COOLER MOTOR INSTRUCTIONS

EVAPORATIVE COOLER MOTOR

WARNING: FAILURE TO FOLLOW INSTRUCTIONS AND USE SAFE ELECTRICAL PROCEDURES COULD RESULT IN SERIOUS INJURY SUCH AS SHOCK OR ELECTROCUTION.

SAFETY PRECAUTIONS:

1. **Disconnect electrical power at source before working on or near a motor or its connected load.**
2. **This motor must be grounded by attaching the power supply green ground wire to the motor terminal green screw.**
3. **Caution: Motor may stop and restart without warning.**

   If motor is "overloaded", it will become unusually hot and the automatic internal overload switch will cause the motor to stop. The motor will then automatically restart after cooling down. An "overloaded" motor will cycle on and off. If this occurs, see Motor Pulley Adjustment section.
4. **Install all wiring, fusing and grounding in accordance with National Electrical Code, local requirements, and according to cooler manufacturer's instructions.**
5. **Keep all parts of body and loose clothing clear from belts, pulleys and other exposed parts at all times.**

MOTOR INSPECTION

1. Examine motor thoroughly to be sure it was not damaged in shipment.
2. Check the motor shaft. It should rotate freely when turned by hand.
3. Check nameplate rating. Voltage and frequency must match the electrical power source. Motor HP must be suitable for your cooler size.

MOTOR PULLEY SELECTION

The motor pulley must be the same size and type recommended by cooler manufacturer. Do not use a larger pulley size. Recommended motor pulley sizes are:

1/3 HP Motor:	3¼" adjustable, or 2¼" to 2½" fixed with ½" bore.
1/2 HP Motor:	3½" to 3¾" adjustable, or 2½" to 2¾" fixed with ½" bore.
3/4 HP Motor:	3¾" adjustable, or 3" to 3¼" fixed with ½" bore.
1 HP Motor: (Single Inlet Coolers Only)	4" adjustable, or 3¼" to 3½" fixed with 5/8" bore.

IMPORTANT: Too large of a motor pulley will "overload" motor and cause it to cycle on and off. If this occurs, see Motor Pulley Adjustment section.

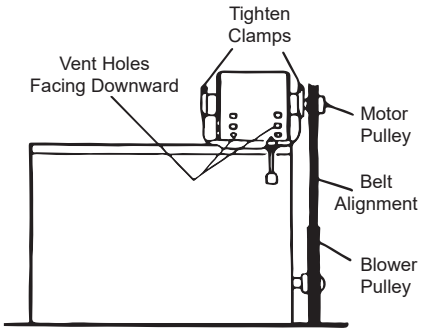
INSTALLATION INSTRUCTIONS

1. Motor Mounting:

Place motor in motor mounting bracket with vent holes down and motor label up. Be sure groove in rubber mounting rings seats securely on mounting bracket. Tighten clamps.

2. Motor Pulley and Blower Pulley Alignment:

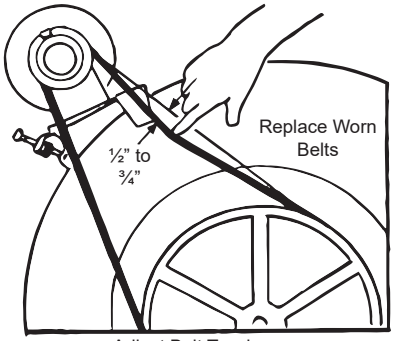
Pulleys must be aligned per Figure 1. If necessary, loosen pulley set screws with 5/32 Allen wrench. Each set screw must seat securely on flat of shaft.



Align Motor and Blower Pulley with V-Belt in Place (Figure 1).

3. Belt Tension:

Adjust belt to deflect 1/2 to 3/4 inch with about 3 lb. of force at center of span as per Figure 2. Re-adjust belt tension after any pulley adjustment. Replace worn or damaged belts.



Adjust Belt Tension (Figure 2).

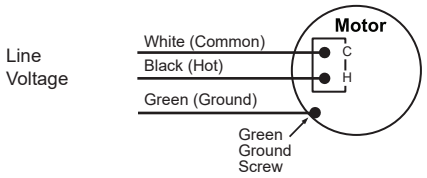
4. Electrical Connection:

Disconnect electrical power source prior to making any connections.

115 VAC Motors:

A. Connect green wire (ground) to green screw of motor housing.

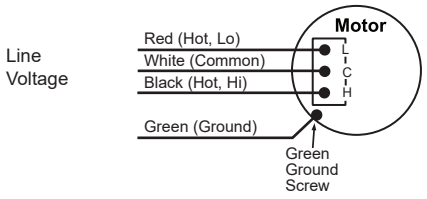
B. **One Speed Motors:** Connect black wire (hot wire) to terminal “H” (high) and white wire (common) to terminal “C” (Com) per Figure 3.



