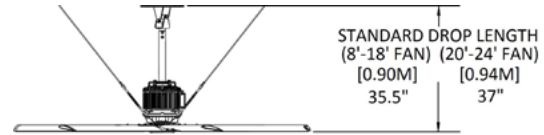


The AVDX boasts a bullet-proof, industrial-grade, direct drive motor/controller platform more powerful and far superior than any fan before. The AVDX is a true workhorse that can endure the harshest industrial environments without breaking a sweat, while the silent operation and sleek design features make it an excellent choice for even the chickest of spaces.



STANDARD FEATURES:

- Direct Drive motor, rated for indoor/outdoor use*
- Clearcoat anodized airfoil blades
- Forward, reverse, variable speed
- Variable Frequency Drive – Capable of Building Automation Integration (with AirLynk upgrade) and fire alarm
- Digital wall controller with fault code access
- Safety Components: safety cable, Universal Mount with guy wires, blade retainer links



Intertek
Conforms to UL Std 507
Certified to CSA Std C22.2 No. 113

STEP 1: POWER UNIT

Item #	Options	Qty
MX00-S085-MA	8-12 ft Power Unit, 1.0 HP Equivalent	
MX00-0085-MA	14-18 ft Power Unit, 1.0 HP Equivalent	
MX00-0185-MA	20-24 ft Power Unit, 2.0 HP Equivalent	

STEP 2: BLADES

Item #	Diameter	Qty
60-10008-00	8 ft / 2.44 m	
60-10010-00	10 ft / 3.05 m	
60-10012-00	12 ft / 3.66 m	
60-10014-00	14 ft / 4.27 m	
60-10016-00	16 ft / 4.88 m	
60-10018-00	18 ft / 5.49 m	
60-10020-00	20 ft / 6.07 m	
60-10024-00	24 ft / 7.32 m	

STEP 3: VOLTAGE/PHASE

Item #	Options	Qty
22017-MA	208-240V Single Phase, 50/60 Hz	
22038-MA	208-240V Three Phase, 50/60 Hz	
42039-MA	480V Three Phase, 50/60 Hz	

STEP 4: MOUNTING

Item #	Options	Qty
60-50135-00	AVDX Universal Mount: I-beam Hardware Kit (Standard)	
60-50136-00	Rapid Mount Industrial w/ I-beam Hardware Kit	
60-40041-00	Glulam Hardware Kit (for Universal Mount)	
60-50041-00	AVDX Direct Mount Kit (no drop tube, 23.5" height for 8'-18' diameter fans, 24.8" height for 20'-24' fans)	

STEP 5: CONTROLS

Item #	Description	Qty
30-90308-00	Digital Remote Assembly (Standard)	
30-04006-00	Controller 4	
30-04007-00	Controller 4 + Single Temperature Sensor	
30-04030-01	Controller 30	
30-10012-00	AirLynk - BacNet	
30-10011-00	AirLynk - LonWorks	
30-90315-00	Local Override Remote (requires AirLynk-BacNet)	
30-04030-02	Dual Control Enabled Controller 30 (requires AirLynk-BacNet)	

*Motor unit only

STEP 6: STOCK DROP LENGTHS

Item #	Length (ft/in)	Length (m)	Qty
51-60300-0x	3 ft (Standard)*	0.91 m	
51-60400-0x	4 ft	1.22 m	
51-60500-0x	5 ft	1.52 m	
51-60600-0x	6 ft	1.82 m	
51-60700-0x	7 ft	2.13 m	
51-60800-0x	8 ft	2.44 m	
51-60900-0x	9 ft	2.74 m	
51-61000-0x	10 ft	3.05 m	
(51-6ftin-0x)	Customization fee		

x = 2 for AVD Universal Mount,
or 3 for Rapid Mount Industrial

* 3 ft is the shortest allowed drop for the AVDX when utilizing a drop tube, however some applications can be mounted without use of a drop tube and proper mount hardware selection. Please contact your MacroAir sales rep to confirm best practices to maintain fan performance.

DROP LENGTH is the distance from fan mounting point to the blades.

Measure the distance from the fan's mounting point down to the desired fan blade position and provide this information with the fan order to receive the correct drop length.

MacroAir HVLS fans can only be connected with a single-piece of custom length extension.

Do you have a custom color in mind? Custom powder coating is available for all our blades, mounts and drop lengths.

OPTIONAL: POWDER COATING

Item #	Diameter	Estimated Lead Time	Qty
60-10008-02	8 ft / 2.44 m	15 business days	
60-10010-02	10 ft / 3.05 m	15 business days	
60-10012-02	12 ft / 3.66 m	15 business days	
60-10014-02	14 ft / 4.27 m	15 business days	
60-10016-02	16 ft / 4.88 m	15 business days	
60-10018-02	18 ft / 5.49 m	15 business days	
60-10020-02	20 ft / 6.07 m	15 business days	
60-10024-02	24 ft / 7.32 m	15 business days	

Special Finishes

Mounting hardware & drop length	All Diameters	15 business days	
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For powder coating colors, please refer to Appendix A.



BASIC SPECIFICATIONS

AIRFOIL DIAMETER	8ft	10ft	12ft	14ft	16ft	18ft	20ft	24ft
Airfoil Style	7.375" Extruded Anodized Aluminum Airfoil							
Number of Airfoils	6							
PERFORMANCE								
Max Speed	214 RPM	163 RPM	137 RPM	110 RPM	90 RPM	74 RPM	75 RPM	60 RPM
Recommended Spacing*	60 ft [18.3 m]	65 ft [19.8 m]	70 ft [21.3 m]	80 ft [24.4 m]	85 ft [25.9 m]	90 ft [27.4 m]	100 ft [30.5 m]	110 ft [33.5 m]
Max Affected Area	4,000 ft ² [372 m ²]	6,600 ft ² [613 m ²]	8,800 ft ² [818 m ²]	11,000 ft ² [929 m ²]	13,000 ft ² [1,115 m ²]	15,000 ft ² [1,301 m ²]	20,000 ft ² [1,673 m ²]	22,000 ft ² [1,858 m ²]
Sound Level dBA at Max Speed**	61	59	60	56	53	53	57	56
Carrier/Switching Frequency**	16Hz							
HANGING REQUIREMENTS								
Hanging Weight	156 lbs [70.77 kg]	165 lbs [74.85 kg]	174 lbs [78.93 kg]	183 lbs [83.01 kg]	192 lbs [87.10 kg]	201 lbs [91.17 kg]	242 lbs [109.77 kg]	260 lbs [117.93 kg]
Max Torque	18 ft-lb [24 Nm]	30 ft-lb [40 Nm]	44 ft-lb [60 Nm]	43 ft-lb [58 Nm]	40 ft-lb [54 Nm]	58 ft-lb [79 Nm]	88 ft-lb [119 Nm]	126 ft-lb [171 Nm]
Max Thrust in Reverse	6 lbs [2.8 kg]	10 lbs [4.6 kg]	14 lbs [6.4 kg]	14 lbs [6.4 kg]	15 lbs [6.8 kg]	21 lbs [9.5 kg]	31 lbs [14.1 kg]	44 lbs [20 kg]
MOTOR AND DRIVE TRAIN								
Motor Type	Radial Flux PMAC motor							
Equivalent Horsepower Rating	1.0 HP (8-18ft) / 2.0 HP (20-24ft)							
Operating Temp Range	16°F [-10°C] - 122 F° [50°C]							
MAX AMP DRAW								
208-240V Single Phase	5.8A	7.2A	9.4A	9A	8.7A	8.4A	10.5A	13A
208-240V Three Phase	3.6A	4A	5.1A	5.8A	6.1A	5A	6.2A	8.7A
400-480V Three Phase	1.3A	1.6A	1.9A	2A	2A	2A	2.5A	3A
POWER AND CONTROLS								
Power Source	Single Phase 208-240 VAC 50/60 Hz / Three Phase 208-240 VAC 50/60 Hz / Three Phase 480 VAC 50/60 Hz							
Control Options	Digital Touchpad, MacroAir Controller 4, Controller 30, AirLynk - BacNet / LonWorks							
INSTALLATION								
Mounting Hardware	Universal Mount Hardware							
Extension	Optional extensions are available in 1ft increments; all drop lengths with Universal Mounting Hardware require guy wires							
RATINGS AND COMPLIANCE								
Fire and Sprinkler	NFPA Compliant							
Wash Down Duty Rating***	IP65							
Certifications	ETL/INTERTEK - Conforms to UL Std 507 / Certified to CSA Std C22.2 No. 113							

*For spacing between fan units based on the dimensions of a specific space please refer to <https://macroairfans.com>

**Sound testing taken with the sensor 5 ft above the ground and 20 ft from the center of the fan at 20 ft high. Carrier frequency will be audible to some listeners and is considered normal during operation. For more information on fan selection with regard to decible level and carrier frequency, please see page XXXX.

***Applicable to the fan unit only, does not include controller and control panel.

Section 23 34 00 – HVAC Fans**PART 1 GENERAL****1.1 SUMMARY****A. Section Includes**

1. The large diameter ceiling fan is the model scheduled with the performance capabilities expressed. Included with the ceiling fan will be mounting hardware relevant to the model and application space. The ceiling fan will be furnished with a MacroAir controller for 1 to 1 speed control. Alternative options include (4) fan Network Controller, (30) Fan Network Controller, or Modbus BMS system integration. The MacroAir fan will provide thorough, energy efficient air movement to achieve thermal comfort.

B. Summary of work

1. Any and all work outside the scope of the installation guide shall be outsourced. Factory trained installers are recommended and available upon request. MacroAir certified installers will not install equipment from other manufacturers.

1.2 RELATED SECTIONS

- A. 21 00 00 – Fire Suppression
- B. 23 00 00 – Heating, Ventilating, and Air Conditioning (HVAC)
- C. 26 00 00 - Electrical

1.3 REFERENCES

- A. Underwriters Laboratories (UL)
- B. National Electric Code (NEC)
- C. National Fire Protection Agency (NFPA)
- D. Canadian Standards Association (CSA)

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used shall include:
 1. Storage and handling requirements and recommendations
 2. Power and mounting requirements
 3. Application Drawings: Submit plan, section, elevation and isometric views as necessary to convey the information required to detail all installation conditions for each unit specified.
- B. Drawing Files: AutoCAD dwg format for architectural design
- C. Installation Manual: The manufacturer will provide an installation, operation, and maintenance document for the fan. Information included in the document may change without notice.
- D. Schedule

1.5 QUALITY ASSURANCE**A. Certifications**

1. The fan shall be capable of receiving a stop command from the fire panel, an ASD (Aspirating Smoke Detection) device, or any number of smoke, flame or heat detectors.
2. The fan shall meet the air velocity requirements of FM Global's 2.0 data sheet for ESFR sprinklers.
3. Upon fire detection as described above, the fans shall coast to stop as required by NFPA guidelines.

B. Manufacturer Qualifications

1. MacroAir shall provide sole source for design, engineering, manufacturing and warranty claims handling.
2. The fan and any accessories shall be supplied by MacroAir Fans, which has a minimum of fifteen (15) years of product experience.

1.6 Delivery, Storage, and Handling

- A. Product will be delivered in original packaging.
- B. Product shall be free of any defects and inspected prior to shipment.
- C. The storage of all MacroAir products prior to installation will be in an “out of weather” position. Failure to maintain the integrity of the shipment is not the responsibility of MacroAir.

1.7 WARRANTY

- A. MacroAir shall repair or replace warranted defective parts as follows:
 1. 15-year warranty on airfoils and mounting
 2. 10-year electrical warranty
 - a. Motor
 - b. Variable Frequency Drive
 - c. Controller/Remote
- B. At project closeout, provide to Owner or Owner's Representative an executed copy of MacroAir's standard limited warranty against manufacturing defect, outlining its terms, conditions and exclusions from coverage.

PART 2 PRODUCTS**2.1 MANUFACTURER**

- A. Acceptable Manufacturer: MacroAir Technologies, Inc., which is located at: 794 South Allen Street, San Bernardino, CA 92408-2210 Toll Free Tel: 866-668-3247; Tel: 909-890-2270; Website: macroairfans.com

2.2 HIGH VOLUME, LOW SPEED FANS – MACROAIR AIRVOLUTION-DX

- A. Regulatory Requirements: Assembly standards
 1. Sustainable Characteristics: The MacroAir AirVolution-DX is designed to generate large volumes of thorough air movement throughout a space at a low velocity to create a comfortable environment at a low energy consumption, contributing to cost-efficient facility management and operation practices. The efficiencies of the MacroAir high volume, low speed fan concept is such that air is thoroughly mixed within a space, achieving thermal equalization, and gentle air movement is delivered to occupants contributing to indoor air quality. The MacroAir AirVolution-DX is designed with forward (counterclockwise) and reverse (clockwise) performance capabilities, for cooling and heating solutions. The MacroAir AirVolution-DX HVLS fan model utilizes a radial flux permanent magnet motor and Variable Frequency Drive technology.

B. Performance

The fan shall be listed to applicable UL Standards and requirements by UL.

Diameter	Horsepower Equivalent	Hanging Weight	Max RPM	Industry Spacing	Max Affected Area
8 ft [2.44 m]	1.25 HP	156 lbs [70.77 kg]	214 RPM	60 ft [18.3 m]	4,000 ft ² [372 m ²]
10 ft [3.05 m]	1.25 HP	165 lbs [74.85 kg]	163 RPM	65 ft [19.8 m]	6,600 ft ² [613 m ²]
12 ft [3.66 m]	1.25 HP	174 lbs [78.93 kg]	137 RPM	70 ft [21.3.4 m]	8,800 ft ² [818 m ²]
14 ft [4.27 m]	1.25 HP	183 lbs [83.01 kg]	110 RPM	80 ft [24.4 m]	11,000 ft ² [1,022 m ²]
16 ft [4.88 m]	1.25 HP	192 lbs [87.09 kg]	90 RPM	85 ft [25.9 m]	13,000 ft ² [1,208 m ²]
18 ft [5.49 m]	1.25 HP	201 lbs [91.17 kg]	73 RPM	95 ft [29 m]	15,000 ft ² [1,394 m ²]
20 ft [6.10 m]	2.3 HP	242 lbs [109.77 kg]	74 RPM	105 ft [32 m]	20,000 ft ² [1,858 m ²]
24 ft [7.32 m]	2.3 HP	260 lbs [117.93 kg]	60 RPM	115 ft [35.1 m]	22,000 ft ² [2,044 m ²]

C. Airfoils

The fan shall be equipped with six (6) aerospace aluminum, down wash XL airfoils. The airfoils shall consist of anodized 6061 T4 precision extruded aluminum and be of the MacroAir XL design, with fan diameters ranging from 8 to 24 feet. The airfoils shall be connected to six (6) individual aluminum 6005 T6 struts by means of two (2) 5/16-24 x 2-inch grade 5 hex bolts, two (2) 5/16-inch flat washers and two (2) 5/16-inch nylon lock nuts per airfoil.

1. Number of Airfoils: 6
2. Airfoil Material: 6061 T4 Extruded Aluminum
3. Airfoil Finish: Anodized
4. Option Airfoil Finish: Custom powder coated colors per Drylac RAL color chart

Centrifugal Cooling System: The MacroAir AirVolution-DX is designed with hollow airfoil connected to the central fan hub so as to intake air with through the airfoil with each revolution of the fan for cooling the motor

D. Motor

The fan shall be equipped with a Radial Flux brushless DC motor designed for low speed high torque applications. The motor shall be driven sensor-less to eliminate the possibility of sensor or encoder failure.

1. Motor Type: Sensor-less Radial Flux PMAC Motor
2. Maximum Torque Observed: 136 lbf (185 Nm)
3. Pole Count: 28
4. IP Rating: 65
5. Insulation Class: K (200 C)
6. Motor Finish and Color: Black Electrophoretic Paint
7. Motor Housing: AISI 383 (ADC12)
8. Studs: AISI 4137 Grade 8 (JIS SCM435)

E. Variable Frequency Drive (off board)

1. Electrical Requirements
 - a. 208-253 VAC single (1) phase 50/60 Hz
 - b. 208-253 VAC three (3) phase 50/60 Hz
 - c. 380-480 VAC three (3) phase 50/60Hz
2. Environment
 - a. Operation: -10°C to 50°C
 - b. Humidity: 0-95% non-condensing
 - c. Cooling: Cooling fan built into drive
3. Operating Frequency: 20-50 KHz
4. Modbus RS485 (19.2 8-N-1) option available with the purchase of a separate gateway; capacities not included with the fan.
5. BACnet and LonWorks options available with the purchase of a separate gateway; capacities not included with the fan.
6. (4) Fan Network touch-screen option available with:
 - a. Live fault code monitor
 - b. Live fan speed control
7. (30) Fan Network touch-screen option available with:
 - a. Live fault code monitor
 - b. Live fan speed control
 - c. Impact and solvent resistant
 - d. IP65 rated
 - e. Run time scheduling, grouping, password protection

F. Mounting

The fan mounting system shall be equipped with hardware, no less than SAE grade 5 for safe installation. The fan shall be equipped with a universal mount (Rapid Mount – Optional).

The fan mount shall encompass multiple mounting options for I-beam, Purlin and Glulam applications (specified upon order).

1. Standard Mount: UMH with guy wires, SRS I-beam clamp with 3'2" drop
2. Optional Mounting Hardware: Glulam Mounting Brackets
3. Optional Mounting Hardware: Rapid Mount Industrial (guy wires optional)
4. Mounting Drops: Drop lengths available in thirteen inches (13") to ninety-six-inch (96") lengths in (1) foot increments (custom sizes available). (Three (3) foot to ten (10) foot Blade distance from ceiling (+- 2")
5. Mounting and Extension Material: Steel, Aluminum
6. Mount Finish: Black Powder coat

G. Hub/Motor Housing

The fan shall be equipped with an aluminum motor housing with pressed in steel studs to securely accept six (6) removable, black, anodized 6005 T6 aluminum beam struts. The struts shall be designed with airfoil guides to ensure precision alignment.

1. Material: T6 Cast Aluminum
2. Airfoil Strut Material: 6005 T6 Aluminum
3. Airfoil Strut Finish: Black Anodized
4. Hardware: Twelve (12) 5/16-24 x 1-3/4" inch Grade-8 pressed in studs
5. Hardware: Twelve (12) 5/16-inch flat washers (SAE)
6. Hardware: Twelve (12) 5/16-inch nylon lock nuts

H. Safety System

The fan shall include six (6) airfoil retainer links to prevent airfoil separation from the motor housing and a 3/16" safety cable attached to the top of fan motor. Each fan shall be E-stop compatible for fire and building automated systems (BAS).

1. Safety Cable Material: 3/16" x 7 x 19 Braided Steel
2. Safety Cable Finish: Galvanized
3. Airfoil Retainer Link Material: 10 Gauge A36 Steel
4. Airfoil Retainer Link Finish: Clear Zinc

I. Fire Control Panel Integration

1. If required by the local fire prevention authority or desired by the purchaser, the fan shall be wired into the building's fire suppression system so that the fan will automatically shut off within a maximum of 90 seconds after sprinklers are activated. To facilitate this automatic shut-down, the low voltage wire and relay needed to accomplish this must be supplied by the Fire Alarm installer. See Manufactures installation instructions for further details.

PART 3 EXECUTION

3.1 PREPARATION

- A. Fan installation location requires a typical bar joist, existing I-beam or Glulam structure from which to mount the fan. Other mounting options may be available.
- B. Obstacles such as lights, racking, cables, or other structural components shall remain outside of the fan proximity. Consult the fan installation manual for proper placement.
- C. Check accuracy of dimensions indicated for openings to receive fans.
- D. Check location and availability of utility services to ensure proper voltage and installation preparation.
- E. Coordinate location and installation of the HVLS Fans.
- F. Ensure building structural members are sufficient to support the weight and operation of the fan. Consult professional engineer or registered architect as required.
- G. The fan control panel is pre fused and includes lock out disconnect, to be installed on the incoming power for emergency and maintenance use per national and international code compliance which may include CE, CSA, IEC, UL, and NEC.
- H. Routing power to within six (6) feet of wall controller.

3.2 INSTALLATION

- A. Install units per the fan installation manual.
- B. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimal results. Do not install products in environmental conditions outside Macro Air's absolute limits.
- C. Fan airfoil height to be a minimum of 10 feet from the floor in accordance with MacroAir's recommendations.
- D. All safety and support features must be installed. These include any guy wires and safety cables as well as airfoil retainer locking features.
- E. Adjust unit as required for proper operation in accordance with manufacturer's installation instructions.
- F. Securely anchor units.
- G. Ensure that operating parts turn freely prior to initial startup.
- H. Repair or replace damaged parts, dents, buckles, abrasions or other damage affecting appearance or serviceability, as acceptable to Architect.

3.3 PROTECTION

- A. Protect finished Work until date of Substantial Completion.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

3.4 CLEANING

- A. Clean and inspect fans per manufacturer's instructions.
- B. Remove temporary protective cover at date of Substantial Completion.

END OF SECTION

MacroAir Warranty

MacroAir warrants the Products listed in the table below will be free from defects in materials and workmanship under normal use and maintenance for the applicable Warranty Period. Other than the Warranty set forth in this document, no other written or oral warranties apply, and no employee, agent, dealer, or other person is authorized to give any other warranties on behalf of MacroAir.

START DATE OF WARRANTY COVERAGE

Warranty Period for all fan models begins fifteen (15) days following shipment of the Product, or on the date the Product is installed (not to exceed sixty (60) days Customer receives the Product), whichever date is later. Customer should retain necessary documentation to verify the date of receipt and installation of the Product. Customer will be required to produce this documentation in order to obtain Warranty services from MacroAir. The Warranty specified herein applies only to Products purchased on or after March 15, 2021.

PRODUCTS AND SYSTEMS COVERED BY THIS WARRANTY AND APPLICABLE WARRANTY PERIODS:

Fan Type	Mechanical: Blades, Hub & Frame	Standard Electrical ¹ : Motor, Electrical Controls, Remote	Labor
AirVolution-DX	15 Years	10 Years*	1 Year
AirVolution	15 Years	7 Years*	1 Year
AirLegacy	15 Years	5 Years*	1 Year
AirVolution-D3	10 Years	7 Years*	1 Year
AirVolution-D 370	10 Years	5 Years*	1 Year
AirLite Shop Fan	5 Years	2 Years*	N/A

WARRANTY COVERAGE:

Subject to the exclusions herein, the MacroAir Warranty covers any defects in workmanship or materials of the covered Products under normal operation and prescribed maintenance when those defects adversely affect the ability of the Product to operate properly.² The Warranty only covers Products which have been installed in compliance with MacroAir's written installation instructions by a MacroAir approved installation technician or licensed electrical contractor and operated and maintained by the Customer in conformity with MacroAir's written instructions, and when the Product is purchased directly from MacroAir or a MacroAir Authorized Dealer.

This Warranty is subject to all provisions, conditions, limitations, and exclusions explained in this Warranty document. **leader**

***EXTENDED ELECTRICAL WARRANTY COVERAGE AVAILABLE FOR PURCHASE (OR PROVIDED WITH FACTORY CERTIFIED INSTALL)**

Fan Type	Extended Electrical Warranty Price per Year	Max Years Available for Purchase	Max Electrical Warranty after Extended Warranty Purchase
AirVolution-DX	\$200	5	15 Years
AirVolution	\$200	5	12 Years
AirLegacy	\$200	5	10 Years
AirVolution-D3	\$200	5	12 Years
AirVolution-D 370	\$200	5	10 Years
AirLite Shop Fan	\$200	3	5 Years

WHO MAY USE THIS WARRANTY?

This MacroAir Warranty may be used by the original purchaser of the Product and any subsequent owners, provided the fan has not been moved from its original installation location. The MacroAir Warranty is void once the Product is removed from its original installation location. This MacroAir Warranty is valid only within the fifty states of the United States, the District of Columbia, and all ten Canadian Provinces and Territories.

MacroAir will not, under any circumstances, provide Warranty coverage for a Product purchased from any reseller or internet site not approved by MacroAir.

¹"Standard Electrical" means any common electrical component that is utilized across more than one fan line will assume the higher warranty period.

²"Operate properly" applies only to mechanical, electrical, and structural systems of the Product.

MacroAir Warranty

WHAT HAPPENS WHEN I MAKE A WARRANTY CLAIM?

During the Warranty Period, MacroAir will, at its sole discretion and cost (as limited by this Warranty):

- Repair or replace parts of the Product, as necessary, to return the Product to proper operation; or
- Repair or replace the entire Product; or
- Replace the product with similar or like product of equal or better performance; or
- Refund the price you paid for the Product upon return of the Product to MacroAir. (You must pay shipping and insurance.)

REPAIR, REPLACEMENT, OR REFUND ARE THE EXCLUSIVE REMEDIES AVAILABLE UNDER THE MACROAIR WARRANTY. MACROAIR IS NOT RESPONSIBLE FOR DAMAGES OF ANY KIND, INCLUDING INCIDENTAL AND CONSEQUENTIAL DAMAGES.

For Products that qualify for extended labor, MacroAir will pay reasonable labor³ costs incurred to repair or replace defective parts or a defective Product at the original installation location. In the alternative and in its sole discretion, MacroAir may require you to return of the Product to MacroAir for repair or replacement.

MacroAir will ship the repaired Product or replacement Product to you at no charge; however, you are responsible for all costs of removal, reinstallation, and shipping of the Product to the MacroAir service center located at 794 South Allen Street, San Bernardino, CA 92408. If local laws require a certified electrician to reinstall the Product, MacroAir will reimburse the costs incurred to ship the Product to the MacroAir service center.

OBTAINING WARRANTY SERVICE:

Discovering a defect. If the Product is malfunctioning, turn it off immediately. Do not restart it until it has been examined by a MacroAir technician.

As soon as possible, contact MacroAir' Technical Support by visiting the MacroAir website and starting a technical support case at <https://macroairfans.com/support> or by calling the Technical Support phone number: (866) 668-3247

Provide information. Once you have initiated your technical support case, MacroAir will process it under the Warranty terms. A MacroAir representative will contact you and ask you to provide: Your contact information, including the installation address of the Product; the Product's brand name, serial number, purchase price, and verification of date of Product installation or, if you are not the original owner of the Product, the date you came into possession of the installation location; and a detailed description of the Product's problem.

Response from MacroAir. If MacroAir determines you have a valid Warranty claim, MacroAir will process your claim and respond appropriately. If the response requires shipment of a replacement part, MacroAir will provide you with any shipping labels and documents needed to return the original defective part, including a Return Materials Authorization (RMA) number.

When you accept delivery of a replacement part, you are also agreeing to return the defective part to MacroAir within fifteen (15) days of the date the replacement part was delivered to you. If you fail to return the original part, MacroAir will invoice you for the retail cost of the replacement part which must be paid immediately upon receipt of the invoice. MacroAir reserves all legal and equitable rights to collect payment for the replacement part if you fail to comply with these terms.

³ "Labor" means on-site technical service of the Product provided by MacroAir during applicable Warranty coverage time. At MacroAir's sole discretion, the person(s) providing this on-site service may be employees of MacroAir or qualified technicians contracted by MacroAir. MacroAir will not reimburse Customers or independent contractors for Product service performed without prior written approval from MacroAir. GST, Taxes, Service Charges, and Troubleshooting are excluded from Labor Coverage. MacroAir will reimburse the Customer in whose building the Product is installed, with such reimbursement limited to the reasonable cost paid by the Customer to an independent contractor hired to remove, dismantle, reassemble, or reinstall any of the Products under the Warranty during the applicable coverage period. MacroAir may request proof of payment by the Customer to the independent contractor of all service charges, and will reimburse the Customer only for those charges MacroAir, in its sole discretion, determines to be reasonable and necessary under the circumstances and inclusive of the cost of any lift or other equipment needed to service the Product.

MacroAir Warranty

Site visit or Product return. Depending on the issue your Product is experiencing, it may be necessary to have a MacroAir certified technician contact you to remove, repair, or replace the Product. For Products that qualify for extended labor, MacroAir will pay reasonable labor costs incurred to repair or replace defective parts or a defect Product at the installation location. Alternatively, MacroAir may, in its sole discretion, require you to return of the entire Product to MacroAir for repair or replacement. Should MacroAir ask you to ship the entire Product back to MacroAir for repairs or replacement, MacroAir will prepay the shipping and insurance for factory-installed Products for the first 365 days after the commencement of the Warranty Period.

WARRANTY CONDITIONS

—MacroAir reserves full, sole, and complete discretion to determine, based on its own evaluation and testing of the Product and its components, whether the problem reported by the Customer is a defect covered under the Warranty. (Non-covered problems are listed in the Exclusions section below.);

—If MacroAir determines, in its full, sole, and complete discretion, that the appropriate remedy under the Warranty is a refund, the refund amount will be limited to the price paid by the Customer for the Product, and under no circumstances will it include any other costs incurred or anticipated by the Customer, including labor, shipping, packaging, and other costs.

—If MacroAir determines, in its full, sole, and complete discretion, that a part or parts within the Product must be replaced or repaired, MacroAir may choose to use refurbished replacement parts.

—MacroAir warrants any replacement parts, whether refurbished or new, will operate properly and be free from defects in materials and workmanship for a period of ninety (90) days from the date the replacement parts are shipped to you, or for the remainder of the original warranty period, whichever is longer.

—If you return a Product to MacroAir for Warranty service and it has been modified in any way or if it is missing any parts, MacroAir reserves the right, in its full, sole, and complete discretion, to require you to pay one or more of the following: a service fee, parts replacement fee, and shipping fee. The amount of the fee(s) will be based on materials and labor costs necessary to return the Product to its original factory condition.

—The MacroAir Warranty gives you specific legal rights, and you may also have other legal rights which vary from state to state.

—MacroAir reserves the right to change this Warranty and its terms at any time without advance notice. You can view the most current version of this Warranty on the MacroAir website at macroairfans.com/warranty.

WHAT IS EXCLUDED FROM THIS WARRANTY?

1. Parts and Labor necessary to correct improper Product installation by someone other than MacroAir. Improper installation includes, but is not limited to:
 - Failure to follow MacroAir-supplied installation instructions and any other installation-related instructions supplied with the Product and related equipment;
 - Failure to follow all applicable codes and ordinances including, but not limited to, electric codes and local building codes;
 - Failure to follow electrical engineering industry standards for installation of electrical equipment similar to the Product and its related components, even if such standards are not expressly referenced in any MacroAir instructions or; and
 - Improper use of or failure to use installation and mounting hardware supplied or approved by MacroAir
2. Product failures arising from adverse site conditions, including, but not limited to, excessive dust, heat, and humidity; exposure to chemicals, salt water, acid rain or other corrosive elements, excessive humidity, snow, sleet, and/or wind; unstable electric service, lightning events, lack of phase protection, or any other unknown or unforeseen condition that affects the proper operation of the products).

MacroAir Warranty

3. Products purchased from someone other than MacroAir or a MacroAir Factory Authorized Dealer.
4. Products or components with missing or defaced serial numbers or part number stickers.
5. Normal operational noise or complaints or dissatisfaction with operational noise levels. The warranted Products produce some noise while operating within normal levels, which levels may vary due to the Product design and/or site conditions. A Product returned by a Customer because of noise concerns will be subject to MacroAir's Standard Return Policy.
6. Defects, malfunctions, failure or physical damage caused by unauthorized service, use of unauthorized parts, and/or improper installation.
7. Customer mishandling, modifications, or damage to the Product while in Customer possession, which includes, but is not limited to:
 - Any modification or alteration of, or adjustment to the Product;
 - Any modification or alteration of, or adjustment to the Product's control components, or mounting and installation hardware;
 - Disassembly of the Product and Product controls, including any attempt to diagnose or repair any problem, without prior written authorization from MacroAir's Technical Support Department;
 - Misuse, abuse, accidents, unreasonable use, or Acts of God;
 - Incorrect electric current, voltage, phase protection, or supply;
 - Failure to use the Product controls supplied by MacroAir unless the Customer has received pre-installation written permission from MacroAir and the controls are built, operated, and maintained according to specifications provided to and approved by MacroAir.
8. Failure to provide reasonable and necessary maintenance, which shall include, but not be limited to failure to perform periodic prescribed Product maintenance as detailed on the MacroAir website.
9. Consequential⁴ or incidental⁵ damages sustained by any person, entity, or structure and arising from any breach by Customer of any provision of this Warranty, except where such damages are not excludable by law.
10. Claims made for Products that have not been paid for in full.
11. Damage caused to the Product by structural defects, structural movement or settlement of the premises in which the Product is installed.
12. Normal changes to the Product's exterior finish caused by ordinary use.
13. Damage to any finish applied by someone other than MacroAir.
14. Damage or failure caused by use of the Product in conditions or environments outside its design limitations as specified in the Product's Owner's Manual.
15. Untimely reporting of defects. A report of a defect is untimely where Customer reports the defect to MacroAir more than ninety (90) days from when the defect was or should have been discovered.

⁴"Consequential damages" include but are not limited to the cost of repairing or replacing other property which was damaged if this product does not work properly.

⁵Incidental damages" include but are not limited to such damages as loss of time and loss of use.

