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FRTA Model Number
FRTA Serial Number
Hardware Model Number
Hardware Serial Number
Date Purchased
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SUNCHASER 8500 9000 GEARED AWNING

FABRIC ROLLER TUBE ASSEMBLY (FRTA)

UNIVERSAL SERIES HARDWARE G8273000



Read these instructions carefully. These instructions MUST stay with this product.

REVISION B

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INTRODUCTION

This awning (hereinafter referred to as "awning," or "product") is designed and intended for use on RVs with straight sides. This awning consists of two major assemblies. The Fabric Roller Tube Assembly (hereinafter referred to as "FRTA"), and the Awning Hardware (including arm assemblies, rafters, and mounting brackets).

This awning can be installed by one person with brief help from additional personnel. Use these instructions to ensure correct installation, function, and operation of product.

Dometic Corporation reserves the right to modify appearances and specifications without notice.

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DOCUMENT SYMBOLS



Indicates additional information that is **NOT** related to physical injury.



Indicates step-by-step instructions.

IMPORTANT SAFETY INSTRUCTIONS

This manual has safety information and instructions to help you eliminate or reduce the risk of accidents and injuries.

A. Recognize Safety Information



This is the safety alert symbol. It is used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

B. Understand Signal Words

A signal word will identify safety messages and property damage messages, and will indicate the degree or level of hazard seriousness.

AWARNING indicates a hazardous situation that, if **NOT** avoided, could result in death or serious injury.

ACAUTION indicates a hazardous situation that, if **NOT** avoided, could result in minor or moderate injury.

NOTICE is used to address practices **NOT** related to physical injury.

C. Supplemental Directives



Read and follow all safety information and instructions to avoid possible injury or death.

Read and understand these instructions before [installing / using / servicing / performing maintenance on] this product.

Incorrect [installation / operation / servicing / maintaining] of this product can lead to serious injury. Follow all instructions.



The installation **MUST** comply with all applicable local and national codes, including the latest edition of the following standards:

U.S.A.

- ANSI/NFPA70, National Electrical Code (NEC)
- ANSI/NFPA 1192, Recreational Vehicles Code

CANADA

- CSA C22.1, Parts I & II, Canadian Electrical Code
- CSA Z240 RV Series, Recreational Vehicles

D. General Safety Messages

AWARNING Failure to obey the following warnings could result in death or serious injury:

- This product **MUST** be [installed / serviced] by a qualified service technician.
- Do **NOT** modify this product in any way. Modification can be extremely hazardous.
- IMPACT OR CRUSH HAZARD. This product should be installed in a controlled environment (inside). Do **NOT** install product during windy conditions, or when wind is expected. Otherwise, product could move unpredictably, become unstable, and could [detach / bend / collapse].

GENERAL INFORMATION

A. Optional Components

- (1) 830304 Door Roller Kit
- (1) 830304.003 Door Roller Kits (50 Pack)
- (2) 3314573.001 Top Bracket Spacer Kit (1 Set)
- (1) 3109623.550 Top Bracket Spacers (50 Pack)
- (1) 3104781.004 Bottom Spacer Kit (1 Pair)
- (1) 3104781.103 Bottom Spacer Kits (10 Pair)

SPECIFICATIONS

A. Hardware Dimensions

MODEL SERIES	.401# G8273000	.402# G8273000	.405# G8273000	.407# G8273000	*G8273000 -	.408#
	.501#	.502#	.505#	.507#		.508#
Height Range	76″ - 86″ (193 cm - 218 cm)	64″ - 76″ (163 cm - 193 cm)	78″ - 91″ (198 cm - 231 cm)	94" - 107" (239 cm - 272 cm)	Short 64" (163 cm - 19	- 76″ 93 cm)
					Tall 76″ (193 cm - 21	- 86″ 18 cm)
Main Arm	73″	61″	76″	92″ (234 cm)		1″ 55 cm)
Length	(185 cm)	(155 cm)	(193 cm)		-	3″ 85 cm)
Adjustable	57″ (145 cm)	57″ (145 cm)	72″	72″ (183 cm)		7″ 45 cm)
Arm Length			(183 cm)			7″ 45 cm)
Main Rafter	66″	54″	71″	71″		4″ 37 cm)
Length	(168 cm)	(137 cm)	(180 cm)	(180 cm)	Tall 66″ (168 cm	
Secondary	32 1/2" 44 1/2" (82.5 cm) (113 cm)	44 1/2″	53 1/2″ (136 cm)	53 1/2″ (136 cm)		1/2″ 13 cm)
Rafter Length		(113 cm)				1/2″ 2.5 cm)
.40(X)#			Standard			
Duty .50(X)#			Heavy			

(i)

Standard Duty hardware may be used if the awning FRTA is 21' (6 m) wide (or less).

