

Comfort Air™ Fan with Ceiling Control Installation and Operation Manual

Thank you for purchasing this fan from SHURflo. Please take a few minutes to read this entire manual before attempting installation. If you have any questions, please contact your nearest dealer or SHURflo. This fan will work from super low to refreshingly high speeds. Manual dome height adjustment allows it to work with most vent covers. Thermal overload protection and easily removable screen for cleaning are just a couple of the exciting features of this fan.

Standard Features

- Variable Speed Fan
- Easy-Remove Screen
- Fits Standard 14" x 14" Roof Openings
- Thermally Protected Motor

Optional Features

- Remote-Control
- Intake & Exhaust Operation
- Motorized Dome
- High-Amp Dome Safety Control
- Automatic Rain Sensor
- Auto-Temp Control from 55°F – 105°F

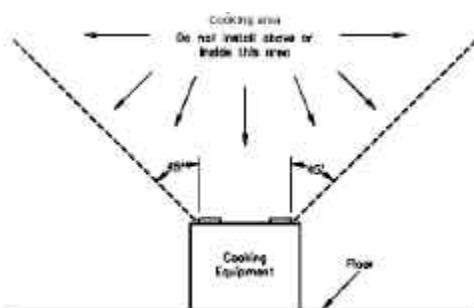
Contents

- 1 Comfort Air Fan Unit, including
 - 1 upper unit
 - 1 internal flange & 4 screws
 - See specifications on page 6 for trim model # and sizes
- 1 Installation and Operation Manual



Location

- Fan must be installed with the hinge facing the direction of travel.
- Locate bi-directional fan at least 3 feet from any exhaust vent to prevent fumes from entering RV.
- Do not install fan in cooking area shown.



Important Information

- SHURflo recommends professional installation.
- Please read the entire manual before attempting installation.
- This unit requires **12 VDC Power** only.
- This fan draws 4 Amps max.
- 5 Amp fuse recommended.
- Follow all local building / electrical codes.
- Black wire is negative ground [-].
- Red wire is positive power [+].
- **Never reverse polarity. Reverse polarity can damage the circuit board.**



WARNING Moving blades can cut or crush

- **Never turn the fan on with the screen removed.**
- **Always turn off power before removing screen.**
- **Never place any objects in moving blade path.**
- **This unit is not intended for operation during wet conditions, such as rainy weather or washing the RV exterior. Operation in wet conditions may damage the product. Unless equipped with rain sensor option, the warranty will be void if operated in rainy or wet conditions.**

Tools and Materials Required

- #2 Philips screwdriver
- Scraper
- Wire stripper/crimp tool
- Butyl sealing tape (1/8" x 1" x 6')
- 18 Gauge or larger copper stranded wire
- Insulated wire connectors
- 5-Amp Power
- All weather Silicone sealant
 - Rubber roofs require Rubber Roof sealant
- 3/4" or 1" x #8 self-tapping screws [28] for roof mounting. Screws removed from old unit can be used.

