

**Please answer the following questions:**

1. What is the serial number found on the fan?
2. How many fans are you having problems with?
3. What was the date of startup?
4. How long have the units been running (months, hours)?
5. Was the vibration noticed at startup and/or has it been gradually getting worse?
6. Does the amplitude of vibration change as it comes up to speed?
7. How is the fan mounted (concrete, steel, wood, isolation base, isolators, etc.)?
8. How is the ductwork connected (rigid, flex connections)?
9. Is it direct or driven via belt system?
10. Is the wheel clean (no material buildup)? If BAF, is there moisture going through the fan?
11. Have any vibration readings been recorded?
12. What is the actual RPM of the fan?
13. Is there any unusual noise?

Upon completion and review of the questions listed above, please check the following:

- Rotate fan impeller to check for shifting or damage during shipment (verify proper wheel/funnel overlap).
- Check for signs of lost balance weight.
- Check tightness of set screws in blower wheel hub, bearing locking collar, motor and fan sheaves.
- Check tightness of all frame bolts and base bolts. (Insure that base is level and/or not causing a twist in the fan's base angles.)
- Check tightness of bearing mounted bolts.
- Check condition of drives (any signs of wear or cracking, or worn sheaves).
- Check drive alignment and belt tension.
- Check for cracked welds on fan and base.
- Check for a bent shaft using a dial indicator.
- If isolators are present, check for proper adjustment. (Are they bottomed out?)
- Does drive key on fan fill approximately 2/3 of keyway length?
- Does vibration change with adjustments made to air flow?

**If, after all items have been checked, you have determined that field balancing is required, contact TCF to arrange for local or TCF service personnel to visit the job site.**