ACSC

Smoke Control Ventilator

INSTALLATION, OPERATION AND MAINTENANCE MANUAL

This publication contains the installation, operation and maintenance instructions for standard units of the *ACSC: Smoke Control Fans.*

- ACSC/ACSC-HP/ACSC-XP

Carefully read this publication and any supplemental documents prior to any installation or maintenance procedure.

Loren Cook catalog, *AC,* 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:

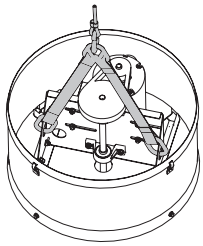
- lorencook.com
- *info@lorencook.com*
- 417-869-6474 ext. 166

For information and instructions on special equipment, contact Loren Cook Company at 417-869-6474.

Receiving and Inspection

Carefully inspect the fan and accessories for any damage and shortage immediately upon receipt of the fan.

- Turn wheel by hand to ensure it turns freely and does not bind
- Record on the *Delivery Receipt* any visible sign of damage



Lifting Lugs

Handling

Lift the fan by the shipping carton or lifting lugs provided under top cap.

NOTICE! Never lift by the shaft, motor or housing.

Storage

If the fan is stored for any length of time prior to installation, store the fan in its original shipping crate and protect it from dust, debris and weather.

Damper

Use of any backdraft dampers is NOT permitted. Fire dampers and/or smoke dampers may be required in a smoke control system. These dampers must meet the requirements determined by the local code authority.

ACSC

⚠WARNING

Rotating Parts & Electrical Shock Hazard:

Fans should be installed and serviced by qualified personnel only.

Disconnect electric power before working on unit (prior to removal of guards or entry into access doors).

Follow proper lockout/tagout procedures to ensure the unit cannot be energized while being installed or serviced.

A disconnect switch should be placed 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.

Grounding is required. All field-installed wiring must be completed by qualified personnel. All field installed wiring must comply with National Electric Code (NFPA 70) and all applicable local codes. Ensure the power supply (voltage, frequency and current carrying capacity of wires) is in accordance with the motor nameplate.

Fans and blowers create pressure at the discharge and vacuum at the inlet. This may cause objects to get pulled into the unit and objects to be propelled rapidly from the discharge. The discharge should always be directed in a safe direction and inlets should not be left unguarded. Any object pulled into the inlet will become a projectile capable of causing serious injury or death.

When air is allowed to move through a non-powered fan, the impeller can rotate, which is referred to as windmilling. Windmilling will cause hazardous conditions due to unexpected rotation of components. Impellers should be blocked in position or air passages blocked to prevent draft when working on fans.

Friction and power loss inside rotating components will cause them to be a potential burn hazard. All components should be approached with caution and/or allowed to cool before contacting them for maintenance.

Under certain lighting conditions, rotating components may appear stationary. Components should be verified to be stationary in a safe manner, before they come into contact with personnel, tools or clothing.

Failure to follow these instructions could result in death or serious injury.

The attachment of roof mounted fans to the roof curb as well as the attachment of roof curbs to the building structure must exceed the structural requirements based on the environmental loading derived from the applicable building code for the site. The local code official may require variations from the recognized code based on local data. The licensed engineer of record will be responsible for prescribing the correct attachment based on construction materials, code requirements and environmental effects specific to the installation.

Installation

If the fan was delivered with the motor unmounted, see *Belt and Pulley Installation*.

Wiring Installation

Leave enough slack in the wiring to allow for motor movement when adjusting belt tension. Some fractional motors have to be removed in order to make the connection with the terminal box at the end of the motor. To remove motor, remove bolts securing motor base to power assembly. Do not remove motor mounting bolts.

NOTICE! Follow the wiring diagram in the disconnect switch and the wiring diagram provided with the motor. Correctly label the circuit on the main power box and always identify a closed switch to promote safety (i.e., red tape over a closed switch).

