



600 SERIES – UTILITY BLOWERS

OPERATION INSTRUCTIONS AND PARTS MANUAL

MODELS: 610, 612, 615, 618, 620, 622, 625

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 BI/BI-RM Series Blowers. Failure to comply with instructions could result in personal injury and/or property damage. Retain instructions for future reference.

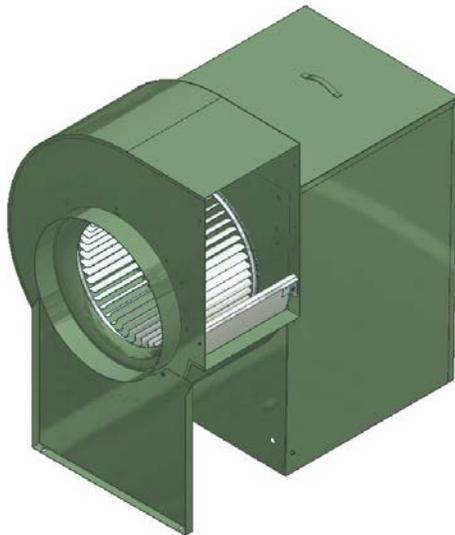


Fig. 1

| MODEL | MAX. H.P | SHAFT DIA. | WEIGHT |
|-------|----------|------------|--------|
| 610 | 2 | 3/4" | 57 |
| 612 | 2 | 3/4" | 60 |
| 615 | 5 | 1" | 124 |
| 618 | 5 | 1" | 144 |
| 620 | 10 | 1-3/16" | 278 |
| 622 | 10 | 1-3/16" | 296 |
| 625 | 10 | 1-3/16" | 329 |

ALL SHAFTS ARE KEYWAYED

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 inlet venturi bolts, re-position the venturi to establish clearance, re-tighten bolts.

UNIT DESCRIPTION

- The Delhi 600 series Utility blower comes standard with a top horizontal discharge position that can be easily be field rotated to any of 8 positions.
- The motor and drive compartment is vented with handles, for safety and weather protection.
- Standard heavy duty pillow block ball bearings are included with the unit.

INSTALLATION

1. Secure the exhauster to the curb cap or sleepers (supplied by others) through the 3/4" diameter holes provided in the base of the motor compartment and leg. For proper motor compartment ventilation, if the unit is mounted on a floor or solid surface, provide a minimum 1" clearance to the motor cabinet bottom. Install spring isolators or duct isolators where required.
2. Complete all subsequent duct connections.
3. Rotate the blower wheel by hand. It should not rub against the housing inlet. If rubbing occurs, loosen the set-screws on the wheel hub and shift the wheel to obtain clearance. Re-tighten all set-screws.
4. Insert the four motor nuts and bolts up through the bottom of the sliding motor platform to match the bolting configuration of the motor to be installed. The master hole for smaller motor frames is located at the top left hand corner of the motor platform furthest from the blower housing. The master hole for 213T, 215T and 254T frame motors is 2" inset from the fore mentioned master hole for smaller frame motors.
5. Mount the blower sheave on the blower shaft and tighten its set-screw securely on the key of the shaft. (See Table 1 for drive data).
6. 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.
7. With the motor platform in its highest 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.

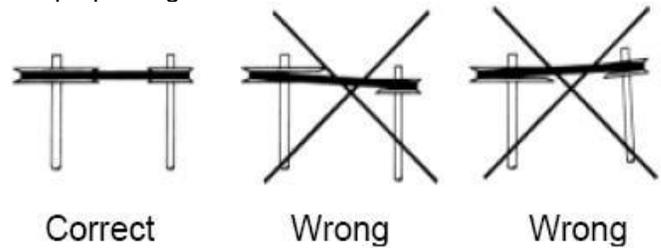


Fig. 2: Pulley Alignment

8. Loosen the four clamping bolts around the motor platform and slide the motor platform within the slotted rails to adjust belt tension. Ideal belt tension is the lowest tension at which the belt will not slip during start up. As rule of thumb suggests that 3/4" of deflection mid span under medium finger pressure (2-3 lbs.) for every foot of span is approximately proper belt tension. Tighten the motor platform clamping bolts once proper belt tension has been achieved.

