



MODEL BCF BELT DRIVE CABINET FANS

INSTALLATION, OPERATING AND MAINTENANCE MANUAL

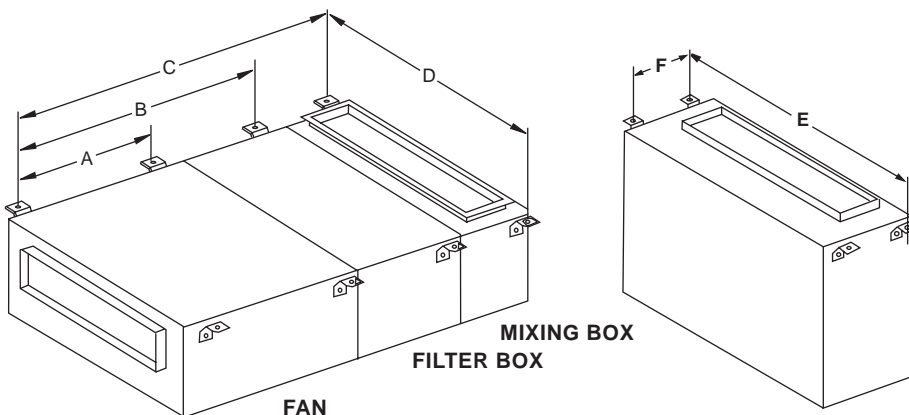
INSTALLATION

Upon receiving the unit, check for any damage and report it to the shipper immediately. Also assure all accessory items are accounted for.

Move fan to the desired location and determine position of the access door. Provide adequate door opening clearance for servicing the motor and blower assembly. Attach the fan to a suitable framework as specified. Use of optional hanging or base vibration isolators are recommended. Optional hanging isolators can be sized to support weight of the fan only or the fan with filter/mixing boxes. Ductwork should be provided with separate support.

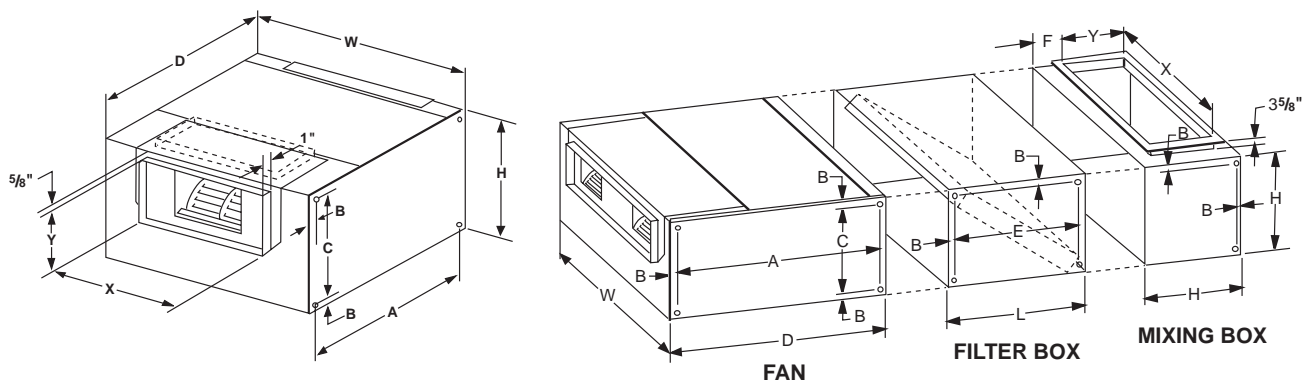
The motor voltage and amperage rating must be checked for compatibility with the electrical supply. Supply wiring may be routed through knockouts which are provided on each side of the fan housing. Provide adequate wiring to permit the access door to open for servicing. Wiring should be secured inside the fan to prevent interference with the drive components.

MOUNTING DIMENSIONS



NOTE: Only 4 hanging or base mounts required.

