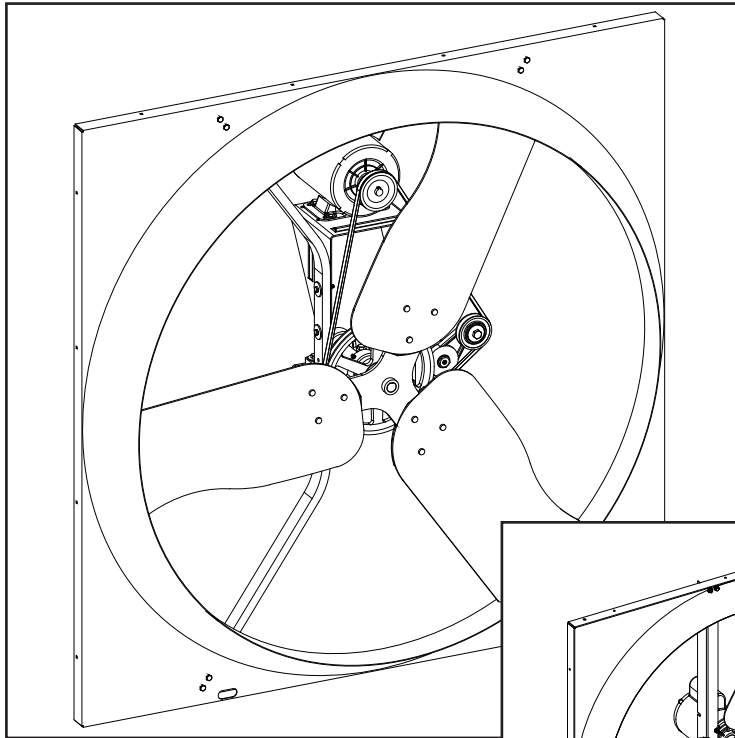


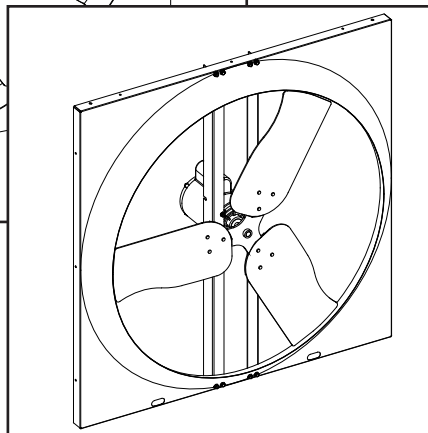
# GB Series

Panel Fans  
36" and 48"

## Instruction Manual



*GBxxxGx Belt Drive Fan*



*GB36Gx Direct Drive Fan*

## GB Series Panel Fan

36" and 48"

Models: GB36Gx • GB365Gx • GB481Gx • GB4815Gx



# GB Series Panel Fan 36" and 48"

## Instructions for Use and Maintenance

### Thank You:

Thank you for purchasing a GB Series Panel Fan. Munters equipment is designed to be the highest performing, highest quality equipment you can buy. With the proper installation and maintenance it will provide many years of service.

### Please Note:

To achieve maximum performance and insure long life from your Munters product it is essential that it be installed and maintained properly. Please read all instructions carefully before beginning installation.

### Warranty:

For Warranty claims information see the "Warranty Claims and Return Policy" form QM1021 available from the [Munters Corporation office at 1-800-227-2376 or by e-mail at aghort.info@munters.com](mailto:aghort.info@munters.com).

### Conditions and Limitations:

- Products and Systems involved in a warranty claim under the "Warranty Claims and Return Policy" shall have been properly installed, maintained and operated under competent supervision, according to the instructions provided by Munters Corporation.
- Malfunction or failure resulting from misuse, abuse, negligence, alteration, accident or lack of proper installation or maintenance shall not be considered a defect under the Warranty.

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# Unpacking the Equipment

# 1.

Before beginning installation, check the overall condition of the equipment. Remove packing Materials and examine all components for signs of shipping damage. Any shipping damage is the customers responsibility and should be reported immediately to your freight carrier.

## 1.1 Parts List

*Each Crate Includes:*

- 1 - 36" Belt Drive or Direct Drive fan or
- 1 - 48" Belt Drive fan

If the fan is to be used as a circulation fan, then hang it in the barn using the Munters fan Hanger kit, [FH1710](#) for belt drive or [FH1705](#) for direct drive. Then skip to the electrical wiring section.

