

WINDOW AND OVER THE DOOR (OTD) AWNINGS

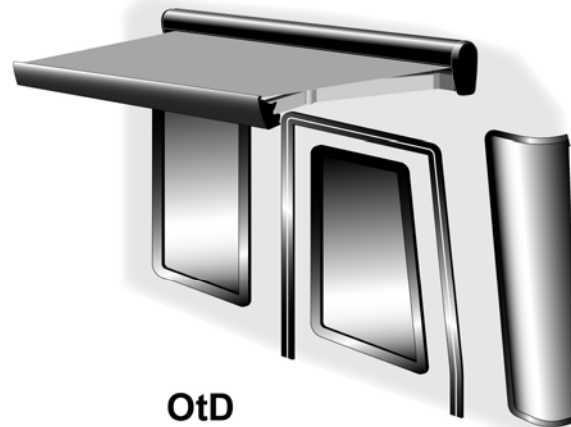


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PROPRIETARY STATEMENT

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The information contained in this manual pertains to the current configuration of the models listed on the title page. Earlier model configurations may differ from the information given. Carefree of Colorado reserves the right to cancel, change, alter or add any parts and assemblies, described in this manual, without prior notice.

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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 battery or power source 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.
- When using fasteners, use care to not over tighten. Soft materials such as fiberglass and aluminum can be "stripped out" and lose the ability to grip and hold.

Reference Publications located @ www.carefreeofcolorado.com:

- | | |
|------------|-----------------------------|
| 052549-001 | Marquee Installation Manual |
| 052549-201 | Marquee Owner's Manual |
| 052549-301 | Marquee Service Manual |

PRODUCT OVERVIEW

The Marquee Window and OtD (Over the Door) Awnings are state of the art lateral arm awnings. When retracted, the housing provides protection against the elements while the streamlined styling blends in with the coach side wall. The full tension canopy fabric allows the awning to be partially or fully extended for best shade coverage. No vertical arms interfere with coach sidewalls, custom graphics or equipment that may be mounted on the sidewalls.

Awning Specifications:

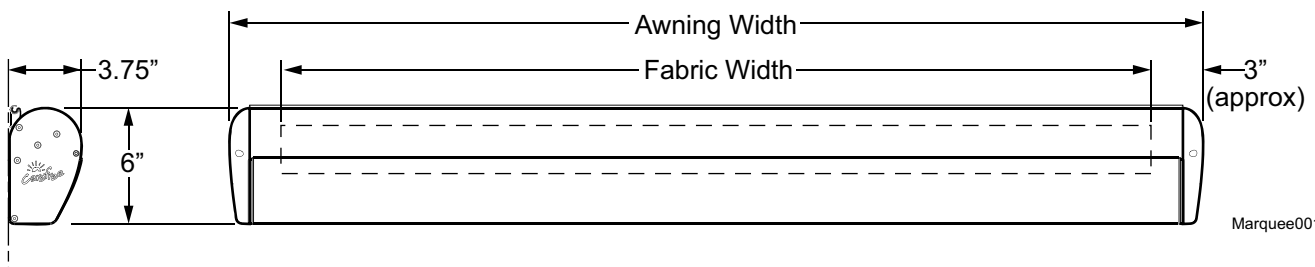
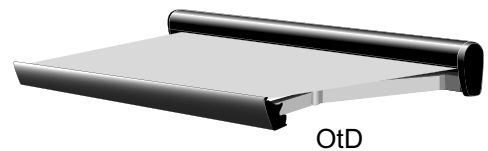
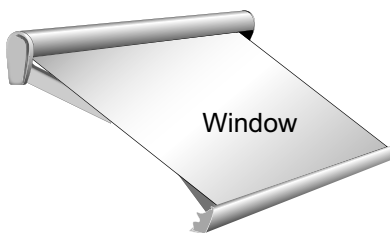
- Fully retractable and self storing;
- The sealed awning motor operates on standard 12VDC (range 10VDC to 14VDC);
- Fabric is woven acrylic;
- Case and frame are constructed of high-strength aluminum extrusions, protected with a polyester paint finish;
- Stainless steel fasteners and hardware.

EXTENSION:	36"	AVAILABLE WIDTHS:	<i>OtD</i> 50", 54", 60", 66", 72" <i>Window</i> 50", 54", 60", 66", 72", 7', 8', 9', 10' 11', 12' & 13'
PITCH:	<i>OtD</i> 3° <i>Window</i> 33°	<i>Values are approximate and may vary for individual installations</i>	

LEADING EDGE POSITION ACTUATION AND CONTROL		
<i>Power:</i>	Lateral Arm Spring	
<i>Minimum Tension</i>	Open	
<i>Position Control:</i>	<i>Motorized:</i>	Roll Out/In Controlled by Electrical Motor

MOTOR SPECIFICATIONS		
<i>Motor Type:</i>	Tubular	
<i>Power:</i>	12VDC	<i>Minimum:</i> 8VDC <i>Output:</i> 30 Watts
	<i>Nominal Current:</i> 2.5Amps	<i>Max Current:</i> 14Amps (stall @ min voltage)
<i>Power Source:</i>	Motor and controls are routed and hardwired into the vehicle's 12V system	
<i>Torque</i>	<i>Continuous:</i> 6Nm/4.5 ft-lbs.	<i>Tightening:</i> 18Nm/13.2 ft-lbs.
<i>Speed</i>	15 rpm	

COLORS AVAILABLE	
<i>Case</i>	Standard: White, Black Custom: Champagne and Pewter
<i>Fabric</i>	Woven Acrylic Fabric (refer to sales literature for colors available)



CANOPY REPLACEMENT

1. Open the awning several inches to expose the arm elbows.
2. (Refer to Detail A) Using a minimum 1/2" rope, firmly tie the elbows of the spring arms together, do not use bungee cords. When tying the rope, use a non-slip knot such as a square knot or equivalent.