Model BCF		Horizontal Hanging or Base Mount				Vertical Hanging Mount			
Single Fan	Double Fan	A	B	C	D		E		F
					Single Fan	Double Fan	Single Fan	Double Fan	
106	206	18	41	57	24 ¹ / ₄	38 ¹ / ₄	24 ¹ / ₄	38 ¹ / ₄	7
107	207	25	47 ³ / ₄	60 ³ / ₄	27 ¹ / ₄	42 ¹ / ₄	27 ¹ / ₄	42 ¹ / ₄	9
108	208	29	52 ³ / ₈	69	30 ¹ / ₄	48 ¹ / ₄	30 ¹ / ₄	48 ¹ / ₄	12
110	210	29 ¹ / ₂	56 ¹ / ₈	75	36 ¹ / ₄	52 ¹ / ₄	36 ¹ / ₄	52 ¹ / ₄	15
112	212	38	64 ⁷ / ₈	87 ³ / ₄	40 ¹ / ₄	62 ¹ / ₄	40 ¹ / ₄	62 ¹ / ₄	19



Model BCF	A	B	C	D	E	F	H	L	W	X	Y	Filter Section		Weight (lbs.)								
												Filter Qty./Size		Fan		Filter Section		Mixing Box w/Damper				
												Single Fan	Double Fan	Single Fan	Double Fan	Single Fan	Double Fan	Single Fan	Double Fan			
106	206	18	2	7	22	18	2 ¹ / ₂	11	22	20	34	12	26	6	(1) 16x20	(1) 20x20	75	105	24	35	29	42
107	207	25	2	9	29	19	2 ¹ / ₂	13	23	23	38	15	30	8	(1) 16x20	(2) 16x20	105	140	26	36	36	52
108	208	28	2	12	32	20	3	16	24	26	44	18	36	10	(2) 16x20	(4) 16x20	125	180	39	50	45	67
110	210	32	2	15	36	22	3 ¹ / ₂	19	25	32	48	24	40	12	(2) 20x20	(4) 20x20	215	285	64	79	69	93
112	212	38	2	19	42	23	4 ¹ / ₂	23	27	36	58	28	50	14	(4) 16x20	(4) 20x25	285	445	86	119	100	142

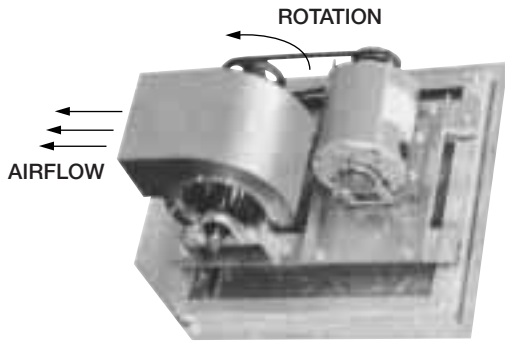


Fig. 1

Inlet and discharge collars are provided for duct connection. The inlet panel is removable for attaching optional filter and mixing box accessories.

PRE-STARTING CHECKS

Check all fasteners for tightness. The blower wheel should rotate freely and not rub on the inlet venturis. Turn the fan on momentarily to check for unusual vibration or noise. Do not run the fan more than a few seconds without being connected to the system for which it was designed. Motor overloading and burnout may result from lack of system static pressure.

Also check direction of wheel rotation. Improper rotation will result in reduced airflow and pressure capabilities. Rotation is always in the same direction as airflow at the outlet. See housing and wheel examples in figure 1.

WARNING
DISCONNECT AND SECURE TO THE "OFF" POSITION ALL ELECTRICAL POWER TO THE FAN PRIOR TO INSPECTION OR SERVICING. FAILURE TO COMPLY WITH THIS SAFETY PRECAUTION COULD RESULT IN SERIOUS INJURY OR DEATH.

MAINTENANCE

To gain access to the fan motor, drives and blower, simply remove the fasteners attaching the access door (Fig. 2) and remove carefully. Hinged access doors are provided on fan models 106, 107, 206, and 207. *Provide support for hinged access doors before removing fasteners. The door supports weight of the motor, blower and drive components.* Bolted access doors are provided on fan models 108, 110, 112, 208, 210 and 212. Bolted doors do not support weight of any fan components.