MacroAir Warranty

16. When MacroAir evaluates electrical and electronic components of a Product in response to a Warranty claim, MacroAir will rely on the original manufacturer to determine whether the failure of the component was the result of a defect. Where the manufacturer of the component determines there was no defect and refuses to cover it under its own warranty, MacroAir will not provide Warranty service, repair, or replacement of the component unless MacroAir determines the failure of the component was the result of a defect of design, workmanship, or material within some other part of the Product.
17. Additional labor or equipment costs resulting from third party installations and/or parts of the fan being inaccessible (including, but not limited to fans above pools or specialty flooring, proximity to other equipment, cabling or electronic drive equipment housed within drywall, limited hours of accessibility, or remote geographic location).
18. When MacroAir evaluates electrical and electronic components of a Product in response to a Warranty claim, MacroAir will rely on the original manufacturer to determine whether the failure of the component was the result of a defect. Where the manufacturer of the component determines there was no defect and refuses to cover it under its own warranty, MacroAir will not provide Warranty service, repair, or replacement of the component unless MacroAir determines the failure of the component was the result of a defect of design, workmanship, or material within some other part of the Product.
19. No warranty or guarantee, unless and except by separate written agreement, is made regarding the volume of air movement generated by any Product or the effectiveness, fitness, or appropriateness of any Product for its intended purpose or for the Customer's particular application.
20. MacroAir will not reimburse Labor costs related to residential installations; installations to where a Product has been relocated after its original installation; or where any of the other Warranty Exclusion applies.
21. Replacement of functioning products in the vicinity of defective product when MacroAir replaces the defective product with similar or like product of equal or better performance.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, AND OF ALL OTHER OBLIGATIONS AND LIABILITIES ON MACROAIR'S PART, AND MACROAIR NEITHER ASSUMES NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE OF THE PRODUCTS COVERED BY THIS WARRANTY. NO OTHER WARRANTY EXPRESSED OR IMPLIED, WHETHER OF FITNESS FOR A PARTICULAR PURPOSE OR OF MERCHANTABILITY OR OF ANY OTHER KIND, WHETHER OR NOT SIMILAR IN NATURE TO ANY PREVIOUSLY SPECIFIED, SHALL EXIST WITH RESPECT TO SUCH PRODUCTS, ALL SUCH WARRANTIES BEING HEREBY EXPRESSLY DISCLAIMED BY MACROAIR AND WAIVED BY YOU, THE CUSTOMER. IN NO EVENT SHALL MACROAIR BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCTS OR FOR, WITHOUT LIMITATION, COMMERCIAL LOSS OF ANY SORT; LOSS OF USE, TIME, REPUTATION, OPPORTUNITY, GOODWILL, PROFITS OR SAVINGS; INCONVENIENCE; INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES; OR DAMAGES ARISING FROM THE USE OR INABILITY TO USE THE PRODUCTS, UNLESS SUCH DAMAGES CANNOT BE EXCLUDED BY LAW.

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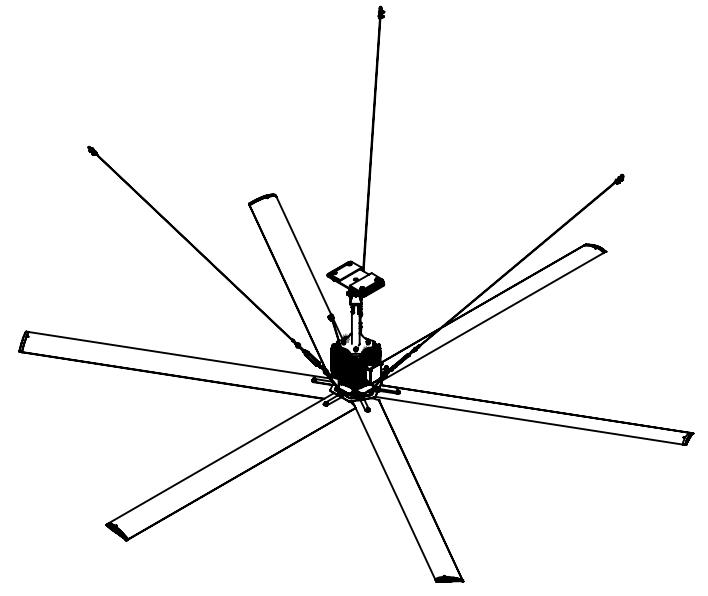
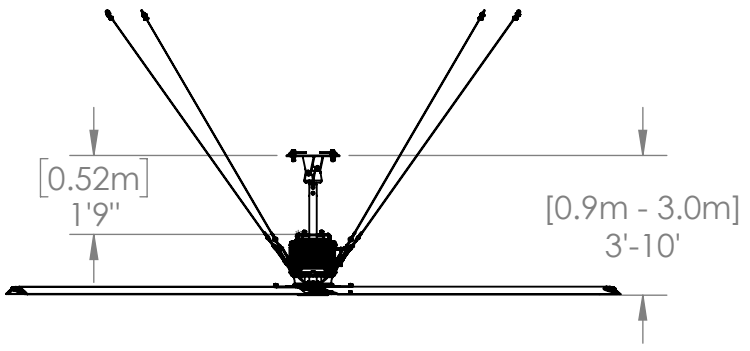
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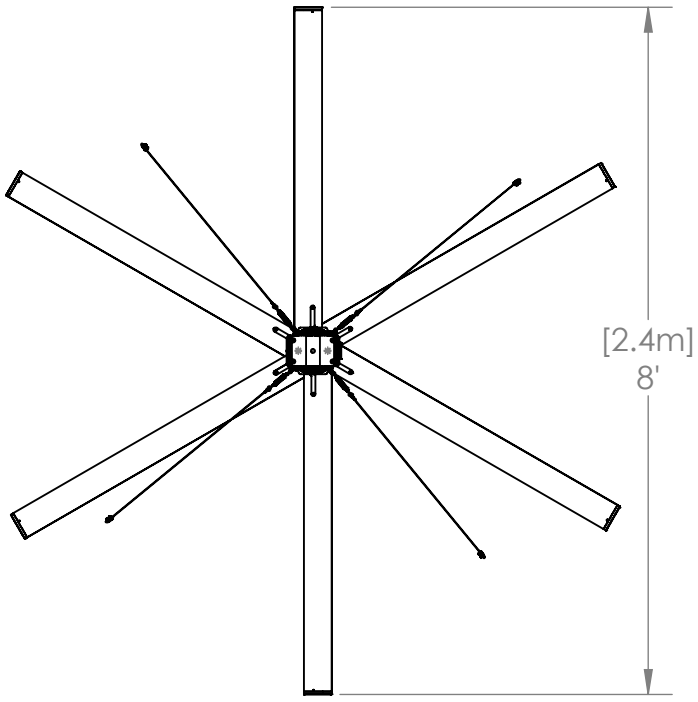
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ISOMETRIC VIEW



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MacroAir Technologies 794 S Allen St. San Bernardino, CA 92408		
TITLE: 8' X-SERIES FAN UNIVERSAL MOUNT		
SIZE	DWG. NO.	REV
A	MX08-0085-ARCH	A-01
SCALE: 1:50	WEIGHT: 110.86	SHEET 1 OF 1

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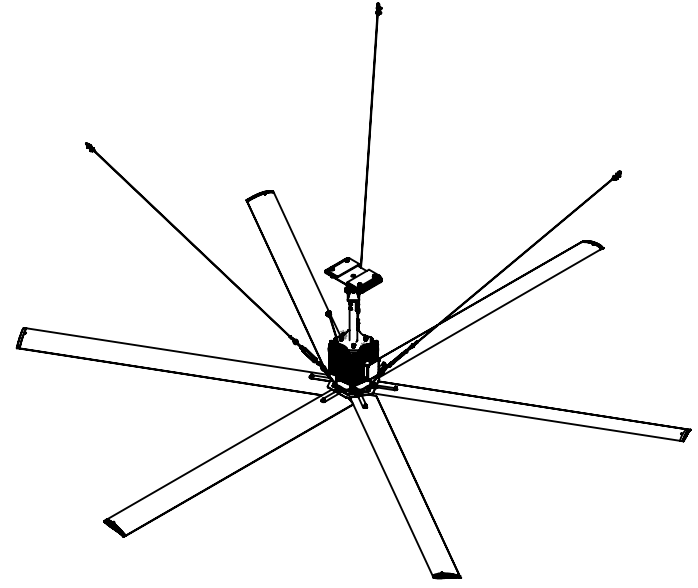
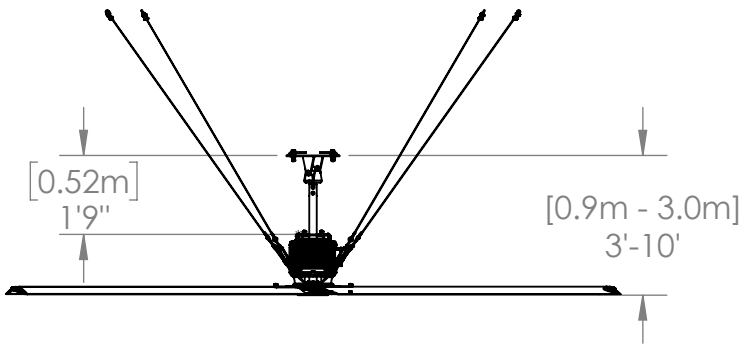
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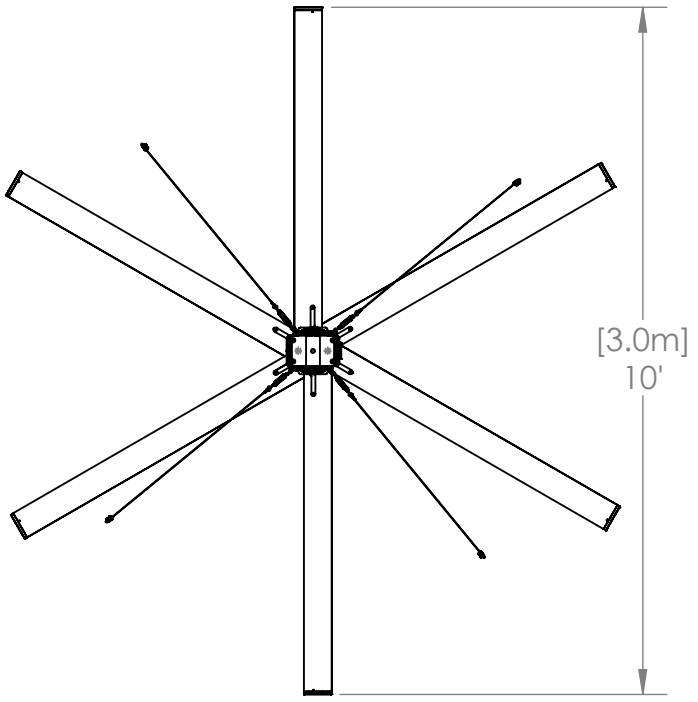
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ISOMETRIC VIEW



MacroAir Technologies 794 S Allen St. San Bernardino, CA 92408		
TITLE: 10' X-SERIES FAN UNIVERSAL MOUNT		
SIZE A	DWG. NO. MX10-0085-ARCH	REV A-01
SCALE: 1:50	WEIGHT: 110.86	SHEET 1 OF 1

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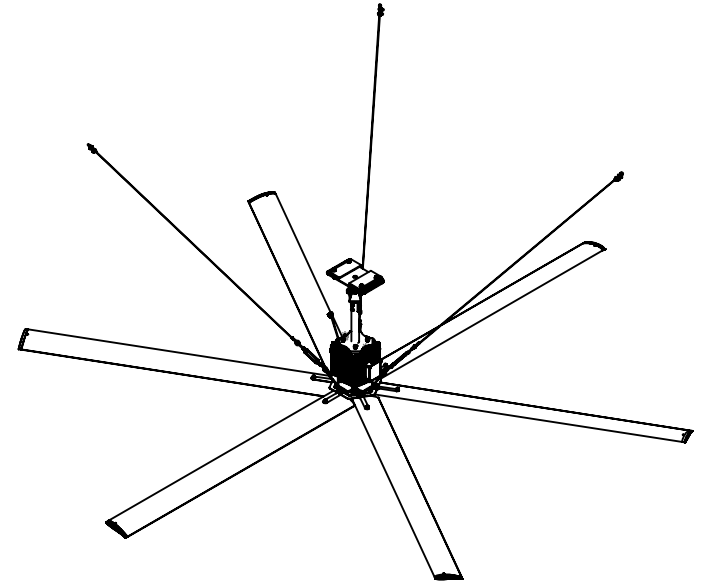
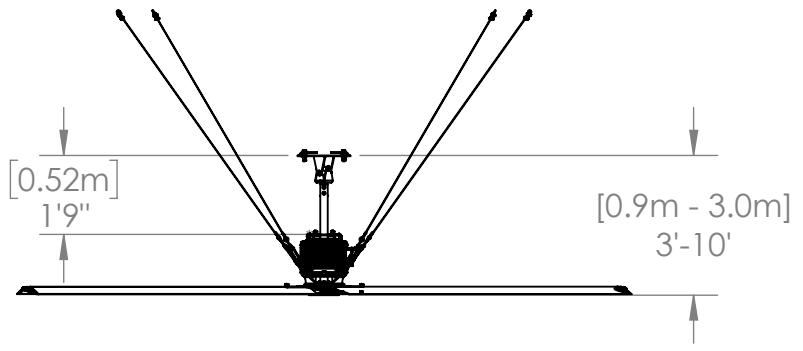
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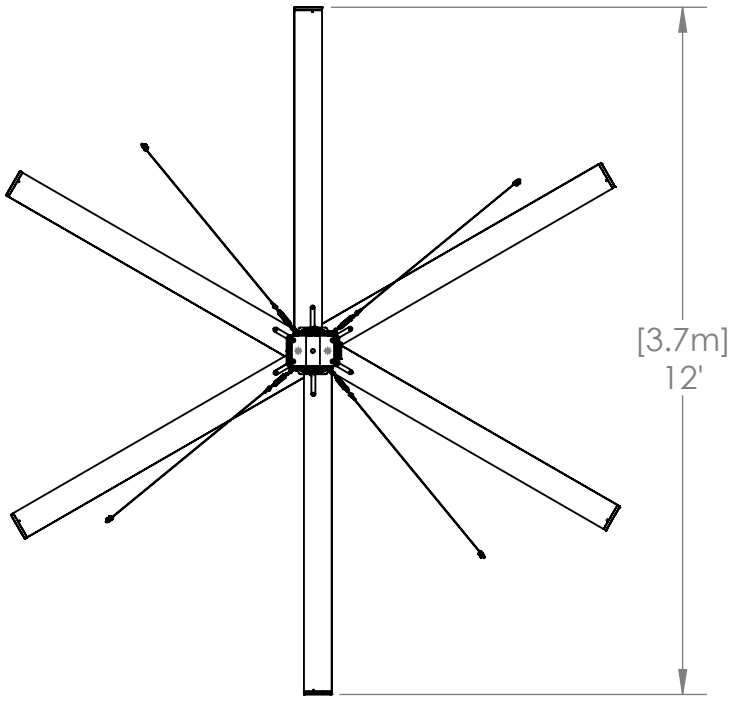
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MacroAir Technologies
794 S Allen St. San Bernardino, CA 92408

TITLE:
**12' X-SERIES FAN
UNIVERSAL MOUNT**

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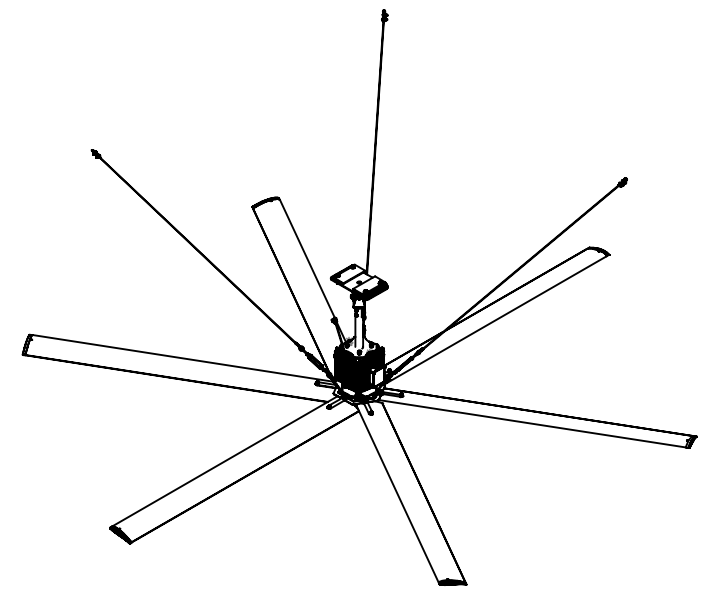
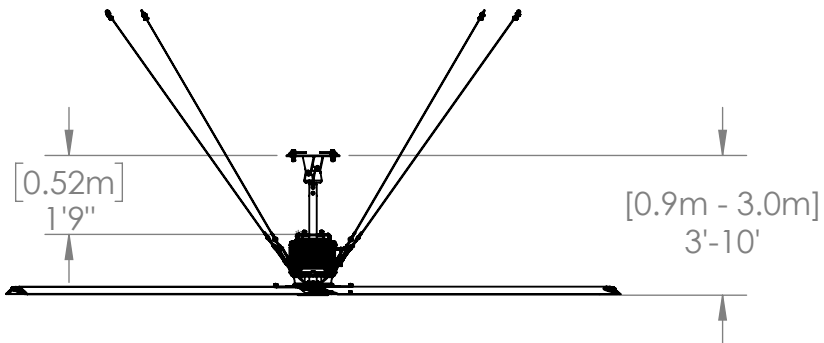
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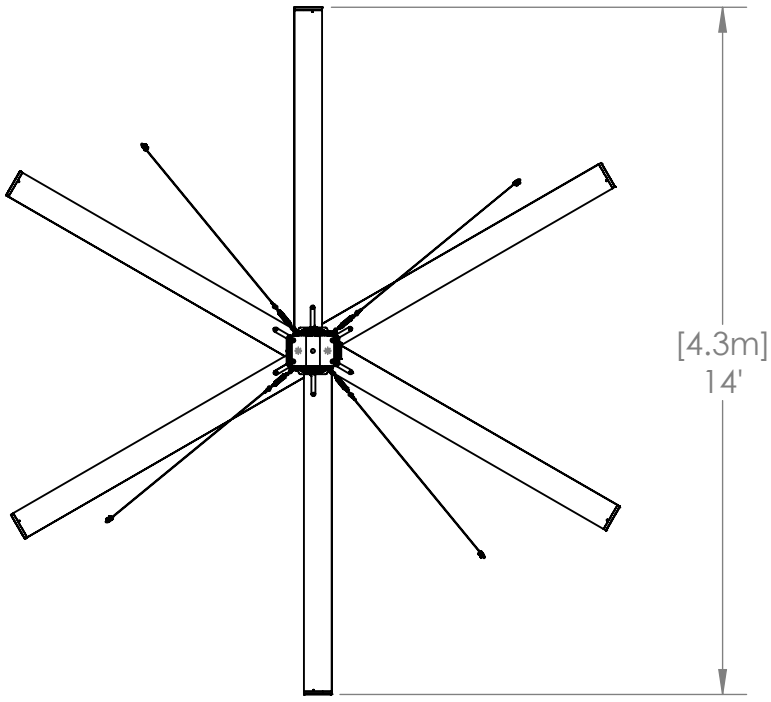
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MacroAir Technologies 794 S Allen St. San Bernardino, CA 92408		
TITLE: 14' X-SERIES FAN UNIVERSAL MOUNT		
SIZE	DWG. NO.	REV
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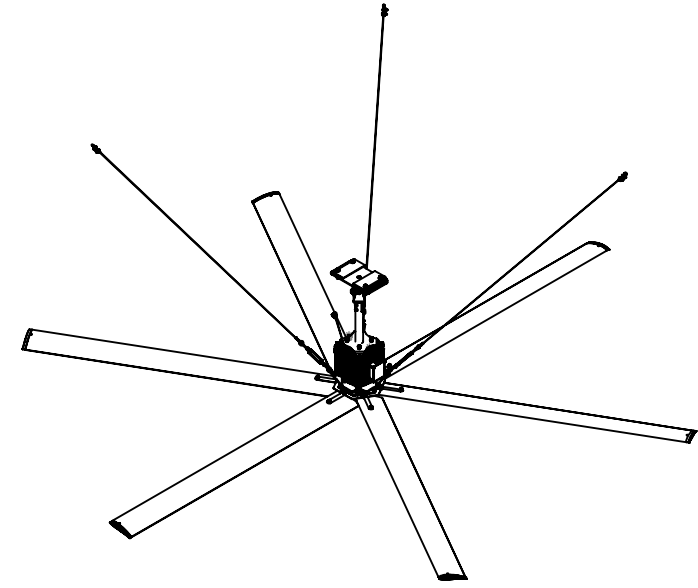
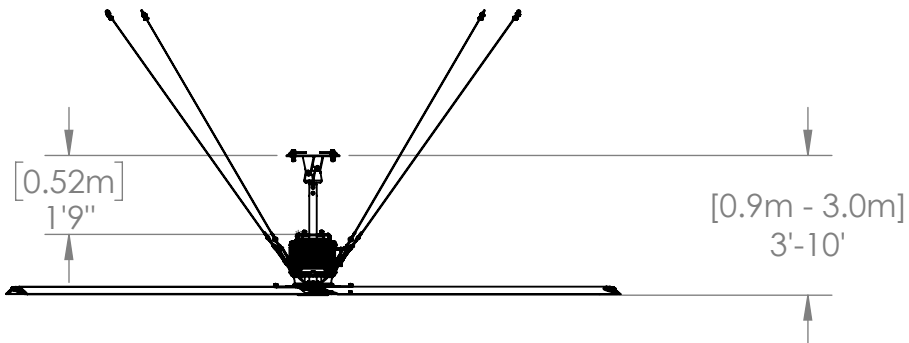
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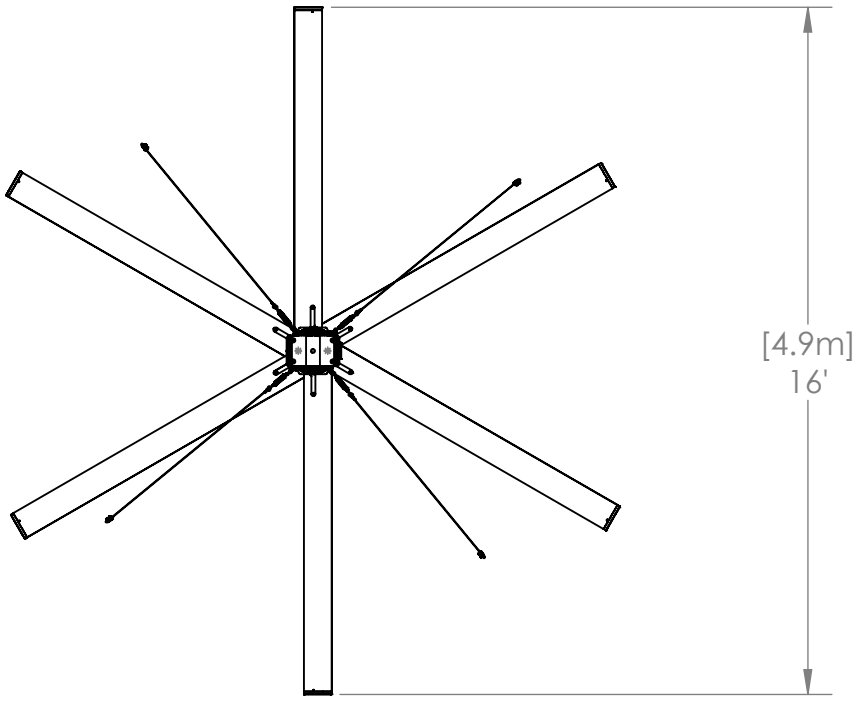
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ISOMETRIC VIEW

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TITLE: 16' X-SERIES FAN UNIVERSAL MOUNT		
SIZE A	DWG. NO. MX16-0085-ARCH	REV A-01
SCALE: 1:50	WEIGHT: 110.86	SHEET 1 OF 1

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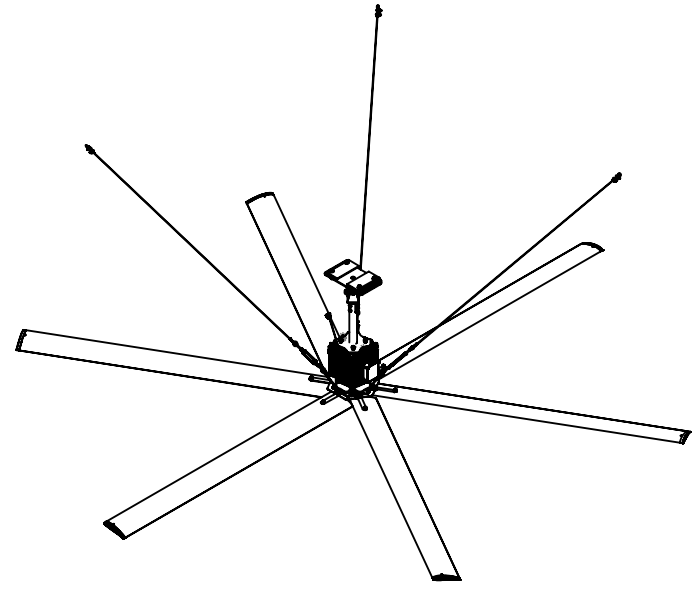
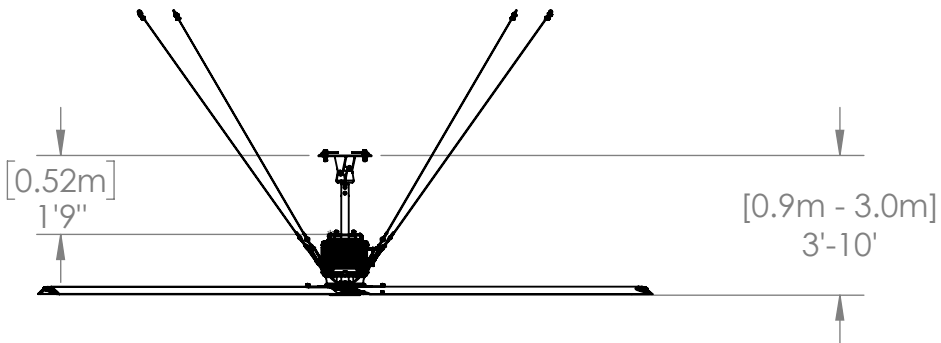
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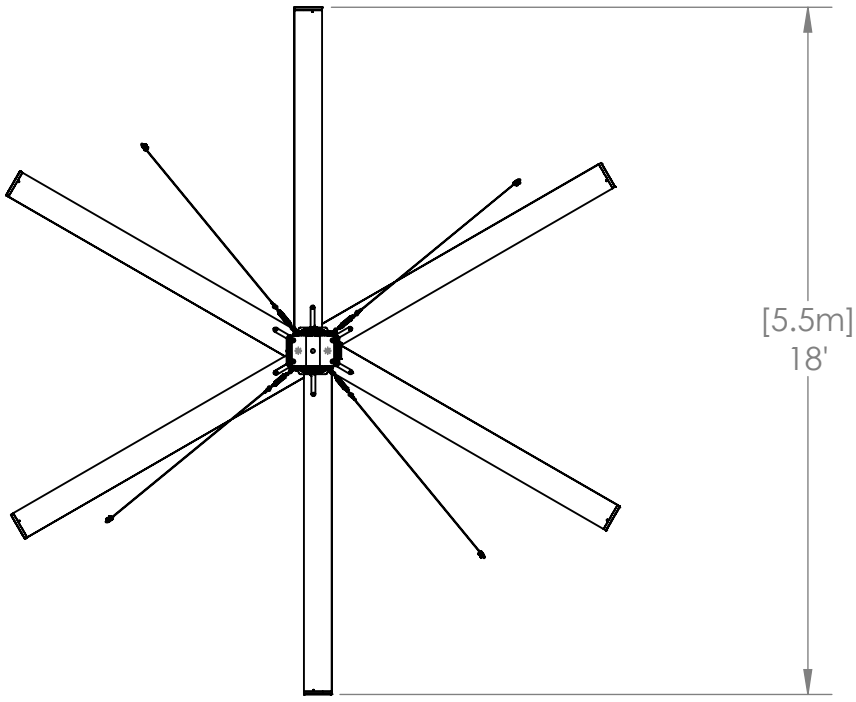
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MacroAir Technologies
 794 S Allen St. San Bernardino, CA 92408

TITLE:
**18' X-SERIES FAN
 UNIVERSAL MOUNT**

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SIZE	DWG. NO.	REV
A	MX18-0085-ARCH	A-01

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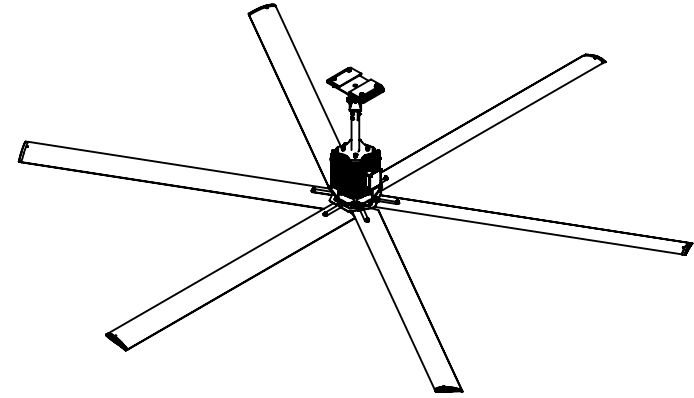
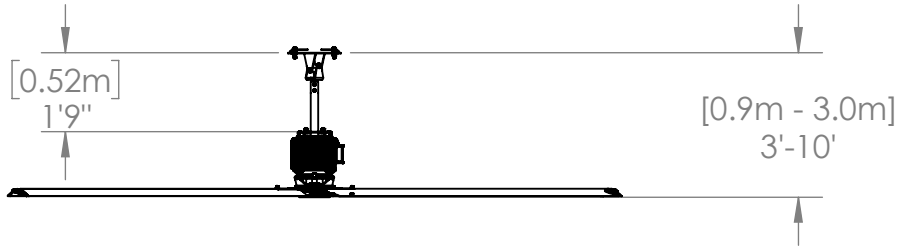
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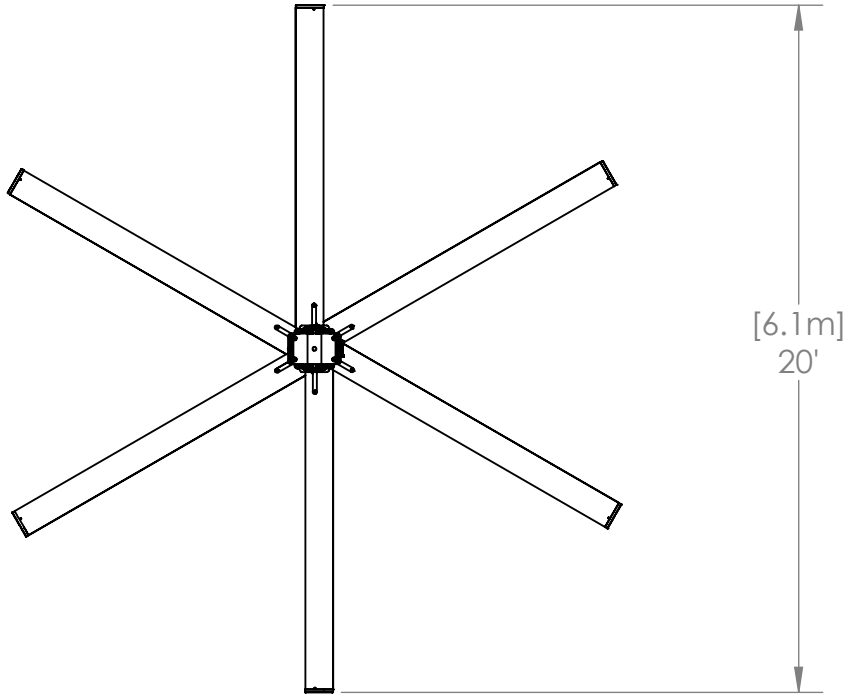
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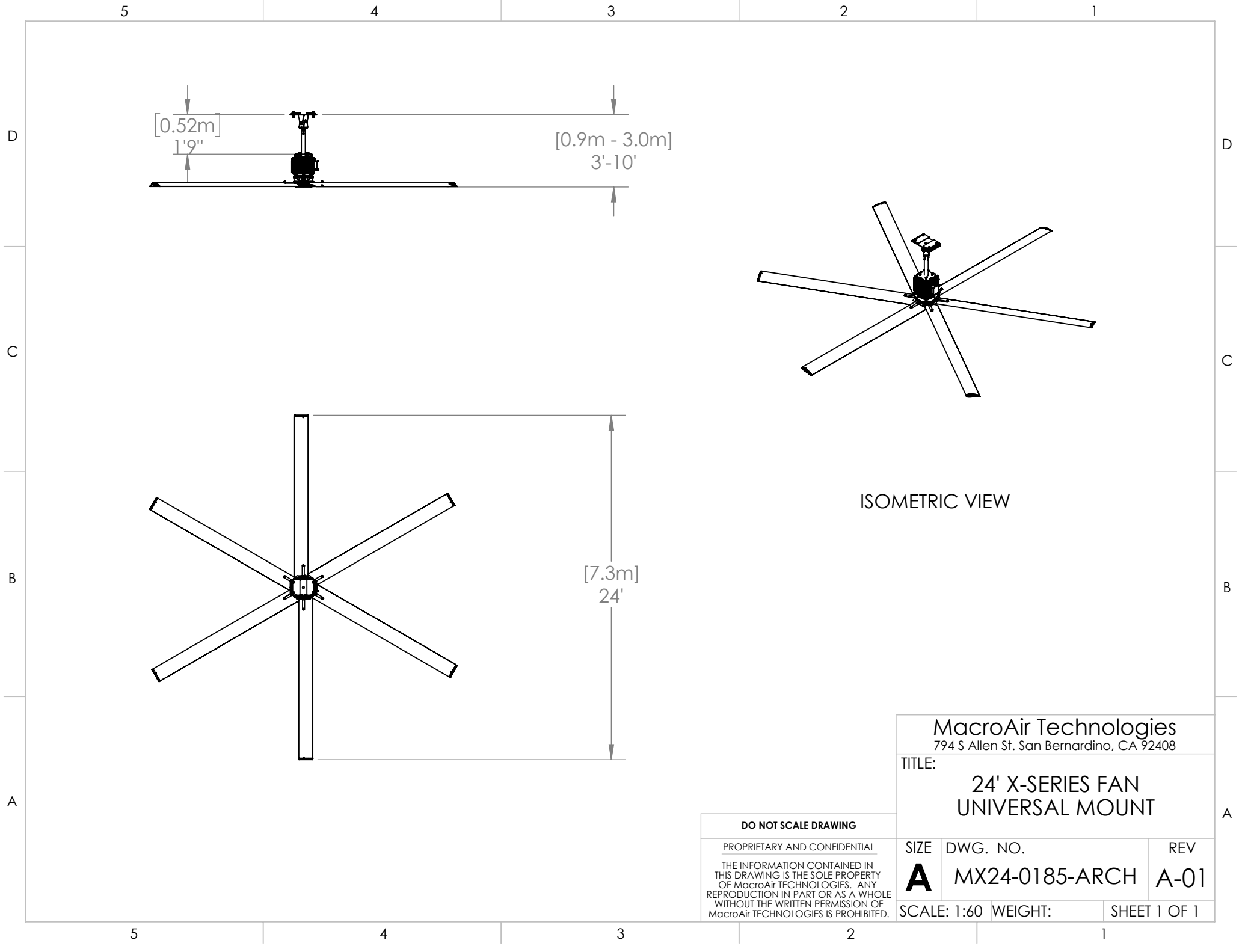
MacroAir Technologies
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TITLE:
**20' X-SERIES FAN
UNIVERSAL MOUNT**

