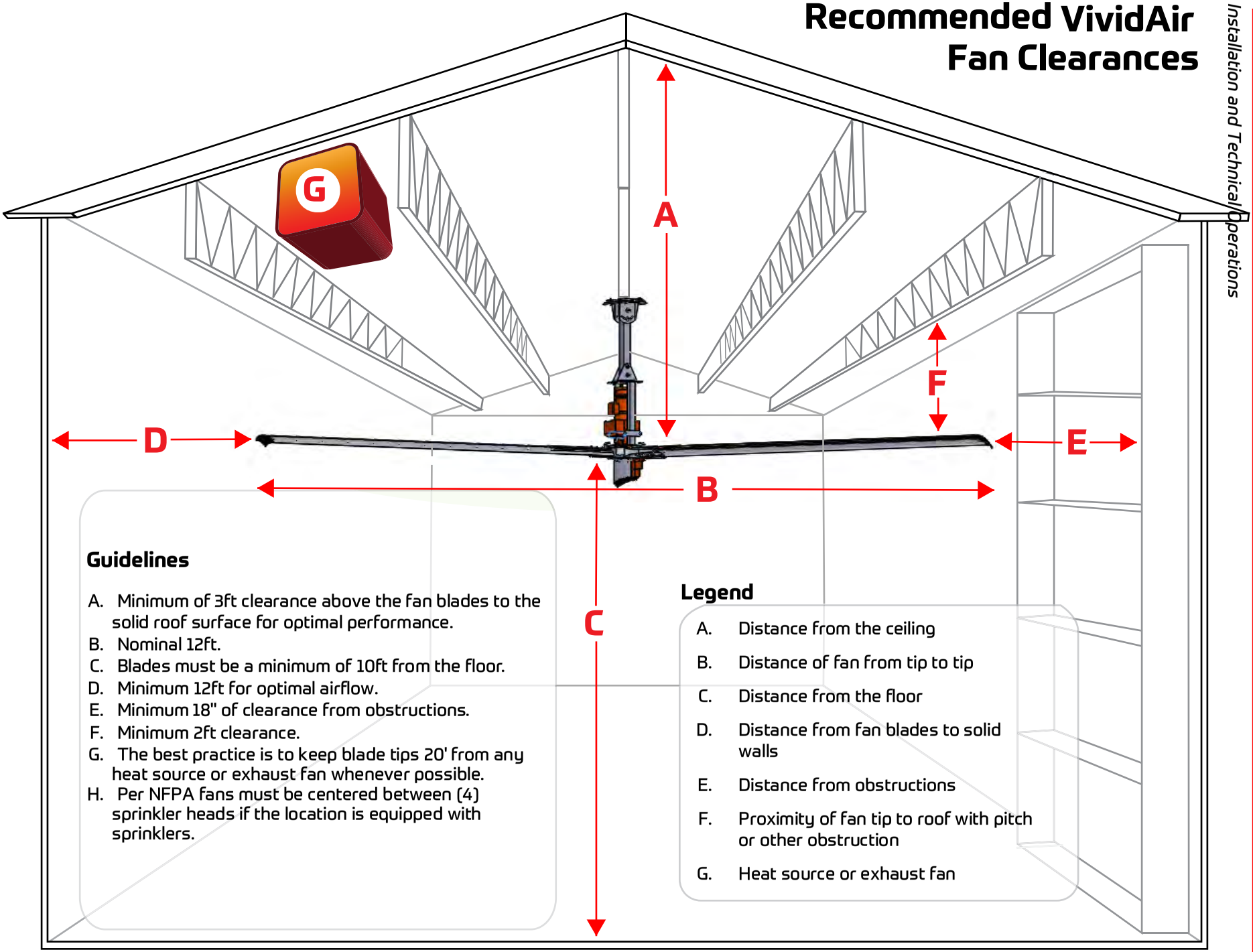
Recommended VividAir Fan Clearances



Guidelines

A. Minimum of 3ft clearance above the fan blades to the solid roof surface for optimal performance.
B. Nominal 12ft.
C. Blades must be a minimum of 10ft from the floor.
D. Minimum 12ft for optimal airflow.
E. Minimum 18" of clearance from obstructions.
F. Minimum 2ft clearance.
G. The best practice is to keep blade tips 20' from any heat source or exhaust fan whenever possible.
H. Per NFPA fans must be centered between (4) sprinkler heads if the location is equipped with sprinklers.

Legend

A. Distance from the ceiling
B. Distance of fan from tip to tip
C. Distance from the floor
D. Distance from fan blades to solid walls
E. Distance from obstructions
F. Proximity of fan tip to roof with pitch or other obstruction
G. Heat source or exhaust fan

Follow the Factory Mutual Insurance Company (FM Global) standards, Heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA), and the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE), and local code authorities.

WARNING: A structural engineer will need to verify that the structure is suitable prior to the installation of the fan. The fan should not be installed unless the structure on which the fan will be mounted is securely constructed, without damages, and can support the load of the fan. It is the sole responsibility of the customer/end user to have the stability

of the mounting structure verified. Go Fan Yourself® hereby denies any liability resulting from the lack of verification or from the use of any materials or hardware than those supplied by Go Fan Yourself® or otherwise indicated within these installation instructions.

1. Tools Required to Install Product

- Level
- High torque 1/2" impact gun with impact socket set
- Torque wrench capable of 30 ft-lbs +/- 2 ft-lbs
- Standard socket set
- Standard wrench set
- Scissor or Boom Lift

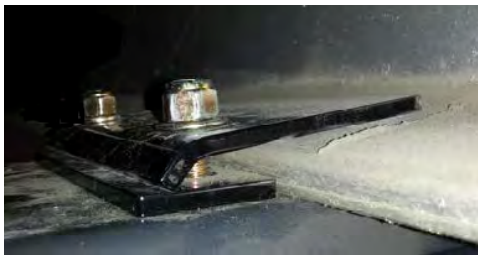
2. Required Steps Before Installation

- Check to see if you have all the tools required for the installation.
- Verify that all fan components were received.
- Check drawings and layouts provided to locate where the ConZumer120 Fan is to be installed.
- Each person installing the ConZumer120 Fan must use a safety harness at all times.
- Other safety requirements may be required for installation.
- All workspace safety requirements and lock out/tag out procedures provided by the customer for the assembly and installation of the ConZumer120 Fan must be met and followed.

Start your installation

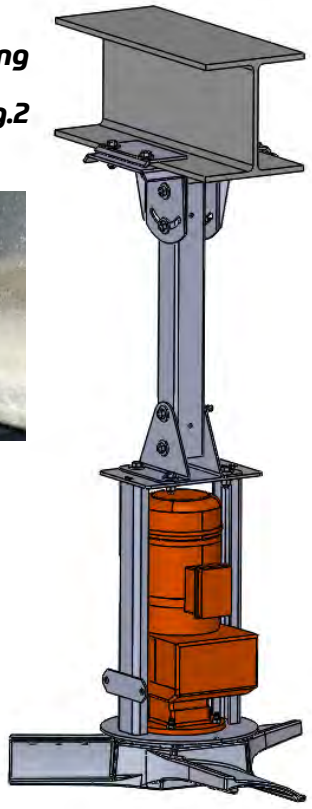
3. Standard Mounting Applications

Note: The following mounting applications are representations only and are subject to change without notice. Contact your sales representative or the VividAir office for complete mounting instructions.

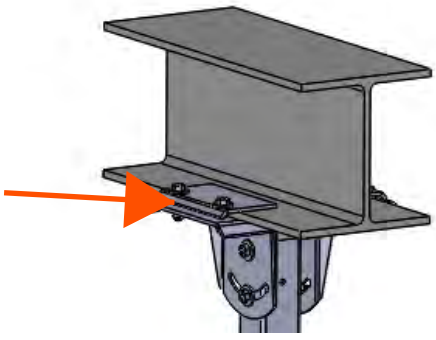


"I" Beam Mounting

Fig.2



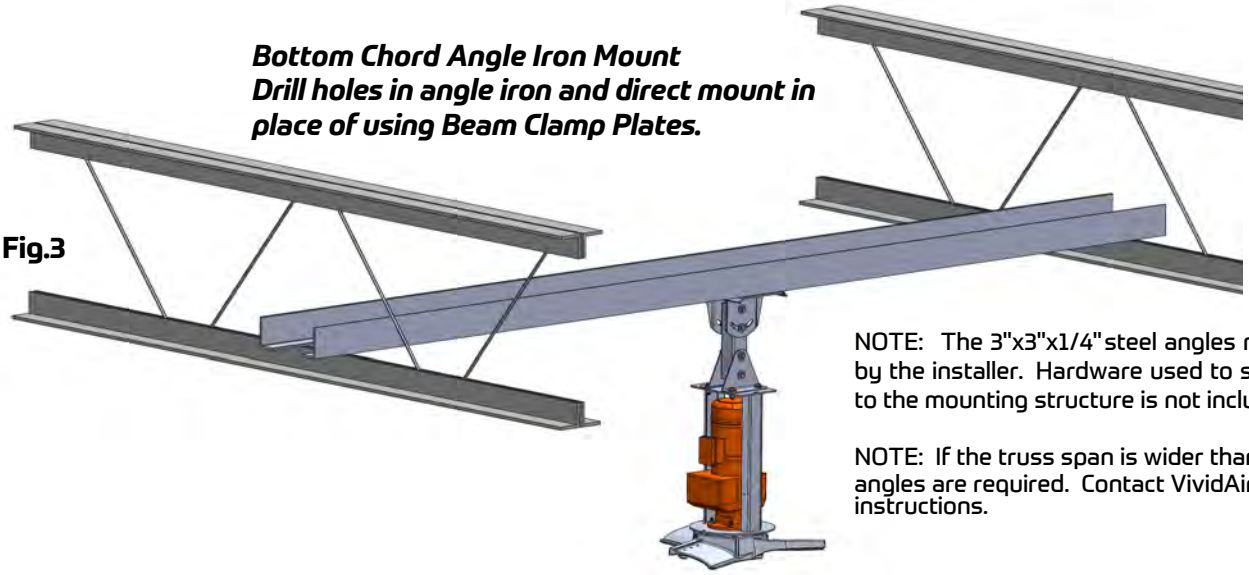
Insert optional shims to keep Beam Clamp Plates near level if I-Beam is thicker than the bend in the Beam Clamp Plate. Shims insert on top of the Upper Yoke Assembly and are secured with the mounting hardware. See picture above and following pages for additional details.



3. Standard Mounting Applications

Bottom Chord Angle Iron Mount
Drill holes in angle iron and direct mount in place of using Beam Clamp Plates.

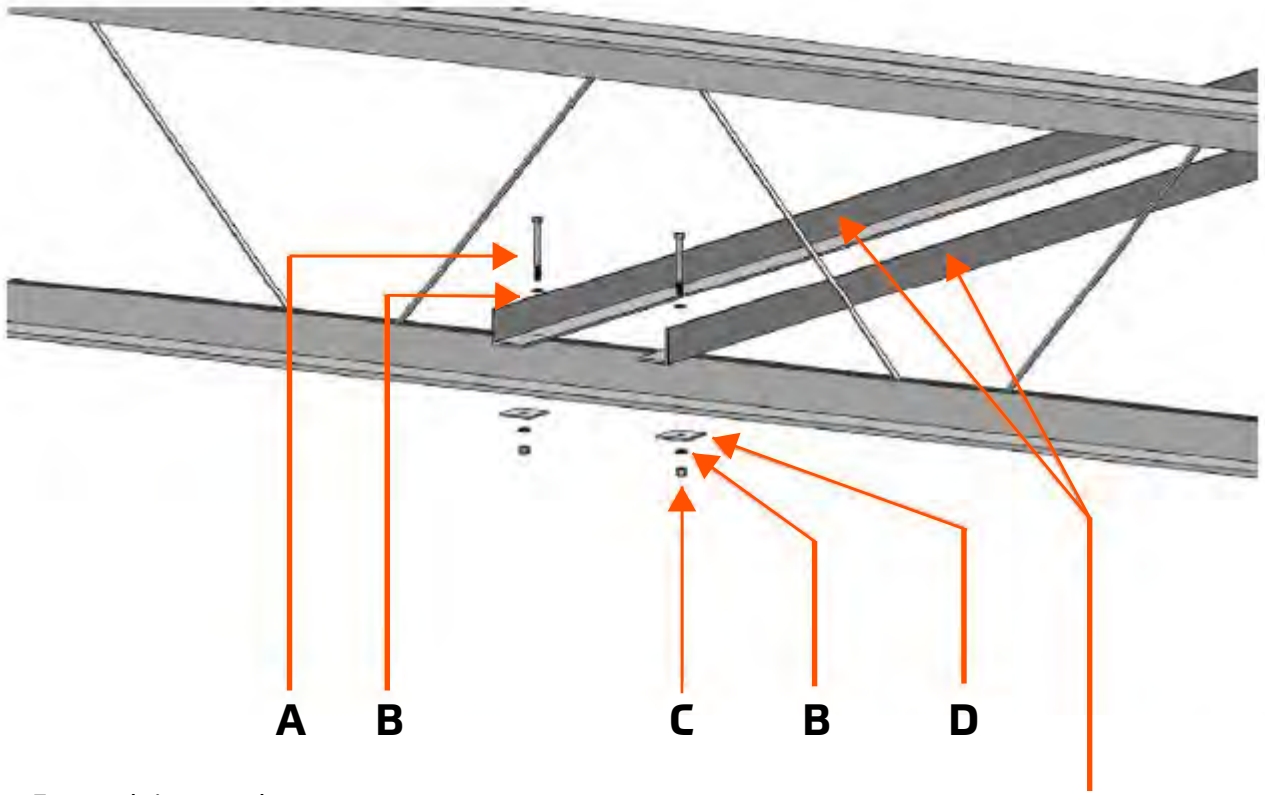
Fig.3



NOTE: The 3"x3"x1/4" steel angles must be supplied by the installer. Hardware used to secure the angles to the mounting structure is not included.

