



SKYBLADE® FAN CO.
Where Form Follows Function

SWAMPNESS MONSTER

36" - 48"
PORTABLE EVAPORATIVE
COOLING SYSTEM



USER'S MANUAL





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1 WARNINGS

READ AND SAVE THESE INSTRUCTIONS.

A printable, electronic version is available online at skybladefans.com.

⚠ WARNING/ AVERTISSEMENT



Whenever water and electricity are combined in the same enclosed environment the possibility of electric shock exists. This unit must only be plugged into a three conductor, grounded GFI (Ground Fault Interrupt), power source.

Do not open the unit with power applied to the unit.

Do not place the unit on a slope or where it can accidentally fall or roll into water.

Wiring and connections must comply with all national and local electrical codes.

Installation by qualified electrician required!

⚠ WARNING/ AVERTISSEMENT



Hazardous rotating fan blade.

Do not place fingers, arms, or other appendages into the path of the blade, or operate the machine without the guards in place.

Use caution when handling sharp metal.

⚠ WARNING/ AVERTISSEMENT

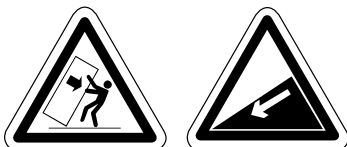


Once per month, inspect the internals of the Swampness Monster for signs of electrical insulation breakdown. Check the seal at the motor, as any holes may allow water to come in contact with open electrical circuits.

Do not operate any fan with a damaged cord or plug. Discard fan or return to an authorized service facility for examination and/or repair.

Do not run cord under carpeting. Do not cover cord with throw rugs, runners, or similar coverings. Do not route cord under furniture or appliances. Arrange cord away from traffic area and where it will not be tripped over.

⚠ WARNING/ AVERTISSEMENT



Heavy Appliance!

When installing wheels, provide adequate support to maintain balance of appliance!

Do not place the unit on a slope or where the unit can accidentally fall or roll into water. The lockable wheels provide resistance to movement although do not prevent movement or turn-over.

All products are warranted to be free from defects in material and workmanship for a period of one year from the date of purchase if installed and used in strict accordance with the installation instructions. Liability is limited to the sale price of any products proved to be defective or, at manufacturer's option, to the replacement of such products upon their return. No products are to be returned to the manufacturer, until there is an inspection and/or a return-goods authorization (RGA) number is issued.

All complaints should be directed first to the authorized distributor who sold the product. If satisfaction is not obtained or the name of the distributor is not known, write the manufacturer that appears below, directed to the attention of Customer Service Manager.

This limited warranty is expressly in lieu of any and all representations and warranties expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose. The remedy set forth in this limited warranty shall be the exclusive remedy available to any person. No person has authority to bind the manufacturer to any representation or warranty other than this limited warranty. The manufacturer shall not be liable for any consequential damages resulting from the use of our products or caused by any defect, failure or malfunction of our products (Some areas 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 that vary from area to area.

Warrantor:

SkyBlade Fan Company
24501 Hoover Road
Warren, MI 48089 USA
Telephone: 1.586.806.5107
Fax: 1.586.806.5109
E-Mail: sales@skybladefans.com

B PERFORMANCE

The following table shows estimates of the performance of four sizes of the Swampness Monster Evaporative Cooling System. These values will vary depending on the particular installation and operating conditions. Both Variable Speed (VS) and Single Speed (SS) models are listed.

Model	Drive	Water Consumption Rates (See Note 1)	Power Consumption	Typical Air Movement Rates (cfm - See Note 2)
SM-36	Direct	12 gallons per hr.	10 amps @ 115v /60hz	10,000
SM-48	Belt	17 gallons per hr.	11 amps @ 230v /60hz	17,500

Note 1: This estimate is under 90+ degree conditions; cooler temperatures will result in less water usage.

Note 2: The cooling area is very dependent on the relative humidity, temperature, and the space being cooled.

3.1 Temperature Differential Readings

The temperature drop from inlet to exit is very dependent on relative humidity and temperature. The higher the ambient temperature and the drier the air, the greater the drop. A temperature drop of 10 to 20 degrees is common.

4 PREPARATION AND INSTALLATION

⚠ WARNING/ AVERTISSEMENT



Swampness Monster Appliance Is Heavy!

When installing wheels, provide adequate support to maintain balance of appliance!
Do not place the unit on a slope or where the unit can accidentally fall or roll into water.
The lockable wheels provide resistance to movement although do not prevent movement or turn-over.

Carefully unpack the Swampness Monster from the shipping carton..

4.1 Float Preparation

IMPORTANT! Remove Tape From Float Before Operating!