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SIZE	DWG. NO.	REV
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SCALE: 1:50	WEIGHT:	SHEET 1 OF 1



ISOMETRIC VIEW

MacroAir Technologies
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TITLE:
**24' X-SERIES FAN
 UNIVERSAL MOUNT**

DO NOT SCALE DRAWING	SIZE	DWG. NO.	REV
PROPRIETARY AND CONFIDENTIAL	A	MX24-0185-ARCH	A-01
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Installation Manual

MacroAir AVDX

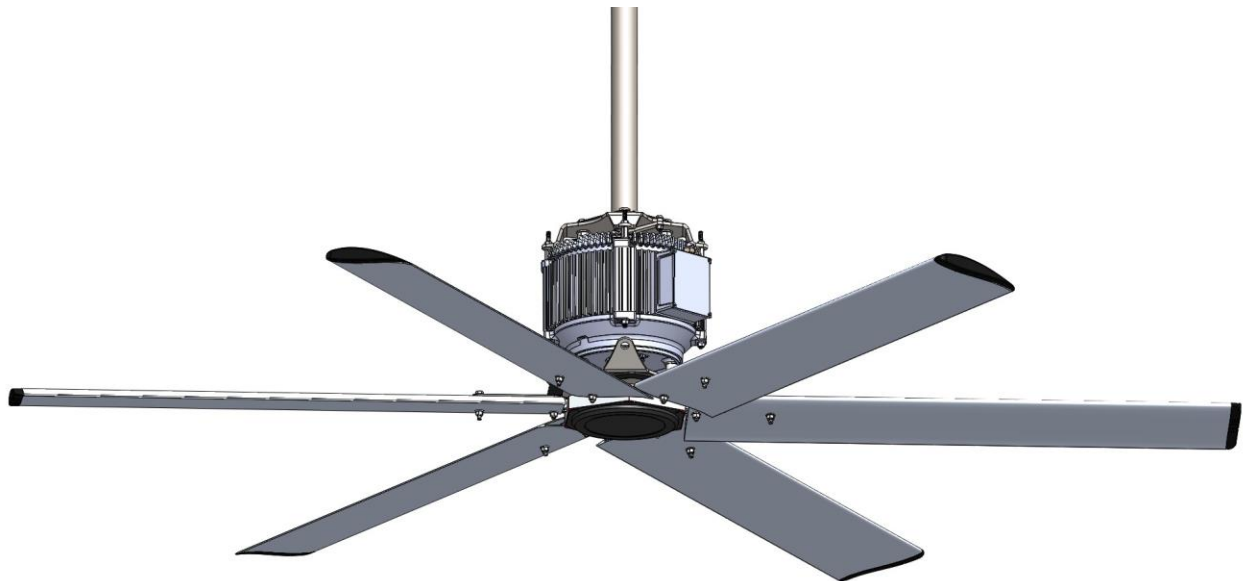


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Literature (Pg. 3)

- Order Verification.** I have verified the order information. All components are accounted for.
- Read.** I have read this Installation Manual and all other instructions before installing this fan

Power (Pg. 3-4)

- Power Requirements.** I have verified the incoming power supply is sufficient for the fan.

Safety (Pg. 4-5)

- Safety Familiarity.** I am familiar with the safety components and features of the fan. I have verified the presence of a safety cable, safety retainer links and guy wires (if applicable).

Airfoils (Pg. 5-7)

- Height from Floor.** I have verified the airfoils will be at least 10ft (3.05 m) above the floor.
- Application Clearance.** I have consulted the manual to determine that the airfoils will meet or exceed the clearance requirements regarding obstructions, or other fans.
- Airfoil Reach.** I have verified the airfoils will be mounted such that they are at least 3 feet away from any area where someone can extend outward and reach them.
- High Winds.** I have verified the fan will not be subjected to high winds from any outside influences, such as large garage door openings or HVAC systems.
- Diffuser Interference.** If diffusers are present, I will ensure that the fan is mounted at least 1.5X the diameter of the fan away from any source of airflow.
- Airfoil Compatibility.** I have verified the Airfoils and other fan components are those that shipped with the motor unit.
- Installing Multiple Fans.** I will not mix and match any hardware or blades.

Structure (Pg. 6-8)

- Application Suitability.** I have verified the application was approved by a structural engineer. I have checked the hanging weight and torque specs in the installation manual to ensure that the mounting structure can withstand the forces generated by the fan.
- Structural Suitability.** I have verified the building structure is suitable for this fan mounting. The fan will be mounted to an I-beam or Glulam or similar. I will not mount the fan to a single purlin, truss, or bar joist. I will consult a structural engineer for mounting not covered herein.
- Mount Suitability.** I have the appropriate mount for this application. I have verified in the installation manual that the mounting option provided is suitable for this application. I will consult a structural engineer for applications and mounting methods not covered herein.

Caution and Safety

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory, or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

⚠ ATTENTION: Safety. READ AND SAVE THE ENTIRE MANUAL BEFORE OPERATING THE FAN. Ensure that all safety procedures and instructions are followed during the installation, operation, and servicing of the fan. Failure to apply these safety practices could result in death or serious injury. If you do not understand the instructions, please call our technical department for guidance.

⚠ CAUTION: Non-Compliance. The fan installation should follow the recommendations outlined in this manual. MacroAir is not responsible for any injury or damage to persons or property because of 'not complying' with the recommendations outlined in the manual.

Electrical Guidelines

⚠ WARNING: Electrical Damage. Improper electrical installation can cause damage to the fan and interfere with other electronic equipment. In addition to standard electrical safety considerations, please observe the following:

- **MacroAir Cables.** The wiring from the control panel to the fan MUST be by MacroAir supplied shielded cable.
- **Electrical Interference.** Separate incoming power and CAT5 motor control cables by a minimum of six (6) inches to avoid communication issues..
- **Individual Fan Wiring.** Run wiring for each fan separately.
- **Multiple Fans.** Do not attempt to control multiple fans from one (1) control panel.
- **ALWAYS GROUND PROPERLY.** Connect the supplied cable glands to each end of the motor cable and tighten them securely at both the fan motor and control panel ends. Connect the ground bar in the control panel to ground at the main breaker and test.
- **Read.** Please refer to the installation instructions for more information.

⚠ ATTENTION: Qualified Technicians. All fan controls should only be installed by qualified technicians familiar with the requirements of the National Electrical Code (NEC) and local codes. Refer to appropriate portions of this manual for other important requirements. Failure to follow these guidelines will void the manufacturer's warranty.

Electrical Guidelines cont.

⚠ ATTENTION: Factory Configured. All electrical controls are configured at the factory and are ready to use. No user adjustments are available. Follow the included wiring schematics and installation instructions when installing this device to ensure proper operation. Do not make any changes to any part of the motor control panel without first consulting MacroAir.

⚠ ATTENTION: Code Compliance. Installation is to be in accordance with the NEC, ANS/NFPA 70-1999 and local codes.

Hazard of Electrical Shock, Explosion or Arc Flash:

⚠ ATTENTION: Read. Read and understand this manual before installing or operating a fan unit. Installation, adjustment, repair, and maintenance must be performed by qualified personnel.

⚠ ATTENTION: Code Compliance. The user is responsible for compliance with all international and National Electrical Code requirements with respect to grounding of all equipment.

⚠ WARNING: Do Not Touch. Many of the parts of this unit operate at line voltage. DO NOT TOUCH.

⚠ WARNING: Covers. Install all covers before applying power or starting and stopping the unit.

Installation and Service

⚠ WARNING: Damage. Do not operate or install any fans or fan accessories that appear to be damaged.

⚠ WARNING: Death and Injury. Failure to follow this instruction can result in death, serious injury, or equipment damage.

⚠ WARNING: Disconnect Power. If the fan does not operate properly using the procedures in this manual. BE CERTAIN TO REMOVE ALL POWER TO THE UNIT and contact our technical department for further assistance.

⚠ CAUTION: Moving Parts. Keep all body parts clear of moving parts at all times.

⚠ ATTENTION: Qualified Technicians. All electrical troubleshooting and repair must be done by a qualified technician and meet all applicable codes.

Key Safety Systems

⚠ ATTENTION: Safety. MacroAir fans are engineered with key safety features to prevent pieces of the fan from falling in the unlikely event of a catastrophic failure. Used together, these systems and devices provide comprehensive protection to people, equipment, and property.

Key Safety Systems, cont.

⚠ WARNING: Safety Cable and Guy Wires. Install safety cable on EVERY fan. Install guy wires on every fan, unless otherwise specified. Properly installing the guy wires will keep the fan stable in case of earthquake or in “outdoor” installations where high wind conditions may occur. The safety cable, if installed per MacroAir specifications, will prevent the fan from falling in the unlikely event that the mounting system should fail.

⚠ WARNING: Safety Cable. A MacroAir fan should never be run without a properly installed safety cable, which is supplied with every fan along with all required hardware. You must install a safety cable for the warranty to be in effect.

⚠ WARNING: Blade Safety Links. Install the complete set of extended blade safety links, which connect each blade to the adjacent blades and reinforce the area between the mounting holes. This is an important precautionary measure which will help prevent a blade from falling should one break off at the hub for any reason.

⚠ ATTENTION: Mark the Floor to Alert Personnel. When mounting a fan in an area where materials may be elevated into its path, MacroAir recommends marking or painting the floor with a large cross hatched circle to alert personnel of the overhead location of fans.

Mounting Guidelines

⚠ WARNING: Weight Considerations. We recommend that a building structure be capable of holding approximately twice the stated hanging weight of the fan. If there is some doubt of this, a professional contractor or architect should perform a thorough evaluation of the building prior to purchasing the fans. MacroAir provides guidelines for mounting fans; however, it is the sole responsibility of the building owner and installer to ensure the safety of the mounting system, that the building structure is sound, and that the installation complies with all federal, state, and local codes.

⚠ WARNING: Torque. The maximum torque (twisting force) that must be handled by the mounting system, including the building structure, occurs at fan startup. For a 24-foot fan, maximum potential starting torque is 137 Ft-Lbs. When standard electrical controls are installed, the fan will never begin to approach this maximum because the standard variable-speed control system uses the soft-start fail, or when a fan is installed as a single-speed model without the variable speed control system (rare), full torque might be applied to the mounting system, so it is important that it be adequate to withstand 137 Ft-Lbs. torque.

⚠ ATTENTION: Check Federal, State, and Local Codes. Check all relevant codes to make sure that all product certifications, product listings, and building regulations are met. Code compliance is the responsibility of the installer.

⚠ WARNING: Welding. DO NOT attach the fan or fan mounting components to the building structure by welding that component to the structure. DO NOT cement the fan to the structure.

Clearance Guidelines

⚠ ATTENTION: Sprinkler Systems and Fan Placement. In any installation where fire sprinklers are in place, do not interfere with their correct operation. Fans should be located no less than 3 feet below a sprinkler and placed central to each sprinkler quadrant.

⚠ ATTENTION: Sprinkler Systems and Code Compliance. Prior to installing fans, review all codes applicable to sprinkler systems and fans to ensure code compliance. Refer to the wiring diagrams packaged inside the control panel for proper installation. If further advice is needed, you may contact our support staff. However, it is your sole responsibility to see that the installation is completed to code and is correct.

General Information on Fan Placement and Spacing

⚠ ATTENTION: Strobe and Performance. If possible, avoid mounting fans directly below lights or skylights to avoid any strobe effect caused by moving blades. A large fan, 20-24 feet in diameter, performs best at 20 to 30 feet above the floor, but acceptable performance has been demonstrated as low as 10 feet and as high as 50 feet.

⚠ WARNING: Mezzanine Placement. If the building has a mezzanine, fans should be mounted so a person cannot reach a fan in any way from the upper level/deck. Make certain that fans are positioned so that blade tips are at least 3 feet away from any area where a person may be able to extend outward to reach them.

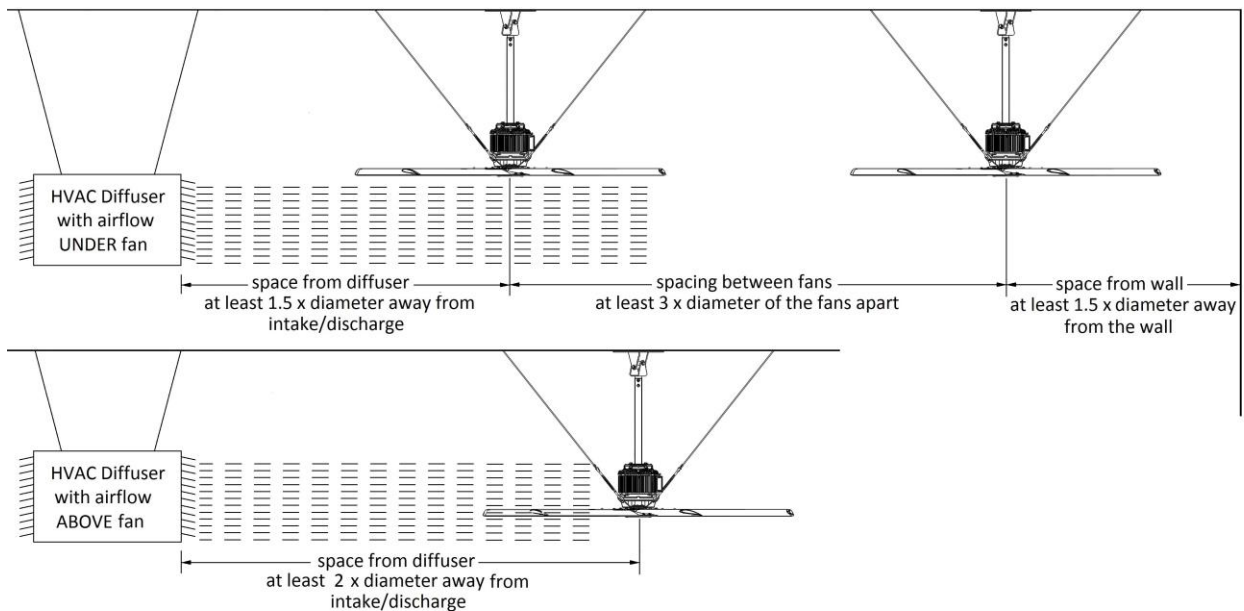


Figure 1: Fan Clearance and Placement

⚠ ATTENTION: The minimum distance of a fan to a wall or similar obstruction should be no less than 1.5 times the diameter of the fan. Reference Figure 1.

General Information on Fan Placement and Spacing, cont.

Universal Mount (Standard)

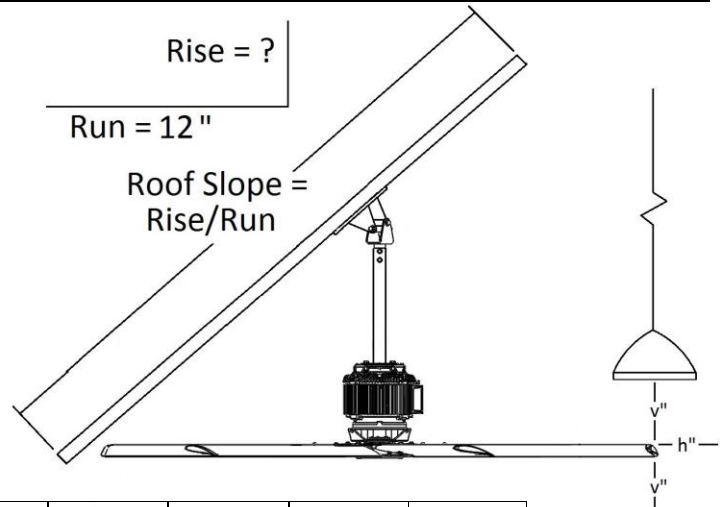


Figure 2: Fan Clearance (h/v see Fig 4)

Note: Guy wires not shown.

Slope (in)	0	2/12	4/12	6/12	8/12	10/12
Roof Angle	0	9.5°	18.4°	26.6°	33.7°	39.8°
Diameter	Recommended Total Drop (Mount to Airfoil) Length (ft)					
8 feet	3	3	3	3	4	5
10 feet	3	3	3	4	5	6
12 feet	3	3	3	5	6	7
14 feet	3	3	4	5	7	8
16 feet	3	3	4	6	7	9
18 feet	3	3	5	7	8	N/A**
20 feet	3	4	5	7	9	N/A**
24 feet	3	4	7	9	N/A**	N/A**

Figure 3: Maximum Angle ** Drop longer than 10ft not recommended.

Airfoil / Drop Length (ft)	3' (std)	4'	5'	6'	7'	8'	9'	10'
8 feet	7/7	7/7	7/7	8/8	8/8	9/8	11/9	13/10
10 feet	7/7	7/8	7/8	8/8	8/9	9/9	11/10	13/11
12 feet	7/8	7/8	7/9	8/9	8/10	9/10	11/11	13/12
14 feet	7/9	7/9	7/10	8/10	8/11	9/12	11/12	13/13
16 feet	7/10	7/11	7/11	8/12	8/12	9/13	11/14	13/15
18 feet	7/12	7/12	7/13	8/13	8/14	9/15	11/16	13/17
20 feet	7/14	7/14	7/15	8/15	8/16	9/17	11/18	13/20
24 feet	7/19	7/19	7/20	8/21	8/22	9/23	11/24	13/26

Figure 4: Minimum Clearance, Horizontal/Vertical (h/v) inches (ref Fig 2.)

⚠ WARNING: FANS ARE NOT MEANT TO BE OPERATED IN WINDY CONDITIONS.

The goal of Figures 2 and 5 are to determine the proper extension length to maintain a minimum blade clearance of 3 feet for optimal performance. The extension lengths above are minimum recommendations only, based solely on roof pitch and fan diameter. Other factors must be evaluated when determining extension requirements.

⚠ ATTENTION: Minimum Height. MacroAir requires that the fan blades must be a minimum of 10 feet (3.05 meters) above the floor. Contact MacroAir for assistance with fan placement and extension selection.

General Information on Fan Placement and Spacing, cont.

Rapid Mount Industrial (optional)

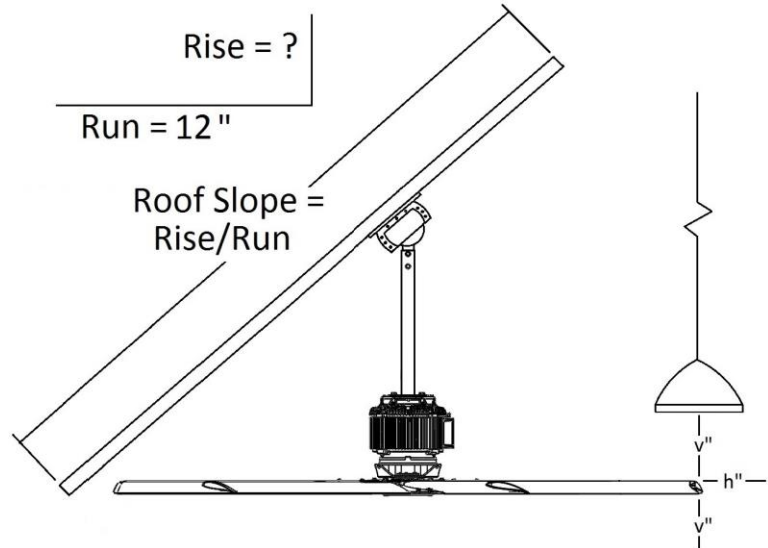


Figure 5: Fan Clearance (h/v see Fig 7)
Note: Guy wires not shown.

Slope (in)	0	2/12	4/12	6/12	8/12	10/12
Roof Angle	0	9.5°	18.4°	26.6°	33.7°	39.8°
Diameter	Recommended Total Drop (Mount to Airfoil) Length (ft)					
8 feet	3	3	3	4	5	6
10 feet	3	3	4	5	6	8
12 feet	3	3	5	6	7	9
14 feet	3	4	5	7	9	N/A*
16 feet	3	4	6	8	10	N/A*
18 feet	3	5	7	9	N/A*	N/A*
20 feet	3	5	7	10	N/A*	N/A*
24 feet	4	6	9	N/A*	N/A*	N/A*

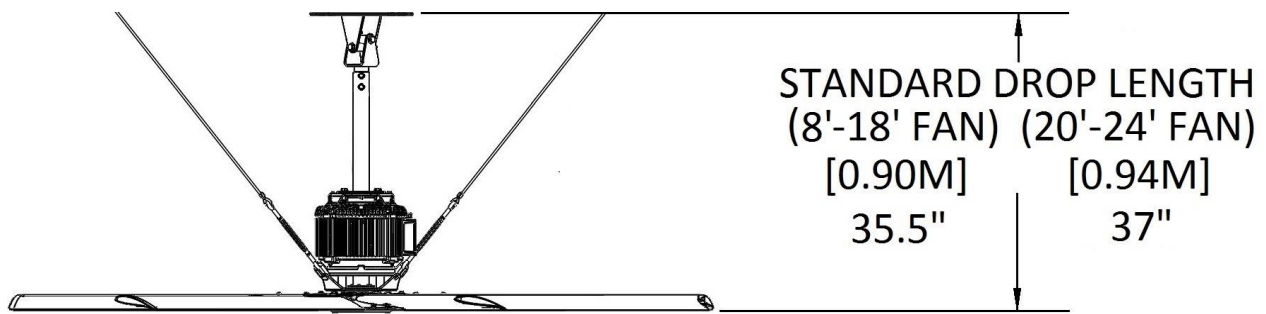
Figure 6: Maximum Angle * Need Universal Mt with Guy Wires

Airfoil / Drop Length (ft)	3' (std)	4'	5'	6'	7'	8'	9'	10'
8 feet	11/14	13/14	15/15	17/15	19/16	22/17	25/17	29/18
10 feet	11/16	13/17	15/17	17/18	19/18	22/19	25/20	29/21
12 feet	11/19	13/19	15/19	17/20	19/21	22/22	25/23	29/24
14 feet	11/21	13/22	15/22	17/23	19/24	22/25	25/26	29/27
16 feet	11/24	13/24	15/25	17/26	19/27	22/28	25/29	29/31
18 feet	11/27	13/28	15/28	17/29	19/30	22/31	25/33	29/34
20 feet	11/31	13/31	15/32	17/33	19/34	22/35	25/37	29/38
24 feet	11/39	13/40	15/40	17/42	19/43	22/44	25/46	29/48

Figure 7: Minimum Clearance, Horizontal/Vertical (h/v) inches (ref Fig 5.)

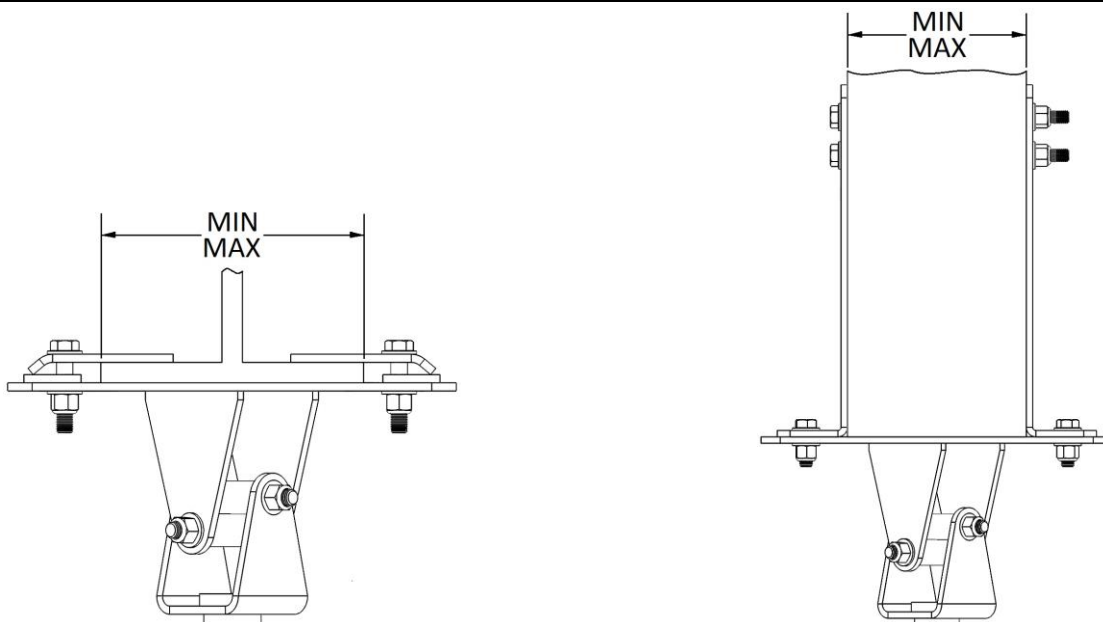
⚠ ATTENTION: Minimum Height. MacroAir requires that the fan blades must be a minimum of 10 feet (3.05 meters) above the floor. Contact MacroAir for assistance with fan placement and extension selection.

Fan Dimensions



Dimensions listed above are applicable to all MacroAir AVDX fans.

I-Beam/Glulam Chart



The Min Range dimension is determined by using the inside slots of the Universal Mount or Rapid Mount Bracket. The Max Range by using the outside slots of the bracket. The Mid-Range by using a combination of inside slots on one side and the outside slots on the other.

Std Universal Mount/I-Beam Size Chart					
Min Range		Mid-Range		Max Range	
Min	Max	Min	Max	Min	Max
6.50	7.50"	7.88	8.88"	9.25	10.25"
Extra-Wide Universal Mount/I-Beam					
11.76	13.26"	13.39	14.89"	15.02	16.52"
Rapid Mount/I-Beam					
6.50	7.50"	7.88	9.38"	10.25	11.25"

Std Universal Mount/Glulam Size Chart					
Min Range		Mid-Range		Max Range	
Min	Max	Min	Max	Min	Max
5.13	5.75"	5.63	7.13"	7.00	8.50"
Extra-Wide Universal Mount/Glulam					
9.51	11.51"	11.14	13.14"	13.77	14.77"
Rapid Mount/Glulam					
5.13	5.75"	5.63	7.63"	8.00	9.50"

Max Amp Draw / Fuse Size

VOLTAGE and PHASE	MAX AMP DRAW FROM SUPPLY TO VFD / FUSE SIZE							
	AVDX FAN							
	8FT	10FT	12FT	14FT	16FT	18FT	20FT	24FT
208-240VAC / 1 PH	5.8A/10A	7.2A/15A	9.4A/15A	9A /15A	8.7A /15A	8.4A /15A	10.5A /15A	13A /20A
208-240VAC / 3 PH	3.6A/10A	4A/10A	5.1A/10A	5.8A /10A	6.1A /10A	5A /10A	6.2A /10A	8.7A /10A
400-480VAC / 3 PH	1.3A/5A	1.6A/5A	1.9A/5A	2A /5A	2A /5A	2A /5A	2.5A /5A	3A /5A

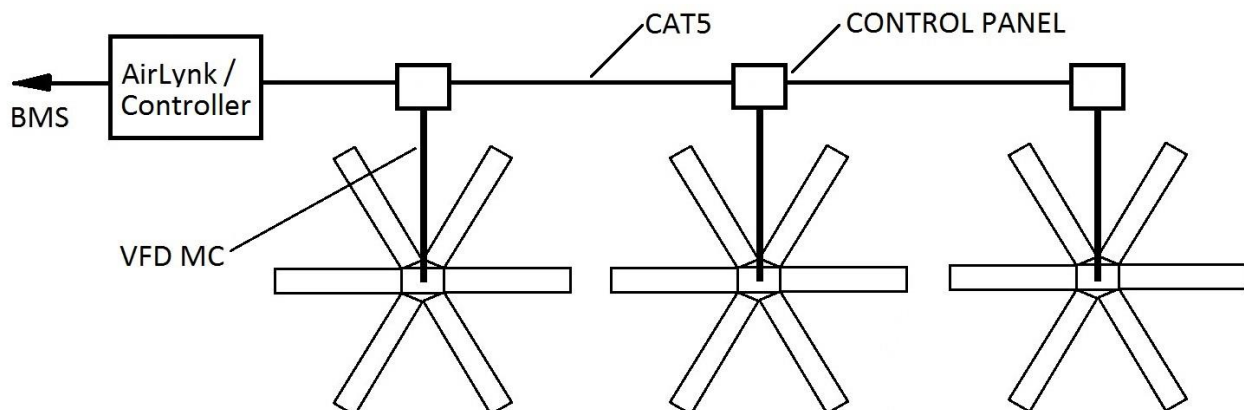
Note: Fuses listed are fast acting fuses.