⚠ CAUTION

FAILURE TO SECURE THE LEAD RAIL AS DESCRIBED WILL ALLOW THE SPRING ARMS TO UNEXPECTEDLY EXTEND OUT POSSIBLY CAUSING PERSONAL INJURY AND DAMAGE TO THE AWNING.

3. Use the extend button to unroll the canopy until the fabric slot in the tube is aligned with the awning case opening.
4. Disconnect power to the awning.
5. Remove the idler side end cap and lead rail end plate and set aside.
6. On the opposite end of the lead rail, remove the fabric retaining screw (middle screw) from the end plate.

NOTE: It will be necessary to firmly support the roll bar and keep it from coming out of the case and off of the motor during the next steps.

7. From the idler end of the rollbar, simultaneously slide the old canopy out of the roller tube and lead rail.
8. Inspect the slots in the roll bar and lead rail. Clean and deburr as required. Lightly spraying the inside of the slots with a dry silicone lubricant will aid in sliding the new fabric in.
9. Slide the new canopy into the lead rail and roller. Both edges must be done at the same time. Orient the fabric so that the large polycord goes into the lead rail, the smaller polycord goes into the roll bar. The hem should be on the down side.
10. Center the canopy into the slots of the rollbar and lead rail.
11. Remove any support material from the rollbar and attach the case end cap.
12. Restore power to the awning and roll the canopy onto the rollbar. The fabric rolls under the roll bar. Ensure the fabric rolls evenly onto the rollbar without wrinkling or folding.
13. Once the fabric is rolled taut, remove the rope used to tie the arms together.
14. Extend the awning.
15. Attach the lead rail end plate using the top and bottom screws only.
16. Center the canopy into the slots of the rollbar and lead rail.
17. Hold the fabric in place and attach using the fabric retaining screw (middle screw) through one lead rail end plate.
18. On the opposite end of the lead rail, stretch the fabric smooth and attach using the fabric retaining screw (middle screw) through the end plate.
19. After replacing the canopy, it will be necessary to adjust the motor limits. Follow the procedure on page 7.

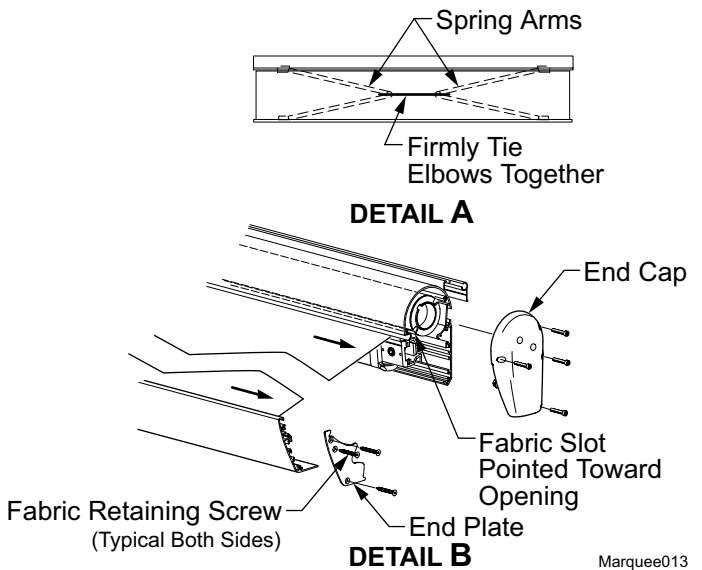


Figure 1. Canopy Replacement.

SPRING ARM REPLACEMENT

⚠ CAUTION

THE SPRING ARM IS UNDER TENSION TO OPEN. USE EXTREME CARE TO FIRMLY HOLD THE SPRING ARMS DURING ASSEMBLY AND DISASSEMBLY TO AVOID ANY SUDDEN OR UNEXPECTED MOVEMENT BY THE ARM. SERIOUS PERSONAL INJURY AND /OR PROPERTY DAMAGE COULD OCCUR.

NOTE: On replacement arms, the connector assemblies are not included and must be ordered separately if the parts are to be replaced.

The following procedure requires two people.

1. Open the awning to the maximum extension or as wide as possible. This is to minimize the spring tension in the arms during this procedure.
2. Disconnect power to the awning.
3. Use a scaffold, ladder or other means to firmly support the lead rail.
4. (refer to Detail A) At the lead rail, remove the e-ring and rotation pin from the arm and connector assembly.