Final Installation Steps

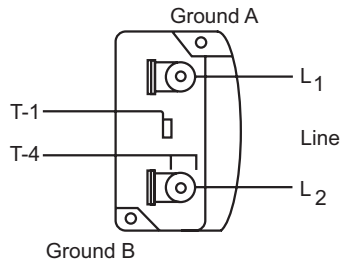
1. Ensure fasteners and setscrews, particularly fan mounting and bearing fasteners, are tightened according to the recommended torque shown in the *Recommended Torque for Setscrews/Bolts* table, page 3.
2. Inspect for correct amperage with an ammeter and correct voltage with a voltmeter.
3. Ensure that all accessories are installed.
4. Test the fan to be sure the rotation is the same as indicated by the arrow marked *Rotation*.

NOTICE! 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.

5. Inspect wheel-to-inlet clearance. Wheels may shift in shipment. To realign wheel-to-inlet, shift upper bearing so there is an equal radial clearance between the wheel and inlet.

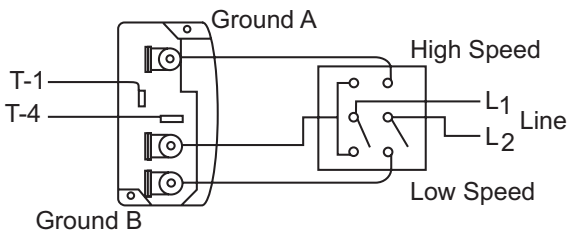
Wiring Diagrams

Single Speed, Single Phase Motor



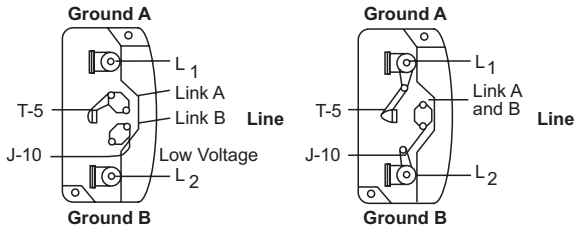
When ground is required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-1 and T-4.

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.

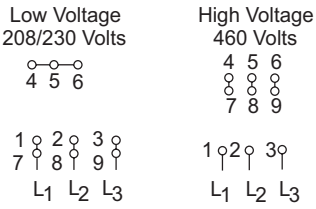
Single Speed, Single Phase, Dual Voltage



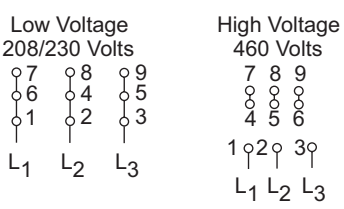
When ground is required, attach to ground A or B with No. 6 thread forming screw. To reverse, interchange T-5 and J-10 leads.

3 Phase, 9 Lead Motor

Y-Connection

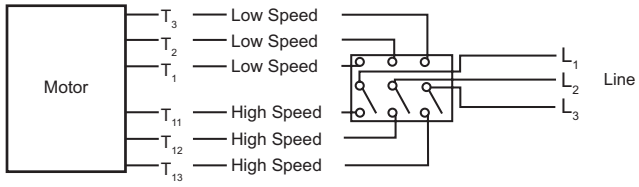


Delta-Connection



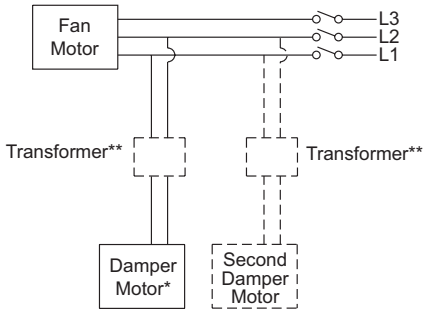
To reverse, interchange any two line leads.

2 Speed, 2 Winding, 3 Phase



To reverse:
High Speed - interchange leads T_{11} and T_{12}.
Low Speed - interchange leads T_1 and T_2.
Both Speeds - interchange any two line leads.

Typical Damper Motor Schematic



For 3-Phase, damper motor voltage should be the same between L_1 and L_2. For single phase application, disregard L_3.
*Damper motors may be available in 115, 230 or 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.

