



CAREFREE

SUNDIAL PATIO AWNING

WITH *DIRECT RESPONSE ELECTRONICS*

Residential

Installation and Operations Manual

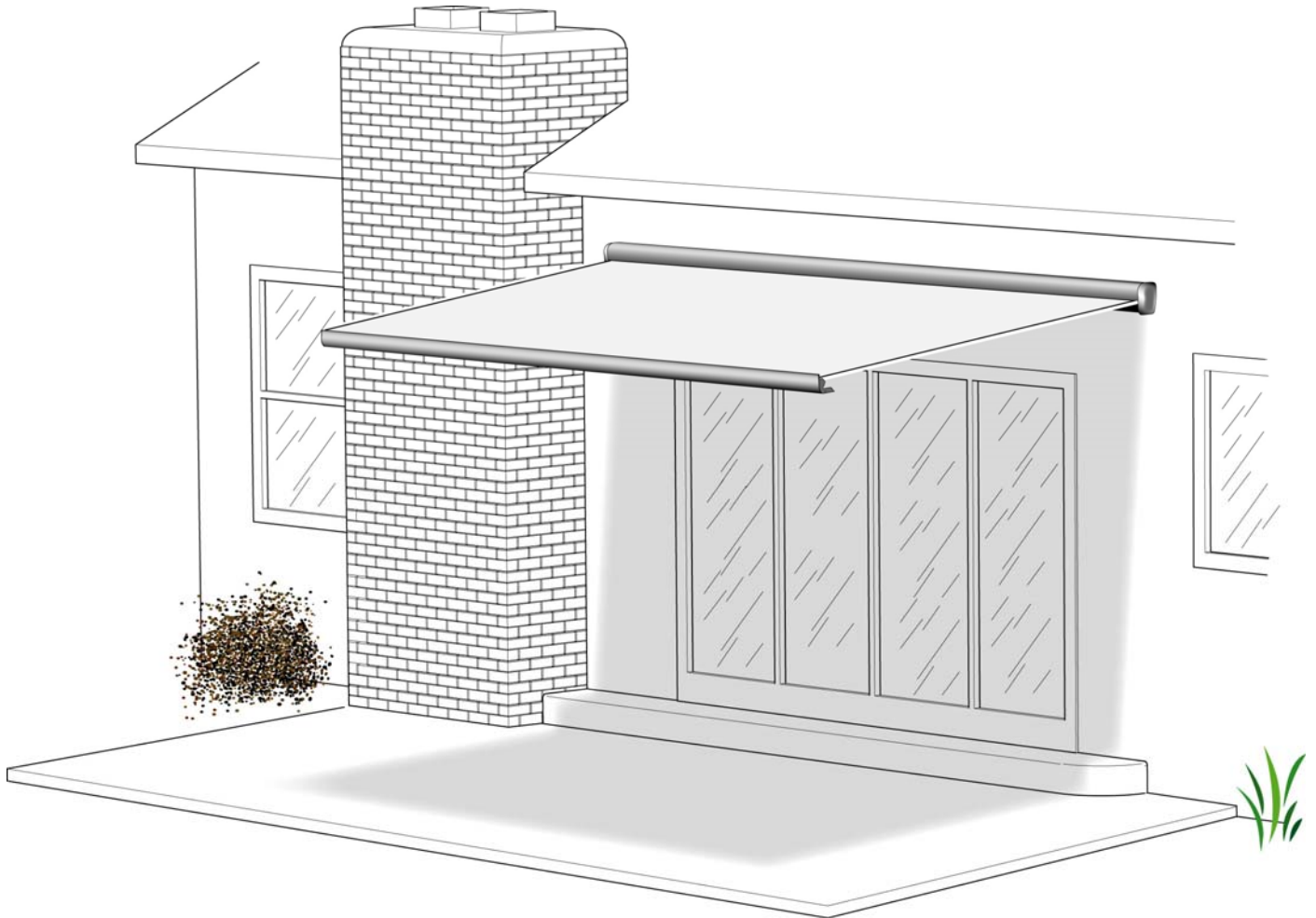


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SAFETY INFORMATION

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 shade 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 2 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'.

The unique and innovative 110V electronic control system provides Carefree's newest *Direct Response* system with interior pushbutton controls for standard extend/retract functions. At the master control panel the auto-retract system can be engaged to automatically retract the awning in windy conditions. Sensitivity can be set to respond to a variety of wind speed conditions. An optional RF remote is available with the *Direct Response* system.

Sundial Patio Awning Specifications

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

| | | | |
|---|----------------------------------|---|--|
| LENGTHS: | 12' – 22' (in 1 foot increments) | | |
| 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 | | Direct Response Electronic Control System | |
| MOTOR SPECIFICATIONS: Available in LH or RH configurations | | | |
| <i>Type:</i> Tubular Motor | | <i>Speed:</i> 14 RPM | |
| <i>Power:</i> 120V, 60HZ, 2.5A | | <i>Cycle:</i> 40 Sec ON / 1 Min OFF | |
| <i>Torque:</i> 60 nm | | | |

| 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 | |

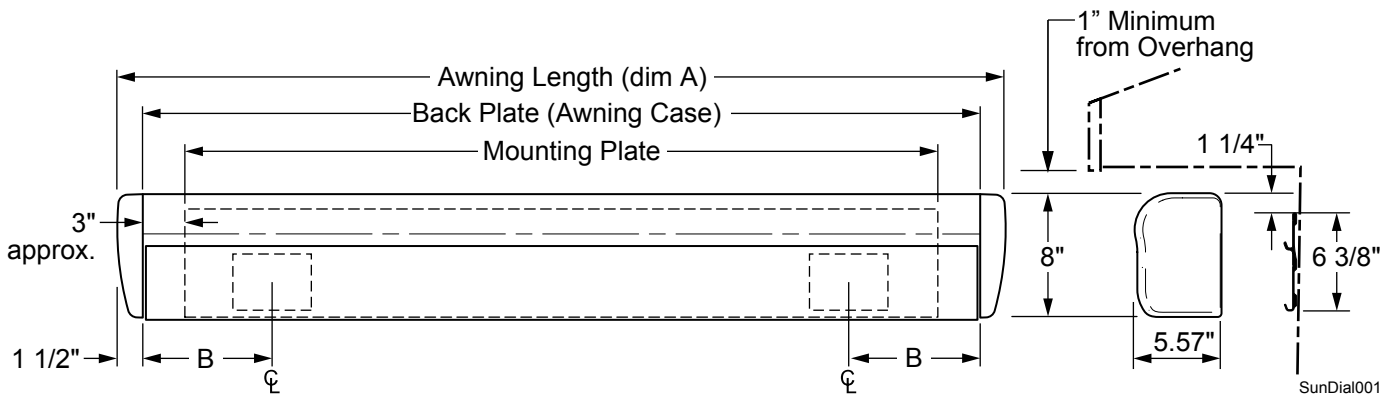


Figure 1. General Description - Sundial Patio Awning.