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.

TABLE 1: DRIVE SELECTION

| Drive Table | | | Model | | | | | | |
|--------------|-----------------|--------------------|------------------------|------------------------|--------------------|--------------------|---------------------------|---------------------------|---------------------------|
| | | | 610 | 612 | 615 | 618 | 620 | 622 | 625 |
| Max H.P. | | | 2 | 2 | 5 | 5 | 10 | 10 | 10 |
| MOTOR PULLEY | BLOWER PULLEY | RPM RANGE | 48/56 FRAME | 48/56 FRAME | 56/143T/145T FRAME | 56/143T/145T FRAME | 182T/184T 213T/215T FRAME | 182T/184T 213T/215T FRAME | 182T/184T 213T/215T FRAME |
| 1VL40 | AK30 | 1478-2000 | 4L260/260** | 4L260/250** | | | | | |
| | AK41 | 1089-1543 | 4L270/270 | 4L280/270 | | | | | |
| | BKH60 | 828-1173 | 4L290/290 | 4L290/290 | -- | -- | -- | -- | -- |
| | BKH70 | 690-977 | 4L310/310 | 4L310/310 | | | | | |
| | BKH90 BKH110 | 517-733 414-586 | 4L350/350 4L400/400 | 4L350/350 4L400/400 | | | | | |
| 1VP44 | BKH40 | 1485-1964 | B26/B26** | B25/B25** | --/-- | --/-- | | | |
| | BKH50 | 1215-1607 | B26/B26 | B26/B26 | B33/B33** | --/-- | | | |
| | BKH60 | 990-1309 | B28/B28 | B28/B28 | B35/B35 | B35/B35** | | | |
| | BKH70 | 835-1105 | B30/B30 | B30/B30 | B36/B36 | B36/B36 | -- | -- | -- |
| | BKH80 | 722-955 | B31/B31 | B31/B31 | B38/B38 | B38/B39 | | | |
| | BKH100 | 568-752 | B36/B36 | B36/B36 | B42/B42 | B42/B42 | | | |
| | BKH130 | 431-570 | --/-- | --/-- | B49/B49 | B49/B49 | | | |
| | BKH140 | 399-527 | --/-- | --/-- | --/-- | B51/B51 | | | |
| 2VP71 | 2B86SK | 1083-1323 | | | | | B54/B53** | B53/B52** | --/-- |
| | 2B110SK | 846-1034 | -- | -- | -- | -- | B58/B57 | B58/B57 | B58/B57** |
| | 2B136SK | 684-837 | | | | | B63/B62 | B63/B62 | B62/B61 |
| | 2B184SK | 506-618 | | | | | B74/B73 | B74/B73 | B73/B72 |

** - WARNING: APPROACHING MAXIMUM WHEEL RPM

** - Basic drive selections shown above. For more drive selection options, refer to the Delair Drive Selection program.

MAINTENANCE

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

- Inspect and tighten the wheel set screw after the first 50 to 100 hours of operation and periodically thereafter.
- Follow the motor manufacturer's instructions for motor lubrication. Remove any excess lubrication.
- 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.
- Clean the blower wheel periodically. Material build up on the blades can cause wheel imbalance which, may result in wheel or motor bearing failure.
- 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.**
- 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.
- Should further service to the blower be necessary, refer to the exploded view illustration (Figure 3).