NOTE: If the truss span is wider than 8 FT (4) steel angles are required. Contact VividAir for additional instructions.

*****NOTE*** Hardware A, B, and C below are installer supplied.**
A - (4) 1/2"x13x1.5" longer than the lower chord of the truss Grade 8 Cap Head Screw
B - (8) 1/2" Grade 8 Flat Washer
C - (4) 1/2"x13 Grade 8 Steel Nylock Nut
D - (1) VividAir Truss Mount Kit will be included with your fan (kit consists of (4) large square washers). Tighten all hardware to a minimum 40 ft lbs (54.2 Nm).

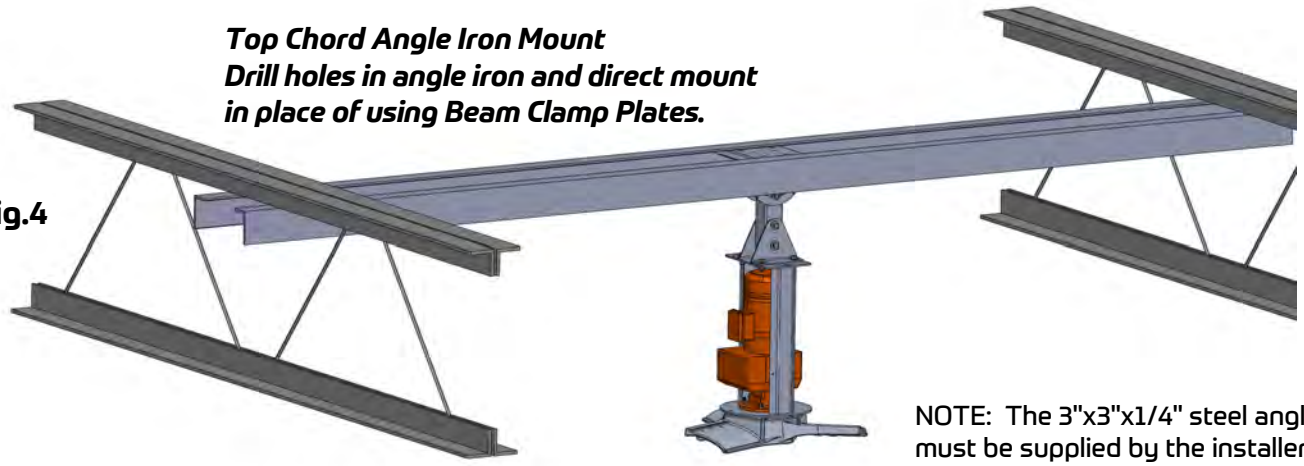


- Face angle irons as shown.
- Once mounted use Upper Yoke Weldment and mark mounting holes on the angle irons.
- Drill (2) holes in each angle iron and direct mount the Upper Yoke Weldment to the angle irons.
- The Beam Clamp Plates and shims are not used in this application.

3. Standard Mounting Applications *(continued)*

Top Chord Angle Iron Mount
Drill holes in angle iron and direct mount in place of using Beam Clamp Plates.

Fig.4

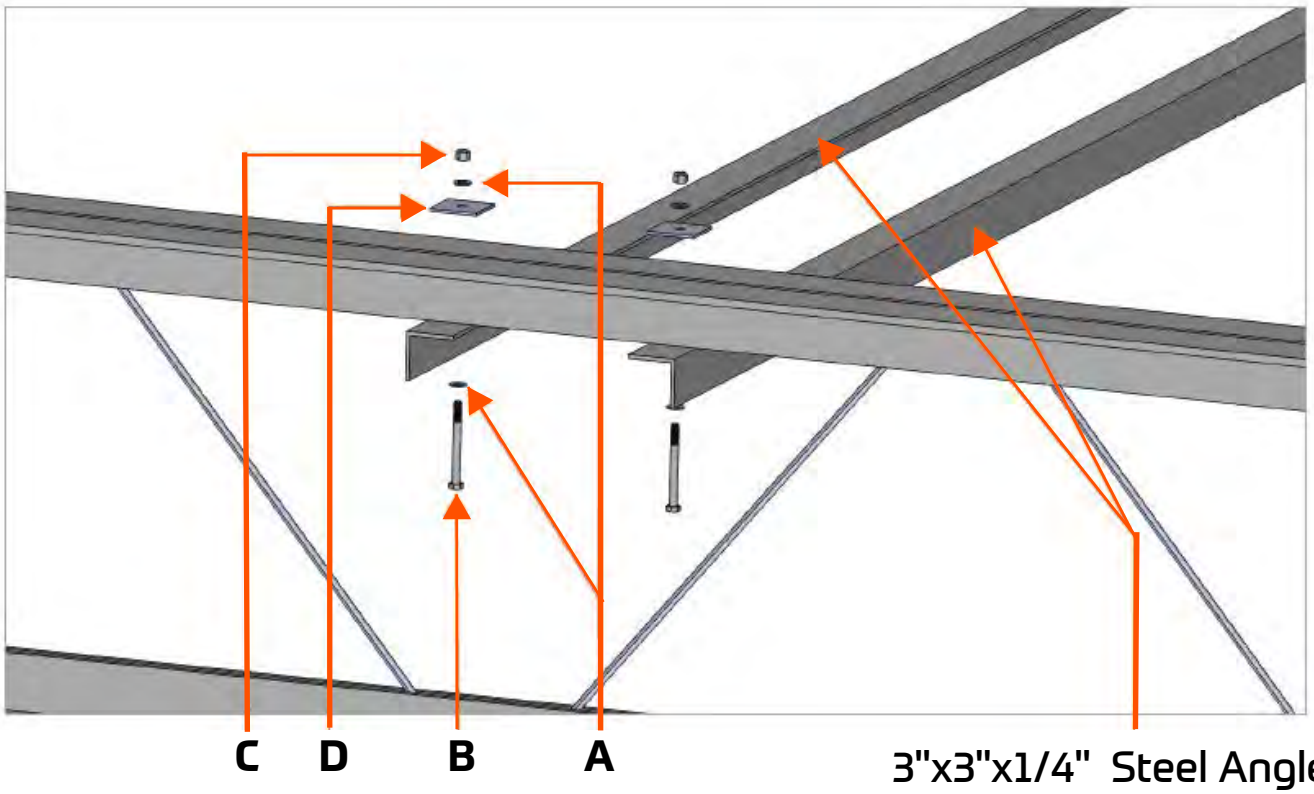


NOTE: The 3"x3"x1/4" steel angles must be supplied by the installer. Hardware used to secure the angles to the mounting structure is not included.

NOTE: If the truss span is wider than 8' (4) steel angles are required. Contact VividAir for additional instructions.

*****NOTE*** Hardware A, B, and C below are installer supplied:**

A - (4) 1/2"-13x(chord height + 1.5") Grade 8 Cap Head Screw B - (8) 1/2" Grade 8 Flat Washer
C - (4) 1/2"-13 Grade 8 Steel Nylock Nut
D - (1) VividAir Truss Mount Kit will be included with your fan (kit consists of (4) large square washers).
Tighten all hardware to a minimum 40 ft lbs (54.2 N·m).



3"x3"x1/4" Steel Angles

- Face angle irons as shown.
- Once mounted use Upper Yoke Weldment and mark mounting holes on the angle irons.
- Drill (2) holes in each angle iron and direct mount the Upper Yoke Weldment to the angle irons.
- The Beam Clamp Plates and shims are not used in this application.

3. Optional Mounting Applications

GFY's Wood/Concrete Beam Kit Must Be Ordered

"Wood Beam" Mounting
(Refer to Wood Beam Installation Guide received with your fan)
A local structural engineer should be consulted to verify all Wood Beam Mounting applications.

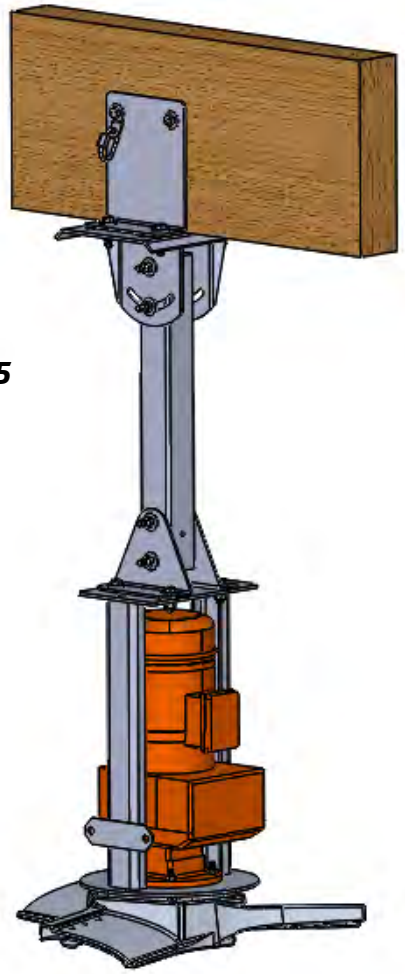


Fig.5

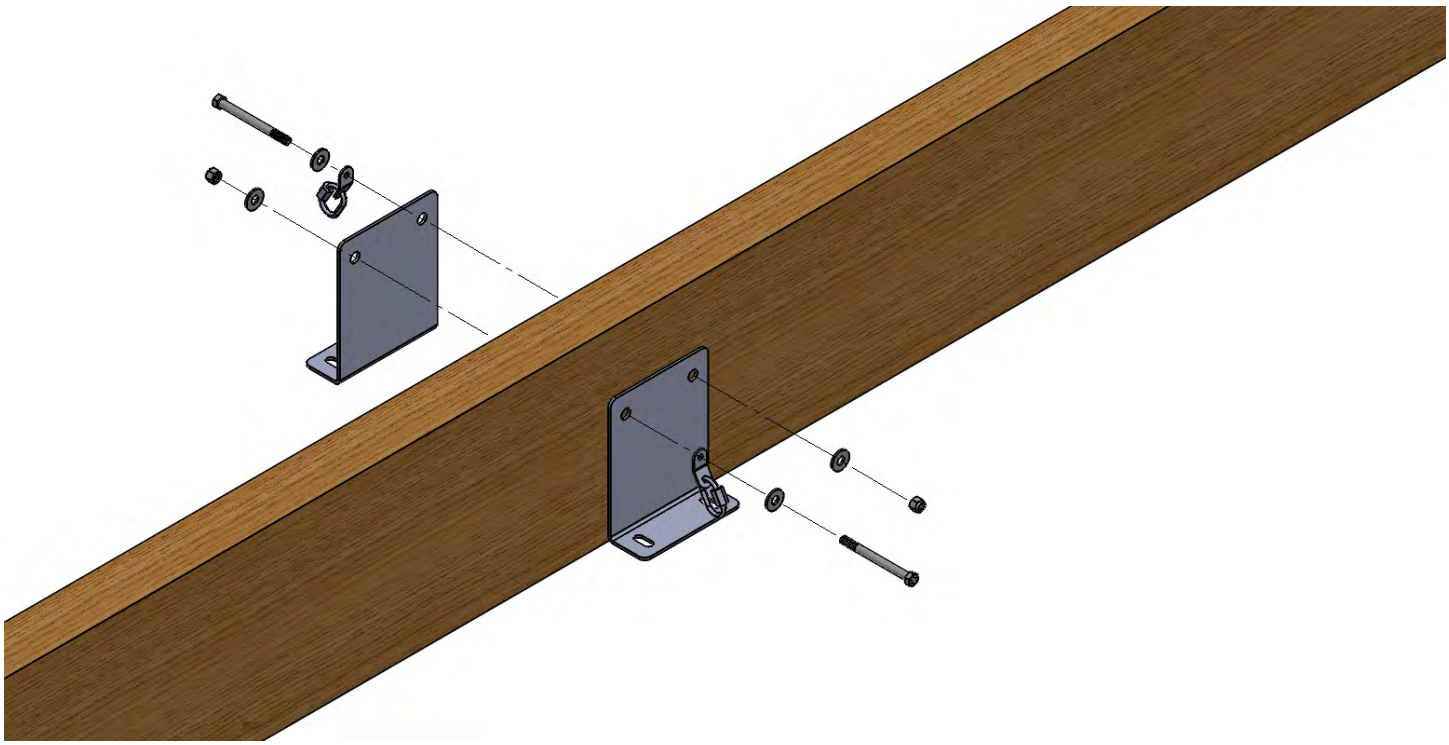
Secure L-Brackets

As shown below secure the L-Brackets and Safety Clips with Quick Links to the mounting structure with installer-supplied hardware.