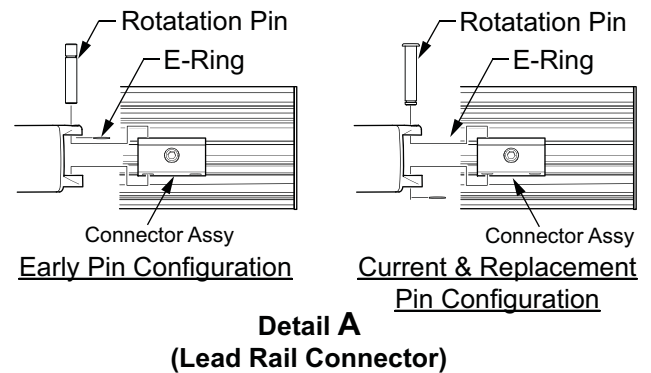
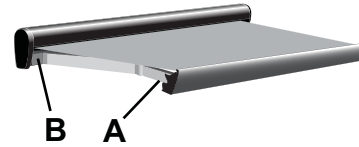
NOTE: For early configurations, the e-ring is located between the arm clevis and the connector. Newer arms and replacements use a stepped pin with the e-ring located at the end of the pin.

5. Firmly grasp the spring arm and allow the arm to extend to its maximum length outside the lead rail. Have a second person hold or otherwise support the unattached end.
6. (refer to Detail B) Inside the case, remove the 6-32 x .25 set screw from the case connector and save.
7. Remove the rotation pin and arm from the awning.
8. Remove the bushings from the flanges from the arm.
9. If replacing the lead rail connector or case connector, go to page 4 then return to step 10.
10. Firmly hold the ends of the new arm assembly and remove the shipping ties. Allow the arm to slowly open to its maximum extension.

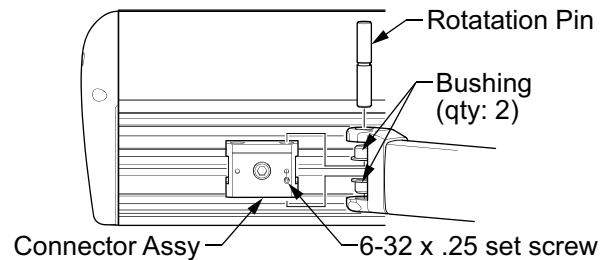
⚠ CAUTION

WHEN THE ARM IS CLOSED, IT CAN OPEN WITH SIGNIFICANT FORCE. USE CARE WHEN OPENING THE ARM.

11. Insert the two bushings into the rear flanges of the new arm assy.
12. Lift the new arm up and position the rear arm flanges over the case connector.
13. Slide the rotation pin through the arm flanges and case connector. Align the groove in the pin with the set screw hole in the connector bracket.
14. Secure the pin in place with the 6-32 x .25 set screw removed previously.
15. Carefully bend the arm and place the front flanges of the arm over the lead rail connector.
16. Attach the arm using the rotation pin and e-ring removed previously. The e-ring goes into the groove of the pin and between the top of the connector and upper flange.
17. Restore power and test operation.



Detail A
(Lead Rail Connector)



Detail B
(Case Connector)

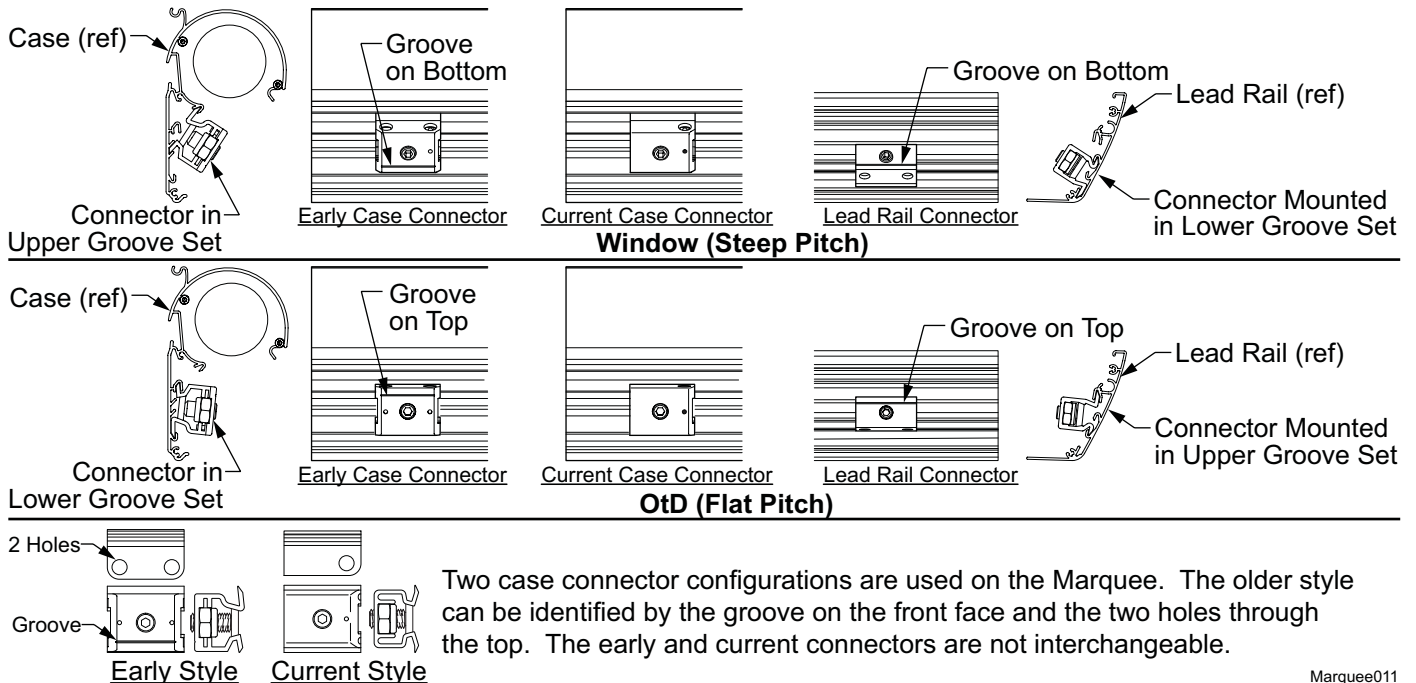
Figure 2. Arm Replacement.