BELTS AND PULLEYS

Check belt tension after the first 24 hours of operation, after 100 hours of operation and periodically thereafter. Belt tension can be adjusted by loosening four fasteners marked "R" in figure 2 and sliding the motor base away from the blower housing. Belt tension should be adjusted to allow 1/64" of belt deflection for each inch of belt span (Fig. 3). For example, a 16" belt span should have 16/64" or 1/4" of deflection using moderate thumb pressure at midpoint between the pulleys. When relacing belts, use the same type as supplied with the unit. Loosen the sliding motor plate so belts can be removed by hand. Do not force or pry belts on or off as this may damage the cords and lead to premature failure. Belts should be adjusted as previously described. It is very important that the drive pulleys remain in proper alignment after adjustments are made. Misalignment of pulleys will result in premature belt wear, noise, vibration and power loss. See figure 4.

SHAFT BEARINGS

Shaft bearings are permanently sealed ball bearing pillow block type with a minimum average bearing life of over 200,000 hours. Therefore, no shaft bearing lubrication is necessary when fan is operating under normal conditions. Normal use is considered to be in temperatures between -20°F and 120°F in a relatively clean environment. Units installed in hot, humid or dirty applications should be equipped with special bearings which will require frequent lubrication.

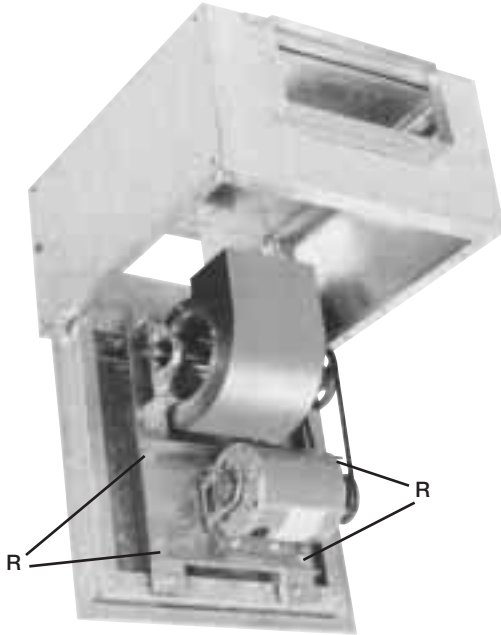


Fig. 2

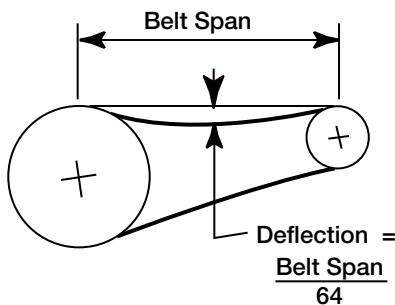


Fig. 3

MOTOR

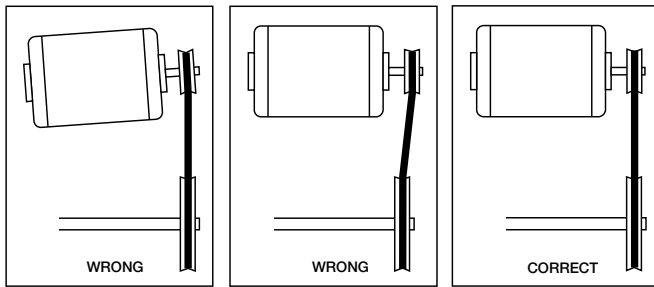


Fig. 4

Motor maintenance is generally limited to cleaning and lubrication. Cleaning should be limited to exterior surfaces only. Removing dust and grease build-up on motor housings assures proper motor cooling. Use a brush or vacuum to remove dust. Motors should never be sprayed with water or solvents.

Lubrication of motor bearings is recommended only when oil holes are provided. Follow lubrication instructions printed on the motor and use a high grade SAE 20 electric motor oil. Use caution not to over lubricate. Oil spillage collects dust and dirt which may obstruct motor cooling openings.

