



CAREFREE

SUNDIAL PATIO AWNING

Residential

110V MOTORIZED

Installation and Operations Manual

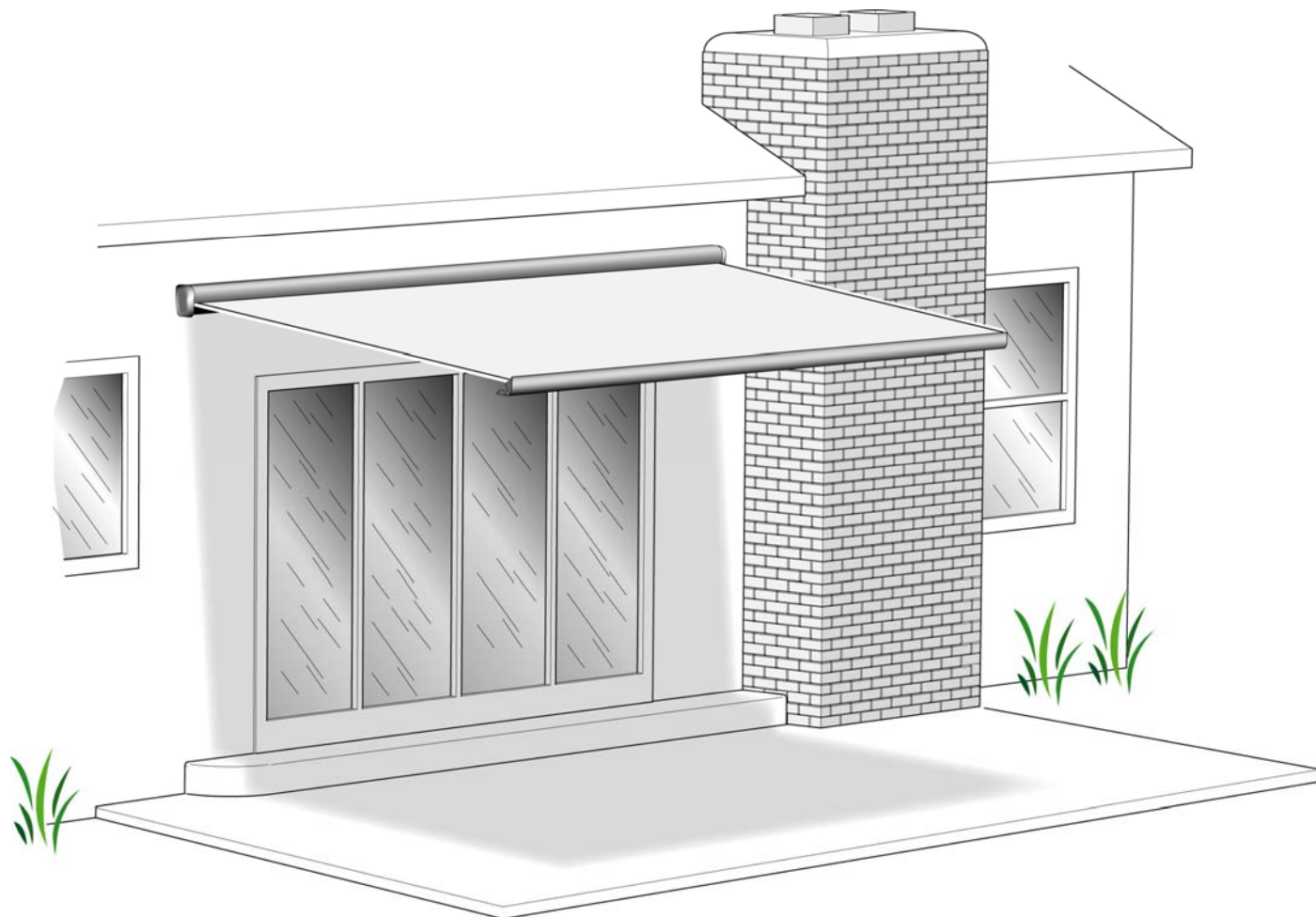


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SAFETY INFORMATION

WARNING

A WARNING INDICATES A POTENTIALLY HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN DEATH OR SERIOUS INJURY AND/OR MAJOR PROPERTY DAMAGE.

CAUTION

A CAUTION INDICATES A POTENTIALLY HAZARDOUS SITUATION THAT MAY CAUSE MINOR TO MODERATE PERSONAL INJURY AND/OR PROPERTY DAMAGE. IT MAY ALSO BE USED TO ALERT AGAINST UNSAFE PRACTICES.

NOTE: A note indicates further information about a product, part, or step.

Tip: A tip provides helpful suggestions.

Safety Notes:

- Always disconnect power sources before working on or around the electrical system.
- Always wear appropriate safety equipment (i.e. goggles).
- Always use appropriate lifting devices and/or helpers when lifting or holding heavy objects.
- Use care to not over tighten fasteners. Soft materials can be "stripped out" and lose the ability to grip.

INTRODUCTION

GENERAL DESCRIPTION

The Sundial Patio Awning offers the home owner an awning system that provides as much or as little awning as required. The canopy is housed in an aluminum case available in white, sand and brown. The canopy is made from Sunbrella® acrylic fabric.

Each unit is equipped with Sundial lateral support arms that are the strongest available on the market. No vertical arms interfere with walls or equipment that may be mounted on the walls. These arms can also be adjusted to vary the canopy pitch up to 3 feet (it is strongly recommended that service and adjustments be performed by trained technicians). The unit is available in lengths from 12 feet to 22 feet. The awning extends to a maximum of 10 feet from the side wall. An optional 12 foot extension may be ordered for awning lengths of 19'6" to 22'.

Two control systems are available: a single hard wired wall switch or the power control system. The hard wired wall switch provides basic operation.

The power control system provides the home owner several options that are not available with the standard hard wired installation. These options include remote controls; wireless wall switches for interior installation and the wind-sense auto retract for protection against adverse wind conditions. The power control system can also be programmed so that up to a maximum of 4 awnings can be controlled by a single transmitter

Sundial Patio Awning Specifications

The following information is for reference only. Specific information is detailed in the installation instructions.

LENGTHS:	12' – 22'							
EXTENSION:	10' (standard)							
LEAD RAIL DROP @ MAXIMUM EXTENSION:	12" @ Minimum Pitch 36" @ Maximum Pitch							
ROLLER POSITION ACTUATION AND CONTROL								
<i>Power:</i>	Lateral Arm Spring							
<i>Minimum Tension:</i>	Open							
<i>Position Control:</i>	Motorized roll out/in							
MOTOR SPECIFICATIONS: Available in LH or RH configurations								
<i>Type:</i>	Tubular Motor							
<i>Power:</i>	120V, 60HZ, 2.5A							
<i>Torque:</i>	60 nm							
	<i>Speed:</i> 14 RPM							
	<i>Cycle:</i> 40 Sec ON / 1 Min OFF							
APPROXIMATE WEIGHT (LBS.)								
Awning Length	Weight	Dim B	Awning Length	Weight	Dim B	Awning Length	Weight	Dim B
12	134	6.5in	15	160	11.25in	19	194	17in
13	143		16	169		20	203	
14	152		17	177		21	211	
			18	186		22	220	

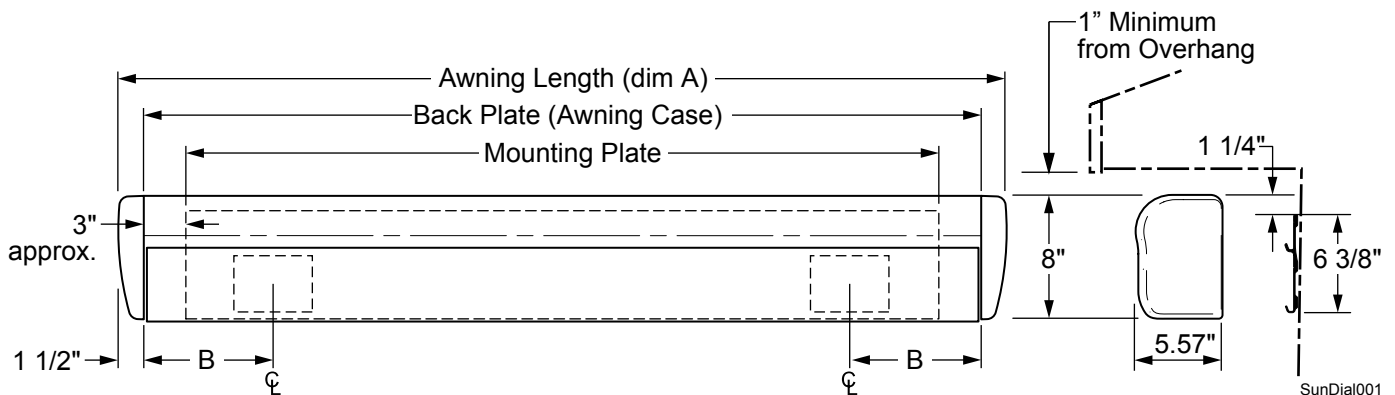


Figure 1. General Description.