Required Contractor Supplied Hardware:

(2) 1/2"-13 x "1 1/2" longer than the support structure" Grade 8 Hex Cap Screw
(4) 1/2" Grade 8 Flat Washer
(2) 1/2"-13 Grade 8 Steel Nylock Nut

Tighten all hardware to a minimum 40 ft lbs (54.2 N·m).



3. Optional Mounting Applications *(continued)*

GFY's Z-Purlin Kit Must Be Ordered

"Z-Purlin" Mounting
(Refer to Z-Purlin Installation Guide received with your fan for additional details).

1) Drill the Z-Purlins using the backer plate as a template and anchor the backer plate to the Purlin Bracket with supplied hardware. Tighten to 40 ft lbs (54.2 Nm).
2) Measure and pre-drill the angle irons for the fan mount using the mount as a template.
3) Finger tight the angle irons facing outward to hold them in place and attach the fan mount.
4) Tighten both the fan mount hardware and the angle iron hardware to a minimum 40 ft lbs (54.2 Nm).

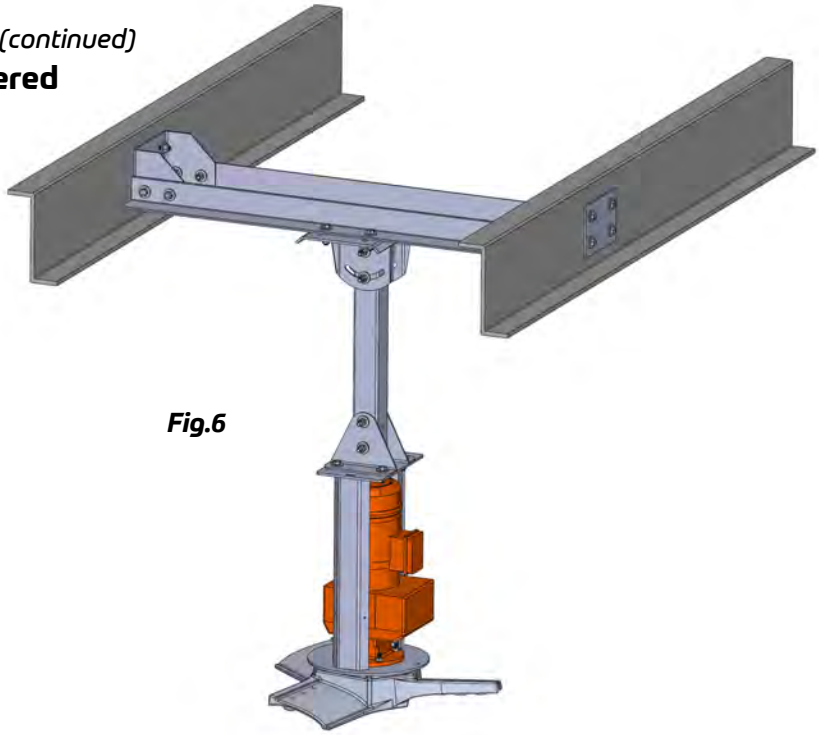
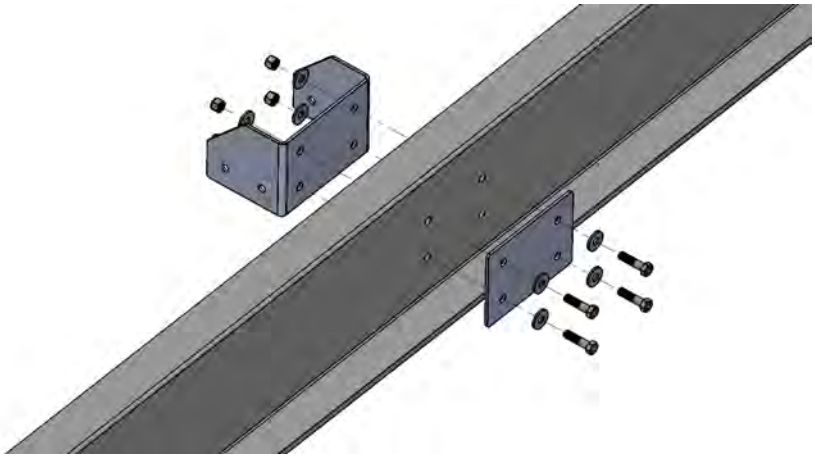
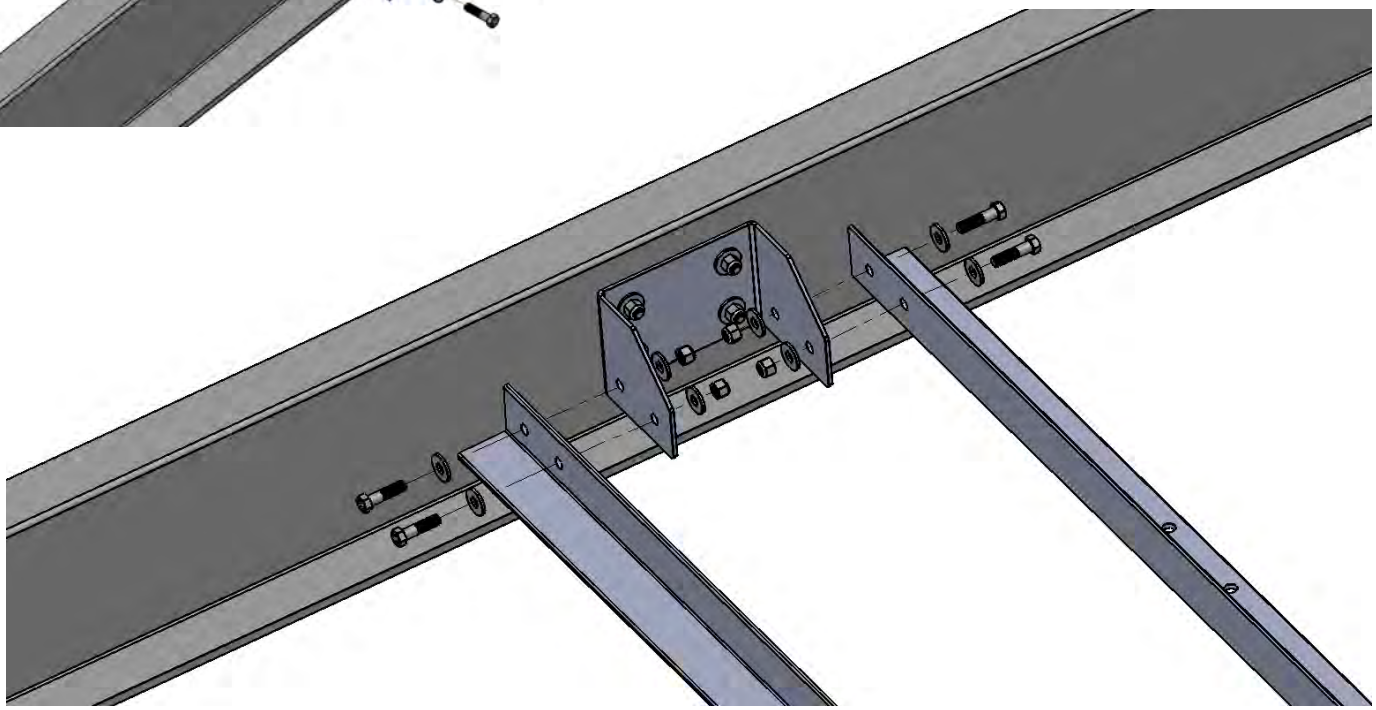


Fig.6



Mounting Hardware Supplied

a. (16) 1/2"-13 x 2" Grade 8 Hex Head Cap Screw
b. (32) 1/2" Grade 8 Flat Washer
c. (16)1/2" Grade 8 Nylock Nut
Tighten all hardware to a minimum 40 ft lbs (54.2 Nm).



4. Standard Mount

The mount will accomodate 6"-10" I-Beams and is also used with the optional Z-Purlin Kit and Wood/ Concrete Beam Kit.

An XL Mount is available for 12"-15" I-Beams

The package includes:
(2) mfg "1" Beam Clamp Plates.
(2) mfg "1" Beam Shims (may or may not be required for assembly)
(1) Upper Yoke Weldment*

*Down Tube and Lower Yoke are shown as a preview of the fan mount assembly

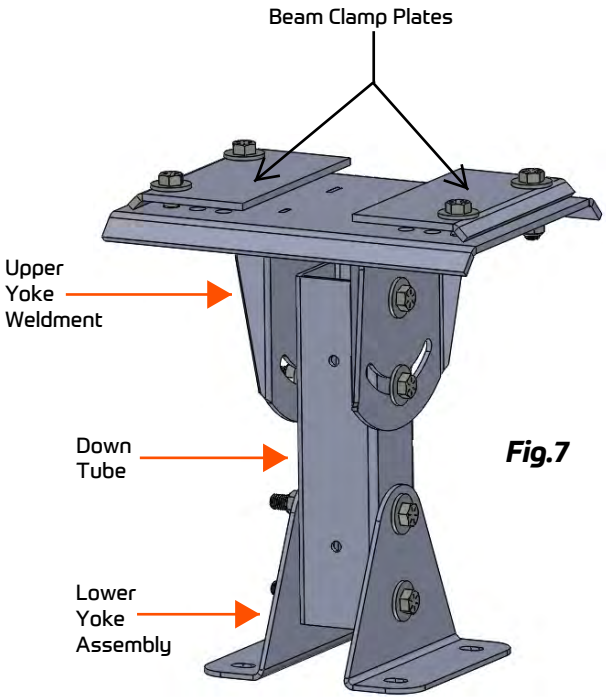


Fig.7

Installing the Mount

1. Secure the "1" Beam or OWSJ Beam between the mfg "1" Beam Clamps and the Upper Yoke. Insert the mfg "1" Beam Spacers if required.
2. Insert the bolts, washers and tighten to a minimum 40 ft-lbs (54.2 Nm). (Fig 8)

Upper Yoke Mounting Hardware:
(4) 1/2"x13x2" Grade 8 Hex Cap Screw
(8) 1/2" ASTM F436 Type 1 Mechanical Galvanized Steel Structural Flat Washer
(4) 1/2"x13 Grade 8 Steel Nylock Nut

Tighten the bolts to a minimum 40 ft-lbs (54.2 Nm)

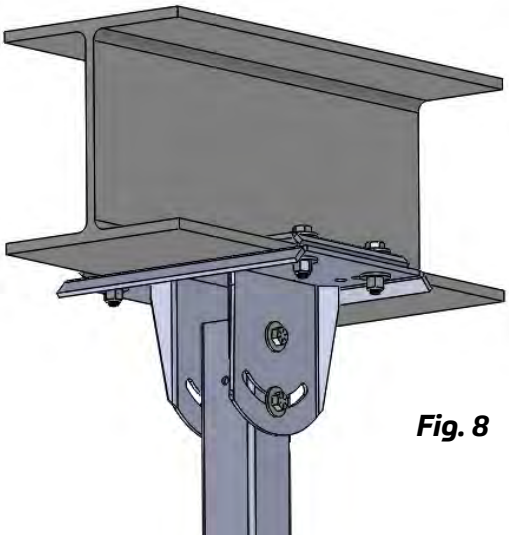
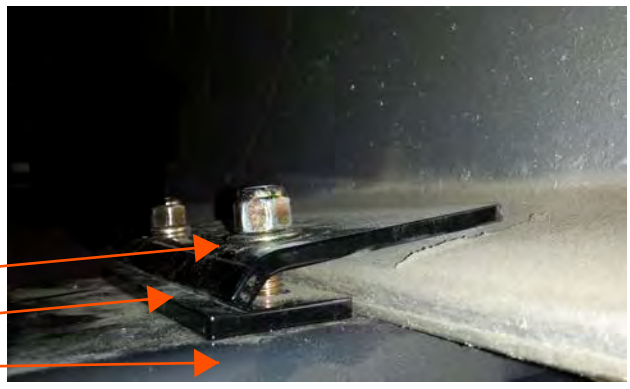


Fig. 8

Insert optional shims to keep Beam Clamp Plates near level to the mounting surface of the I-Beam when the I-Beam is thicker than the bend in the Beam Clamp Plate. Shims insert on top of the Upper Yoke Weldment and are secured with the mounting hardware provided.