Network Wiring Instructions

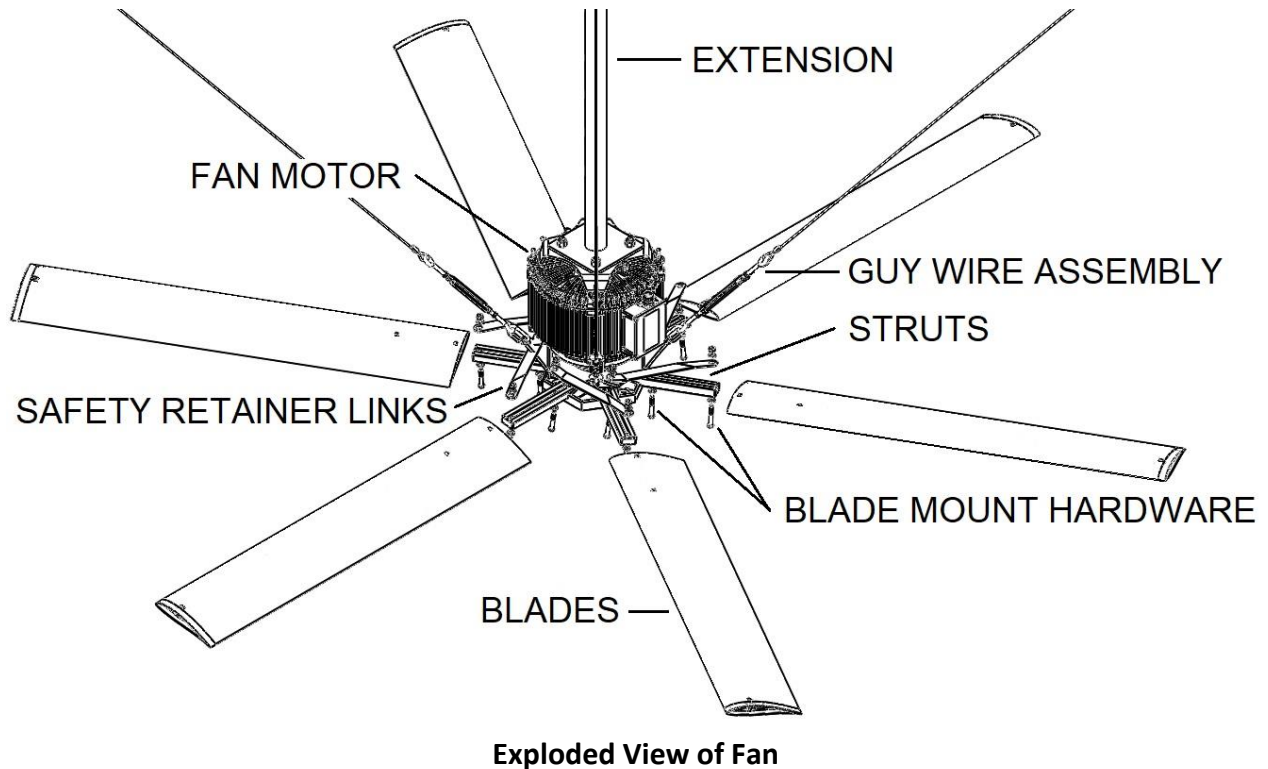
MacroAir AVDX fans are wired in a daisy chain with one CAT5e from the controller/previous fan into an RJ45 port on the control panel, and one CAT5e going to the next fan from the second RJ45 port on the panel. The internal panel wiring does not need to be modified for communications.

A properly wired daisy chain network will have the CAT5e network ran per the below illustration.

For clarification of approved networking principles and methods for installing MacroAir Fans, refer to the MacroAir control panel instructions included with your MacroAir Control Panel.



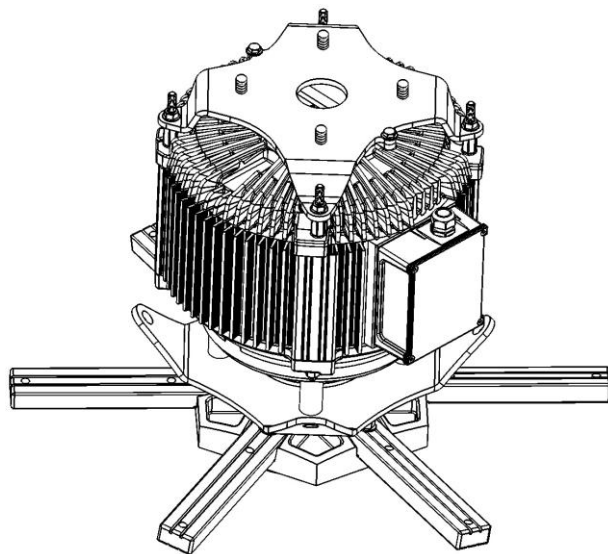
Fan Components



⚠ ATTENTION: Guy Wires shown in this view are required when a Universal Mount is used to mount the fan and may be used as an option when a Rapid Mount is used.



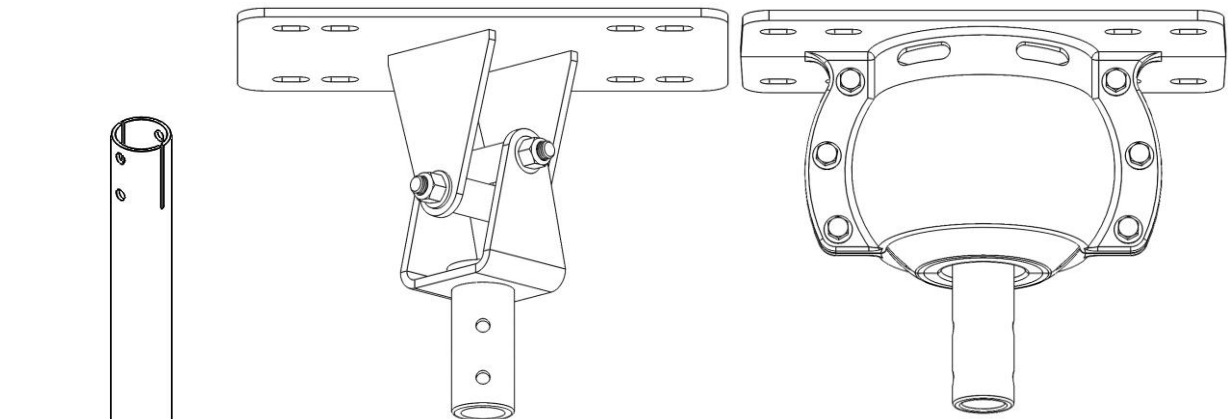
(6) Safety Link



Motor Unit

Images are not to scale.

Mounts & Components



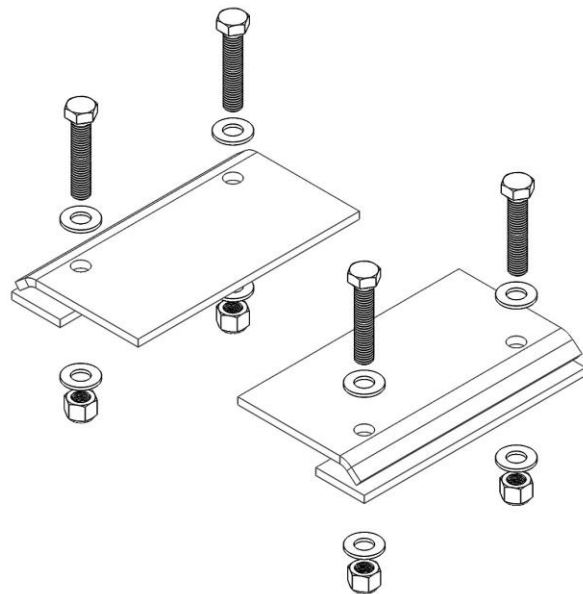
Extension

Universal Mount (standard)

Rapid Mount (optional)

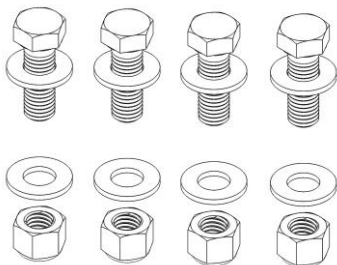
Safety Bar Kit

- (1) Safety Bar
- (2) Screw, 1/4"-20X5/8"



I-Beam Clamps & I-Beam Bolt Kit

- (2) I-Beam Clamps
- (2) I-Beam Shims
- (4) Hex Bolts 1/2"-13x2-1/2"
- (8) Washers, 1/2" Flat
- (4) Hex Nuts 1/2"-13, Nylon Lock



Mount Bolt Kit

- (4) Hex Bolts 1/2"-13x1-1/2"
- (8) Washers, 1/2" Flat
- (4) Hex Nuts 1/2"-13, Nylon Lock

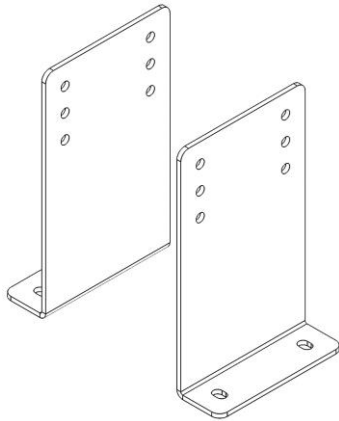
Unistrut Mount Bolt Kit (optional)

Hardware Required but Not Provided:

- (4) 1/2"-13 x 1-1/2" Hex Bolts
- (4) 1/2" Flat Washer
- (4) 1/2" Unistrut Spring Nut

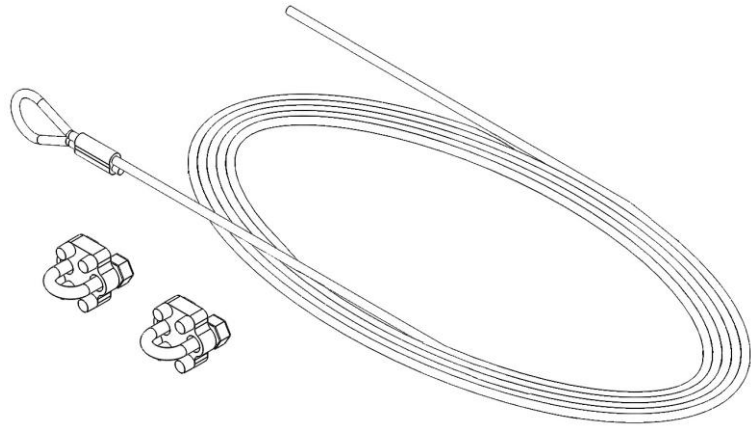
Images are not to scale.

Mounts & Components (cont.)



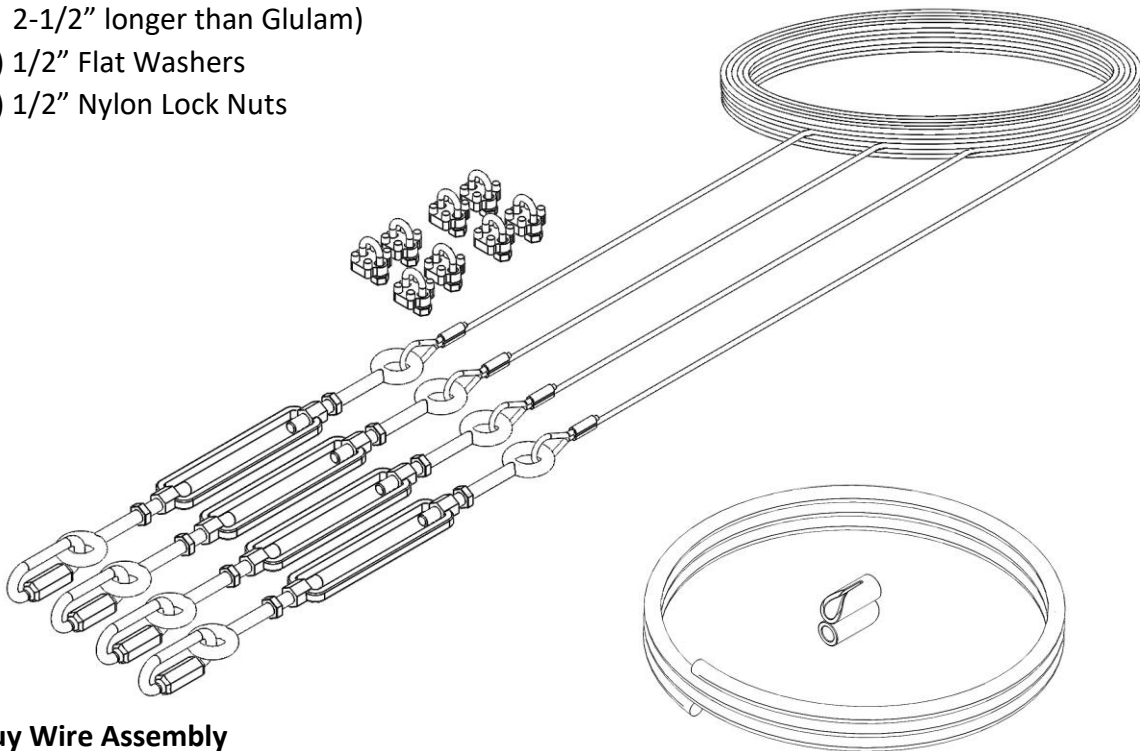
Glulam Brackets (optional)

- Hardware Required but Not Provided:
- (4) 1/2"-13 Grade 5 Hex Bolts (at least 2-1/2" longer than Glulam)
 - (8) 1/2" Flat Washers
 - (4) 1/2" Nylon Lock Nuts



Safety Cable Kit

- (1) Wire Rope 3/16"
- (2) Wire Rope Clamps



Guy Wire Assembly

- (4) Wire Rope, 19ft (A), 23ft (B*), 33ft (C*)
 - (4) Turn Buckles
 - (4) 1/4" Quick Links
 - (8) Wire Rope Clamps
- * Kits B and C provided with longer drop lengths

Guy Wire Band Kit **

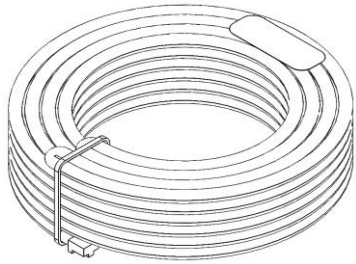
- (1) Elastic Cord
- (1) Cord Clip

**Used when Guy Wires are installed.

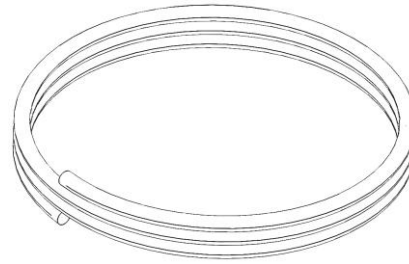
⚠ ATTENTION: Guy Wires are required when a Universal Mount is used to mount the fan and may be used as an option when a Rapid Mount is used.

Images are not to scale.

Control Panel & Components

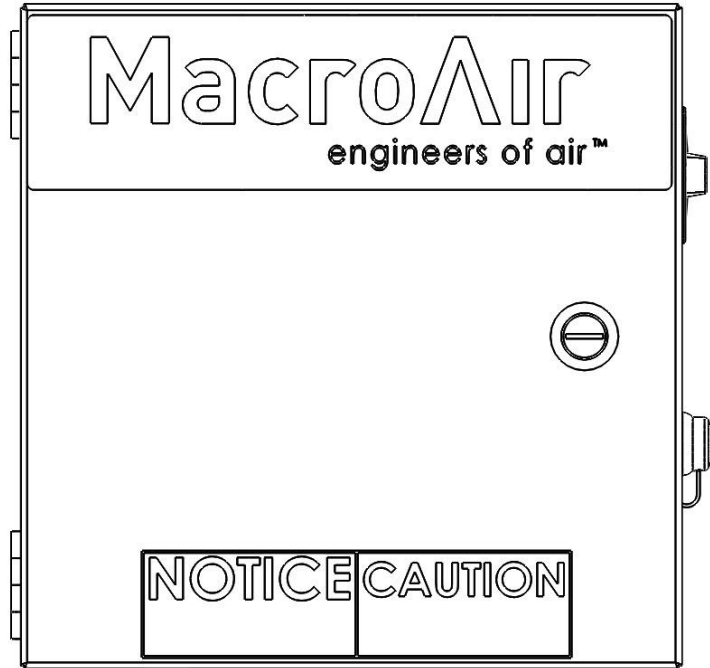


CAT5E Stranded Shielded Cable

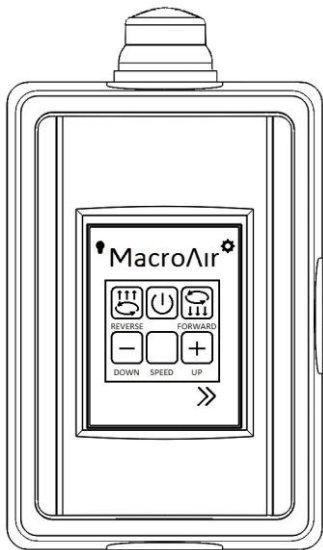


Motor Cable

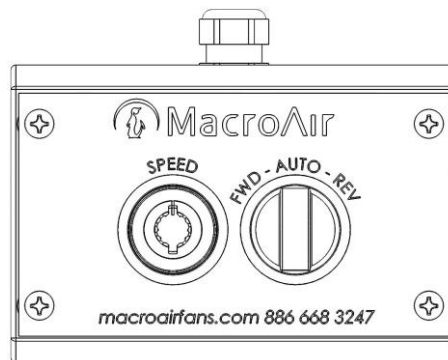
Control Panel -----
(Physical Enclosure 12"x12"x8")



Motor Cable Gland
(Installed by customer)



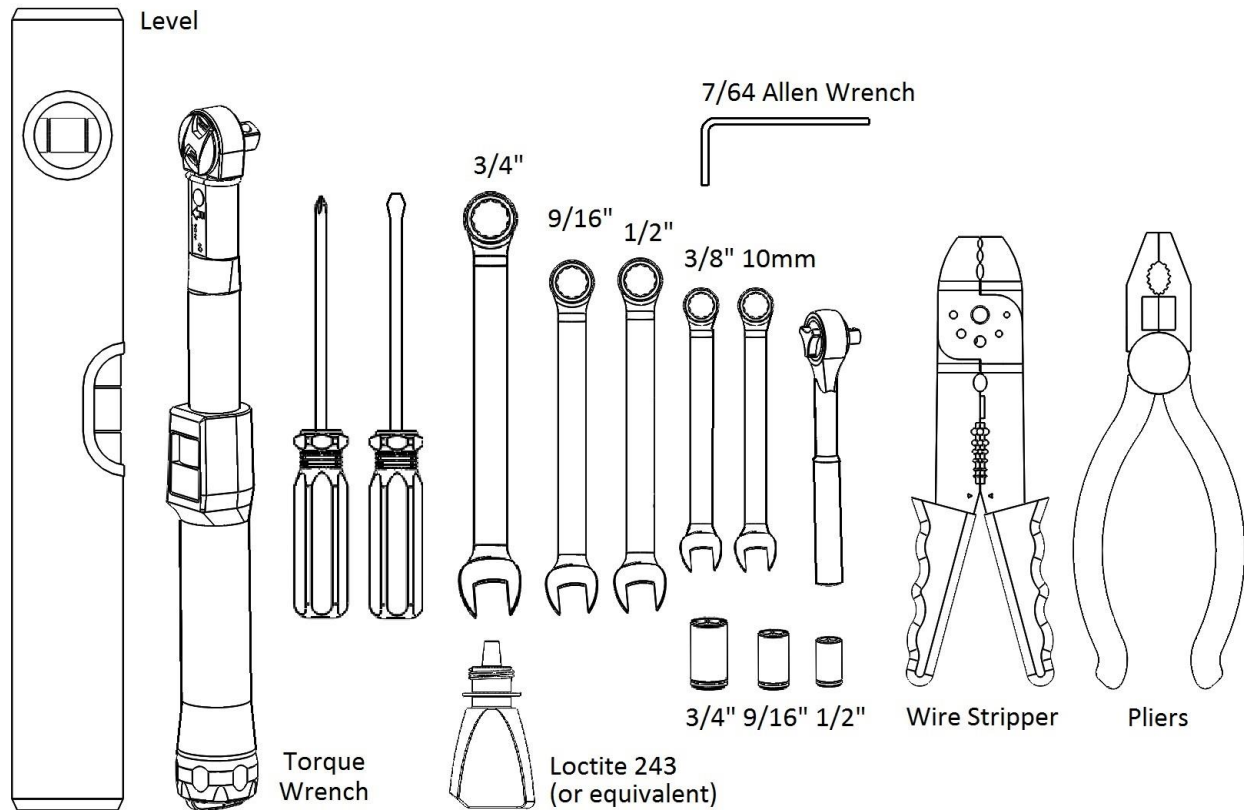
Digital Touchpad Remote



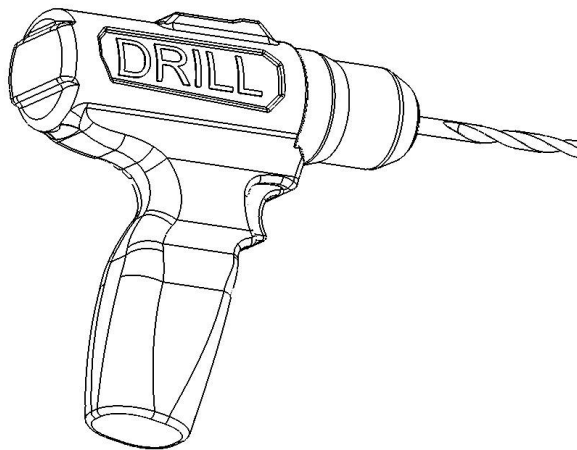
Local Override Remote
(Optional: see pg47 of this manual)

Images are not to scale.

Tools Required

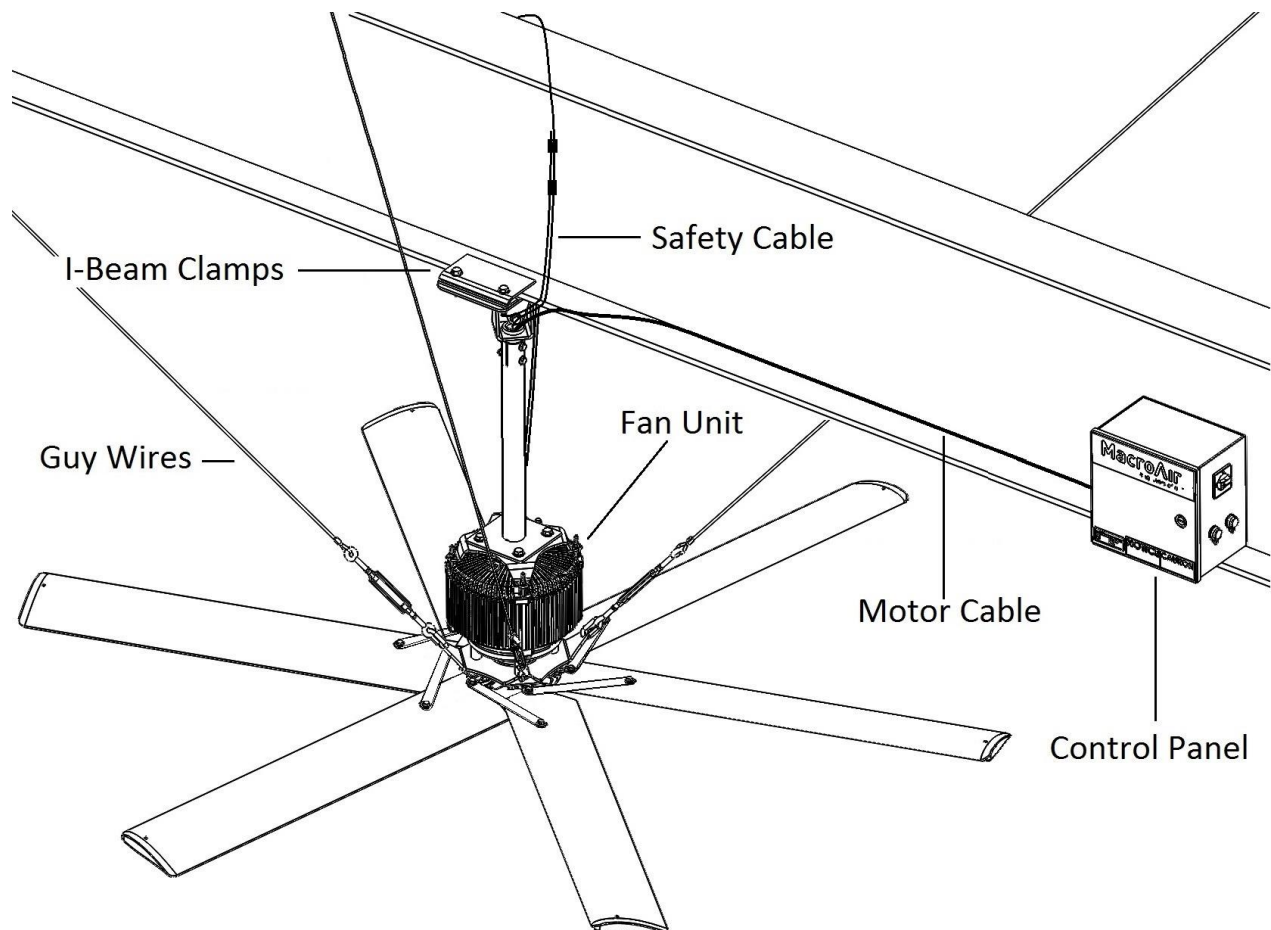


Note: A drill and drill bits will also be required when mounting brackets and control panel to Glulam



Images are not to scale.

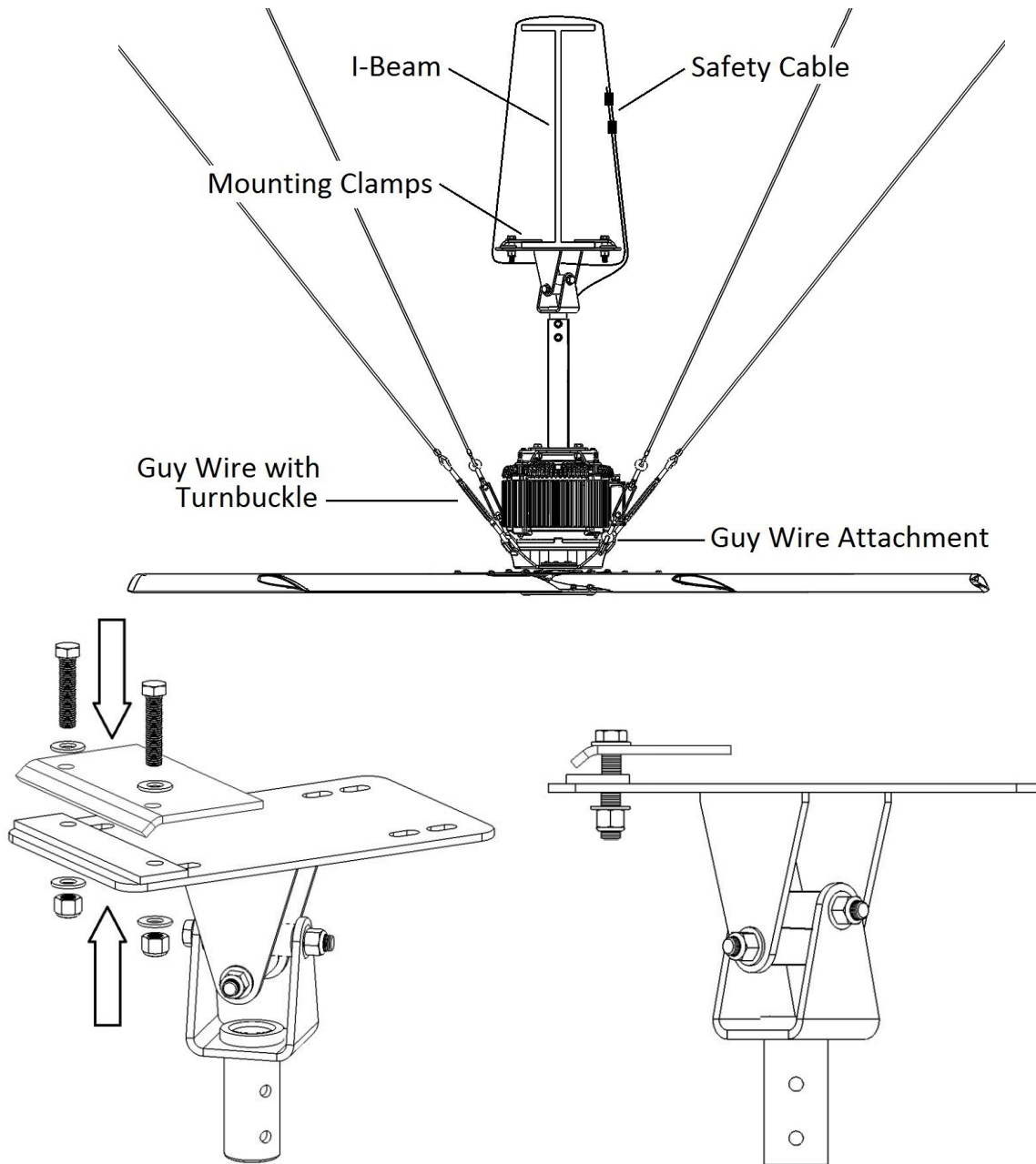
I-Beam Installation Overview



1. Mount Fan Unit to base of Universal Mount or Rapid Mount (not shown) using hardware pack, combination wrench, and socket wrench.
2. The Safety Cable needs to be fed around I-Beam and through fan unit frame.
3. The Control Panel must be secured to the I-Beam at least 5 feet outside of the swept area.

I-Beam Mounting

This method is recommended for I-beams 6-1/2" or wider.



1.) Hand tighten Nuts to secure Clamp and Shim in place.

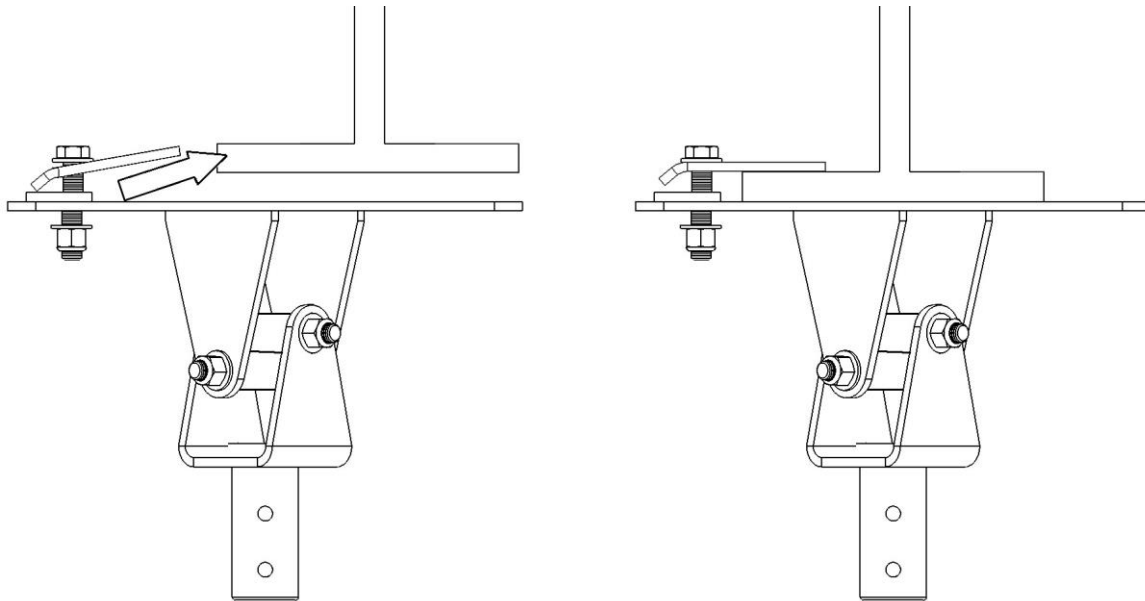
2.) Assemble one side of I-Beam Mount with (1) Clamp, (1) Shim and Hardware.

Note: Universal Mount shown in these instruction Views. The same instructions apply to the Rapid Mount (not shown).

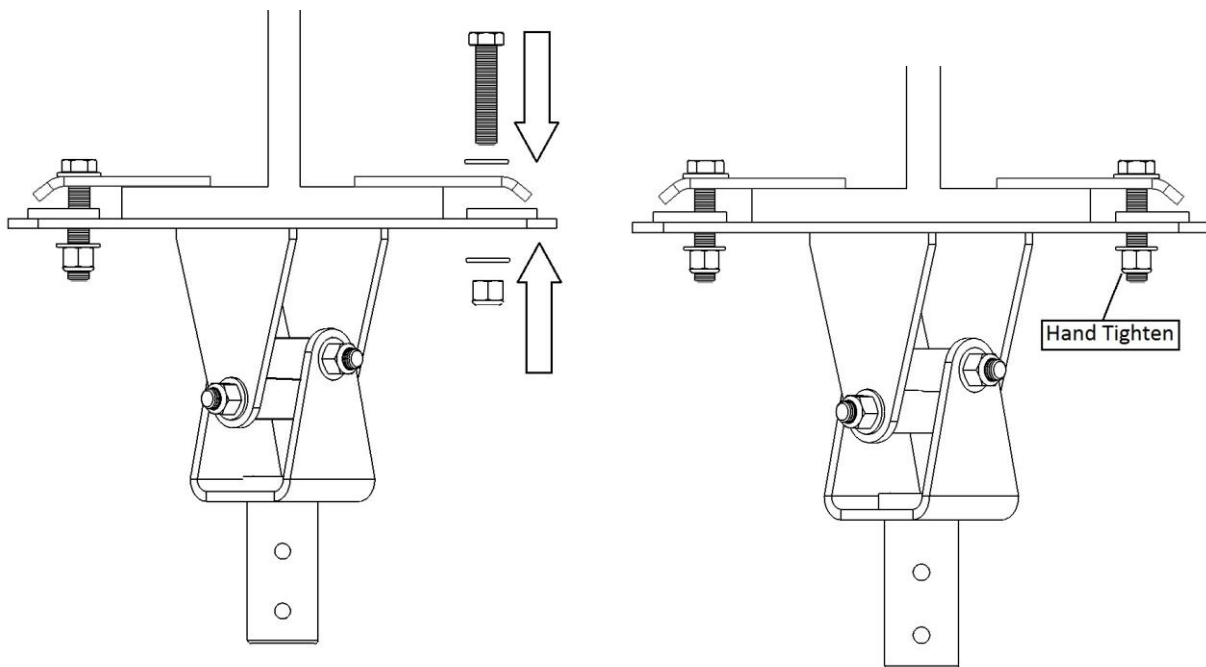
I-Beam Clamps & I-Beam Bolt Kit

- (2) I-Beam Clamps
- (2) I-Beam Shims
- (4) Hex Bolts 1/2"-13x2-1/2"
- (8) Washers, 1/2" Flat
- (4) Hex Nuts 1/2"-13, Nylon Lock

I-Beam Mounting (cont.)