1. Lift cover to gain access to pads as shown below.
2. Tilt pads out of unit as shown.
3. Remove pads to access float.

*Swampness
Monster shown with
cover open and
pad tilted forward*

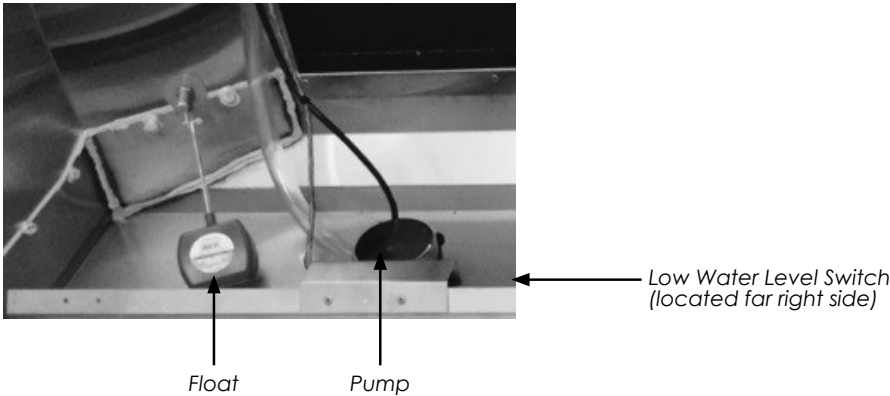


4 PREPARATION AND INSTALLATION

During shipment, the Float is securely taped to the pan of the Swampness Monster. The diagram below shows the Float with tape removed and ready for operation.

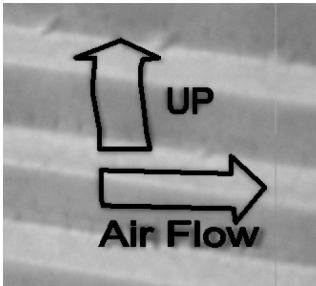
CAUTION: Be careful not to bend the Float Arm when removing the tape!

- 4. Apply hand pressure to hold float in place.
- 5. Carefully peel tape from float with other hand.



- 6. Replace pads. Look for arrows on the side of pad as shown below.

NOTE: Ensure pads are replaced with up arrow pointed UP.



5.1 The Importance of Ventilation

Fresh air is very important for proper operation of evaporative cooling. Ventilation can be provided by air flow from open windows and doors, or exhaust fans. Positioning the Swampness Monster intake close to an open door is a common way to assure fresh air. Evaporative cooling will not function properly in a closed environment.

5.2 Normal Operation

Under normal conditions, the pump should run constantly when air is being drawn through the pads. If outside conditions are not warm enough to run evaporative cooled air, an alternative is to run the fan with the pump off.

Dry the pads completely each night by turning off the pump and drawing air through the pads with the fan.

5.3 Breaking in New Pads

When pads are new, their slick surface will prevent the fast water absorption that will happen with older pads. For this reason, it is important that the first time new pads are used, to allow the pump to run for two or three hours. This will "soak-in" the pads, and allow faster start-up later.

After soaking new pads, turn off the pump, fan, and water supply, unplug the unit, and drain the reservoir. This eliminates chemical residues that have washed out of the new pads. See Section 7 for more information on Pad Care.

Foaming can occur with new pads. If excessive foaming is experienced, repeat the procedure described above two or three times to flush chemical residues from the pads. Reducing the water flow to the pads may also be helpful to reduce foaming.

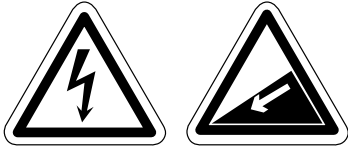
NOTE: Do not allow the pump to run without water in the reservoir. Without water, the pump may be damaged.

5

START UP & SHUT DOWN

5.4 Setting Up for Operation

⚠ WARNING/ AVERTISSEMENT



This unit must only be plugged into a three conductor, grounded GFI (Ground Fault Interrupt), power source.

Do not place the unit on a slope or where the unit can accidentally fall or roll into water. The lockable wheels provide resistance to movement although do not prevent movement or turn-over.

1. Connect water hose to inlet tap.

NOTE: If desired, an optional customer supplied drain hose and cut-off valve can be attached to the drain pan outlet beneath the Swampness Monster.

2. Check safety of electrical cords, and plug in unit.
3. Turn on water and fill the reservoir.
4. After the reservoir is filled, turn on the pump and let the water run for fifteen to twenty minutes before turning on fan. See Section 6 for Control Panel details.
5. Turn on fan and enjoy the cool air output.

5.5 Shut Down

When you are finished with the Swampness Monster, follow these steps for shutting down the unit:

1. Turn off pump.
2. Wait ten to fifteen minutes (This will dry the pad and minimize algae growth).
3. Turn off fan.
4. Disconnect water and power to the unit.

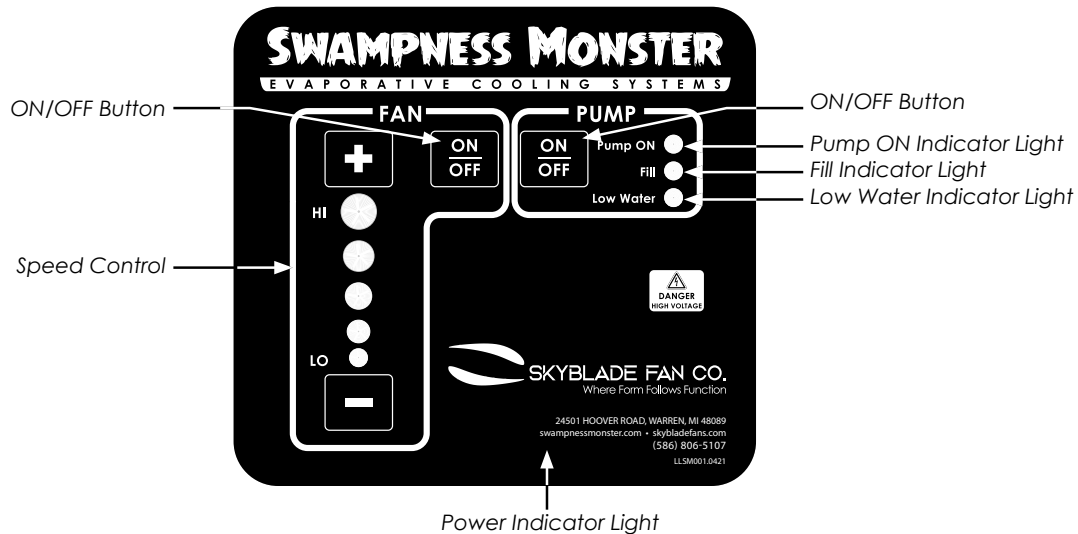
NOTE: If water is not disconnected, turn off the water hose whenever the Swampness Monster is not in use.

