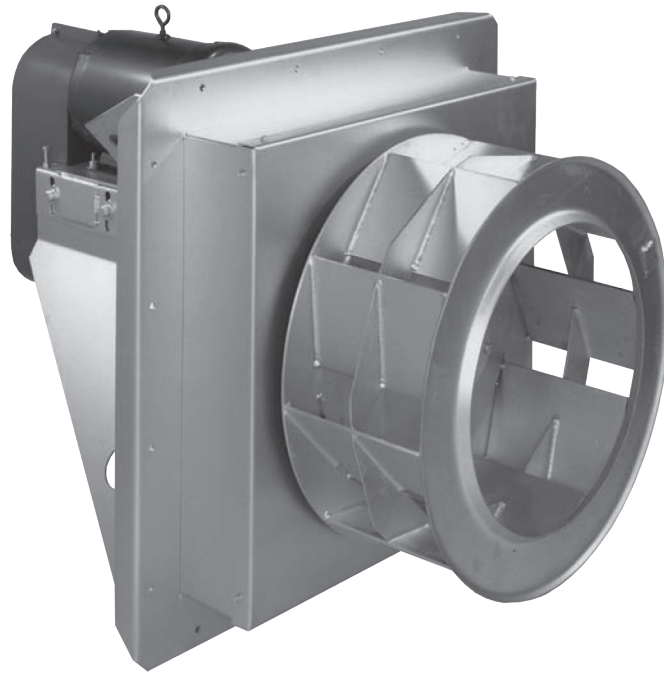


Initial Unit Startup Procedure

DIRECT DRIVE FANS

CF-IUSP-DD-24 ISSUED 4/2024

READ AND UNDERSTAND THIS MANUAL PRIOR TO OPERATING OR SERVICING THIS PRODUCT



CPF Model

startup

Pre-Startup and Post-Startup Check (Check blocks as each step is completed. Retain for you records)

Note

Failure to complete and document all the following Pre-Startup checks, Post-Startup checks and Vibration checks, could void all warranties.

Pre-Startup Check completed by: _____ Date _____
Eight Hour Post-Startup Check completed by: _____ Date _____
Three-Day Post-Startup Check completed by: _____ Date _____

Make sure power to the motor is locked out before starting pre-start or post-start checks.

- 1 If possible, carefully spin the blower wheel by hand to ensure it rotates freely and no rubbing or clicking noise is heard.
- 2 Check all blower, foundation and duct work hardware to make sure it is tight.
- 3 Check the blower wheel set screws to make sure they are tight.
- 4 If the blower wheel has a taper-lock bushing, make sure the bolts are tight.
- 5 Make certain there is no foreign material in the blower or duct work that can become a projectile.
- 6 Make sure any inspection doors are securely bolted or locked.
- 7 Ensure all electrical power components are properly sized and matched for your electrical system.
- 8 Check that any required guards are properly secured.
- 9 Any dampers should be fully opened, then fully closed to make sure there is no binding or interference.
- 10 If your blower is mounted on an elevated support structure, make sure the structure is welded at all the joint connections, welds have not cracked and the structure is properly braced to prevent "side sway".
- 11 Close any dampers to minimize the load on the motor, especially blowers with high temperature construction. **Never** subject a **cold** blower to a **hot** gas stream. If the blower will be handling "hot gases" greater than 150°F (65°C) it is imperative that the blower be subjected to a gradual rate of temperature increase, not to exceed 15°F/minute (8°C/minute). The same temperature limits are also important when the blower is experiencing a drop in temperature until the temperature drops down to 150°F (65°C). Only, when the entire blower has reached an equilibrium temperature of 150°F (65°C), or less, should the power be turned off.