COMPONENT CHECKLIST

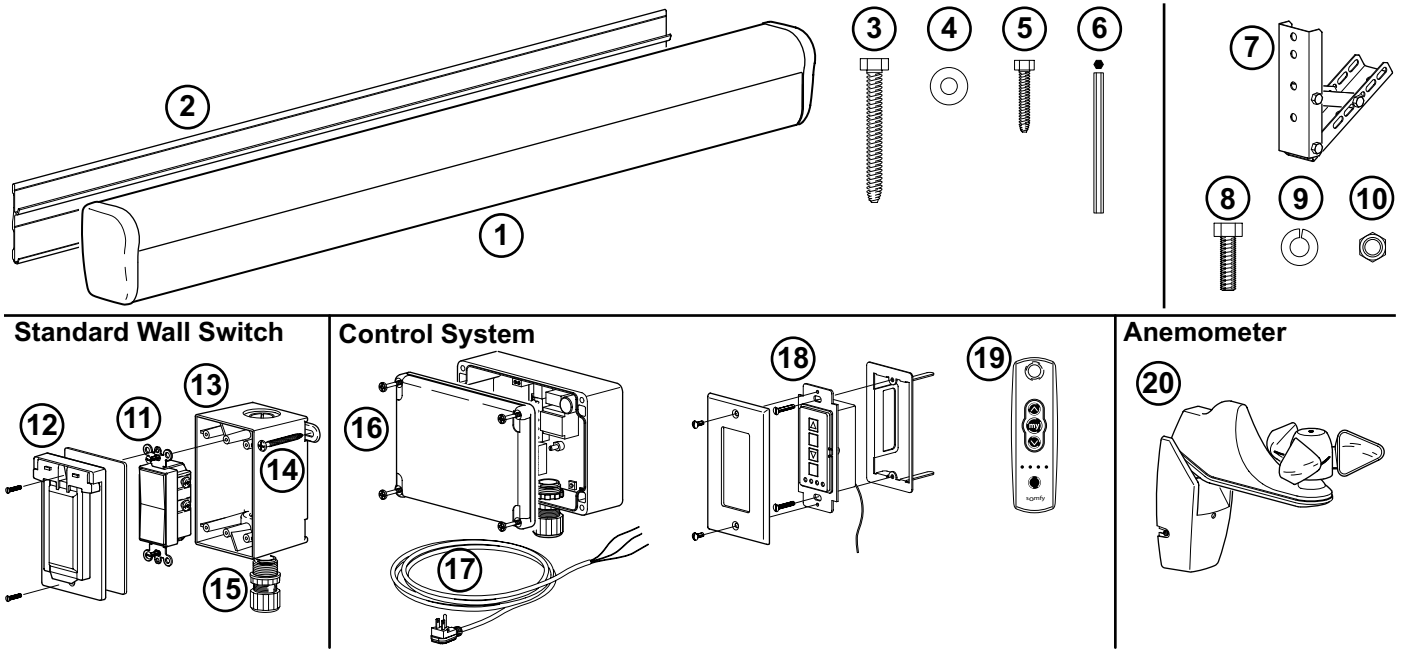


Figure 2. Component Checklist.

<input checked="" type="checkbox"/>	ITEM	DESCRIPTION	QTY	NOTE	
BASIC ASSEMBLY					
<input type="checkbox"/>	1	Sundial Awning Assembly	1	1	
<input type="checkbox"/>	2	Mounting Bracket	1		
<input type="checkbox"/>	3	Screw, Lag	3/8 x 3	18	
<input type="checkbox"/>	4	Washer, Flat	1" O.D.	18	
<input type="checkbox"/>	5	Screw, Lag	1/4 x 1 1/2	3	
<input type="checkbox"/>	6	Hex Key	7mm x 133mm	1	
<input type="checkbox"/>	7	Bracket Assy, Complete	Optional	4	
<input type="checkbox"/>	8	Screw, HHCS	3/8-16 x 1	12	4
<input type="checkbox"/>	9	Lock Washer	3/8	12	4
<input type="checkbox"/>	10	Nut	3/8-16	12	4
<input type="checkbox"/>	11	Switch, Wall		1	
<input type="checkbox"/>	12	Switch Cover		1	
<input type="checkbox"/>	13	Junction Box		1	
<input type="checkbox"/>	14	Screw	#8 x 2	2	
<input type="checkbox"/>	15	Strain Relief Connector		1	
<input type="checkbox"/>	16	Control Box Assy		1	
<input type="checkbox"/>	17	AC Power Cord w/ Wall Connector		1	
<input type="checkbox"/>	18	Wireless Wall Switch		1	2, 3
<input type="checkbox"/>	19	Hand Held Remote		1	3
<input type="checkbox"/>	20	Anemometer Assy (includes cable and attaching hardware)		1	

- NOTES:
1. Specific awning configuration is specified at time of order, including awning length, LH or RH configuration, fabric etc. Check awning assembly and electronics against original purchase order.
 2. Mounting bracket, switch plate and screws are included with switch.
 3. Wall Switch (item 18) and Remote (item 19) are available as a single channel or multiple channel transmitter.
 4. Roof Top bracket (item 7) is optional and specified at time of order. Quantity is based on awning length: 12'-15' = qty 3; 16'-18' = qty 4; 19'-20' = qty 5.

INSTALLATION

⚠ CAUTION

IT IS RECOMMENDED THAT AT LEAST THREE PEOPLE INSTALL THE AWNING DUE TO SIZE AND WEIGHT OF THE COMPONENTS!

REQUIRED PRE-INSTALLATION PARAMETERS

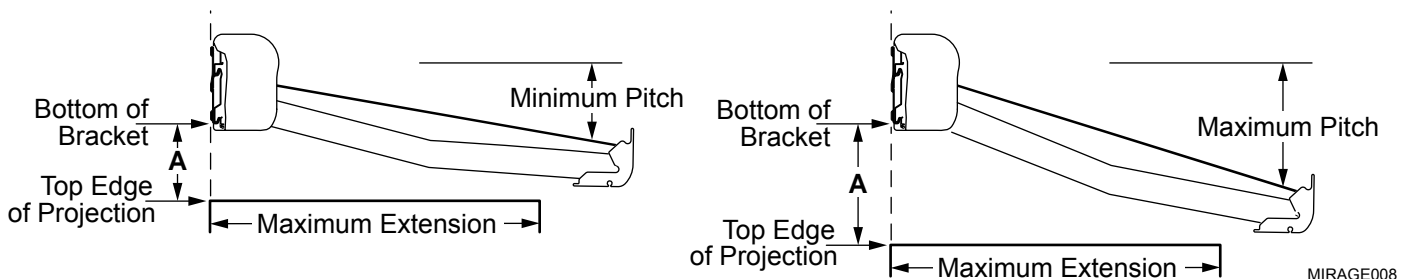
Prior to installing the awning, the installer must determine the layout of the specific construction elements to successfully assemble and mount the awning.

- Determine the location, size and type of structural framing in the area where the awning is to be mounted.
 - There must be structural framing at the awning mount locations. Fiberglass or sheet metal siding alone is **NOT** strong enough to support the weight of the awning!
 - If the framing is not obvious, it may be possible to use a stud finder or other similar device.
 - If in doubt, contact an engineer or contractor to determine the type and position of the structural frame.
- Determine the mounting locations for the control box and switch assemblies.
 - For 110VAC installations, the installer must provide enclosed junction boxes for all wire splices. Boxes are required in conformance with prevailing construction codes.
 - At the control box location, 110VAC power is required. It is recommended that the installer provide a dedicated circuit for the awning system that is protected by an appropriate sized fuse/circuit breaker. Each patio awning draws a maximum of 3 amps.

Refer to section Wiring on page 7 for specific installation and wiring details.

MOUNTING PLATE LAYOUT AND INSTALLATION

- Determine the location of the awning:
 - General profile dimensions are shown in Figure 1;
 - Mounting area must be plumb and clear of obstacles;
 - The mounting plate is 9" shorter than the awning; 6" shorter than the back plate. (Reference Figure 1)
 - The awning is factory set with minimum pitch. Mounting height above a door opening or window must be adjusted if a greater pitch is desired. The chart below provides the minimum distance from the top of a protrusion to the bottom of the mounting plate when the awning is set at MINIMUM and MAXIMUM pitch:



Minimum Height (A) is measured from the uppermost edge of the projection (i.e. door, window) to the bottom of the mounting plate. The value given is a minimum requirement, adjust upward as required to clear casing, trim etc.

Door Width →	0"	12"	18"	24"	30"	36"	42"	48"
A @ MINIMUM PITCH	2.5"	2.5"	3.75"	5"	6.25"	7.5"	8.75"	10.25"
A @ MAXIMUM PITCH	2.5"	5.25"	7.5"	10.25"	14"	15.75"	18.5"	21"

Figure 3. Mounting Height VS Pitch.

- Mark the mounting plate position with a chalk line ensuring that it is parallel to the ground. Include the end points of the mounting plate.
- Use a non-permanent method of marking to temporarily mark the location of the structural framing in the mounting area.
- Transfer the frame pattern to the mounting plate.