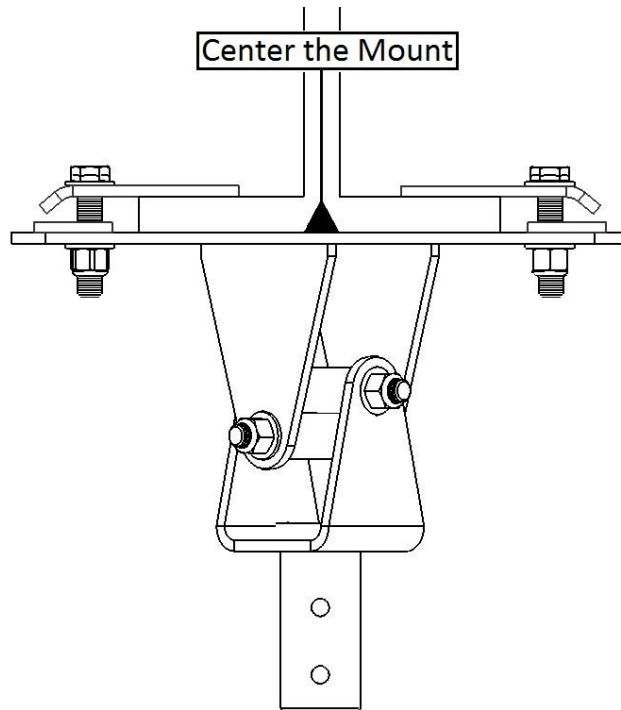
3. Position the Universal Mount or Rapid Mount (not shown) under the I-Beam so that one side of the beam is between the clamp and the mount.



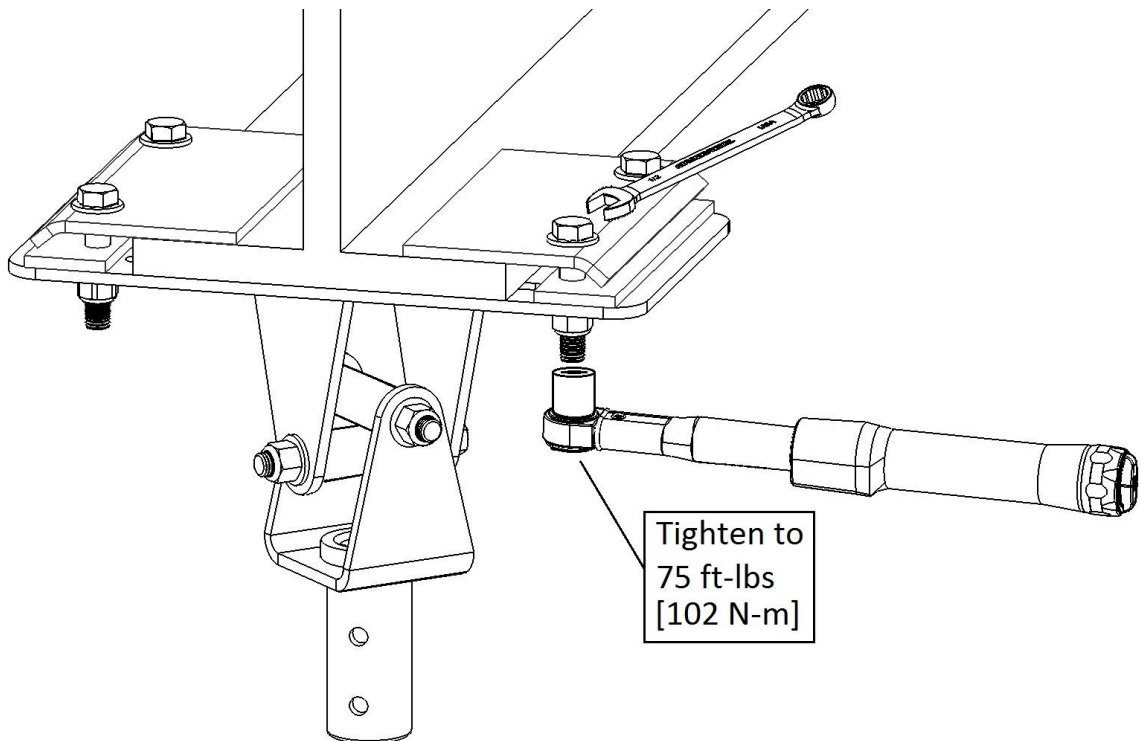
4. Assemble other side of I-Beam Mount with (1) Clamp, (1) Shim and Hardware.

5. Hand tighten nuts to secure Clamp and Shim in place.

I-Beam Mounting (cont.)

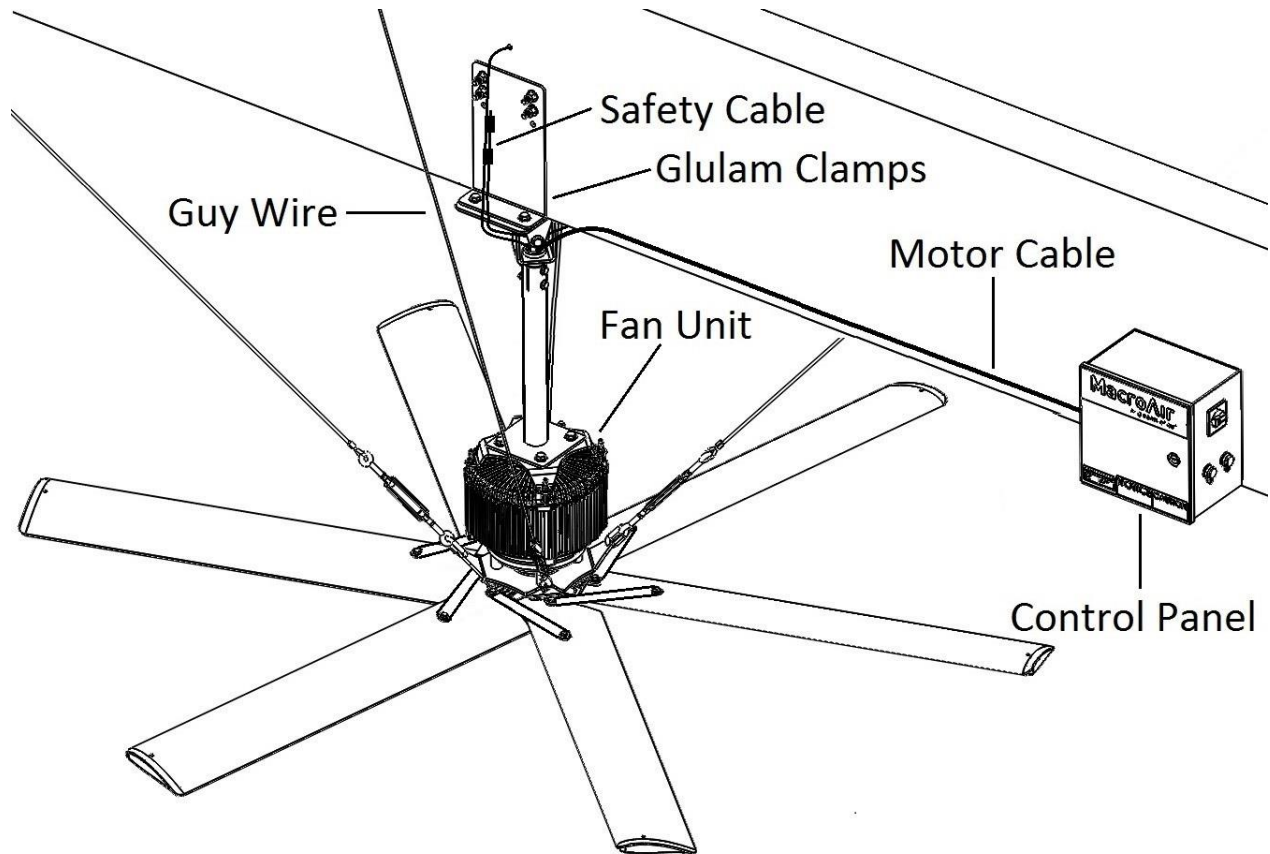


6. Center the Universal Mount or Rapid Mount (not shown) on the I-Beam.



7. Using a 3/4" combination wrench and a 3/4" socket and torque wrench, tighten all hardware to 75 ft-lbs. [102 N-m] on Universal Mount. **Tighten all hardware to 30 ft-lbs. [41 N-m] on Rapid Mount (not shown).**

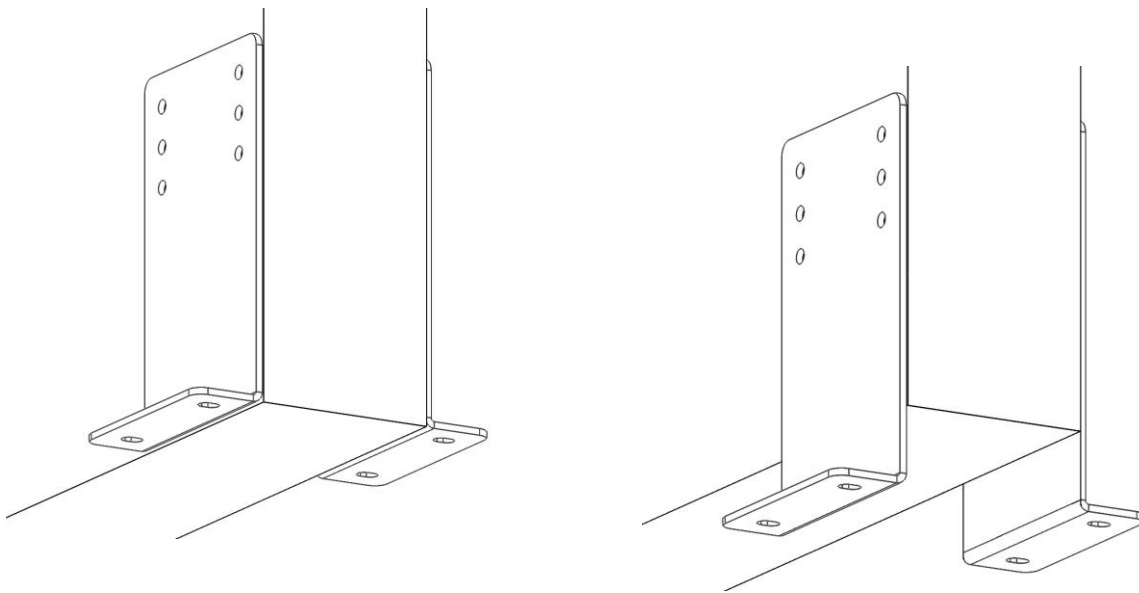
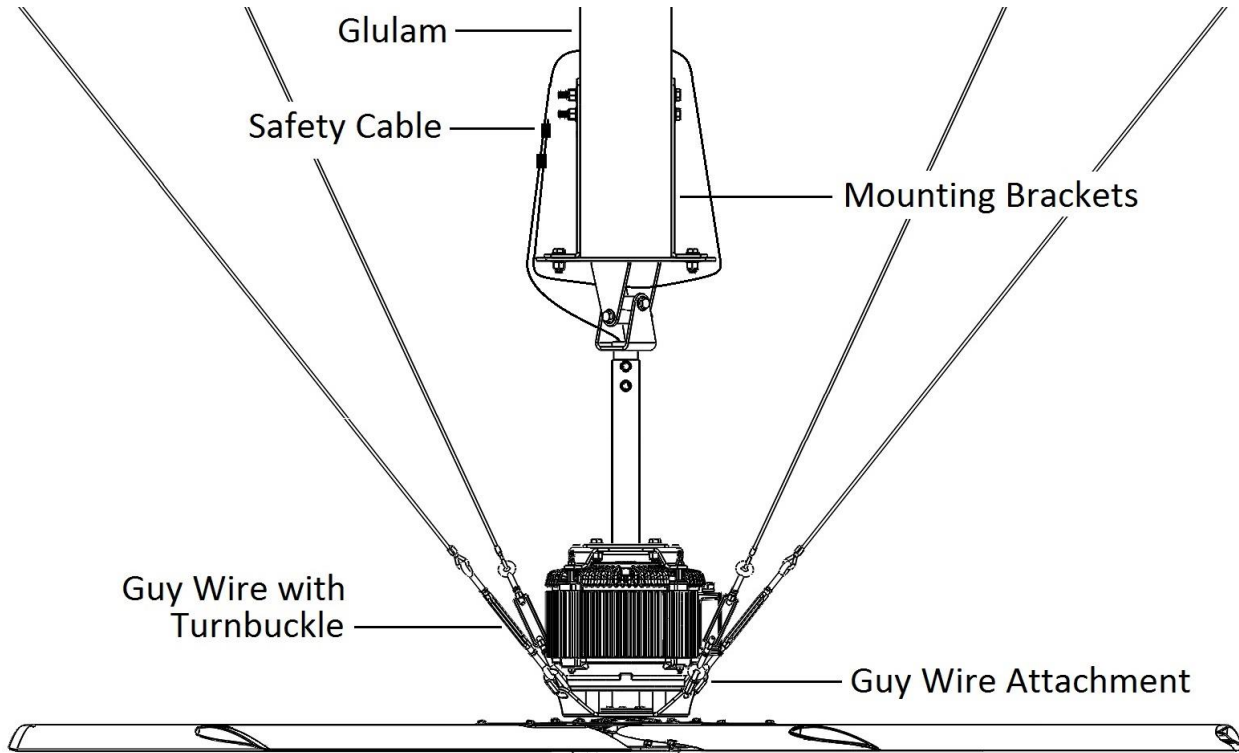
Glulam Installation Overview



1. The Safety Cable needs to be fed through a hole in the Glulam, preferably above the center line of the Glulam.
2. The Control Panel must be secured to the Glulam via wood screws at least 5 feet outside of the swept area.
3. The Glulam brackets need to be through-bolted to the Glulam as high as possible.
4. Attach fan frame to the bottom of the Universal Mount or Rapid Mount (not shown) with the provided hardware, combination wrench, and socket wrench.

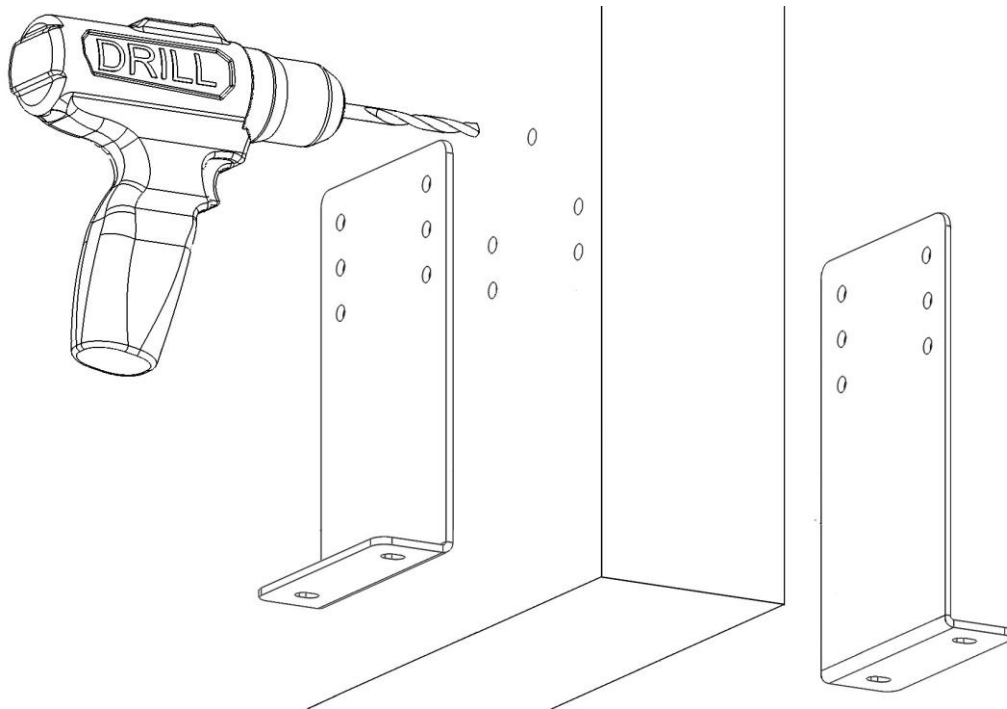
Glulam Mounting

This method is recommended for Glulams or wood beams 5-1/8" or wider. For narrower beams, span across two or more beams using the Unistrut mounting method. (Refer to page 24)

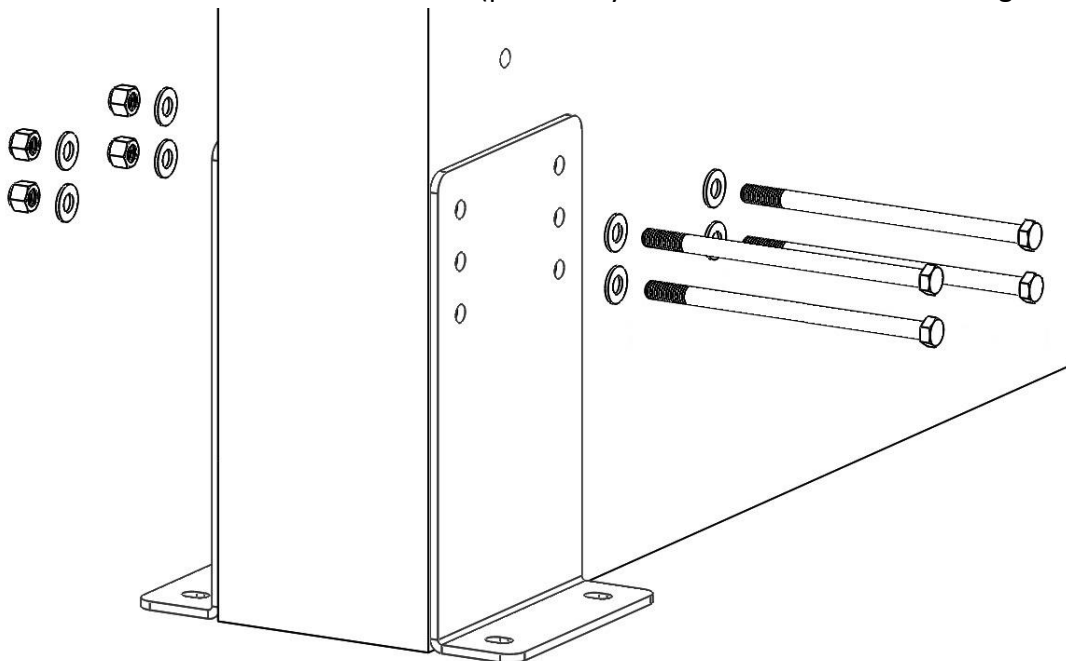


1. The Brackets can be located below the glulam if necessary but is not recommended. Locate brackets even with bottom of glulam.

Glulam Mounting (cont.)

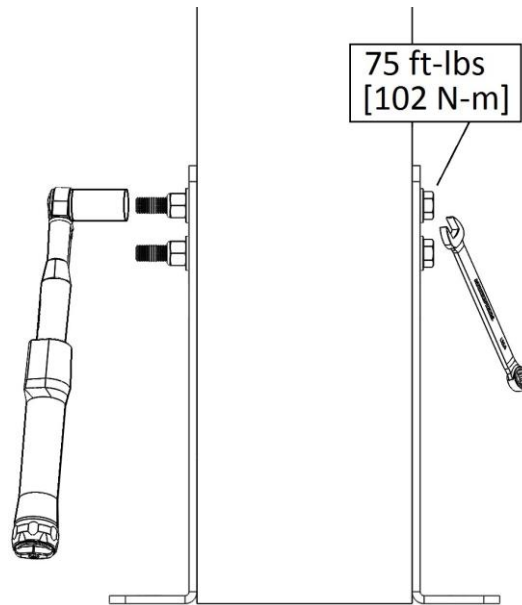


2. Drill maximum 5/8" diameter clearance holes through the glulam for (4) 1/2"-13 mounting bolts and (1) hole for the 3/16" diameter safety cable. The highest bolt hole should not be below the beam's center line unless the glulam is too tall. The hole for the safety cable should be centered above the brackets (preferably above the center line of the glulam).

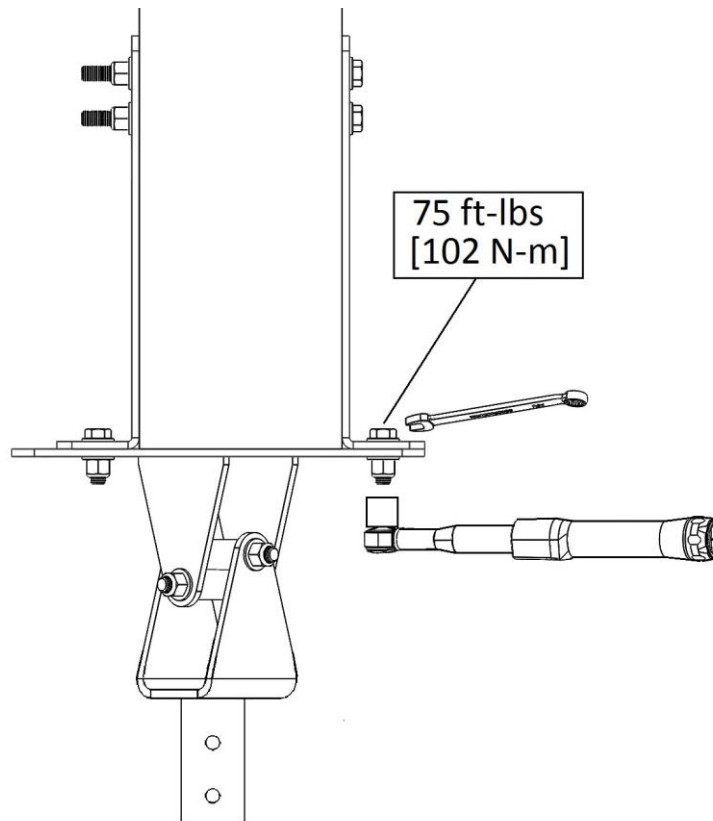


3. Secure the Glulam brackets to the Glulam via (4) 1/2"-13 grade 5 bolts (long enough to go through the entire beam with nylon lock nuts). Stack the Bolt, washer, washer, nut as shown above.

Glulam Mounting (cont.)



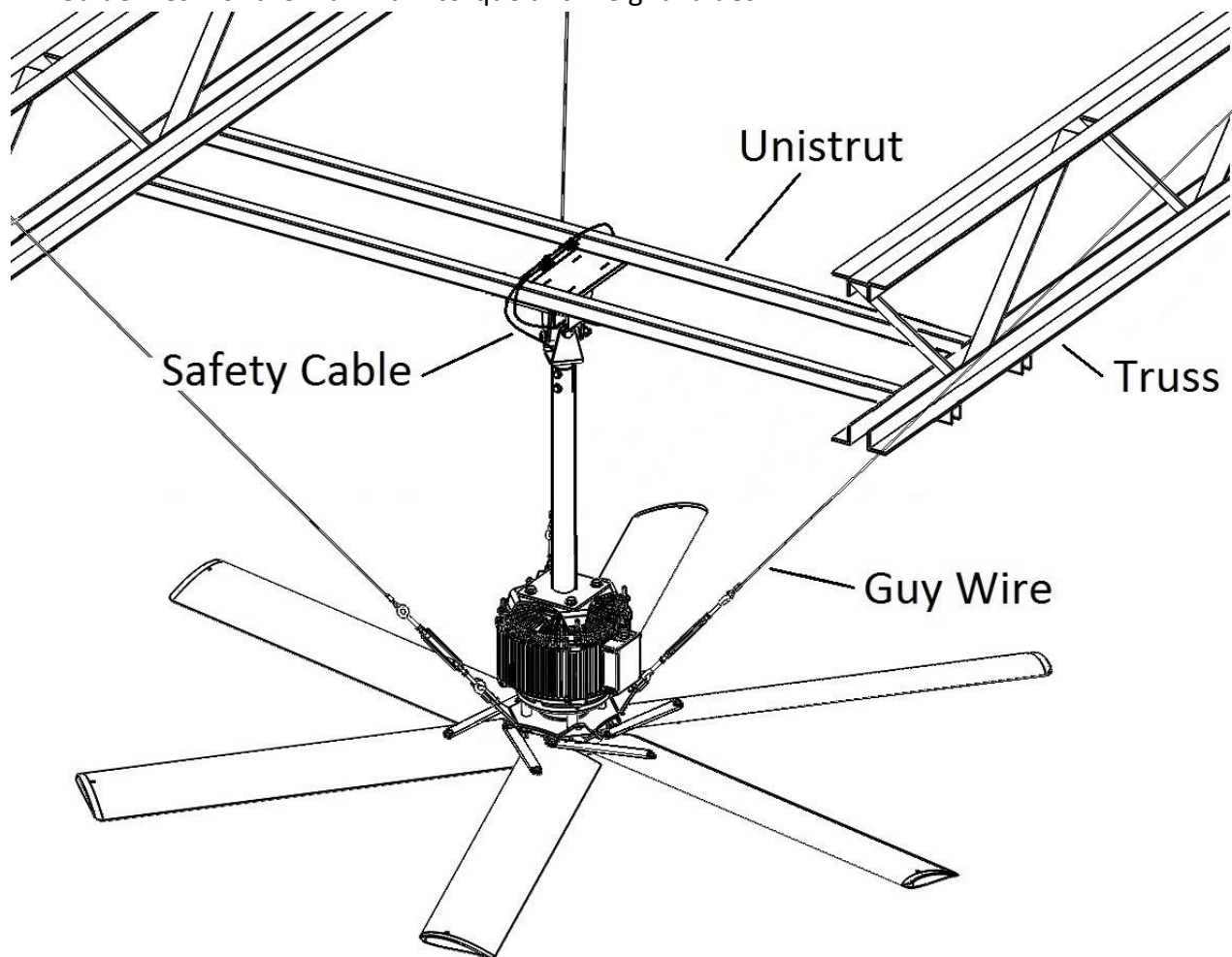
4. Using a 3/4" combination wrench and a 3/4" socket and torque wrench tighten all hardware to 75 ft-lbs. [102 N-m].
5. Mount the Universal Mount or Rapid Mount (not shown) to the glulam brackets using the Mount Bolt Kit which contains (4) 1/2"-13 x 1.50" Hex Bolts, (8) 1/2" Washers and (4) 1/2"-13 Nylon Lock Nuts. Using a 3/4" combination wrench and a 3/4" socket and torque wrench tighten all hardware to 75 ft-lbs. [102 N-m].



Unistrut Mounting

This method is used to span components of a building structure. Attachment points to the building structure can vary greatly, contact Unistrut, so they can recommend the best method for attaching the Unistrut (www.unistrut.us).

1. Two (2) pieces of 1-5/8" x 1-5/8" 12-gauge Unistrut need to span the trusses. Distance apart to be centered over the widest hole pattern in the Universal Mount or Rapid Mount (not shown) being used (see step 2). An "Extra Wide" Universal Mount may be desired for this application. Maximum allowable distance between trusses is 8 feet. If the spanning distance is greater than 8 feet, please consult a Structural Engineer. Please refer to page 5 "Mounting Guidelines" for the maximum torque and weight values.

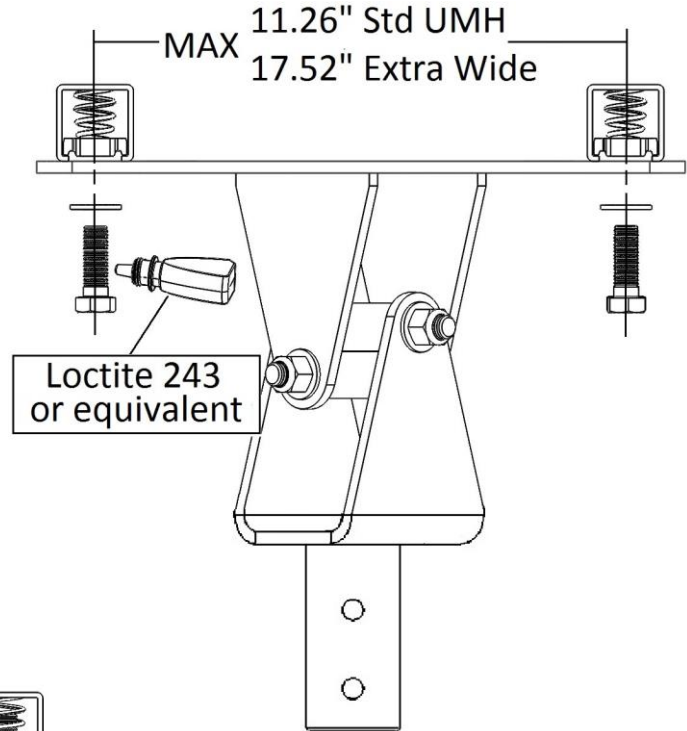


Hardware Required but Not Provided:

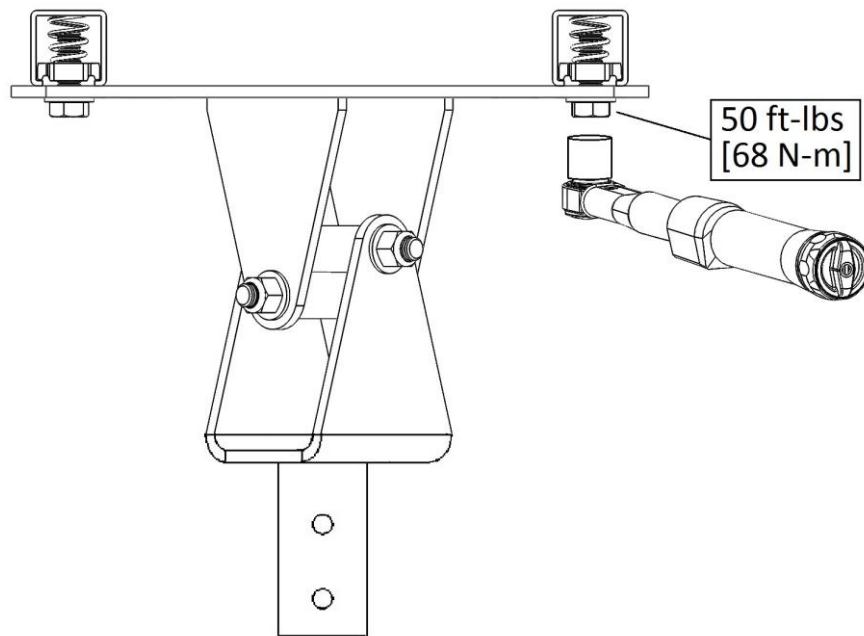
- (4) 1/2"-13 x 1-1/2" Hex Bolts, GR5
- (4) 1/2" Flat Washer
- (4) 1/2" Unistrut Spring Nut
- (1) Loctite 243 (or equivalent)

Unistrut Mounting (cont.)

- Attach the Universal Mount or Rapid Mount (not shown) in the most desired position between the trusses using hardware indicated (not provided). Apply Loctite 243 (or equivalent) to the 1/2"-13 bolts prior to mounting. Unistrut clamps are not permitted in this mounting method.



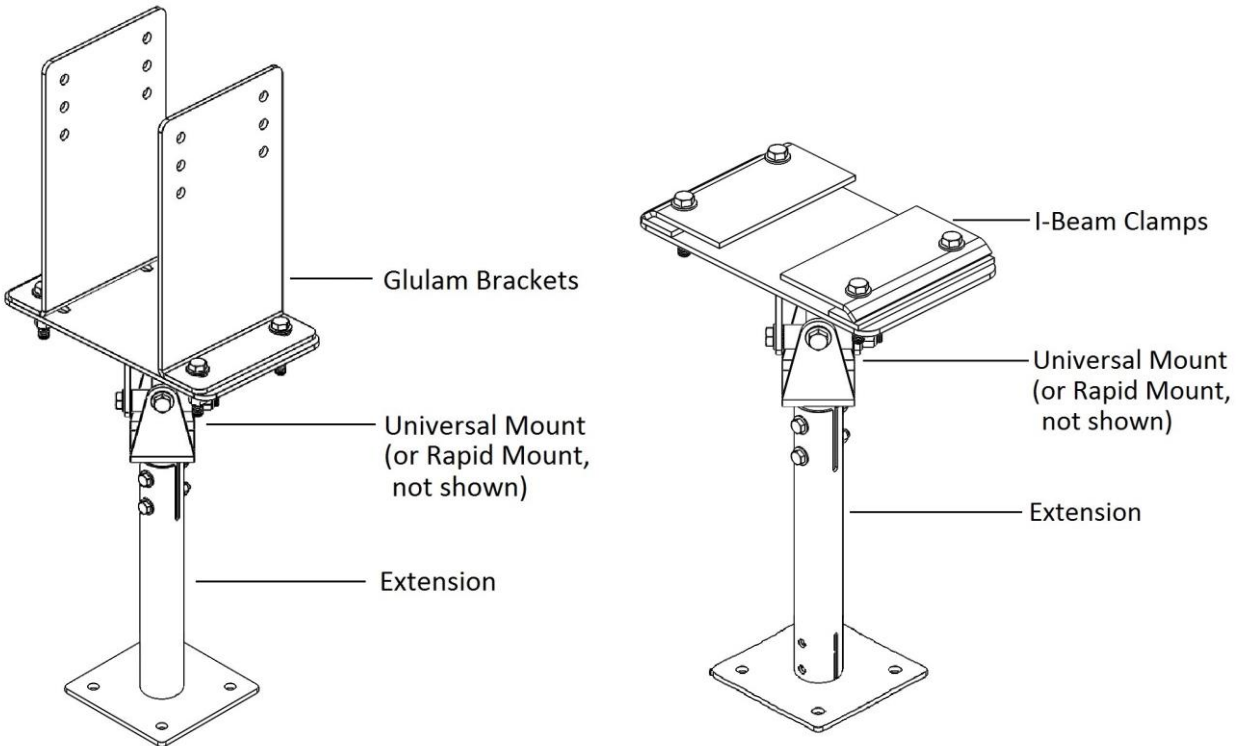
- Using a Torque wrench, tighten hardware to 50 ft-lbs [68 N-m].



