



COOK

SQN

Centrifugal Square Inline Fans

INSTALLATION, OPERATION, AND MAINTENANCE MANUAL

This publication contains the installation, operation and maintenance instructions for standard units of the **SQN-Centrifugal Square Inline Fans**. Carefully read this publication prior to any installation or maintenance procedure.

Loren Cook catalog, SQN, provides additional information describing the equipment, fan performance, available accessories, and specification data.

For additional safety information, refer to AMCA publication 410-96, *Safety Practices for Users and Installers of Industrial and Commercial Fans*.

All of the publications listed above can be obtained from Loren Cook Company by phoning 417.869.6474, extension 166; by FAX at 417.832.9431; or by e-mail at info@loren-cook.com.

For information on special equipment, contact Loren Cook Company Customer Service Department at 417.869.6474.

Receiving and Inspection

Immediately, upon receipt of an SQN fan, carefully inspect the fan and accessories for damage and shortage.

- Turn the wheel by hand to ensure it turns freely and does not bind.
- Inspect dampers for free operation of all moving parts.
- Record on the *Delivery Receipt* any visible sign of damage.

Handling

Lift the fan by the outside housing (box). Never lift by the shaft or motor.

Storage

If the fan is stored for any length of time prior to installation, completely fill the bearings with grease or moisture-inhibiting oil. Refer to *Lubricants* on page 6. Also, store the fan in its original crate and protect it from dust, debris and the weather.

To maintain good working condition of a SQN when it is stored outdoors, or on a construction site, follow the additional steps below:

- Cover the inlet and outlet, and belt tunnel opening to prevent the accumulation of dirt and moisture in the housing.
- Periodically rotate the wheel and operate dampers (if supplied) to keep a coating of grease on all internal bearing parts.
- Periodically inspect the unit to prevent damaging conditions.

WARNING

This unit has rotating parts. Safety precautions should be exercised at all times during installation, operation, and maintenance.
ALWAYS disconnect power prior to working on fan.



SQN-B

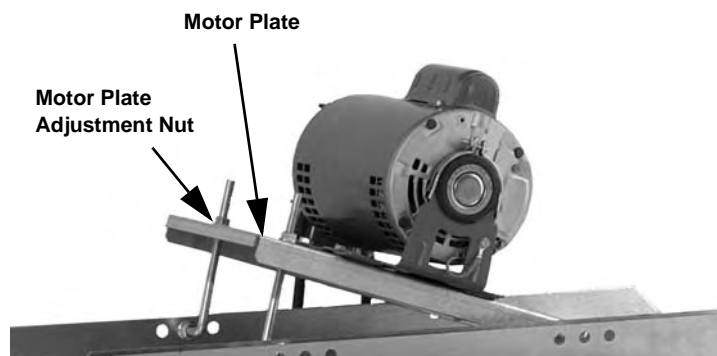
Installation

Motor Installation

To prevent damage to the fan during shipping, motors 5 HP and larger, and extremely heavy motors (cast iron or severe duty) are shipped loose and must be field mounted.

Personal Safety

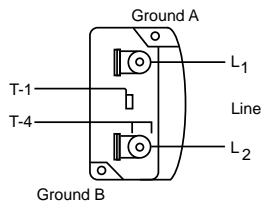
Disconnect switches are recommended. Place the disconnect switch near the fan in order that the power can be swiftly cut off in case of an emergency, and in order that maintenance personnel are provided complete control of the power source.



Motor Plate Adjustment

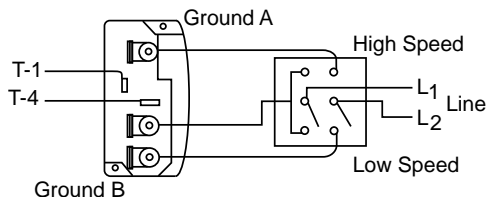
Wiring Diagrams

Single Speed, Single Phase Motor



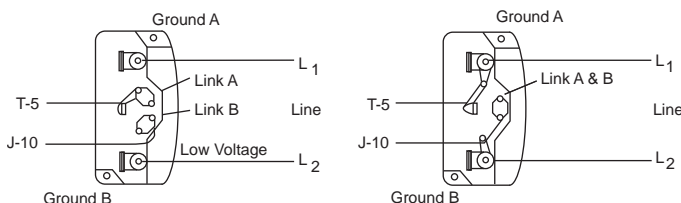
When ground is required, attach to ground A or B with no. 6 thread forming screw. To reverse, interchange T-1 and T-4.

2 Speed, 2 Winding, Single Phase Motor



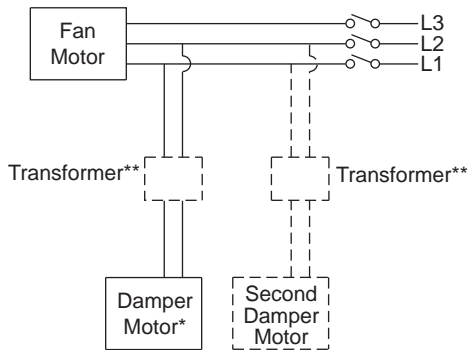
When ground is required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-1 and T-4 leads.

Single Speed, Single Phase, Dual Voltage



When ground is required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-5 and J-10 leads.

Typical Damper Motor Schematic



For 3 phase, damper motor voltage should be the same between L₁ and L₂. For single phase application, disregard L₃. *Damper motors may be available in 115, 230 and 460 volt models. The damper motor nameplate voltage should be verified prior to connection. **A transformer may be provided in some installations to correct the damper motor voltage to the specified voltage.

Wiring Installation

All wiring should be in accordance with local ordinances and the National Electrical Code, NFPA 70. Ensure the power supply (voltage, frequency, and current carrying capacity of wires) is in accordance with the motor nameplate. Refer to the *Wiring Diagrams*.

