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CENTRIFUGAL, INDUSTRIAL, PROPELLER AND ROOF EXHAUST FANS

OPERATING AND MAINTENANCE INSTRUCTIONS

GENERAL

Lift fans into place with slings around the fan casing or use lifting lugs where provided. Use lock washers on all anchor bolts and make sure anchor bolts are fastened securely. Check fan interior to ensure no foreign objects are in the casing. Make sure rotor rotates freely before startup. Where dirt or dust moves through the fan, inspect the rotor periodically and clean if necessary. If a piece of material buildup comes loose the rotor will be out of balance and could cause premature bearing failure.

When ordering repair parts, give the fan model number and serial number (obtained from nameplate on fan housing) along with a complete description of the part required.

V-BELT DRIVES

Periodically check the belt tension and tighten if necessary. Belt adjustment is usually required shortly after new belts are put into service. Some slack should be left in the belts, as overtightening increases belt wear and imposes undue strain on the motor and fan bearings. Check the alignment of fan and motor sheaves and ensure fan and motor shafts are parallel.

When replacement belts are required, replace with a complete matched set. Retain old belts for emergency only. When changing belts, loosen tension, do not force belts over sheaves. Spare belts should be stored in cool, dark, dry storage.

LUBRICATION

SLEEVE-BEARING MOTORS

Oil motors during start up and once every 3 months thereafter with a good grade of medium machine oil. Do not over lubricate.

BALL-BEARING MOTORS

All motors leave the factory with bearings custom greased for many years of satisfactory operation under most conditions. The regreasing of motors in service depends on the application and service conditions which can vary over a wide range. Indiscriminate regreasing should be avoided. For maximum bearing life and economy the user must apply judgement to match the greasing program with existing conditions. There are two greasing procedures, either of which are acceptable and may be followed, according to the conditions of service and application. Under either procedure the entry of dirt or other contamination must be carefully avoided.

- 1.(a) Normal Conditions: The motor should be dismantled for a thorough cleanout of spent grease. The spaces between the balls and cages should be packed full and the housing half full of new grease.
- (b) Extreme Moisture, Outdoor and Flooding Conditions: The same as 1.(a) except a non-whipping, channelling-type grease should be used. The space in the housing should be packed approximately 7/8 full of grease with the grease plugs removed. After reassembly the motor should be run for about ten minutes before the grease plugs are replaced.
2. If procedure (1) not used:
 - (a) Normal Conditions:

Regrease with hand operated gun at standstill using the following procedure:

 - I. Remove the relief plug
 - II. Clear out any hardened grease.
 - III. Inject grease until new grease is expelled from relief opening.
 - IV. Allow motor to run 10 minutes before replacing relief plug.
 - (b) Extreme Moisture, Outdoor Flooding Applications:

The same as 2.(a) except the grease must be water and corrosion resistant.
If bearings run hot, excessive grease may be present and the bearings may require further running with relief plugs removed.

FAN BEARINGS

Alphair fans are supplied with various types of bearings, depending on the application and fan type. The most common types are listed below.

- SYC and FYC or equal ball bearings are factory prelubricated lifetime sealed and require no further lubrication.
- SY and FY or equal ball bearings are prelubricated but are equipped with a Zerk pressure grease fittings for regreasing . For normal service add grease after six months continuous operation or after 1 year of intermittent service. See Lubrication Schedule for additional information.

NOTE: If possible, apply grease to the bearing while it is running. Add the grease slowly until a slight bleeding of grease from the seals is noted. At this point the grease chamber will be filled to approximately 1/3 of its capacity. Using this method, the danger of over lubricating will be reduced.

- SN1500, SN1600, SN2200 Series or equal split pillow blocks with self-aligning ball or roller bearings are correctly packed at the factory. No greasing is required when the fan is put into service unless the elapsed time from shipping date is over six months. When this is the condition, check the bearings and repack with the recommended quantity and quality grease before putting fan in service.

Greasing procedures similar to that outlined for motor bearings also apply to fan bearings.

NOTE: Fans not in use during construction should be manually rotated once a month to keep complete bearing well lubricated and prevent pitting often caused by condensation in bearings that are inoperative for long periods of time. Bearings stored outside should be protected with heavy polyethelene or equal covering to prevent moisture from entering the bearing housings.

LUBRICATION SCHEDULE

MOTORS

APPLICATION	¼ - 7-1/2 HP	10 – 40 HP	50 HP & UP
Easy, intermittent service	7 years	5 years	3 years
Standard continuous service	5 years	3 years	1 year
Severe service (dusty, dirty)	3 years	1 year	6 months
Severe moisture and outdoor	1 year	1 year	6 months
Flooding conditions	After each immersion		

FANS

OPERATING SPEED AND CONDITIONS	LUBRICATION RECOMMENDATIONS (while running if possible)
Light load, slow speed (under 700 rpm)	1200 hrs or 3 months
Standard load, medium speed (700-1700 rpm)	1000 hrs or 2 months
Standard load, high speed	700 hrs or 1 month
For dusty, damp and other severe operating conditions	Decrease lubrication interval given above.

The above is based on a good maintenance practice. It may be possible under certain conditions to increase the interval between greasing. This should only be done after experience in individual applications.

RECOMMENDED LUBRICANTS

TYPE OF LUBRICANT	BEARING OPERATING TEMPERATURE
GULF DURALUBE LIGHT – Gulf Oil Canada Ltd, ESSO MP GREASE M – Imperial Oil Ltd. ALVANIA GREASE 2 – Shell Canada Ltd. SUN PRESTIGE 41 GREASE – Sun Oil Co. Ltd. REGAL AFB NO. 2 – Texaco Canada Ltd.	Below 32°F
GULFCROWN EP2 – Gulf Oil Canada Ltd. ESSO MP GREASE H – Imperial Oil Ltd. ALVANIA GREASE 2 – Shell Canada Ltd. SUN PRESTIGE 42 GREASE – Sun Oil Co. Ltd. REGAL AFB NO. 2 – Texaco Canada Ltd.	32°F to 200°F
DOW CORNING FS3451	High Temp to 450°F