



# CLASS 1000 FANS

## Installation Instructions

The clevises on the hubs are set at approximately the required angle for the specified fan performance. Install hubs without loosening the clevises. The bushing has been installed and lubricated at the factory. No further lubrication is required. Place the hub/bushing on the shaft with the key in place (preferably bolts will be towards free end of shaft). Then tighten the allen set screw holding the key in place using a 5/32" Allen wrench. Using a 10 mm Allen wrench, sequentially tighten the bolts to firmly engage the bushing in the hub and seat the bushing on the shaft. Once the bushing/ hub is firmly seated on the shaft, continue tightening the bolts sequentially until the specified torque of 50 ft-lb (6.9 kg-m) is reached. Do not over tighten the bolts as this could cause damage to the hub.

The bolts holding the clevis to the hub should be torqued to 50 ft-lb (6.9 kg-m). Install blades so they extend straight out from the hub and torque the clevis bolt/nut to 50 ft-lb (6.9 kg-m). The threads on the clevis bolt are supplied from the factory with a lubricant coating. Be sure the lubricant is still present before tightening.

To install the air seal, screw the end of the stud with the shorter threads into the center hub of the fan and then place the air seal on the studs. Use the stainless steel locknuts to secure the air seal in place.

Before starting the fan, manually check all bolts and nuts to see if they are tightened. Take care not exceed torque limits. Manually rotate the fan while checking each blade for proper clearance. Start the fan and watch it in operation. All blades should move to the same operating position, indicating that the blade angles are properly set and that all blades are equally loaded. After the fan has been operating for several minutes, stop the fan and observe the blades as the fan comes to rest. All of the blades should return to their original position at the same rate. Inspect the inner surface of the fan ring and the blade tips for any indication of scoring. The horsepower given on the fan specifications is the calculated horsepower that is required for the specified performance. Consult the factory before increasing the blade angle.

### Blade Pitch Adjustment

To reset the blade pitch angle on a vertically installed fan remove the blades and loosen the clevis center bolt that attaches the clevis to the hub. Manually rotate the fan so that the clevis to be adjusted is in the horizontal position. If the clevis is not in the horizontal position the blade angle will not be correctly measured during adjustment. Place a protractor level on the front or back flat of the clevis and rotate the clevis to the desired angle. While holding the clevis angle, tighten the clevis center bolt to a torque of 50 ft. lbs. After adjusting all clevises, reinstall the fan blades following the procedure in the installation section. Resetting the blade pitch angle on a horizontal fan is done the same way, except that the surface of the clevis on which the angle will be measured is on the top or bottom flat.