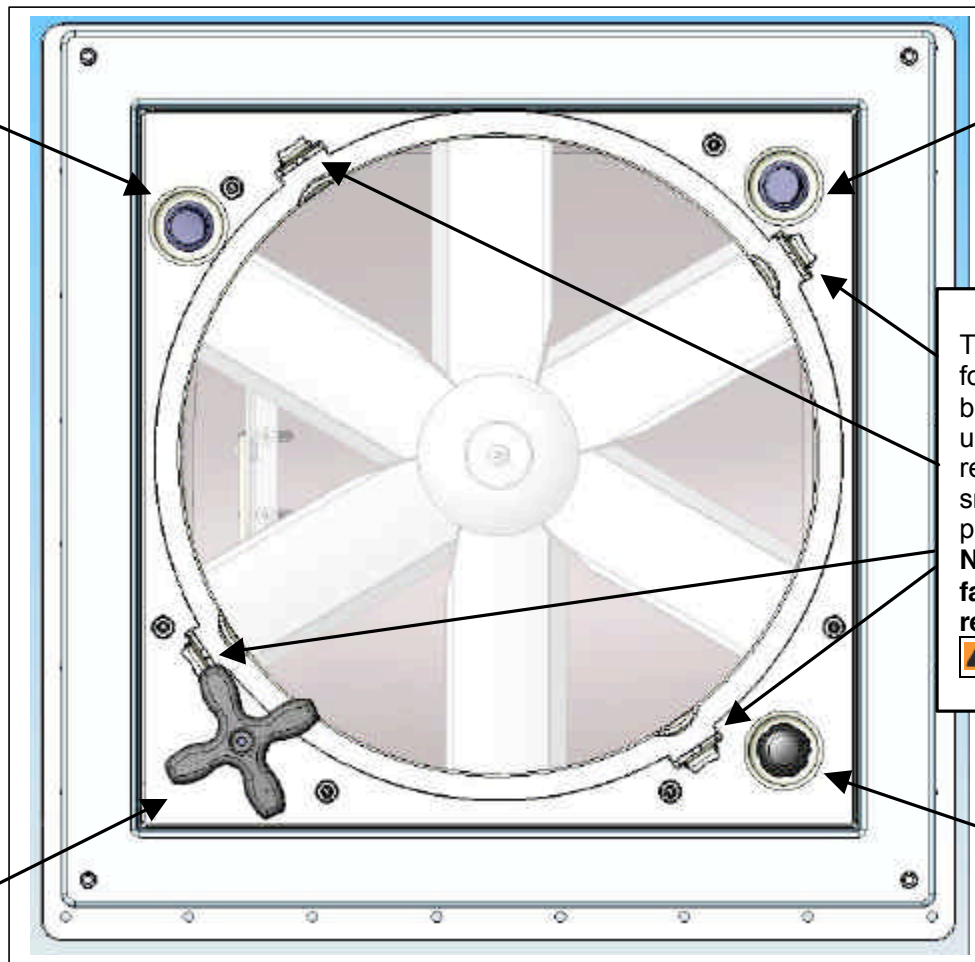
COMFORT AIR CEILING CONTROLS

DOME MOTOR (if equipped)

Press this switch to open or close the dome. The dome can be stopped in any position. To conserve power, the fan will stop while the dome motor is running. Automatic overload protection will stop the dome in case of an obstruction, such as a tree branch.

INTAKE / EXHAUST (if equipped)

Press this switch to change fan direction to blow air out of the RV (Exhaust) or to bring outside air into the RV (Intake). Fan works best with a window or door slightly open to allow air to circulate in or out of the RV. To ensure long product life, fan blade should be stopped before changing directions.



SCREEN CLIPS (4)

To remove the screen for cleaning of the fan blade and housing, unsnap the 4 clips. To reattach the screen, snap the 4 clips into place.

NEVER operate the fan with the screen removed.

WARNING Moving blades can cut or crush

DOME HAND CRANK

Use this knob to manually open or close the dome. The dome can be stopped in any position. If equipped with a motorized dome, pull the hand crank down to disengage the motor before turning by hand. Push the hand crank up when finished to re-engage the dome motor. **Dome must be fully closed when the RV is in motion.**

FAN ON / OFF & SPEED CONTROL

Use this switch to turn the fan power on and off. This switch must be turned on to operate motorized dome and intake / exhaust, if equipped. This switch also adjusts the fan speed to the desired setting. Turn the knob clockwise to increase fan speed and counterclockwise to decrease fan speed. Fan works best when a window or door is slightly opened to allow air to circulate in or out of the RV.

Installation

1. Turn off all power to fan.
2. If it is a new installation, cut and frame out a 14" x 14" hole. Prepare all wiring and fusing per specifications.
3. Remove old fan inside and out.
4. Carefully remove all old roof sealant. Surface must be clean and dry.
5. Check fit of new fan inside and out.
 - Hinge must face toward front of the RV.
 - Verify correct wiring size and length.
 - Check inside ceiling flange clearance.
 - To cut trim, see page 4 or call SHURflo.
 - Holes in roof exterior can be filled with wood putty or sealant to ensure a better seal later.
6. Apply 1" Butyl putty tape around mounting hole pattern on roof side of fan chassis.
 - Center the tape over the mounting holes.
7. Place unit on roof and check alignment inside and outside.
 - Hinge must be to the front of the RV.
8. Screw unit to roof with 28 screws.
 - Install screws slowly. Torque = 10-15 in-lb.
 - Screws from previous unit can be used.
9. Seal all edges and screws with silicone sealant, or use EPDM rubber roof sealant for rubber roofs.
 - Do not allow sealant to contact dome hinge or rain sensor.
10. Check wire polarity and connect wires inside of coach. Coach wires are either black (-) and red (+) or white (-) and black (+).
 - Fan red wire is positive (+). Coach (+) wire may be red or black.
 - Fan black wire is negative (--). Coach (--) wire may be black or white.
 - Polarity must be correct! Check polarity with voltmeter before attaching wires.
11. Test hand crank by turning CW to open dome.
 - Crank must be in upper position for power operation (if equipped).
 - Dome motor (if equipped) must be stopped before moving hand crank in or out.
12. Place lower trim in place and secure with 4 screws provided. To cut trim, see page 4.
 - Hand crank should be facing front
13. Turn on main power to unit.
14. Test unit.