5. Down Tube

This package includes:
(1) 1ft Down Tube

(2) Z-TechSS™ Upper Safety Straps (fastened to Down Tube from the factory, wrap tightly around the building structure and secure with 3/8" quick link provided)

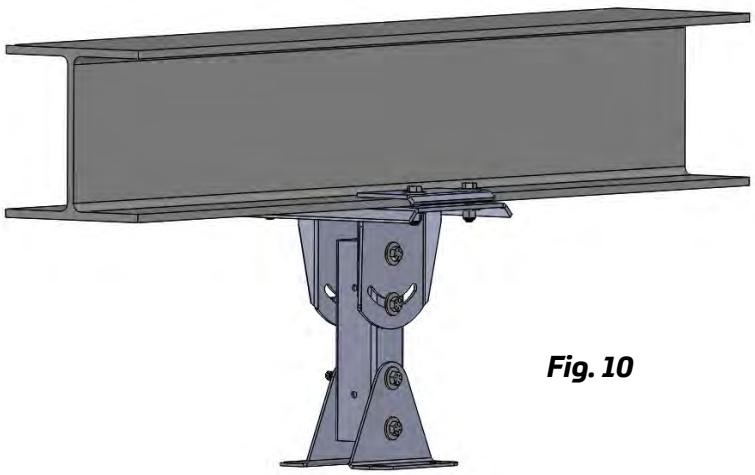


Fig. 10

Hardware Pack:
(4) 1/2"x13x5" Grade 8 Hex Cap Screw
(8) 1/2"x1.375" Thru Hardened General Purpose Flat Washer
(4) 1/2"x13Grade 8 Steel Nylock Nut

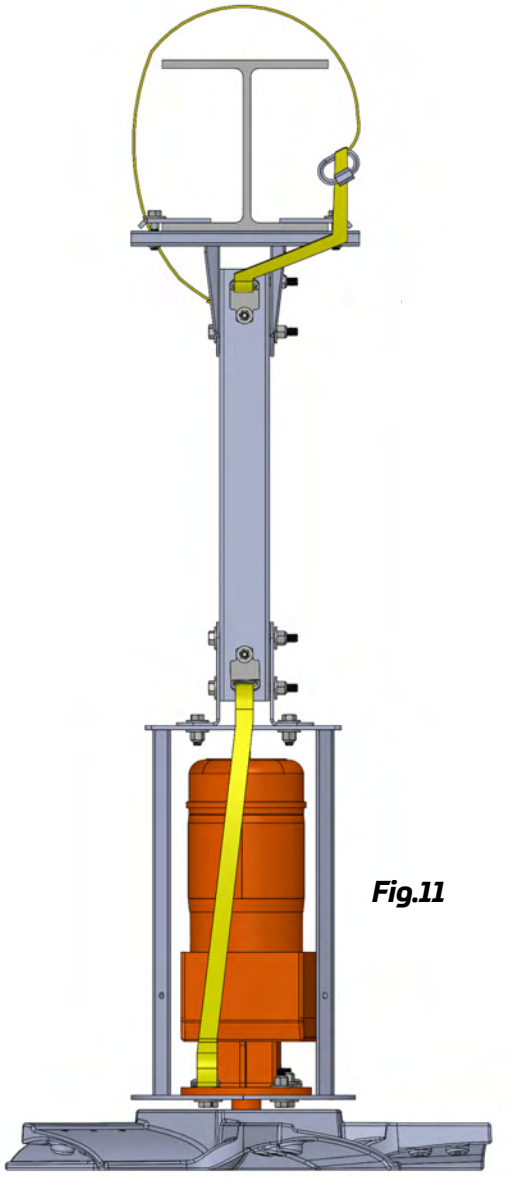


Fig.11

Installing:

- **Down Tube**
- **Z-TechSS™ Upper Safety Straps**
- **Lower Yoke Assembly**
- **Z-TechSS™ Lower Safety Straps**

1. Slide the upper end of the Down Tube (end with the Z-TechSS™ Upper Safety Straps factory installed) into the Upper Yoke.
2. Loosely fasten the Down Tube into the Upper Yoke by tightening the hardware only enough to engage the nylock nut. This keeps the hardware in place while allowing the self-leveling feature of the Upper Yoke to work for you. Do NOT tighten until the Motor Hub Assembly has been securely fastened to the Lower Yoke on the bottom end of the Down Tube.
3. Wrap the Z-TechSS™ Upper Safety Straps (per Fig. 11) as tightly as possible around the building structure and fasten the loops with the 3/8" quick link or shackle provided.
4. Assemble the Lower Yoke onto the bottom of the Down Tube. Tighten hardware to a minimum 40 ft-lbs (54.2 N·m).

6. Main Hub and Drive Assembly

The package includes:

(1) Hub
(1) Fan frame
(1) Motor
(1) Gearbox

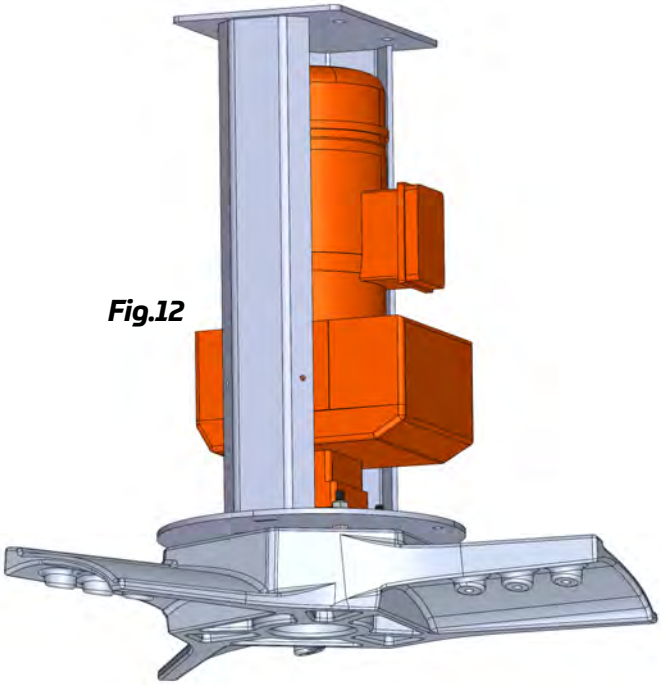


Fig.12

Hardware Pack Includes:

(4) 1/2"x13x1.5" Grade 8 Hex Cap Screw
(8) 1/2" ASTM F436 Type 1 Mechanical Galvanized Steel Structural Flat Washer - Grade 8
(4) 1/2"x13 Grade 8 Steel Nylock Nut

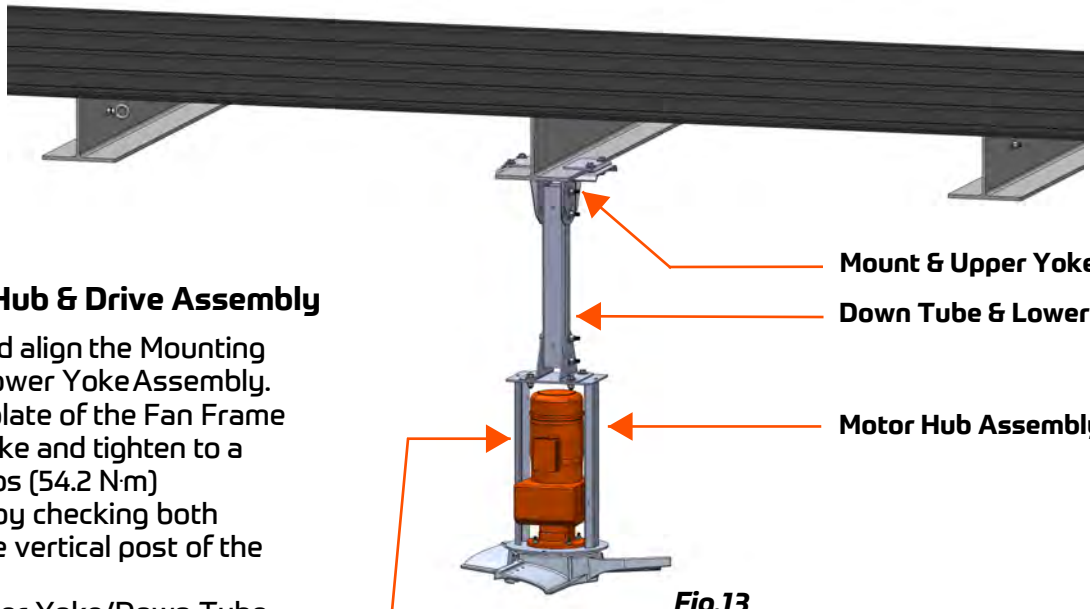


Fig.13

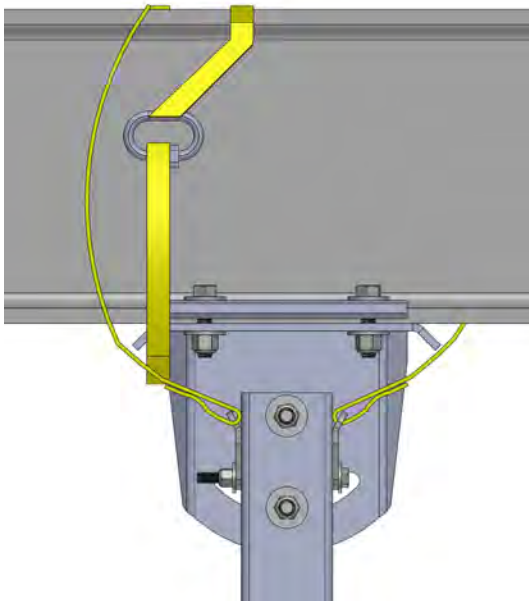
Installing the Main Hub & Drive Assembly

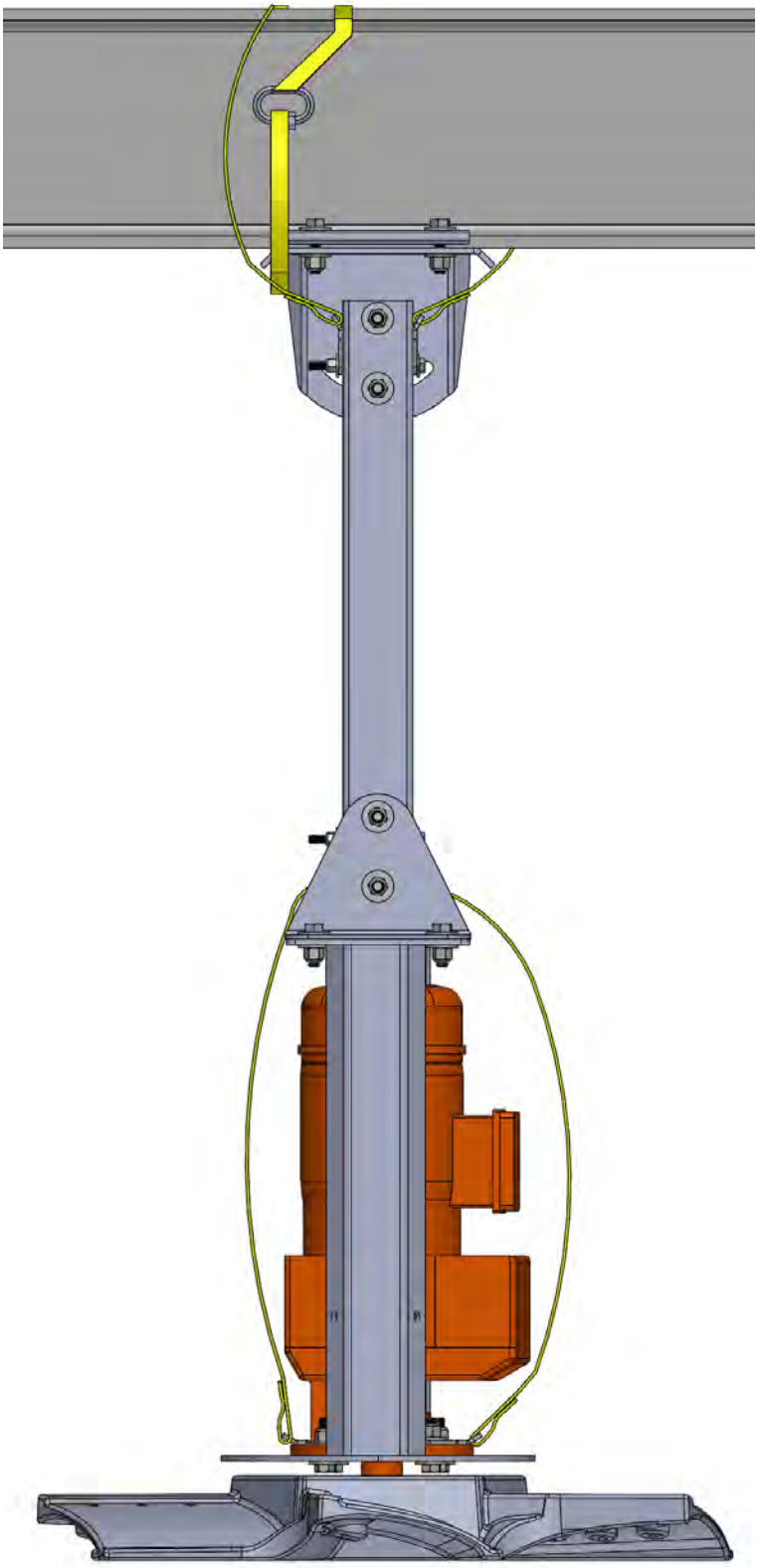
1. Raise the fan and align the Mounting Plate with the Lower Yoke Assembly.
2. Fasten the top plate of the Fan Frame to the Lower Yoke and tighten to a minimum 40 ft-lbs (54.2 N·m)
3. Verify fan level by checking both directions on the vertical post of the fan frame.
4. Tighten the Upper Yoke/Down Tube hardware to a minimum 40 ft-lbs (54.2 N·m) to secure the fan level. The
5. Z-TechSS™ Lower Safety Straps will be factory assembled to the motor mount bolts. Secure opposite end of both straps to the Down Tube with the hardware provided:
   a. (1) 3/8" x 16 x 5" Grade 8 bolt
   b. (2) 3/8" Grade 8 washers
   c. (1) 3/8" x 16 nylock nut

Check fan level by placing the level on the front and side of either vertical post of the fan frame.