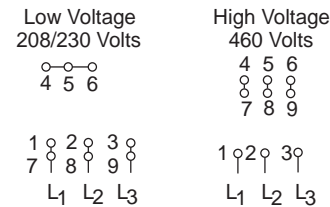
Lock off all power sources before unit is wired to power source.

Direct drive - Wire the electrical box on the blower housing.

Belt drive - The motor can be wired directly since the motor is external to the fan.

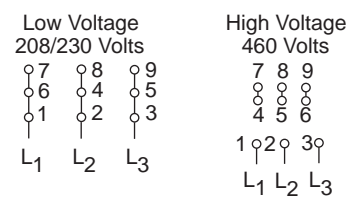
Wiring Diagrams

3 Phase, 9 Lead Motor Y-Connection

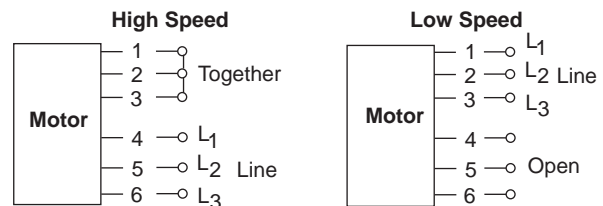


To reverse, interchange any 2 line leads.

3 Phase, 9 Lead Motor Delta-Connection

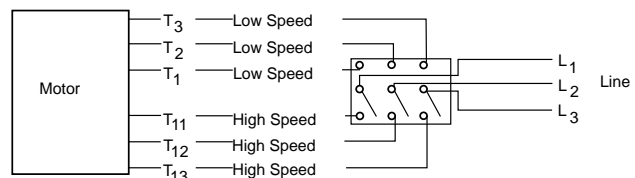


2 Speed, 1 Winding, 3 Phase Motor



To reverse, interchange any 2 line leads. Motors require magnetic control.

2 Speed, 2 Winding, 3 Phase



To reverse: High Speed-interchange leads T₁₁ and T₁₂. Low Speed-interchange leads T₁ and T₂. Both Speeds-interchange any 2 line leads.

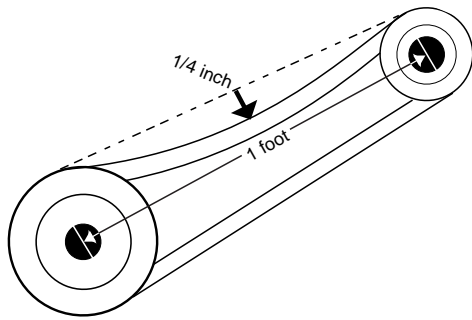


Figure 1

Belt and Pulley Installation

If your fan is a direct drive, proceed to Blower Installation.

Belt tension is determined by the sound the belts make when the fan is first started. Belts will produce a loud squeal which dissipates after the fan is operating at full capacity. If the belt tension is too tight or too loose, lost efficiency and possible damage can occur.

Do not change the pulley pitch diameter to change tension. This will result in a different fan speed.

- Loosen motor plate adjustment nuts on L-bolts and move motor plate in order that the belts can easily slip into the grooves on the pulleys. Never pry, roll, or force the belts over the rim of the pulley.
- Adjust the motor plate until proper tension is reached. For proper tension, a deflection of approximately 1/4" per foot of center distance should be obtained by firmly pressing the belt. Refer to *Figure 1*.
- Lock the motor plate adjustment nuts in place.
- Ensure pulleys are properly aligned. Refer to *Figure 2*.

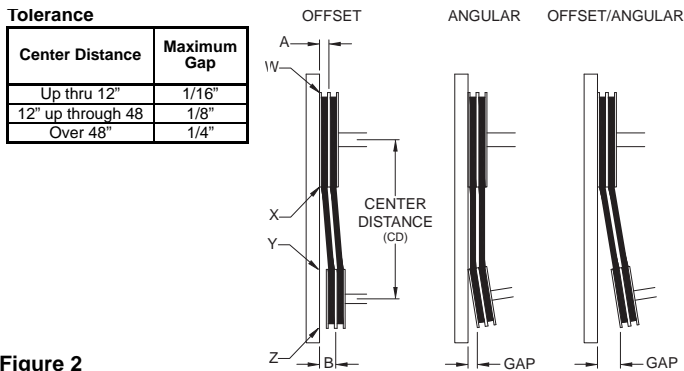


Figure 2

Pulley Alignment

Pulley alignment is adjusted by loosening the motor pulley setscrew and by moving the motor pulley on the motor shaft.

Figure 2 indicates where to measure the allowable gap for the drive alignment tolerance. All contact points (indicated by WXYZ) are to have a gap less than the tolerance shown in the table. When the pulleys are not the same width, the allowable gap must be adjusted by half of the difference in width. *Figure 3* illustrates using a carpenter's

square to adjust the position of the motor pulley until the belt is parallel to the longer leg of the square.

Blower Installation

The blower is shipped with the motor in the 12 o'clock position and the feet are shipped loose.

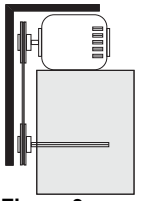


Figure 3

- Upon receipt of the fan, remove the eight (8) feet shipped with the fan and ensure the feet are the correct type. Refer to *Figure 4*.
- Determine how the fan is to be mounted. Refer to *Figure 5*.
- Remove the 5/16" bolt(s) from the corner of the housing in which the foot is to be attached.
- Place the foot over the open bolt hole(s) and bolt the foot to the unit. Refer to *Figure 4*.