startup

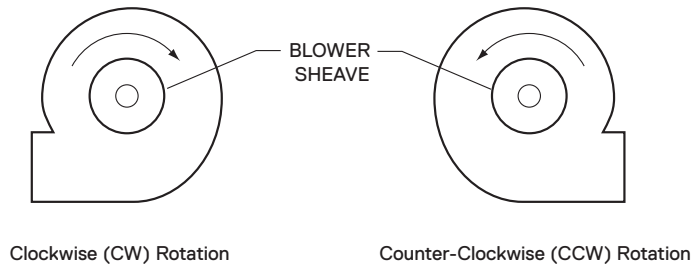


Figure 1

Pre-Startup Check completed by: _____ Date _____

Eight Hour Post-Startup Check completed by: _____ Date _____

Three-Day Post-Startup Check completed by: _____ Date _____

- 12 Make sure the power source connections to the blower motor are per the motor manufacturer's instructions.
- 13 Make sure the blower wheel is stationary prior to startup. **Starting a blower with a wheel that is rotating backwards can cause wheel damage.**
- 14 Apply power to the blower motor momentarily (bump start) to check for proper blower wheel rotation. If the blower is rotating in the wrong direction, reconnect the motor leads per the motor manufacturer's wiring schematic. **Blower rotation is determined by viewing the blower from the motor side of the blower, NOT from the inlet side.** After reconnecting the leads, repeat this step. See **Figure 1**.
- 15 Apply power to the motor and let it come up to full speed. Turn off the power. Look and listen for any unusual noise or mechanical abnormality while the blower wheel is still spinning. If any are noticed, lock out the power, wait for the blower wheel to come to a complete stop, locate the cause and correct it.
- 16 Unlock power and start the blower.
- 17 Measure, record and keep the following motor data for future reference and comparison: **(Single phase motors will only have L1 and L2 leads)**
Amperage draw on each motor lead: L1 _____ L2 _____ L3 _____
(Running amps **should not** exceed the motor name plate amps for the voltage being operated on).
Voltage coming to motor leads: L1 _____ L2 _____ L3 _____
(Should be about the same input voltage on all leads)

startup

Vibration:

The blower was balanced at the factory to comply with ANSI/AMCA Standard 204-05, Category BV-3. However, rough handling in shipment and/or erection, weak and/or non-rigid foundations, and misalignment may cause a vibration problem after installation. After installation, the vibration levels should be checked by personnel experienced with vibration analysis and vibration analysis equipment.

Note

The blower Should Not be operated if the vibration velocity of the blower exceeds 0.40 inches per second, filter out, if the blower is rigidly mounted. If the blower is mounted on isolators or on an isolator base, it Should Not be operated if the vibration velocity of the blower exceeds 0.65 inches per second, filter out.

Vibration readings for direct driven blowers should be taken on the motor at the top, sides and end as per Figure 2. After you have taken your vibration readings, write them down in the spaces below and keep for future comparison.

Warning

If the blower is going to be conveying material, it is the user's responsibility to periodically turn the blower off and lock out the power. The blower wheel should then be checked for material build-up and/or erosion. If material has built up on any parts of the wheel, it Must be removed and cleaned before it is put back into service. If any parts of the wheel have been eroded, the wheel Must be replaced. Failure to perform this inspection can cause excessive vibration that will damage the blower and/or motor bearings. When vibration becomes excessive, it will lead to complete blower failure that could cause property damage, severe personal injury and death. The user must determine the frequency of this inspection based on the actual circumstances of their operation, But checking the vibration readings should NEVER exceed a 12 month period. For the AMCA/ANSI standard for vibration limits, see Figure 3.