COMPONENT CHECKLIST

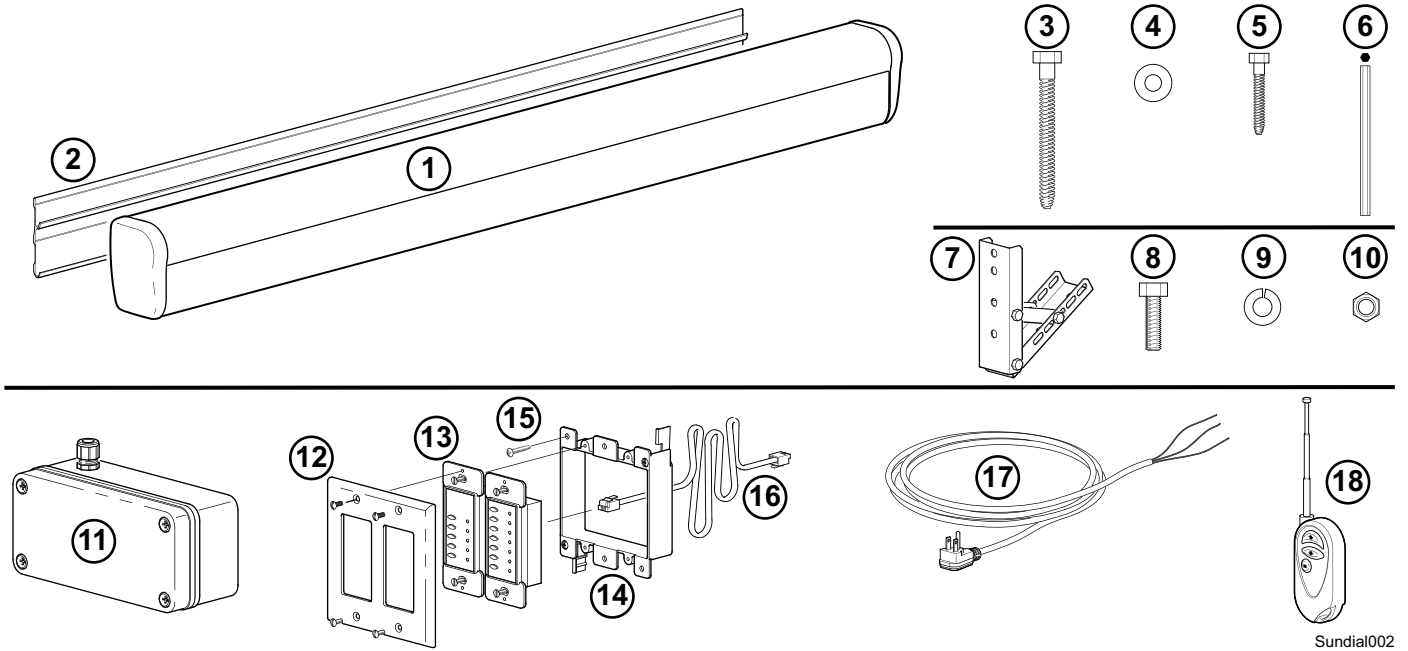


Figure 2. Component Checklist.

| <input checked="" type="checkbox"/> | ITEM | DESCRIPTION | QTY | NOTE | |
|-------------------------------------|------|---------------------------------|-------------|------|------|
| <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 | 6 | |
| <input type="checkbox"/> | 8 | Screw, HHCS | 3/8-16 x 1 | 12 | 6 |
| <input type="checkbox"/> | 9 | Lock Washer | 3/8 | 12 | 6 |
| <input type="checkbox"/> | 10 | Nut | 3/8-16 | 12 | 6 |
| DIRECT RESPONSE ELECTRONICS | | | | | |
| <input type="checkbox"/> | 11 | Control Box | | 1 | 2 |
| <input type="checkbox"/> | 12 | Face Plate | | 1 | 3 |
| <input type="checkbox"/> | 13 | Switch Assembly | | 1 | 3, 4 |
| <input type="checkbox"/> | 14 | Switch Mounting Box | | 1 | |
| <input type="checkbox"/> | 15 | Screw, Pan Head | #8 x 3/4 | 4 | |
| <input type="checkbox"/> | 16 | Phone Cable | 240" | 1 | |
| <input type="checkbox"/> | 17 | AC Power Cord w/ Wall Connector | 12 feet | 1 | |
| <input type="checkbox"/> | 18 | Remote Control Key FOB | | 1 | 5 |

- NOTES:
1. Awning configuration is specified at time of order, including awning length, LH or RH configuration, fabric etc. Check awning assembly against original purchase order.
 2. Control box is furnished in two versions. Standard is w/o RF receiver, optional is w/ RF receiver.
 3. Mounting screws are included with switches and switch plate.
 4. Switch assembly includes patio switch, wind speed switch and ribbon cable.
 5. Additional remote control key FOBs may be ordered separately (SR0015)
 6. 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

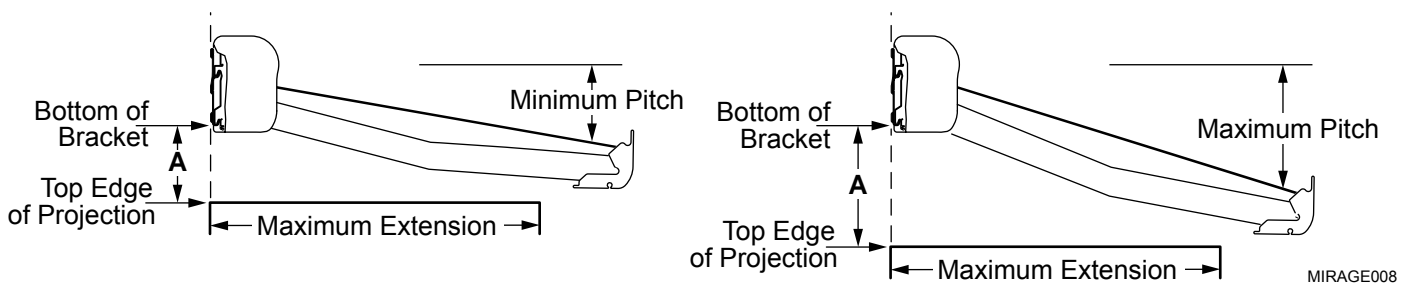
Prior to installing the awning, the installer must determine the layout of the specific construction elements to successfully assemble and mount the awning.