NOTE: Mounting to C- and Z-purlins requires Unistrut span mounting. Contact Unistrut, so they can recommend the best method for attaching the Unistrut (www.unistrut.us).

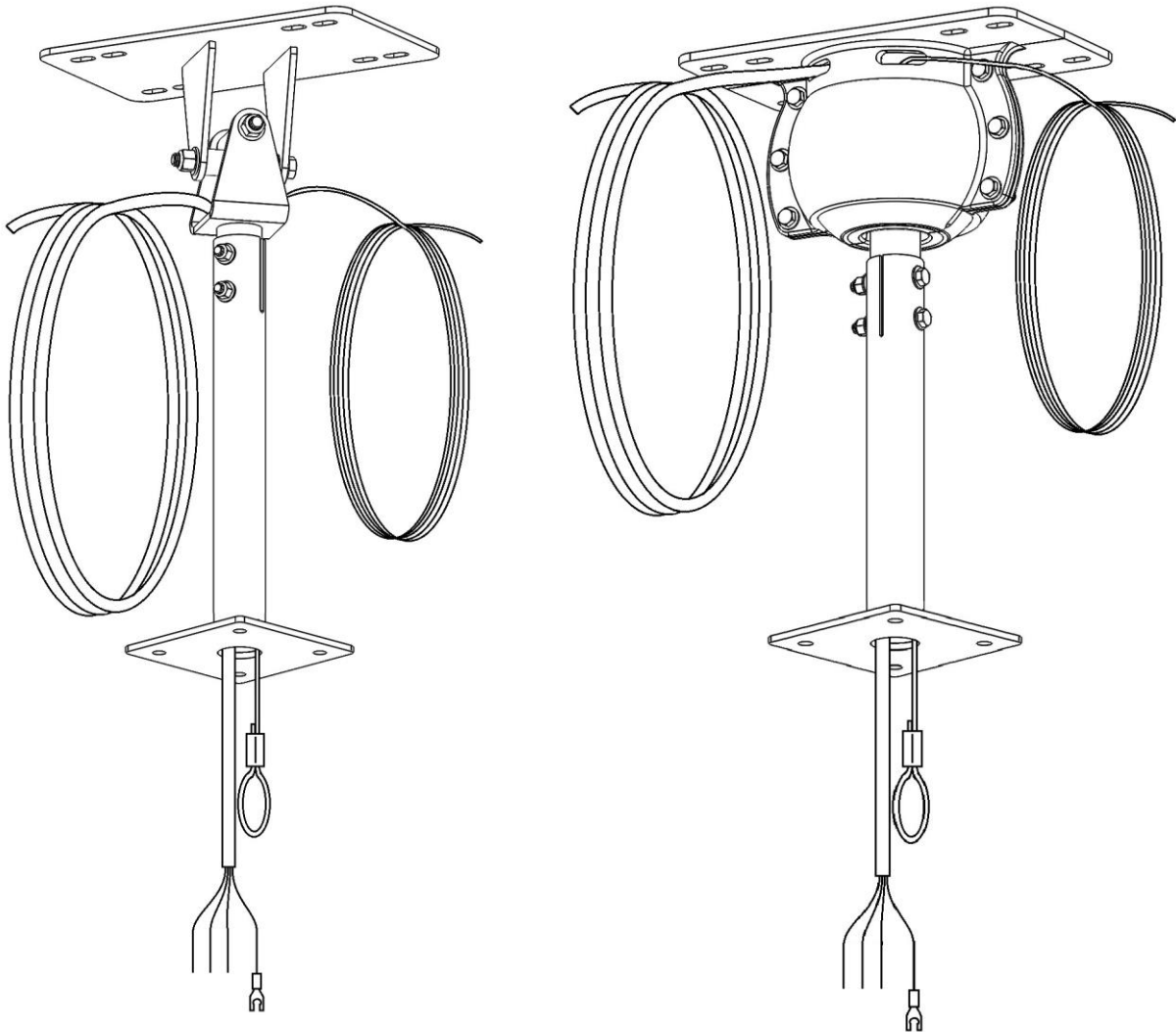
Mounting to trusses under three (3) inches in width requires two or more trusses to be linked with Unistrut.

Mounting the Extension



1. Attach the extension to the bottom of the Universal Mount or Rapid Mount (not shown). Tighten hardware to 30 ft-lbs [41 N-m] using torque and combination wrenches.

Motor and Safety Cable Routing

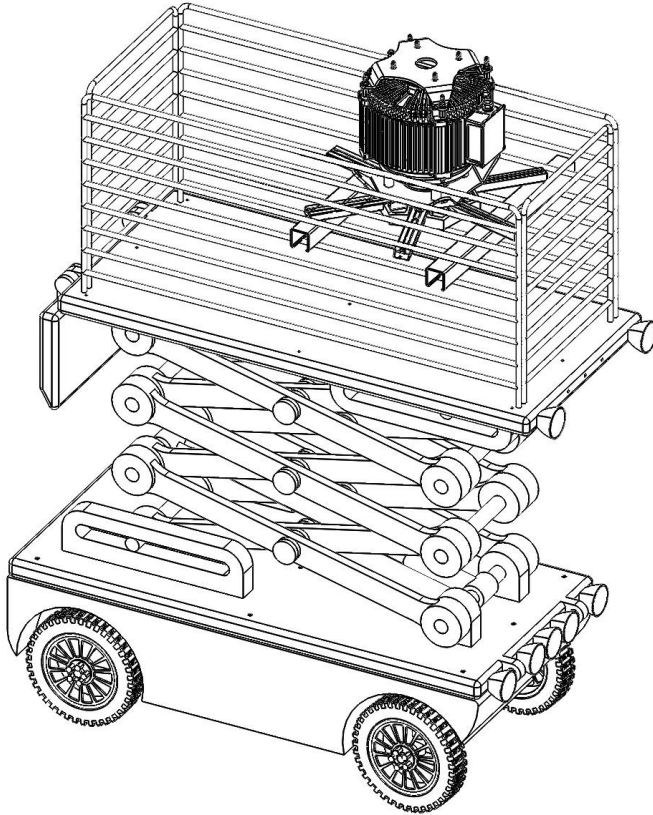


The motor cable and the safety cable are to be routed through the mount and extension as shown above, after the mounts have been properly secured to the building (not shown above).

Mounting the Motor Unit

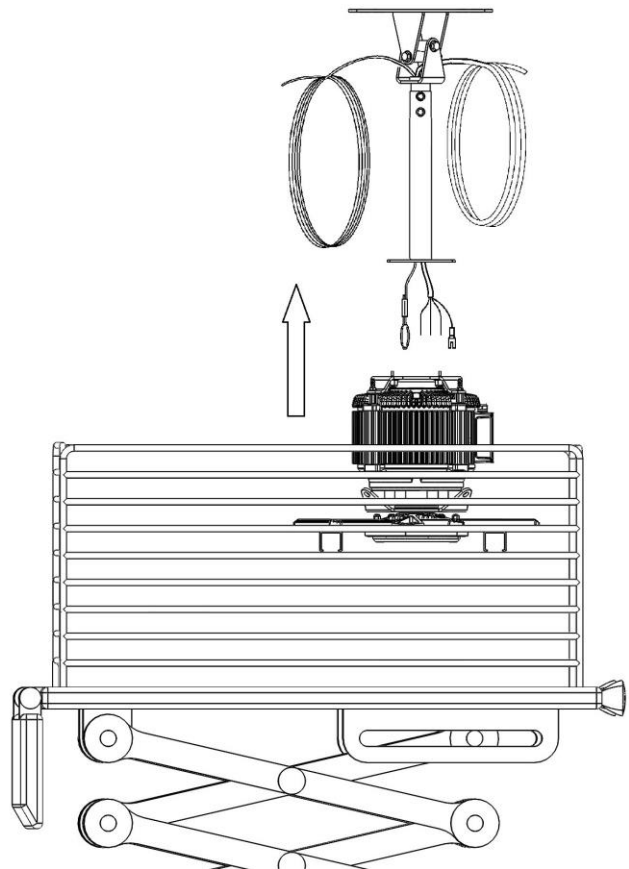
⚠ WARNING: The fan must be lifted by the struts.

1. Set the fan unit on its struts on a pair of Unistrut cross bars to raise the fan on a lift. Two people can lift the fan if a lift is not available.



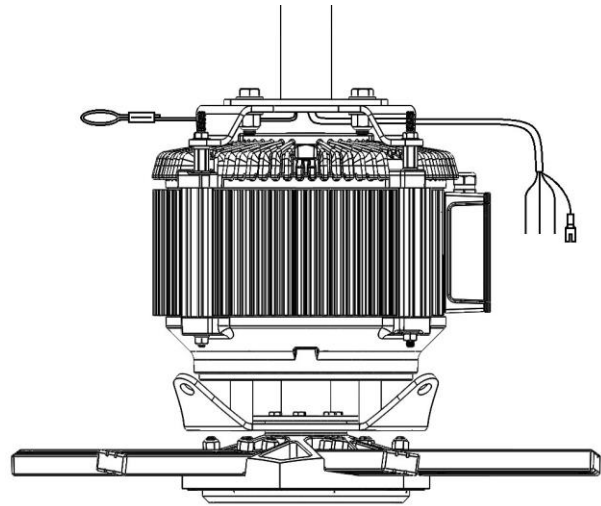
2. Raise the fan and carefully guide the motor mounting top plate onto the extension tube. Feed the safety cable and motor cable through the motor top plate.

⚠ CAUTION: Do not put force onto the building with the lift.

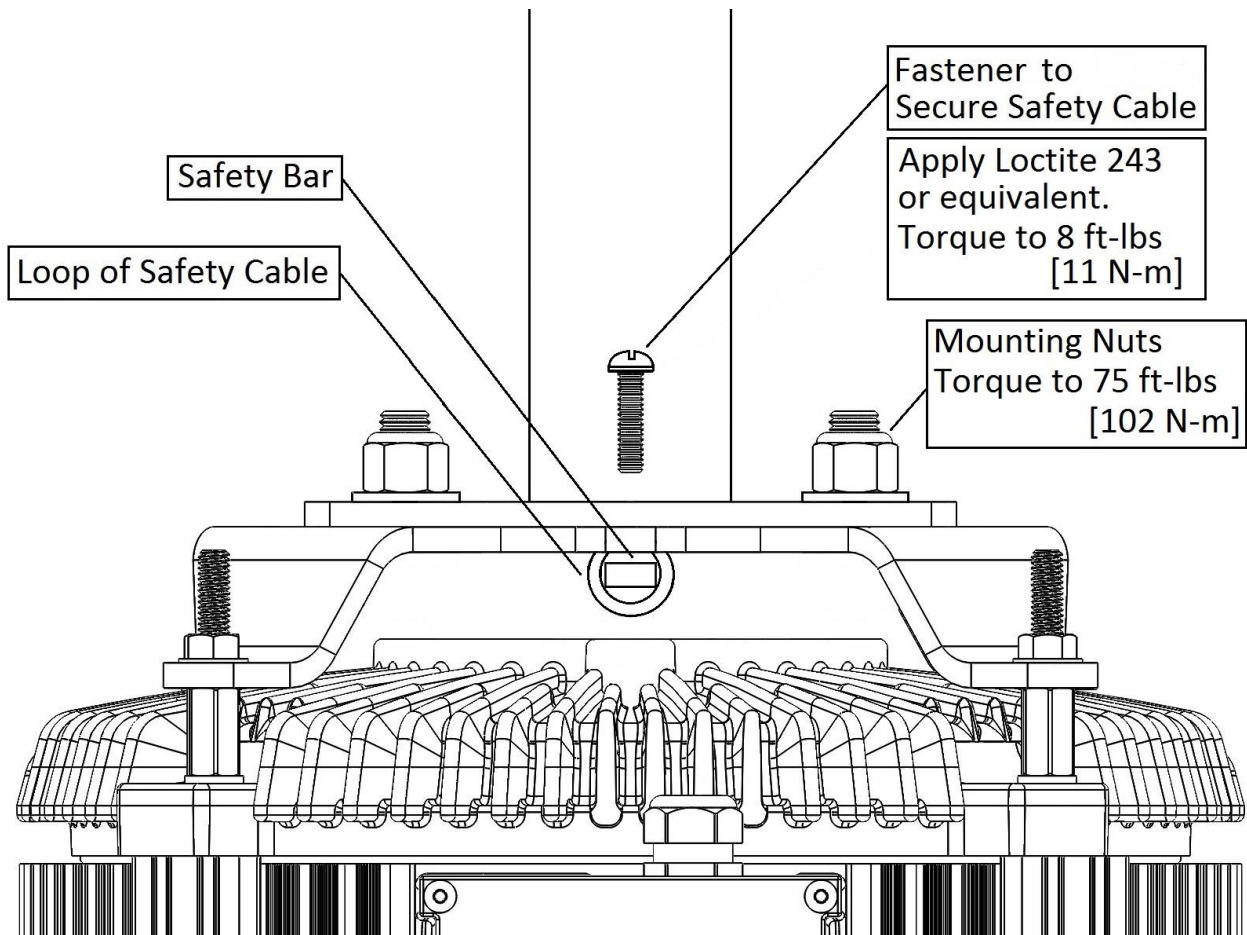


Mounting the Motor Unit, cont.

- When the motor is mounted to the bottom of the extension, the motor cable and safety cable will be passed through the fan's top mounting bracket for connection to the fan unit. This procedure is discussed in the following instructions.



- Bolt the extension tube mounting plate to the motor top mounting plate. Torque nuts to 75 ft-lbs [102 N-m].
- Be careful of the wires protruding from the extension tube.

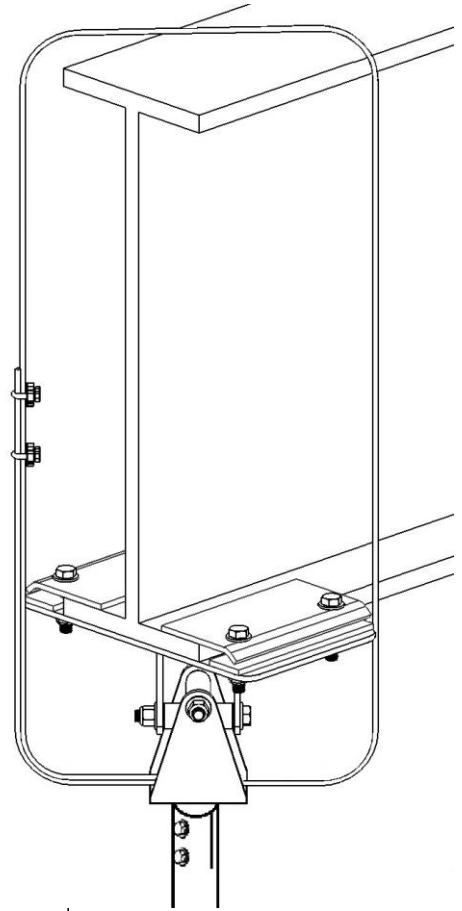
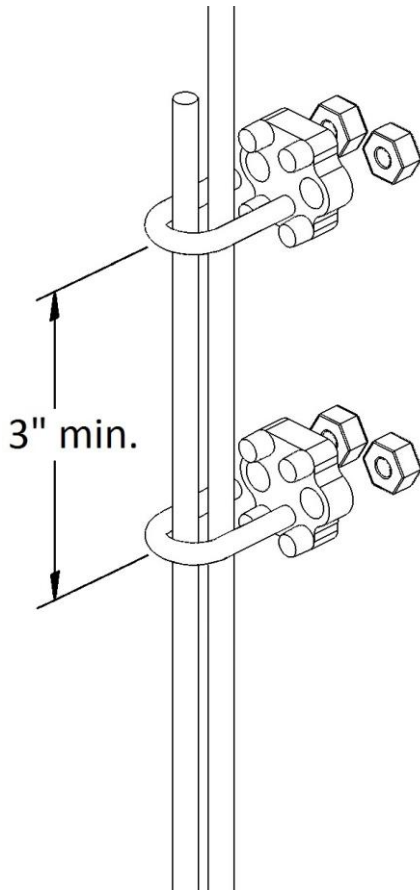


- Attach the safety cable to the motor top mounting plate by placing the loop of the safety cable around the safety bar and then attaching the bar to the underside of the motor top plate with supplied fasteners.

Safety Cable Installation

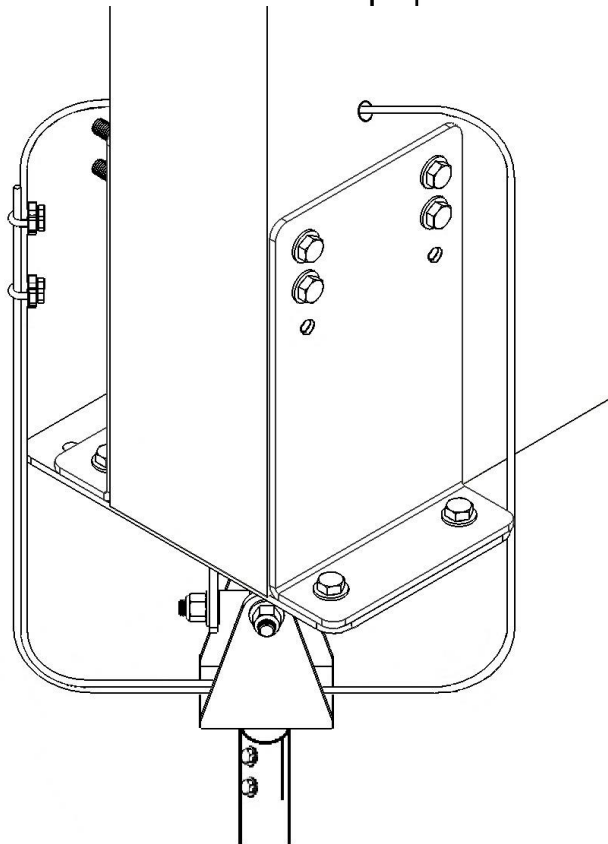
I-Beam

1. Wrap safety cable from extension and mount, around I-beam multiple times.
2. Secure two (2) safety cable clamps around the wire. Pull the cable taut and tighten both nuts using 3/8" combination wrench.



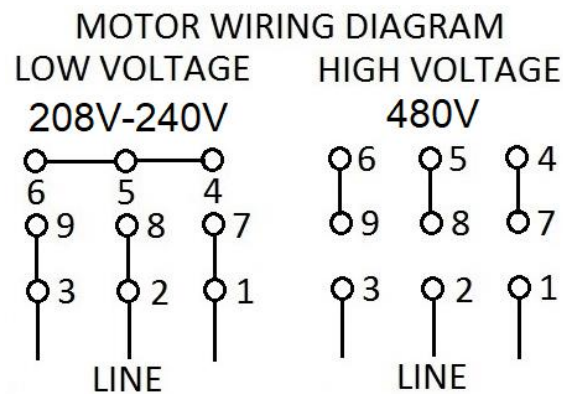
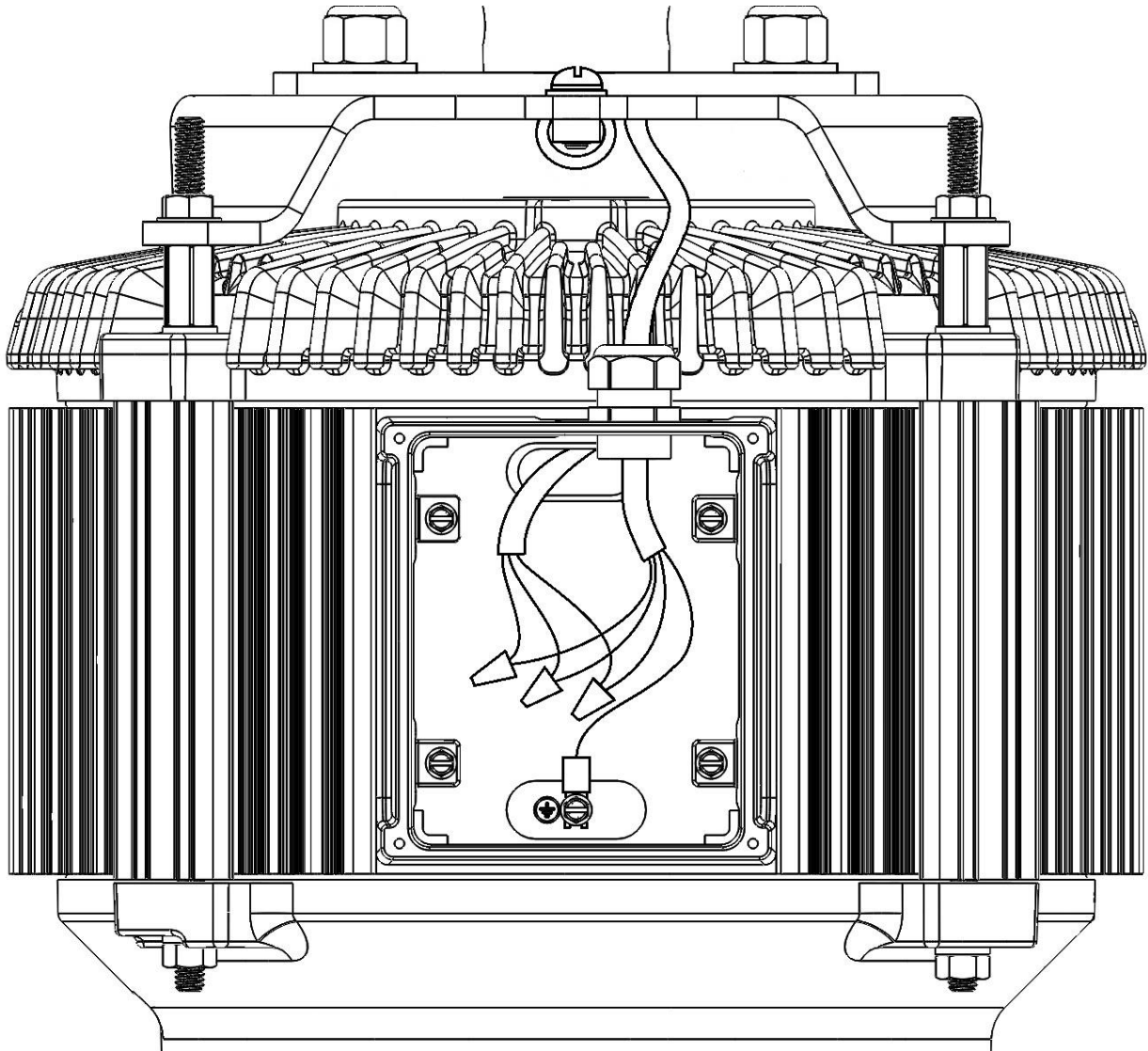
Glulam

1. Wrap safety cable through fan unit frame and through hole drilled in Glulam above brackets.
2. Secure two (2) safety cable clamps around the wire. Pull the cable taut and tighten both nuts using 3/8" combination wrench.

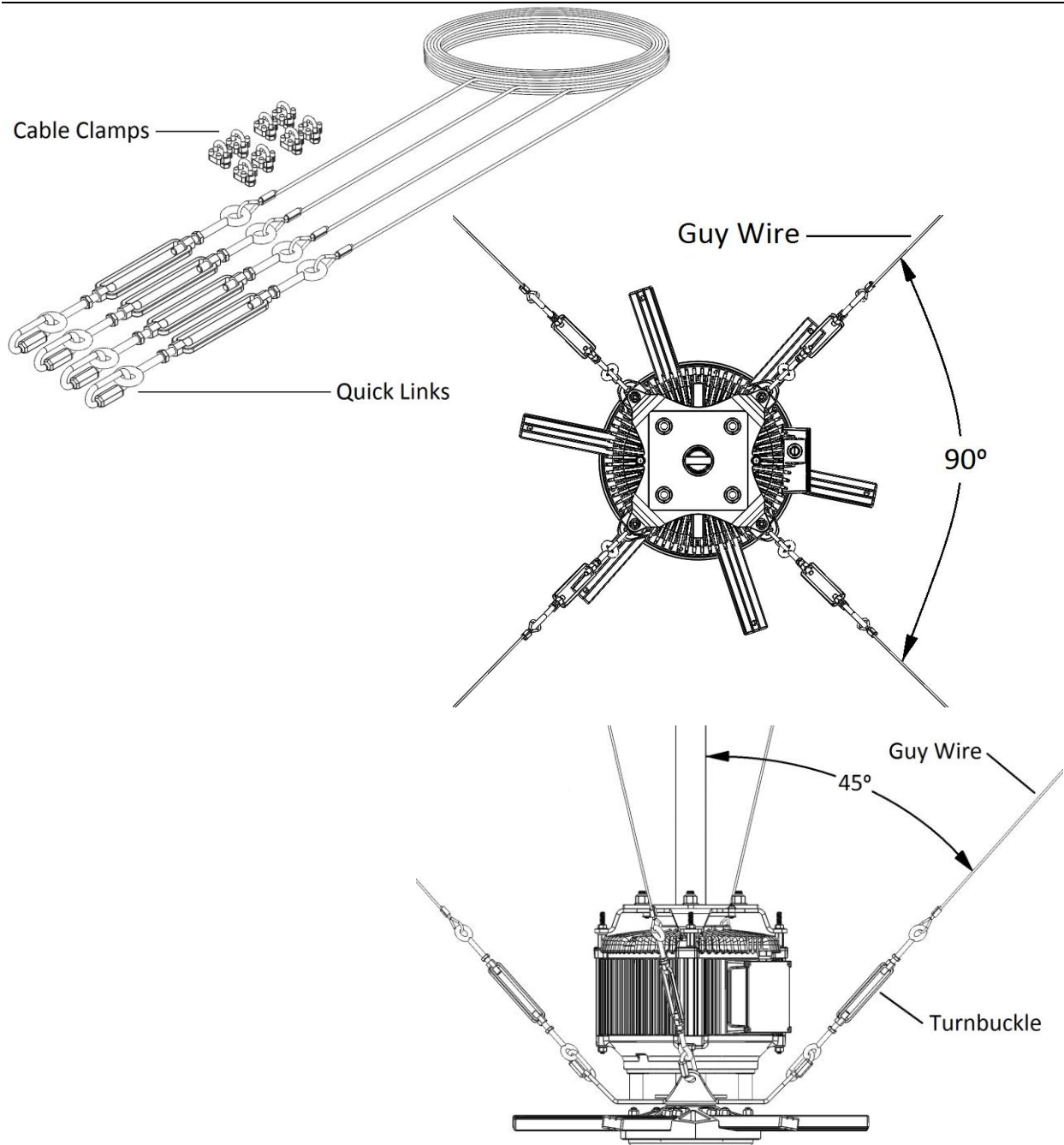


Motor Cable Connection

1. Pass the wires protruding from the extension tube through the supplied cable gland and into the motor electrical box. Connect wires with wire nuts (not supplied). Attach ground wire according to electrical schematic. Reference the Motor Wiring Diagram shown below.



Guy Wire Installation



⚠ ATTENTION: Guy Wires are required when a Universal Mount is used to mount the fan. Guy wires may be used as an option when a Rapid Mount is used. Guy wires are cut to a predetermined length.

1. Attach the turnbuckle end of the guy wires to the four corners of the base of the frame through the hole provided at each corner.
2. When laying out the locations of the guy wire mounting points, **attempt to maintain a 45-degree angle** between the ceiling and the guy wires and a **90-degree angle** between each guy wire. All guy wires must have the same angle to ceiling, and same angle between wires.

Guy Wire Installation, cont.

3. Avoid any sharp edges that may contact the guy wire. Guy wires need to be attached to the building structure via 1/2" eye lags or 1/2" eye bolts. Secure the cables with the provided cable clamps (see step 4). Eye Lags or eye bolts are not supplied by MacroAir.

⚠ WARNING: DO NOT wrap the guy wires around the building structure.

4. Tighten down cable clamp nuts with a 10mm socket wrench.

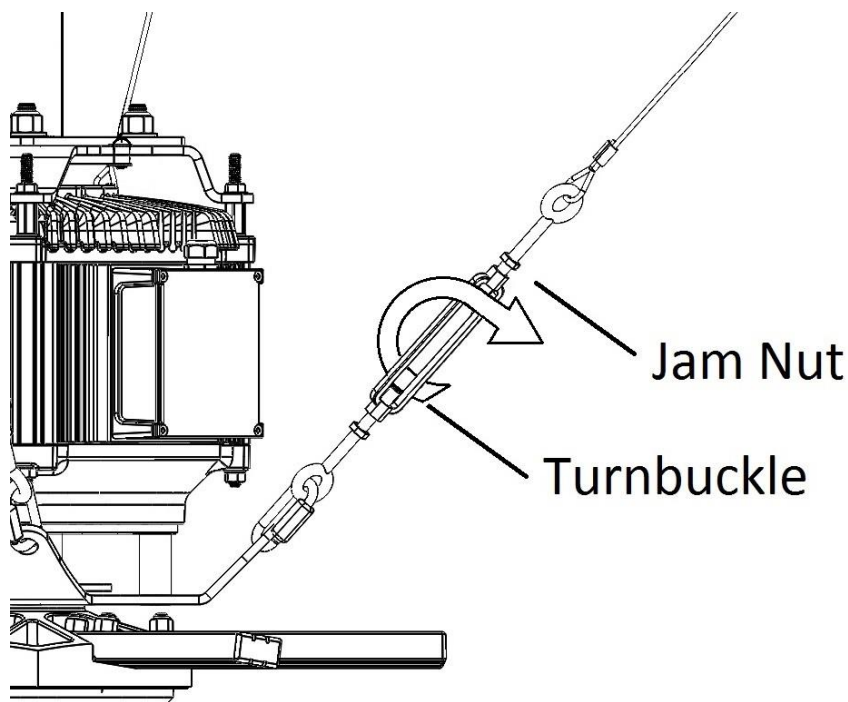
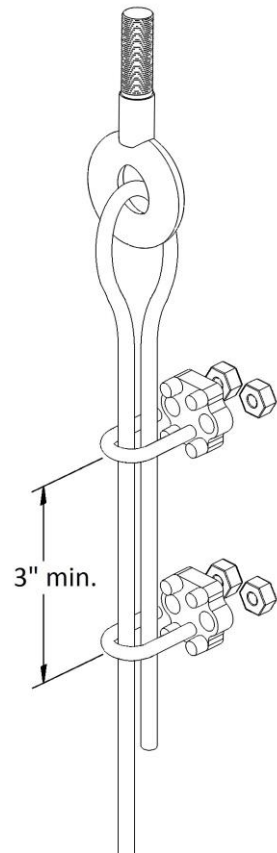
Guy Wire Tightening

5. With the aid of a level placed against the fan unit, tighten the turnbuckles **by hand** in a crisscross pattern while periodically checking to ensure that the fan is level.
6. Tighten the turnbuckles until the fan unit is stable in the level position.

⚠ WARNING: Make sure to not overtighten the turnbuckles.

7. Once all the guy wires are taut (stretched or pulled tight with no slack) and the fan unit is stable and level, tighten the jam nuts on the turnbuckles with a 1/2" combination wrench.