6 CONTROLS

Swampness Monster 36" Variable Speed units feature a user friendly control panel interface with status indicator lights.

The Swampness Monster 48" Single Speed unit has a user friendly control panel interface.

6.1 36" Variable Speed Control Panel



Power Indicator Light: The red Power Indicator Light is located at the bottom-center of the control panel label and illuminates the Danger High Voltage Triangle. The Power Indicator Light remains ON CONSTANTLY while power is applied to the Swampness Monster unit.

Fan Control ON/OFF Button: This button is used to start and stop the fan.

+ And – Speed Control Buttons: Used to select the fan speed to any position between LO and HI. These buttons control the fan speed only and does not turn the fan on or off.

Water Pump Control ON/OFF Button: This button is used to start and stop the water pump.

CAUTION: This switch should never be turned on unless there is water in the pan.

Pump ON: The green Pump On Indicator Light is ON SOLID when the water pump is running.

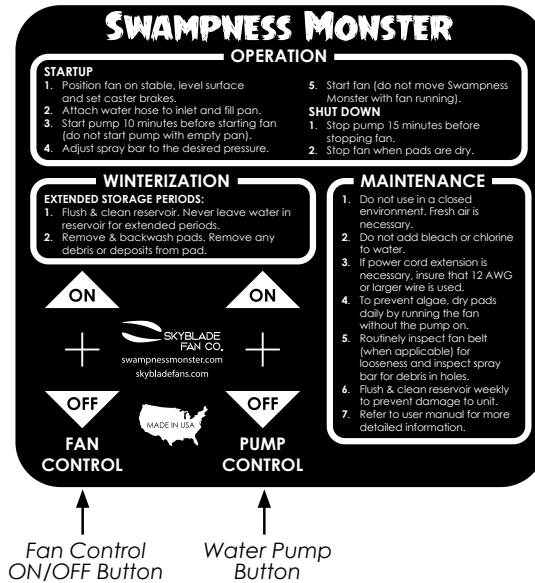
Low Water The red Low Water Indicator Light is ON BLINKING when the water level is low for less than 1 minute. After the first minute, the red Low Water Indicator Light is ON SOLID.

Fill: The green Fill Indicator Light turns ON BLINKING when the water level has remained low for a constant time of more than 1 minute. Also, after the first minute of constant low water level, the water pump will automatically turn off, the Pump ON and green Fill Indicator Lights will be ON BLINKING, and the red Low Water Indicator Light will be ON SOLID.

NOTE: The water must be filled above the low level switch and remain above the switch for a minimum of 1 minute solid before the water pump will turn back On.

6 CONTROLS

6.2 48" Single Speed Control Panel



Fan Control ON/OFF Button: This button is used to start and stop the fan.

Pump Control Switch: Used to start and stop the pump.

CAUTION: This switch should never be turned on unless there is water in the pan.

7.1 Breaking in New Pads

When pads are new, their slick surface will prevent the fast water absorption that will happen with older pads. For this reason, it is important that the first time new pads are used, to allow the pump to run for two or three hours. This will “soak-in” the pads, and allow faster start-up later.

After soaking new pads, turn off the pump, fan, and water supply, unplug the unit, and drain the reservoir. This eliminates chemical residues that have washed out of the new pads.

Foaming can occur with new pads. If excessive foaming is experienced, repeat the procedure described above two or three times to flush chemical residues from the pads. Reducing the water flow to the pads may also be helpful to reduce foaming.

7.2 Frequency of Pad Replacement

Swampness Monster pads, produced from a cellulose base and impregnated with a plastic resin anti-rot agent, can give years of trouble free operation with proper maintenance (3 to 5 years is typical).

7.3 Extending Pad Life

As you use the Swampness Monster system, you will notice the need for good preventive maintenance. Algae growth, scale (hard crusty deposits), and dirt accumulation are typical problems associated with poor maintenance. If you follow the guidelines in Sections 7, 8, and 9, your pads will last much longer, and be much more efficient.

Algae: To prevent algae, allow the pads to dry out each day, by running the fan without the pump running until the pads are completely dry (about 15 minutes).

Scale: Scale is a concentration of solids that “plate” the surface of the pads if the water contains too many impurities. Scale formation can be prevented by using water with a pH between 6 and 9 and silica levels below 150 ppm. If this is impractical, scale can be minimized by increasing the drain-off rate. To clean pads, spray pads frequently with water hose.