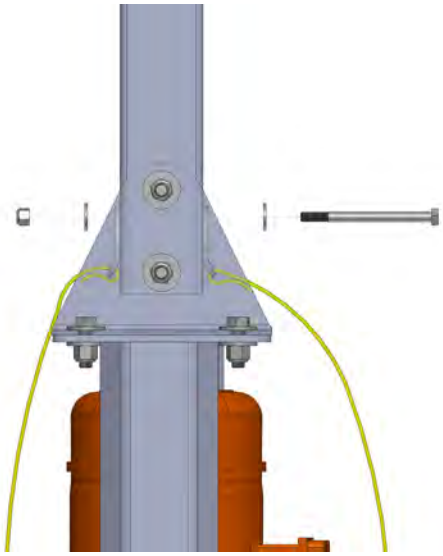
6. Z-TechSS™ Saftey System Makes VividAir the safest fan on the market! Ships with all VividAir orders. A retrofit version is also available for existing ConZumer120 fans.

Route upper straps around building support wrapped as tightly as possible and secure with 3/8" quick link provided.





Secure the lower straps to the Down Tube with the hardware provided and tighten to a minimum of 40 ft-lbs (54.2 N .m)



Hardware List:
(1) 3/8" x 5" Grade 8 Bolt
(2) 3/8" Grade 8 Flat Washers
(1) 3/8" x 16 Grade 8 Nylock Nut

7. Optional Guy Wires

The package includes:
(4) Cable 1/8"Stainless Steel (4 @ 20 FT provided)
(8) Thimbles 1/4"Stainless Steel
(16) Cable Clamps 1/8" (Use 2 per anchor location)
(4) Turnbuckles 3/8" x 6" 1200# Galvanized eye to eye (4) Quick Links 3/8"

Contractor Supplied Hardware For Anchor Points:
(4) 3/8" eyebolts (1 1/2" longer than the thickness of the anchor point)
(4) Nuts 3/8"
(8) Washers 3/8"
(4) Nylock Nuts 3/8"

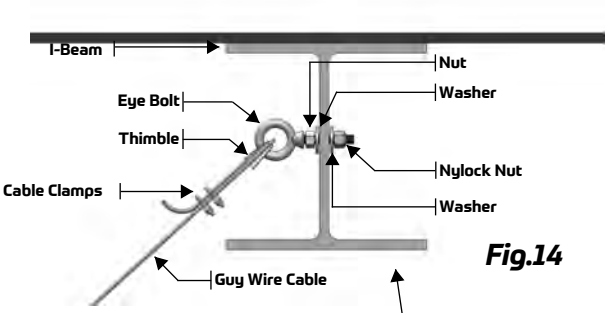


Fig.14

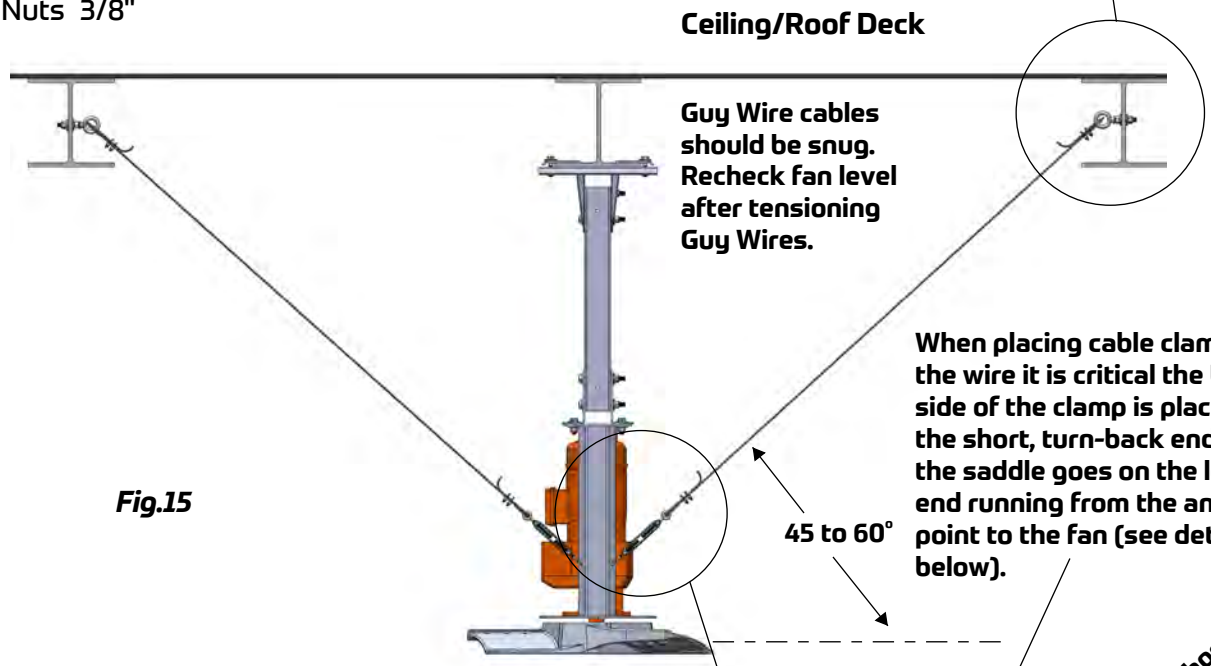


Fig.15

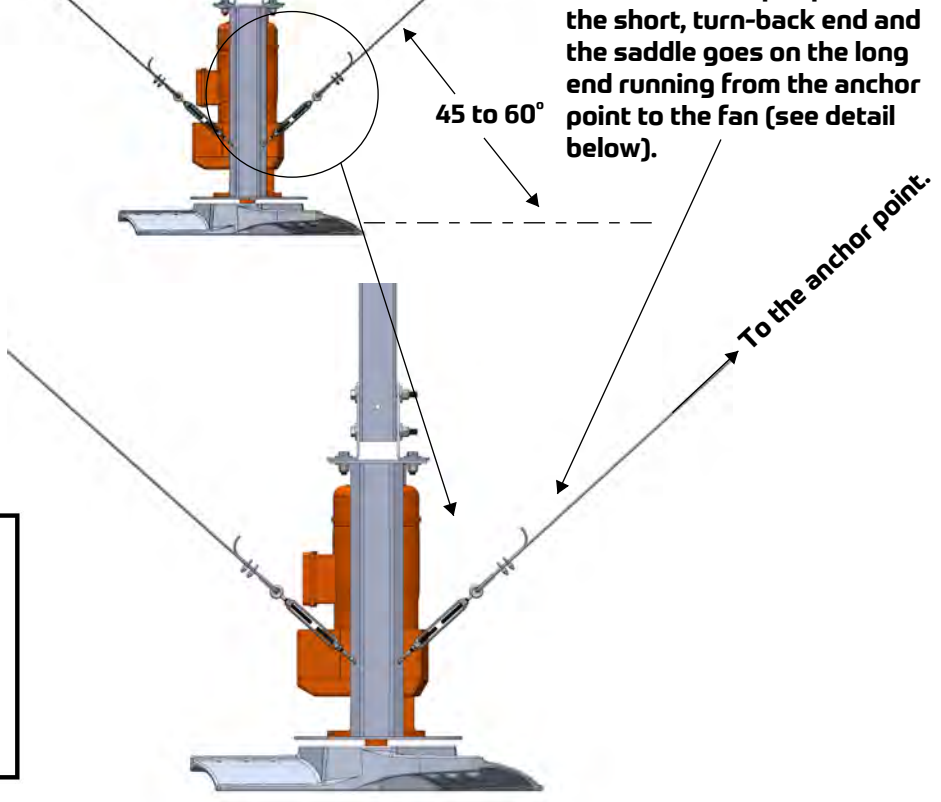
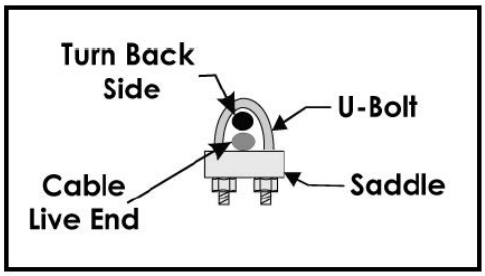


Fig.16



Tighten cable clamp hardware to a minimum 4.5 ft-lbs (6.1 N·m)

Installing the Guy Wires

1. Determine mounting position on ceiling and establish the angle between 45º-60º for the cable. Determine correct location on the I-Beam to anchor the eye bolt. If the guy wire anchor points on the fan are 3' 4" (101.6 cm) down from the I-Beam or Steel Angles the cables should anchor at least 3' 4" (101.6 cm) away from the fan
2. Fasten all eye bolts with nuts and washers as per Fig. 14.
3. Measure the run of cable required and cut a minimum of 2 FT longer. NOTE: runs longer than 18 FT will require additional cable. Secure it with 1 thimble and 2 cable clamps (Fig.16).
4. Repeat using the other 3 pieces of guy wire cable, thimbles and cable clamps(Fig.15).
5. Guy wires should be tight. Allow fan to self-level and recheck level as you tighten each guy wire. They should also be approximately 90º apart (Fig.17).

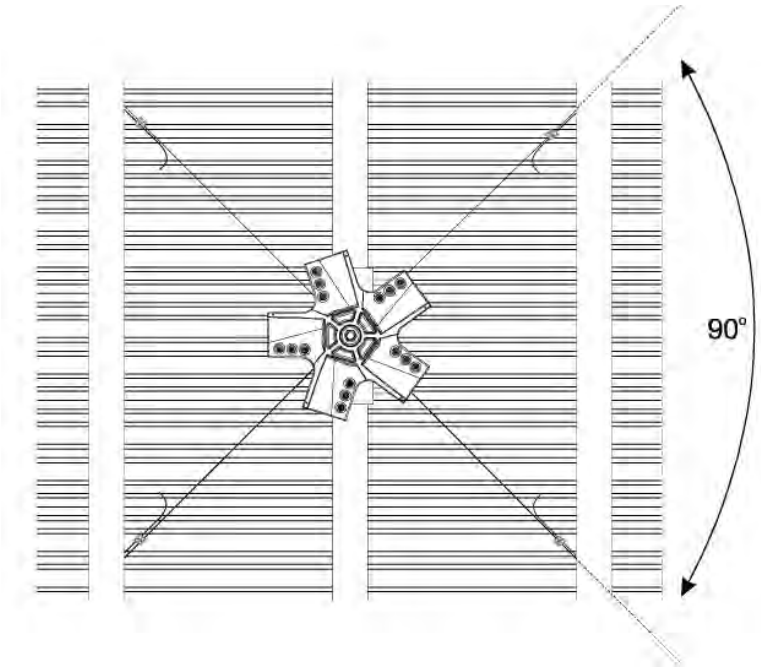


Fig.17

NOTE: Fans hanging lower than 10ft from where the guy wires will mount may require additional cable (provided by the installer).

8. Z-Tech™ Blade Assembly

(3) Blades
(3) Blade Stabilizer Plate
(15) 3/8"x16x3.5" Grade 8 Hex Cap Screw
(30) 3/8"x0.812"Grade 8 Flat Washer (15) 3/8"x16 Grade 8 Nylock Nut

Installing the Blade Assembly

1. Clamp blade between blade stabilizer plate and hub.
2. Continue until all 3 blades have been fastened and tighten to:
   30 ft-lbs +/-2 ft-lbs
   (40.7 N·m = 30 ft-lbs) or
   (38 N·m to 43.4 N·m)
3. Turn the fan by hand and verify minimum clearance exists for all blades from all obstructions.