1. 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.
2. 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 6 for specific installation and wiring details.

MOUNTING PLATE LAYOUT AND INSTALLATION

1. 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.

2. 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.
3. 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.
- 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.

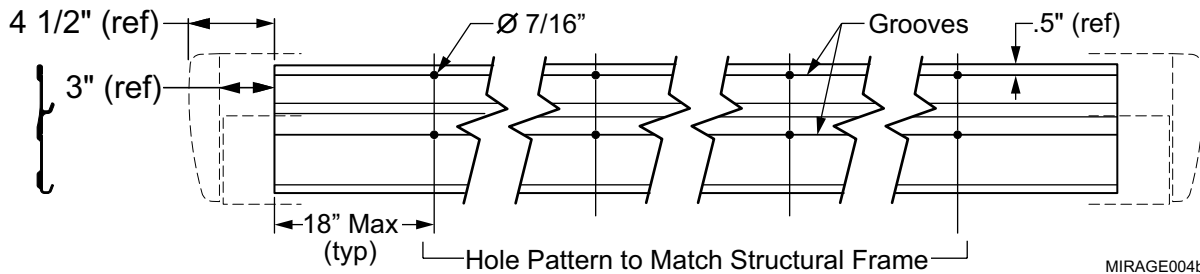


Figure 4. Mounting Plate Hole Drill Pattern.

- 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.

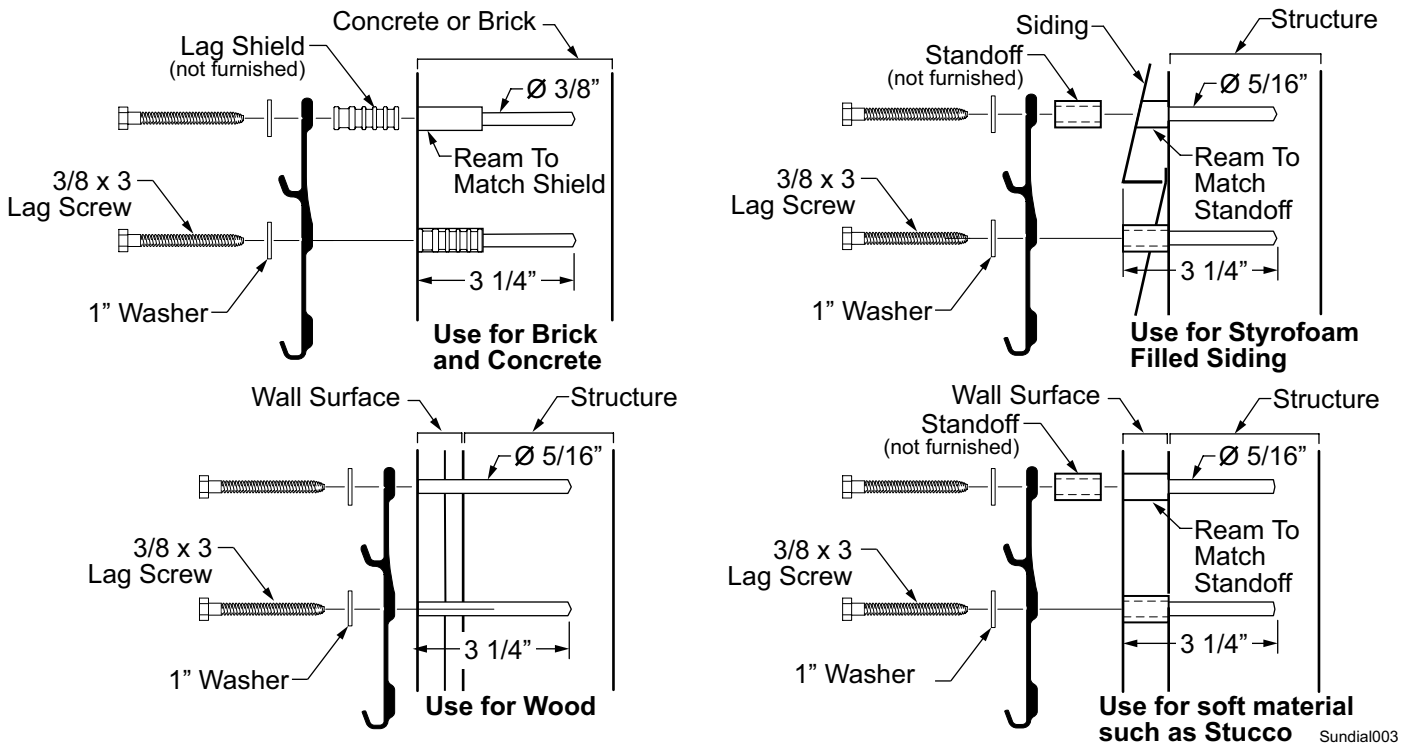


Figure 5. Attaching the Mounting Plate.

- 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

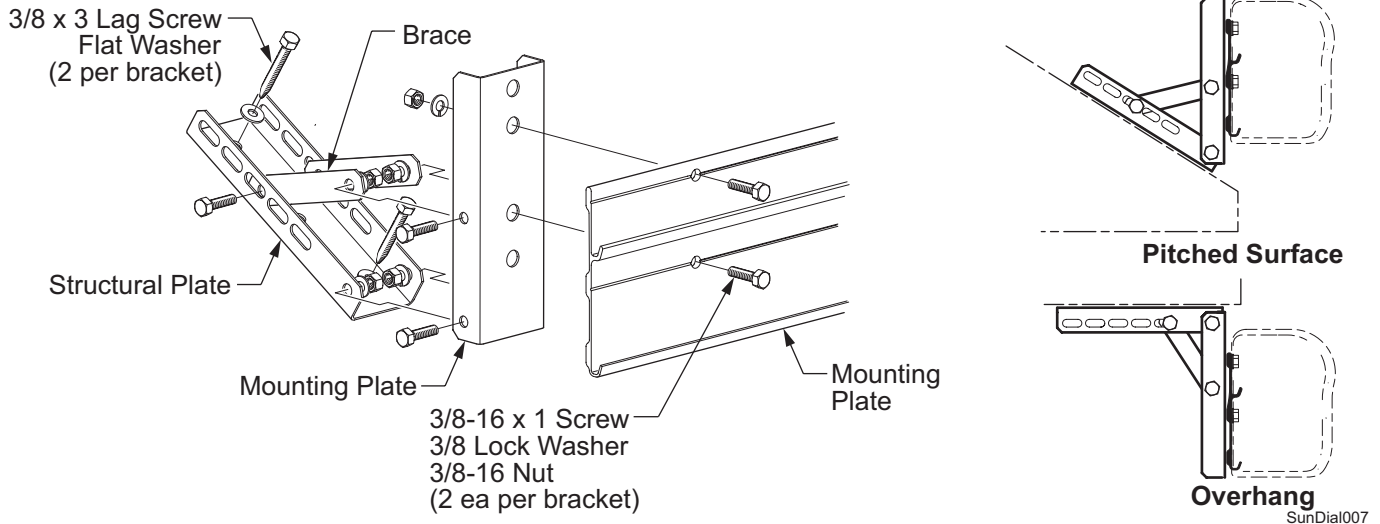


Figure 6. Roof Mount Brackets.