WHEELS

Wheels should be inspected for dust and dirt accumulation at each maintenance interval. Left unchecked, dirt may cause wheel imbalance and resulting vibration. Keeping the wheel clean helps in maintaining a smooth and quiet running fan. All fasteners and set screws should be checked for tightness each time periodic maintenance checks are performed.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTIVE ACTION
Reduced airflow	System resistance (Static pressure) too high Unit running backwards.	Check system for inoperative dampers, grilles, obstructions in ductwork, etc. Correct as shown in figure 1.
	Excessive dirt on wheel.	Clean wheel.
	Loose belt or pulleys.	Tighten belt as shown on page 2 . Align pulleys and tighten set screws.
Excessive Noise	Mechanical looseness.	Check all fasteners and set screws for tightness. Check ductwork for rattles.
	Wheel unbalance	Check for dirt build-up and clean wheel if required.
	Defective bearings.	Replace bearings.
	Incorrect belt tension	Adjust belts as described on page 2 .
	Foreign objects in blower	Remove objects, check for damage or unbalance.

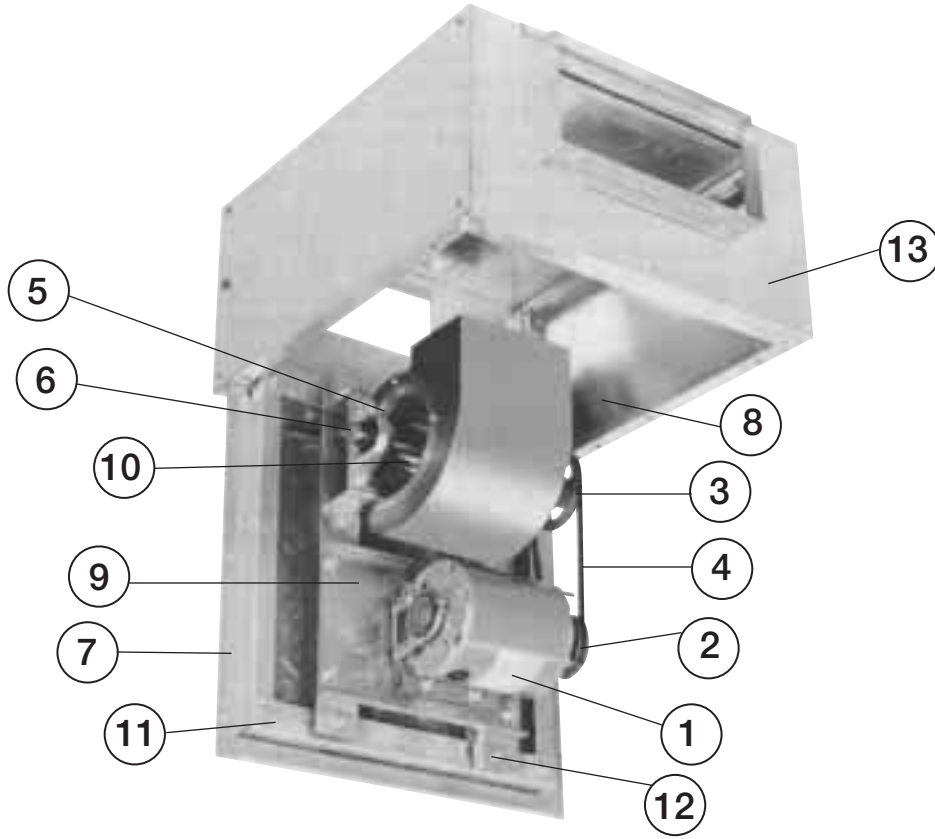
WARRANTY

Greenheck warrants this equipment to be free from defects in material and workmanship for a period of one year from the purchase date.

Any units or parts which prove to be defective during the warranty period will be replaced at our option when returned to our factory, transportation prepaid.

The motor is warranted by the motor manufacturer for a period of one year. Should the motor prove defective during this period, it should be returned to the nearest authorized motor service station. Greenheck will not be responsible for any installation or removal costs.

PARTS LIST



REPLACEMENT PARTS

Always provide the unit serial number when requesting parts.

PART DESCRIPTION	QUANTITY
1. MOTOR	
2. MOTOR PULLEY	
3. SHAFT PULLEY	
4. BELT	
5. SHAFT	
6. BEARINGS	
7. DOOR	

PART DESCRIPTION	QUANTITY
8. BLOWER	
9. MOTOR BASE	
10. BEARING SUPPORTS	
11. DR. FRAME ANGLES	
12. SHOCK MOUNTS (4)	
13. CABINET	