Heavy Duty hardware **MUST** be used if the awning FRTA is greater than 21' (6 m) wide.

*Model G8273000.(X)08# hardware has (1) Short and (1) Tall Arm/Rafter assembly. This hardware is intended for use on fifth wheel RVs.

PREPARE FOR INSTALLATION

A. Installing The Door Roller And Edge Guard (Optional)

NOTICE Do **NOT** allow corner of entry door to contact awning fabric. Otherwise, premature wear or tearing of awning fabric could occur.

If there's potential for a squared corner entry door to contact awning fabric, a door roller kit (NOT IN-CLUDED) must be installed.



Rounded corner doors may **NOT** require a door roller kit if there is no potential for damage to awning fabric.

See subsection, "A. Optional Components" on page (3) to order door roller kits.

- 1. Install the door roller. See FIG. 1.
 - a. Place the door roller at the upper corner (opposite to hinge) of the outer entry door. Face the roller out, and 1/4" to 3/8" (6.35 mm to 3.75 mm) above the door.
 - b. Place and tighten the self-drilling screws (provided) through the mounting holes and into the door.



 Clip the door edge guard onto the upper corner (opposite to hinge) of the inner screen door. See FIG. 2.



B. Preparing The Awning Rail

NOTICE Make sure awning rail is parallel to RV floor, and is **NOT** warped or curved before installing awning fabric. If awning rail is **NOT** straight, awning fabric may wrinkle or stretch.

Select the desired awning rail end (on the RV) into which the awning fabric will be inserted. Flare (widen) that end of the rail with a flathead screwdriver, and remove (file) sharp edges. See FIG. 3.



FIG. 3
Before
After

Typical Awnings: Flare Top And Bottom Flare Top Only

C. Preparing The Awning For Installation

The awning requires minor preparation before installing on an RV.

- 1. Carefully lay the FRTA on a clean, well padded "V" trough (or other well protected surface) to prevent fabric damage.
 - 2. Insert the right hand top casting into the corresponding main arm. See FIG. 4.



PREPARE FOR INSTALLATION

- 3. Place the 1/4"-20 X 1/2" hex head screw (with lock washer) through the main arm and into the top casting. Tighten to 65-80 in lb torque. See FIG. 4.
- 4. Install Top Casting Shelf as shown. See FIG. 5.



5. Repeat steps (2) through (4) for the opposite side.

Determining The Awning Location D.

1. A WARNING IMPACT OR CRUSH HAZARD. Verify mounting surface on RV is flat, has solid structural backing where fasteners penetrate surface, and will safely and securely support product. Otherwise, product may become unstable and could [detach / bend / collapse]. Failure to obey this warning could result in death or serious injury.

> Find a solid structure in the RV wall for support of the top mounting brackets.

> **NOTICE** Do **NOT** fasten top mounting bracket over awning rail and against rubber cap molding (if RV's roof construction has rounded corners). Otherwise, water leakage could occur. The relationship between the solid structure and the awning rail will determine the location of the top mounting brackets. Possible positions for the top mounting brackets include:

Mounting **OVER** the awning rail. See FIG. 6.

Do NOT use this position if the top mounting brackets will contact rubber cap molding on the RV (roof with rounded corners).

- Mounting **BELOW** the awning rail. See FIG. 7.
- Mounting **ON** the awning rail. See FIG. 8.

Install the top bracket spacers if the awning rail is too wide (has drip channel) and interferes with the top mounting brackets. See FIG. 9.

See subsection "A. Optional Components" on page (3) to order top bracket spacers.