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: 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

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

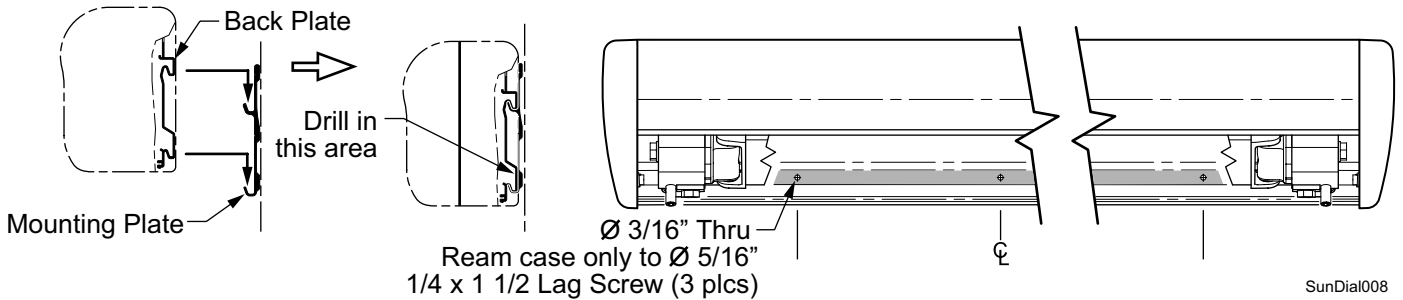


Figure 7. Mounting the Awning.

Securing the Awning

For the following steps, use the manual override (page 13) to open the awning or secure the awning after completing the electrical installation (page 6).

1. Open the awning approximately 3 feet to access the back panel of the awning case.
2. 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 7.
3. Ream out the holes in the case only to 5/16".
4. 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.

WIRING

WARNING

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

IMPORTANT NOTICES:

- **Failure to follow the wiring instructions in this publication may void the warranty.**
- **All wiring must conform to NEC (National Electrical Code) and local codes.**
- **DO NOT wire two or more motors to one switch—No parallel wiring.**
- **The installer must provide UL approved enclosed junction boxes, conduit, etc. for all 110VAC wire splices. Boxes are required in conformance with prevailing construction codes.**
- **If the motor wire is to be routed through a wall: The SO cable from the 110VAC awning motor can only pass directly through a wall, it can not be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.**
- **If routing wires in the open: Always provide a drip loop at the component. This will help prevent water from following the wire into the component.**
- **After completing the wiring, seal all wire ports in the components using a high grade silicone sealant.**

The 110V electronic control system provides the user with simple pushbutton controls for the awning. The *Direct Response* electronic system is a premier auto-retract system that detects motion from adverse wind conditions and retracts the awning. Sensitivity is set by the user.

- System includes: Control box, Master control panel (w/ pushbutton awning control and wind speed sensitivity setting) and motion sensor (factory installed).
- An RF remote control is used with the *Direct Response* system. The RF receiver is incorporated into the control box.
- Refer to the Operation section of this manual for description of controls and settings.
- The switches use a 5VDC signal to operate the control box; thus eliminating the need for a junction box for the control panel.
- Components are connected using terminated phone cable. Terminated cable is 4-wire RJ11 terminated phone cord (straight, no twist). This does not include cables for 110VAC power or the awning motor.

NOTE: Lengths of the furnished cables are listed in the chart on page 8. If a connection requires a length greater than the supplied cable, the installer must provide a terminated jumper cable from the box location to the cable end. Terminated cables are 4-wire RJ11 terminated phone cord (straight, no twist).

SWITCH INSTALLATION

This installation is for mounting the control panel switches inside the structure. If the switches are to be mounted outside, the installer must furnish an enclosed, weatherproof receptacle with a sealable cover.

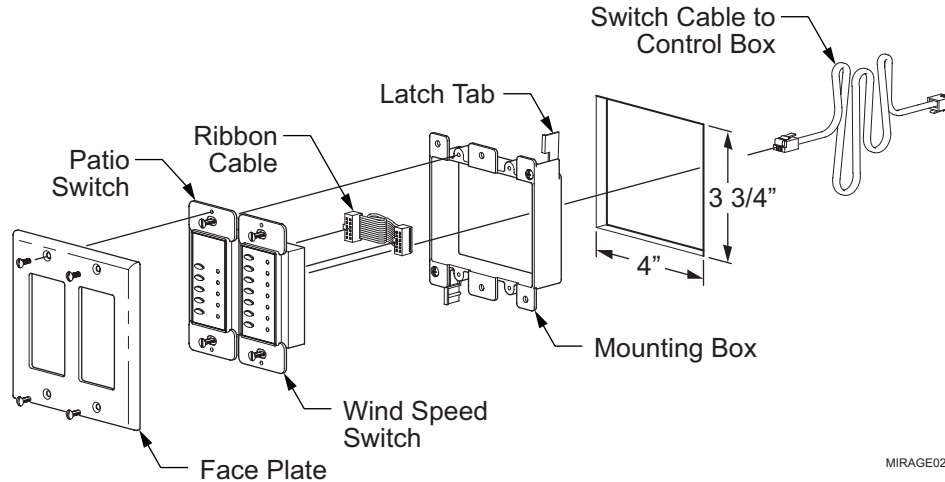


Figure 8. Switch Installation.

1. At the switch location, cut a rectangular hole 4" x 3 3/4". The mounting box is able to clamp to thicknesses from 1/4" to 1".
2. Insert the mounting box and tighten the latch tab screws. The tabs will automatically rotate to clamp on the back side of the mounting surface. Do not overtighten the clamp screws.
3. Connect the switch cable to the patio switch and route to the location of the control box.
4. Mount the Patio Switch and Wind Speed Switch in the mounting box.
5. Mount the faceplate onto the switches. It may be necessary to slightly loosen the switches to align the faceplate and switches.