Marquee010

Replacing the Lead Rail Connector

(Refer to Figure 3)

1. Carefully mark the location of the existing connector in the lead rail. Make note of the bracket orientation.
2. Remove the lead rail end plate.
3. Loosen the large hex screw in the center of the bracket and slide the out bracket out of the lead rail.
4. Insert the new connector assembly into the lead rail and position at the marks made previously.
5. Tighten the securing screw.
6. Attach the lead rail end plate.



Marquee011

Figure 3. Spring Arm Connector Placement.

Replacing the Case Connector

(Refer to Figure 3)

1. Carefully mark the location of the existing connector in the case. Make note of the bracket orientation.
2. Remove the end cap. (Refer to details on page 2)
 - For the idler side, remove the screws and slide the end cap off of the roll bar idler and set aside. It will be necessary to support the rollbar.
 - For the motor side, remove the end cap screws and slide the end cap and motor out from the case and rollbar about 3"-4". It will be necessary to support and hold the roll bar when separating the motor.

⚠ CAUTIONS

WHEN PULLING THE MOTOR OUT OF THE CASE, THE SERVICING TECHNICIAN MUST USE CARE TO NOT BREAK OR DAMAGE THE MOTOR CABLES.

WHEN PULLING THE MOTOR, DO NOT LET THE ROLLBAR COME OUT MORE THAN 1"; OTHERWISE THE ROLLBAR IDLER WILL DISENGAGE FROM THE OPPOSITE END PLATE. IF THIS OCCURS, REINSERT THE IDLER INTO THE ENDPLATE BEFORE CONTINUING.

3. Loosen the clamping screw on the connector and slide the old connector out of the case.
4. Insert the new connector assembly into the case and position at the marks made previously.
5. Tighten the clamping screw.
6. Reinstall the end plate. Ensure that the idler pin of the roll bar is properly seated. Ensure that the motor and crown are properly seated in the rollbar.
7. Reinstall the end caps.
8. Return to step 10 on the previous page.

MOTOR REPLACEMENT

This operation can be done while the awning is mounted on the RV. Use care to not damage the walls etc.

1. Disconnect power to the awning.
2. If the awning is extended: (Refer to Detail A) Carefully push the lead rail toward the case so that the arms collapse. While holding the lead rail in this position, firmly tie the elbows of the spring arms together. Use a minimum 1/2" rope - do not use bungee cords. When tying the rope, use a non-slip knot such as a square knot or equivalent.

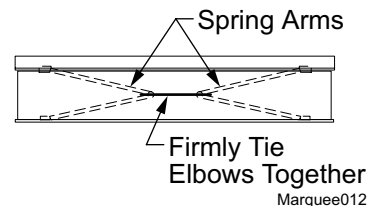


Figure 4. Tying the Arms.

3. If the awning is closed: Firmly brace the lead rail in the closed position. A second person can hold the lead rail steady during the disassembly process.

⚠ CAUTION

FAILURE TO SECURE THE LEAD RAIL AS DESCRIBED WILL ALLOW THE SPRING ARMS TO UNEXPECTEDLY EXTEND OUT POSSIBLY CAUSING PERSONAL INJURY AND DAMAGE TO THE AWNING.

4. Remove the 4 screws holding the end cap to the case, do not remove the motor attach screws at this time.
5. Pull the end cap and motor partially out from the awning case.

⚠ CAUTIONS

WHEN PULLING THE MOTOR OUT OF THE CASE, THE SERVICING TECHNICIAN MUST USE CARE TO NOT BREAK OR DAMAGE THE MOTOR CABLES.

WHEN PULLING THE MOTOR, DO NOT LET THE ROLLBAR COME OUT MORE THAN 1"; OTHERWISE THE ROLLBAR IDLER WILL DISENGAGE FROM THE OPPOSITE END PLATE. IF THIS OCCURS, REINSERT THE IDLER ONTO THE ENDPLATE BEFORE CONTINUING.