Operation

Hand Dome Operation

Use this knob to manually open or close the dome. The dome can be stopped in any position. If equipped with a motorized dome, pull the hand crank down to disengage the motor before turning by hand. Push the hand crank up when finished to re-engage the dome motor. **Dome must be fully closed when the RV is in motion.**

Fan On / Off & Speed Control

Use this switch to turn the fan power on and off. This switch must be turned on to operate motorized dome and intake / exhaust direction, if equipped. This switch also adjusts the fan speed to the desired setting.

Fan Speed Control

Turn the knob clockwise to increase fan speed and counterclockwise to decrease fan speed. Fan works best when a window or door is slightly opened to allow air to circulate in or out of the RV.

Changing Fan Direction

Intake / Exhaust Switch

Press this switch to change fan direction to blow air out of the RV (Exhaust) or to bring outside air into the RV (Intake). To ensure long product life, fan should be stopped before changing directions. Fan works best with a window or door slightly open to allow air to circulate in or out of the RV.

Power Dome Operation

Dome Motor

Press this switch to open or close the dome. The dome can be stopped in any position. To conserve power, the fan will stop while the dome motor is running. Automatic overload protection will stop the dome in case of an obstruction.

Fan Cleaning

Turn off all power, and remove screen by unsnapping 4 fan clips. Wipe fan with damp rag with mild detergent only. Dry unit after wiping. Do not immerse fan in water.

To replace screen, align clips and snap in place.

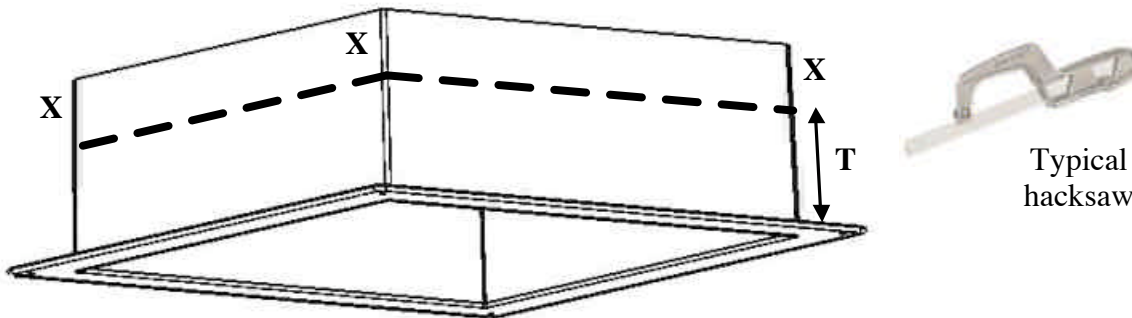
NEVER operate fan with screen removed!

Trim Ring Modification

SHURflo provides 3 different sized trim rings to fit a multitude of RV roof thicknesses. The three styles and the roof thicknesses for each size are:

Model #	Roof Size
21-1316-00	2" to 3-1/2"
21-1316-01	3-1/2" to 5-1/4"
21-1316-02	5-1/4" to 6-1/4"

*The trim rings can be cut to adjust height by either **measuring the desired height T and cutting the entire circumference dotted line**, or **measuring the desired height T, cutting down at each corner X, scoring the trim ring with a razor blade [dotted lines] and snapping off the portion to be removed**. Snap off plastic by wiggling portion to be removed back and forth. Be sure to file off any burrs before installing the trim ring. The cuts and scores do not have to be perfectly straight, because these cuts will be hidden by the fan chassis.*



