

**BIDI SERIES – BACKWARD INCLINED, DOUBLE WIDTH, DOUBLE INLET BLOWER**

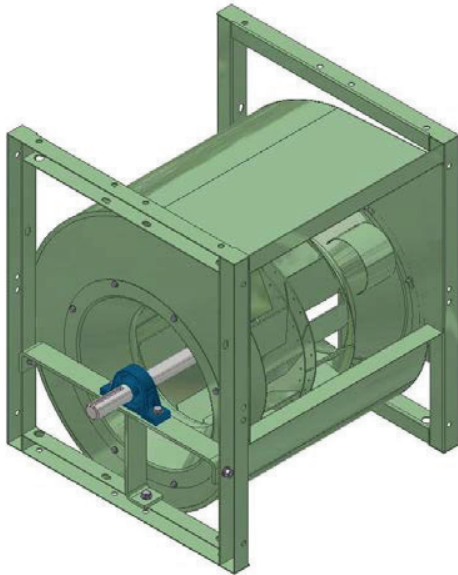
**OPERATION INSTRUCTIONS AND PARTS MANUAL**

**MODELS: BIDI-10, BIDI-12, BIDI-13, BIDI-15, BIDI-16, BIDI-18, BIDI-20, BIDI-22, BIDI-24, BIDI-27**

**GENERAL SAFETY**

Rotating parts on fans should not be exposed. Where these components are not protected by ductwork, cabinets or covers, appropriate guards should be employed to restrict exposure to rotating parts. Access doors should not be opened with the fan operating to avoid foreign objects being drawn into the system. On initial start-up a careful inspection should be carried out to ensure no foreign material is present which could become airborne in the system.

Read installation and operation instructions carefully before attempting to install, operate or service Delhi BIDI Series Blowers. Failure to comply with instructions could result in personal injury and/or property damage. Retain instructions for future reference.



MODEL	MAX. H.P	SHAFT DIA.	WEIGHT
BIDI-10	7-1/2	1-3/16"	122
BIDI-12	7-1/2	1-7/16"	152
BIDI-13	7-1/2	1-7/16"	165
BIDI-15	10	1-7/16"	194
BIDI-16	15	1-11/16"	234
BIDI-18	15	1-11/16"	257
BIDI-20	15	1-11/16"	299
BIDI-22	20	2-1/4"	450
BIDI-24	20	2-1/4"	520
BIDI-27	25	2-1/4"	599

**ALL SHAFTS ARE KEYWAYED**

**Fig. 1**

**GENERAL**

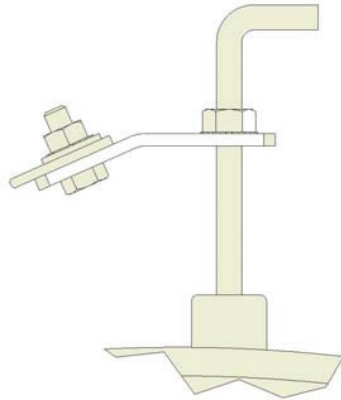
Inspect unit for damage, report any shipping damage to carrier. Check all fasteners and re-tighten as required. Rotate the blower wheel by hand to ensure free rotation. . If rubbing occurs, loosen the set screw(s), re-position the wheel to the shaft centre, re-tighten set screw(s).

**UNIT DESCRIPTION**

- Double Width, Double Inlet Class 1 blower with welded backward inclined wheel.
- The heavy welded steel "U" channel frames with T bar bearing supports allows for universal 4 way mounting.
- Welded backwardly inclined wheel.
- Cast iron pillow block bearings.
- Standard features include detachable inlet venturi, corrosion coated shafts, keywayed both ends and weather resistant high solids air dried enamel paint.

## INSTALLATION

1. Secure the unit through the mounting holes located on the U-bar frame.
2. Rotate the blower wheel by hand. It should not rub against the housing inlet. If rubbing occurs, loosen the hub bolts and adjust the motor wheel position.
3. Mount the motor to the optional 1-15 or 20-50 HP motor plates (Figure 4) from Delhi Industries, or base mount the motor (supplied by others).



**FIGURE 3: MOTOR ADJUSTING BOLT**

4. Mount the blower sheave on the blower shaft and tighten its set-screw securely on the key of the shaft.
5. Mount the motor sheave on the motor shaft. Leave some clearance between the pulley and the motor end bell. Tighten the set-screws on the key of the motor shaft.
6. When using the 1-15/20-50 HP motor plate, with the motor adjusting bolt in its minimum position install the V belt within the sheave grooves. Adjust the sheave on the blower shaft to ensure proper pulley alignment (see Figure 2) and secure in place. A straight edge across the face of the driven pulley should be parallel to the belt once proper alignment has been achieved.