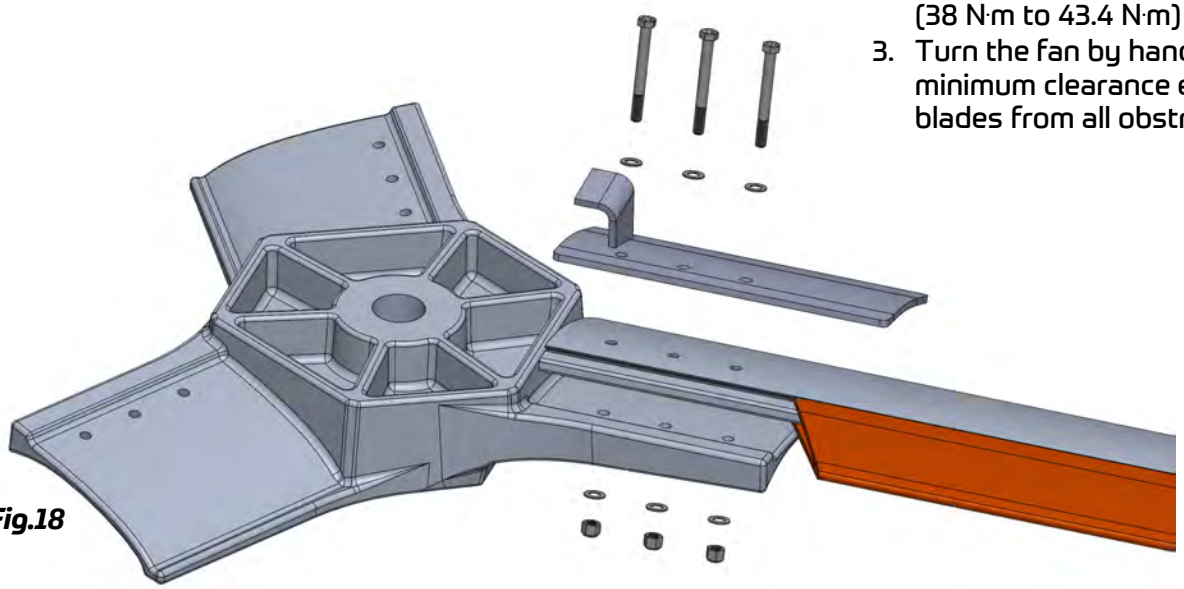


Fig.18

9. Leveling the Fan

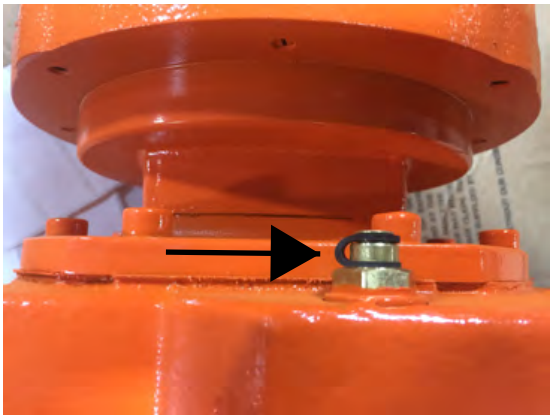
1. After your fan is installed, check the level again by placing your level vertically on the vertical post of the fan frame. Adjust as required.
2. Once leveled, tighten hardware to a mimimum 40 ft-lbs (54.2 Nm) to secure the Down Tube into the Upper Yoke. Verify fan level once hardware is tightened.

ATTENTION! YOU MUST REMOVE THE VENT STOPPER FROM THE GEARBOX!!!!!

Failure to remove the vent stopper will cause gearbox failure (if equipped)!!

NORD Gearbox - Pull rubber out of breather

Dodge Gearbox - Remove rubber stopper



Rubber Stopper shown removed

For proper electrical connection, please consult the Wire Connections (Motor) page later in this document.

Electrical Installation & Operation Manual

All installation wiring must confirm to your National Electrical Code and local guides. While we believe that using VividAir controls and following our instructions will result in an installation that meets those requirements, we cannot guarantee it. Code compliance is ultimately the installer's and/or user's responsibility.

Subject to change without notification.

IMPORTANT

Contact VividAir for all outdoor applications and any application where the fan may be hit directly by the wind.

Safety Precautions

- All installations must be installed by a qualified person.
- Do not work on live equipment. Use lock out/tag out procedures.

CRITICALLY IMPORTANT!!

Upon completion of the installation you MUST complete the VividAir Check In/Close Out Form and take two pictures:

1) The overall fan installation.
2) Close up of the fan mount clearly showing both safety straps routed properly, snug, and secured with the hardware provided.

Please send the completed VividAir Check In/Close Out form and pictures to:
drew.keller@vividairmovement.com

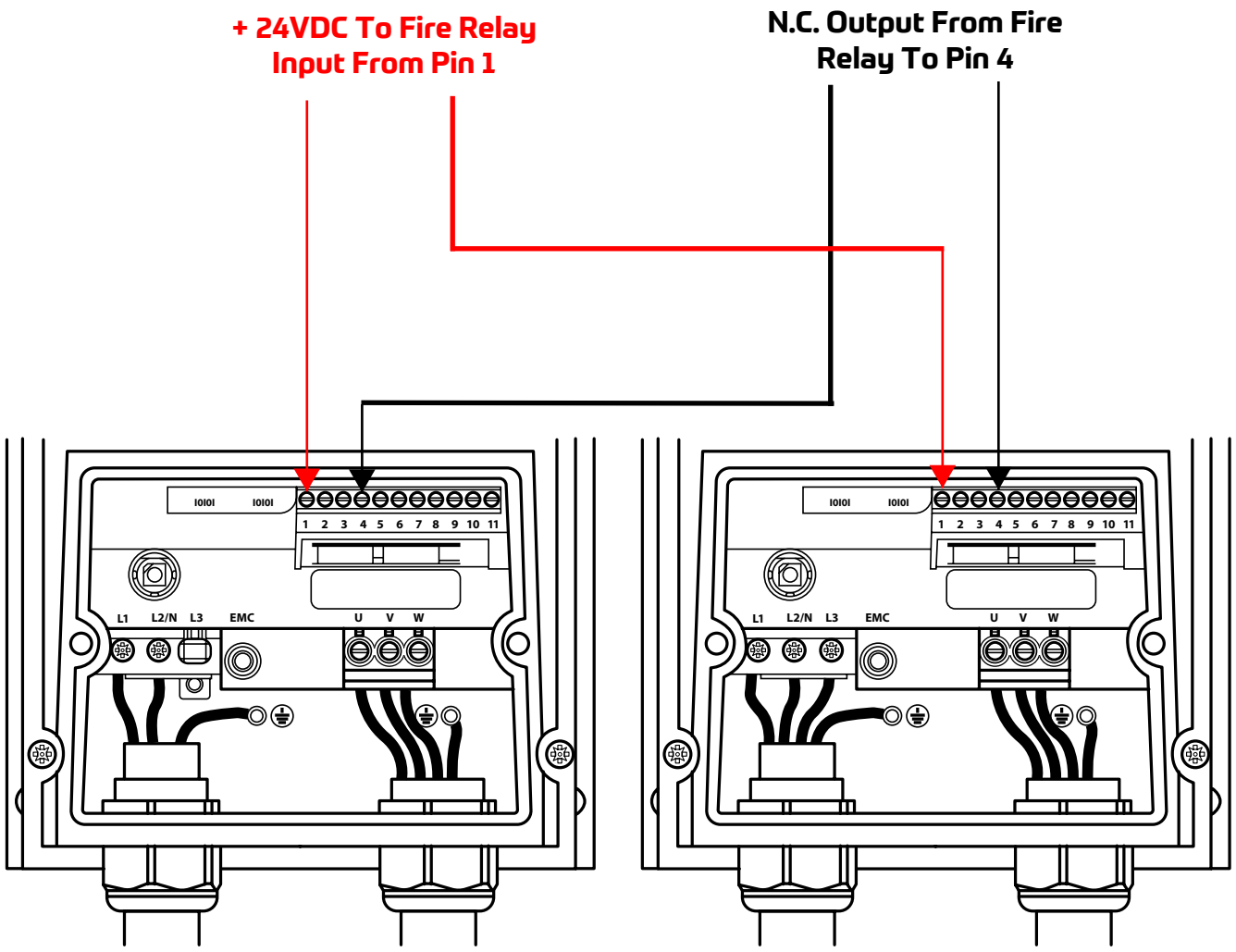
Making the electrical connections on your ConZumer120 Fan

1. Fan motor has been factory wired with a 50ft cable.
2. Run to Controller and make final connections.
3. Controller has been factory wired. Once mounted and motor wire connected plug in.

Run the motor wire to the controller and attach the (4) wires. Green to Ground
The other three wires to U, V, W

ESFR Fire Relay Connection for VividAir Controller

Remove the jumper from pins 4 & 5 and connect the fire alarm relay as shown.



Single phase supply

3 phase supply

Power Wiring Shown For Reference

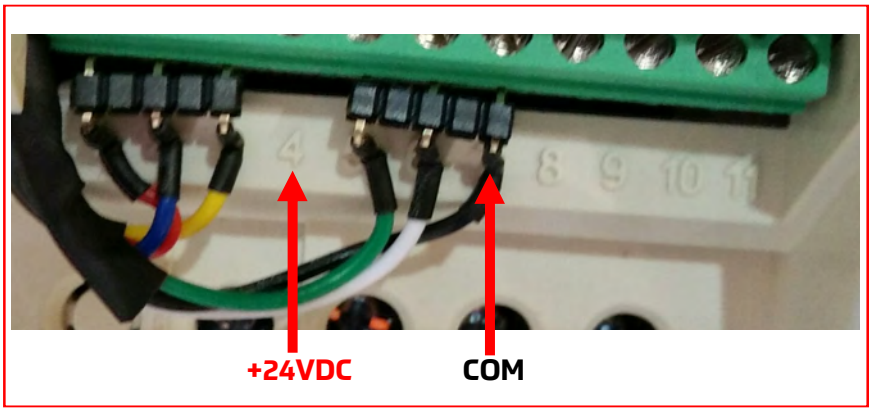
VividAir Connection for ESFR Suppression Systems

ASC255 Controller for ConZumer120 Fan- 100-120VAC Applications Only

This diagram is designed to take a PNP (Sourced) +24 VDC signal from an ESFR fire suppression system. The ESFR system will supply the +24 VDC power.

Run the +24 VDC signal wire to terminal 4 and route 0V COM to terminal 7. There should be room in the terminal block to accept both wires on terminal 7.

To enable the ESFR signal input see the programming steps below. The drive will go into a fault condition once the 24VDC signal is lost and will not allow fan operation until that signal is restored.



Programming Instructions for ABB ASC255 Controller - Enable ESFR Input

Enter/Select Up/Down Arrows

1) Once ESFR connection is complete from fire suppression system. Power up the drive.
   a) Display should say "SToP".
2) Hold "Enter/Select" for 1 second.
   a) Drive will enter programming mode.
   b) PAr S (parameter short list) should be displayed.
   c) Press "Enter/Select".
   d) Display should show 4 digits (they may be "0000").
3) Use Up/Down Arrow Keys and locate parameter 9902.
   a) Press "Enter/Select"to select. Use
4) Up/Down Arrow Keys to change parameter 9902 setting to "6".
   a) Press "Enter/Select"to save.
   b) Display should return to parameter 9902.
5) Press and hold "Enter/Select" until display reads "StoP". You have exited programming mode.
6) Drive will immediately fault if ESFR signal is missing.

Invertek Controller Made In England
Blade Raw Material US or Canadian
ABB Controller Made Overseas - Final Assembly In US

made in AMERICA

Quick Operations Instructions for the VividAir VFD Controller

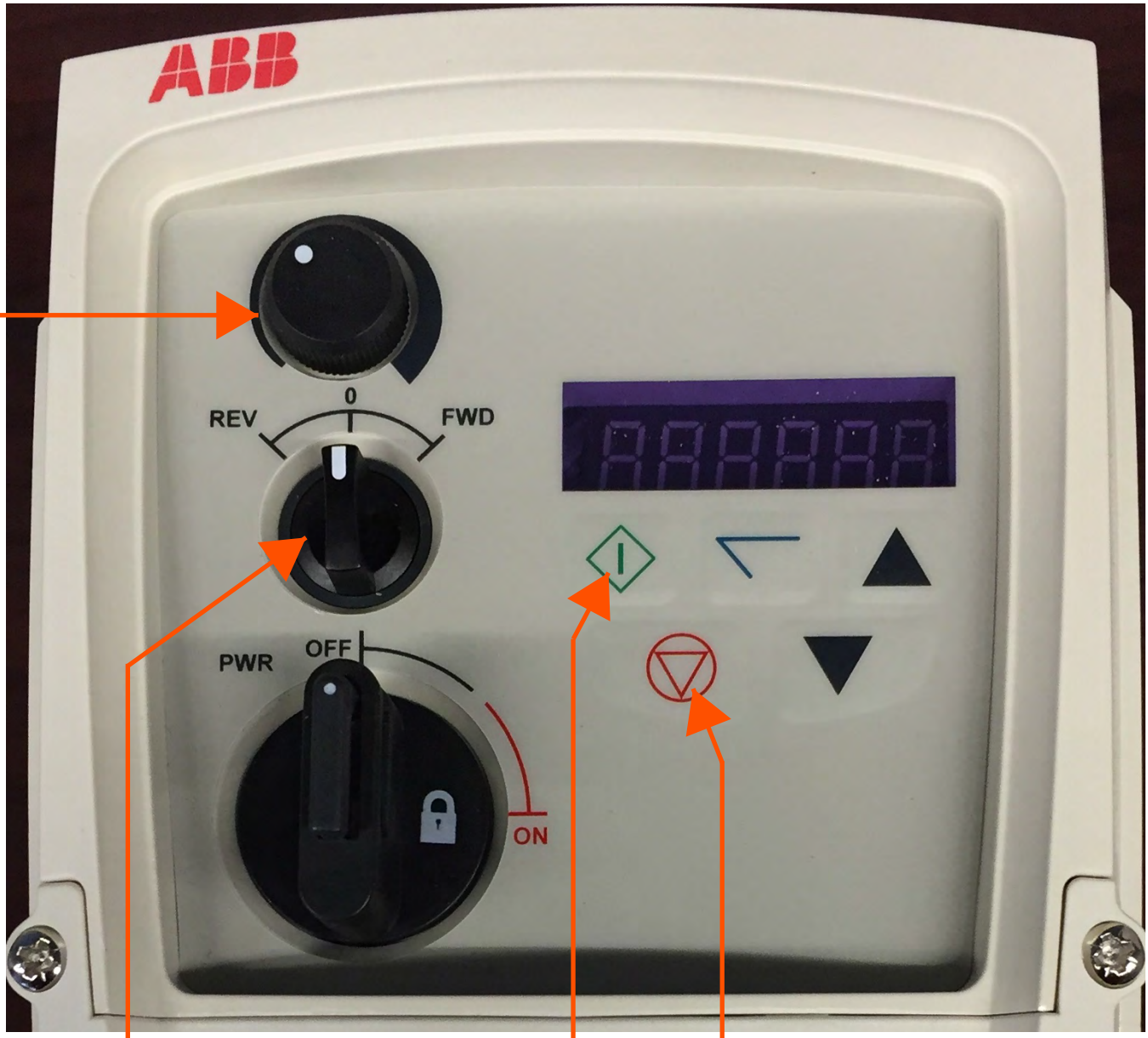
Stop/Select Direction:

Both Buttons Disabled

To Change Speed:

- The display will have an "H", indicating "Hertz". The frequency (or speed) the fan is turning will be indicated numerically. H - 45.8 for example.
- The word "STOP" will be shown any time there is power applied to the drive but the fan is not turned on. STOP indicates the fan is on and ready for use.