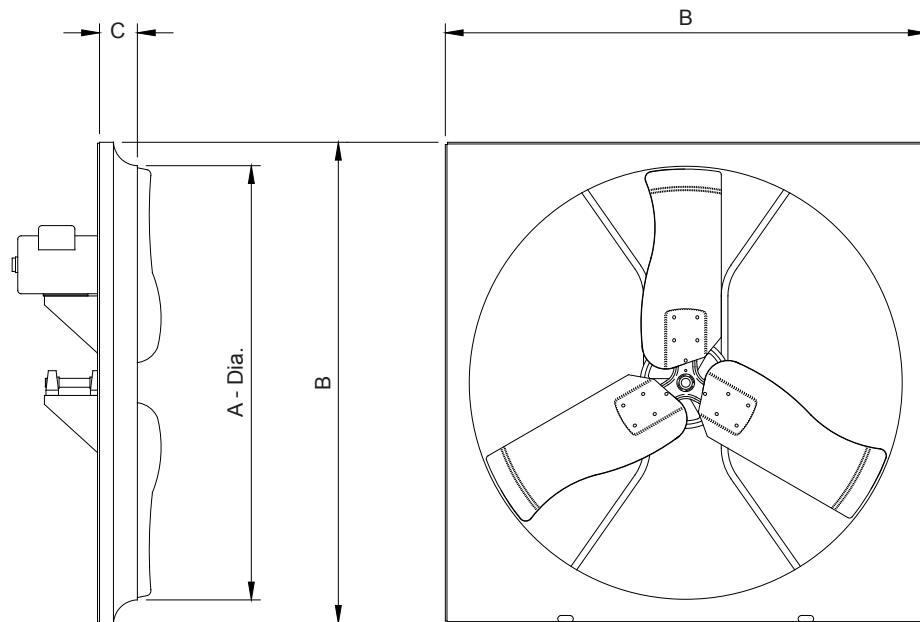
If fan will be installed in wood housing (by others), then proceed to [Step 1](#).

## 1.2 Fan Dimensions

Fan Specifications: 60Hz shown (50Hz available)

Power: 120/240 VAC or 208-240/480 VAC

Phase: 1 or 3



### Dimensions:

Cat. No.	Fan Dia.	Drive Type	Prop. Type	A - Dia.	B	C	Wall Openings (I.D., Framed)
GB36G	36"	Direct	Galvanized Steel	36 <sup>3</sup> / <sub>8</sub> "	42"	4 <sup>1</sup> / <sub>4</sub> "	42 <sup>1</sup> / <sub>4</sub> " sq.
GB365G	36"	Belt	Galvanized Steel	36 <sup>1</sup> / <sub>2</sub> "	42"	4 <sup>1</sup> / <sub>4</sub> "	42 <sup>1</sup> / <sub>4</sub> " sq.
GB481G	48"	Belt	Galvanized Steel	48 <sup>5</sup> / <sub>8</sub> "	54"	5 <sup>3</sup> / <sub>4</sub> "	54 <sup>1</sup> / <sub>4</sub> " sq.
GB4815G	48"	Belt	Galvanized Steel	48 <sup>5</sup> / <sub>8</sub> "	54"	5 <sup>3</sup> / <sub>4</sub> "	54 <sup>1</sup> / <sub>4</sub> " sq.

# Installation Instructions

# 2.

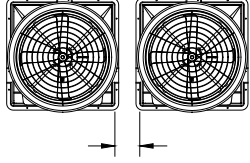
## 2.1 Installation

If fan will be mounted as a circulation fan, proceed to [Chapter 3, Page 8](#) for electrical wiring.

### Step 2

Construct a framed opening to correct size according to chart on previous page and your fan size. [See Figure 1](#). Framing must be 28" deep to provide adequate room for guards and/or shutters. [See Figure 2](#). If a discharge cone will be used then framing will be 19½" deep. [See Figure 3](#).