CONTROL BOX INSTALLATION

(Refer to wiring diagram on page 8)

1. Determine the location of the control box.
 - Do not mount the unit near heat producing elements such as barbeques, open flames or hot lights.
 - For best reception for the remote, do not mount on or near metal surfaces.
 - Mount the unit with the antenna pointing up.
2. Detach the lid from the control box.
3. Attach the box using a minimum of two (2) #8 x 3/4 screws. The screws should be mounted in opposite corners.
4. Route the AC power cord to the box. It is recommended that the installer provide a dedicated AC circuit that is protected by an appropriate sized fuse/circuit breaker. Each patio awning draws a maximum of 3 amps. Connect wires to the control box as shown in the wiring diagram.
5. Route the wire from the motor to the control box and attach the wires to the terminals as shown.

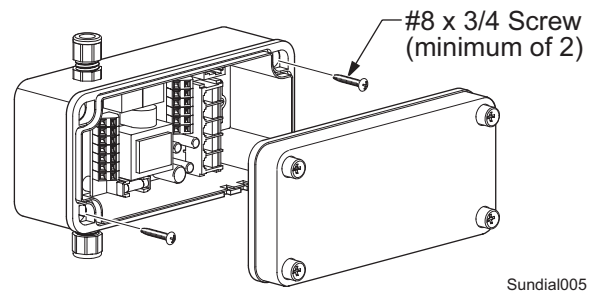
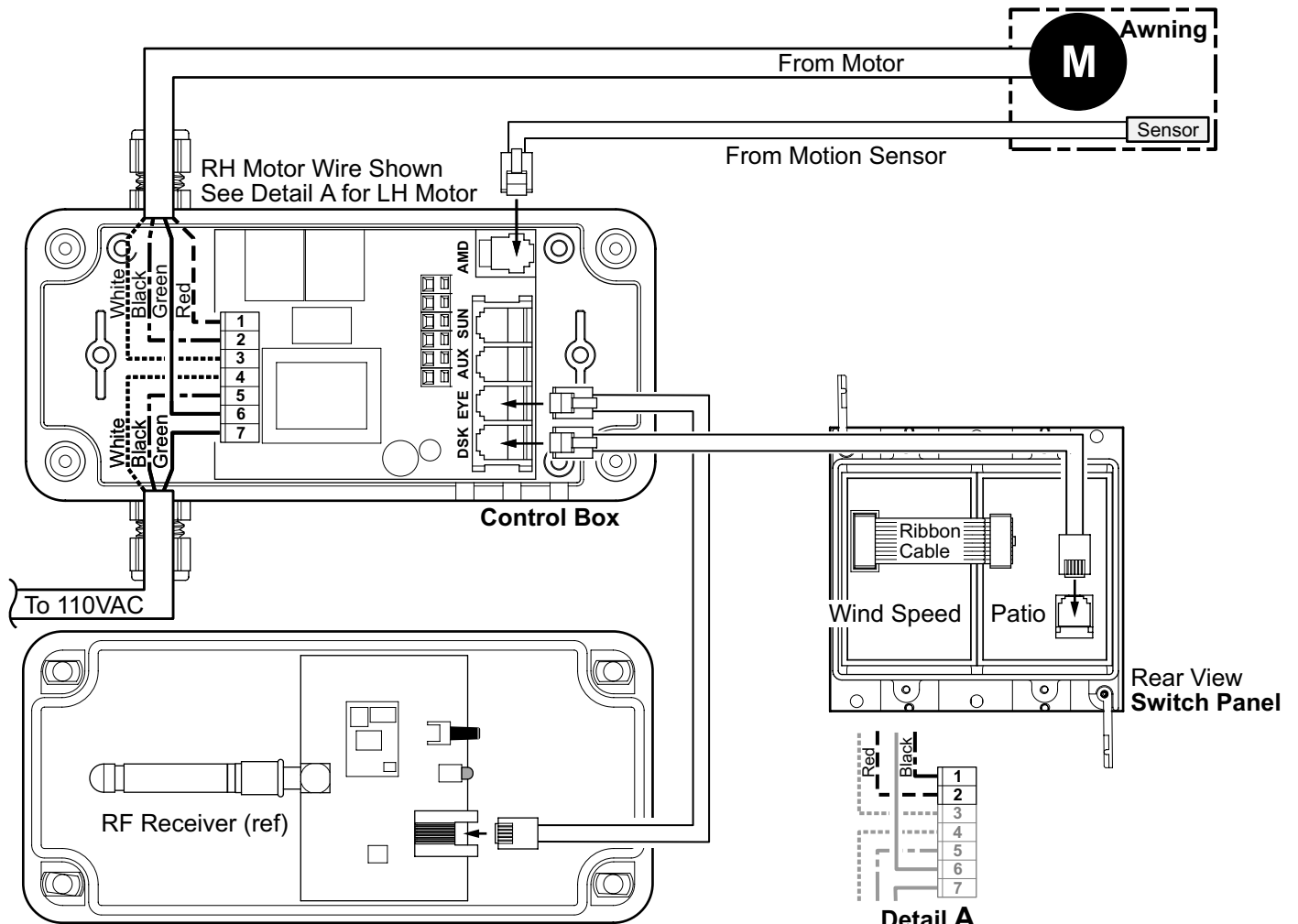


Figure 9. Mounting the Control Box.

NOTE: For RH motor configurations:
 RED WIRE goes to terminal RED (1); BLACK WIRE goes to terminal BLACK (1).
For LH motor configurations:
 BLACK WIRE goes to terminal RED (1); RED WIRE goes to terminal BLACK (1).

6. Connect the cable from the motion sensor to "SHAKE" in the control box.
7. Connect the cable from the switch panel to "ACC" in the control box.

WIRING DIAGRAM



NOTES:

- 1 Wire Legend: - - - - - Red (Control Line)
 - - - - - Black (Control Line)
 - - - - - White (Neutral)
 - - - - - Green (Ground)

- 2 For RH Motor Configurations: Motor Red goes to Pin (1); Motor Black goes to Pin (2)
 For LH Motor Configurations: Motor Red goes to Pin (2); Motor Black goes to pin (1)

- 3 The SO cable from the 110VAC awning motor can only pass through a wall, it cannot be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.