PREPARE FOR INSTALLATION



2. Ensure the arm assemblies do not restrict use of doors, windows, etc. See FIG. 10.

INSTALL THE AWNING

A. Installing The LED Light Switch (If Applicable)

An LED light switch (installer supplied) is required for awning models equipped with an LED light strip.

Skip this subsection if the awning is **NOT** equipped with an LED light strip.

1. **NOTICE** Do **NOT** expose switch to weather, extreme temperatures, or long hours in direct sunlight.

Find a suitable location for the LED switch installation.

 Route wiring (inside the RV) to the general location where connections to the awning hardware will be made.



Allow enough wiring length to pass through the outside of the RV wall (hole will be drilled later) for connection to the awning.

The wiring hole location will be near the RH top casting. See FIG. 4.

3. **NOTICE** Disconnect the positive (+) 12 Vdc terminal from supply battery. Otherwise, damage to unit could occur.

Make the appropriate wiring connections inside the RV.



Wiring connections to the awning (through the outside RV wall) will be made later.

The LED kit has a (6 A) rating. Wiring **MUST** be connected to an appropriately rated, fused circuit.



B. Inserting The Awning Fabric Into The Awning Rail

 Unfurl the awning fabric one revolution before inserting the fabric (with awning roller cover, if equipped) into the awning rail.

> Unfurling one revolution will allow enough space between the RV wall and awning hardware to guide the fabric into the rail.

2. **ACAUTION** LIFTING HAZARD. Use proper lifting technique and control when lifting product. Failure to obey this caution could result in injury. With one person grasping each arm assembly, carefully lift the entire awning assembly upright. Then carry the awning to the prepared (flared) awning rail end. See FIG. 11.



3. While one person guides the awning fabric into the awning rail, carefully move (carry) the awning assembly to the predetermined location. See FIG. 11.



To determine correct awning location, see subsection, "D. Determining The Awning Location" on page (6).

A stepladder may be necessary to reach the awning rail.

At least two other people are required to hold and control awning hardware until:

- both top mounting brackets are correctly installed;
- both bottom mounting brackets are correctly installed;
- both patio feet are securely latched into bottom mounting brackets.

C. Installing The Top Mounting Brackets

1. When the awning is in the predetermined location, extend both the adjustable arms down to help support the awning assembly.



To determine the correct awning location, see subsection, "D. Determining The Awning Location" on page (6).

- a. Pull the lift handle out and CAREFULLY extend the adjustable arm until the patio foot contacts the floor / ground. See FIG. 12.
- b. With the FRTA at the same height (approximately) as the awning rail, release the lift handle to lock in position. See FIG. 7 & FIG. 12.
- c. Repeat steps (a) and (b) for the opposite side.



2. Push in one side tab of arm safety lock, then the other to disengage the main rafter from the main arm. See (FIG. 13).



3. Make sure the main rafter is aligned directly behind and centered with the main arm. Then carefully pull the main rafter away from the main arm (toward the RV), and mark the hole locations for the top mounting bracket. See FIG. 6, FIG. 7, FIG. 8, & FIG. 14.



4. **AWARNING** FIRE OR ELECTRICAL SHOCK HAZARD. Verify there are no obstacles inside RV's roof and/or walls (wires, pipes, etc.). Shut **OFF** gas supply, disconnect 120 Vac power from RV, and disconnect positive (+) 12 Vdc terminal from supply battery **BEFORE** drilling or cutting into RV. Failure to obey these warnings could result in death or serious injury.

Drill 3/16" diameter holes through the marked mounting hole locations and into the solid structure of the RV.

Drill 7/32" diameter holes if drilling into steel.

5. **NOTICE ALWAYS** use sealant on (clean) parts and surfaces where fasteners enter RV's roof and/or walls. Otherwise, water leakage could occur.

Apply sealant to the #14-10 X 3" hex head screw threads. Then place and tighten screws through the top mounting bracket and into the solid structure of the RV. See FIG. 6, FIG. 7, FIG. 8, & FIG. 14.

- 6. Repeat steps (2) through (5) for the opposite side.
- 7. Lift and place the top casting shelf onto the top mounting bracket's top pivot. Then push (squeeze) the main rafter into the main arm until the arm safety lock snaps securely in place. See FIG. 13 & FIG. 15.