Dirt and Dust: If the pads are allowed to get excessively dirty, they should be removed from the system and washed down with a water hose.

7 PAD CARE AND MAINTENANCE

7.4 Cleaning or Replacing the Pads

NOTE: When lowering the cover, do not force the cover closed. Ensure the Spray Bar is correctly centered beneath the Spray Deflector.

36" and 48" Pad Removal

1. Disconnect all electrical power to the Swampness Monster unit.
2. Turn off the water source.
3. Lift cover and remove pads.
4. Hose down each side of pads.

CAUTION: Do Not Use High Pressure Washer To Hose Down Pads!

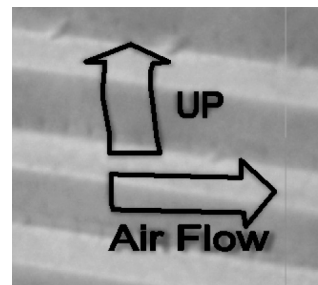
5. Drain the reservoir.
6. Clean out strainer.
7. Refill reservoir with clean water.
8. Replace pads. Look for the Air Flow Diagram on the side of the pad as shown at right.

IMPORTANT: Install Pads into Swampness Monster with Air Flow in direction of arrow and with up arrow pointing UP.

9. Turn on the pump to run fresh water over the pads for about 20 minutes. Use as much water as possible.
10. Gently hose stubborn deposits from the face of the pads.
11. Completely empty the reservoir to remove all the old algae and dirt that will rinse off the pads.
12. Refill with clean water.

NOTE: See Section 7.1 for information on New Pad Break-In.

Swampness Monster shown with cover open and pad tilted forward



8 MAINTENANCE

Since evaporative coolers require maintenance, the Swampness Monster has been designed to make maintenance as easy as possible. By simply raising the rear cover, basically all critical parts are within easy reach for inspection, including the pads, spray bar, fan belt (48" model only), pump, strainer, and water reservoir.

8.1 Water Distribution (Spray Bar)

Maintaining even water distribution to the pads is the most important way of extending pad life. If an area of pad does not receive enough water, cooling efficiency will be degraded.

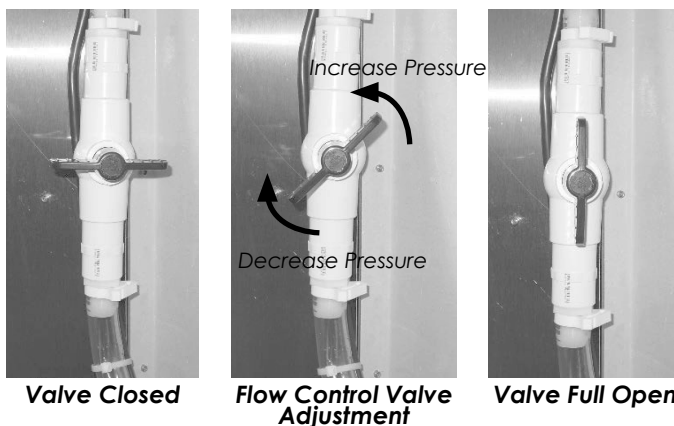
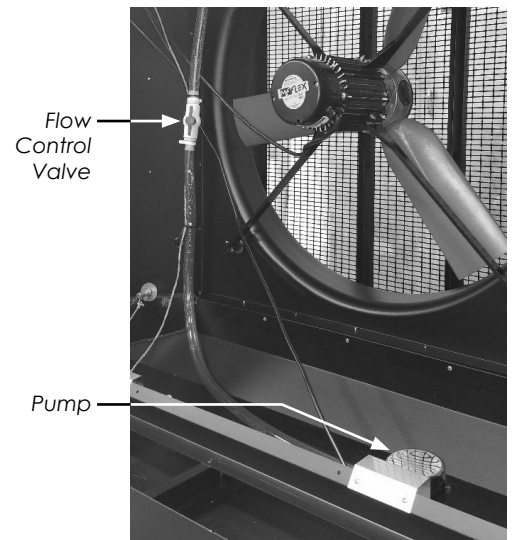
Dry spots or streaks on the Pads can also be caused by clogged holes in the spray bar. Investigate by raising the rear cover and running a pipe cleaner, or small dowel into the holes in the spray bar to clear any clogged holes. The spray bar end cap or caps may be removed for easier cleaning. Ensure the holes in the spray bar point upward during operation.

8.2 Flow Control Adjustment

Flow control adjustments are made at the Flow Control Valve. Flow adjustments are factory preset, however can be adjusted by the user based upon local water pressure and evaporative conditions at the site. The amount of water flow affects the efficiency and operation of the Swampness Monster. During operation the flow should be adjusted so that sufficient water soaks the pads, but only enough to completely soak the pads.

If there is too much water flow, the pads become over-soaked, that is, there is more water flow than required for proper evaporation. Surplus water may be sucked into the fan producing a water droplet spray directly in front of the Swampness Monster. In some cases, if you stand in front of the Swampness Monster you may feel the water spray! The efficiency of the Polar cool is reduced in this case. If this happens, reduce the water flow.