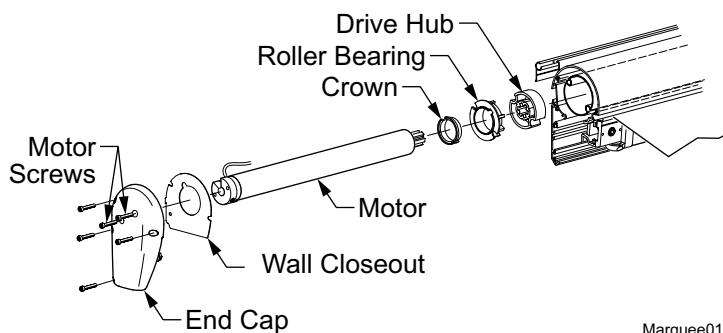


Figure 5. Replacing the Motor.

6. Disconnect the motor wires from inside the coach and pull out or clip the motor wires. If cutting the motor wires be sure to leave enough wire that can be stripped and spliced.
7. Pull the motor, crown, roller bearing and drive hub out of the roll bar and remove the attaching screws holding the motor to the end cap. Make note of the motor orientation on the end cap.

NOTE: If the awning is closed when the motor is removed the spring arms will try to open. Support the roll bar and allow the awning to open slowly then secure the arms by tying the elbows together as described in step 2.

8. Remove the crown, roller bearing and drive hub from the old motor and install on the new motor.
9. Attach the new motor to the end plate paying attention to match the orientation from the old motor.

NOTE: To improve the motor mounting, the motor screws have been lengthened to increase the screw thread engagement. The original screws were M4 x 20mm. Current production and replacement screws are M4 x 25mm. The motor replacement kit (R001531) includes new screws and washers.

- When replacing a motor that is attached using the shorter screws, discard the existing screws and attach the motor using the longer screws and the washers included with the motor replacement kit.
 - The current production end caps have been upgraded to use the longer screw. If replacing a motor with the longer screws, DO NOT use the washers. The motor is attached with just the screws.
10. Partially slide the new motor assembly into the roll bar. Ensure that the motor drive gear and crown are properly seated inside the roll bar.

11. Route the new motor wire into the coach and attach (refer to wiring diagram on page 7 or if the wires were cut, splice the new wires to the existing wires. Ensure that the wire colors match (i.e. red to red and black to black). Use a quality silicone sealant to seal the wire hole into the coach.

NOTE: If splicing the wires, allow enough lead wire from the motor so that the completed splices can be pushed into the wall before sealing. There is not clearance room in the case for the wires and splices.

12. Attach the end cap to the case.

13. Remove the roll bar support.

14. To test, restore power then extend and retract the awning.

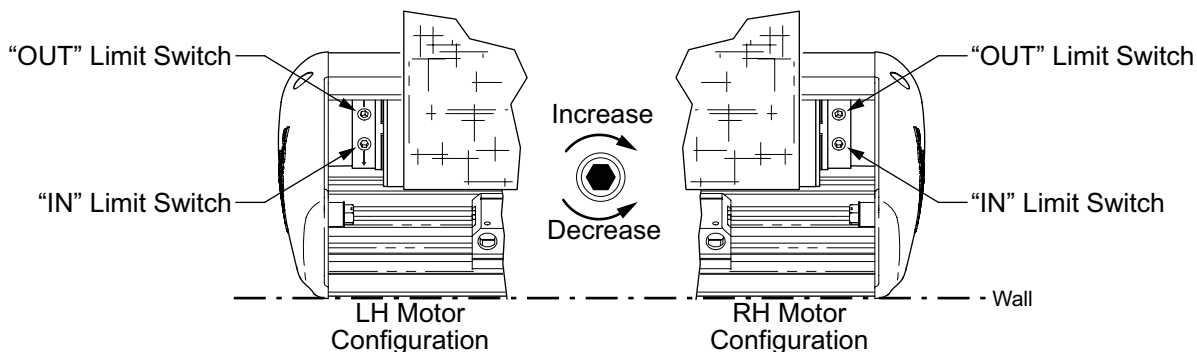
15. After replacing the motor, it will be necessary to adjust the motor limits. Follow the procedure on page 7.

SETTING THE MOTOR LIMITS

The motor limit switches are preset at the factory for best operation of the awning. The "OUT" limit switch stops the motor when the awning is fully extended. The "IN" limit switch stops the motor when the awning is fully retracted.

NOTE: On original installation motors, the "IN" limit switch is sealed with a tamper proof compound to prevent accidental adjustment. If it is necessary to adjust the switch in an existing motor, it will be necessary to remove the compound.

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



View Looking Up from Below Awning
Figure 6. Motor Limit Switches.

Marquee008

Adjusting the OUT Limit Switch

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 must 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 retracts correctly.

