



ASSEMBLY INSTRUCTIONS KNOCKED DOWN BREEZEMASTER BDR

WARNING! DO NOT use fans in hazardous environments where the fan's electrical system could provide ignition to combustible or flammable materials, unless built specifically for that environment. This unit has rotating parts and safety precautions should be exercised during installation, operation and maintenance.

1. Unpack the fans, locate and identify all parts as shown in Figure 1.
2. Locate the shaft and bearing assembly. Make sure there is a rubber ring on each bearing. If not, locate the rubber rings and place them on the bearings.
3. Assemble the shaft and bearing assembly complete with rubber rings and the two bearing caps (Item 7) as shown in Figure 1 using 5/16 bolts and nuts provided.
4. Lay the orifice panel on a flat surface with the discharge down. Attach the support angles to the orifice in the relationship shown in Figure 1 using the 5/16 bolts and nuts provided. Do not tighten the bolts at this time.
5. Attach the shaft and bearing cap assembly to the support angle as shown in Figure 1 with the end of the shaft, with the 1/4" diameter hole, toward the discharge of the orifice using the 5/16 bolts and nuts. The shaft should be perpendicular to the support angle.
6. Attach the motor base to the support angles as shown in Figure 1 with the motor base perpendicular to the support angle.
7. Tighten the bolts connecting the support angles to the orifice.
8. Install the fan sheave to the fan shaft as shown in Figure 1 using the 1/4" square key. The fan sheave is the larger of the two sheaves provided.
9. Attach the propeller to the shaft using the roll pin (Item 1) as shown in Figure 1.
10. To center the propeller in the orifice, lay the discharge of the fan on a flat surface. The fan will be supported by the propeller. The propeller can be centered horizontally by loosening the bolts holding the support angles to the orifice. Move the orifice to one side or the other in relation to the propeller and tighten the bolts. To center the propeller vertically in relation to the support angles, loosen the bolts holding the bearing cap and shaft assembly to the support angles. Move the orifice in relation to the bearing cap and shaft assembly and tighten the bolts. Make sure the propeller is free to move in the orifice.

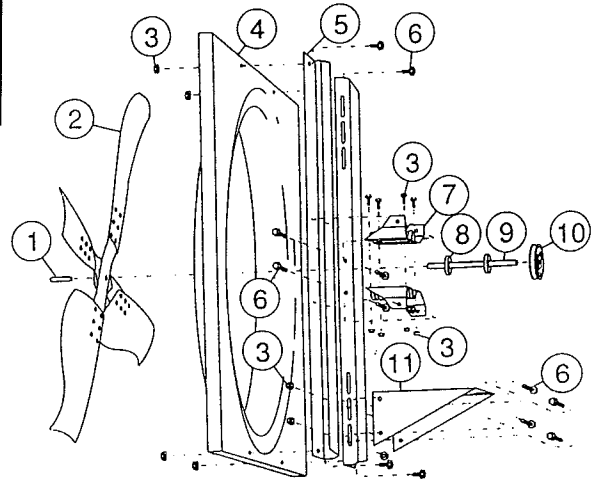


Figure 1

BDR COMPONENTS		
CODE	DESCRIPTION	QTY
1	Roll Pin	1
2	Propeller	1
3	5/16 Whiz Lock Nut	16
4	Orifice	1
5	Support Angle	2
6	5/16 X 3/4 Bolt	16
7	Bearing Base	2
8	Rubber Ring/Bearing Assembly	2
9	Shaft	1
10	Fan Sheave	1
11	Motor Base	1

SET SCREW TIGHTENING SCHEDULE

1. Before initial operation of the fan, tighten set screws according to the procedure outlined below.
2. After 500 operating hours or three months, whichever comes first, tighten set screws to the full recommended torque.
3. At least once a year, tighten set screws to the full recommended torque.

PROCEDURE FOR TIGHTENING SET SCREWS IN BEARINGS AND HUBS

One Set Screw Application

Using a torque wrench, tighten the set screw to the torque recommended in Table 1.

Two Set Screw Application

1. Using a torque wrench, tighten one set screw to half of the torque recommended in Table 1.
2. Tighten the second set screw to the full recommended torque.
3. Tighten the first set screw to the full recommended torque.

VARIABLE FREQUENCY DRIVES AND MOTORS

There are occasions when a Variable Frequency Drive (VFD) will cause poor motor performance and possible damage. To avoid these problems, the Company recommends the following:

1. Select compatible motor and VFD converter; if possible, the motor and the converter should be from the same manufacturer or at least the converter selected should be recommended by the motor manufacturer.
2. A motor shaft grounding system should be used to prevent motor bearing damage from eddy currents.

NOTE: The Company will not honor motor warranty claims if the customer fails to follow these

**Table 1. Recommended Tightening Torque
for Set Screws**

Set Screw Diameter	Torque (in-lbs)
#10	35
1/4	80
5/16	126
3/8	240
7/16	384
1/2	744
9/16	1080
5/8	1500
3/4	2580
7/8	3600
1	5400

TERMS AND CONDITIONS

DESIGN CHANGES Acme reserves the right to make changes in design, improvements and additions in and to its products any time without imposing any liability or obligations to itself to apply or install the same in any product manufactured by it.

TITLE The title and right of possession of the equipment sold herein shall remain with the Company and such equipment shall remain personal property until all payments herein (in-

cluding deferred payments whether evidenced by notes or otherwise) shall have been made in full in cash and the Purchaser agrees to do all acts necessary to perfect and maintain such right and title in the Company.