**Recommended Clearance\***



- Fan with outlet guard: maintain 8" minimum clearance on all sides
- Fan with discharge cone: maintain 12" minimum clearance on all sides

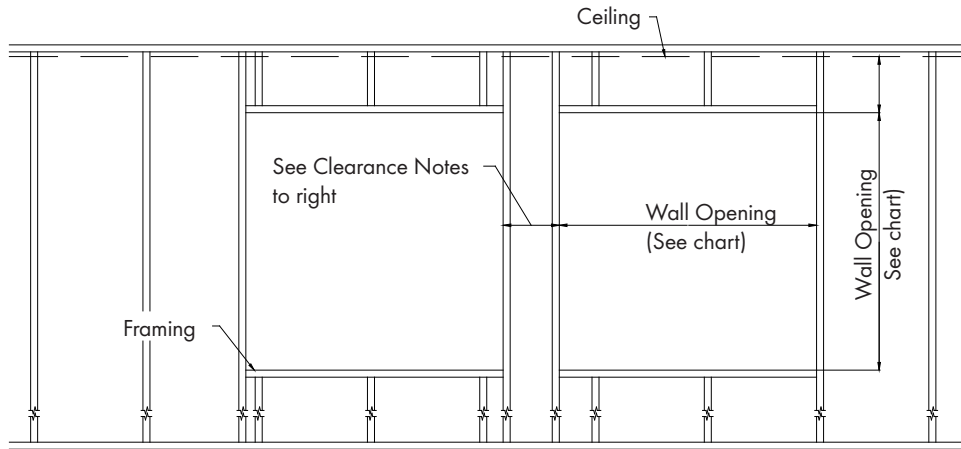


Figure 1

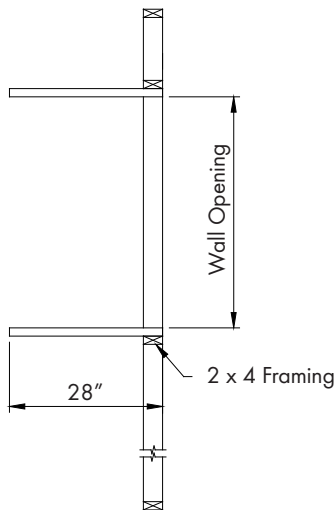


Figure 2

Framed Openings for Fans with Shutters and Outlet Guards

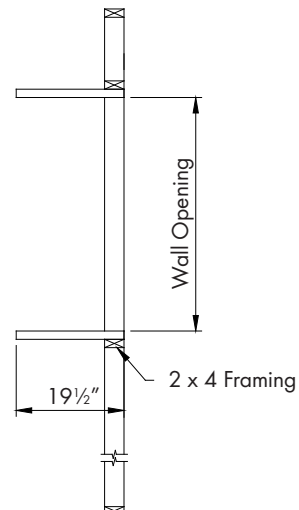


Figure 3

Framed Openings for Fans with Discharge Cones

If optional Discharge Cone was purchased then go to [Step 3](#), otherwise proceed to [Step 2](#).

### Step 2

Insert fan into framing so that the back edge of orifice panel is 18" from inside of wall. [See Figure 4](#). Secure fan in place using Lag Screws (not provided). If a shutter was purchased proceed to the Electrical Wiring Section before installing the shutter.

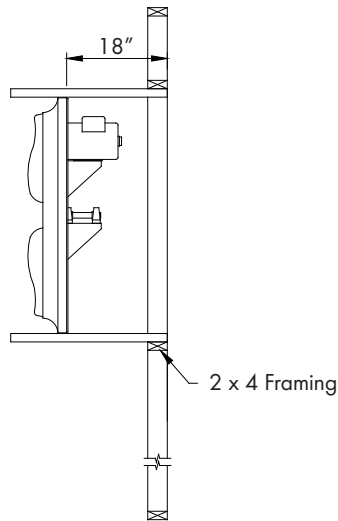


Figure 4

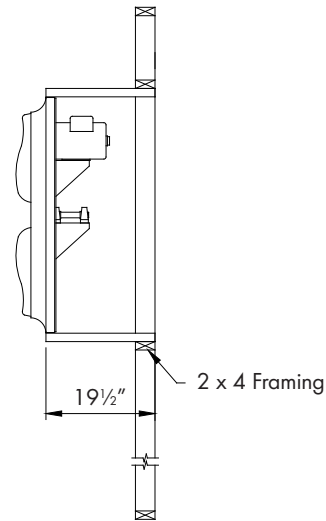


Figure 5

### Step 3

Insert fan into framing so that the front edge orifice panel is flush with the outside of framing. [See Figure 5](#). Secure fan in place using Lag Screws (not provided).