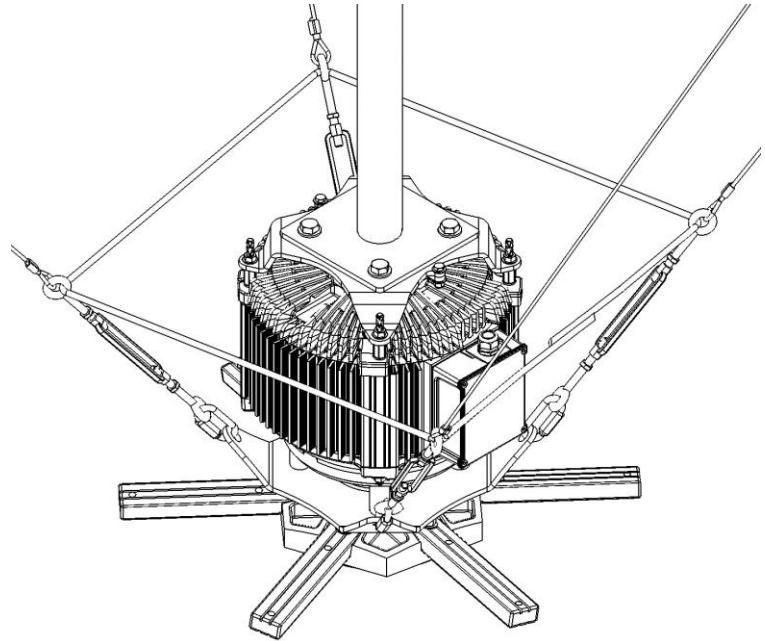
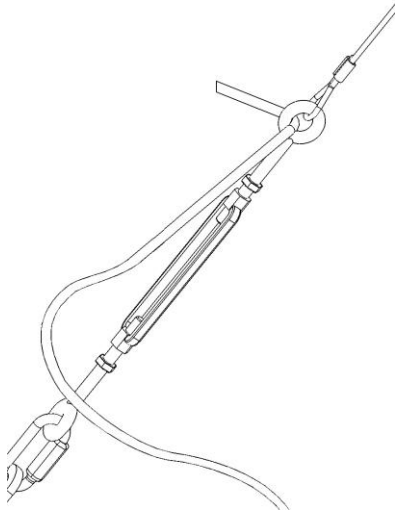
⚠ WARNING: Do not use tools to tighten the turnbuckles; only use tools to tighten the jam nuts.



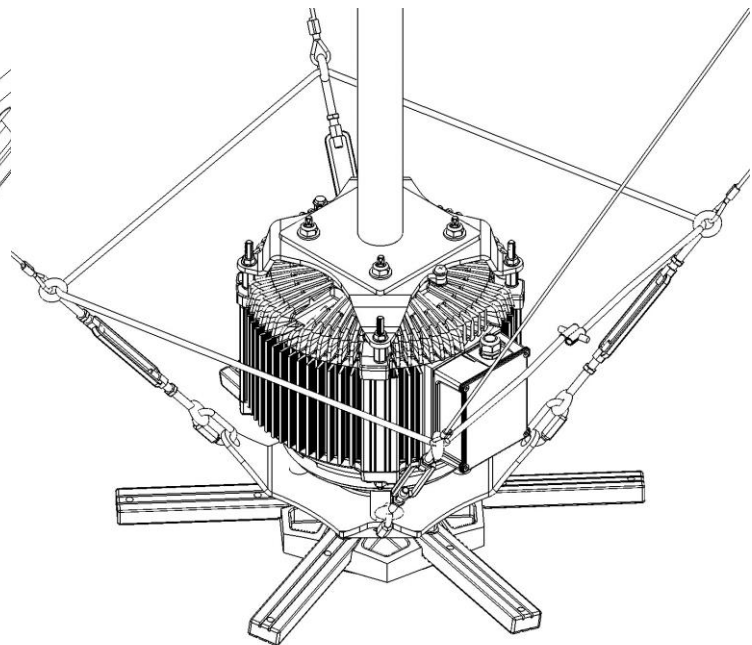
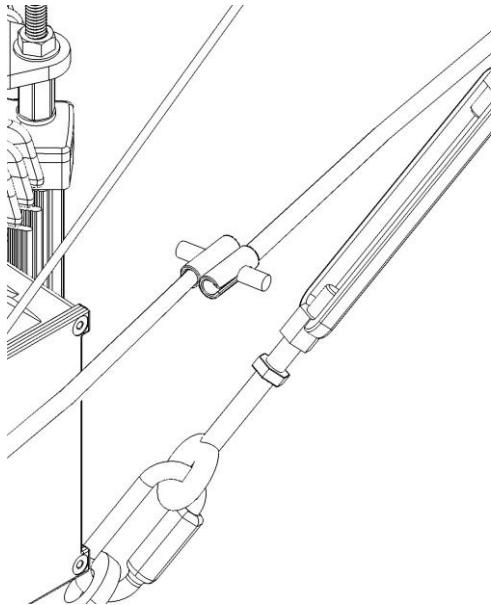
Guy Wire Band Installation

⚠ ATTENTION: The Guy Wire Band is required when Guy Wires are installed.

1. Insert the elastic cord through the top eyelet of each of the 4 turnbuckles.



2. Pull one of the ends of the cord through one of the holes on the cable lock and then pull the end into the groove to lock it. Use pliers to properly secure the cord in the groove of the cable lock.
3. Repeat the previous instruction for the second end of the cord using the opposite hole and groove on the cable lock.



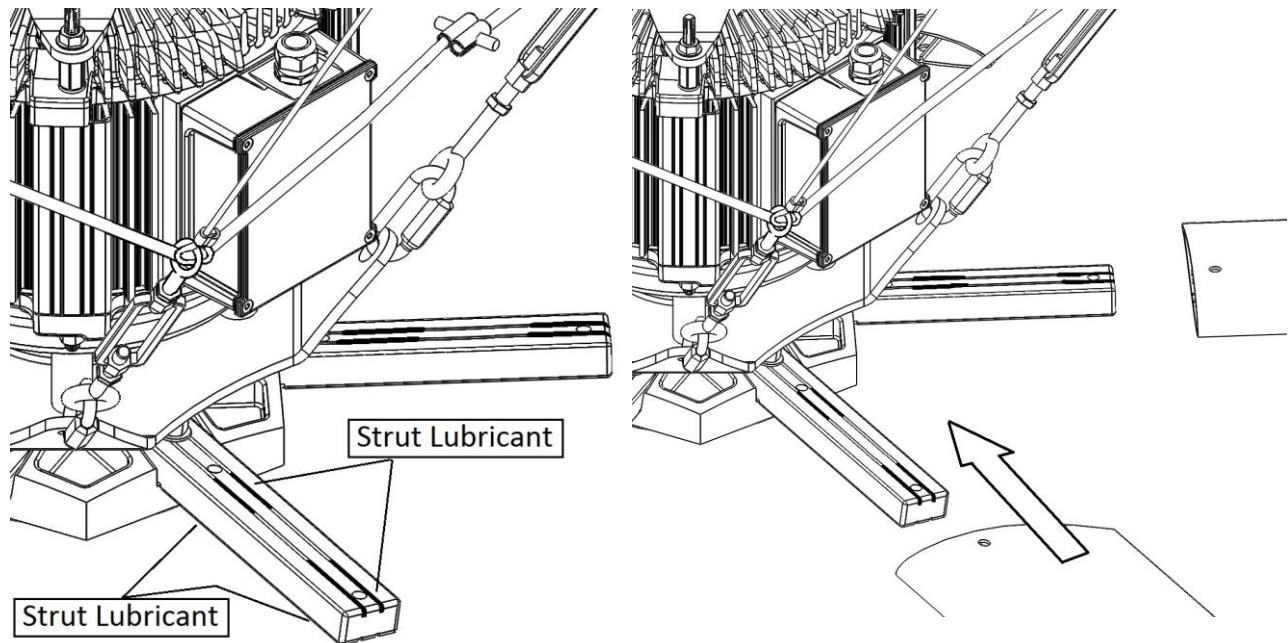
4. The safety cord should be pulled tight and fastened as shown.

DO NOT EXCESSIVELY STRETCH THE ELASTIC SAFETY CORD.

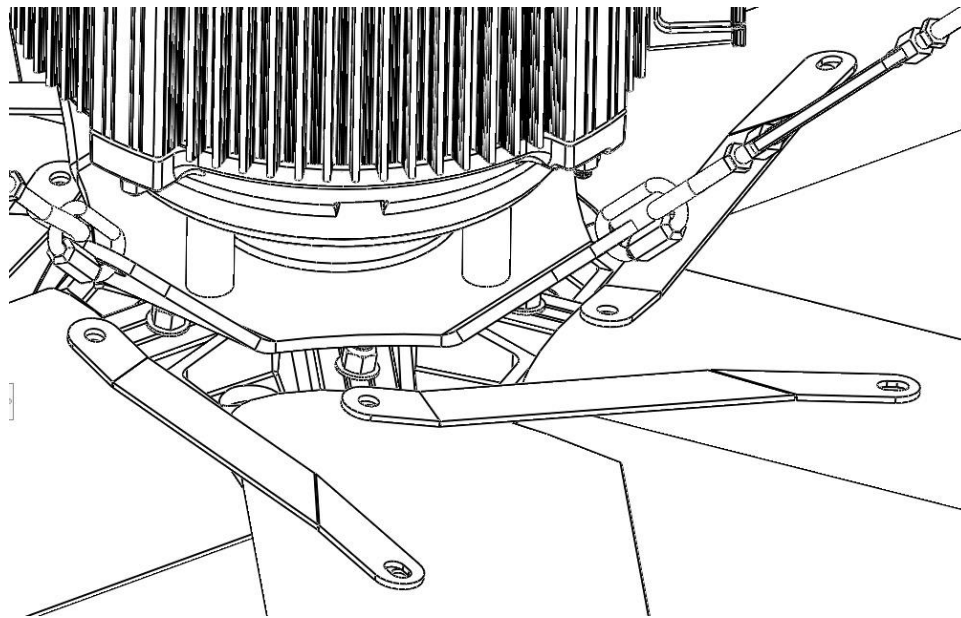
Blade & Safety Link Assembly

1. Apply the provided lubricant in 4 spots on the top and 4 spots on the bottom of each strut as indicated. Each line of lubricant should be in a groove of the strut, starting at the tip of the strut, approximately 1"-1.5" long and spaced as indicated.

NOTE: The lubricant should reach the top of the groove. It is not necessary to use the entire tube.



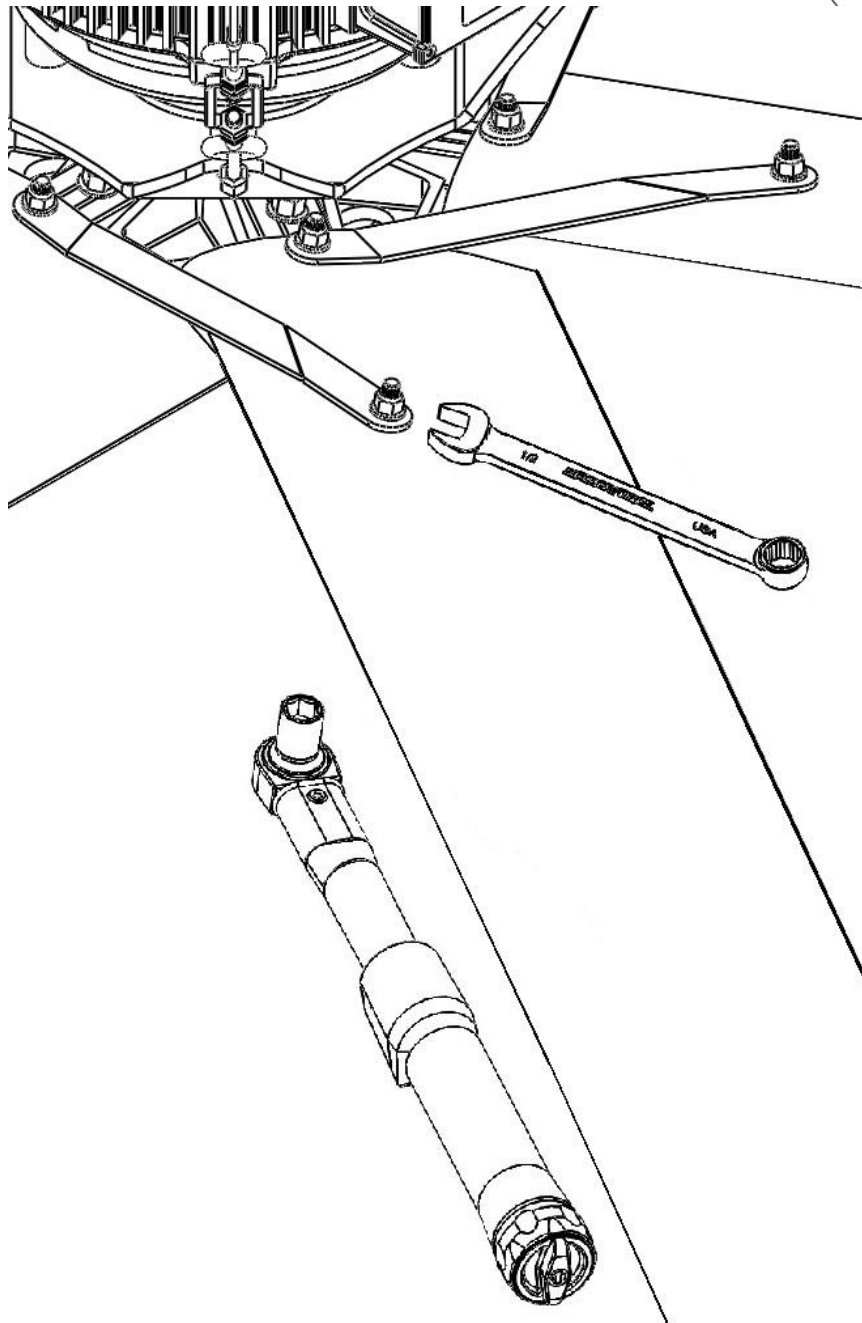
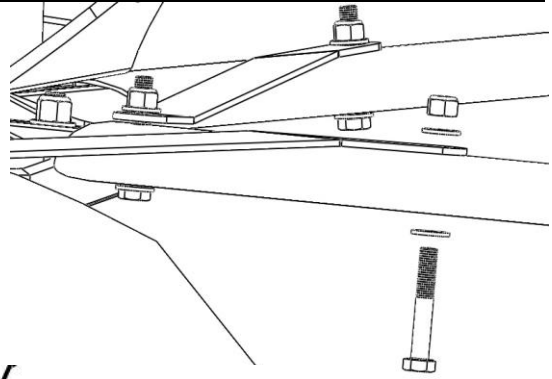
2. Slide the blades onto the blade struts and align the mounting holes in the blade with the mounting holes in the blade struts.



3. Once all the blades are in place, install the safety retainer links.

Blade & Safety Link Assembly (cont.)

4. With the blades and the safety retainer links in place, install the blade bolts, washers, and nuts in a clockwise or counterclockwise manner.
5. Using a 1/2" combination wrench and a 1/2" socket and torque wrench, tighten all blade hardware to 23 ft-lbs [31 N-m].



Electrical & Safety Cable Installation

⚠ WARNING: MOTOR CABLES AND INCOMING POWER MUST NEVER BE RUN IN THE SAME CONDUIT. FAILURE TO INSTALL PER MACROAIR INSTRUCTIONS, INCLUDING WIRING, MAY BE HAZARDOUS, CAUSE PREMATURE FAILURE, AND VOID THE MANUFACTURE'S WARRANTY.

⚠ ATTENTION: Regulatory Notice, EMI (Electromagnetic Interference)

Electromagnetic Interference (EMI) is any signal or emission, radiated in free space or conducted along power or signal leads, that endangers the functioning of radio navigation or other safety services or seriously degrades, obstructs, or repeatedly interrupts a licensed radio communications service. Radio communications services include but are limited to AM/FM commercial broadcast, television, cellular services, radar, air-traffic control, pagers, and personal communications services (PCS). These licensed services, along with unintentional radiators such as digital devices, variable frequency drives (VFDs), and other equipment such as fans with VFDs, contribute to the electromagnetic environment.

Electromagnetic compatibility is the ability of items of electronic equipment to function properly together in the electronic environment. MacroAir Fans variable frequency drives, VFDs, are designed to be in-compliance with regulatory agency limits for EMI. However, there is no guarantee that interference will not occur in a particular installation. If MacroAir's products (fans) do cause interference with radio communications services, which can be determined by turning the fans off and on, please notify MacroAir technical support.

MacroAir Technologies' products are designed, tested, and classified for their intended electromagnetic environment. These electromagnetic environment classifications generally refer to the following harmonized definitions:

Class A is typically for business or industrial environment.

Class B (MacroAir products are **NOT** designed for typical residential environments covered under this classification).

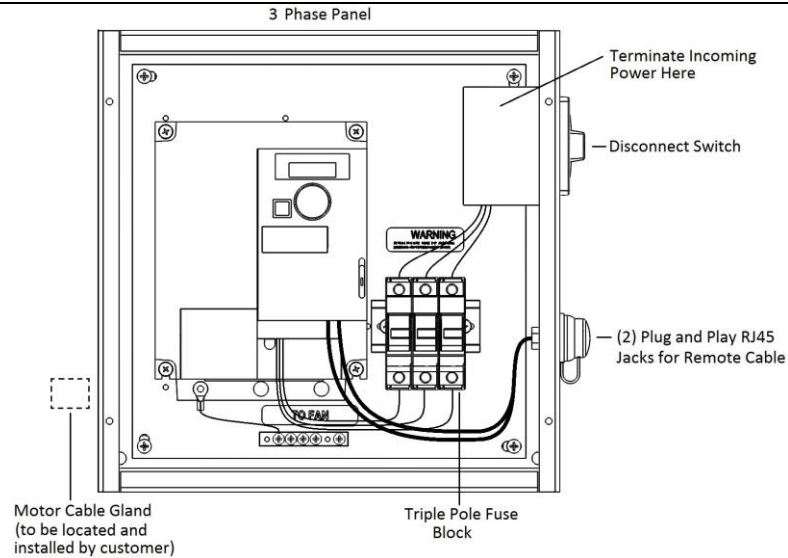
CODE COMPLIANCE IS THE RESPONSIBILITY OF THE INSTALLER, AND ULTIMATELY, THE END USER. All wiring should conform to the current National Electric Code (NEC), ANSI/NFPA 70, and all local codes. This fan control should only be installed by qualified technicians familiar with the requirements of the NEC and local codes.

Note: MacroAir Technologies has a policy of continuous product improvement and reserves the right to change design and specifications without notice.

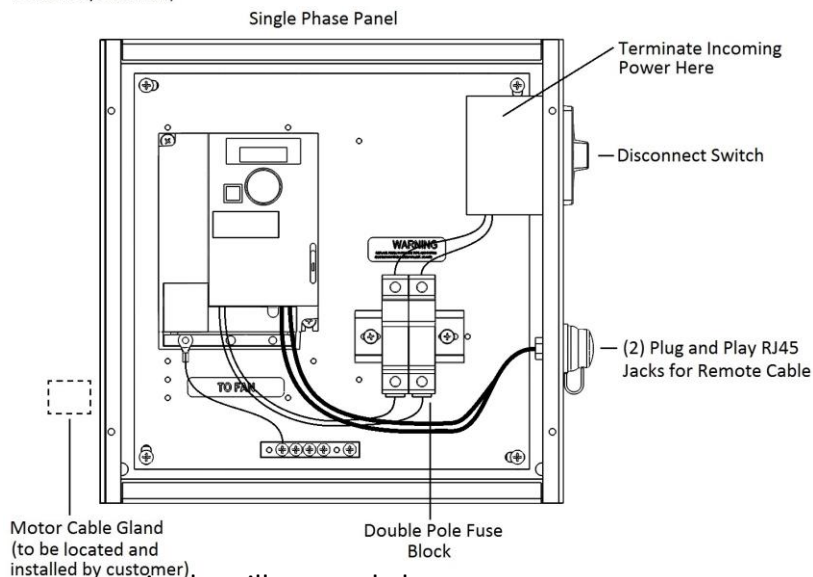
If you have any questions, please contact MacroAir technical support.

Control Panel Overview

3 Phase



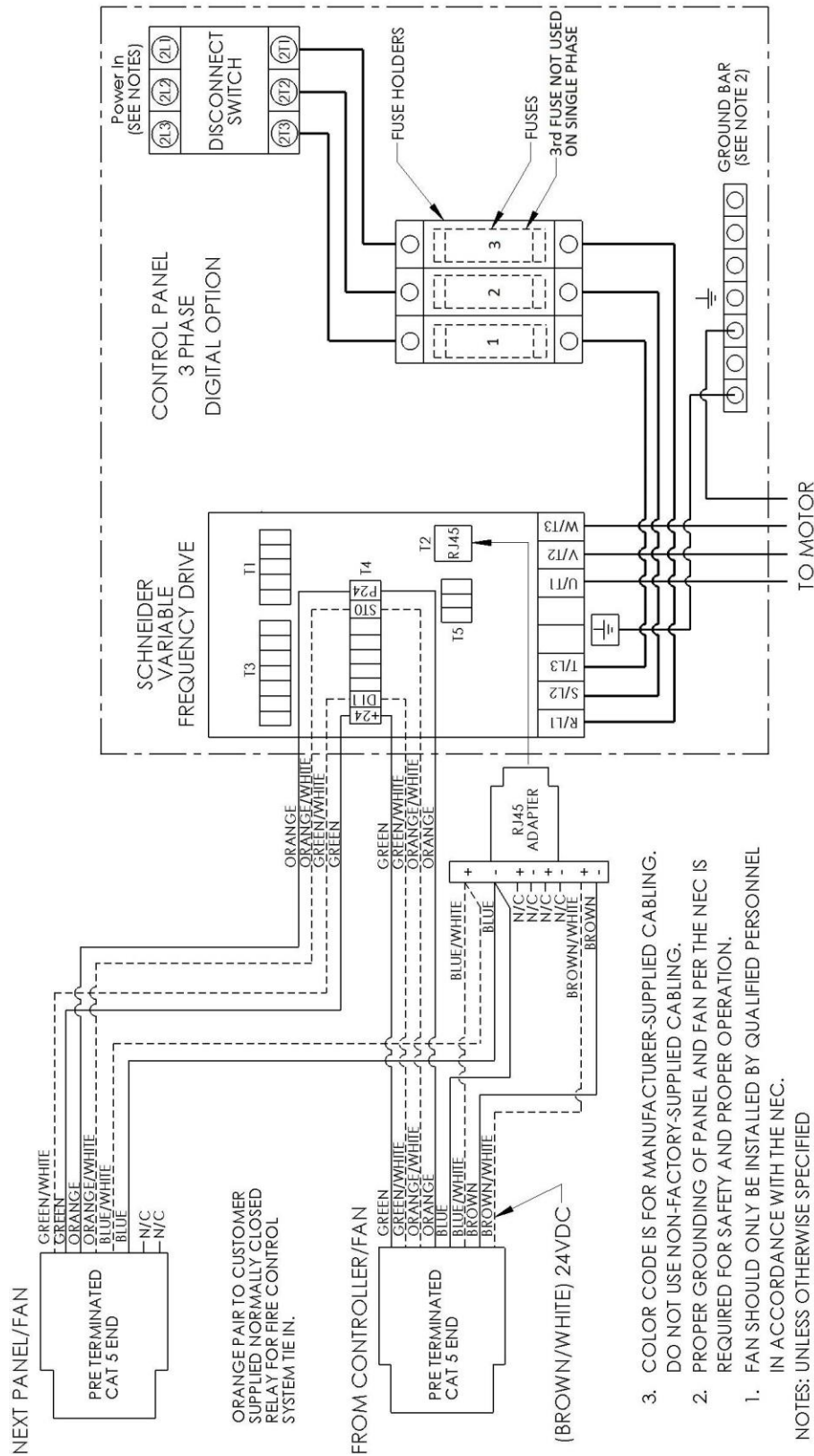
1 Phase



1. Control Panels come pre-wired, as illustrated above.
2. Make sure the control wiring is CAT5e shielded, stranded or greater.
3. If removed from the enclosure, the disconnect switch must be in the OFF position when removed, and in the OFF position when reinstalled to prevent misalignment of switch.
4. The Motor Cable Gland does not come pre-installed. Use a unibit to drill installation hole.
5. **Shielded motor cable is provided and must be used with no additional cable to maintain factory warranty.**
6. Mounting hardware for mounting enclosure to an I-beam, Glulam or wall is not supplied by MacroAir. Physical enclosure of Control Panel is 12"x12"x8".
7. Connect CAT5 to RJ45 labeled "in" for single touchpad controller.
8. Motors are shipped pre-wired for high voltage. For 208V-240V applications, it is the responsibility of the installer to rewire motors for low voltage according to the wiring diagram of the motor.

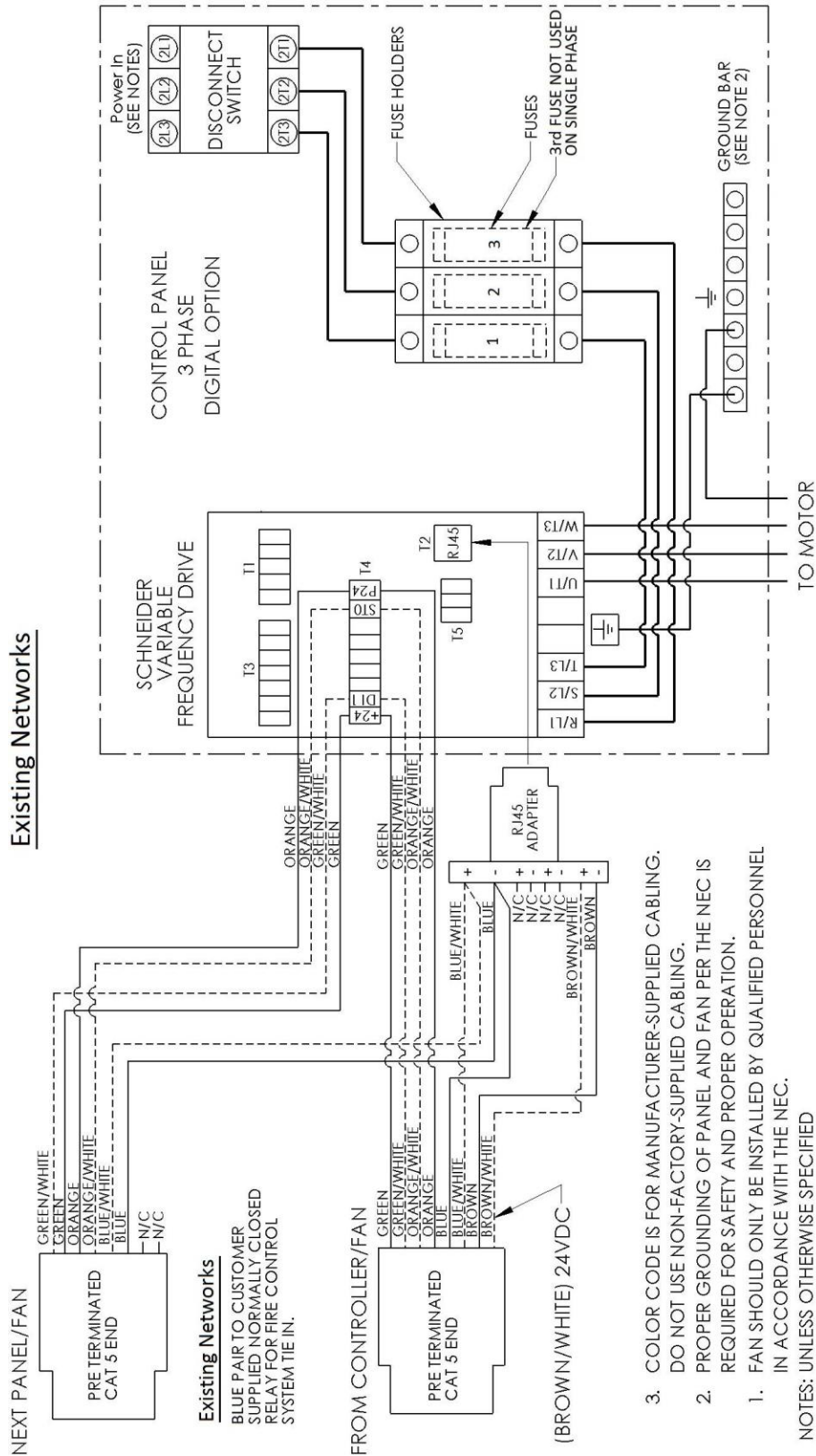
If the Local Override Remote Option is present, the control panel overview will be superseded by that in the Local Override Remote Operation Manual (see pg 47 of this manual).

Digital Control Panel Schematic



If the Local Override Remote Option is present, this Control Panel Schematic will be superseded by that in the Local Override Remote Operation Manual (see page 47 of this manual).

Digital Control Panel Schematic (Existing Networks)

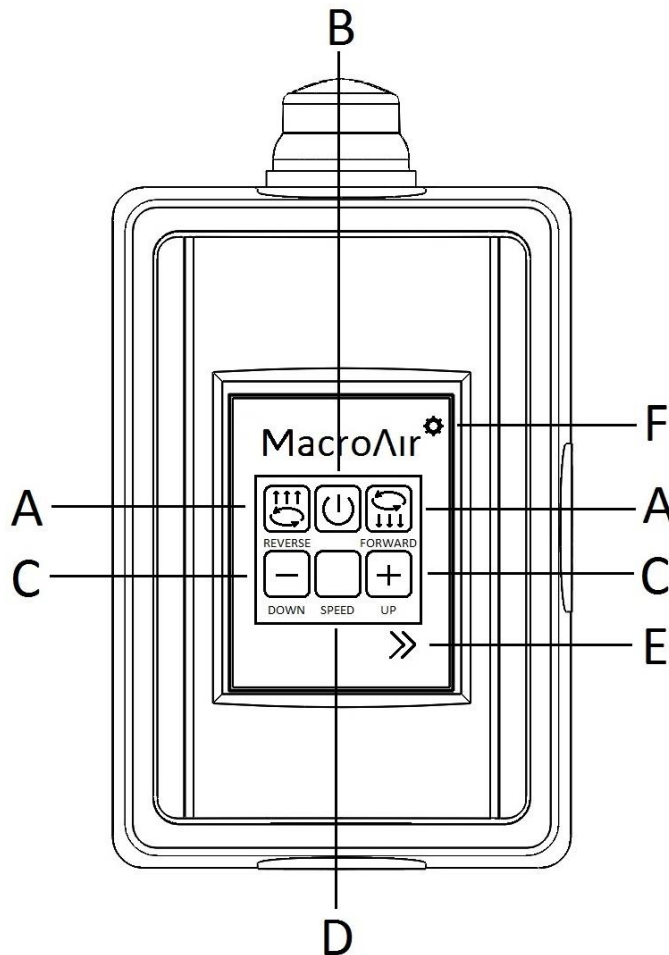


If the Local Override Remote Option is present, the Control Panel Schematic will be superseded by that in the Local Override Remote Operation Manual (see page 47 of this manual).

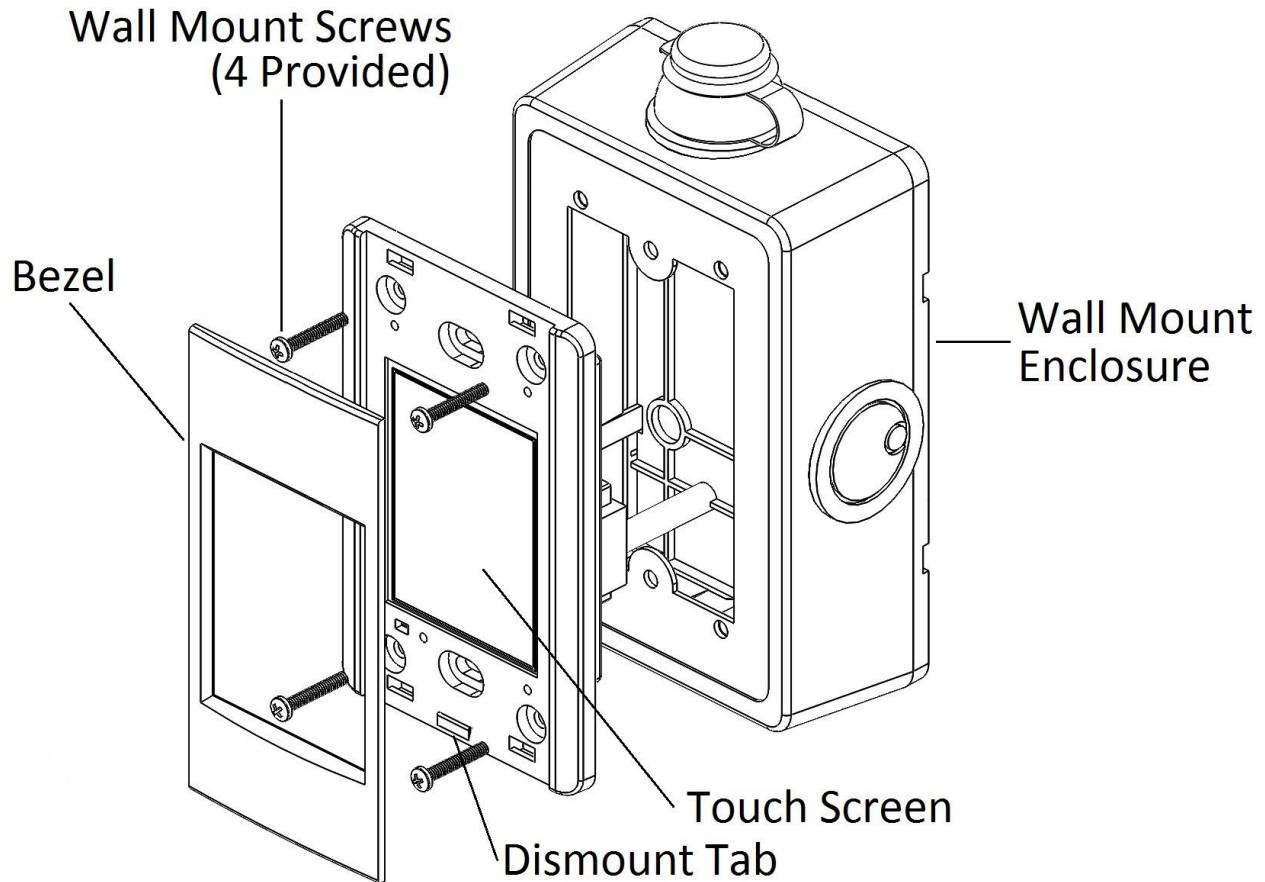
Touchpad Remote User Interface

Buttons:

- A – Forward / Reverse: Select fan rotational direction.
- B – Power Button: Turn the fan on or off (forward or reverse must be chosen to start the fan).
- C – Speed Up / Speed Down: Increase or decrease the speed of the fan.
- D – Speed Box: Real-time indication of fan speed.
- E – Navigation: Navigate to the next screen.
- F – Settings: Displays settings and information about the fan.