Foot Mounting Illustrations

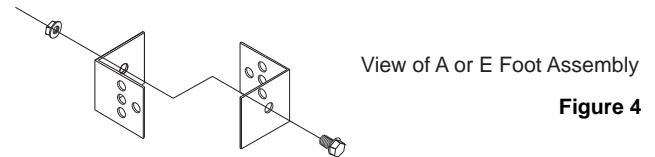
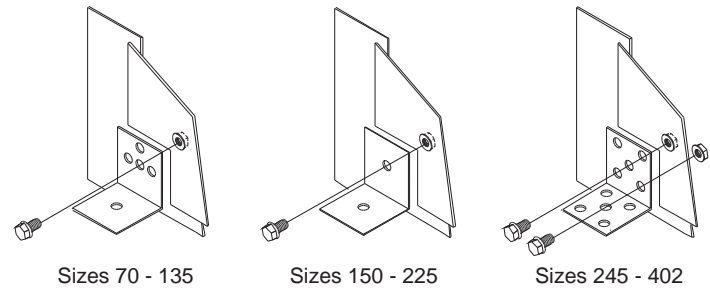


Figure 4

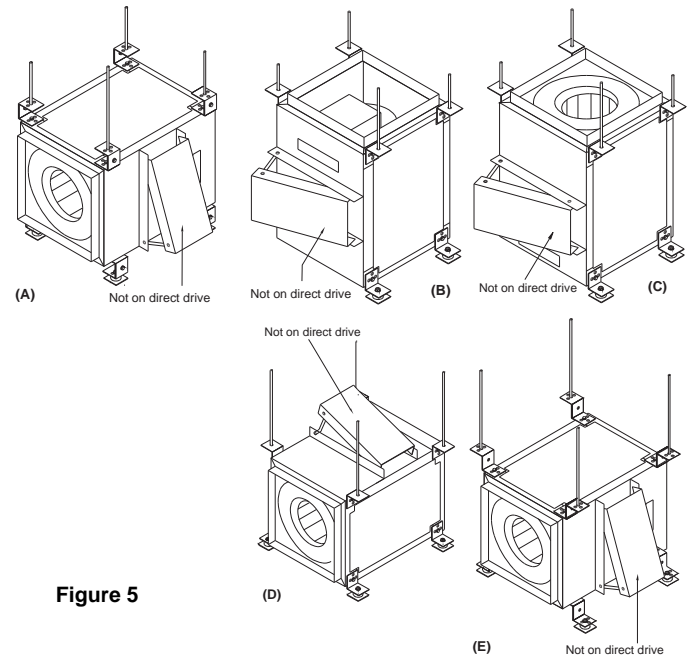
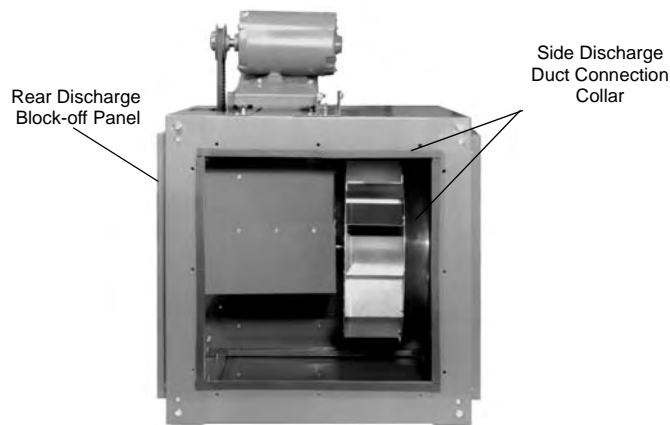


Figure 5

SQN Optional Side Discharge Installation

Upon receiving a SQN for a side discharge installation, please note that the rear discharge block-off panel is installed on the unit and that the correct number of side discharge duct connection collars are provided (4 steel flanges for a single side discharge and 8 for dual).

To install the side discharge duct connection collar, remove the appropriate access door. Install the side discharge duct connection collar using the bolts that were removed with the access door. Then connect the duct work. See page 5 for examples.



NOTE

Original Loren Cook Company labels must remain with the unit. This may require swapping access doors from one side to the other.

Final Installation Steps

- Ensure that all accessories are installed.
- Ensure that the blower is secured to ductwork.
- Inspect wheel-to-inlet clearance. Ensure wheel does not rub against the inlet.
- Test the fan to ensure the rotation of the wheel is the same as indicated by the rotation label.
- Inspect for correct amperage with an ammeter and correct voltage with a voltmeter.

Do not allow the fan to run in the wrong direction. This will overheat the motor and cause serious damage. For 3-phase motors, if the fan is running in the wrong direction, check the control switch. It is possible to interchange two leads at this location so that the fan is operating in the correct direction.

Operation

Pre-Start Checks

- Lock out all the primary and secondary power sources.
- Inspect and tighten fasteners and setscrews, particularly fan mounting and bearing fasteners. Refer to *Torque chart*.
- Inspect belt tension and pulley alignment.
- Inspect motor wiring.
- Ensure fan and ductwork are clean and free of debris.
- Close and secure all access doors.
- Restore power to the fan.

Recommended Torque for Setscrews/Bolts (IN/LB.)

Setscrews				Hold Down Bolts	
Size	Key Hex Across Flats	Recommended Torque		Size	Wrench Torque
		Min.	Max.		
No.10	3/32"	28	33	3/8"-16	240
1/4"	1/8"	66	80	1/2"-13	600
5/16"	5/32"	126	156	5/8"-11	1200
3/8"	3/16"	228	275	3/4"-10	2100
7/16"	7/32"	29	348	7/8"-9	2040
1/2"	1/4"	42	504		
5/8"	5/16"	92	1104		
3/4"	3/8"	120	1440		

Start Up

Turn the fan on. In variable speed units, set the fan to its lowest speed and inspect for the following:

- Direction of rotation.
- Excessive vibration.
- Unusual noise.
- Bearing noise.
- Improper belt alignment or tension (listen for squealing).
- Improper motor amperage or voltage.

If a problem is discovered, immediately shut the fan off. Lock out all electrical power and check for the cause of the trouble. See Troubleshooting on page 7.

Inspection

Inspection of the fan should be conducted at the first **30 minute, 8 hour** and **24 hour** intervals of satisfactory operation. During the inspections, stop the fan and inspect as per the chart below.

30 Minute Interval

Inspect bolts, setscrews, and motor mounting bolts. Adjust and tighten as necessary.