1. Measure T [Roof Thickness]
2. Mark dotted line
3. Cut dotted line; or cut X at 4 corners, score dotted line and snap off.
4. Remove burrs



SERVICE PARTS KITS

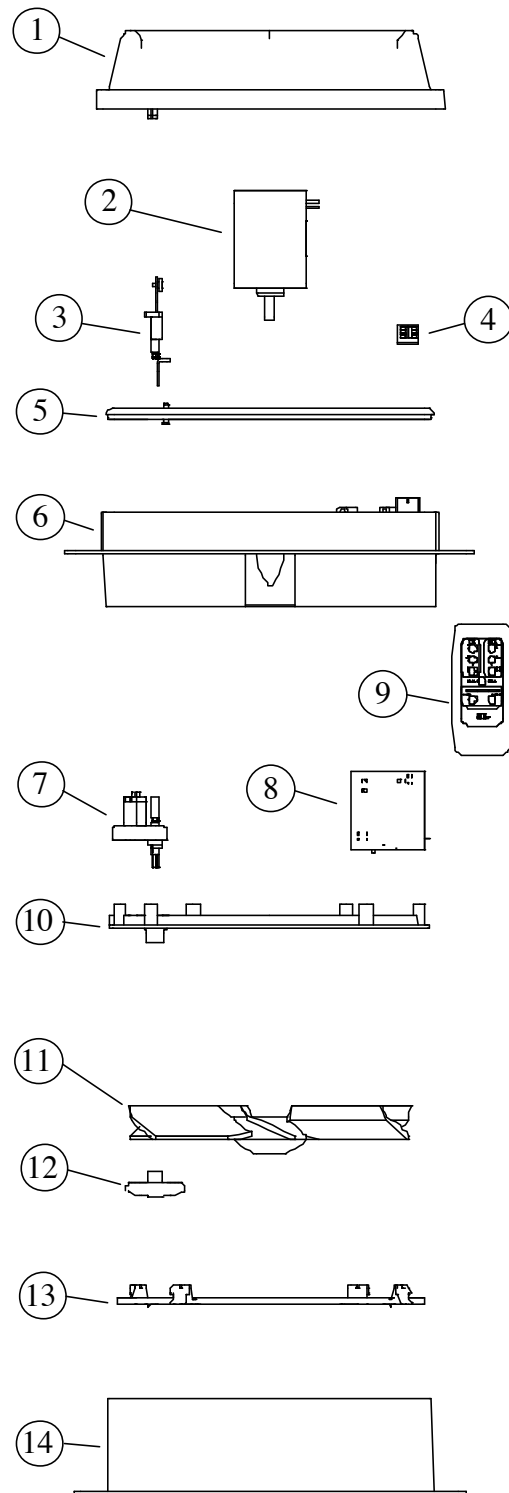
All kits contain necessary mounting screws & hardware.

ITEM DESCRIPTION

PARTS KIT

1	Vent Lid, Smoke with Hinge	94-073-00
1	Vent Lid, White with Hinge	94-073-01
2	Universal Fan Motor	94-073-02
3	Universal Lift Arm Assembly	94-073-03
4	Universal Rain Sensor	94-073-04
5	Universal Chassis Gasket	94-073-05
6	Chassis, Ceiling Control	N/A
6	Chassis, Remote Control	N/A
7	Universal Lift Motor	94-073-08
8	Circuit Board Assembly, Remote	94-073-09
8	Circuit Board Assembly, Ceiling, Exhaust Only	94-073-10
8	Circuit Board Assembly, Ceiling, Bi-Directional	94-073-11
9	Remote Control	94-073-12
10	Interior Panel, Remote Control	94-073-16
10	Interior Panel, Ceiling Exhaust Only	94-073-17
10	Interior Panel, Ceiling Bi-Directional	94-073-18
11	Universal Fan Blade	94-073-19
12	Knob Kit (Dome crank and fan speed knob)	94-073-20
13	Universal Screen Ring	94-073-21
14	Trim Expansion Ring, Small (2" to 3-1/2" roof)	94-073-22
14	Trim Expansion Ring, Medium (3-1/2" to 5-1/4" roof)	94-073-23
14	Trim Expansion Ring, Large (5" to 6-1/4" roof)	94-073-24
N/S	Bi-Directional Switch, Ceiling Control	94-073-25
N/S	Motorized Dome Switch, Ceiling Control	94-073-26

TYPICAL PARTS VIEW



Questions? Please contact your local dealer, go on-line at www.shurflo.com or call SHURflo Customer Service directly at (800) 854-3218 or (800) 762-8094.