Detail A
 For LH Motor Configuration
 Reverse Red & Black Motor Wires

| | FROM | | TO (RH CONFIGURATION) | | TO (LH CONFIGURATION) |
|-----------------|--------------------------|-------------|-----------------------|-------------|-----------------------|
| Motor | 6' from motor (approx) | Red | Control Box | 1 | Control Box |
| | | Black | | 2 | |
| | | White | | 3 | |
| | | Green | | 6 | |
| AC Power Source | 12' from Wall Receptacle | White | Control Box | 4 | Control Box |
| | | Black | | 5 | |
| | | Green | | 7 | |
| Awning Sensor | 10' Phone Cable | Control Box | "AMD" | Control Box | "AMD" |
| Patio Switch | 240" Phone Cable | Control Box | "DSK" | Control Box | "DSK" |
| RF Receiver | 6" Cable (internal) | Control Box | "EYE" | Control Box | "EYE" |

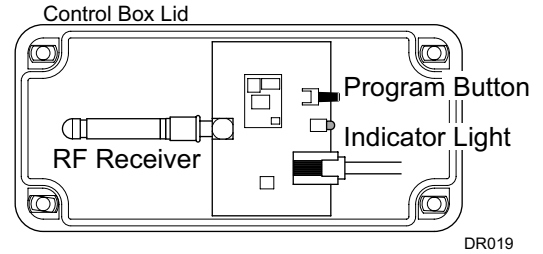
1. Cable lengths are the lengths of the furnished cables. If a connection requires a length greater than the supplied cable, the installer must provide a terminated jumper cable from the box location to the cable end.
2. Optional RF receiver and remote shown. Not included in standard installation.

Figure 10. Wiring Diagram - Direct Response.

PROGRAMMING THE REMOTE RECEIVER

Early transmitters & receivers operate on a frequency of 418MHz. Models for 2007 & on operate on 433MHz. The transmitter and receiver frequencies must match. Identifying the transmitter frequency is described under the operational notes below.

1. Power to the control box must be on.
2. Press and release the "Press to Learn Transmitter" button on the bottom of the receiver box. The receiver is in program mode when the red light comes on.
3. For Gray Button Key FOBs: Press and release the ANY button on the remote. It is recommended to use the STOP button. The red light will go out after the receiver learns the remote signal.
4. For Key FOBS w/ Antenna: Press and release the STOP button on the remote. The red light will go out after the receiver learns the remote signal.



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NOTE: Pressing the stop button will cause the blue up arrow button to default as the open (extend) function.

If a function button is pressed to train the receiver, it will be programmed as the open (extend) button. Example: Pressing the top button will program the top button for extend and the bottom button as retract.

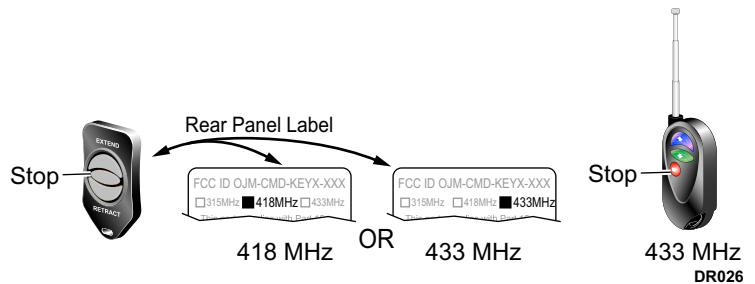
CAUTION

IF A FUNCTION BUTTON IS PRESSED DURING THE LEARNING PHASE, THE BUTTON THAT IS PRESSED WILL BECOME THE EXTEND FUNCTION. THE AWNING WILL THEN PERFORM THE FUNCTION (EXTEND) WHEN THE RECEIVER LEARNS THE TRANSMITTER SIGNAL. USE CARE TO AVOID UNEXPECTED AWNING MOVEMENT.

5. Repeat for each additional remote.

Operational Notes:

- Transmitter and receiver must match in frequency (418 MHz or 433 MHz). The gray button Key FOBS are marked with a label for 418MHz or 433MHz frequency. Key FOBS w/ antenna are 433MHz.
- The receiver exits the program mode after ten seconds.
- If the light does not come on above, check the continuity of the cord between the boxes and repair or replace as required. Pin 1 of the 1st connector goes to pin 1 of the 2nd connector etc. If the light still does not come on, the memory is full and must be cleared.
- If the light does not go out in above, the receiver already knows the transmitter's signal or the battery in the remote needs to be replaced.
- To clear the memory: PRESS AND HOLD the transmitter learn button. While holding the button, the indicator light should be OFF for the full 5 seconds then come on.
- The system may be programmed for up to 5 remotes. Additional remotes may be ordered separately.



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TESTING THE SYSTEM

When 110VAC power is removed from the system, the controller does not retain previous positioning information. When power is restored, positioning information is updated when the first function is initiated.

The function LEDs (extend, retract and stop) perform a dual function. When the button is pressed, the LED illuminates. The LED stays illuminated during the selected operation and after the awning has fully extended or retracted. This provides an indicator of the awning position. When the stop button is pressed, the LED will illuminate and stay on until a function is pressed. If on, it indicates that the awning is partially extended/retracted.

All function buttons are press and release. The auto-functions continue until the awning is fully extended/retracted or when the stop button is pressed. The ON/OFF and Auto Retract buttons are press ON/press OFF.

1. While observing the control panel, have a second person initiate 110VAC power to the awning system. The following should occur:
 - 1.1 The Auto-Retract and Wind Speed LEDs should illuminate briefly then extinguish.
 - 1.2 The Power ON/OFF and function/position LEDs will briefly illuminate.
 - 1.3 The system then goes to the default settings: The POWER "ON", AUTO-RETRACT "ON" and MEDIUM Wind Speed LED will be on.

NOTE: The function/position LEDs (extend, stop and retract) will not be illuminated. During power up the controller does not retain position information. The controller is updated with the first function used.