If there is too little flow, there will not enough water to fully soak the pads. You can actually see dry spots in the pads. Again, this reduces the efficiency of the Swampness Monster. If this is the case, increase the flow until the pads become fully soaked. Adjust the Water Flow as described above. Valve positions are shown below.

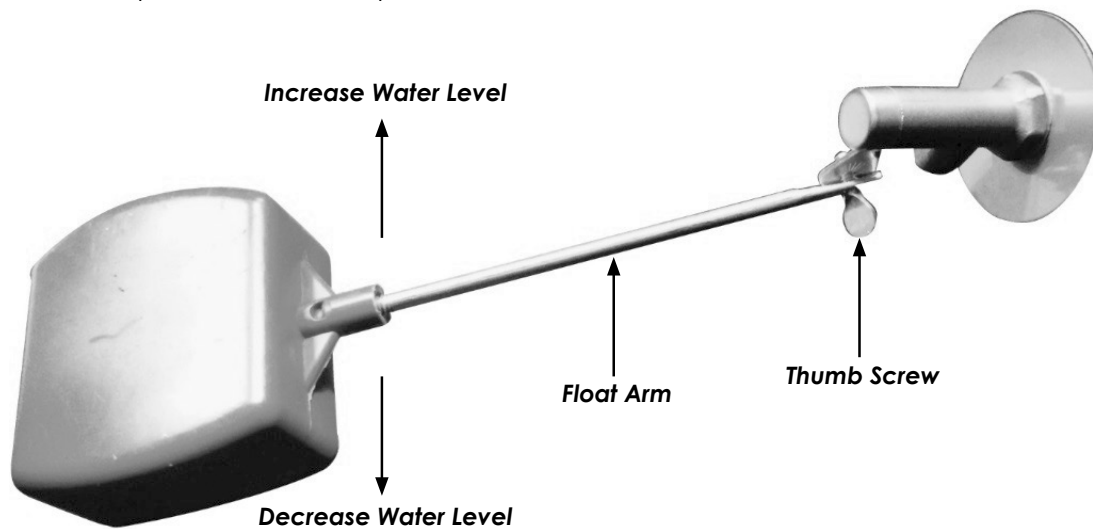


8.3 Float Adjustment

NOTE: The float is preset by the manufacturer and should not require adjustment under normal circumstances.

If adjustment is required, perform the following steps:

1. Disconnect all electrical power to the Swampness Monster unit.
2. Carefully remove pads.
3. Locate Float Valve inside Swampness Monster. Refer to Replacement Parts Diagram.
4. Loosen adjustment screw as shown in figure at right.
5. To decrease water level in reservoir, move float arm downward as shown. Retighten adjustment screw.
6. To increase water level in reservoir, move float arm upward as shown. Retighten adjustment screw.
7. Replace pads.
8. Return Swampness Monster to operation.



Repeat steps 1 thru 7 above as required for proper adjustment of water level.

NOTE: Water level in reservoir is normally $2\text{-}1/4" \pm 1"$. Do not allow the reservoir water to contact the pads when the reservoir water level is at the highest point.

9. After adjusting water level, return Swampness Monster to service.

8.4 Flushing the Reservoir

The pads and the complete water system should be flushed out at least once a week and the reservoir wiped clean.

1. Disconnect all electrical power to the Swampness Monster unit.
2. Turn off the water source.
3. Drain the reservoir. The reservoir can be drained using the Drain Outlet for 36" models, or the Discharge Valve and Pump for 48" models.

NOTE: If desired, an optional customer supplied drain hose and cut-off valve can be attached to the drain pan outlet beneath the Swampness Monster.

4. Wipe out the reservoir.

NOTE: Do not allow the pump to run without water in the reservoir. Without water, the pump may be damaged.

5. Restore the water source and fill the reservoir.
6. Run the pump for at least 15 minutes.
7. Drain the reservoir out again and refill with fresh water.
8. Start the pump and fan.

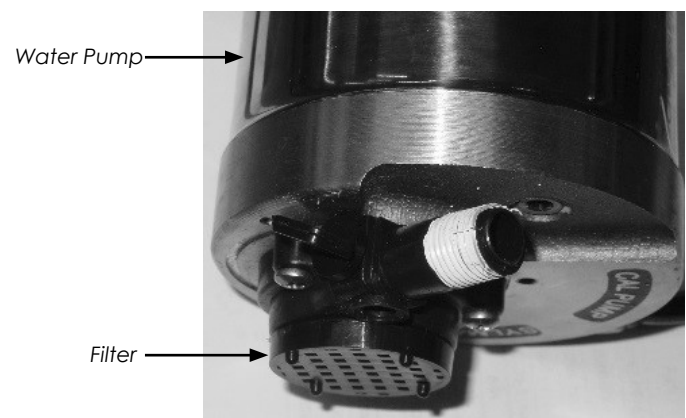
8.5 Cleaning the Pump Filter

The water pump includes a removable plastic filter on the bottom of the pump which should be cleaned weekly when the reservoir is flushed.

1. Disconnect all electrical power to the Swampness Monster unit.
2. Turn off the water source.
3. Remove the pump from the reservoir, remove and clean the screen on the bottom of the motor, and reinstall the pump in the same location and method as removed.

NOTE: Do not allow the pump to run without water in the reservoir. Without water, the pump may be damaged.