WIRING DIAGRAMS

SWITCH INSTALLATION – NO RELAY

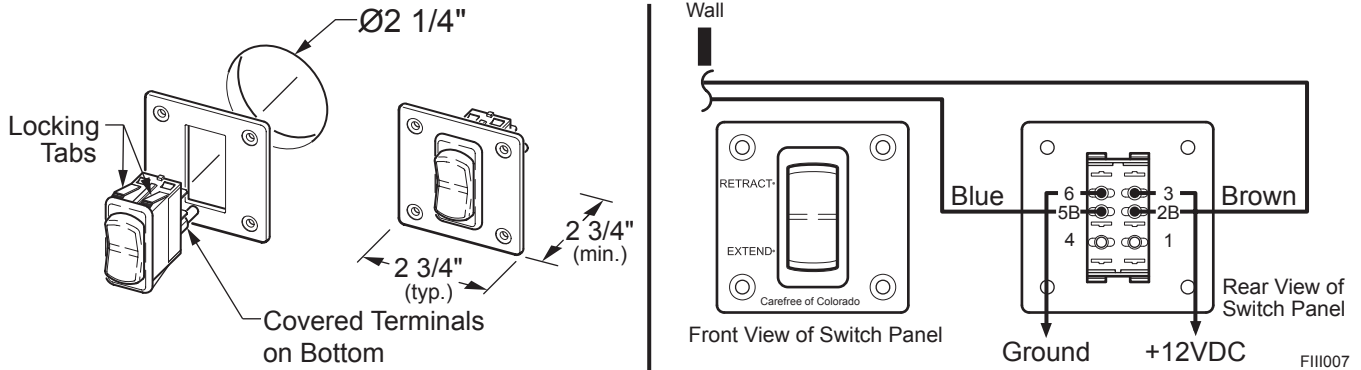


Figure 7. Standard Switch Installation.

Carefree switch shown. Installer furnished switches may have different appearance.

Switch characteristics:

- Double Pole, Double Throw (DPDT)
- Momentary ON, center OFF (Momentary ON – OFF – Momentary ON)
- Polarity reversal between the two ON positions