8. Repeat step (7) for the opposite side.

D. Installing The Bottom Mounting Brackets

- 1. Make sure the top casting shelf is still resting on the top mounting bracket's top pivot. See FIG. 15.
- AWARNING IMPACT OR CRUSH HAZARD. Verify mounting surface on RV is flat, has solid structural backing where fasteners penetrate surface, and will safely and securely support product. Otherwise, product may become unstable and could [detach / bend / collapse]. Failure to obey this warning could result in death or serious injury.

Find a solid structure in the RV wall to install the bottom mounting bracket. Then adjust the arm to place the bottom mounting bracket in the desired mounting position. See FIG. 12, FIG. 15, & FIG. 16.

Mount directly into the RV floor line, over molding, etc. If installing over RV molding, a bottom spacer **MUST** be used.

See subsection "A. Optional Components" on page (3) to order bottom spacer kits.

- a. While one person holds and controls the main arm, pull the lift handle out.
- b. Slide the adjustable arm up or down until the bottom mounting bracket is in the desired mounting position.
- c. Release the lift handle to lock in position.

The lift handle **MUST** be locked in position to complete installation (later steps).



3. Square the arm assembly to the RV and FRTA. See FIG. 17.

acceptable.

Measuring from a door or window frame is

FIG. 17 Square To RV And FRTA FRTA FRTA Floor Line Arm Assembly

4. While holding the bottom mounting bracket against the RV wall, mark the hole locations. See FIG. 16.

5. **AWARNING** FIRE OR ELECTRICAL SHOCK HAZARD. Verify there are no obstacles inside RV's roof and/or walls (wires, pipes, etc.). Shut **OFF** gas supply, disconnect 120 Vac power from RV, and disconnect positive (+) 12 Vdc terminal from supply battery **BEFORE** drilling or cutting into RV. Failure to obey these warnings could result in death or serious injury.

Drill 3/16" diameter holes through the marked mounting hole locations and into the solid structure of the RV.

Drill 7/32" diameter holes if drilling into steel.

6. **NOTICE ALWAYS** use sealant on (clean) parts and surfaces where fasteners enter RV's roof and/or walls. Otherwise, water leakage could occur.

Apply sealant to the #14 hex head screw threads. Then place and tighten the screws through the bottom mounting bracket and into the solid structure of the RV.

7. Repeat steps (1) through (6) for the opposite side.

E. Installing Stop Bolts

NOTICE Install shoulder bolt (stop bolt) to help prevent over-travel of arm assembly.

Before proceeding with stop bolt installation:

- Bottom mounting bracket **MUST** be installed.
- Patio foot **MUST** be latched into bottom mounting bracket.
- Lift handle **MUST** be locked in position.
- 1. Pull the lift handle out and slide the main arm up by one hole only. Then release the lift handle to lock in position. See FIG. 12.
 - 2. Place a 5/16"-18 X 1" shoulder (stop) bolt through the highest, fully exposed hole in the adjustable arm (nearest bottom edge of main arm). Then secure with a 5/16"-18 lock nut. See FIG. 18.



3. Pull the lift handle out and slide the main arm down until it rests on the stop bolt. Then release the lift handle to lock in position. See FIG. 12.

i Top casting should now clear top pivot by 1/2" when awning closes. See FIG. 15.

- 4. Repeat steps (1) through (3) for opposite side.
- 5. Remove and discard the shelf.

F. Securing The Awning Fabric To The Awning Rail

- 1. **ACAUTION** PINCH HAZARD. Maintain a horizontal distance of at least 16" between fully open awning and any permanent object. Failure to obey this caution could result in injury.
 - 2. **AWARNING** IMPACT OR STABBING HAZ-ARD. Do **NOT** overreach. Stay alert, and maintain control of crank. Keep people clear of area while [opening / closing] product. Keep proper footing and balance at all times. Failure to obey these warnings could result in death or serious injury.

ACAUTION ENTANGLEMENT HAZARD. Rotating parts. Keep hands, hair, and clothing away from moving parts. Failure to obey this caution could result in injury.

NOTICE Do **NOT** rotate crank faster than 2 revolutions per second (120 RPM). Do **NOT** use an impact driver, or exceed 90 in lb maximum torque. Otherwise, product damage could occur.