5. Below is the minimum number of required mounting locations. Each position uses two screws.

Awning Length	12'	13'	14'	15'	16'	17'	18'	19'	20'	21'	22'
# of Locations		4				5				6	

- On the plate mark the location of the mounting locations. The inner mounting locations should be spaced as evenly as possible between the outer mounting locations. Locations must match the frame location pattern. If using the optional roof top mounting brackets, adjust the pattern to match the bracket mounting holes.
- On the mounting plate drill 7/16" holes at the marks made in the previous step. The grooves in the plate are the vertical locations for the holes. Each location has two holes.

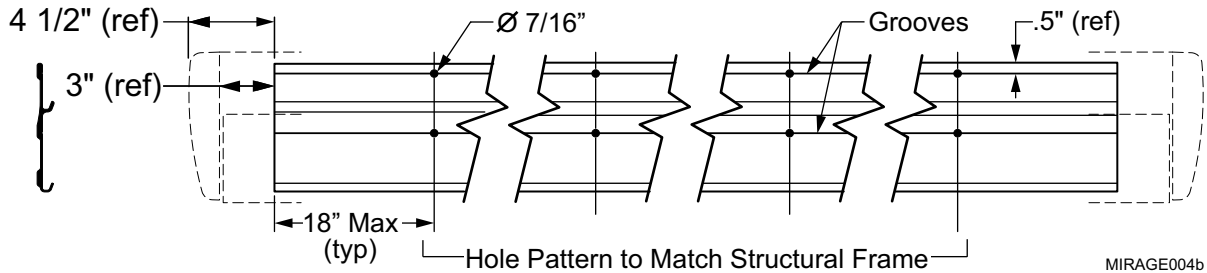


Figure 4. Mounting Plate Hole Drill Pattern.

- Position the mounting plate on the wall using the marks made previously.
- Determine the best method to attaching the plate to the wall. Examples for attaching are shown in Figure 5. Bracket attach details are suggestions and may not cover all circumstances. If unsure, consult a builder or engineer prior to installation.

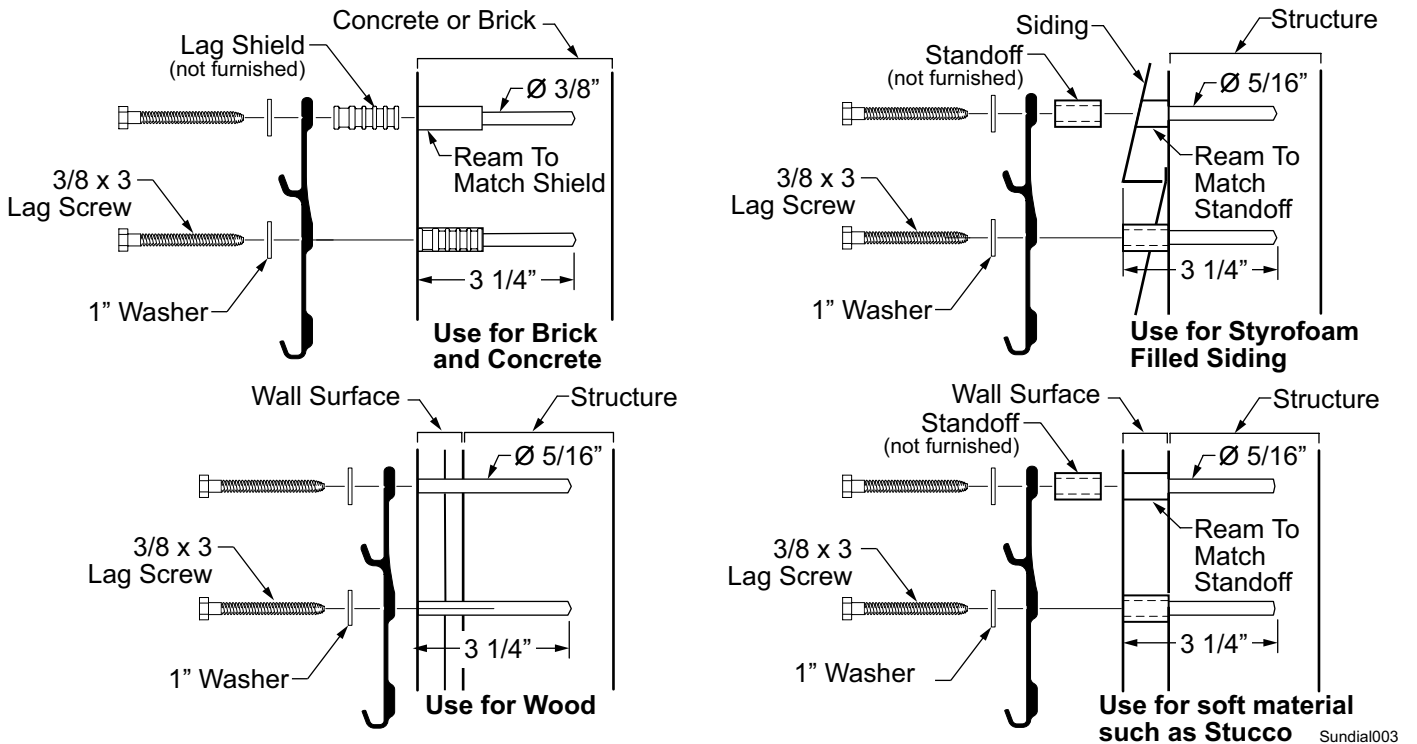


Figure 5. Attaching the Mounting Plate.

- On one end of the plate, use the plate as a template and drill an 11/32" pilot hole into the structure. Attach the plate using a 3/8 x 3 lag screw.
- Confirm position of plate and repeat step 10 on the opposite end of the mounting plate.
- Continue to drill and attach using the 3/8 x 3 lag screws until all mounting holes are done.

Using the Optional Roof Mount Brackets

The brackets are shipped unassembled.

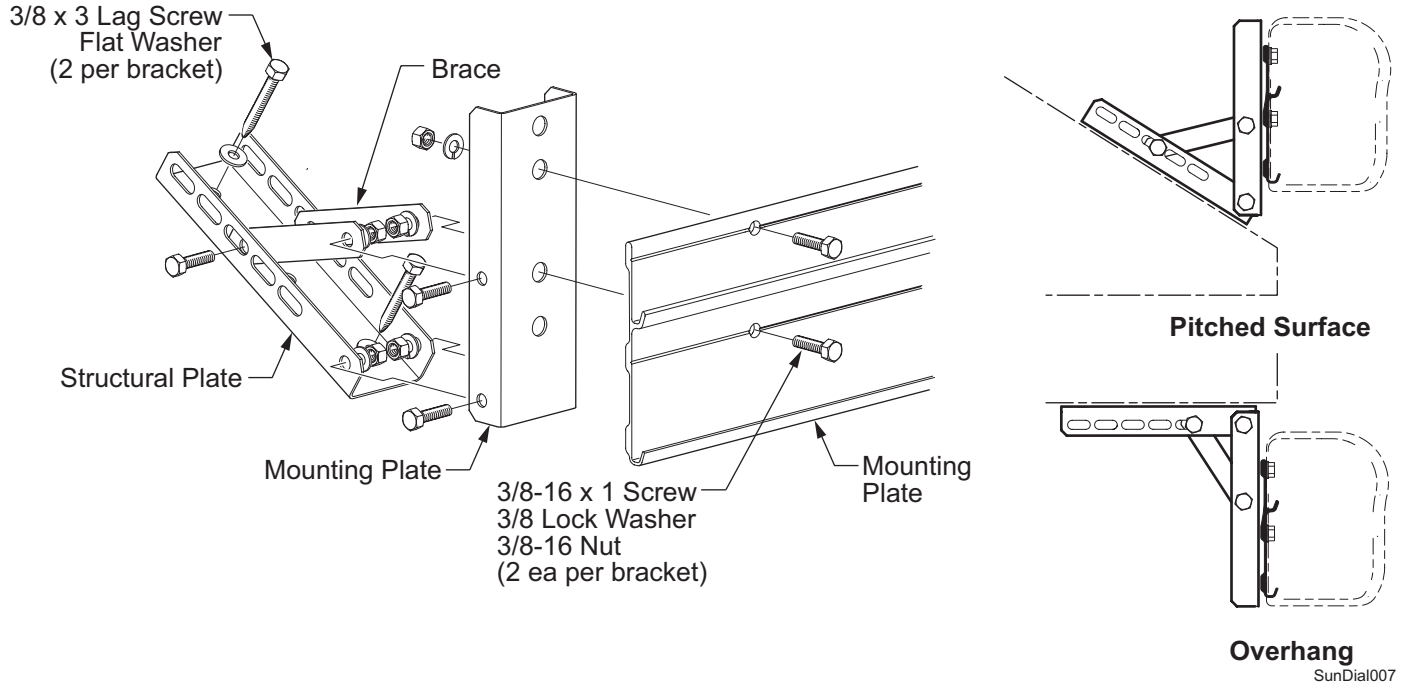


Figure 6. Roof Mount Brackets.

1. Position the structural plates in the desired locations and attach using 3/8 x 3 lag screws and washers. Follow the recommended mounting procedures described previously.

NOTE: Because of the weight of the awning, the mounting plates must be securely fastened into the structure.

2. Loosely attach the braces and mounting plate to the structural plate using the bolts, washers and nuts furnished in the bracket package.
3. Set the mounting plate vertically and tighten all the attaching hardware.
4. Attach the awning mounting plate to the bracket mounting plate using two (2) 3/8-16 x 1 screws, lock washers and nuts. Ensure that the brackets are in line and parallel.