startup

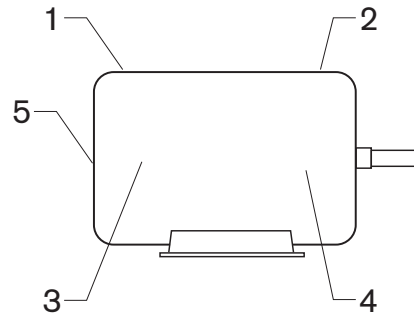


Figure 2

Motor reading points

Table 1 – Vibration Meter Probe Positions					
	1	2	3	4	5
A					
B					
C					

A–Pre-Startup Check completed by: _____ Date _____

B–Eight Hour Post-Startup Check completed by: _____ Date _____

C–Three-Day Post-Startup Check completed by: _____ Date _____

startup

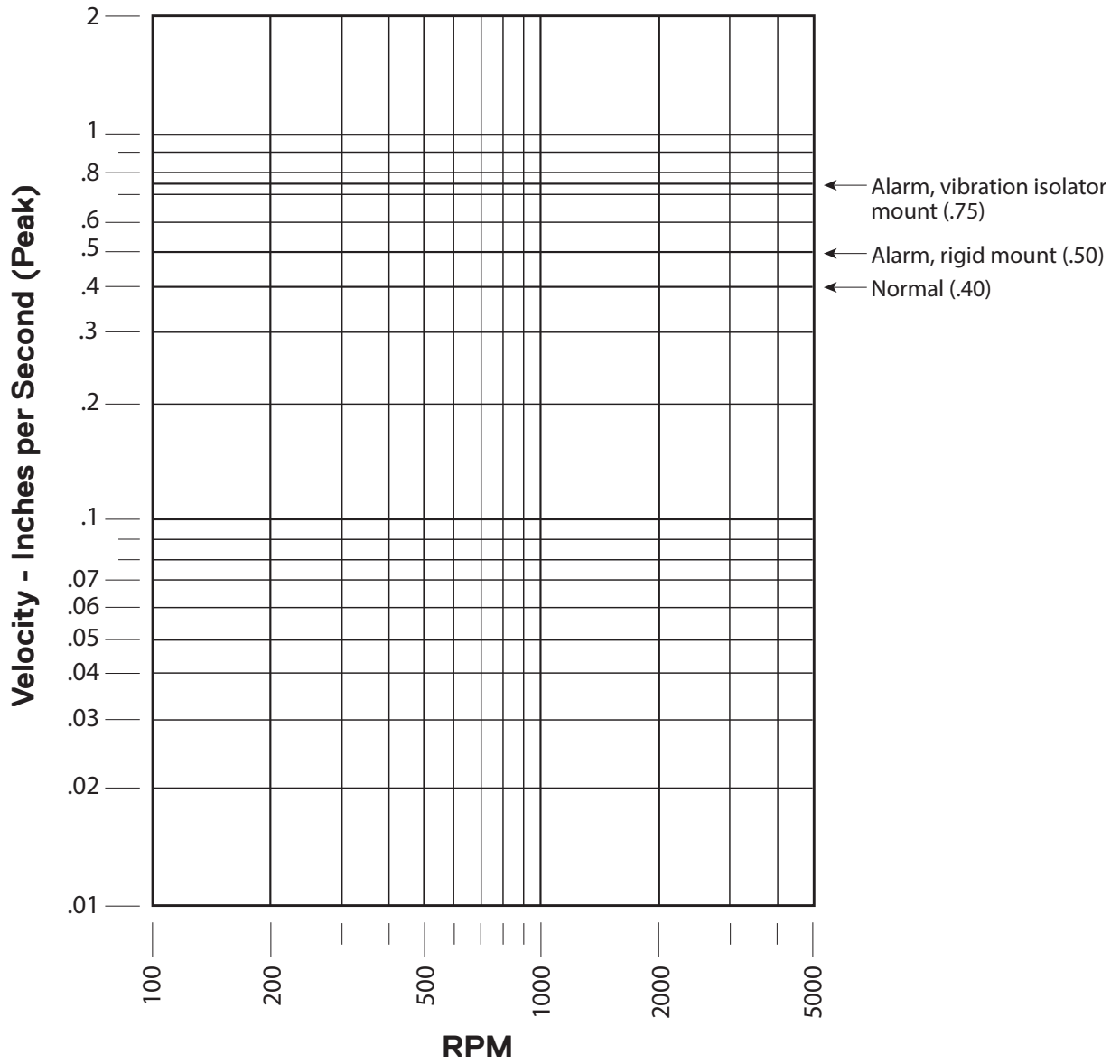


Figure 3

Vibration Severity Chart

Startup Procedure

DIRECT DRIVE

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