Open and close the awning four or five times to allow for natural self adjustment of awning fabric. See Operating Instructions.

- 3. Verify alignment of the awning fabric, and proper nesting of hardware.
 - a. If there is misalignment, adjust the arm assembly by loosening the back channel and top mounting bracket screws and move the back channel accordingly. (Retighten the screws.)
 - b. Cycle the awning again to check alignment.
- 4. Ensure arm assemblies are still nested correctly, then mark the location of the awning fabric edges on the awning rail.
- Pull one edge of the awning fabric approximately 1/4" (6 mm) beyond marked position. Then secure with a #6 X 7/16" TEK screw through the awning rail (approximately 2" (50 mm) from fabric edge). See FIG. 19.



 Pull to stretch the opposite edge of the awning fabric approximately 3/4". Then secure with a #6 X 7/16" TEK screw through the awning rail (approximately 2" (50 mm) from fabric edge).

G. Installing The Gear Cover Assembly (RH Side)

- 1. Open the awning far enough for the cover to fit behind the top casting. See "Opening The Awning" in Operating Instructions.
 - 2. Place the back cover against the top casting and gear box. See FIG. 20.



3. Place the front cover against the back cover to enclose the top casting and gear box. Then push until the tabs snap securely in place. See FIG. 20.



4. **OPTIONAL:** Place and tighten cover screws through the back cover and into the front cover. See FIG. 20 & FIG. 21.



If tabs break or will **NOT** securely snap in place, this step is mandatory.

Use #8 x 1/2" long pan head tapping screws for plastic.

H. Installing Cover on LH Side



- 1. While the awning is open from the previous step, place the LH back cover against the top casting while aligning the casting pin into the cover hole (see FIG. 22).
- 2. Place the LH front cover against the back cover, aligning pin and push covers together until the tabs snap securely in place.
- 3. **OPTIONAL:** Place and tighten cover screws through the back cover and into the front cover (see FIG. 23).

I. Connecting The LED Lights (If Applicable)

Skip this subsection if the awning is **NOT** equipped with an LED light strip.

1. **AWARNING** FIRE OR ELECTRICAL SHOCK HAZARD. Verify there are no obstacles inside RV's roof and/or walls (wires, pipes, etc.). Shut **OFF** gas supply, disconnect 120 Vac power from RV, and disconnect positive (+) 12 Vdc terminal from supply battery **BEFORE** drilling or cutting into RV. Failure to obey these warnings could result in death or serious injury.

With awning open, drill (1) 5/8" diameter hole through the outside wall of RV (near the RH top casting and under the awning rail).

Ensure the location will allow LED wiring to pass through the wall without interference.

2. **NOTICE** Do **NOT** pinch wiring or allow wiring to rub against sharp edges. If wiring is damaged, it **MUST** be replaced by a qualified service technician.

Use a grommet (installer supplied) when routing wiring through the RV wall.

If a grommet is **NOT** used, use heat-shrink tubing where wiring will pass through the RV wall.

3. **NOTICE ALWAYS** seal wiring against weather and moisture where wiring enters RV's roof and/or walls. Otherwise, water leakage could occur.

Pull the wiring through the wiring hole (and grommet).

If a grommet is **NOT** used, make sure sealant will also provide effective and permanent protection against wire damage.

4. **NOTICE** Make sure the positive (+) 12 Vdc terminal is disconnected from supply battery. Otherwise, damage to unit could occur.

Connect LED switch wiring to the factory prewired LED light strip.



See instructions included with your LED switch kit (installer supplied) for additional wiring instructions.

5. Secure the wiring to prevent pinching or other damage during awning operation.



Allow enough slack in the wiring to safely accommodate possible fabric movement.

VERIFY THE INSTALLATION

A. Testing Operation

Operate the awning according to the Operating Instructions to verify all parts are functioning correctly.

B. Securing The Awning For Travel

- 1. Fully close the awning. See "Closing The Awning" in Operating Instructions.
 - 2. Verify the awning is secure for travel. See "Preparing The Awning For Travel" in Operating Instructions.

C. Keeping The Literature

Instructions contain valuable information for product use and consumer safety.



Keep **BOTH** the Installation and Operating Instructions with product.