### Step 4

If a shutter was purchased proceed to the Electrical Wiring Section before installing the shutter.

### SHUTTER INSTALLATION:

Install shutter into back of framed opening. [See Figure 6](#). If the Shutter Clip Kit (FH1198) was purchased, install it now using hardware with the kit. [See Figure 6](#).

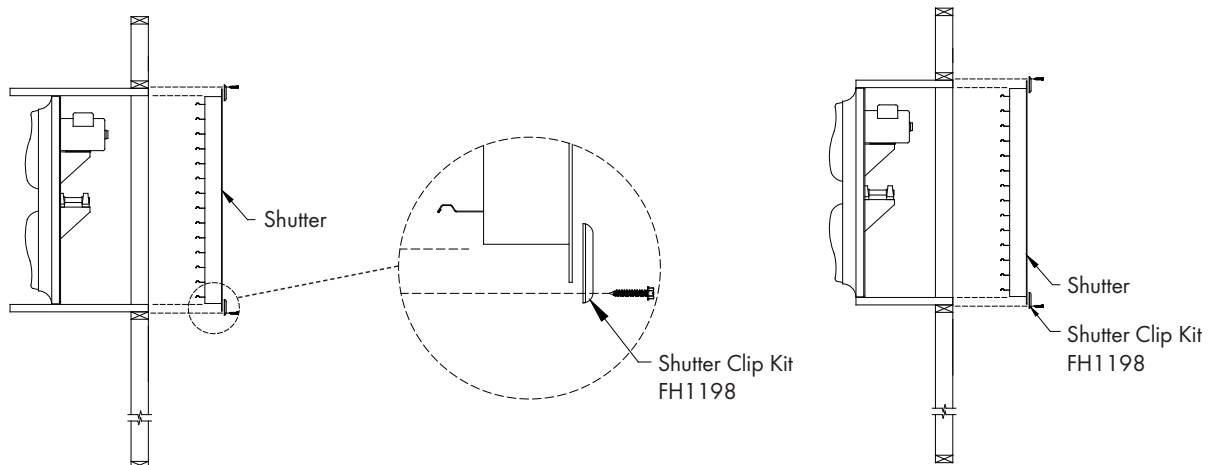
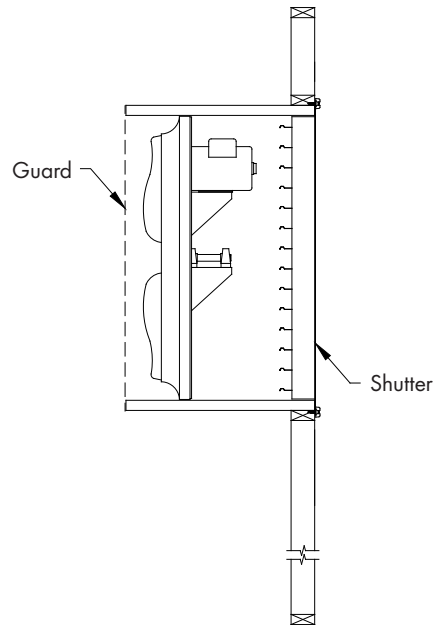


Figure 6

**Step 5**

Outlet of fan comes unguarded, if a discharge cone was purchased then follow the installation instructions included with the cone. If a cone was not purchased it is recommended that a guard be installed on outlet at this time. See [Figure 7](#).



*Figure 7*

All wiring should be installed in accordance with National, State, and Local electrical codes. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits, with a minimum of two circuits per room. For electrical connection requirements, refer to diagram on motor nameplate and to information enclosed with the environmental control to be used.

**Single Phase Fans:** motor overload protection should be provided for each fan. A Circuit Breaker Switch or slow blow motor type fuses must be used [See Figure 8A](#). See QM1400 for proper size.

**Three Phase Fans:** motor overload protection should be provided for each fan. A three pole motor starter or slow blow motor fuses must be used. [See Figure 8B](#).

If a frequency drive (inverter) is used, confirm that motors are rated for inverter duty at the voltage used. The installation of line reactors is recommended to reduce voltage spikes and harmonic distortion. Supplemental motor overload protection is also recommended.