**WARNING: Excessive belt tension is the most frequent cause of bearing wear and resulting noise. Proper belt tension is critical for quiet efficient operation.**



**FIGURE 2: PULLEY ALIGNMENT**

7. Adjust the motor mounting bolts to tighten the belt (Figure 3). Ideal belt tension is the lowest tension at which the belt will not slip during start up. As rule of thumb suggests that  $\frac{3}{4}$ " of deflection mid span under medium finger pressure (2-3 lbs.) for every foot of span is approximately proper belt tension. Tighten all hardware once belt has been adjusted properly.

## ELECTRICAL

**WARNING: Ensure power supply is disconnected and locked out prior to making electrical connections.**

Before connecting the motor to the electrical supply, check the electrical characteristics and wiring instructions as indicated on the motor nameplate or as shown below. Complete electrical connections as indicated.

**WARNING: A ground wire must be connected from the motor housing to a suitable electrical ground.**

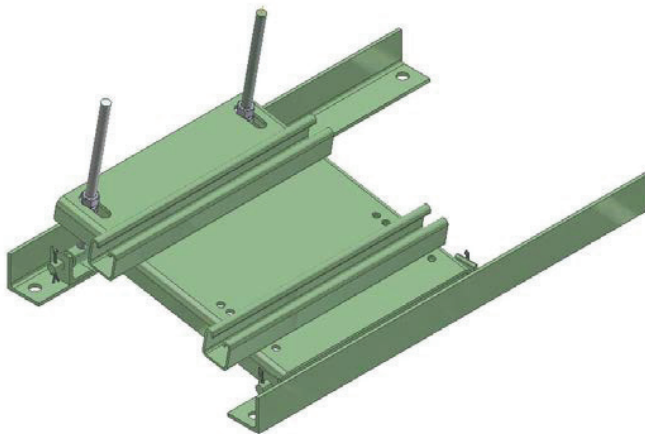
## OPERATION

1. After electrical connections are completed, remove belts, energize the motor momentarily to ensure proper motor rotation. Re-install the belts.
2. With the air systems in full operation and all ducts and access panels attached, measure current input to the motor and ensure that it is less than the rated full load motor amperage.
3. Proper adjustment to the belt tension is critical for quiet efficient operation.

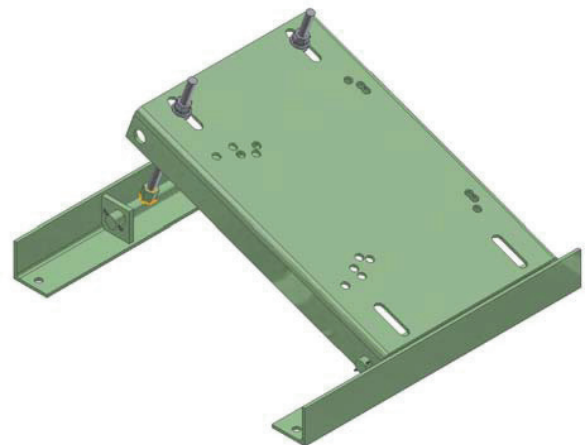
## MAINTENANCE

**Ensure power supply is disconnected and locked out prior to performing maintenance**

1. Inspect and tighten the wheel hub bolts after the first 50 to 100 hours of operation and periodically thereafter.
2. Follow the motor manufacturer's instructions for motor lubrication. Remove any excess lubrication.
3. Drives:
  - A** – Check belt tension and alignment, replace cracked or worn belts. If it is necessary to replace one belt on a multiple belt drive, replace all the belts with a matched set.
  - B** – Under normal conditions, no re-lubrication is the rule. The bearing lubricant cavity is 1/3-1/2 filled as shipped from the factory. Never lubricate new bearings.
  - C** – Tighten set-screws on sheaves, wheel and bearing locking collars.
4. Clean the blower wheel periodically. Material build up on the blades can cause wheel imbalance which, may result in wheel or motor bearing failure.
5. Generally, bearings should be lubricated at six to twelve month intervals. Recommended lubricants are: a) Imperial Oil – ESSO Beacon 325, or b) Shell Oil – Alvania Grease #3. A small amount of grease should be added slowly when the shaft is rotating. **Note: Over greasing may cause damage to the bearing. Avoid rupturing the bearing seal.**
6. To reinstall replacement ball bearings press the locking collar against the inner ring of the bearing and turn in the direction of the shaft rotation until engaged. Insert a drift pin into the pin hole and tap lightly to set. Tighten set-screw on locking collar firmly.
7. Should further service to the blower be necessary, refer to the exploded view illustration (see Figure 5).



