

***-Unpacking and Inspection of Unit***

1. Upon receiving of unit, carefully inspect unit for damage. If visible damage is noted upon unpacking, this should be indicated on shipping bill in the event that a damage claim is required to be filed.
2. Carefully remove unit packaging to prevent damage to unit.

***-Installation of Unit***

1. For outdoor, roof mounted installation, unit should be lifted to roof with hoist or crane as required.
2. After unit is lifted to rooftop, carefully position unit onto roof curb. Refer to building plans as necessary to assure unit is installed with intake facing in proper direction with respect to exhaust fans. (**Note:** *If access to fan from below roof is limited, refer to Note 5*)
3. After unit is placed on roof curb, use sheet metal screws to secure base of unit around perimeter into roof curb.
4. For Model SAS-T (unit with extended intake section) intake section with rain hood is provided loose.
  - a.) Attach extended intake section to open end of blower cabinet using sheet metal screws.
  - b.) Caulk joint to prevent water leaks.
  - c.) Support extended intake section with provided steel support legs. Attach support legs to either side of extended intake using sheet metal screws. Locate support legs at approximately 36" from intake section rain hood. **Note:** *Take caution when attaching legs to avoid penetration of screws into any items within intake section ( such as filters or intake damper).*
5. Connect makeup air duct to unit blower discharge collar using sheet metal screws.

***-Electrical Connections***

**Note:** *Any electrical work done on unit should be performed only by a licensed electrician.*

1. Verify unit nameplate voltage and horsepower information is consistent with electrical plans prior to wiring of unit. Locate unit electrical wiring diagram before proceeding.
2. Pull main power wiring from breaker panel to unit disconnect switch located inside of unit blower compartment. Be sure unit disconnect switch is switched to the "Off" position.
3. If unit is provided with optional Motor Control Center, pull control wiring to terminal strip as indicated on the provided electrical wiring diagram. If Exhaust Fan Starter is included, extend field wiring from exhaust fan starter to exhaust fan disconnect switch.
4. If optional Motorized Intake Damper is provided with fan, control wiring should be extended to damper motor to allow damper to open when fan is operated 'On' and to close when fan is operated 'Off'.

***-Start-up of Unit***

1. Prior to start-up of unit, check motor mounting bolt tightness and pulley tightness.
2. Check fan belt for proper belt tension. Belt tension should be approximately 1/2" mid-way between motor pulley and fan pulley.
3. Check to ensure that any packing materials have been removed from interior of blower compartment. Ensure that intake filters are installed in unit.
4. Unit should be operated 'On' momentarily to check rotation of blower wheel. Blower wheel should turn in the direction of the rotation arrow marked on the blower housing. If blower rotation is incorrect, turn off unit disconnect switch and correct motor wiring. (For 3 phase motors, reverse any 2 leads to change rotation; For 1 phase motors, refer to motor wiring schematic marked on outside of motor for rotation information.)
5. If rotation is correct, with unit operating, measure motor amps with Amp Clamp and compare measured reading with unit nameplate to ensure that motor full load amps are not exceeded.

*(Continued)*

**-Unit Air Balance**

1. Unit Air Balance should be performed along with air balance of respective hood exhaust fan.
2. Adjustable fan pulley can be used as well as external balancing damper to make any necessary adjustments to airflow. After each adjustment, check motor running amps per Start-up note 5 above.

**-Unit Troubleshooting**

*Guide to common fan problems:*

**1. Excessive Vibration-**

- a. Loose mounting bolts, set screws, bearings or couplings.
- b. Misaligned or unbalanced motor.
- c. Fan Imbalance
- d. Accumulation of foreign material on the wheel.
- e. Excessive system static pressure or airflow restriction caused by closed dampers.

**2. Inadequate Performance-**

- a. Blower wheel rotating in wrong direction.
- b. System actual static pressure higher than system design static pressure.
- c. Closed air dampers, air leaks in ductwork, or clogged intake air filters.
- d. Sharp change of duct direction at fan outlet.

**3. Excessive Noise-**

- a. Loose drive belts.
- b. Loose accessories or components.
- c. Worn bearings

**4. Premature Component Failure-**

- a. Prolonged or major vibration.
- b. Inadequate or improper maintenance.
- c. Misaligned or physical damage to rotating components or bearings.
- d. Improper belt tension.
- e. Improper tightening of wheel set screws.

**-Unit Maintenance**

**Note:** *Disconnect all sources of electrical power to unit prior to performing any maintenance.*

Frequency of maintenance is determined by the severity of the application and the local conditions. After initial unit start-up, all unit bolts, set screws, and belt tension should be checked after the first two weeks of unit operation.

*During regular unit maintenance:*

1. Check fan wheel for wear or corrosion. Check for buildup of foreign materials. Clean or replace wheel as required.
2. Check fan belt for proper alignment and proper tension. Replace belts that become worn, frayed, or cracked.
3. If unit blower contains greaseable bearings, lubricate bearings, but do not over lubricate.
4. Check all set screws and bolts for tightness. Tighten as required.
5. Clean intake filters. To clean filters, lift off access lid to remove. Flush filters with warm soapy water and allow to dry. Coat filters with filter coat adhesive and replace filters and access lid.