**NOTE:** A safety cut-off switch should be located adjacent to each fan.

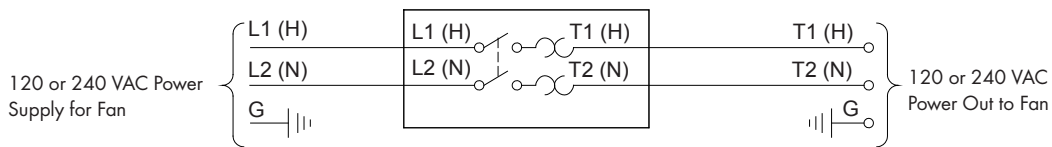


Figure 8A

Single Phase - Motor Overload Protection with Disconnect  
(SY2000 or Equivalent)

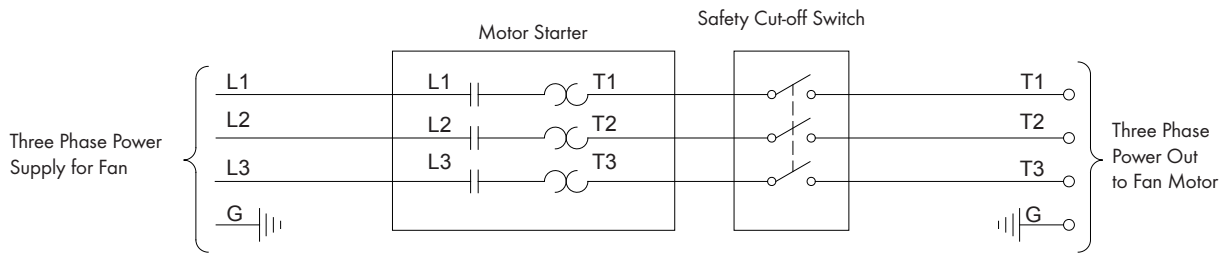


Figure 8B

Three Phase - Motor Overload Protection with Disconnect

**KEY:**

- L1 = Line 1
- L2 = Line 2
- L3 = Line 3
- H = Hot
- N = Neutral
- G = Ground

**Note:**

Information in parenthesis refers to 120 VAC control.



# Operation

# 4.

## 4.1 Operation

**INITIAL START-UP:** With electrical power off, verify that the fan propeller turns freely and that all fasteners are secure. Turn on electrical power and confirm that the fan operates smoothly.

**ADJUSTMENTS:** Set the fan control to the temperature shown on your ventilations system drawing, or to a value which will provide the desired environmental conditions.



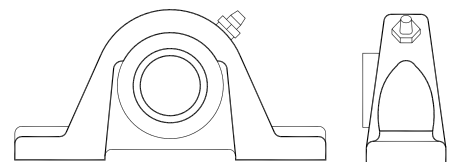
## 5.1 Maintenance

The following inspection and cleaning procedures should be performed monthly:

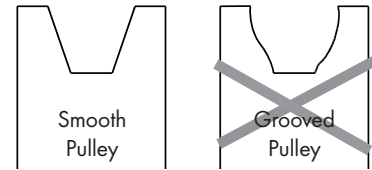
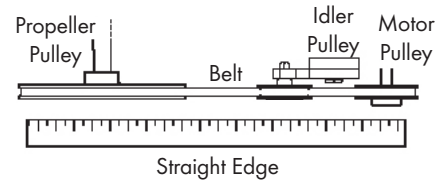
### Tools Needed for Maintenance:

wrenches: 17mm, 27mm, 5/32" Allen

- 1) **INSPECT PROPELLER:** Check that propeller is secure on prop shaft or motor shaft and that there are no signs of damage. The blades are of a self-cleaning design and should not require maintenance.
- 2) **CLEAN** regularly for best results:
  - **FAN MOTOR:** Remove any dust accumulation from motor using a brush or cloth. (DO NOT use a pressure washer). A clean motor will run cooler and last longer. At the same time, verify that the motor is secure in its mount.
  - **SHUTTER:** Carefully clean dust from damper doors and frame so that doors open and close freely. A brush or cloth should be used.
  - **GUARD:** Clean any dust or feathers from fan guards using a brush. Dirty guards can reduce airflow.
- 3) **CHECK FASTENERS:** For safety, all fasteners should be inspected 1 month after initial operation and yearly thereafter. Tighten any loose connections.
- 4) **INSPECT FAN CONTROL:** With power disconnected, inspect all electrical connections. Wiring should be secure and in good condition. Remove any dust build-up from control case and sensor using a soft brush or cloth. **NEVER CLEAN ELECTRICAL EQUIPMENT WITH A PRESSURE WASHER!**
- 5) **GREASE BEARINGS:** Grease bearings every 4-6 months. Use no more than 2 shots when greasing fan.
  - A premium non-water based grease is recommended:
    - Shell Alvania #2
    - Mobil Mobilux #2
    - Exxon Unirex N2
    - Texaco Premium RB
    - Mobil 532
    - Texaco Multifak #2



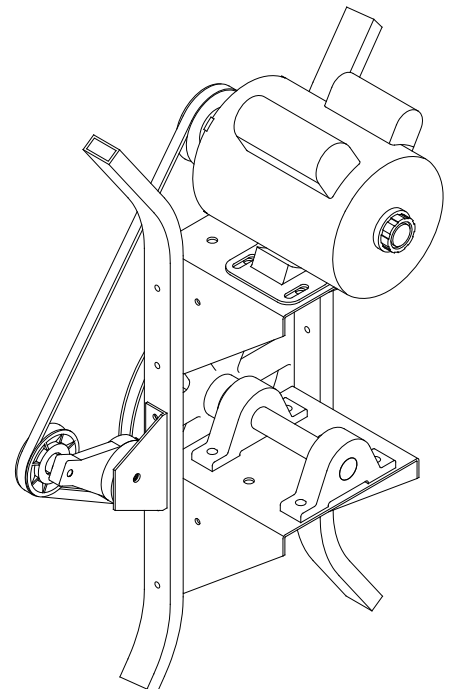
- 6) **CHECK DRIVE ALIGNMENT:** Check to make sure the belt is centered on the idler pulley, then use a straight edge to check the alignment of the drive pulleys. If an adjustment is needed, remove the belt, then loosen the set screw in one pulley and move it. Remember to tighten the set screw after making an adjustment. Drive alignment is very important for long belt life and proper operation.
- 7) **CHECKING PULLEYS:** Roll the belt off and look at both pulleys. If the pulley has grooves in it or is no longer smooth, it needs replacement. A loose or slipping belt will reduce fan performance up to 60% and cause premature belt failure.
- 8) **BELT TENSIONING:**



All belts must be checked for proper tension after the first 3 days of fan operation and every 4-6 months thereafter.

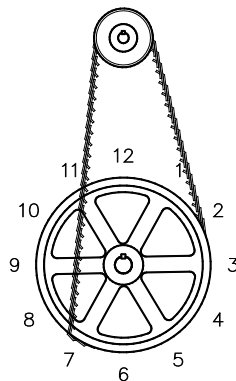
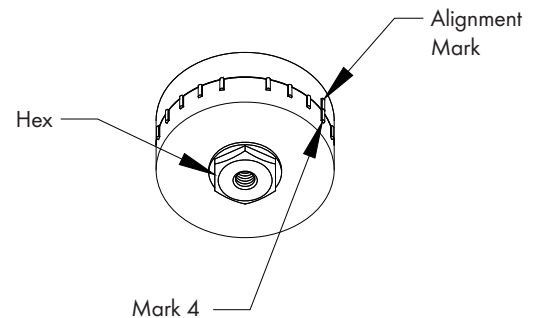
**Solid Belt**

To adjust the belt tensioner to the proper setting, loosen 10 mm bolt fastening tensioner to bracket (using 17mm end wrench) to allow tensioner arm to rotate. Working from inlet/motor side of fan, place a 27 mm (1 1/8") wrench onto the hex on the tensioner. Turn wrench counterclockwise until the single mark on base of the belt tensioner is aligned with mark 4 on the tensioner arm. Hold tensioner at this setting and tighten the 10mm bolt to 40 ft. lbs. [54 N-m] torque.



**AeroLink Belt**

- Roll the belt off the pulleys by forcing it sideways off the larger pulley as you turn the drive by hand.
- Reinstall the belt by wrapping it around the smaller pulley and then starting it over the larger pulley.
- As you continue rolling it onto the larger pulley, the belt should become taut in the position shown below.
- If the belt becomes taut before reaching the position shown, add one link and try again.
- If the belt is loose when in the position shown, remove one link and try again.