Routine Inspection

Establish a schedule for inspecting all parts of the fan.

The frequency of inspection depends on the operating conditions and location of the fan.

ACSC fan is intended for general ventilation, and is UL listed for Smoke Control Systems. The fan should not be used to exhaust corrosive or contaminated air.

Regular, twice per year, inspections are recommended and may be required per local codes.

Contact the local code authority for inspection requirements.

- Inspect bolts and setscrews for tightness. Tighten as necessary. Refer to *Recommended 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*.
- Inspect for cleanliness. Clean exterior surfaces only. Removing dust and grease on motor housing assures proper motor cooling.

Belt and Pulley 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.

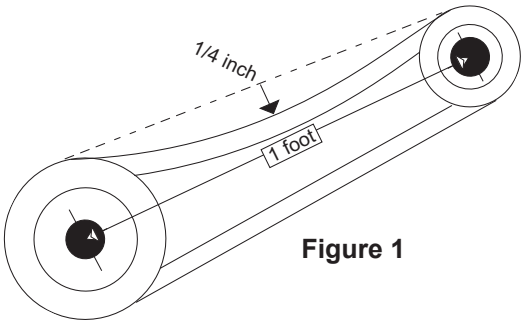


Figure 1

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

1. Loosen motor plate adjustment bolts and move motor 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.
2. Slide the motor plate back 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*.
3. Lock the motor plate adjustment bolts in place.
4. Ensure pulleys are properly aligned. Refer to *Figure 2*.

Tolerance

Center Distance	Max. Gap
Up through 12"	1/16"
12" through 48"	1/8"
Over 48"	1/4"

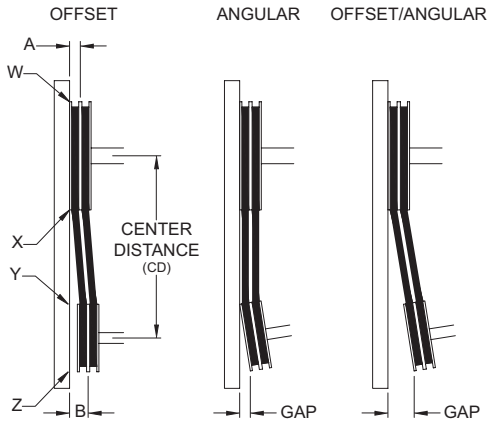


Figure 2

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.

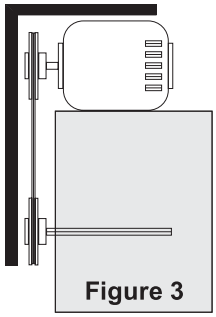


Figure 3

Operation

Pre-Start Checks

1. Lock out all the primary and secondary power sources.
2. Inspect and tighten fasteners and setscrews, particularly fan mounting and bearing fasteners Refer to *Torque* chart.
3. Inspect belt tension and pulley alignment. Refer to *Belt and Pulley Installation*.
4. Inspect motor wiring. Refer to *Wiring Installation*.
5. Ensure belt touches only the pulleys.
6. Rotate the wheel to ensure it rotates freely.
7. Ensure fan and ductwork are clean and free of debris.
8. Close and secure all access doors.
9. Restore power to fan.

Start-Up

Turn on the fan. In variable speed units, set 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

NOTICE! If a problem is discovered, immediately shut off the fan. Lock out all electrical power and check for the cause of the trouble. Refer to Troubleshooting.

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 *Conditions Chart*.

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.

Recommended Torque for Setscrews/Bolts (IN-LB)

Setscrews				Hold Down Bolts	
Size	Key Hex Across Flats	Recommended Torque		Size	Recommended Torque
		Min.	Max.		
#8	5/64"	15	21	3/8"-16	324
#10	3/32"	27	33	1/2"-13	780
1/4	1/8"	70	80	5/8"-11	1440
5/16	5/32"	140	160	3/4"-10	2400
3/8	3/16"	250	290	7/8"-9	1920
7/16	7/32"	355	405	1"-8	2700
1/2	1/4"	560	640	1-1/8"-7	4200
5/8	5/16"	1120	1280	1-1/4"-7	6000
3/4	3/8"	1680	1920	-	-
7/8	1/2"	4200	4800	-	-
1	9/16"	5600	6400	-	-

Maintenance

Fan Bearings

NOTICE! The fan bearings are provided prelubricated. Any specialized lubrication instructions on fan labels supersedes information provided herein. Bearing grease is a petroleum lubricant in a lithium base conforming to an 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.