8 Hour Interval

Inspect belt alignment and tension. Adjust and tighten as necessary.

24 Hour Interval

Inspect belt tension. Adjust and tighten as necessary.

Maintenance

Establish a schedule for inspecting all parts of the fan. The frequency of inspection depends on the operating conditions and location of the fan.

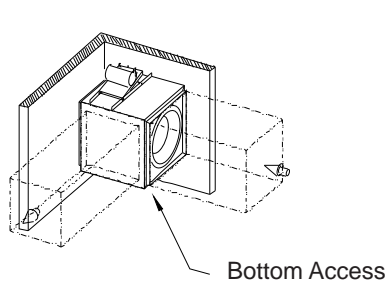
Inspect fans exhausting corrosive or contaminated air within the first month of operation. Fans exhausting contaminated air (airborne abrasives) should be inspected every three months.

Yearly inspections are recommended for fans exhausting non-contaminated air.

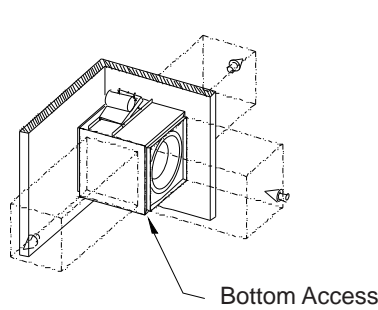
It is recommended the following inspections be conducted twice per year.

- Inspect bolts and setscrews for tightness. Tighten as necessary. Refer to *Torque chart*.
- Inspect belt wear and alignment. Replace worn belts with new belts and adjust alignment as needed. Refer to *Belt and Pulley Installation*.
- Bearings should be inspected as recommended in the *Conditions Chart*.

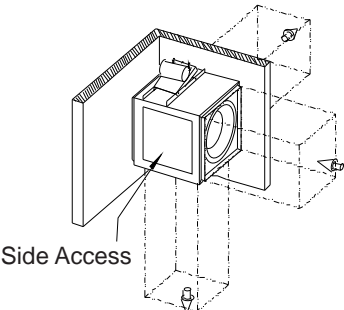
Typical Side Discharge Applications



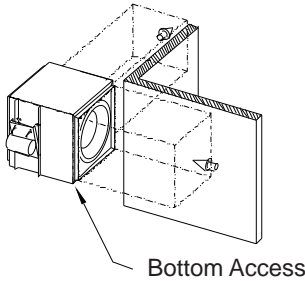
Example 1



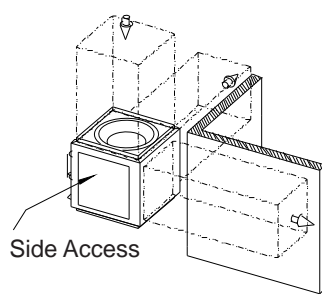
Example 2



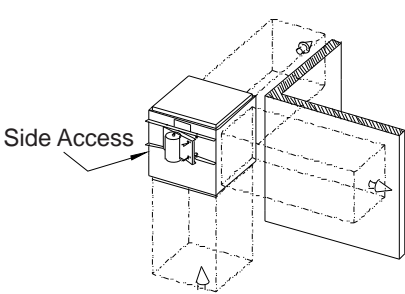
Example 3



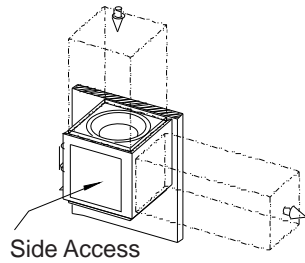
Example 4



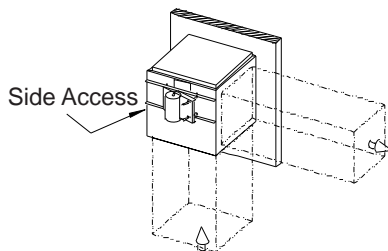
Example 5



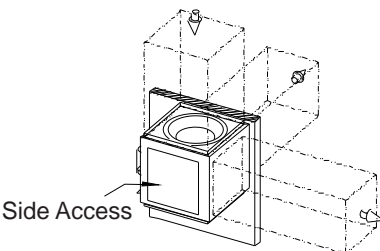
Example 6



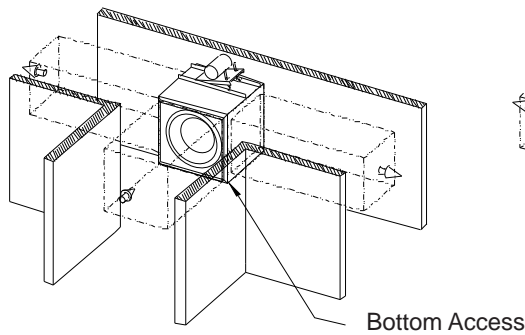
Example 7



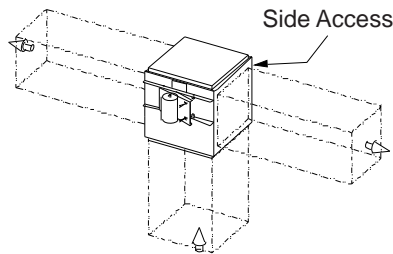
Example 8



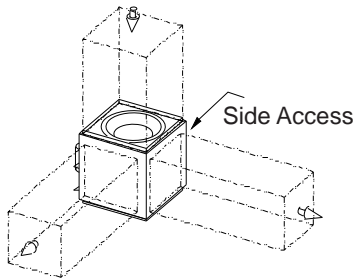
Example 9



Example 10



Example 11



Example 12

- Inspect for cleanliness. Clean exterior surfaces only. Removing dust and grease on motor housing assures proper motor cooling.

Fan Bearings

The fan bearings are provided prelubricated. Any specialized lubrication instructions on fan labels supersede information provided herein. Bearing grease is a petroleum lubricant in a lithium base conforming to a NLGI #2 consistency. If user desires to utilize another type of lubricant, they take responsibility for flushing bearings and lines, and maintaining a lubricant that is compatible with the installation.