SAFETY ACCESSORIES The Company manufactures equipment designed to serve multiple applications and offers a wide range of safety equipment, including guards and other devices, as may be required to meet customer specifica-

tions. Without exception, the Company recommends that all orders include applicable safety devices. Equipment ordered without applicable safety devices is clearly the responsibility of the Purchaser. Further, the Purchaser warrants that he has determined and acquired any and all safety devices required for equipment sold by the Company. Weather covers and guards for motor and V-belt drives, couplings, shafts and bearings, along with inlet and outlet screens, are optional accessories noted in the price list.

These instructions cover the usual installation, operation and maintenance methods for which the product(s) was designed. They do not purport to cover all details or variations in the product(s) nor to provide for every possible contingency that might be met in connection with the installation, operation and maintenance. For any departures from these instructions, or should particular problems arise which are not covered sufficiently for the purchaser's purpose, the matter should be referred to the Company.

WARNING Acme products are designed and manufactured to provide reliable performance but they are not guaranteed to be 100% free of defects. Even reliable products will experience occasional failures and this possibility should be recognized by the User. If these products are used in a life support ventilation system where failure could result in loss or injury, the User should provide adequate back-up ventilation, supplementary natural ventilation or failure alarm system, or acknowledge willingness to accept the risk of such loss or injury.

WARNING DO NOT use in HAZARDOUS ENVIRONMENTS where fan's electrical system could provide ignition to combustible or flammable materials unless unit is specifically built for hazardous environments.

CAUTION Guards must be installed when fan is within reach of personnel or within seven (7) feet (2.134 m) of working level or when deemed advisable for safety.

DISCLAIMER The Company has made a diligent effort to illustrate and describe the products in this literature accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions or dimensions.

LIMITED WARRANTY

WARRANTY AND DISCLAIMER: Acme Engineering and Manufacturing Corporation extends this limited warranty to the original buyer and warrants that products supplied by the Company, shall be free from original defects in workmanship and materials for two years from date of shipment (except for the warranty periods noted for products in the paragraph immediately following), provided same have been properly handled, stored, installed, serviced, maintained and operated. This warranty shall not apply to products which have been altered or repaired without the Company's express authorization, or altered or repaired in any way so as, in the Company's judgment, to affect its performance or reliability, nor which have been improperly installed or subjected to misuse, negligence, or accident, or incorrectly used in combination with other substances. Evaporative cooling pads are warranted to be free of defects in materials and workmanship for a period of two years from date of shipment provided same have been properly handled, stored, installed, serviced, maintained and operated; and further, not subjected to excessive heat, corrosive agents or chemicals, or mechanical abuse that may cause tearing, crushing or undue deterioration, nor used on a system or in a manner other than that for which it was designed as explained in the product literature. The Buyer assumes all risks and liability for results of use of all products.

Acme's exclusive duplex split pillow block bearings and shaft are warranted to be free of defects in materials and workmanship for a period of five years from date of shipment. Belts are warranted to be free of defects in materials and workmanship for a period of one year from date of shipment. Polyethylene tubing is warranted to be free of defects in materials and workman-

ship for a period of 90 days from date of shipment.

LIMITATION OF REMEDY AND DAMAGES: All claims under this warranty must be made in writing and delivered to P. O. Box 978, Muskogee, Oklahoma, 74402, within 15 days after discovery of the defect and prior to the expiration of two years from the date of shipment by the Company of the product claimed defective, and Buyer shall be barred from any remedy if Buyer fails to make such claim within such period.

Within 30 days after receipt of a timely claim, the Company shall have the option either to inspect the product while in Buyer's possession or to request Buyer to return the product to the Company at Buyer's expense for inspection by the Company. The Company shall replace, or at its option repair, free of charge, any product it determines to be defective, and it shall ship the repaired or replacement product to Buyer F.O.B. point of shipment; provided, however, if circumstances are such as in the Company's judgment to prohibit repair or replacement to remedy the warranted defects, the Buyer's sole and exclusive remedy shall be a refund to the Buyer of any part of the invoice price, paid to the Company, for the defective product or part.

The Company is not responsible for the cost of removal of the defective product or part, damages due to removal, or any expenses incurred in shipping the product or part to or from the Company's plant, or the installation of the repaired or replaced product or part.

Implied warranties, when applicable, shall commence upon the same date as the express warranty provided above, and shall, except for warranties of title, extend only for the duration of the express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. The only remedy provided to you under an applicable implied warranty and the express warranty shall be the remedy provided under the express warranty, subject to the terms and conditions contained therein. The Company

shall not be liable for incidental and consequential losses and damages under the express warranty, any applicable implied warranty, or claims for negligence, except to the extent that this limitation is found to be unenforceable under applicable state law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

No employee, agent, dealer, or other person is authorized to give any warranties on behalf of the Company or to assume for the Company any other liability in connection with any of its products except in writing and signed by an officer of the Company.

REPLACEMENT PARTS If replacement parts are ordered, buyer warrants that the original components in which these replacement parts will be placed are in satisfactory working condition, and when said replacement parts are installed, the resultant installation will operate in a safe manner, at speeds and temperatures for which the original equipment was purchased.

TECHNICAL ADVICE AND RECOMMENDATIONS, DISCLAIMER: Notwithstanding any past practice or dealings or any custom of the trade, sales shall not include the furnishing of technical advice or assistance or system design. Any such assistance shall be at the Company's sole option and may be subject to additional charge.

The Company assumes no obligation or liability on account of any recommendations, opinions or advice as to the choice, installation or use of products. Any such recommendations, opinions or advice are given and shall be accepted at your own risk and shall not constitute any warranty or guarantee of such products or their performance.

GENERAL In no event shall any claim for consequential damages be made by either party. The Company will comply with all applicable Federal, State, and local laws.



**ACME ENGINEERING AND
MANUFACTURING CORPORATION**
P.O. Box 978
Muskogee, Oklahoma 74402
Telephone 918/682-7791
Fax 918/682-0134