An 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.

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 three. For vertical shaft installations divide the interval by a factor of two.

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

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.

Motor Bearings

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

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 contaminates, it is advisable to have the maintenance department disassemble and lubricate the bearings after three 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 & Less	Over 1800 RPM	1800 RPM & Less	Over 1800 RPM	1800 RPM & 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 month

NOTICE! 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.

Maximum RPM

ACSC HP Size	Maximum RPM	
	Standard	Reinforced
150	1952	-
165	1728	-
180	1829	-
195	1570	-
210	1626	-
225	1435	-
245	1185	1234
270	1025	1049
300	980	1046
330	830	912
365	735	872

ACSC-XP Size	Maximum RPM
165	2508
180	2396
195	2100
210	2126
225	1879
245	1616
270	1656
300	1391
330	1182
365	1132

Changing Shaft Speed

All belt driven ventilators (5HP or less) are equipped with variable pitch pulleys. To change fan speed, per-form the following:

1. Loosen setscrew on driver (motor) pulley and remove key, if equipped.
2. Turn the pulley rim to open or close the groove facing. If the pulley has multiple grooves, all must be adjusted to the same width.
3. After adjustment, inspect for proper belt tension.

Speed Reduction

Open the pulley in order that the belt rides deeper in the groove (smaller pitch diameter).

Speed Increase

Close the pulley in order that the belt rides higher in the groove (larger pitch diameter). Ensure that the RPM limits of the fan and the horsepower limits of the motor are maintained.

Pulley and Belt Replacement

1. Clean the motor and fan shafts.
2. Loosen the motor plate mounting bolts to relieve the belt tension. Remove the belt.
3. Loosen the pulley setscrews and remove the pulleys from the shaft. If excessive force is required to remove the pulleys, a three-jaw puller can be used. This tool, however, can easily warp a pulley. If the puller is used, inspect the trueness of the pulley after it is removed from the shaft. The pulley will need replacement if it is more than 0.020 inch out of true.
4. Clean the bores of the pulleys and place a light coat of oil on the bores.
5. Remove any grease, rust or burrs from pulleys.
6. Place the fan pulley on the fan shaft and the motor pulley on the motor shaft. Damage to the pulleys can occur when excessive force is used in placing the pulleys on their respective shafts.
7. After the pulleys have been correctly placed back onto their shafts, tighten the pulley setscrews.

Bearing Replacement

The fan bearings are pillow block type ball bearings.

1. Remove the old bearing.
2. Remove any burrs from the shaft by sanding.
3. 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.
4. Correctly position the wheel and tighten the bearing bolts securely to the bearing support.

5. Align setscrews bearing to bearing and secure tightly to the shaft.

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

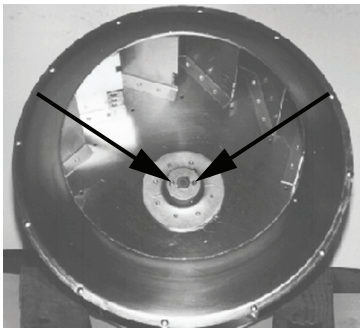
6. Inspect the wheel position again. If necessary, readjust by loosening the bearing bolts and setscrews and repeat from step 5.