A NLGI #2 grease is a light viscosity, low-torque, rust-inhibiting lubricant that is water resistant. Its temperature range is from -30°F to 200°F and capable of intermittent highs of 250°F.

Bearings should be relubricated in accordance with the condition chart below.

For best results, lubricate the bearing while the fan is in operation. Pump grease in slowly until a slight bead forms around the bearing seals. Excessive grease can damage seal and reduce life through excess contamination and/or loss of lubricant.

In the event that the bearing cannot be seen, use no more than three injections with a hand operated grease gun.

Conditions Chart		
RPM	Temp °F	Greasing Interval
Up to 1000	-30 to 120	6 months
	120 to 200	2 months
1000 to 3000	-30 to 120	3 months
	120 to 200	1 month
Over 3000	-30 to 120	1 month
	120 to 200	2 weeks
Any Speed	< -30	Consult Factory
Any Speed	> 200	1 week

For moist or otherwise contaminated installations; divide the interval by a factor of 3. For vertical shaft installations divide the interval by a factor of 2.

Lubricants

Loren Cook Company uses petroleum lubricant in a lithium base. Other types of grease should not be used unless the bearings and lines have been flushed clean. If another type of grease is used, it should be a lithium-based grease conforming to NLGI grade 2 consistency.

A NLGI grade 2 grease is a light viscosity, low-torque, rust-inhibiting lubricant that is water resistant. Its temperature range is from -30°F to +200°F and capable of intermittent highs of +250°F.

Motor Bearings

Motors are provided with prelubricated bearings. Any lubrication instructions shown on the motor nameplate supersede instructions below.

Direct Drive 1050/1075, 1200, 1300 & 1500 rpm units use a prelubricated sleeve bearing that has a oil saturated wicking material surrounding it. The initial factory lubrication is adequate for up to 10 years of operation under normal conditions. However, it is advisable to add lubricant after 3 years. Use only LIGHT grade mineral oil or SAE 10W oil up to 30 drops. If the unit has been stored for a year or more it is advisable to lubricate as directed above. For units in severe conditions, lubrication intervals should be reduced to half.

Motors without sleeve bearings (as described above) will have grease lubricated ball or roller bearings. Motor bearings without provisions for relubrication will operate up to 10 years under normal conditions with no maintenance. In severe applications, high temperatures or excessive contaminants, it is advisable to have the maintenance department disassemble and lubricate the bearings after 3 years of operation to prevent interruption of service.

For motors with provisions for relubrication, follow intervals of the table below.

Relubrication Intervals						
Service Conditions	NEMA Frame Size					
	Up to and including 184T		213T-365T		404T and larger	
	1800 RPM and less	Over 1800 RPM	1800 RPM and less	Over 1800 RPM	1800 RPM and less	Over 1800 RPM
Standard	3 yrs.	6 months	2 yrs.	6 months	1 yr.	3 months
Severe	1 yr.	3 months	1 yr.	3 months	6 months	1 months

Motors are provided with a polyurea mineral oil NGLI #2 grease. All additions to the motor bearings are to be with a compatible grease such as Exxon Mobil Polyrex EM and Chevron SRI.

The above intervals should be reduced to half for vertical shaft installations.

Motor Services

Should the motor prove defective within a one-year period, contact your local Loren Cook representative or your nearest authorized electric motor service representative.

Changing Fan Speed

All belt driven fans with motors up to and including 5 HP are equipped with variable pitch pulleys.

- Loosen setscrew on motor pulley.
- Open or close the groove facing to change the pitch diameter.

Speed Reduction - Open the pulley in order that the belt rests deeper in the groove.

Speed Increase - Close the pulley in order that the belt rests higher in the groove. Ensure RPM limits of the fan and the horsepower limits of the motor are maintained.

- Retighten pulley setscrew on one of the flat areas of the motor shaft.
- After the adjustment is made, check for proper belt tension. See the *Belt and Pulley Installation* section.

Maximum RPM

SQN-B Size	Maximum RPM	
	Non Reinforced Wheel	Reinforced Wheel
60	3795	-
70	4006	-
80	3409	-
100	3243	-
120	2867	-
135	2332	-
150	2099	-
165	1833	2107
180	1610	1786
195	1429	1593
210	1277	1399
225	1152	1459
245	1015	1434
270	876	1226
300	837	1024
330	716	962
365	624	786
402	539	683

SQN-HP Size	Maximum RPM	
	Non Reinforced Wheel	Reinforced Wheel
135	2622	-
150	2929	-
165	2635	-
180	2169	-
195	1955	-
210	1781	-
225	1500	1861
245	1185	1773
270	1025	1563
300	980	1204
330	830	1178
365	735	1038
402	630	970

Bearing Replacement

The fan bearings are pillow block ball bearings.

- Loosen screws on bearing cover.
- Push bearing cover toward the wheel. As the bearing cover moves toward the wheel it will slide down to reveal the bearings and shaft. Refer to Figure 6.
- Remove the old bearing.
- Remove any burrs from the shaft by sanding.
- Slide new bearings onto the shaft to the desired location and loosely mount bearings onto the bearing support. Bearing bolts and setscrews should be loose enough to allow shaft positioning.
- Correctly position the wheel and tighten the bearing bolts securely to the bearing support.
- Align setscrews bearing to bearing and secure tightly to the shaft.

Never tighten both pairs of setscrews before securing bearing mounting bolts. This may damage the shaft.

- Inspect the wheel position again. If necessary, readjust by loosening the bearing bolts and setscrews and repeat from step e.