**1-15 HP MOTOR PLATFORM**

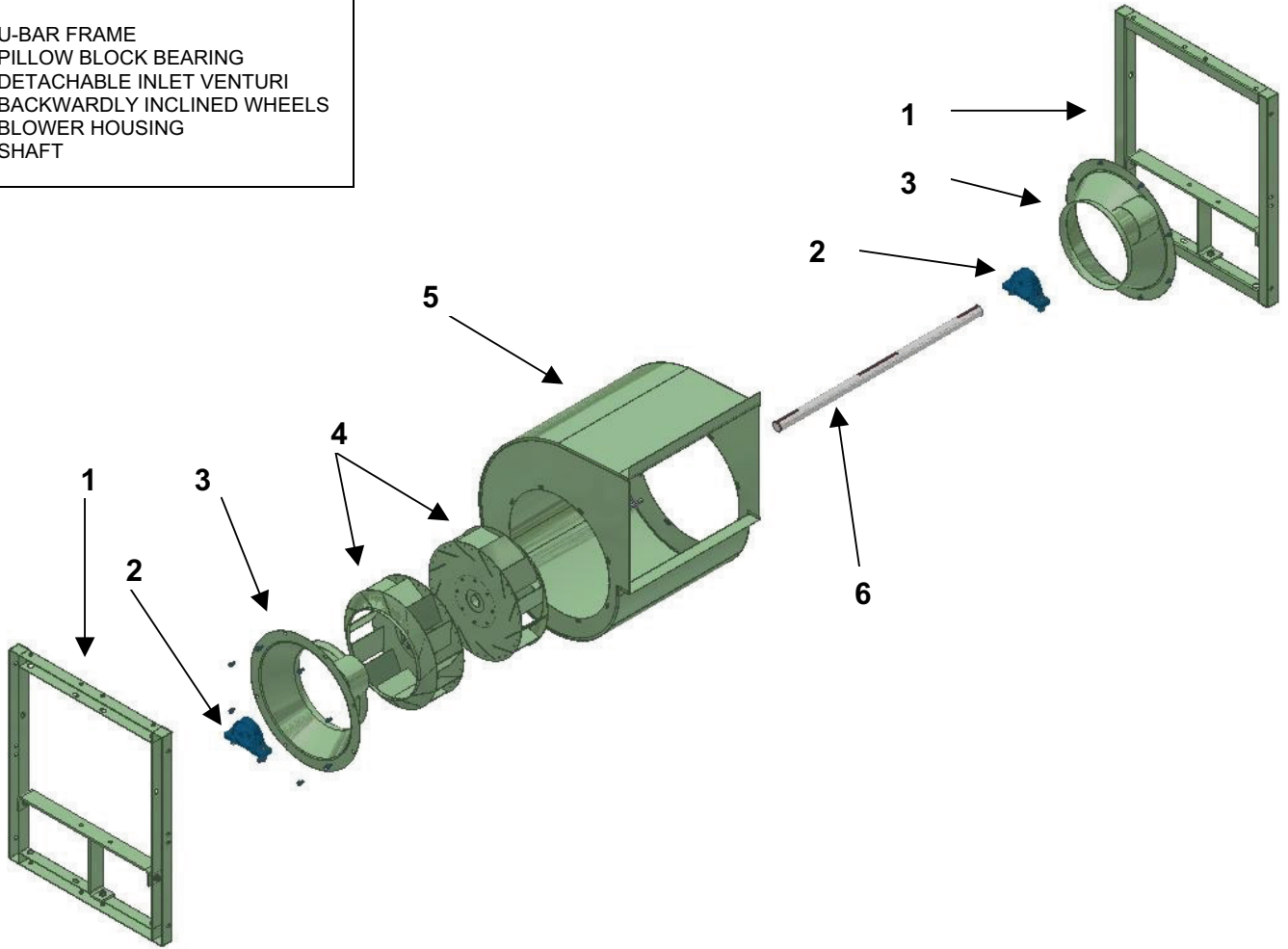


**20-50 HP MOTOR PLATFORM**

**FIGURE 4:OPTIONAL MOTOR PLATFORMS**

**PARTS LIST**

- 1.U-BAR FRAME
- 2.PILLOW BLOCK BEARING
- 3.DETACHABLE INLET VENTURI
- 4.BACKWARDLY INCLINED WHEELS
- 5.BLOWER HOUSING
- 6.SHAFT



**FIGURE 5:EXPLODED VIEW**

**WARRANTY**

Canarm Ltd. Air Moving Products are guaranteed for a period of one year against manufacturing defects in material and workmanship when operating under normal conditions. Liability is limited to the replacement of defective parts. Labour and transportation costs are not included.