MOUNTING THE AWNING UNIT

1. Set the awning into the hooks of the mounting plate.
2. Adjust the horizontal position of the awning as required.

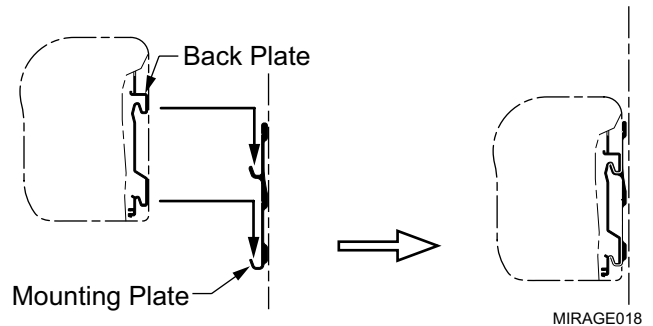


Figure 7. Mounting the Awning.

SECURING THE AWNING

NOTE: This procedure requires opening the awning. For manual awnings, use the manual crank. For motorized awnings, follow the Manual Override instructions on page 14. For motorized awnings, these steps can be done after the electrical installation when motorized power is available.

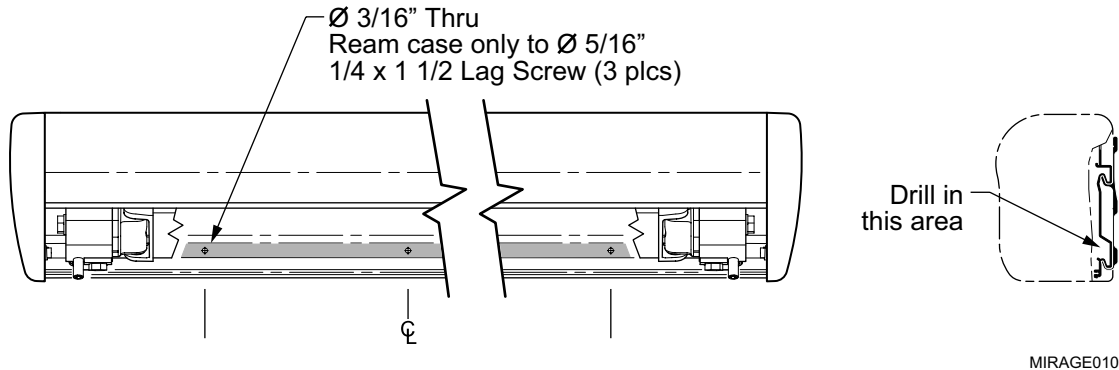


Figure 8. Securing the Awning.

1. Adjust the awning horizontally as required.
2. Open the awning approximately 3 feet to access the back panel of the awning case.
3. Drill three (3) 3/16" holes through the case, mounting plate and into wall (do not go through interior surfaces of wall) in the approximate areas shown in Figure 8.
4. Ream out the holes in the case only to 5/16".
5. Attach the awning case to the mounting plate and wall using three (3) 1/4 x 1 1/2 lag screws.

NOTE: For installations using the optional roof top brackets, the screws will project out the back of the awning mounting plate.

6. From inside, seal the wires and access hole with a quality silicone sealant.

This completes the basic awning installation. For manual configurations, no further action is required. For motorized configurations, proceed to the next section "Electrical".

WIRING

⚠ WARNING

ALWAYS DISCONNECT THE ELECTRICAL SOURCES BEFORE WORKING WITH ELECTRICAL WIRING AND COMPONENTS.

The 110VAC motorized Carefree Sundial Awning is available with two power options.

- a) A single hardwired switch; or,
- b) Power Control System. The system offers several options that are not available with the standard hard wired installation. These options include remote controls; wireless wall switches for interior installation and the wind-sense auto retract for protection against adverse wind conditions.

Important Notices:

- Failure to follow the wiring instruction in this publication may void the motor warranty.
- All wiring must conform to NEC (National Electrical Code) and the prevailing building codes of the area.
- Do not wire two or more motors to one switch or control box – No parallel wiring.
- It is strongly recommended that wiring be done by a qualified electrician.
- The installer must furnish required UL approved junction boxes, conduit etc. where required.

SINGLE SWITCH INSTALLATION

1. Determine the location of the switch and junction boxes. The following cable lengths should act as a guide for locating the components:
 - 8 feet of cable from awning motor (attached to motor);
 - 12 feet of 2 conductor 18AWG cable w/ ground and standard grounded plug;
 - The installer must furnish the 3 conductor cable w/ ground that runs from the junction box to the switch box.
2. Attach the appropriate junction and switch boxes in the desired location.
3. Route the cables as shown and connect the wires with standard wire nuts. Be sure to match wire colors; white to white (neutral), black to black (line) and green to green (ground).

Note: Form drip loops at the motor and junction boxes to avoid water following the cables into the components.

4. Connect wires to the switch and install switch and cover.

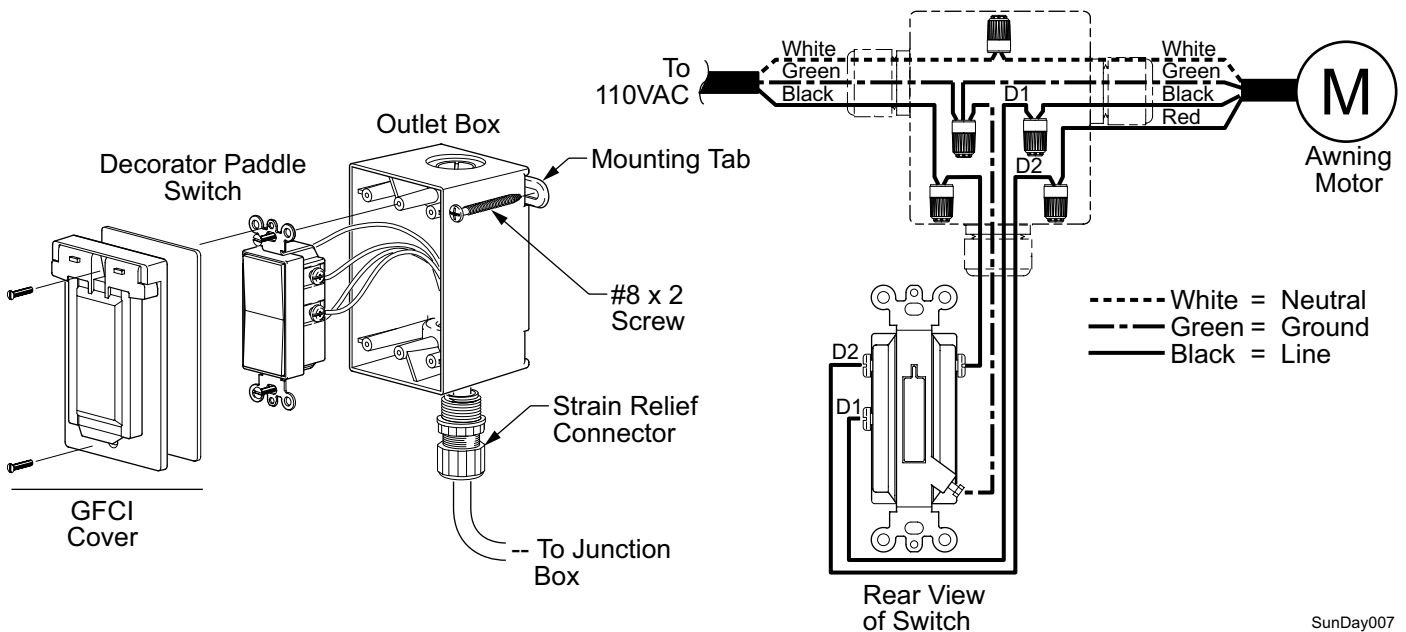


Figure 9. Single Switch Installation.