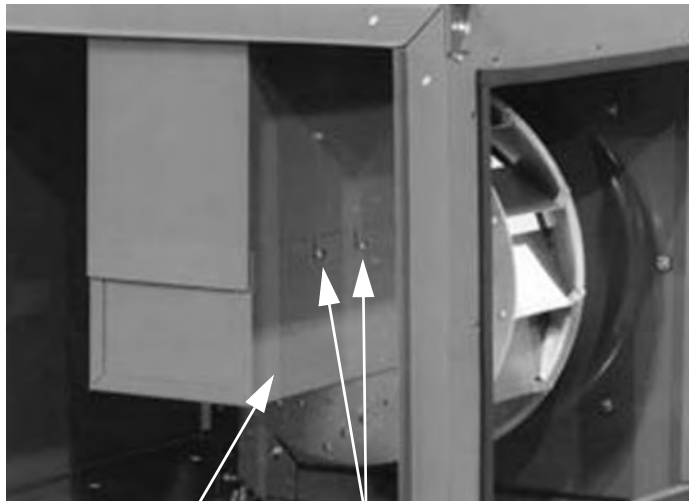
Wheel Replacement

- Drill two 1/4" diameter holes, 180° apart centered approximately between the shaft and the outside diameter of the hub, 3/8" to 1/2" in depth.
- Tap 1/4" holes to 5/16" thread with a 5/16" hole tap. Do not drill or tap greater than recommended.
- Screw the puller arms to the full depth of the threads into the tapped holes. Align center of the puller with the center of the shaft. Ensure all setscrews in the hub, normally two, are fully removed.
- Slowly remove wheel from the shaft.

Recommended Puller

Lisle No. 45000 Sterling Wheel Puller. This puller is available at most automotive parts retail outlets.

Wheel Replacement Components



Bearing Cover

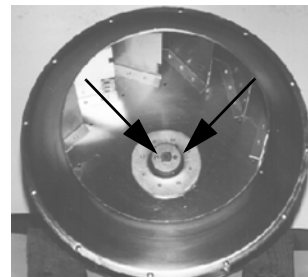
Bearing Cover Screws (Several screws on opposite side not shown in photograph.)

Pulley and Belt Replacement

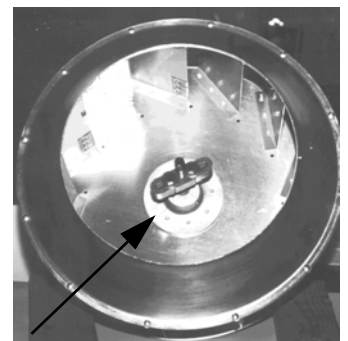
- Remove pulleys from their respective shafts.
- Clean the motor and fan shafts.
- Clean bores of pulleys and coat the bores with heavy oil.
- Remove grease, rust, or burrs from the pulleys and shafts.
- Remove burrs from shaft by sanding.
- Place fan pulley on fan shaft and motor pulley on its shaft.

Do not hammer the pulleys onto the shafts because this may damage the bearings.

- Tighten in place.
- Install belts on pulleys and align as described in the *Belt and Pulley Installation* section.



Above - Drilled hole placement.



Right - Wheel puller.

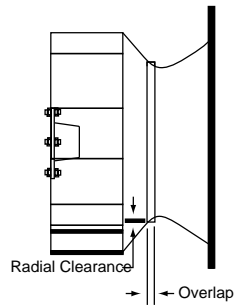
Wheel-to-Inlet Clearance

The correct wheel-to-inlet clearance is critical to proper fan performance. This clearance should be verified before initial start-up since rough handling during shipment could cause a shift in fan components. Refer to wheel/inlet drawing for correct overlap.

Adjust the overlap by loosening the wheel hub and moving the wheel along the shaft to obtain the correct value.

A uniform radial gap (space between the edge of the cone and the edge of the inlet) is obtained by loosening the inlet cone bolts and repositioning the inlet cone.

Wheel/Inlet Overlap

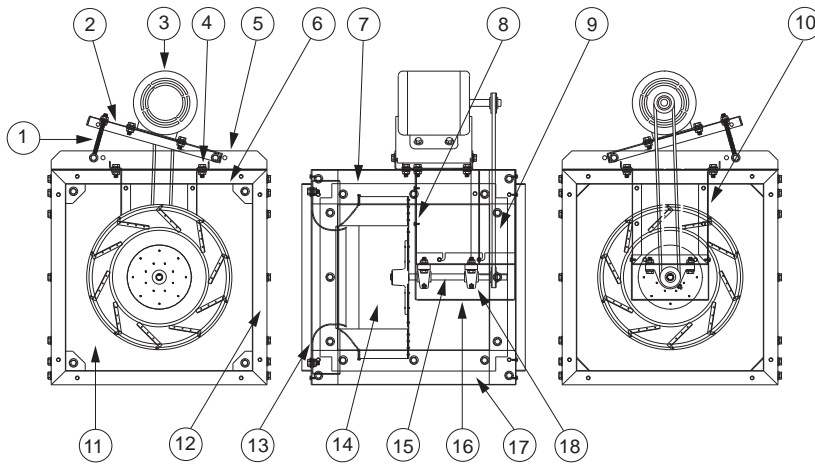


Size	Maximum Overlap	Size	Maximum Overlap
100	5/8"	300	1"
120		330	
135		365	
150		402	
165		445	
180		490	1-1/4"
195		540	
210	3/4"	600	
225		660	
245		730	
270			