SWITCH INSTALLATION W/ RELAY MODULE

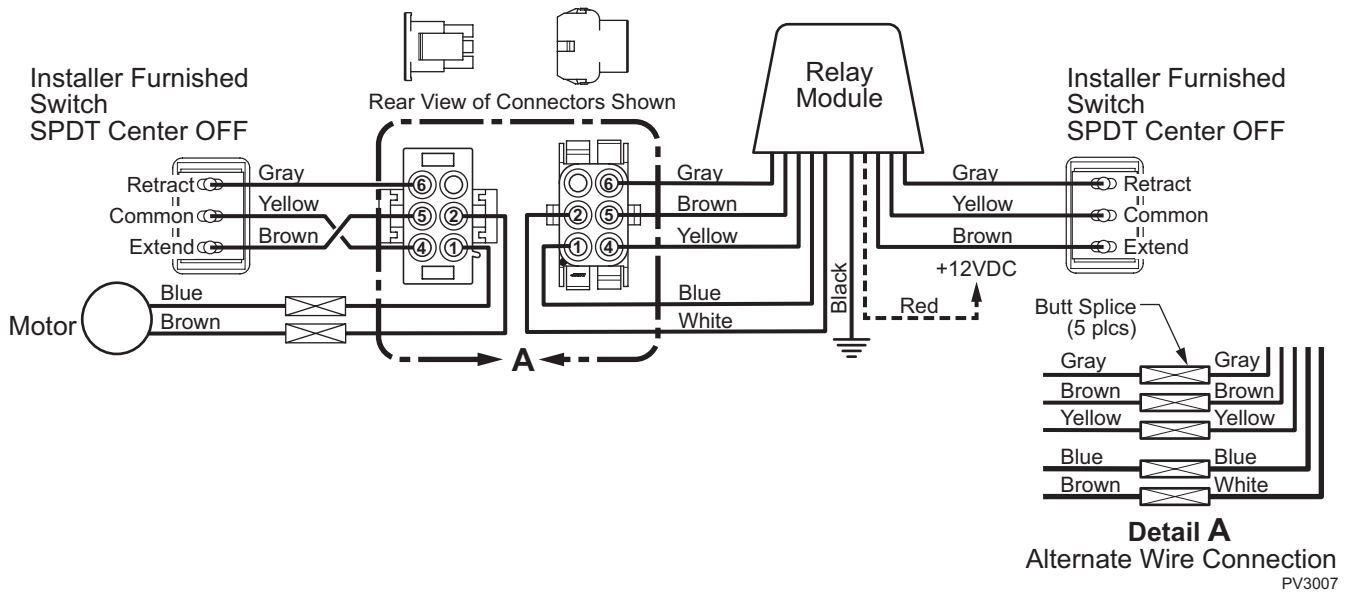


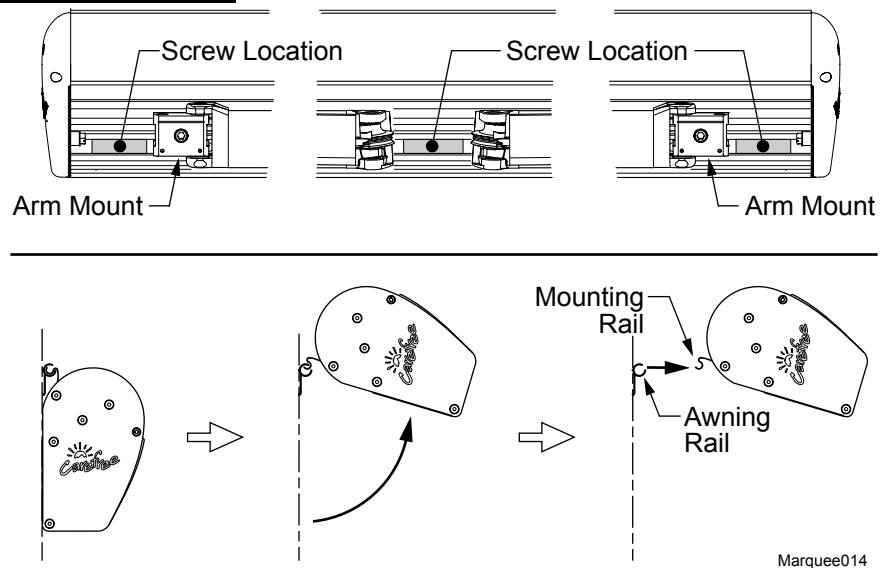
Figure 8. Relay Module Installation.

The relay module allows installations to use up to two (2) single pole switches (not available from Carefree).

Switch characteristics:

- Single Pole, Double Throw (DPDT)
- Momentary ON, center OFF (Momentary ON – OFF – Momentary ON)

REMOVING THE AWNING



Marquee014

1. Open the awning
2. Remove the three screws that are through the bottom of the case.
3. Close the awning.
4. Disconnect power to the awning.
5. Disconnect the motor wires from the switch.
6. Rotate the awning upward in the awning rail.
7. Pull the wire out of the RV wall.
8. Using one person at each end of the awning, continue rotating the awning upward until the awning mounting rail slides out of the awning rail on the RV.

STANDARD MAINTENANCE

Maintaining a Carefree Awning is easy. Just follow these basic steps:

- Always operate the awning according to the instructions.
- Periodically check that the fasteners are tight. Tighten if necessary.
- Keep the awning fabric and arms clean.

FABRIC CARE

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. 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 the awning frame. 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°F.
 - Air-dry only. Never apply heat to the fabric.
 - Always allow the fabric to dry thoroughly before rolling up the awning.

Mildew

Mildew is a fungus growth that looks like dirt. Vinyl coated polyester fabrics are mildew resistant because of a chemical biocide in the vinyl coating. Under ordinary conditions, mildew will not appear. However, in areas where high temperature and humidity are common, mildew can be a problem and required 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.

Pooling

When water collects on the top of the fabric, this is known as "pooling". This can occur during inclement weather or if a running air conditioner discharges over the awning. The water is dumped when the awning is retracted. It is recommended that if water accumulates on the top; retract the awning in steps (8"-12") to dump the water. This will help prevent the fabric from stretching or distorting.

The effects of wind and rain on an awning are unpredictable. Severe damage to the awning and the vehicle may result. IF WIND OR EXTENDED PERIODS OF RAIN ARE EXPECTED, RETRACT THE AWNING.

ARM CARE

The best method of keeping the arms operating smoothly is to clean them.

Periodically wash out the channels with running water (i.e. a hose) to keep them clean. If the channels still do not slide easily, lightly spray the joints with a dry silicone lubricant, after the arms have been cleaned and dried thoroughly.

Hardware Maintenance

- Replace any parts that become damaged.
- Periodically check all mounting hardware, screws, lags, etc., and re-tighten when necessary.

MOTOR MAINTENANCE

- Check all wiring and connections for wear. Repair when needed.
- Check that the sealant is providing a good seal and no water is accumulating on the wiring.