When calling, please have the following information from the labels located under the dome:

Fan Model Name or Number

Fan Date of Manufacture

Fan Serial Number

Fan Date of Purchase

Specifications

Voltage	10 - 14 Volt DC
Maximum Amps	4 Amps
Hole Size	14" x 14" Standard [13.75" to 14.25" square]
Roof Thickness	
2" to 3-1/2"	Trim # 21-1316-00
3-1/2" to 5-1/4"	Trim # 21-1316-01
5" to 6-1/4"	Trim # 21-1316-02
Maximum CFM	
Intake	910 CFM
Exhaust	980 CFM
Dimensions	
	17" x 17" x 4-1/4" closed
	17" x 17" x 12-1/2" fully open
Materials	UV resistant ABS and Polycarbonate
Wire	12" Red (+) Black (-) 18 AWG

Troubleshooting

PROBLEM	POSSIBLE SOLUTIONS
Fan does not work	Check power, polarity, fuse & battery. Check fan switch.
Fan & dome buttons do not work with fan off and dome closed	Unit in Auto Mode: press Fan Off to exit Auto Mode
Unit shuts off	Preset temperature reached in Auto Mode, Rain sensor activated: Adjust Thermostat to turn fan on. Press fan Off to exit Auto Mode. Clean sensor
Dome will not open or close, but dome motor is running	Push hand crank up to actuate dome motor gears. Dome motor will turn off after 3 to 5 minutes if gear is not engaged.
Dome starts to open or close and then stops Dome will not run after stopping	Dome hitting object. Check for obstruction. Engage crank. Check 0.5A fuse at dome motor [under heat shrink].

Limited Warranty Information

SHURflo Pump Manufacturing Co. (SHURflo) warrants this product to be free from defects in material or workmanship to the original owner for personal or family use, for a period of 2 years, *5 years warranty on exterior Dome and Screen* from original date purchase. This product is warranted for 90 days from original date of purchase when used for commercial or business application. The warranty may provide for repair, including labor or exchange or replacement of unit, or parts as necessary.

An owner having a part or unit believed to be defective should contact a local RV dealer, or contact the nearest SHURflo office.

SHURflo will not accept the return of parts or units, will not send out parts or units or allow for the repair or replacement of parts or units under this warranty without giving their prior expressed authorization and without proof of date of purchase.

If SHURflo finds the unit or part to be defective and is the subject of a valid warranty claim, SHURflo will pay the dealer a labor allowance and supply repair part(s) or a replacement unit as applicable.

This warranty does not extend to parts or units which if, in the judgment of SHURflo, have been damaged or rendered defective by misuse, negligence, accident, improper installation, unreasonable use or if the unit or part has been tampered with or altered in any manner.

In no event, whether as a result of breach of contract, tort (including negligence) or otherwise, shall SHURflo be liable to any owner of a unit for any special damages arising out of the use, or inability to use that unit, nor for any claim against the owner by another party. Some states and provinces do not allow limitations on how long an implied warranty shall last or 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 may vary from state to state.



★ ISO certified facility



**ISO certified facility

SHURflo reserves the right to update specifications, prices, or make substitutions

SHURflo ★
5900A Katella Ave.
Cypress, CA 90630
(562) 795-5200
(800) 854-3218
FAX (562) 795-7564
Shipping: 5900C Katella Ave.
Cypress, CA 90630

SHURflo East
52748 Park Six Court
Elkhart, IN 46514-5427
(800) 762-8094
FAX (574) 264-2169
© 2004 All Rights Reserved
www.shurflo.com

SHURflo Ltd. **
Unit 5 Sterling Park
Gatwick Road, Crawley
West Sussex, RH10 2QT
United Kingdom
+44 1293 424000
FAX +44 1293 421880