Troubleshooting

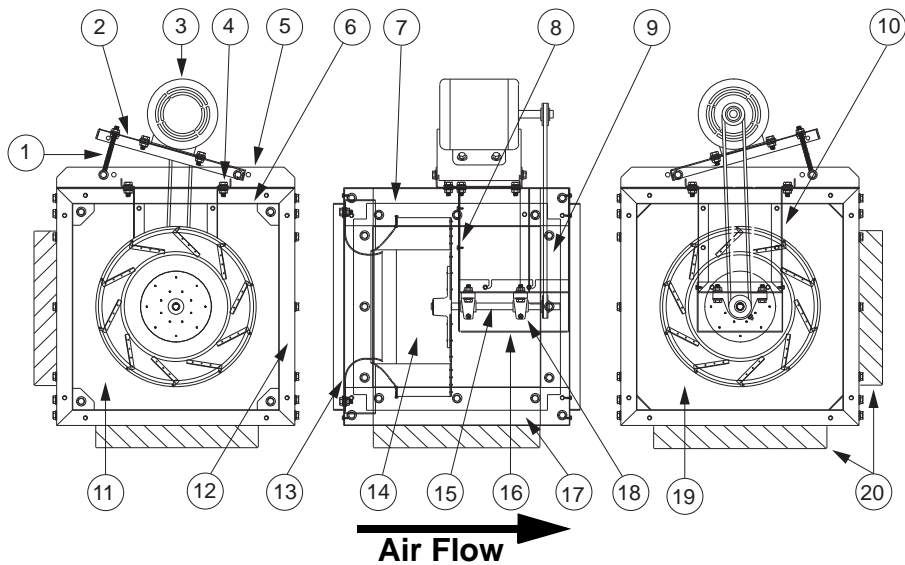
Problem and Potential Cause
Low Capacity or Pressure <ul style="list-style-type: none">•Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.•Poor fan inlet conditions. There should be a straight clear duct at the inlet.•Improper wheel alignment.
Excessive Vibration and Noise <ul style="list-style-type: none">•Damaged or unbalanced wheel.•Belts too loose; worn or oily belts.•Speed too high.•Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.•Bearings need lubrication or replacement.•Fan surge.
Overheated Motor <ul style="list-style-type: none">•Motor improperly wired.•Incorrect direction of rotation. Make sure the fan rotates in same direction as the arrows on the motor or belt drive assembly.•Cooling air diverted or blocked.•Improper inlet clearance.•Incorrect fan RPMs.•Incorrect voltage.
Overheated Bearings <ul style="list-style-type: none">•Improper bearing lubrication•Excessive belt tension.

SQN-B/SQN-HP Parts List



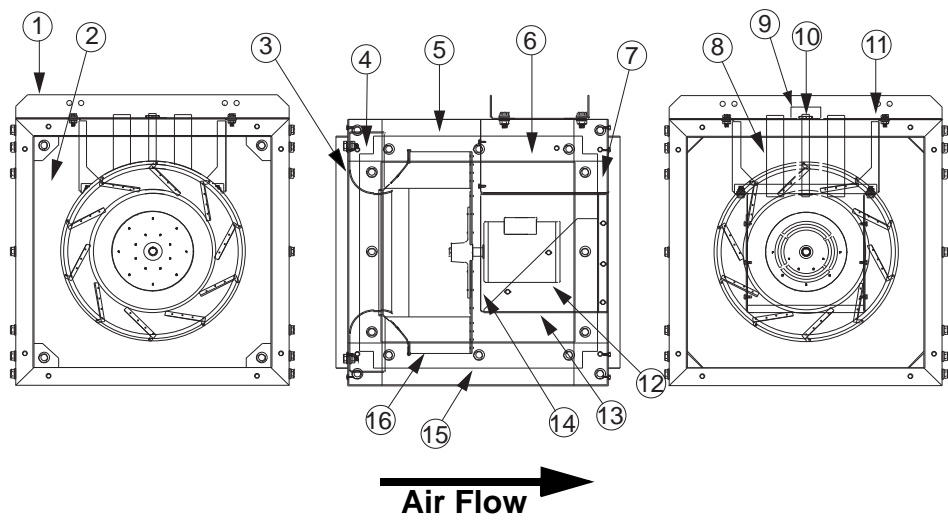
Part No.	Description		
	Sizes 60 - 165	Sizes 180 - 210	Sizes 225 - 402
1	L-Bolt (2)	L-Bolt (2)	L-Bolt (2)
2	Motor Plate (1)	Motor Plate (1)	Motor Plate (1)
3	Motor (1)	Motor (1)	Motor (1)
4	Motor Support Bracket (2)	Motor Support Bracket (2)	Motor Support Bracket (2)
5	Motor Support Rail (2)	Motor Support Rail (3)	Motor Support Rail (2)
6	Housing Panel Motor Side (1)	Housing Panel Motor Side (1)	Housing Panel Motor Side (1)
7	Access Panel (3)	Access Panel (3)	Access Panel (3)
8	Bearing Support Reinforcement Plate (1)	Bearing Support Reinforcement Plate (1)	Bearing Support Reinforcement Plate (2)
9	Belt Cover (1)	Belt Cover (1)	Belt Cover (1)
10	Bearing Support & Bearing Support Leg	Bearing Support & Bearing Support Leg	Bearing Support & Bearing Support Leg
11	Inlet Panel (1)	Inlet Panel (1)	Inlet Panel (1)
12	Housing Frame Support (6)	Housing Frame Support (6)	Housing Frame Support (6)
13	Inlet Cone, Sizes 135-402 (1)	Inlet Cone, Sizes 135-402 (1)	Inlet Cone, Sizes 135-402 (1)
14	Wheel (1)	Wheel (1)	Wheel (1)
15	Shaft (1)	Shaft (1)	Shaft (1)
16	Bearing Cover (1)	Bearing Cover (1)	Bearing Cover (1)
17	Housing Frame Rail (2)	Housing Frame Rail (2)	Housing Frame Rail (2)
18	Bearing (2)	Bearing (2)	Bearing (2)