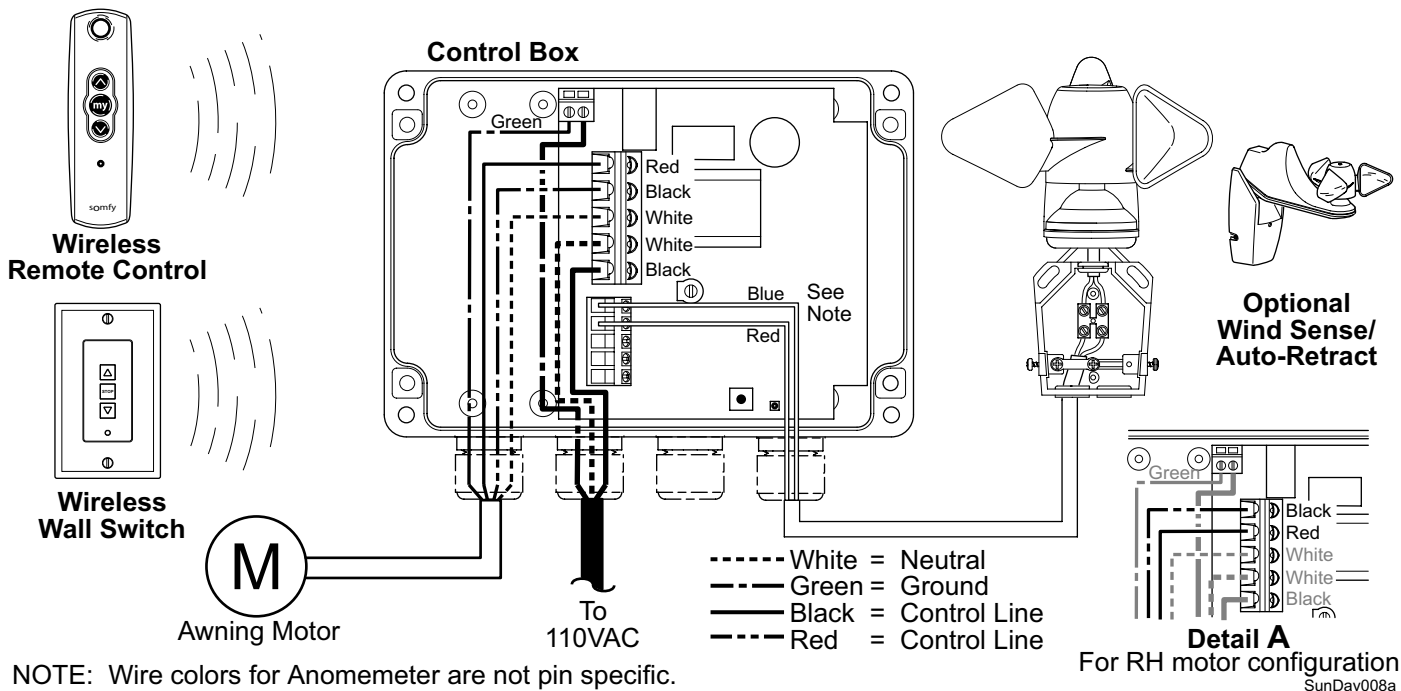
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POWER CONTROL SYSTEM

The power control system provides the home owner several options that are not available with the standard hard wired installation. These options include remote controls; wireless wall switches for interior installation and the wind-sense auto retract for protection against adverse wind conditions.

Control Box Installation

The control box is used when the installation uses a wireless remote, wireless switch or anemometer. For multiple awning applications, each unit must have a dedicated control box. Multiple awnings cannot be controlled by a single control box.



NOTE: Wire colors for Anemometer are not pin specific.

Figure 10. Control Box Wiring Diagram.

1. Determine the location of the control box.
 - Mount the box as close to the motor as possible.
 - The following cable lengths should act as a guide for locating the components:
 - 8 feet of cable from awning motor (attached to motor);
 - 12 feet of 2 conductor 18AWG cable w/ ground and standard grounded plug;
 - Do not mount the box on or next to metal surfaces. This can affect radio reception.
 - When mounting the box outside, ensure that the cable entry glands are pointed down to avoid moisture seepage.
2. Remove the front cover of the control box.
3. Attach the box using a minimum of two (2) #8 x 2 screws. The screws should be mounted in opposite corners.
4. Route the 2-conductor 18 AWG wire w/ ground into the box. Connect wires to the control box as shown in the wiring diagram.
5. Route the cable wire from the awning motor to the control box and connect the wires as shown.

Note: Form drip loops at the motor and control box to avoid water following the cables into the components.
6. Do not attach the control box cover at this time.

Wireless Switch Installation

CAUTION

THE WIRELESS WALL SWITCH IS DESIGNED AS AN INTERIOR SWITCH ONLY. MOUNTING THE SWITCH OUTSIDE OR IN AN AREA DIRECTLY INFLUENCED BY ADVERSE ENVIRONMENTAL FACTORS CAN CAUSE PREMATURE DAMAGE TO THE SWITCH AND VOID WARRANTY.

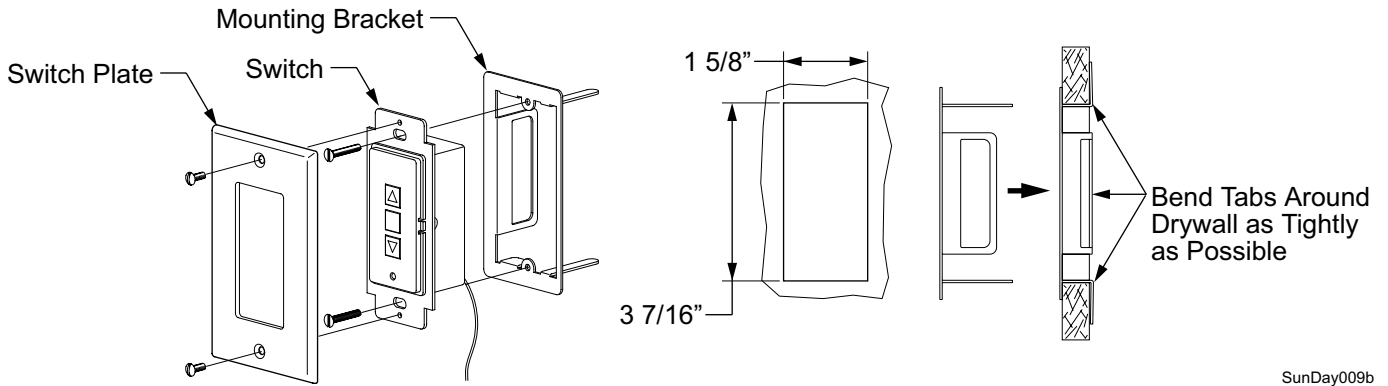


Figure 11. Mounting the Wireless Switch.

1. Determine the location of the switch. The switch should be positioned so that the operator can see the awning operate.
2. Carefully cut a hole 1 5/8" wide x 3 7/16" tall into the wall.
3. Press the mounting bracket into the hole and bend the bracket tabs tightly around the drywall as shown.
4. Program the switch and control box. Refer to "Programming a Transmitter" on page 9.
5. After programming is complete, attach the switch and switch plate to the mounting bracket using the furnished screws.
6. If all options are installed, attach the control box cover.

Programming a Transmitter

The wireless wall switch and hand held remote are both available as a single channel or multiple channel. A single channel transmitter controls one awning, the multiple channel transmitter can control up to 4 separate units individually or as a group. Transmitters require a control box installed.

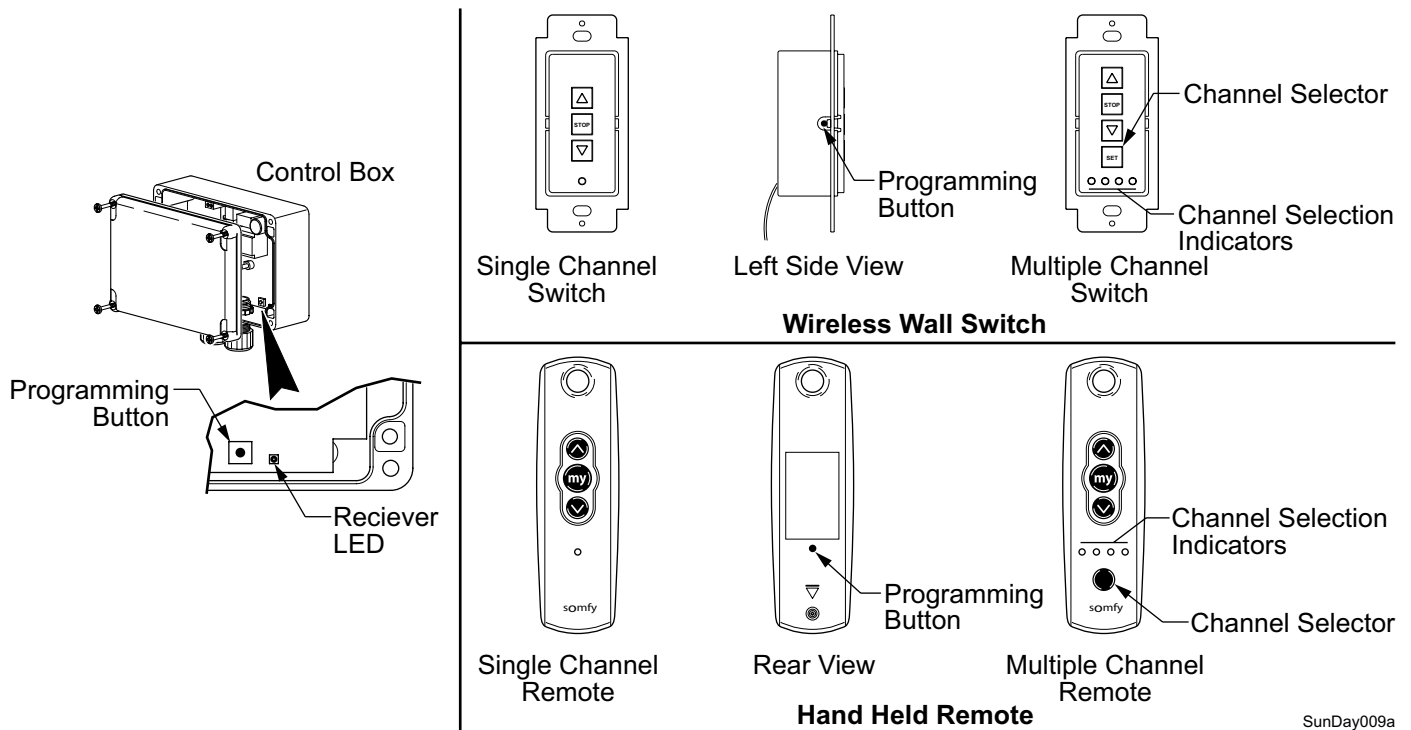


Figure 12. Programming a Transmitter.