Quick Operations Instructions for ConZumer120 Fan Controller ACS255 ABB Control



Stop/Select Direction:

Both Buttons Disabled

To Change Speed:

- **The display will have an "H", indicating "Hertz". The frequency (or speed) the fan is turning will be indicated numerically. H - 45.8 for example.**
- **The word "StoP" will be shown any time there is power applied to the drive but the fan is not turned on. StoP indicates the fan is on and ready for use.**

Best Practices for General ConZumer120 Fan Operation

To Turn The Fan On:

- Turn the Lock Out/Tag Out disconnect in the lower left hand corner of the controller to the "ON" position.
- The disconnect turns fairly hard to avoid accidental movement.
- The ACS255 controller will go through a start up sequence.
- Once start up is complete the fan will display "SToP" indicating it is ready for use.

To Start the Fan Spinning:

- Turn the selector switch to "FWD" for cooling operation or "REV" for destratification only operation.
- Adjust the speed of the fan with the dial selector.

To Reverse Direction:

- Simply turn the selector switch to "FWD" or REV" as indicated by your quick operations guide in this manual.
    - The fan is programmed to ramp down until full stop is achieved for a split second and then reverse direction and ramp up to the speed indicated by the dial selector.

To Remove Power From the Fan:

- Turn the selector switch to "0" and wait for the fan to completely stop.
- Turn the disconnect to the "Off" position and perform Lock Out / Tag Out.

Recommended Maintenance Schedule

1. No maintenance shall be done on the fan, mount or guy wires while in operation or powered. Complete Lock Out/Tag Out measures on the fan before work is begun.
2. No maintenance shall be done on the fan controller while powered unless the task involves reprogramming or troubleshooting the electrical system. Complete Lock Out/Tag Out measures on the circuit before work is begun.
3. No maintenance shall be done within a 20ft horizontal radius of the fan and 4ft below and none above the blade level while the fan is in operation.
4. While doing maintenance on the fan, mount, or guy wires, a safety barrier shall be erected at a radius of 20ft of the center of the fan.
5. The fan controller shall be locked out while maintenance is ongoing on the fan, mount, or guy wires.
6. All personnel working on the fan, mount, or guy wires, shall wear the appropriate personal safety equipment as mandated by local, provincial, and national regulations.
7. A risk assessment shall be performed before any work is done. A checklist shall be completed and shall include any emergency contacts for the area.

Power Unit

Motor

Our motor or gearmotor manufacturers supply VividAir with motors/gearmotors built for our application. Designed for use with variable frequency drives; they are wound with 392º (200ºC) moisture resistant Inverter Spike Resistant (ISR) magnetic wire which dramatically extends the life of the motor compared to motors with non-ISR wire. They have an 18 month limited warranty.

Maintenance Schedule

Initial Six Months

- Check for hot spots
- Check all electrical connections and tighten if necessary

Repeat every 12 months thereafter.

Gear Reducer/Gearmotor

ConZumer120 Fans are driven by gearmotors specifically built for VividAir and are the best gear reducer for our particular application in terms of precision, durability, efficiency, reliability and quiet operation. They have an eighteen month warranty from the ship date.

Blades

The blades are designed for maximum efficiency and quietness with a maximum air disruption directly below

the fan. VividAir blade shapes are extruded from 6063-aluminum alloy and heat-treated to T-5 condition. They are anodized to 0.0004 10 Microns clear for corrosion resistance and ease of cleaning. The blades have a lifetime warranty.

Maintenance Schedule

Initial Six Months

- Ensure blades are intact, level and clean as required.

Every Twelve Months Thereafter

Drop/Mounting

The drop and mounting system are designed to minimize vibration or horizontal movement from being transferred back into the building structure. The system is easily installed in almost any building and allows fans to hang level from beams.

Maintenance Schedule

Initial Six Months

- Verify all hardware connections.
- Verify fan level.

Every Twelve Months Thereafter

NOTE: Maintenance schedule is based on running 5,000 hrs/year and is a guideline to ensure safe and continuous operation of the fan(s). In cases of extreme operation (e.g. high humidity, aggressive environment, or large temperature variations), shorter intervals between service is recommended.

Safety Precautions

1. Z-TechSS™ Safety System installed as per this fan installation manual.
2. Blade Stabilizer Plates installed as per this fan installation manual.
3. Refer to this manual for required clearances.
4. If installed in storage facility between racks, signs must be installed identifying fan locations.
5. The motor has thermal protection in case of overheating.
6. The ABB variable frequency drive has several safety features such as current limit, motor overload, minimum, maximum and ramp speed control. The controller also features a LOTO disconnect all housed within a NEMA 4X enclosure.

   CAUTION: Build-up on the ConZumer120 high-velocity fan blades (dust / grime / dirt / debris) will have potential cause and effect. This could impede the fan's overall speed, this can cause the fan blades to wobble and get out of balance, which can put a strain on the fan's motor. In addition, dust/grime could also build up on the drive train which could be potentially shorten product life. The fan blades/drive train should be cleaned periodically for maximum performance and safety. By avoiding the recommended manufacturer's guidelines and periodic maintenance the warranty is void.

VividAir Recommended Maintenance Checklist

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Fan Location:
Fan Diameter: Motor
Serial Number:
Motor Size:

Date	Mechanic Signature	Date	Mechanic Signature	Date	Mechanic Signature
Date	Mechanic Signature	Date	Mechanic Signature	Date	Mechanic Signature
Date	Mechanic Signature	Date	Mechanic Signature	Date	Mechanic Signature
Date	Mechanic Signature	Date	Mechanic Signature	Date	Mechanic Signature
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Date	Mechanic Signature	Date	Mechanic Signature	Date	Mechanic Signature

Troubleshooting - GFY Controller

Fault Code Messages

Fault Code	No.	Description	Suggested Remedy
no-FLt	00	No Fault	Not required.
OI-b	01	Brake channel over current	Check external brake resistor condition and connection wiring.
OL-br	02	Brake resistor overload	The drive has tripped to prevent damage to the brake resistor.
O-I	03	Output Over Current	Instantaneous Over current on the drive output. Excess load or shock load on the motor. **NOTE** Following a trip, the drive cannot be immediately reset. A delay time is inbuilt, which allows the power components of the drive time to recover to avoid damage.
I_t-trP	04	Motor Thermal Overload (I2t)	The drive has tripped after delivering >100% of value in P-08 for a period of time to prevent damage to the motor.
O-uoLt	06	Over voltage on DC bus	Check the supply voltage is within the allowed tolerance for the drive. If the fault occurs on deceleration or stopping, increase the deceleration time in P-04 or install a suitable brake resistor and activate the dynamic braking function with P-34.
U-uoLt	07	Under voltage on DC bus	The incoming supply voltage is too low. This trip occurs routinely when power is removed from the drive. If it occurs during running, check the incoming power supply voltage and all components in the power feed line to the drive.
O-t	08	Heatsink over temperature	The drive is too hot. Check the ambient temperature around the drive is within the drive specification. Ensure sufficient cooling air is free to circulate around the drive.
U-t	09	Under temperature	The drive temperature is below the minimum limit and must be increased to operate the drive.
P-dEF	10	Factory Default parameters loaded	
E-trIP	11	External trip	E-trip requested on digital input 3. Normally closed contact has opened. If motor thermistor is connected check if the motor is too hot.
SC-0bS	12	Optibus comms loss	Check communication link between drive and external devices. Make sure each drive in the network has its unique address.
FLt-dc	13	DC bus ripple too high	Check incoming supply phases are all present and balanced.
P-LOSS	14	Input phase loss trip	Check incoming power supply phases are present and balanced.
h O-I	15	Output Over Current	Check for short circuits on the motor and connection cable. **NOTE** Following a trip, the drive cannot be immediately reset. A delay time is inbuilt, which allows the power components of the drive time to recover to avoid damage.
th-FLt	16	Faulty thermistor on heatsink	
dAtA-F	17	Internal memory fault (IO)	Press the stop key. If the fault persists, consult you supplier.
4-20 F	18	4-20mA Signal Lost	Check the analog input connection(s).
dAtA-E	19	Internal memory fault (DSP)	Press the stop key. If the fault persists, consult you supplier.
F-Ptc	21	Motor PTC thermistor trip	Connected motor thermistor over temperature, check wiring connections and motor.
FAn-F	22	Cooling Fan Fault (IP66 only)	Check / replace the cooling fan.
O-hEAt	23	Drive internal temperature too high	Drive ambient temperature too high, check adequate cooling air is provided.
OUt-F	26	Output Fault	Indicates a fault on the output of the drive, such as one phase missing, motor phase currents not balanced. Check the motor and connections.
AtF-02	41	Autotune Fault	The motor parameters measured through the autotune are not correct. Check the motor cable and connections for continuity. Check all three phases of the motor are present and balanced.
SC-F01	50	Modbus comms loss fault	Check the incoming Modbus RTU connection cable. Check that at least one register is being polled cyclically within the timeout limit set in P-36 Index 3.
SC-F02	51	CAN comms loss trip	Check the incoming CAN connection cable. Check that cyclic communications take place within the timeout limit set in P-36 Index 3.

NOTE Following an over current or overload trip (3, 4, 5, 15), the drive may not be reset until the reset time delay has elapsed to prevent damage to the drive.

11.2. Resetting a Fault

When the drive trips, and a fault message is displayed, it can be reset in one of the following ways:

- Completely remove the incoming power supply, and allow the power to power off completely. Re-apply the power.
- Remove and reapply the enable input.
- Press the stop / Reset button.
- If Modbus or CAN are in use, set the reset bit in the control word from 0 to 1.

In the event of O-I, hO-I or I.t-trp faults, in order to prevent damage that may occur through repeatedly enabling the drive into a fault condition, these trips cannot be reset immediately. A delay time according to the following table must be allowed before reset is possible.

First Trip	2 seconds delay before reset is possible
Second Trip	4 seconds delay before reset is possible
Third Trip	8 seconds delay before reset is possible
Fourth Trip	16 seconds delay before reset is possible
Fifth Trip	32 seconds delay before reset is possible
Subsequent Trips	64 seconds delay before reset is possible

Stop / Reset Key

ACS255 CONTROL TROUBLESHOOTING

Symptom	Troubleshooting Steps
Fan Turning Wrong Direction	For cooling (forward) operation the stepped edge of the blade should be the leading edge. When running in destratification only (reverse) mode the stepped edge of the blade should be trailing. You will feel no (or very little) airflow when the fan is running in reverse. Reverse two of the phases either at the control or at the motor to reverse fan direction.
Fan Will Not Start	1) Turn off the fan at the LOTO Disconnect on the face of the drive. 2) Wait ten seconds. 3) Reapply power and watch the drive go through it's normal start up sequence. a) ABB shows on the screen for a few seconds. b) Fan stats ("H" Hertz, "A" Amp Draw, "%" Speed) 4) If control boots up properly and fan will not turn remove power from the drive and turn the fan by hand in both directions. Fan should move easily in both directions. 5) Check power connections in all locations of the drive and motor. 6) Be sure input power in the drive is grounded to "PE" and output power from the drive is grounded to either of the two ground terminals next to "PE".
Fan Wobbles During Operation	Fan mounting structure is not rigid enough to support normal fan operation. Verify the fan is not being exposed to external air movement. Verify proper Guy Wire installation.