2. Press the POWER "OFF". ALL LEDs should be extinguished. The POWER ON/OFF button disables all functions including Auto-Retract and the RF remote. It does not disconnect the 110VAC power.
3. Press the POWER "ON". Press the EXTEND button, the LED should illuminate while the awning extends and stay on after the awning auto-stops. Observe the awning, it should fully extend. The system performs an auto-tension action when the awning is fully extended. The awning rolls in reverse to tension the fabric. The auto-tension feature works only with the extend function when the awning is fully extended or the stop button is pushed while extending.
4. After the awning is fully extended, press the RETRACT button, the EXTEND LED should extinguish and the Retract LED should illuminate while the awning is retracting. Press the STOP button.
5. When the STOP button is pressed, the awning will stop, the RETRACT LED should extinguish and the STOP LED should illuminate.
6. Press the RETRACT button, allow the awning to retract fully, the Retract LED will illuminate and stay lit.
7. Press the AUTO-RETRACT OFF. The AUTO-RETRACT and WIND SPEED LEDs should go out.
8. Press the AUTO-RETRACT ON. Press each Wind Speed button and confirm that the corresponding LEDs illuminate.
9. Test the Auto-Retract function:
 - 9.1 Fully extend the awning.
 - 9.2 With the AUTO-RETRACT ON, set the WIND SPEED to the lowest setting.
 - 9.3 Create a firm but gentle vertical rocking motion with the leading edge of the awning. The awning should retract after 2-3 seconds of the motion.

Testing the Key FOB

1. Restore 110V power to the system.
2. Ensure that the system is OFF at the switch panel.
3. Press each button on the Key FOB. The awning should not move.
4. Turn the system on. Do not turn on the Auto-Retract at this time.
5. Press and release the EXTEND button. The awning should extend automatically.
6. Press and release the RETRACT button on the Key FOB. The awning should retract automatically.
7. While the awning is retracting, press and release the STOP (center) button on the Key FOB. The awning should stop when the button is pushed.
8. Turn on the Auto-Retract. Repeat steps 6 through 7.

OPERATION

The *Direct Response* system provides the user with a wide range of awning controls with simple pushbutton operation. The standard operation is straight-forward with the buttons clearly labeled. Each is described below. These buttons operate the same with or without the auto-retract system turned on.

All function buttons are press and release. The auto-functions continue until the awning is fully extended/retracted or when the stop button is pressed. The ON/OFF and Auto Retract buttons are press ON/press OFF.

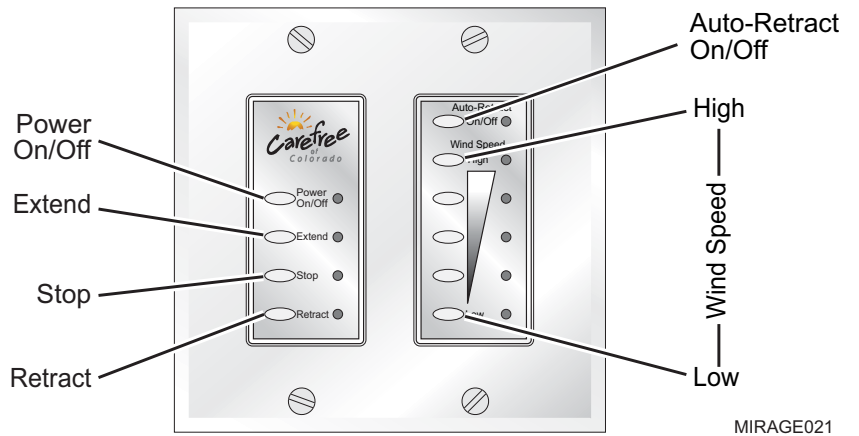


Figure 11. *Direct Response* Pushbutton Controls.

Power ON/OFF....Press ON, Press OFF. The power switch must be on before any awning functions can be used. When the power is ON, the LED will illuminate.

⚠CAUTION

EXCEPT WHEN THE AUTO-RETRACT SYSTEM IS ACTIVE, IT IS STRONGLY RECOMMENDED THAT THE POWER SWITCH BE SET TO OFF WHENEVER THE AWNING IS NOT BEING OPERATED. THIS ACTS AS A SAFETY TO PREVENT THE AWNING FROM BEING ACCIDENTLY OPENED UNEXPECTEDLY.

Extend.....Press and release. The awning will extend out to the full extension and stop automatically. When the button is pushed, the LED will illuminate and stay on until another function is activated.

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

Stop.....Press and release. During extend and retract functions, the operator may stop the awning by pressing this button. When the button is pushed, the LED will illuminate and stay on until another function is activated.

RetractPress and release. The awning will retract and stop automatically when the awning is fully retracted. When the button is pushed, the LED will illuminate and stay on until another function is activated.

The function LEDs (extend, retract and stop) perform a dual function. When the button is pressed, the LED illuminates. The LED stays illuminated during the selected operation and after the awning has fully extended or retracted. This provides an indicator of the awning position. When the stop button is pressed, the LED will illuminate and stay on until a function is pressed. If on, it indicates that the awning is partially extended/retracted.

NOTE: When 110VAC power is removed from the system, the controller does not retain previous positioning information. When power is restored, positioning information is updated when the first function is initiated.

⚠CAUTION

AT STARTUP (110VAC APPLIED) DO NOT PRESS THE RETRACT BUTTON TO UPDATE THE POSITIONING INFORMATION. THIS CAN CAUSE THE MOTOR TO RUN IN AN OVER CURRENT MODE. IF THIS OCCURS, THE MOTOR'S THERMAL PROTECTION DEVICE MAY SHUT OFF THE MOTOR AND THE OPERATOR MUST WAIT APPROXIMATELY 15 MINUTES FOR THE MOTOR TO COOL OFF, BEFORE OPERATING THE AWNING. TO PROPERLY SET THE POSITIONING INDICATOR, PUSH THE EXTEND BUTTON, ALLOW TO RUN FOR 1 SECOND THEN PRESS THE STOP OR RETRACT BUTTON.

THE AUTO-RETRACT SYSTEM

The *Direct Response* system detects awning motion caused by windy conditions. The user is able to set the sensitivity and may have to experiment to find the best setting for the user's preferences.

The system operates by gauging the motion of the awning's leading edge. When persistent motion exceeds the factory preset threshold value for 2 seconds or longer, the system will automatically retract the awning. The pushbutton controls allow the user to choose between 5 factory preset sensitivity values (threshold values).

Gust detection is incorporated into the software. When the motion value is suddenly and sharply increased above a safe maximum value, then the 2 second persistence measure is overridden and the awning closes immediately.

To operate the auto-retract system: Turn the power ON; turn the Auto-Retract ON; set the sensitivity to the desired level.

NOTE: If the Auto-Retract LEDs flash when pressed on, this indicates that a motion sensor has been disengaged or otherwise disabled; the affected awning(s) are not protected by the auto-retract system. The awning must be retracted using the command buttons. Immediately contact a Carefree service center for service.

⚠ CAUTION

THE CAREFREE DIRECT RESPONSE 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.

USING THE KEY FOB REMOTE CONTROL

A remote control Key FOB is furnished with the single awning installation. To use: turn system power ON.

NOTE: Power ON/OFF and the Direct Response can only be operated at the master control panel.