1. Connect control box to power source (110VAC).
2. Press the Programming Button (PROG) of the receiver located in control box (lower right corner) until LED illuminates. This indicates that for one (1) minute the receiver is ready to receive the address of the transmitter. After this time, the control box exits the programming mode and the LED goes out.
3. For multiple channel transmitters, use the channel selector until the 1st channel (LED) is illuminated.
4. Press the Programming Button on the transmitter with a ballpoint pen until the receiver's LED blinks rapidly and shuts off. The address of the transmitter is instantly memorized and the receiver automatically ends the programming mode.
5. For multiple channel transmitters:
 - To set the group control, Use the channel selector until all 4 LEDs are blinking, this is the group (master) channel. Repeat steps 5 & 7.
 - Repeat the above steps for each control box using the channel selector to set the channel to #2 for the second control box, #3 for the third control box and #4 for the fourth box. For each control box also set the master channel.
6. Test operation. The "UP" arrow should retract the awning; the "DOWN" arrow should extend the awning. If the awning works opposite the switch markings, reverse the red and black motor wires in the control box.

IMPORTANT NOTE: The awning must operate as described if the wind-sense auto retract is installed. If the awning operates in reverse of the markings, the system will try to extend the awning instead of retracting the awning.

NOTES FOR SWITCHES AND REMOTES

- Transmitters operate on a frequency of 433.42 MHz.
- Transmitters use a 3V Lithium Battery (CR 2430)
- Maximum operating range is 65 ft. Actual distance may vary based on installation.
- The control box may be programmed for up to 12 transmitters (switches and remotes).
- Programming additional transmitters may be accomplished as described previously or can be done using the existing transmitters. To use an existing transmitter: press the programming button of the existing transmitter for 3 seconds then press the programming button of the new transmitter for 1 second (max).

Mounting the Optional Anemometer

The optional wind-sense auto retract system uses an anemometer to measure wind speed. When the wind reaches the user set value, the awning will automatically retract.

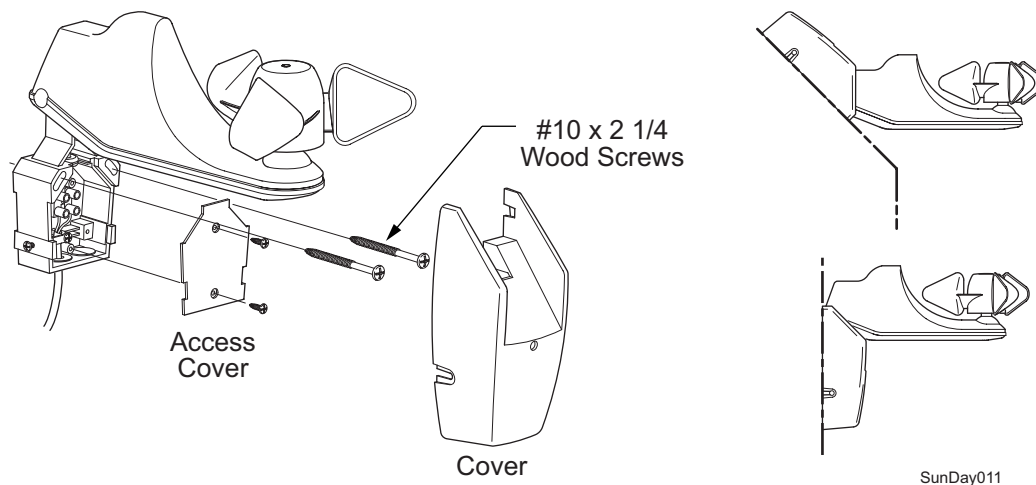


Figure 13. Mounting the Anemometer.

1. Remove the outer cover and the access cover.
2. Knock out one of the holes at the bottom of the base.
3. Route the furnished cable through the hole and under the clamp plate in the base.
4. Attach the wires to the terminals as shown in the wiring diagram. The wire colors are not pin specific.

5. Reattach the access cover.
6. Determine the mounting location of the anemometer.
 - The anemometer may be mounted to a vertical surface or sloped surface;
 - Ensure that the cups are horizontal. Do not mount upside down;
 - The position should be exposed to the same wind elements as the awning.
7. Mount the unit using the supplied wood screws.
8. Install the outer cover over the base.
9. Route the cable to the control box and connect the wires as shown.

Testing the System

1. Plug the power cord into an active power receptacle (110VAC).
2. On the transmitter (wireless switch or remote), press and release the DOWN arrow. The awning should extend.
3. Press and release the stop (center) button. The awning should stop.
4. Press and release the UP arrow. The awning should retract and stop automatically when fully closed.

If the awning does not operate as described:

- If the awning moves in a direction opposite than described; in the control box, reverse the red and black wires from the motor.
- If the awning does not operate using the transmitter; program the remote following the directions on page 9.
- If the awning does not operate, check power in and all wiring connections, correct as required.

Testing the wind sense auto-retract function. (This test assumes the previous tests were successful.)

1. Set the wind speed sensitivity to the lowest wind speed. Refer to page 13.
2. Extend the awning approximately half way.
3. Spin the anemometer. The awning should retract automatically to the closed position.

NOTE: Do not hit the anemometer to spin. Using compressed air provides a constant pressure source and, the output can be regulated to test the various sensitivity settings. DO NOT position the nozzle closer than 10 inches from the cups.

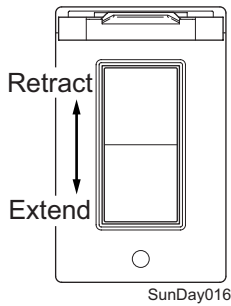
4. Repeat steps 2 and 3 two (2) more times with the sensitivity set at the medium and high wind settings.

If the awning does not respond:

- Check that the wiring from the anemometer and control box is good and that the cups are not blocked.
- If the awning opens instead of closes; in the control box, reverse the red and black wires from the motor.

OPERATION

SWITCH OPERATION – STANDARD HARDWIRE INSTALLATION



- Press and hold the switch down to extend the awning to the desired extension.
- Press and hold the switch up to retract the awning.

USING THE WIRELESS INTERIOR SWITCH

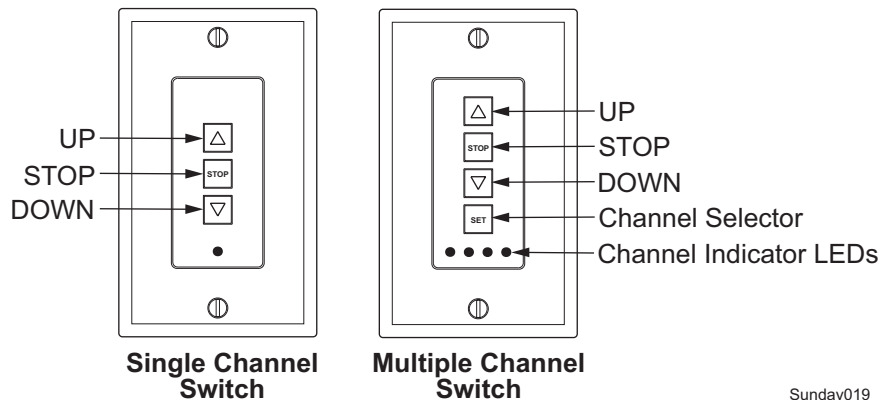


Figure 14. Wireless Switch.

- UP Press and release the UP arrow to retract the awning. The awning will retract until fully closed.
- STOP Press the center button to stop the awning during extend or retract functions.
- DOWN..... Press and release the DOWN arrow to extend the awning. The awning will extend to the maximum extension.
- Channel Selector .. For multiple channel switches: Press the "Channel Selector" until the corresponding selection indicator LED is illuminated for the awning to be operated.
When all 4 indicator LEDs are illuminated the remote is in "Group" mode. All awnings will respond to the command buttons as a group (i.e. pressing the DOWN button will cause all awnings to extend).

The wireless switch uses a flat 3V Lithium Battery (CR2430) that should provide a long period of service. To replace: Remove the switch from the wall mount. On the back remove the box (2 screws). Slide the old battery from the battery holder and slide a new battery in. Pay attention to the polarity of the battery. Batteries are available through local battery outlets.

USING THE REMOTE CONTROL

- UP Press and release the UP arrow to retract the awning. The awning will retract until fully closed.
- STOP Press the center button to stop the awning during extend or retract functions.
- DOWN..... Press and release the DOWN arrow to extend the awning. The awning will extend to the maximum extension.