PART NUMBER LISTING

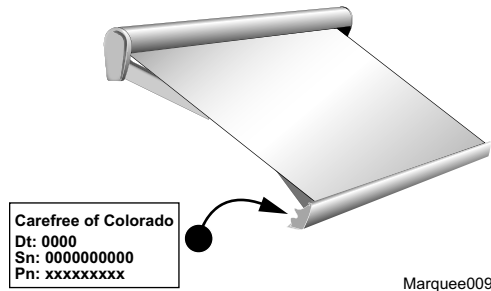
PART NUMBER CONFIGURATION

Example: Part Number: 4 8 0 5 0 C W 2 5 W P

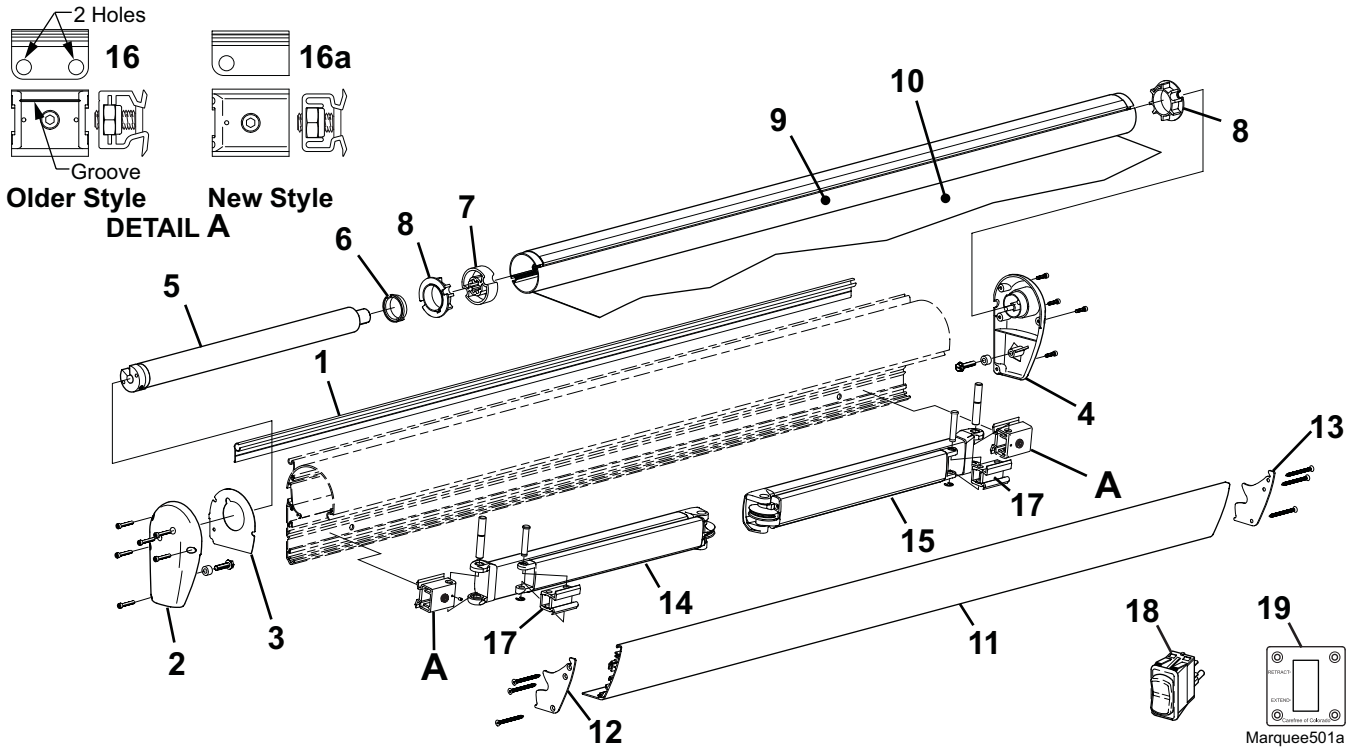
48	050	CW	25	WP		
Marquee Box Awning	50"	Toast (acrylic)	White	Window	LH (Default)	
STYLE CODE	SIZE (IN INCHES)	CANOPY COLOR	CASE COLOR	EXTENSION	MOTOR LOCATION	
48 = All Marquee Awnings	050 = 50"	ACRYLIC Refer to sales order information for specific codes and colors available	STANDARD & CUSTOM Refer to sales order information for specific codes and colors available	WP = Window Awning (Steep Pitch) DP = OtD (Flat Pitch)	No Code = LH Motor (Default) R = RH Motor (special order)	
	054 = 54"					DP & WP
060 = 60"	WP ONLY					
066 = 66"						
072 = 72"						
084 = 84"						
096 = 96"						
108 = 108"						
120 = 120"						
132 = 132"						
144 = 144"						
156 = 156"						

PART NUMBER LOCATION

The part number/serial number is located on the inside of the lead rail.



ILLUSTRATED PARTS LIST



ITEM	PART NUMBER	DESCRIPTION	NOTES
1	0157xxx	Awning Rail	
2	R037301-00X	End Cap	LH 2
3	R054017-001	Wall, Closeout	
4	R037300-00X	End Cap	RH 2
5	R001531	Motor Kit, Tubular	4
6	R060448-001	Crown	4
7	R040555-001	Drive Hub	4
8	R040723-001	Roller Bearing	4
9	6103xx	Roller Tube	
10		Canopy Only	Refer to Canopy Order Form
11	R001362XXX-xxx	Lead Rail	
12	R036450-00X	End Plate, Lead Rail	LH 2
13	R036464-00X	End Plate, Lead Rail	RH 2
14	R012530-232	Spring Arm Assy	LH
15	R012530-231	Spring Arm Assy	RH
16	R019804-001	Connector Assy, Case	Window Awning 3
	R019804-002	Connector Assy, Case	OtD 3
16a	R019853-001	Connector Assy, Case	WA & OtD 3
17	R019799-001	Connector Assy, Lead Rail	
18	R001116	Switch, DPDT, Momentary Contact	Ext/Ret
19	R040517-001	Plate, Single Switch	
20	R019475-001	Switch & Plate Kit (contains items 18 & 19)	
21	R019819-001	Owners Kit (includes manual & mounting screws)	not shown

- Notes:
1. XXX = Color; xxx = Length in inches.
 2. 00X = 005 for White; 006 for Black
 3. Two case connectors configurations are used on the Marquee (item 16 - original, item 16a - current). Refer to Detail A, the older style can be identified by the groove on the front face and the two holes through the top. The new and old connectors are not interchangeable. Identify the correct connector before ordering.
 4. Motor Kit (item 5) includes items 6, 7 and 8.

