



BLOWER BRIEFS



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SUTORBILT CALIFORNIA SERIES BLOWERS

The Sutorbilt California Series of blowers and vacuum pumps dates back to the late 1950's. The California series was designed to meet those application needs for low to medium pressures and vacuums. The units are well known for their quality and durability.

The California series has taken many evolutionary steps since their original design. The engineers and designers have endeavored to include advancements in materials and manufacturing technology to continue updating this series.

The California Series features cast iron impellers, cylinders and headplates. Alloy steel shafts are supported by ball or spherical ball bearings depending on the unit size. The impellers are kept in synchronization by a matched pair of alloy steel spur gears. The gears are attached to the shaft by means of a tapered pin on the smaller units. The larger units (6"-8" gear size) utilize a hub which is attached to the shaft by means of a press fit and tapered pin, and the gear is bolted and pinned to the hub. The timing gears operate in an oil bath which provides lubrication for the gears and gear end bearings. The drive end bearings are grease lubricated. Viton oil seals prevent oil leakage to the process area. Mechanical seals are also available as an option when minimum leakage of the process gas is desirable.

As the California Series has been upgraded over the years, the model designations have been changed to differentiate the capabilities and design feature of the units.

Twenty different models have been available throughout the history of the California Series. During this time, the engineers and designers have done an admirable job of keeping the newest version compatible with the older versions. In nearly all cases, the newest version will mount in the same location, have the same pipe connections, and provide the same performance as the older versions.

In most cases, the newer unit can go to higher differential pressures or vacuums and can operate at higher speeds than their older counterparts. Improved gear quality and better bearings make these increased ratings possible.

MAINTENANCE CORNER

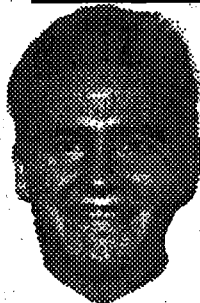
You have just installed a new sheave on your blower to increase the flow capacity of your system. The unit starts up fine and for a couple of days the performance meets all of your expectations. On the evening of the third day you receive a call from your graveyard shift in a panic because the blower has failed. It seems that the shaft is broken and your production has come to a screeching halt.

What could have gone wrong with this installation? Overhung load may have been the culprit. Blowers are heavy duty machines, however, you must follow the manufacturers recommendations to keep the overhung load within each machines design criteria.

Overhung load is the amount of force generated by the pull of the V-belt and how far out on the blower shaft this load is applied. In the example above, the shaft was broken. In all likelihood, it broke at the drive end bearing. This would be the worst kind of failure caused by excessive overhung load. Bearing failure and shorter bearing life are the most common results of this problem.

Excessive overhung load can be generated by:

1. Using a sheave with a smaller than recommended diameter.
2. Belts that are too tight.
3. Sheave is mounted too far out on the shaft (should be within 1/8" of the drive end cover).
4. Excessive horsepower at the blower shaft.



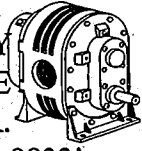
REP HAS A NEW EMPLOYEE

Mr. Jim Miller, a previous BSEE graduate from Florida State University, has just joined our staff. Mr. Miller has been a part time employee of REP for the past three years. He has learned a great deal in the CADD system and the application of packages. Mr. Miller will be a great asset to REP. If you need some pricing on packages, he is your man.

REP REPRESENTS NCT

REP is proud to announce that we are now the representatives in the Southeast for NCT. Noise Cancellation Technologies, Inc. (NCT) is an environmentally conscious company dedicated to improving our society's quality of life by making the world a quieter, safer, more efficient place in which to live, work and play. As the industry leader in active electronic noise cancellation technology, NCT provides solutions that reduce annoying-sometimes harmful- noise or vibration, where traditional passive noise control methods are either impractical or inefficient.

REP HAS A COMPLETE FACILITY
TO PROVIDE THE BEST SERVICE
FOR REBUILDING YOUR BLOWER.
CALL REP FOR DETAILS 800-536-9933!



LUBRICATION

The oil in the gearbox should be drained, flushed and replace every 1500 hours under normal operating conditions. If the unit is operating at higher vacuums and pressure (greater than 10"Hgg or 12 psig) levels, it should be replaced more often. This interval may be every 500 hours or when the oil becomes discolored. Environments where there are suspended solids in the air also require more frequent oil changes due to particulates passing past the seals and into the bearings.

A high quality oil should be used. For applications having a discharge temperature from 32 degrees F to 100 degrees F should use an SAE 20 (viscosity of 65 centistokes @ 40 degrees C) grade oil. This oil would typically be used in very cold weather or applications which require very little vacuum or pressure rise capabilities. For applications which have discharge temperatures in the 100 degrees F to 275 degrees F range an SAE 40 (viscosity of 150 centistokes @ 40 degrees C) grade oil is required.

When the discharge temperature exceeds 275 degree F, an SAE 50 (viscosity of 250 centistokes at 40 degrees C) grade oil is recommended. For those applications with extreme variations in discharge temperature, a multi-viscosity oil may be used. A 20W-50W SAE grade multiple viscosity oil is recommended.

Many of the units utilize grease lubrication on the drive end bearings. The bearings will have a grease fitting. These bearings should be greased every 500 hours. When regreasing, the old grease will be forced out the vents during operation. The old grease must be removed to keep the vents clear to prevent damage to the seals. A Number 2 bearing grease should be used on Sutorbilt units. If your application operates with discharge temperatures below 32 degrees F, please consult you local representative for the grease which would be best suited.

Care must be taken to properly fill the oil reservoirs. Too much or too little may result in damage to the unit. Typically, a vented oil fill plug is removed for access to the oil reservoir. Either a sight glass or a oil level plug is used to identify the oil fill level. If an oil level plug is utilized, remove the plug and fill the reservoir until oil begins to drip out. If a sight glass is used, fill unit the oil is at the midpoint of the sight glass.

INLET FILTER

If an inlet or inline filter is utilized to filter the air and gas, it should be cleaned at regular service intervals. If the filter is not cleaned, excessive pressure drop across it will be experienced resulting in higher blower or vacuum pump discharge temperatures. High discharge temperatures can result in failure of the machine due to excessive thermal growth causing the impellers to grow into the headplates. Excessive pressure drop also results in higher horsepower requirements to meet your system requirements. Clean filters are like putting money in the bank.

Many filters have replaceable cartridge type filters or panel filters. Typical materials of construction are paper, felt or wire mesh. The paper filters are usually discarded, but can be cleaned with soap and water and reused once if care is taken. Filters that utilize felt are not washable and should be discarded. Wire mesh filters can be cleaned with warm water and a mild detergent or a solvent such as kerosene. The filter must be allowed to dry completely, which can be accelerated with compressed air. A wire mesh filter will typically need to be recharged with Filter Adhesive or by dipping in a standard motor oil. If oil is used, use SAE30-50 and allow element to drain thoroughly before putting to use.

REP specializes in blower and vacuum pump systems