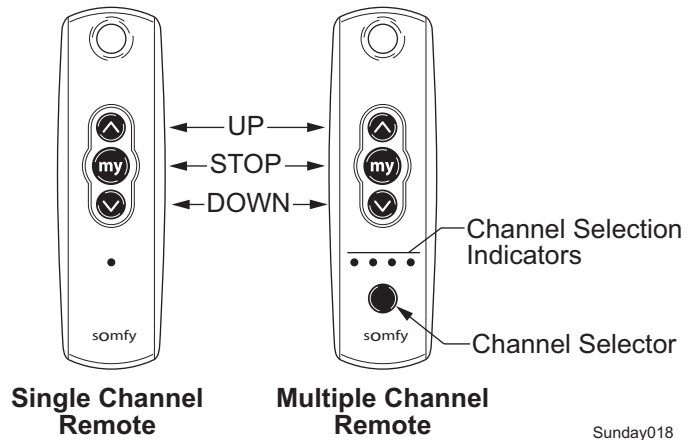


Figure 15. Remote Control.

Channel Selector .. For multiple channel remotes: Press the "Channel Selector" until the corresponding selection indicator LED is illuminated for the awning to be operated.

When all 4 indicator LEDs are illuminated the remote is in "Group" mode. All awnings will respond to the command buttons as a group (i.e. pressing the DOWN button will cause all awnings to extend).

The remote uses a flat 3V Lithium Battery (CR2430) that should provide a long period of service. To replace: Remove the screw and back of the remote. Slide the old battery from the battery holder and slide a new battery in. Pay attention to the polarity of the battery. Batteries are available through local battery outlets.

WIND-SENSE AUTO RETRACT

The optional wind-sense auto retract system uses an anemometer to measure wind speed. The system is always on when the awning is extended. When the wind reaches the user set value, the awning will automatically retract.

When the wind speed exceeds the set value for longer than 2 seconds, the retract command is activated. While the wind speed exceeds the set value, all extend and stop commands are ignored. When the wind speed drops below the set value, operation will return to normal after a brief delay.

⚠ CAUTION

THE WIND-SENSE AUTO RETRACT SYSTEM IS A PREMIERE ELECTRONIC AUTO-RETRACT SYSTEM THAT PROVIDES PROTECTION AGAINST ADVERSE ELEMENTS; BUT NO AUTO-RETRACT SYSTEM IS A GUARANTEE AGAINST SEVERE OR DESTRUCTIVE WEATHER; THE EFFECTS OF WIND AND RAIN ON AN AWNING ARE UNPREDICTABLE AND MAY CAUSE SEVERE DAMAGE TO THE AWNING AND/OR BUILDING. IF WIND OR EXTENDED PERIODS OF RAIN ARE EXPECTED, RETRACT THE AWNING.

Setting the Wind Speed Sensitivity

The wind sensitivity can be set for a preferred wind speed.

1. Open the control box.
2. In the center of the control board, locate the speed adjust switch.
3. Turn the switch to the desired setting. Turning to the left increases sensitivity (less wind); turning to the right decreases sensitivity (higher wind). The label next to the switch gives approximate values in miles per hour.

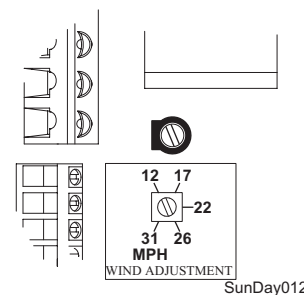


Figure 16. Setting Wind Sensitivity.

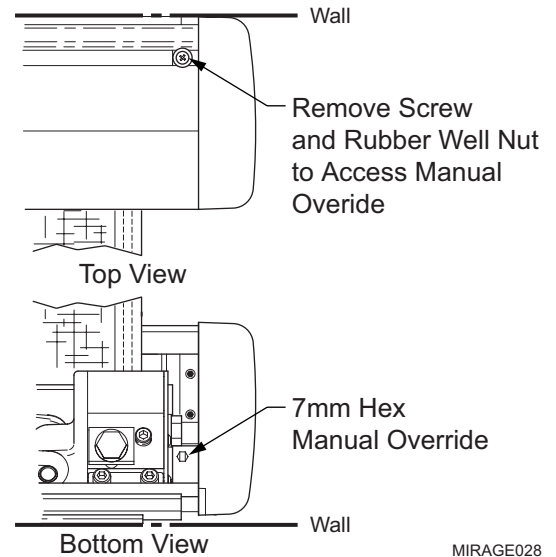
MANUAL OVERRIDE

If 110V power is not available to the coach, the Sundial awning can still be safely retracted using the manual override. The bypass may be accessed from inside the case on the motor housing or from the top of the case above the motor housing.

To use the inside bottom access: The awning must be open a minimum of 8" to afford access to the override.

To use the top bypass access: Remove the screw and well nut that is used to secure the end cap.

1. Chuck the 7mm hex key into a 3/8" battery powered drill.
2. Insert the hex key into the manual override on the awning. For the top access, it will be necessary to locate the hex by feel; it is not visible with the key inserted in the hole.
3. Operate the drill in the forward (clockwise) direction to close the awning. Reverse the drill to open the awning.



MIRAGE028

Figure 17. Manual Override Access.

NOTE: When using the bottom override, the awning can only be closed within 6-8". It will be necessary to use the top access to close the awning completely.

4. When done, return the screw and well nut to the top of the case if removed.

MAINTENANCE

Maintaining the Carefree Sundial Awning is easy. Simply follow the recommendations below.

FABRIC MAINTENANCE

⚠ CAUTION

DO NOT USE OIL BASED CLEANERS OR ANY CAUSTIC, GRANULATED, OR ABRASIVE TYPE CLEANERS ON YOUR CAREFREE PRODUCT.

1. One of the best ways to keep the fabric looking good and to delay the need for deep or vigorous cleanings is to hose fabrics off on a monthly basis with clear water. This practice will help prevent dirt from becoming deeply imbedded in the fabric and eliminate the need for more frequent vigorous cleanings. In most environments, a thorough cleaning will be needed every two to three years.
2. When it's time for a thorough cleaning, the fabric can be cleaned while still on an awning frame.
 - For Acrylic Fabric – Use a stiff brush and warm water with soap.
3. When cleaning the fabric, it is important to observe the following:
 - Always use a natural soap. Never detergent.
 - Water should be cold to lukewarm. Never more than 100 degrees.
 - Air dry only. Never apply heat to the fabric.

Mildew

Mildew is a fungus growth that looks like dirt. Under ordinary conditions, mildew will not appear. However, in areas where high temperature and humidity are common, mildew can be a problem and require the material to be washed more frequently. THOROUGHLY rinse the fabric with clean water and allow to air dry completely before rolling up the awning.

ADJUSTING THE PITCH

⚠ CAUTION

DURING INSTALLATION OR WHEN THE PITCH OF THE AWNING IS ADJUSTED, IT IS IMPORTANT THAT THE LEAD RAIL IS PARALLEL TO THE AWNING HOUSING.

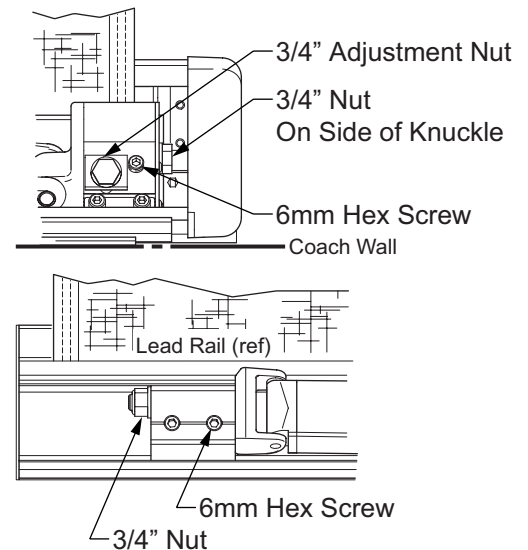
1. Extend the awning fully.
2. On one end, loosen the 6mm hex screw located on the spring arm knuckle.
3. SLIGHTLY loosen the 3/4" nut on the side of the knuckle.
4. Turn the 3/4" adjustment nut located on the bottom of the knuckle. CLOCKWISE raises the pitch, COUNTERCLOCKWISE lowers the pitch.

NOTE: When raising the pitch, it is helpful to have a second person lift up on the lead rail.

5. Repeat steps 2 through 4 for the other end. Note the caution information above.
6. When the pitch adjustments are completed, tighten the 6mm screw and the 3/4" nut on the side of the knuckle.

When the pitch is adjusted, it is necessary to adjust the angle of the lead rail for the awning to close correctly.

7. SLIGHTLY loosen the 3/4" nut on the side of each arm knuckle on the lead rail.
8. Turn the INSIDE 6mm hex screws of each knuckle to increase or decrease the angle of the lead rail. The face of the lead rail should be parallel with the wall.
9. When the lead rail adjustments are completed, tighten the 3/4" nut on the side of the knuckles.



MIRAGE024

Figure 18. Pitch Adjustment.

SETTING THE MOTOR LIMITS

The motor limit switches are preset at the factory for best operation of the awning. The “OUT” limit switch is used to stop the motor when the awning is fully extended. The “IN” limit switch is used to stop the motor when the awning is fully retracted.