## 6.1 Winterizing

In most climates, it is probable that the ventilation system will never need to operate at a total capacity during the colder winter months. Consequently, it is advisable to “winterize” those fans which will not be used in cold weather to avoid unnecessary heat loss and condensation.

To winterize, turn fan control “off”. Install the insulated closure panel over the fan intake. If you don’t have an insulated closure panel, a piece of rigid insulation material can be used. Remember the insulation panel must be removed before warmer weather returns.

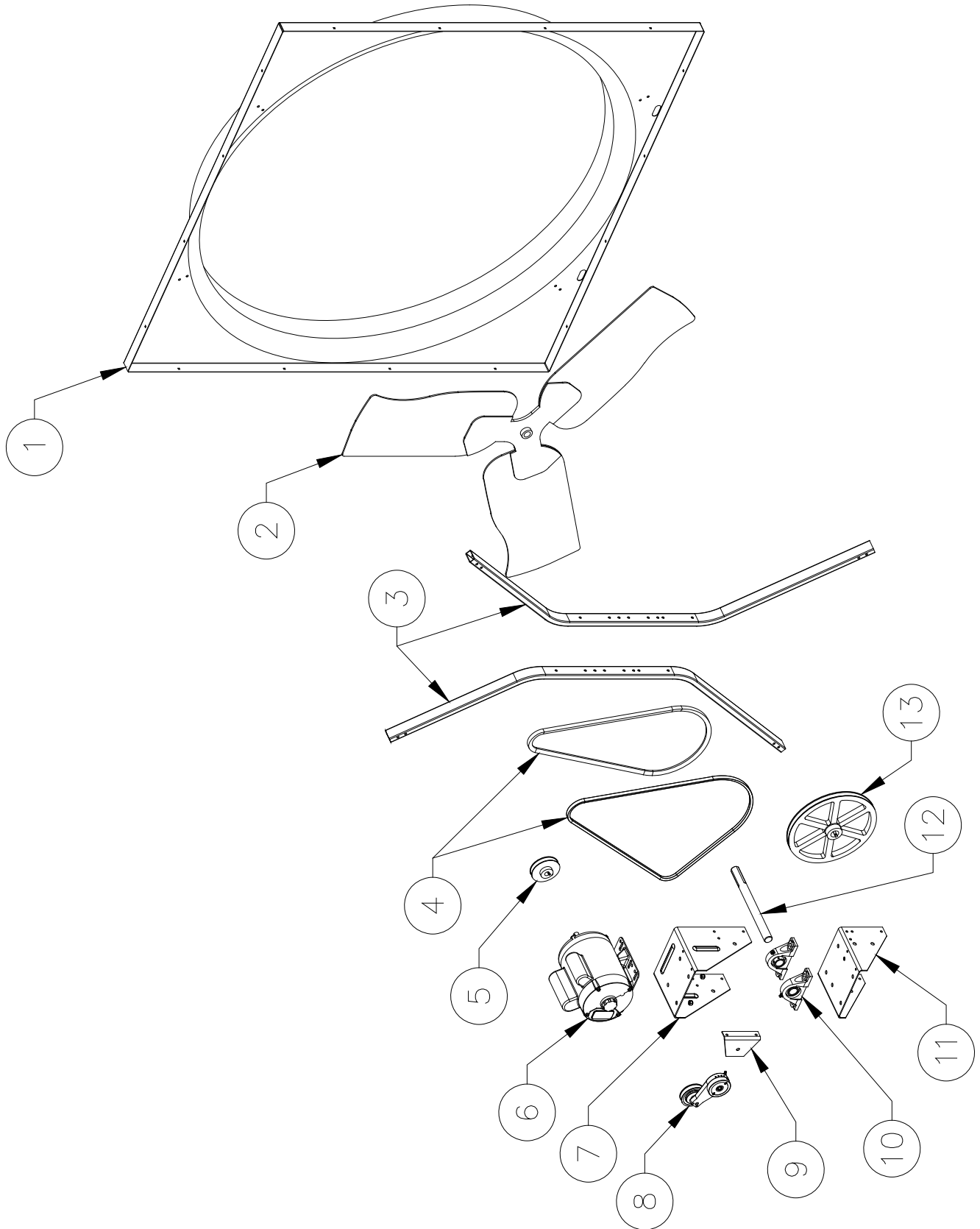
**NOTE:** At least one single speed fan should be left uncovered and with power available to provide air movement in the event of variable speed control difficulties.