Wheel Replacement

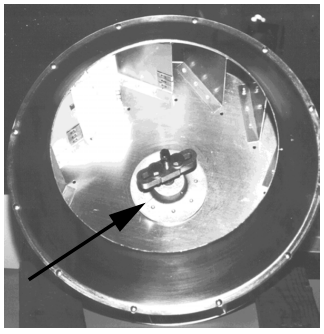
1. Drill two holes approximately centered between the shaft and the edge of the hub OD with the following dimensions:
   - 1/4” diameter
   - 3/8” to 1/2” deep
   - 180° apart in face of hub
2. Tap 1/4” holes to 5/16” thread with the 5/16” hole tap. Do not drill or tap any larger than recommended.
   - 1/4” diameter
   - 3/8” to 1/2” deep
   - 180° apart in face of hub
3. Tap 1/4” holes to 5/16” thread with the 5/16” hole tap. Do not drill or tap any larger than recommended.
4. Screw the puller arms into the tapped holes full depth of threads (3/8” to 1/2” approximately). Align center of puller with center of shaft. Make certain all setscrews in hub (normally a quantity of two) are fully removed. Work puller slowly to back wheel off the shaft.

Recommended Puller

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



Drilled Hole Location



Wheel Puller

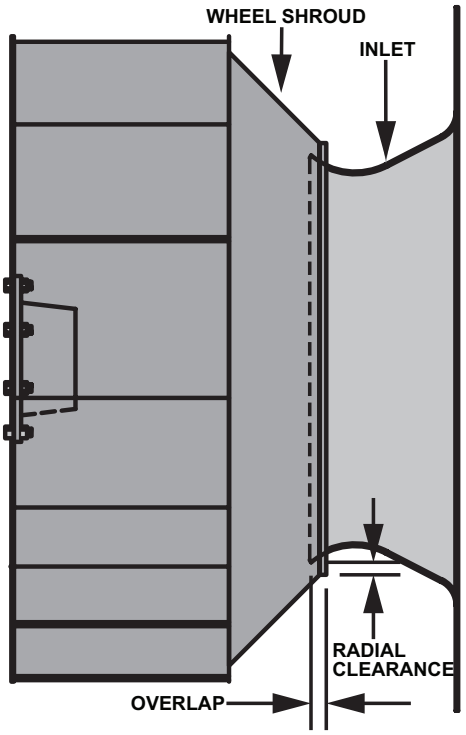
Wheel-to-Inlet Clearance

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.

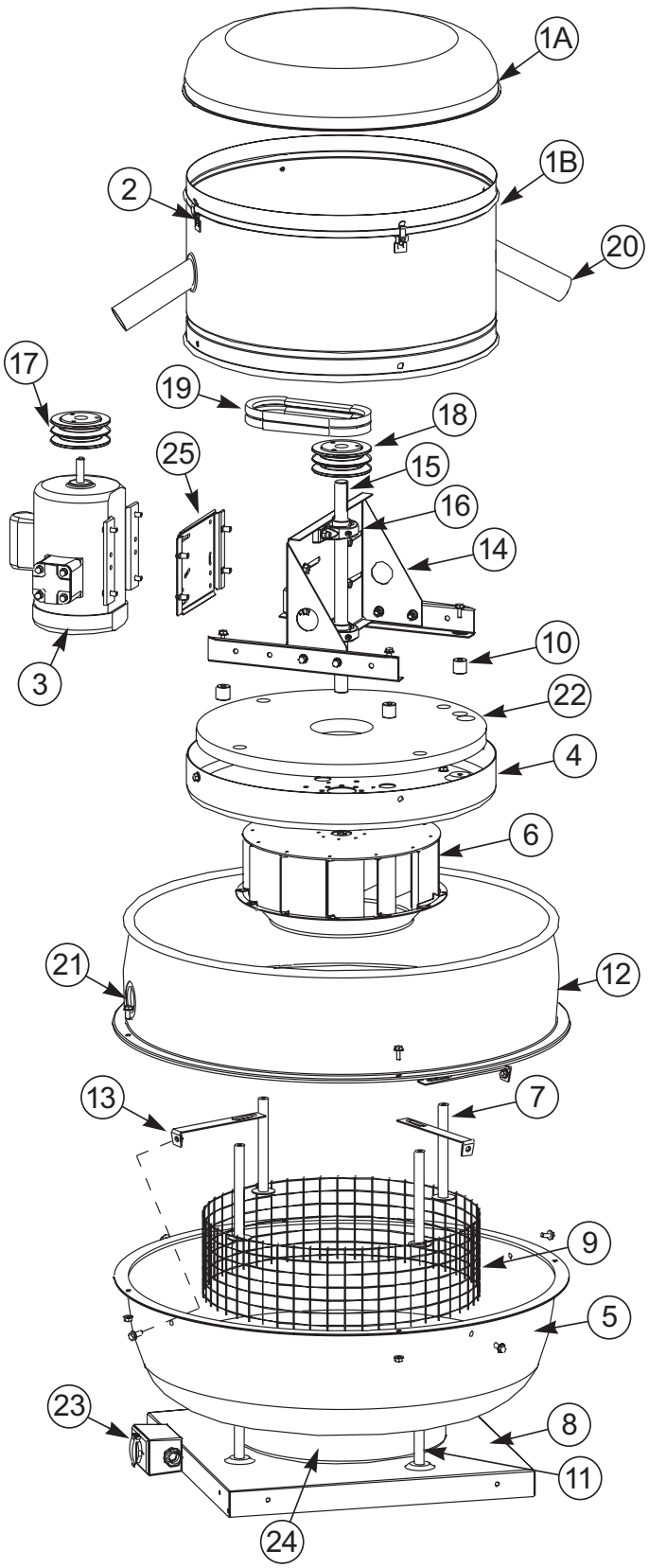
A uniform radial gap (space between the edge of the cone and the edge of the inlet) is obtained by loosening the inlet cone bolts and repositioning the inlet cone.