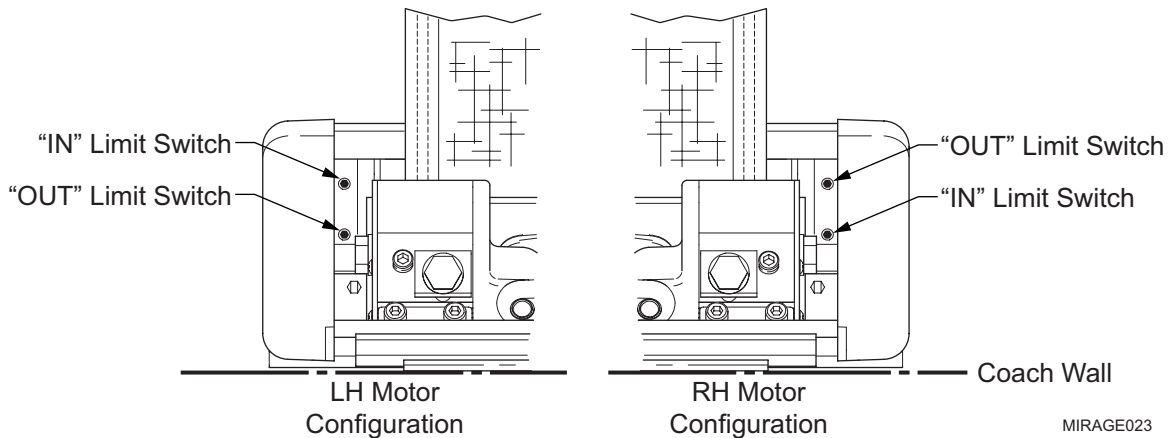


Figure 19. Motor Limit Switches.

The limit switches are located inside the case, near the end cap. It is necessary to extend the awning to access the switches.

Adjusting the OUT Limit Switch

NOTE: During normal operation, the awning will extend out completely then roll back slightly to provide tension to the fabric.

1. Extend the awning out completely.
2. Confirm that the arms are fully extended. The motor should stop and the fabric should be tight. If the motor continues to run, the fabric will sag; or, if the motor quits before the arms are extended, it will be necessary to adjust the “OUT” limit switch.
3. Using a 4mm Allen wrench turn the “OUT” limit switch. CLOCKWISE increases time the motor runs during extension, COUNTERCLOCKWISE reduces the time the motor runs.

NOTE: It is best to make the adjustments in increments of a single turn. 3 full turns of the screw equals approximately 2” of fabric extension.

4. Extend and retract the awning several times to confirm that the adjustment is correct.
5. Repeat steps 3 and 4 as required until the awning extends correctly.

Adjusting the IN Limit Switch

1. Retract the awning in completely.
2. Confirm that the arms are fully retracted. The motor should stop when the awning is fully retracted. If the motor continues to run; or, if the motor quits before the arms are fully retracted, it will be necessary to adjust the “IN” limit switch.
3. Using a 4mm Allen wrench turn the “IN” limit switch. Clockwise increase time the motor runs during retraction, counter clockwise reduces the time the motor runs.

NOTE: It is best to make the adjustments in increments of a single turn. 3 full turns of the screw equals approximately 2” of fabric extension.

4. Extend and retract the awning several times to confirm that the adjustment is correct.
5. Repeat steps 3 and 4 as required until the awning extends correctly.

LIMITED WARRANTY

Carefree of Colorado (hereafter referred to as Carefree) warrants to the FIRST retail Purchaser that the Sundial Patio Awning is free of defects in material and workmanship within the terms and conditions as set forth below. Carefree's obligation under this warranty is limited to the repair or replacement, at Carefree's option, of any defective component within the stated warranty period. THIS WARRANTY IS NOT TRANSFERABLE.

1. DURATION

- a) 5 years on motor and canopy.
- b) 10 years on springs, rollers and hardware.
- c) 12 months on electronic components.
- d) For the first 12 months, should a failure occur and the initial purchaser has proof of purchase (warranty card sent in or receipt of purchase) and notifies Carefree in a timely manner, all components, labor and freight are covered 100%.
- e) After the initial 12 months, any defects in the product will be replaced or repaired for a prorated amount of the cost of the part based upon the number of months since the initial date of purchase.

Warranty duration is not extended by the length of time the product is not in use or the time which the purchaser is deprived the use of the product. The duration of coverage is determined by the date of the original product purchase, not the date of repairs.

2. WHAT IS COVERED UNDER THIS WARRANTY

Defects in the manufacturer's material and workmanship of product under normal use, and which occur within the duration of the warranty period. The following components are covered only as listed:

- a) *Fabrics* – Free from quality defects (normal wear and fading are excluded). Cracking, peeling, hardening, sagging or loss of strength provided that the damage is not the result of high winds or water pooling.
- b) *Roller tube & Hardware* – Free from extrusion defects.
- c) *Springs* – Defects.
- d) *Motor assemblies* – Defects.
- e) *Electronics* – Defects.

3. WHAT IS NOT COVERED UNDER THIS WARRANTY

- a) Fabric damage such as pinholes or tears not reported within ten (10) calendar days of purchase.
- b) Improper installation and/or any damage or failure that results from improper installation of the product, including fabric damage caused by improper installation.
- c) Normal wear including the occasional need to re-tension the awning.
- d) Conditions that are not related to the material or workmanship of the product: including any failure that results from an accident, wind, rain, water pooling, or other acts of God.
- e) Purchaser's abuse, including but not limited to neglect; failure to operate, use or maintain the product in accordance with the instructions provided with the product.
- f) Any component not sold or manufactured by Carefree.
- g) Any failure that results from the use of another manufacturer's product with a Carefree product that is not specifically approved by Carefree.
- h) Any incidental, indirect, or consequential loss, damage, or expense that may result from any defect, failure, or malfunction of the Carefree product.
- i) The removal or alteration of any product component or device. In the event of such removal or alteration, this warranty is void.
- j) Any expense related to delivery or pick-up of product to/from the service dealer.

4. RESPONSIBILITIES OF THE PURCHASER

IN ORDER FOR THE WARRANTY TO BE HONORED, THE PURCHASER MUST HAVE PROOF OF PURCHASE: THE ORIGINAL RECEIPT OR THE WARRANTY CARD ON FILE AT CAREFREE OF COLORADO. FAILURE TO PROVIDE THE REQUIRED DOCUMENTATION MAY DELAY OR VOID ANY WARRANTY CLAIM.

- a) Retain dated proof of purchase for specified product, and provide it as requested.
- b) Inspect the awning upon purchase to confirm the condition of the canopy, hardware and proper operation of the product.
- c) Perform "Periodic Maintenance" as specified in Owners Manual.
- d) Use reasonable care in maintenance, operation, use and storage of the product in accordance with the instructions contained in the owner's manual.

5. WARRANTY CLAIM PROCEDURE

- a) Deliver any product claimed or found defective during warranty period to a Carefree of Colorado Authorized Service Dealer. Visit www.carefreeofcolorado.com for the name of nearest Authorized Service Dealer, or call Carefree at the phone number shown.
- b) Customer shall schedule a time with an Authorized Service Dealer. Repair or replacement will be scheduled and performed at the Authorized Service Dealer according to normal work flow and availability of replacement parts.
- c) *Work must be performed by a Carefree authorized service center.* When warranty work/repair is performed by an authorized service agent, the agent is responsible for directly billing Carefree of Colorado for warranted parts and labor.
- d) Carefree shall pay the respective servicing dealer or agent for performing any repairs authorized by Carefree as per the terms of this warranty. Company will allow for freight and labor charges - labor is based on Flat Rate Form.
- e) All warranty claims shall be paid through the servicing agent. Carefree does not provide reimbursement for warranty claims paid for by the customer.
- f) The customer shall pay only those costs not covered by warranty. The customer shall have no out-of-pocket expenses except as stated.
- g) The Original Purchaser is responsible for any expenses related to delivery or pick up of product to/from the Service Dealer.
- h) If the Purchaser does not receive satisfactory results from the Authorized Service Dealer, the Purchaser should contact the Carefree of Colorado Customer Care Department within 10 days after completion of the questionable service.

THIS WARRANTY GIVES THE OWNER SPECIFIC LEGAL RIGHTS. THE LAWS OF CERTAIN JURISDICTIONS MAY GRANT THE OWNER ADDITIONAL RIGHTS AND PRIVILEGES. Except as set forth above, Carefree makes no warranty, whether statutory or otherwise, including without limitation, any warranty of merchantability or fitness for a particular purpose. Carefree shall have no liability except to repair, replace or adjust defective products and parts. Carefree specifically excludes any liability, whether in contract, tort or otherwise, for personal injury, property damage, economic or consequential losses. Carefree has not authorized any person or company to alter the terms of this warranty.

It is Carefree of Colorado's policy and practice to continuously improve the company's products and services. Therefore, Carefree reserves the right to make changes in design and components, without notice, whenever it is believed the quality of the product will be improved, but without incurring any obligation to incorporate such improvements in any product which has been shipped or in service.

FOR YOUR REFERENCE:

DATE PURCHASED: _____

DEALER/INSTALLER:

NAME: _____

ADDRESS: _____

PHONE: _____

PRODUCT NAME/DESCRIPTION: _____

SERIAL NUMBER: _____

COLOR: _____ LENGTH: _____

**Register your Carefree Products On-Line@
www.carefreeofcolorado.com**