4. Restore the water source and fill the reservoir.
5. Reconnect power and run the pump for at least 15 minutes.
6. Turn the fan ON.



8

MAINTENANCE

8.6 Why Drain Water from the System?

If you have ever left a pot of coffee warming on the coffee maker you know the two principles at work in evaporative cooling systems. First, as the coffee sits on the warming plate, the level of water in the pot goes down. Second, the remaining coffee gets stronger as the water evaporates.

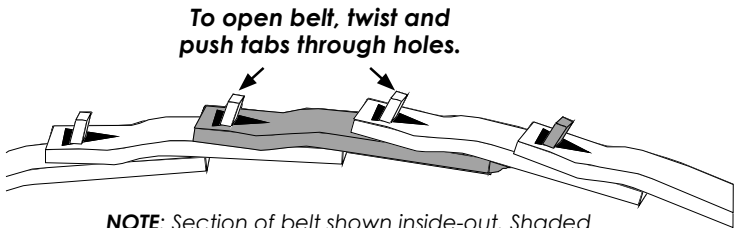
In your cooling system, these effects still apply. As water evaporates, no impurities are carried along. This leaves all sorts of minerals, chemicals, and other impurities behind. The concentration of impurities in the reservoir and system will quickly rise. Drain the reservoir daily in dusty conditions, and twice a week in clean air. See Section 8.4.

8.7 Belt Inspection or Removal (48" Model Only)

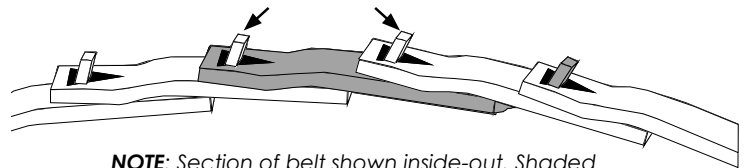
NOTE: Experience indicates that drive tension should be checked between 1/2 hour and 24 hours running at full load. A re-tension may be necessary depending on the application. Any initial belt stretch is then taken up. Subsequently, belt tension should be checked periodically and adjusted when necessary.

1. Disconnect all electrical power to the Swampness Monster unit.
2. Remove pads.
3. **TEST BELT TENSION:** Press on belt with finger about halfway between pulleys. Belt should deflect about 3/4" if correctly fitted.

TO REMOVE BELT:

4. Slowly rotate belt while carefully rolling belt off of prop pulley.
5. After removing belt, turn belt inside out. Links should resemble . Shaded region indicates 1 link of belt.
6. Flex belt to form a short, tight loop at one end.
7. Twist and unlock tabs holding link. This will open belt.
8. Remove links as required to tighten belt.
9. After removing link(s), reattach belt together by locking tabs through holes.
10. Turn belt to place tabs to inside of belt.
11. Hook belt onto motor pulley. Roll belt onto Prop pulley.
12. After belt is installed, repeat Step 3: **TEST BELT TENSION.**

To open belt, twist and push tabs through holes.



NOTE: Section of belt shown inside-out. Shaded region indicates 1 link of belt.

NOTE: Make sure arrows on belt are pointing in direction of prop rotation.

8.8 Winterization

When storing for extended periods:

1. Flush and clean reservoir. Never leave water in reservoir for extended periods.
2. Remove and backwash pads. Remove any debris or deposits from pad.
3. Remove the drain outlet cap to prevent water accumulation inside the reservoir.

9.1 Preventative Maintenance Requirements

- Flush the system at least once per week and wipe the reservoir clean to prevent damage to the unit. Refer to Section 8.4.
- Allow the pads to dry out each day, by running the fan without the pump running until the pads are completely dry (about 15 minutes).
- Drain the system during extended shutdowns.
- Disinfect the whole system once per quarter.
- Routinely inspect fan belt (48" model only) for looseness and inspect spray bar for debris in holes.
- Turn off water hose to Swampness Monster whenever the unit is not in use.
- Have the right amount of water running over the pad.
- If power cord extension is necessary, ensure that you use 12 AWG or larger wire.
- Ensure that air is not limited or restricted from entering or exiting the unit.
- Identify and correct leaks in the system.
- Excessive dust, fumes, and harsh cleaners, should be avoided.
- Do not use in closed environment. Fresh air is necessity.
- Do not add chlorine or bleach to water.
- Never use phosphate based water treatment chemicals.

NOTE: After running 30 minutes to 24 hours at full load, inspect belt tension (48" model only). Refer to Section 8.7 Belt Inspection or Removal.