Fault Code	No.	Description	Corrective Action
STOP	0x00	Drive is READY and in a stopped condition. The motor is not energized. No enable signal is present to start the drive.	
F0001	0x03	Instantaneous Over current on the drive output. Excess load or shock load on the motor.	**Fault occurs immediately on drive enable or run command** Check the output wiring connections to the motor and the motor for short circuits phase to phase and phase to earth. **Fault occurs during motor starting** Check the motor is free to rotate and there are no mechanical blockages. **Fault occurs when motor operating at constant speed** Investigate overload or malfunction. The motor may be nearing the end of it's useful life. All motors draw more current as they age. This motor may need to be replaced.
F0004	0x05	Hardware Over Current	Check the wiring to motor and the motor for phase to phase and phase to earth short circuits. Disconnect the motor and motor cable and retest. If the drive trips with no motor connected, it must be replaced and the system fully checked and retested before a replacement unit is installed.
F0014	0x0B	External trip (on digital input 3)	ESFR Fire Relay circuit is tripped. See the Installation and Technical Specifications Guide for additional information including required programming.
	0x0E	Input phase loss trip	Drive intended for use with a 3 phase supply has lost one input phase.
F0006	0x07	Under voltage on DC bus	The incoming supply voltage is too low. This trip occurs routinely when power is removed from the drive. If it occurs during running, check the incoming power supply voltage and all components in the power feed line to the drive.

See the ACS255 manual you received with your fan shipment for greater details.

ACS255 CONTROL TROUBLESHOOTING

Troubleshooting Tips:

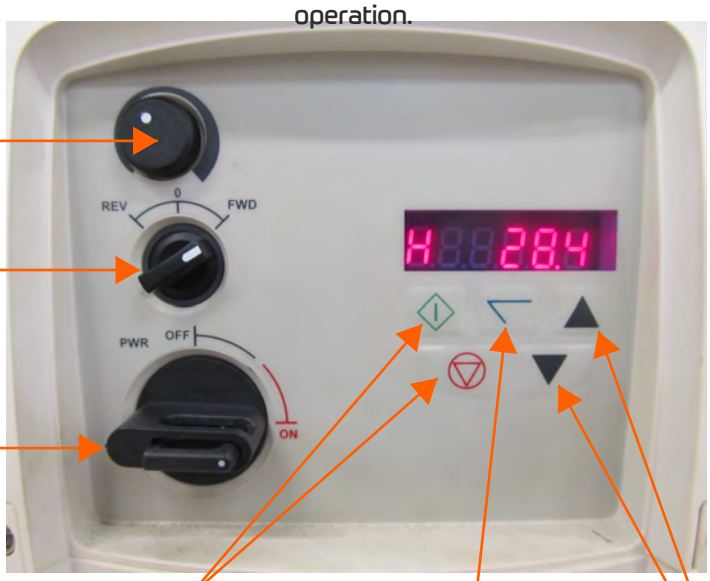
Test the VFD Control:

- Remove power at the breaker supplying the control and perform Lock Out / Tag Out procedures.
- Disconnect the output power wires running from the VFD to the Motor.
- Remove LOTO and restore power to the VFD.
- Turn the VFD on and watch for the proper start up sequence.
- Operate the VFD as if the fan were connected.
    - The VFD should work normally as the screen indicates VFD output, not fan operation.
        - If the VFD does not operate properly or faults/alarms are triggered the VFD should be replaced.

Test the Motor Housing Assembly:

- Turn the fan off at the VFD Control and perform Lock Out / Tag Out procedures.
- Turn the fan by hand in both directions. The fan should turn easily in both directions. If it does not observe:
    - Look for any mechanical interference between the blades/hub and the fan frame.
    - Feel for grinding, the movement of the fan should be smooth and quiet.
    - Listen for grinding or any metal on metal contact.
- The VividAir gearmotor is a motor and gearbox. Anything that looks or sounds other than you'd expect from a motor and gearbox is a likely indication of a problem. The Motor Housing Assembly should be replaced.

The image below shows a control during normal fan operation.



The "Enter/Select" and "Up/Down Arrows are disabled during normal fan operation. They become active only when the fan enters "Programming Mode".

ACS255 CONTROL TROUBLESHOOTING

1. Press "Enter" and hold for 1 second until the "Parameters" screen appears. "PAr L" or "PAr S" will be displayed.
2. To observe the last recorded fault enter the "long" parameter list.
3. Use the arrows to toggle between the long and short parameter list.

PAr L = Long Parameter List
PAr S = Short Parameter List

See ACS255 Manual for Greater Detail

4. Default parameter setting shown. Press the up arrow to move to parameter set 0401.

5. Parameter set 0401 details the last fault recorded by the drive. The ACS255 only records the last fault created.

6. Press "Enter" to see the last fault.

Last recorded fault displayed. Common faults listed at the start of this section. Reference the ACS255 manual for additional faults and details on the cause and troubleshooting tips.

Press "Enter" for longer than 1 second to return to the home screen.

Limitation of Warranties and Liabilities

Eighteen Month Limited Warranty

VividAir ConZumer120 Fans are of industrial grade construction and should provide many years of service provided routine maintenance is completed as scheduled. Warranty duration is as follows:

a)	Blades	Lifetime Warranty (Limited to 2 Years Beyond the Last Date of Manufacture)
b)	Aluminum Alloy Hub	Lifetime Warranty (Limited to 2 Years Beyond the Last Date of Manufacture)
c)	Motor	18 month Limited Warranty
d)	Gear Reducer	18 month Limited Warranty
e)	VFD Control Panel	18 month Limited Warranty

Go Fan Yourself® warrants that this product will, under normal use and service as specified by Go Fan Yourself,® operate properly and be free of defects in materials and workmanship for a period of 18-Months from the date of purchase by customer. The term "operate properly" in this context applies to mechanical, electrical and structural functions only. No guarantee, unless and except by separate written agreement, is made regarding dimensions of air movement generated or the effectiveness of this product for its intended purpose.

Warranty Exclusions

Please note that the following may or could void any or all of the above listed warranties:

- Not following required installation procedures as in installation guide and all other documentation supplied with the fans and related equipment supplied by manufacturers of individual fan and control components.
- Not following all relevant codes and ordinances, not limited to National Electrical Code, provincial, or state and local building codes.
- Not following electrical engineering industry standards regarding approved method of installing solid-state electrical equipment having characteristics of fans and all components included in this product. Any modification to installation, product, controls without written authorization from Go Fan Yourself,® even if attempting to diagnose and/or repair a problem.
- Misuse, abuse, accidents, unreasonable use, or Acts of God.
- Incorrect electrical current, voltage or supply.
- Running fans at higher than recommended speeds.
- Re-setting parameters of any control without prior approval from Go Fan Yourself.®
- Failure to use all installation and mounting hardware supplied by Go Fan Yourself.®
- Failure to perform periodic maintenance as detailed in the ConZumer120 Fan Installation Guide.

Limitation of Warranties and Liabilities
18 Month Limited Warranty

Go Fan Yourself® reserves the right to make the final determination, based on its own evaluation of the components as to whether:

- The problem in question is the result of a defect in design, workmanship or materials and not the result of error, misuse or abuse on the part of the customer as stated above.
- Whether the problem or defect is material and requires action under this warranty.
- Whether the remedy of repair or replacement is appropriate.

Go Fan Yourself ® will not be responsible for remedial work necessary to correct installation procedures that do not conform to those established by the instructions, codes and standards, regardless of when the installation occurred.

With regard to electrical and electronic components provided by Go Fan Yourself® that comprise part of the products, including motors, motor drives and variable frequency drives, Go Fan Yourself® relies on the determination by the original manufacturer as to whether the failure of such components was the result of a defect. If the manufacturer of such components determines that there was no defect and therefore refuses to cover it under warranty, Go Fan Yourself® likewise will not warranty such item unless Go Fan Yourself ® determines that the failure of such electrical or electronic component
was the result of a defect of design, workmanship or material within some other part of the products.

Warranty Duration

With respect to replacement or repair rendered, Go Fan Yourself® warrants that the parts replaced or repaired will operate properly and be free from defects in materials and workmanship for a period of 90 days from the shipment date of the replacement products to the customer or for the remainder of the original warranty period, whichever is longer.

Warranty Claim Instructions

1. Contact your original dealer/salesman of the purchase when you first notice problem with the product.
2. It will be the responsibility of the dealer or salesman to assist the customer in determining what component is causing the problem.
3. If they cannot diagnose the problem, they are to contact Go Fan Yourself ® with all the necessary information.
4. The appropriate department will then be in contact with the customer to determine the cause of the problem.
5. Submit a Purchase Order for a replacement unit complete with price.
6. A replacement unit will be shipped out upon receipt of the PO. This PO allows for an order to be established in the Go Fan Yourself® system.
7. Once the units have been changed over, submit all pre-authorized costs to Go Fan Yourself® for payment.
8. No credits or checks will be issued until all original products are received back at Go Fan Yourself® and warranty statue can be verified or unless Go Fan Yourself ® directs otherwise.

Limitation of Warranties and Liabilities
18-Month Warranty

WARRANTOR: The warrantor for the limited warranties set forth herein is Go Fan Yourself ®("Company")

LIMITED WARRANTY: This limited warranty (this "Warranty") applies only to the original End-User (the "End-User") of any Go Fan Yourself® Ceiling Fan(s) (Individually and collectively, the "Product") and cannot be transferred. This Warranty applies even in the event that the Product is initially sold by Company for resale to End-User. This Warranty applies to U.S. and Canada purchases only. Outside U.S. and Canada; standard 18-Month Warranty applies.

WHAT THIS WARRANTY DOES NOT COVER

-any defects or damages caused by:

(a) failure to properly store the Product before installation;
(b) shipping and delivery of the Product if shipping is FOB Factory;
(c) neglect, accident, abuse, misuse, misapplication, or incorrect installation;
(d) repair or alteration not authorized in writing by Go Fan Yourself® personnel;
(e) improper testing, operation, maintenance, adjustment, or modification of any kind not authorized in writing by Go Fan Yourself® personnel;
OR
(f) use the Product under other than normal operating conditions or in a manner inconsistent with the product's label or instructions.
  – controls and/or any other external electronic controlling devices.
  – exclusions listed in the standard 18-Month Limited Warranty.
  – any products or components purchased prior to effective date of this Warranty.

Limitation of Warranties and Liabilities
18-Month Warranty

This warranty is not valid

(a) if the Product's serial numbers have been removed or are illegible; OR

(b) if any warranted items repaired or replaced pursuant to this Warranty will be warranted for the remaining portion of the original Warranty subject to all the terms thereof. Company shall not be responsible for any charges for testing, checking, removal or installation of warranted items unless authorized in writing by Company personnel; OR

(c) if failed to submit records at time of performing Recommended Maintenance Schedule per the Installation and Technical Operations Guide.

LIMITATION OF LIABILITY: The remedies of the End-User set forth herein are exclusive and are the sole remedies for any failure of Company to comply with its obligations hereunder. In no event shall Company be liable in contract, in tort (including negligence or strict liability) or otherwise for damage to property or equipment other than the Products, including loss of profits or revenue, loss of use of Products, cost of capital, claims of customers of the End-User or any special, indirect, incidental or consequential damages whatsoever. The total cumulative liability of Company hereunder whether the claims are based in contract (including indemnity), in tort (including negligence or strict liability) or otherwise, shall not exceed the price of the Product on which such liability is based. Company shall not be responsible for failure to provide service parts due to causes beyond Company's reasonable control. "Lifetime" is defined as a period ending two (2) years after Go Fan Yourself® discontinues manufacturing the product, as such period is defined by Go Fan Yourself®, but in no event shall this period be less than the one year from the date that the Warranty Period commences.

END-USER'S OBLIGATIONS: In order to receive the benefits of this Warranty, the End-User must use the Product in a normal way; follow the Product's Installation Manuals; and protect against further damage to the Product if there is a covered defect. Submit records at time of performing Recommended Maintenance Schedule per the Installation and Technical Operations Guide.

OTHER LIMITATIONS: Company's obligations under this Warranty are expressly conditioned upon receipt by Company of all payments due to it, including all applicable interest charges. During such time as Company has not received payment of any amount due to it for the Product, in accordance with the contract terms under which the Product is sold, Company shall have no obligation under this Warranty. Also during such time, the period of this Warranty shall continue to run and the expiration of this Warranty shall not be extended upon payment of any overdue or unpaid amounts.

COSTS NOT RELATED TO WARRANTY: The End-User shall be invoiced for, and shall pay for, all services not expressly provided for by the terms of Warranty, including without limitation, site calls involving an inspection that determines no corrective maintenance is required. Any costs for replacement equipment, installation, materials, freight charges, travel expenses or labor of Company representatives outside the terms of this Warranty will be borne by the End-User.

OBTAIN WARRANTY SERVICE: Call Go Fan Yourself,® Service 1-847-648-4920. Company will not accept any product for return, credit or exchange unless expressly authorized by Company in writing and delivered FOB Company factory with proper Return Authorization Number attached to the product.

Any and all parts of this guide are subject to change without notification.