115 VAC Connection, One Speed Motor (Figure 3).

Two Speed Motors:

Connect white wire (common) to terminal “C” (com), black wire (Hot- high speed) to terminal “H” (high) and red wire (Hot-low speed) to terminal “L” (low) per Figure 4. **Caution:** Do Not apply voltage across High to Low.

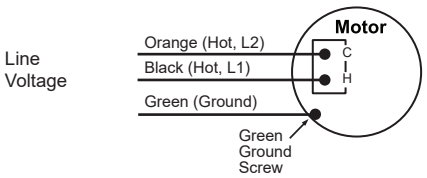


115 VAC Connection, Two Speed Motor (Figure 4).

230 VAC Motors:

A. Connect green wire (ground) to green screw of motor housing.

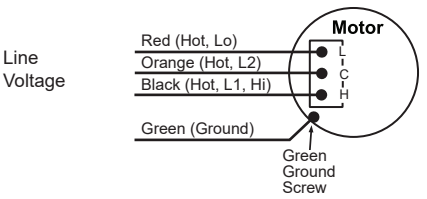
B. **One Speed Motors:** Connect black wire (hot, L1) to terminal “H” (high) and orange wire (hot, L2) to terminal “C” per Figure 5.



230 VAC Connection, One Speed Motor (Figure 5).

Two Speed Motors:

Connect black wire (Hot, L1-high speed) to terminal “H” (high), red wire (Hot, L1-low speed) to terminal “L” (low), and orange wire (hot, L2) to terminal “C” per Figure 6. **Caution:** Do Not apply voltage across High to Low.



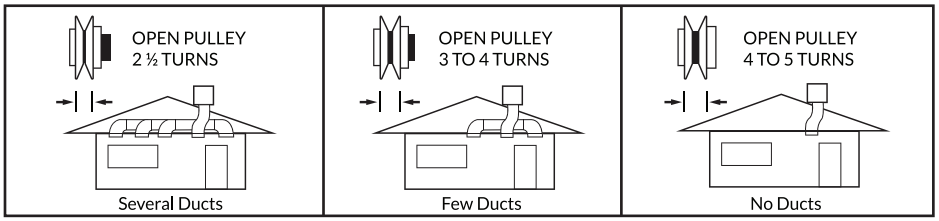
230 VAC Connection, Two Speed Motor (Figure 6).

5. Motor Pulley Adjustment:

Important: This motor will work only if (1) correct size pulley is used (see front); (2) Adjustable pulley is adjusted correctly so that amperage is below motor nameplate amperage (see below instructions); (3) Belt tension is correct (see front).

Warning: Disconnect electrical power source prior to working on cooler.

1. Loosen set screw on movable half of pulley with 5/32 Allen wrench.
2. Unscrew movable half of pulley 2-1/2 to 5 full turns from the closed position. Pulley setting depends on the resistance to air flowing out the cooler.

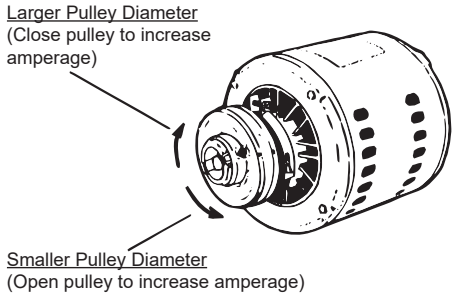


Set Pulley for Air Flow Resistance (Figure 7).

5. Motor Pulley Adjustment (Continued):

3. Re-tighten set screw on movable half of pulley.
4. Re-adjust belt tension (see Belt Tension).
5. Operate cooler with pad frames in place.
   a. If motor runs continuously, installation is complete.
   b. If motor stops after a period of time (and restarts later) the motor is “overloaded” and the movable half of the adjustable pulley must be opened 1/2 or more turns. Repeat steps (1) to (5).

Note: For best performance, during step 2, use an ammeter to check the motor amperage. Adjust the pulley diameter until the motor amperage draw is equal to, or less than, the amperage on the motor name plate.



Set Adjustable Pulley (Figure 8).

Limited Warranty

(1) Replacement made through your authorized dealer or retailer within one year from date of sale with proof of purchase.

(2) Reason for replacement, purchase date, failure date, and sales receipt must accompany all motors returned for replacement.

(3) Warranty is void if motor has been abused, altered, water damaged or improperly installed.

(4) We do not pay the cost of a service call at the site of installation to diagnose cause of trouble or the cost of labor or transportation to replace a defective motor.

(5) We are not responsible for any incidental or consequential damage resulting from any malfunction unless required to do so by State Law.

© Copyright 2022 Dial Manufacturing, Inc.