Size	Overlap
100–165	3/16”
180–245	1/4”
270–300	5/16”
330–365	3/8”
402	7/16”
445–490	1/2”
540–730	13/16”



Parts List

ACSC



Drawing Reference #	Model Size	Replacement Part #	ACSC Part Description
1A, 1B	100	708942	Top Cap Assembly
	120–135	708943	
	150–165	708944	
	180–195	708945	
	210–225	708946	
	245	708947	
	270	708948	
	300	708949	
	330	708950	
	365	708951	
	402	708952	
	445	708953	
	490	708954	
1A	100	254381	Top Cap Lid
	120–135	254382	
	150–165	254383	
	180–195	254384	
	210–225	254385	
	245	254386	
	270	254387	
	300	254388	
	330	254389	
	365	254390	
	402	254391	
	445	254392	
	490	254393	
1B	100	275352	Top Cap Cylinder
	120–135	275353	
	150–165	275355	
	180–195	275357	
	210–225	275359	
	245	275361	
	270	275362	
	300	275363	
	330	275364	
	365	275365	
	402	275366	
	445	275367	
	490	275368	
2	100–245	780680	Top Cap Snap Fastener (4)
	270–490		Top Cap Snap Fastener (8)
3	Consult Factory	Consult Factory	Motor
4	100	254714	Spun Support Plate (round)
	120–135	254715	
	150–165	254716	
	180–195	254717	
	210–225	254718	
	245	254719	
	270	254720	
	300	254721	
	330	254722	
	365	254723	
	402	254724	
	445	254725	
	490	254726	
5	100	254505	Baffle
	120	254670	
	135	254671	
	150	254672	
	165	254673	
	180	254674	
	195	254675	
	210	254676	
	225	254677	
	245	254514	
	270	254515	
	300	254516	
	330	254517	
	365	254518	
	402	254519	
	445	254520	
	490	254521	