SYMPTOM	POSSIBLE CAUSES	CORRECTIVE ACTION
Fan Not Operating	<ol style="list-style-type: none"> <li>1. Fan control set above room temperature</li> <li>2. Blown fuse or open circuit breaker</li> <li>3. Propeller blade contacting fan housing</li> <li>4. Fan control defective</li> <li>5. Motor defective</li> </ol>	<ol style="list-style-type: none"> <li>1. Set to a lower temperature</li> <li>2. Replace fuse or reset breaker</li> <li>3. Realign motor in fan housing</li> <li>4. Repair or replace control</li> <li>5. Repair or replace motor</li> </ol>
Fan Operating- Insufficient Airflow	<ol style="list-style-type: none"> <li>1. Shutter jammed</li> <li>2. Guard dirty</li> <li>3. Frequency drive improperly adjusted</li> <li>4. Incorrect Belt Tension/worn belt</li> </ol>	<ol style="list-style-type: none"> <li>1. See operation, Step 2 for adjustments guidelines</li> <li>2. Clean guard</li> <li>3. See operation, Step 2 for adjustments guidelines</li> <li>4. See Maintenance Section, Belt Tensioning</li> </ol>
Excessive Noise	<ol style="list-style-type: none"> <li>1. Propeller blade contacting fan housing</li> <li>2. Motor bearing or shaft bearing defective</li> <li>3. Frequency drive improperly adjusted</li> <li>4. Variable speed control defective</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust bearing position to realign propeller</li> <li>2. Repair or replace motor or shaft bearings</li> <li>3. See operation, Step 2 for adjustments guidelines</li> <li>4. Repair or replace control</li> </ol>
Excessive Vibration	<ol style="list-style-type: none"> <li>1. Motor loose on mount</li> <li>2. Propeller damaged</li> <li>3. Motor Shaft Bent</li> </ol>	<ol style="list-style-type: none"> <li>1. Tighten fasteners</li> <li>2. Replace propeller</li> <li>3. Repair or replace motor or propeller shaft</li> </ol>
Fan never turns off	<ol style="list-style-type: none"> <li>1. Override thermostat set incorrectly</li> <li>2. Control set for continuous operation</li> </ol>	<ol style="list-style-type: none"> <li>1. Set to the correct temperature</li> <li>2. Set speed control correctly</li> </ol>

# Exploded View

# 8.



Item	Catalog No.			Part Name/Description	QTY
	GB36Gx	GB365Gx	GB48xGx		
1	FH3136	FH1248	FH1252	Orifice Panel, GZ	1
2	FP1041	FP1041	FP1042	Propeller, GZ	1
3	FH2094	–	–	Angle Style Strut, 36"GB, GZ	2
	–	FH2436	FH2448	Tube Strut, GZ	2
4	–	FH2083*	FH2083*	Link Belt	1
	–	FH1470*	FH1527*	Aramid Fiber Belt	1
5	–	FH2003*	FH2029*	Motor Sheave	1
6	FM1048*	FM1022*	FM1024*	Motor	1
7	–	FH2815	FH2818	Motor Support	1
8	–	FH2402K	FH2402K	Belt Tensioner Assembly with 3" idler pulley	1
	–	FH2406	FH2406	3" idler pulley only, with bolt	1
	–	FH2439	FH2439	Tensioner Arm only, aluminum	1
9	–	FH2504	FH2504	Mounting Bracket for Belt Tensioner	1
10	–	FH2057	FH2057	Bearing, 1" bore x 1.44"CL, CI Holder	2
11	–	FH2815	FH2815	Bracket, bearing mount, galvanized	1
12	–	FH2086	FH2101	Shaft, steel	1
13	–	FH2091*	FH2034*	Propeller Sheave	1

\* Contact office for replacement part numbers for your fan configuration.

GB Series Fans are developed and produced by Munters Corporation, Lansing, Michigan U.S.A. 1-800-227-2376



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