

## **OPERATIONS AND MAINTENANCE PROCEDURES**

### **California Turbo “VE-“ Series**

#### **Base Mount Blowers**

**GENERAL:** The “VE” Series of swing-out blowers is manufactured for installation and operation in an underground utility vault environment. The components, from the heavy gage steel of the housings to the electric motors, impellers and hardware are selected to provide a long, trouble-free life of service. Blowers and their components are designed for continuous operation

**HOUSINGS:** The housings are delivered with either a hammer-tone powder coat or hot dipped galvanized finish, as specified by the customer. The blower unit should be protected from excessive moisture, as this could lead to rust or corrosion of the underlying mild steel components.

The fan discharge direction may be changed by rotating the housing scroll. Start by removing the eight (8) hex head screws holding the scroll to the motor base. Rotate the scroll to the preferred orientation, reinstall the hex screws and tighten.

If the user wishes to reverse the blower’s rotation, the impeller will have to be replaced in addition to reorientation of the scroll.

**MOTORS:** Motors are manufactured in the United States of America by well-known manufacturers. Motors 1 H.P. and larger are supplied with an integral frame. This frame gives longer life.

Motors have ball bearings, which are lubricated at the time of manufacture. Motors with grease fittings should be lubricated every six months. Motors without grease fittings have sealed bearings and do not require periodic lubrication.

**IMPELLERS:** Impellers are attached to the motor shaft with a keyway and either setscrews or other locking device. Attachment should not require any attention after installation at the factory.

Impellers are subject to damage by debris that may be sucked into the inlet shaft or plenum. Periodically, the impeller should be inspected and cleared.

First, the blower should be started and run up to full operating speed, then turned off. As the blower accelerates to operating speed, runs at speed, then decelerates, observe the motor and housing for excessive vibration. If vibration is noted or the noise of debris is detected, disconnect the motor from its power source before the unit is further inspected.

**IMPORTANT! BEFORE PERFORMING ANY WORK ON A BLOWER MAKE CERTAIN IT IS COMPLETELY DISCONNECTED FROM ITS POWER SOURCE SO THAT IT CAN NOT BE STARTED DURING MAINTENANCE OPERATIONS.**

To inspect the impeller, remove the eight (8) hex head screws holding the scroll to the motor base. Remove the scroll from the motor base. Visually inspect the interior of the scroll and the impeller for foreign matter (dirt, sand, gravel, etc.) Remove any foreign material that is found. Also check the inlet shaft or plenum to make sure they are clear.

Before the case is closed, manually spin the impeller at a low speed to see if it spins true. A bent impeller should be replaced. Listen for excessive noise from the motor.

Replace the scroll in its original position, reinstall the hex screws and tighten down eight (8) hex head screws. Do not over tighten the screws as this could break the hex screws.

The blower should now be re-energized and run up to full operating speed, then turned off. As the blower accelerates to operating speed, runs at speed, then decelerates, observe the motor and housing for excessive vibration. If there is excessive movement of the motor on the unit, this could be an indication of an unbalanced impeller or worn bearings in the motor.