10 TROUBLESHOOTING GUIDE

Problem	Check/Action	Reference Section
Swivel casters will not turn.	Check installation of caster hardware. Hardware must be in the proper order and location.	4.1
First time using a NEW Swampness Monster - Water overflows	Remove tape from float.	4.2
Water is splashing off of pads	Pads may be in backwards; Check Flow chart on side of pad.	Diagram 4D
Water spraying out from cover.	Ensure the holes in the spray bar point upward into the spray deflector. (Vertical Spray).	8.1
Water is not spraying out of ANY spray bar holes.	Ensure pump switch is ON; Check for sufficient water in reservoir; Check screen on bottom of pump for obstructions.	6 8.3 8.5
Water is not spraying out of SOME spray bar holes. Excessive dry streaks in the pads.	Adjust spray using the Flow Control Adjustment Valve, the spray bar should be cleaned, OR the pump screen should be cleaned. Remove spray bar and clean the bar and all holes.	8.2 8.1 8.5
Water overflows	Adjust float valve to a lower position.	8.3
Fan motor doesn't turn ON and no sound from the motor.	Check Swampness Monster Switches, power cord, GFCI outlet, and circuit breaker.	
48" Fan blade doesn't turn or slips.	Check for broken or loose fan belt. (48" ONLY)	
Motor overheats and shuts off then restarts minutes later.	Extension cord gauge is too small or the air passage is blocked or partially obstructed.	
Pump does not work.	Check for low water-level and low-level switch. (36" Variable-Speed models)	4.2