PARTS LIST

- | | |
|---------------------------------|---|
| 1. INLET VENTURI C/W INLET RING | 7. MOTOR COMPARTMENT COVER (3 REMOVABLE PANELS) |
| 2. SHAFT (KEYWAYED BOTH ENDS) | 8. MOTOR PLATFORM |
| 3. FORWARD CURVED WHEEL | 9. BAFFLE |
| 4. BLOWER HOUSING | 10. HUB |
| 5. MOTOR COMPARTMENT | 11. HOUSING LEG |
| 6. PILLOW BLOCK BALL BEARINGS | |

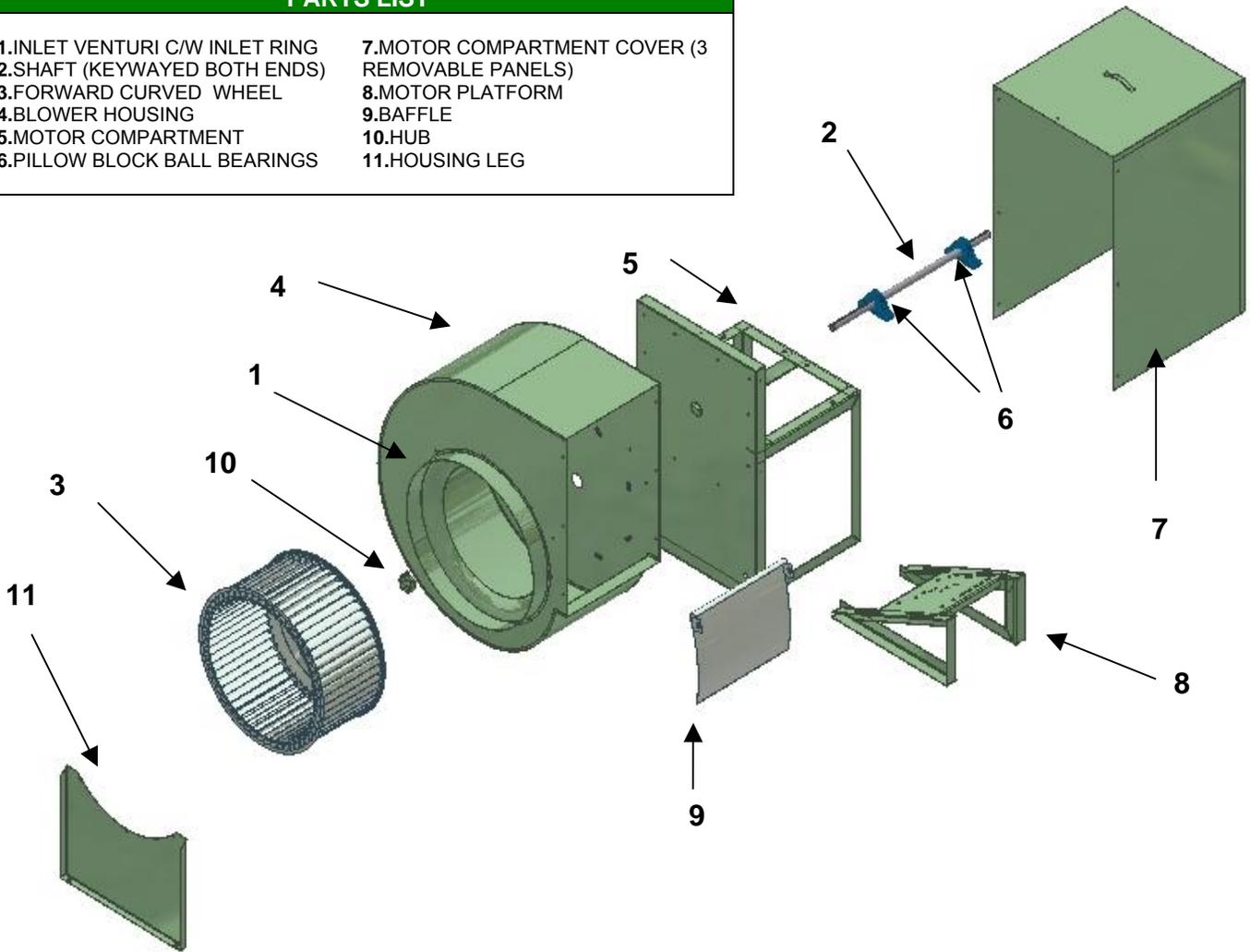


FIGURE 3:EXPLODED VIEW

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.