Drawing Ref. #	Model Size	Replacement Part #			ACSC Part Description
		Standard	HP	XP	
6	100	705400	-	-	Wheel Assembly
	120	705401	-	-	
	135	705402	-	-	
	150	705403	705463	-	
	165	705404	705464	705484	
	180	705405	705465	705485	
	195	705406	705466	705486	
	210	705407	705467	705487	
	225	705408	705468	705488	
	245	705409	705469	705489	
	270	705410	705470	705491	
	300	705411	705471	705492	
	330	705412	705472	705492	
	365	705413	705473	-	
	402	705414	705474	-	
	445	705415	-	-	
	490	705416	-	-	
	100-225	N/A	-	-	Reinforced Wheel Assembly
	245	705449	705503	-	
	270	705450	705504	-	
	300	705451	705505	-	
	330	705452	705506	-	
	365	705453	705507	-	
	402	705454	-	-	
	445	705455	-	-	
	490	705456	-	-	
7	100	503021	-	-	Upper Post (4)
	120	503034	-	-	
	135	503037	-	-	
	150	503043	503021	-	
	165	503047	503024	503019	
	180	503043	503024	503010	
	195	503047	503024	503014	
	210-225	503061	503037	503016/ 503022	
	245	503221	503191	503166	
	270	503221	503191	503173	Upper Post (8)
	300	503243	503211	503176	
	330	503241	503211	503183	
	365	503253	503211	503188	
	402	503257	-	-	
	445	503285	-	-	
	490	503286	-	-	

Drawing Reference #	Model Size	Replacement Part #	ACSC Part Description
8	100	254881	Base
	120	254882	
	135	254883	
	150	254884	
	165	254885	
	180	254886	
	195	254887	
	210	254888	
	225	254889	
	245	254890	
	270	254891	
	300	254892	
	330	254893	
	365	254894	
	402	254563	
	445	254564	
	490	254565	
9	70–490	Consult Factory	Bird Screen
Not Shown	70–490	Consult Factory	Conduit (3/4 Liquid Tite)
10	100–490	126840	Solid Isolators (4)
11	100	503005	Lower Post (4)
	120–135	503003	
	150–165	503010	
	180–195	503021	
	210–225	503024	
	245	503184	
	270	503184	Lower Post (8)
	300	503191	
	330	503193	
	365	503199	
	402	503211	
	445	503211	
	490	503223	

Drawing Reference #	Model Size	Replacement Part #	ACSC Part Description
12	100	254662	Outer Band (wind band)
	120–135	254663	
	150–165	254664	
	180–195	254665	
	210–225	254666	
	245–270	254667	
	300–330	254668	
	365–402	254669	
	445–490	254660	
13	100	N/A	Baffle Brace (4)
	120–135	280568	
	150–195	280570	
	210–300	280571	
	330	280570	
	365	280572	
	402	280571	
	445	280573	Baffle Brace (8)
	490	280572	
14	100	709299	Power Assembly with Bearings
	120–135	709571	
	150–165	709573	
	180–195	709591	
	210	709592	
	225	709593	
	245	709594	
	270	709595	
	300	709596	
	330	709597	
	365	709598	
	445	709583	
	490	709584	
15	100	520750	Shaft
	120–165	520751	
	180–210	520753	
	225–270	520754	
	300–490	520755	
16	100–210	117310	Bearings (2)
	225–270	117312	
	300–490	117314	
17	100–490	Consult Factory	Drive Sheave
18	100–490	Consult Factory	Driven Sheave
19	100–490	Consult Factory	Belt Set
20	100–490	Consult Factory	Vent Tube (2)
21	100–490	145041	Grommet (2)
22	100–490	Consult Factory	Heat Shield
23	100–490	125431	NEMA 3 Wiring Box
24	100	254421	Inlet
	120–225	N/A	
	245	254708	
	270	254710	
	300	254712	
	330	254433	
	365	254434	
	402	254435	
	445	254436	
	490	254437	
25	100	415798	Flat Motor Mount Plate (square)
	120–165	415801	
	180–225	415802	
	245–270	415803	
	300–365	415804	
	402–490	415805	

Troubleshooting

Problem and Potential Cause
Low Capacity or Pressure: • 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: • 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: • 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: • Improper bearing lubrication • Excessive belt tension

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. For fans provided with motors, the motor manufacturer warrants motors for a designated period stated in the manufacturer's warranty. Warranty periods vary from manufacturer to manufacturer. Should motors furnished by Loren Cook Company prove defective during the designated period, they should be returned to the nearest authorized motor service station. Loren Cook Company will not be responsible for any removal or installation costs.

LOREN COOK COMPANY

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