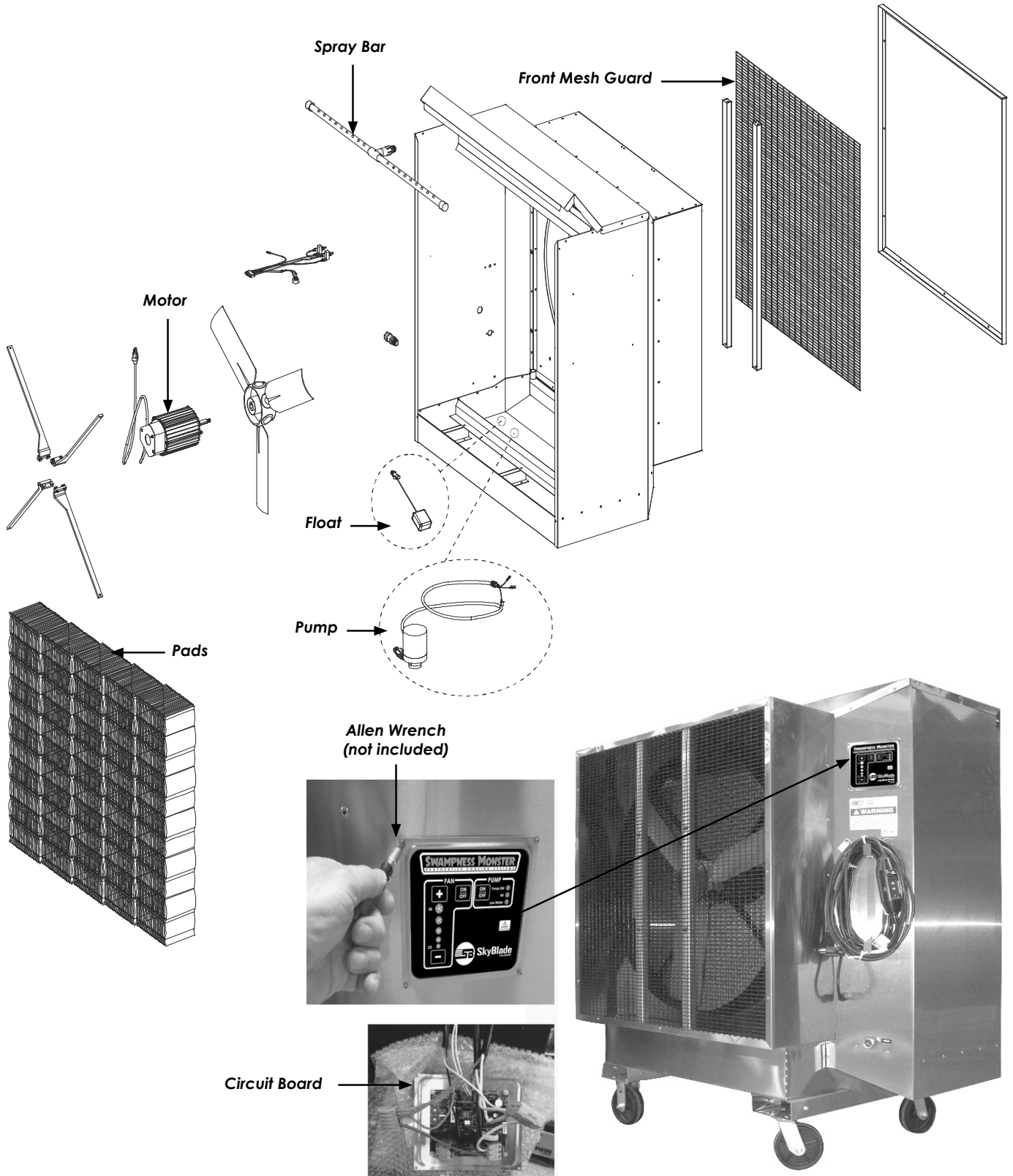
11

REPLACEMENT PARTS

Part	Volts/Hz	36" Variable Speed	48" Single Speed
Cooling Pads		SM-36-PAD	SM-48-PAD
Complete Pad Set		SM-36-PK	SM-48-PK
Water Pump	120v / 60Hz	SM-36-PUMP	
	230v / 60Hz	N/A	SM-48-PUMP
Fan Motor	120v / 60Hz	SM-36-MTR	
	230v / 60Hz	N/A	SM-48-MTR
Fan Belt		N/A	SM-48-BLT
Fan Blades		SM-36-FB	SM-48-FB
Float Valve		SM-36-FV	SM-48-FV
Fan Switch		SM-36-FS	SM-48-FS
Front Mesh Guard		SM-36-FMG	SM-48-FMG
Spray bar		SM-36-SB	SM-48-SB
Pulley(motor)	230v / 60Hz		SM-48-MPUL
Pulley (fan prop)			SM-48-FBPUL
Bearing Assy.			SM-48-BA
Hose Adapter Fitting		SM-36-HAF	SM-48-HAF
Fan Shaft			SM-48-FST
Pump Switch			SM-48-PS
Low Level Switch/Harness		SM-36-LLS	SM-48-LLS
PCB189 Circuit Board	120v / 60Hz	SM-36-PCB	
Control Box		SM-36-CB	SM-48-CB
Level Switch		SM-36-LLS	SM-48-LLS
Nut		SM-36-NUT	SM-48-NUT

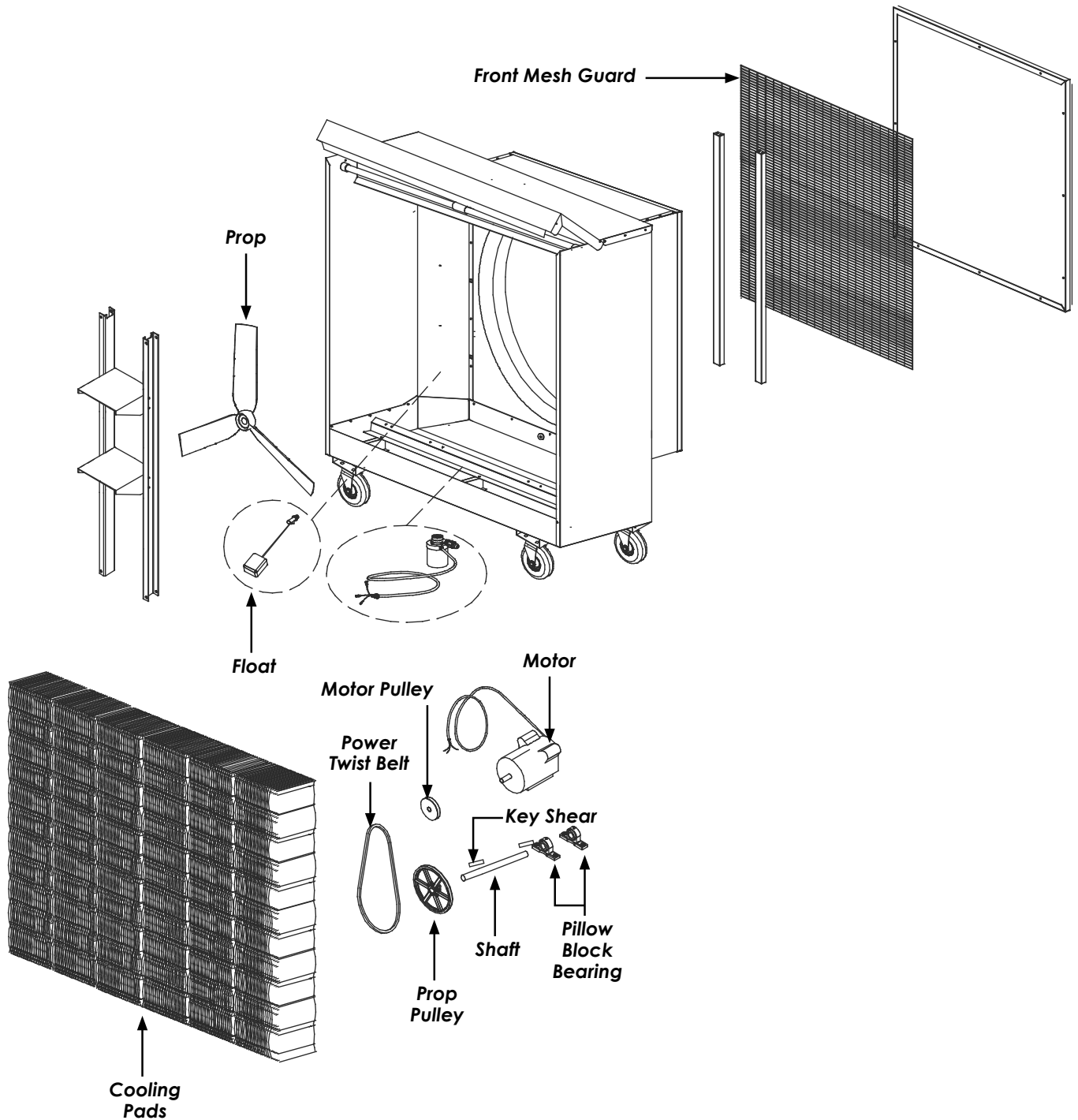
12 REPLACEMENT PARTS

12.1 Direct Drive – Variable Speed 36" Swampness Monster



12 REPLACEMENT PARTS

12.2 Belt Drive – Single Speed 48" Swampness Monster





SkyBlade Fan Company | Where Form Follows Function

24501 Hoover Road, Warren, Michigan 48089 USA
+1 (586) 806-5107 | sales@skybladefans.com

www.SkyBladeFans.com | www.SwampnessMonster.com

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