



# INDUSTRIAL FAN TROUBLESHOOTING GUIDE

## Possible Causes of Excessive Vibration and/or Noise:

1. Imbalanced wheel
2. Damaged wheel (wrong rotation, material buildup)
3. Damaged base
4. Improper shimming
5. Damaged vibration isolators
6. Loose connections (screws, bolts, motor slide base)
7. Misaligned belt drive or bearing connection
8. Bent shaft
9. Wheel grating against inlet
10. Shaft grating against housing
11. Defective bearings
12. System natural frequency excitation
13. Loose damper

## Overheated Bearings:

1. Improper lubrication
2. Imbalanced wheel
3. Improper belt tension
4. Damaged/defective bearings
5. Misaligned bearings
6. Excessive ambient temperature
7. Poor airflow across bearings
8. Air temp that exceeds design limit
9. Manufacturer supplied cooling wheel is absent

## Underperformance:

1. Improper wheel rotation
2. Cracked welds
3. Worn or warped blades
4. Restricted airflow
5. Wheel housing misalignment
6. Improper duct setup restricting airflow
7. Improper operating speed



## Overheated Motor:

1. Improper belt tension
2. Restricted or poor ventilation
3. Operation beyond design speed



# PREVENTIVE MAINTENANCE GUIDE

## Wheel:

1. Perform routine vibration analysis at least once per year. If wheel imbalance is suspected, call AirPro to schedule a service visit.
2. Inspect for wear, corrosion, or build up. If excessive corrosion or wear is present, replace the wheel to ensure proper performance and safety. If excessive build up is present, clean the fan blades and perform a vibration analysis.
3. Verify proper clearance between the wheel and housing and wheel and inlet cone.
4. Ensure wheel/shaft screws are tightened to avoid catastrophic damage to wheel and housing.



**NOTE: Before performing any maintenance on your fan, ensure electrical supply is shut off and locked out as per national and local codes. If you are unsure of proper maintenance procedures or cannot diagnose your fan problem, call AirPro at (715) 365-3237.**

## Connections:

1. Check V-Belt Drive for sheave alignment and tension.
2. Tighten all fasteners to proper torque values.
3. Check integrity of shaft seals and replace if cracked or broken.
4. Inspect foundation for cracking or looseness.
5. Check vibration isolators for freedom of movement. Replace any broken springs or worn rubber elements.
6. Check integrity and alignment of flexible connectors when applicable.

## Lubrication:

1. Lubricate fan bearings according to manufacturer's specifications. If damaged, replace immediately.
2. Periodically check fan bearing grease for contamination. Replace contaminated grease if necessary.
3. Lubricate motor bearings according to manufacturer's specifications.
4. Lubricate couplings. If contaminated, replace according to manufacturer's specifications.