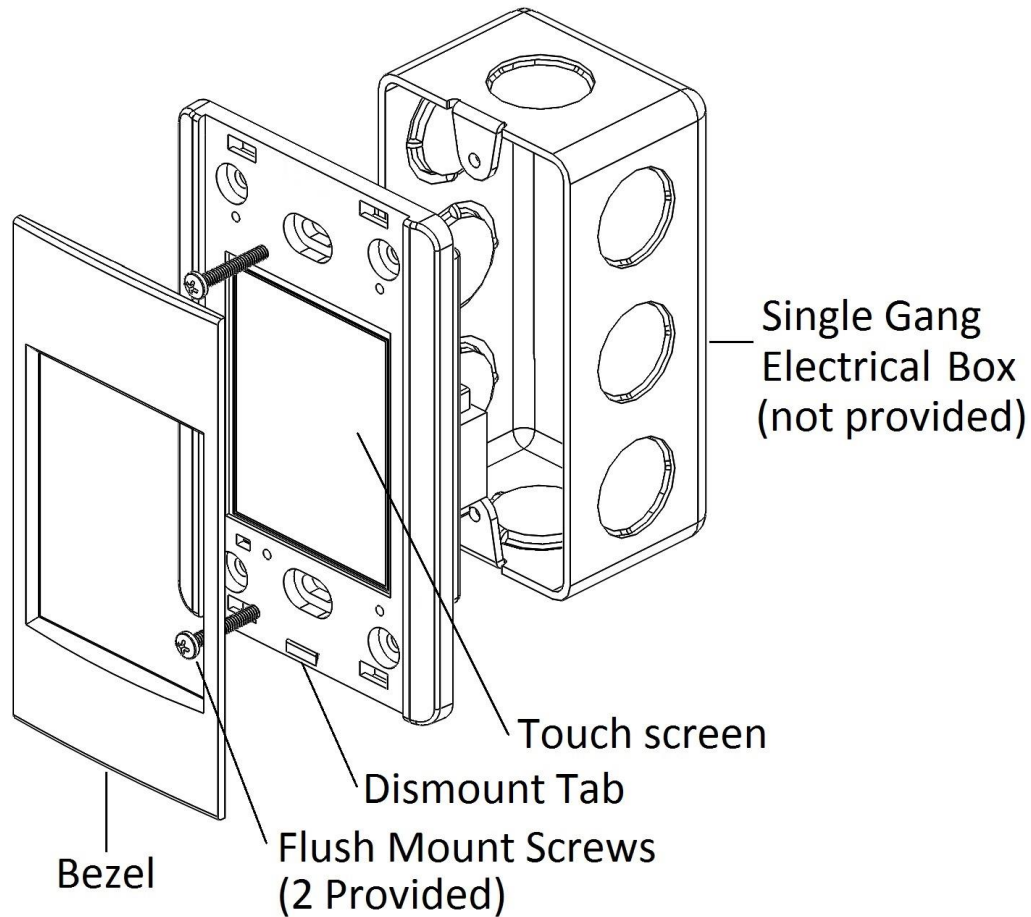
Touchpad Remote Installation



Wall Mounting (Provided)

1. Gently remove the front bezel from the touch screen using a small flat tipped screwdriver where the bezel notch meets the dismount tab located at the bottom of the touch screen.
2. Mount the base plate of the enclosure to the wall using the 4 provided wall anchors and screws.
3. Snap the front of the enclosure to the base plate.
4. Plug in the pre-wired CAT5e cable from the screen into the RJ45 coupler inside the enclosure.
5. Secure the touch screen to the enclosure using the 4 provided screws.
6. Lock the provided bezel into place via the plastic tabs.
7. Plug the provided CAT5e cable from the fan into the RJ45 on the outside of the enclosure.

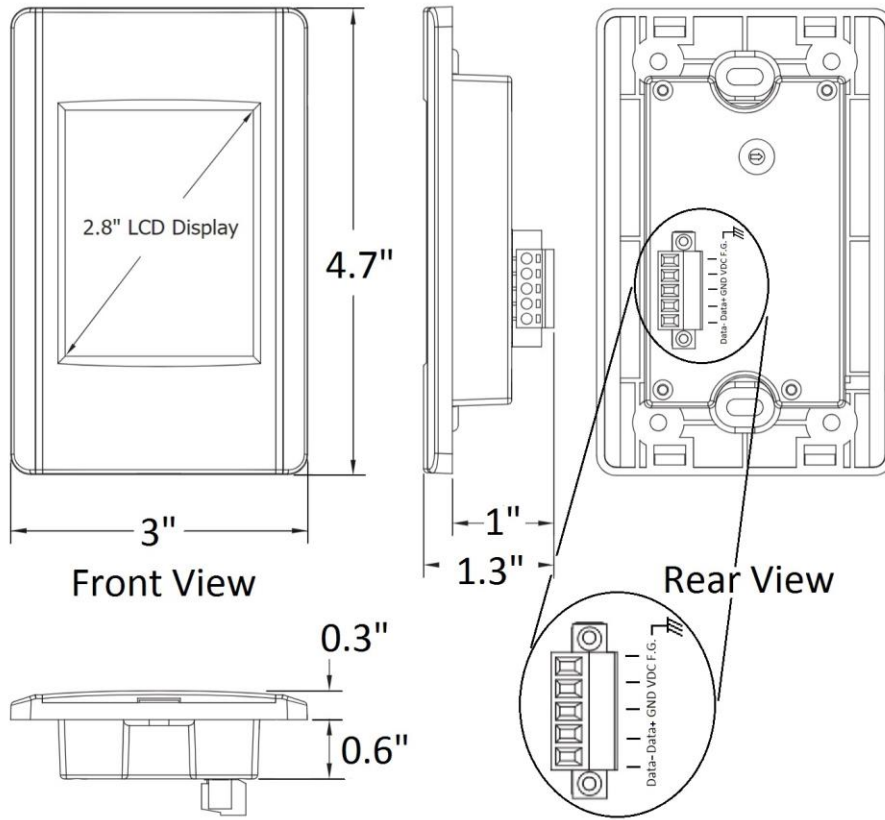
Touchpad Remote Installation (cont.)



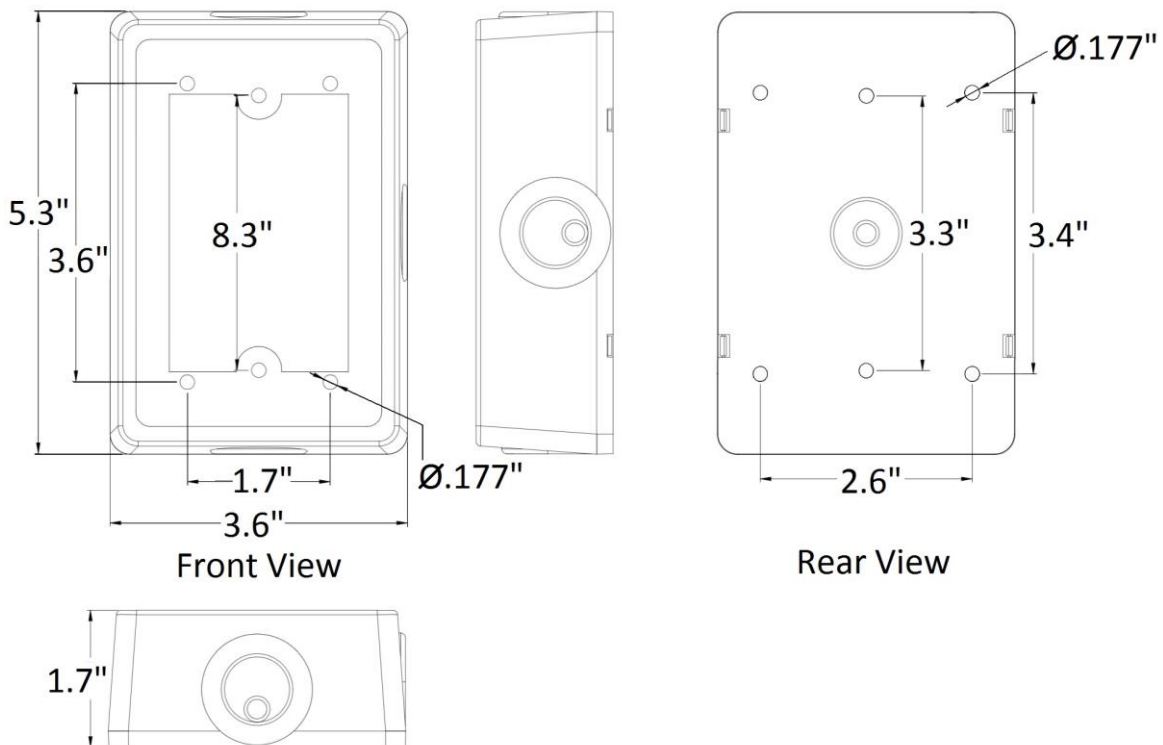
Flush Mounting (Not Provided)

1. Gently remove the front bezel from the touch screen using a small flat tipped screwdriver where the bezel notch meets the dismount tab located at the bottom of the touch screen.
2. Install the single gang electrical box (not provided).
3. Run the provided CAT5e cable from the fan into the single gang electrical box.
4. Plug the remote cable into the pre-wired CAT5e cable from the screen using an RJ45 coupler.
5. Secure the touch screen to the enclosure using the 2 provided screws.
6. Lock the provided bezel into place via the plastic tabs.

Touchpad Remote LCD Display



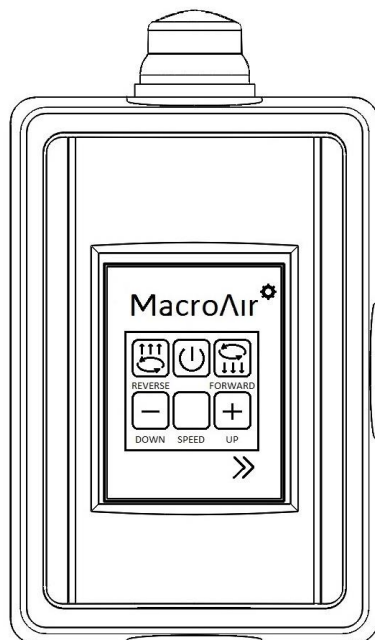
Touchpad Remote Enclosure



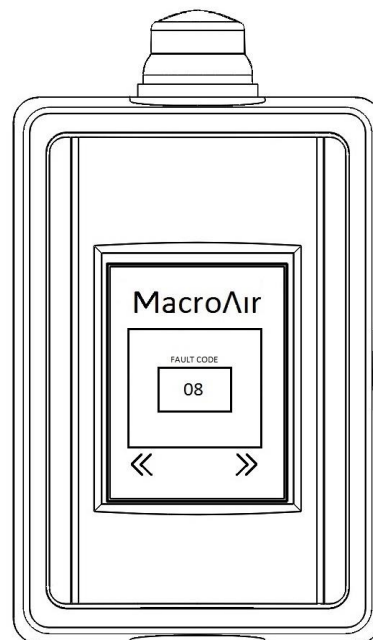
Touchpad Remote

1. Upon first power-up of the touchpad, the correct fan diameter will need to be selected.
2. After the blade size is selected, navigate to the next page using the arrow in the lower left to reach the motor calibration screen. Press the Calibrate Motor button.
3. The screen will display a warning. If the motor is cold, press the Calibrate Motor button again.
4. The screen will ask if the motor has run recently. If it has, press the Yes button. Calibration will not occur, and you must wait until the motor is cold to perform the calibration. If the motor has not run recently, press the No button. The fan will perform a calibration of the motor. The motor will make a loud noise while calibrating; this is normal. If the motor calibration fails, log into the technical support website and file a case, you will receive a call from Technical Support. Technical Support address: <https://MacroAirFans.com/Techsupport>
5. Once motor calibration is done, press the lower left arrow to get to the address screen. Change to the desired address and press the Reset button. If you do not need to change the address, press the arrow in the lower left until you are at the fan control screen. You may now operate your fan as desired.
6. Note: If the fan stops operating unexpectedly, navigate to the fault code screen using the bottom right arrow and record any fault codes (if present). Click the reset button until the display reads '0' or none. Then, attempt to run the fan again. If the fan is still not operating, navigate to the fault code screen via the navigation arrows at the bottom of the screen and document the code(s) displayed and call technical support at 866-668-3247. NOTE: Some faults can only be read from the VFD.

Home Screen



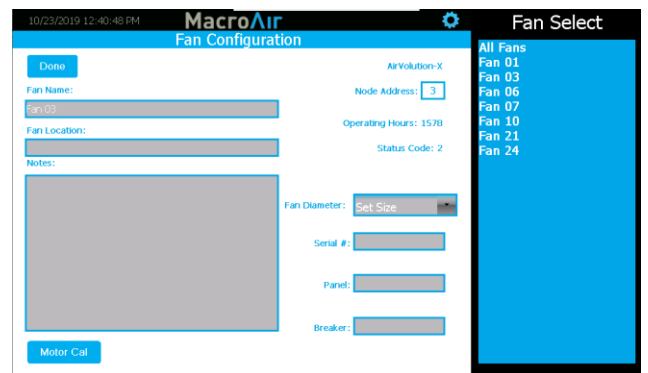
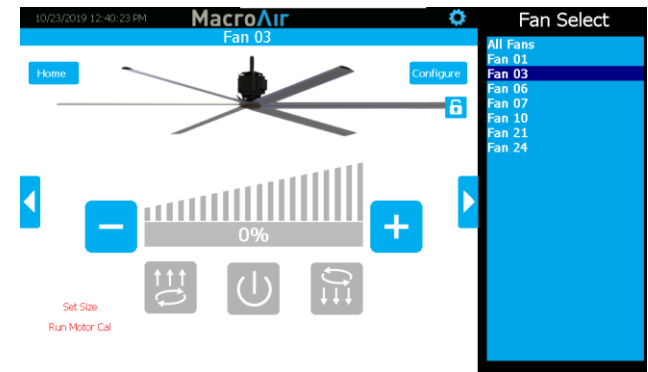
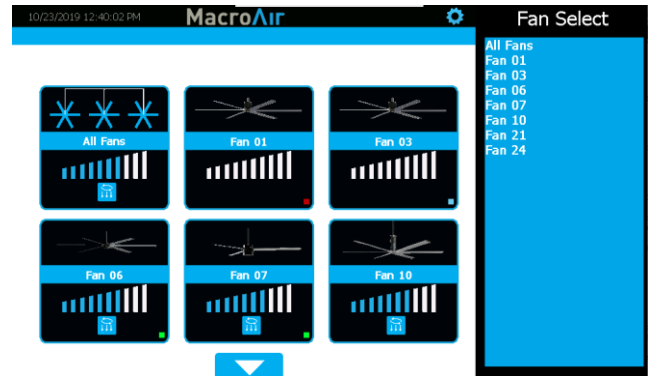
Fault Code Screen



Network Controller 30

First Calibration

1. On the control screen. Click the button of the fan that needs to be calibrated.
2. Once on the Fan screen, press the Configure button.
3. Once on the Configure screen, input the correct fan diameter and number of blades.
4. Once the correct fan diameter and number of blades are input, press the Motor Cal button.
5. Read the Motor Cal Screen and press the Run Motor Cal button.
6. The button will change to "MC Running" while the calibration is running. If the calibration is successful, it will say "MC Success". You can press the button to close out the screen and operate the fan. If the calibration is unsuccessful, it will say "MC Fail". You can press the button to close out the screen and check for fault codes. Please call 866-668-3247 for Technical Support if you require further assistance.



Subsequent Calibrations

1. Wait 1-hour after last operation of fan.
2. Press the Settings button in the upper right corner.
3. Once on the Settings page, Press the Admin Login button and enter your credentials. The default Username and password are both "admin".
4. Once you are successfully logged in under Admin, go back to the fan control screen. Click the button of the fan that needs to be calibrated.
5. Continue with "First Calibration" instructions (above).

The fan must not have ran in the last hour before starting a motor calibration as it will give inaccurate results and might damage the fan.

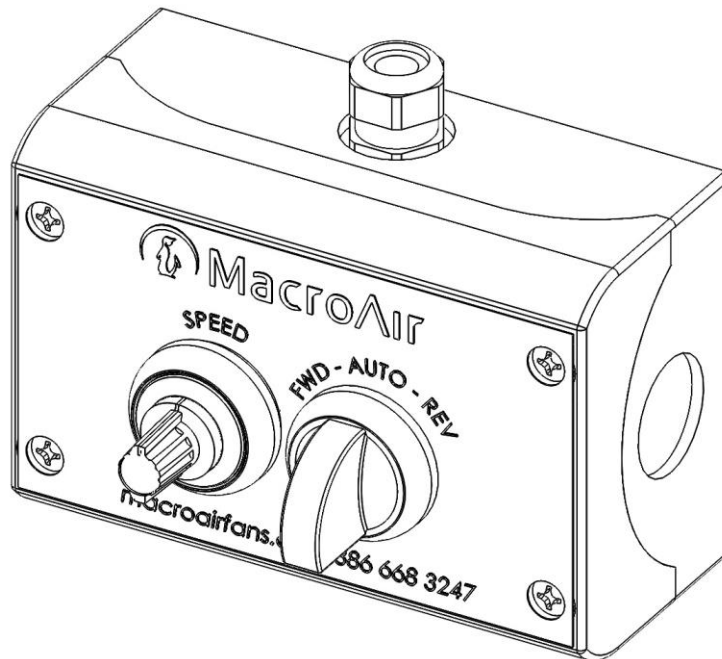
This will take a few seconds and the fan will make a loud noise.



Run Motor Cal

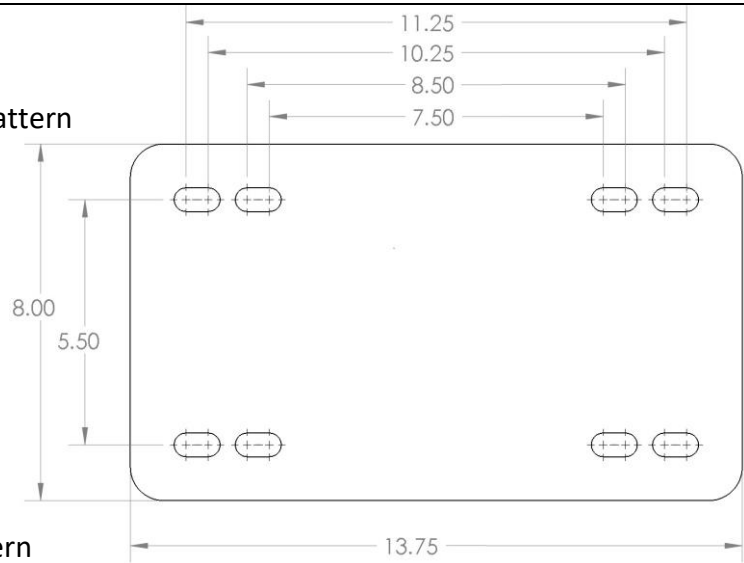
Local Override Remote Option

⚠ ATTENTION: Local Override Remote Operation Manual. If the Local Override Option was purchased then refer to the Local Override Remote Operation Manual for the appropriate Wiring Diagrams, Control Panel images, and instructions. The Control Panels on page 38, and the Wiring Diagrams on pages 39 and 40 of this manual are superseded and replaced by those in the Local Override Remote Operation Manual.

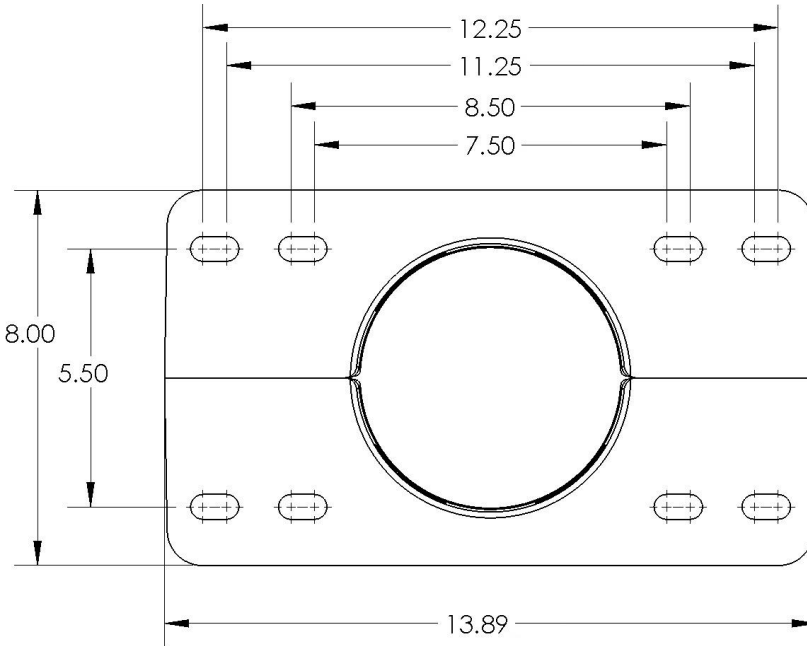


Mounting Bracket Hole Patterns

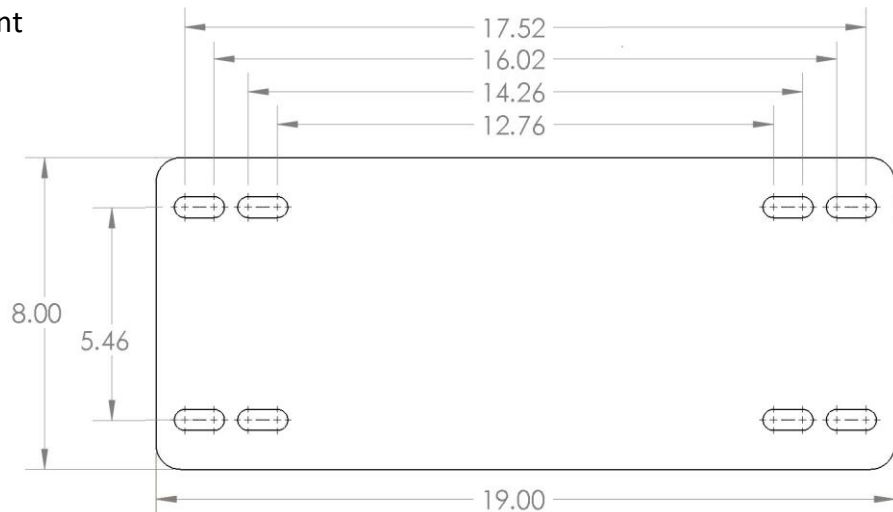
Standard Universal Mount Mounting Pattern



Standard Rapid Mount Mounting Pattern

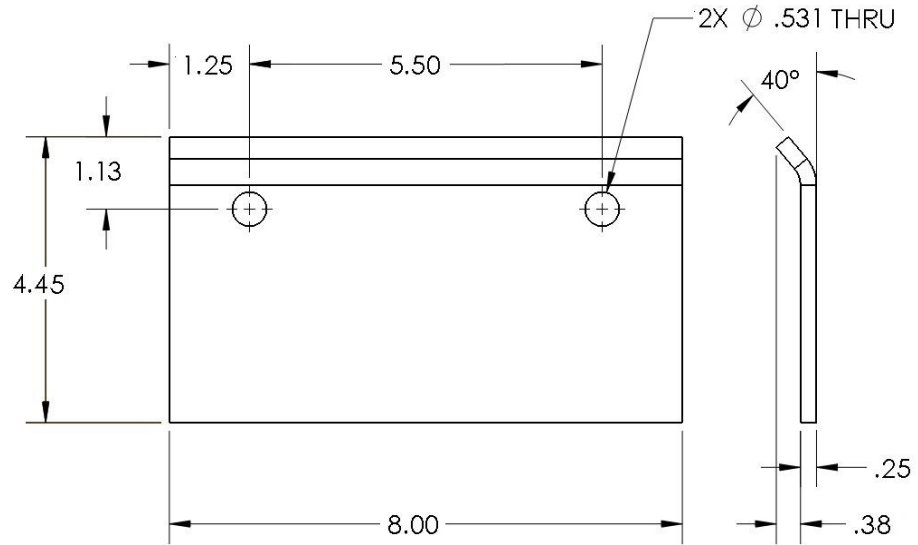


Extra Wide Universal Mount Mounting Pattern

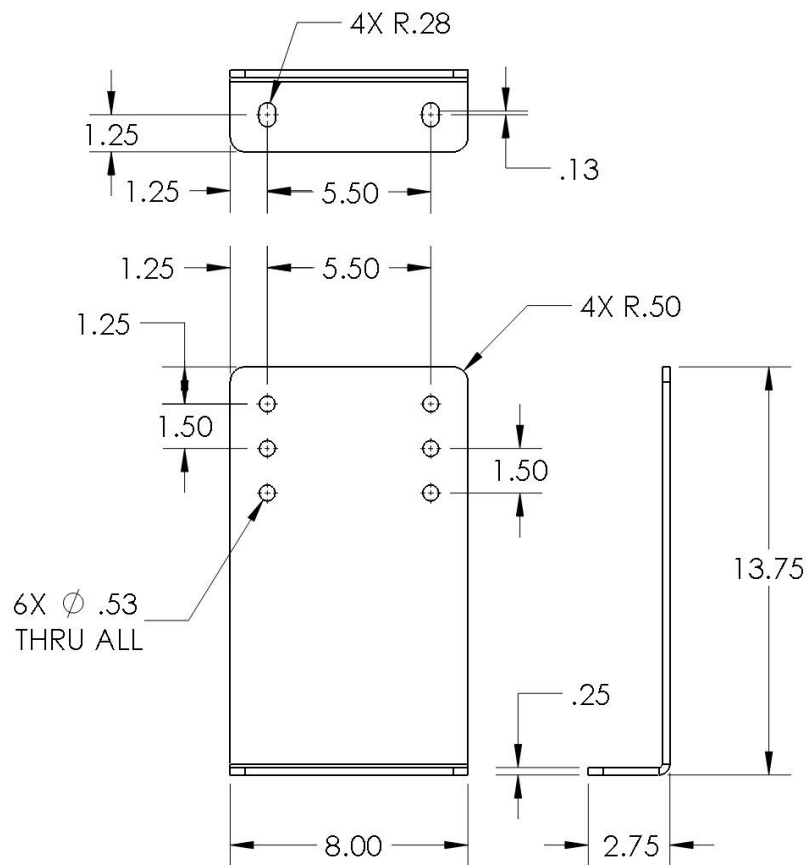


Mounting Bracket Hole Patterns, cont.

I-Beam Bracket



Glulam Bracket



Maintenance

Guy Wire Check (if applicable): Checking a MacroAir fan's guy wires for tension and inspecting for frayed sections could mitigate a problem before it occurs. The guy wires should be under enough tension to prevent any movement in the motor unit or the extension tube. If the motor unit can be moved by pushing on it, the guy wires need to be tightened. Fan owners should confirm that the guy wires are not wrapped around any sharp edges. MacroAir recommends attaching guy wires to the building with eyebolts or eye lags. If they are not already installed with eye bolts or lags, we urge fan owners to install these to help keep the guy wires from fraying. If guy wires are installed with turnbuckles, jam nuts should periodically be checked to ensure tightness. If they are loose, the guy wire cables may need to be re-tensioned.

Airfoil Cleaning: Depending on the type of commercial application the MacroAir fan is in, there can be quite a bit of dust or other particulates that cling to the fan's airfoils. While this may not affect fan performance, we recommend fan owners keep airfoils clean by having a maintenance person or skilled trade professional – who has experience using a lift – wipe the fan airfoils with a rag or sponge using hot water or mild cleaning solutions. Please do not use chlorine or any chemicals containing chlorine.

Safety Cable Check: Each MacroAir fan comes with a safety cable. Depending on the fan model, the safety cable either wraps around the building structure and the fan frame or comes out of the top of the fan and wraps around the building structure. The safety cable is an important part of the safety system and acts as a last resort should an earthquake, collision, or similar catastrophic event occur. As such, it is vital for fan owners to ensure that the safety cable is intact and properly secured.

Reverse Operation: The beauty of MacroAir HVLS fans is that they are built to run in forward and reverse mode. However, changing the direction of your fan can put initial stress on the fan if it has not been properly checked. It is a good idea to make sure guy wires, safety cables and all bolts and nuts are tight. Cleaning the fan before switching directions will prevent dust and other particles from falling off the fan airfoils when turning in the opposite direction.

Maintenance Plan: Things to look for include properly torqued fasteners, rust, cracked welds, unusual noise, hub migration/movement, guy wire loosening or movement.

Years 1-10: One inspection on lift per year.

Year 11 and beyond: Annual inspections from a lift and seasonal inspections both before and after the busy season from the ground.

NOTE: If there are issues or concern discovered during an inspection, please contact the service and technical support department at MacroAir for help.

CONTACT US: For installation assistance, application questions, technical sales support & any other inquiries, please contact us at **(866) 668-3247**.

Troubleshooting

Please refer to the table below if you experience issues with the fan operation.

Symptoms	Possible Solution
The fan is not turning and the lights on the VFD are lit.	Flip disconnect switch to "OFF" for 30 seconds and then flip to "ON". Ensure that the VFD is properly connected to the motor.
The fan is not turning and the lights on the VFD are NOT lit.	Confirm that there is power coming from the building.
The fan is making a loud "clicking" noise.	Ensure that the anti-seize was properly applied to every blade strut.
The fan is operating noisily.	Confirm that there is nothing interfering with any moving parts.
The fan is wobbling.	Confirm that the fan is level and the guy wires are properly installed and tightened.

If your issue cannot be resolved using the table above, please contact MacroAir technical support at **(866) 668-3247**.

Warranty

MacroAir warrants the Products listed in the table below will be free from defects in materials and workmanship under normal use and maintenance for the applicable Warranty Period. Other than the Warranty set forth in this document, no other written or oral warranties apply, and no employee, agent, dealer, or other person is authorized to give any other warranties on behalf of MacroAir.

START DATE OF WARRANTY COVERAGE

The Warranty Period begins fifteen (15) days following shipment of the Product, or on the date the Product is installed (not to exceed sixty (60) days Customer receives the Product), whichever date is later. Customer should retain necessary documentation to verify the date of receipt and installation of the Product. Customer will be required to produce this documentation in order to obtain Warranty services from MacroAir. The Warranty specified herein applies only to Products shipped on or after April 15, 2021.

PRODUCTS AND SYSTEMS COVERED BY THIS WARRANTY AND APPLICABLE WARRANTY PERIODS:

Fan Type	Mechanical: Blades, Hub & Frame	Standard Electrical ¹ : Motor, Electrical Controls, Remote	Labor
AVDX	15 Years	10 years *	1 Year
AirVolution	15 Years	7 years *	1 Year
AirLegacy	15 Years	5 Years *	1 Year
AirVolution-D3	10 years	7 years *	1 Year
AirVolution-D 370	10 years	5 Years *	1 Year

WARRANTY COVERAGE:

Subject to the exclusions herein, the MacroAir Warranty covers any defects in workmanship or materials of the covered Products under normal operation and prescribed maintenance when those defects adversely affect the ability of the Product to operate properly.² The Warranty only covers Products which have been installed in compliance with MacroAir's written installation instructions by a state-qualified or licensed electrical contractor and operated and maintained by the Customer in conformity with MacroAir's written instructions, and when the Product is purchased directly from MacroAir or a MacroAir Authorized Dealer.

This Warranty is subject to all provisions, conditions, limitations, and exclusions explained in this Warranty document.

* Scan QR code or visit macroairfans.com/warranty for full warranty information.



¹ "Standard Electrical" means any common electrical component that is utilized across more than one fan line will assume the higher warranty period.

² "Operate properly" applies only to mechanical, electrical, and structural systems of the Product.

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