Extend... Press and release. The awning will extend out to the full extension and stop automatically.

Retract... Press and release. The awning will retract and stop automatically when the awning is fully retracted.

Stop..... Press and release. During extend and retract functions, the awning may be stopped by pressing this button.



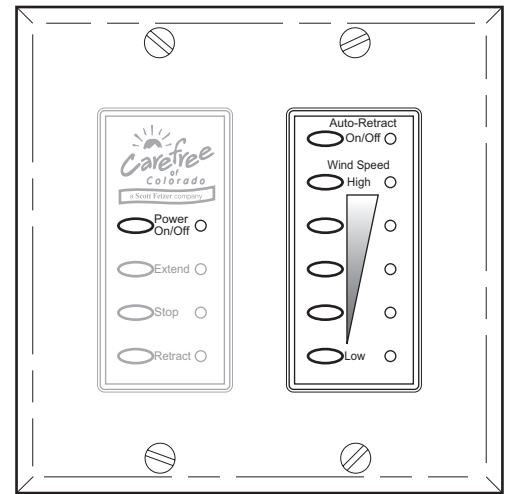
KEY FOB BATTERY

The Gray Button remote uses a flat 3V Lithium Battery (p/n CR2032) that should provide a long period of service. To access: carefully pry off the back of the case. Lift the circuit board out then slide the old battery out of the battery holder and slide a new battery in. The + should face away from the circuit board.

The Key FOB remote w/ antenna uses a battery (Radio Shack p/n 23-279 or equivalent) that should provide a long period of service. To access: Remove the small screw from the back of the case and carefully snap off the back. Lift the old battery out and insert the new battery.

Batteries are available through your local battery outlets.

Battery life is dependent on frequency of use, environmental conditions and condition of remote.



MIRAGE026

Figure 12. Auto-Retract Controls.

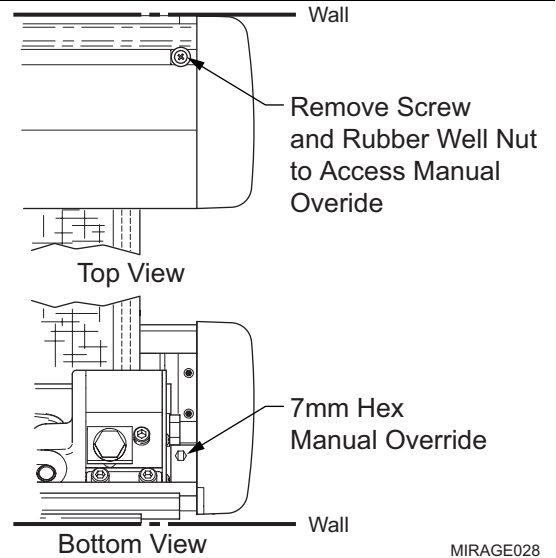
MANUAL OVERRIDE

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 13. 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.

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.

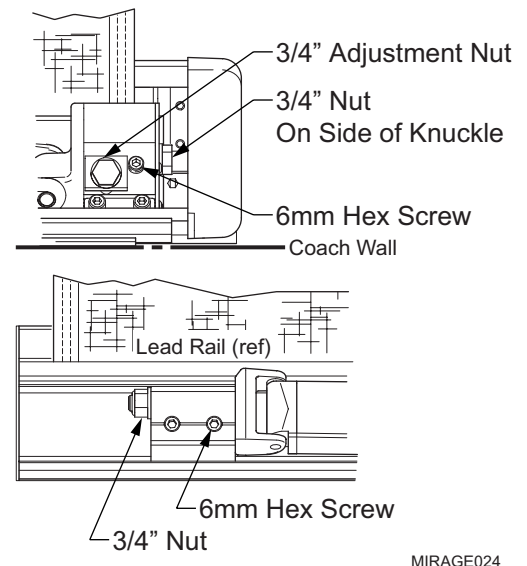
1. Extend the awning fully.
2. On one end, loosen the 6mm hex screw located on the spring arm knuckle.
3. SLIGHTLY loosen the 3/4" nut on the side of the knuckle.
4. Turn the 3/4" adjustment nut located on the bottom of the knuckle. CLOCKWISE raises the pitch, COUNTERCLOCKWISE lowers the pitch.

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 coach wall.
9. When the lead rail adjustments are completed, tighten the 3/4" nut on the side of the knuckles.



MIRAGE024

Figure 14. 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. The “IN” limit is NOT USED when the *Direct Response* system is installed.

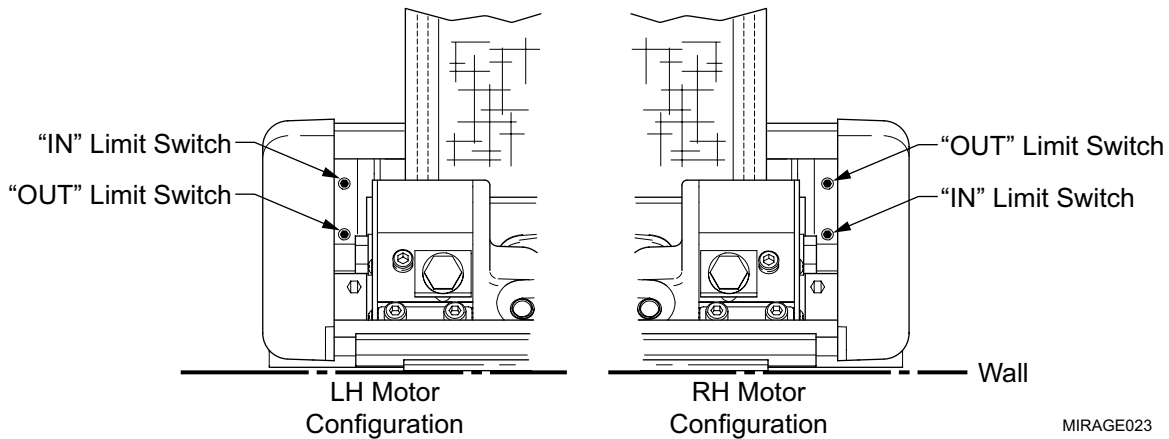


Figure 15. Motor Limit Switches.

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

NOTE: The “IN” limit switch is not adjusted when the Direct Response system is installed. The system electronics monitor the motor operation and shuts the motor off when the awning is fully retracted.

If the IN limit switch is accidentally adjusted, the motor may shut off before the awning is fully closed. If this occurs, turn the IN adjustment screw clockwise. It is not necessary that the screw matches the closed position. The electronics control the closed position.

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