SQN-B/SQN-HP Side Discharge Parts List



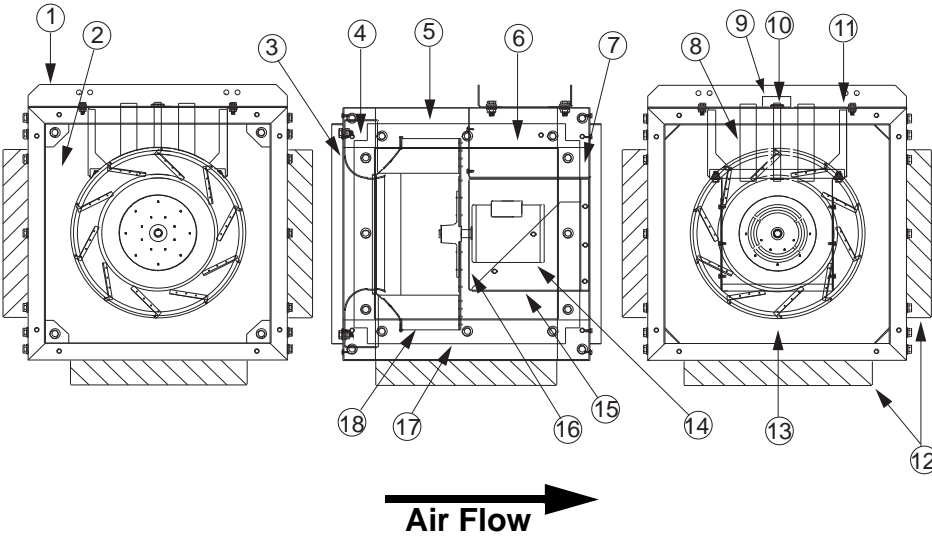
Part No.	Description		
	Sizes 60 - 165	Sizes 180 - 210	Sizes 225 - 402
1	L-Bolt (2)	L-Bolt (2)	L-Bolt (2)
2	Motor Plate (1)	Motor Plate (1)	Motor Plate (1)
3	Motor (1)	Motor (1)	Motor (1)
4	Motor Support Bracket (2)	Motor Support Bracket (2)	Motor Support Bracket (2)
5	Motor Support Rail (2)	Motor Support Rail (3)	Motor Support Rail (2)
6	Housing Panel Motor Side (1)	Housing Panel Motor Side (1)	Housing Panel Motor Side (1)
7	Access Panel (3)	Access Panel (3)	Access Panel (3)
8	Bearing Support Reinforcement Plate (1)	Bearing Support Reinforcement Plate (1)	Bearing Support Reinforcement Plate (2)
9	Belt Cover (1)	Belt Cover (1)	Belt Cover (1)
10	Bearing Support Assembly (1)	Bearing Support Assembly (1)	Bearing Support Assembly (1)
11	Inlet Panel (1)	Inlet Panel (1)	Inlet Panel (1)
12	Housing Frame Support (6)	Housing Frame Support (6)	Housing Frame Support (6)
13	Inlet Cone, Sizes 135 - 402 (1)	Inlet Cone, Sizes 135 - 402 (1)	Inlet Cone, Sizes 135 - 402 (1)
14	Wheel (1)	Wheel (1)	Wheel (1)
15	Shaft (1)	Shaft (1)	Shaft (1)
16	Bearing Cover (1)	Bearing Cover (1)	Bearing Cover (1)
17	Housing Frame Rail (2)	Housing Frame Rail (2)	Housing Frame Rail (2)
18	Bearing (2)	Bearing (2)	Bearing (2)
19	Discharge Cover (1)	Discharge Cover (1)	Discharge Cover (1)
20	Single Side Discharge Flange (4)	Single Side Discharge Flange (4)	Single Side Discharge Flange (4)
	Dual Side Discharge Flange (8)	Dual Side Discharge Flange (8)	Dual Side Discharge Flange (8)

SQN-D Parts List



Part No.	Description	Part No.	Description
1	Motor Support Rail (2)	9	Electrical Box
2	Inlet Panel (1)	10	Electrical Conduit (1)
3	Inlet Cone, Sizes 135 - 165 (1)	11	Motor Plate Platform (1)
4	Housing Frame Support (6)	12	Motor (1)
5	Housing Panel Motor Side (1)	13	Motor Cover (1)
6	Access Panel (3)	14	Motor Plate (1)
7	Motor Cover Back Plate (1)	15	Housing Frame Rail (2)
8	Cooling Tube (2)	16	Wheel

SQN-D Side Discharge Parts List



Part No.	Description	Part No.	Description
1	Motor Support Rail (2)	11	Motor Plate Platform (1)
2	Inlet Panel (1)	12	Single Side Discharge Flange (4)
3	Inlet Cone, Sizes 135 - 165 (1)		Dual Side Discharge Flange (8)
4	Housing Frame Support (6)	13	Discharge Cover (1)
5	Housing Panel Motor Side (1)	14	Motor (1)
6	Access Panel (3)	15	Motor Cover (1)
7	Motor Cover Back Plate (1)	16	Motor Plate (1)
8	Cooling Tube (2)	17	Housing Frame Rail (2)
9	Electrical Box	18	Wheel (1)
10	Electrical Conduit (1)		

Limited Warranty

Loren Cook Company warrants that your Loren Cook fan was manufactured free of defects in materials and workmanship, to the extent stated herein. For a period of one (1) year after date of shipment, we will replace any parts found to be defective without charge, except for shipping costs which will be paid by you. This warranty is granted only to the original purchaser placing the fan in service. This warranty is void if the fan or any part thereof has been altered or modified from its original design or has been abused, misused, damaged or is in worn condition or if the fan has been used other than for the uses described in the company manual. This warranty does not cover defects resulting from normal wear and tear. To make a warranty claim, notify Loren Cook Company, General Offices, 2015 East Dale Street, Springfield, Missouri 65803-4637, explaining in writing, in detail, your complaint and referring to the specific model and serial numbers of your fan. Upon receipt by Loren Cook Company of your written complaint, you will be notified, within thirty (30) days of our receipt of your complaint, in writing, as to the manner in which your claim will be handled. If you are entitled to warranty relief, a warranty adjustment will be completed within sixty (60) business days of the receipt of your written complaint by Loren Cook Company. This warranty gives only the original purchaser placing the fan in service specifically the right. You may have other legal rights which vary from state to state.

LOREN COOK COMPANY

Corporate Offices: 2015 E. Dale Street Springfield, MO 65803 417.869.6474
lorencook.com