



**RV**

**MANUAL/MOTORIZED  
STANDARD/AUTO-RETRACT/DIRECT RESPONSE**

*These instructions apply to all models listed. Procedures unique to a specific model are labeled appropriately.*

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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

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

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**⚠️ 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.

## Reference Publications located @ [www.carefreeofcolorado.com](http://www.carefreeofcolorado.com):

052979-003	Mirage Installation Manual
052979-201	Mirage, Manual and Motorized, Owner's Manual
052979-211	Mirage, Direct Response, Owner's Manual
052979-301	Mirage Service Manual

Electric components in this product have been tested by the following agencies:



**Motor:** UL Recognized (USA)  
CSA Approved (Canada)  
**Controls:** UL Listed (USA & Canada)



## PRODUCT OVERVIEW

The Mirage Patio Awning offers the coach owner an awning system that provides as much or as little shade as required. The canopies are housed in an aluminum case that easily blends in with the coach side wall. The canopy is made from Sunbrella® fabric.

Each unit is equipped with Mirage lateral support arms that are the strongest available on the market. No vertical arms interfere with coach sidewalls or equipment that may be mounted on the sidewalls or sidewall graphics. 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).

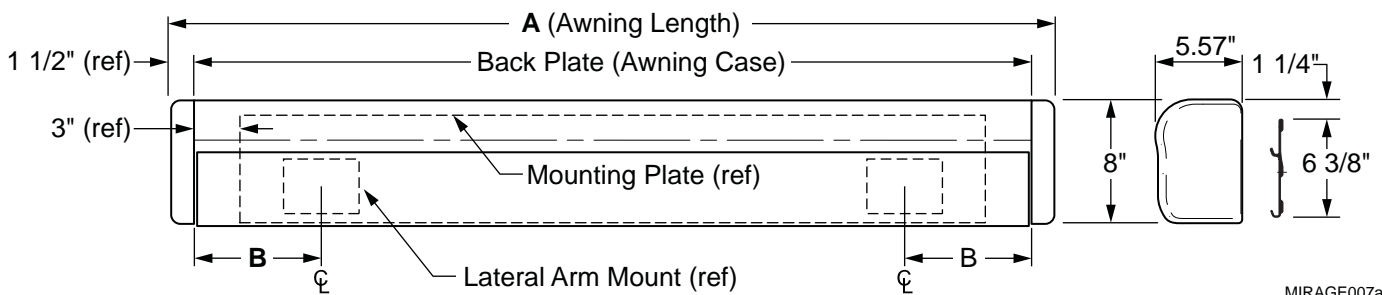
The unique and innovative 110V electronic control system provides Carefree's *Direct Response* system with interior pushbutton controls for standard extend/retract functions. When power is ON, the auto-retract system is engaged to automatically retract the awning in windy conditions. Sensitivity can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

## MIRAGE PATIO AWNING SPECIFICATIONS

The following information is for reference only.

<b>LENGTH</b>	12' – 21' [3.66m - 6.4m] (in 1 foot [.305m] increments)		
<b>EXTENSION:</b>	10' [3m]	DROP @ MIN. PITCH: 10" [25cm]	DROP @ MAX. PITCH: 35" [89cm]
<i>Values are approximate, actual dimensions may vary with specific installations.</i>			
<b>SUPPORT:</b>	Lateral Spring Arms 2 for 12' - 18'; 3 for 19' - 21'		
<b>MOTOR:</b>	Tubular	Available in LH or RH configurations	
	Power:	120V, 60Hz, 2.5A	Torque: 60nm    Speed: 14 RPM
<b>CONTROLS:</b>	Direct Response™		
<b>COLOR:</b>	Hardware:	White or Black	
	Fabric:	Woven Acrylic (refer to sales literature for colors)	

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	

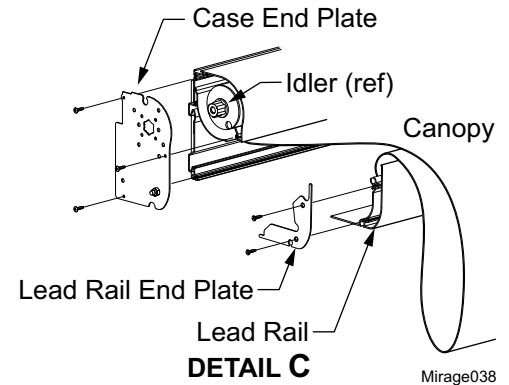
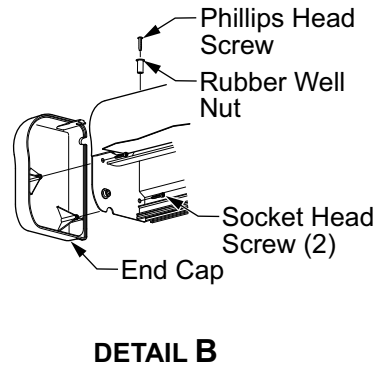
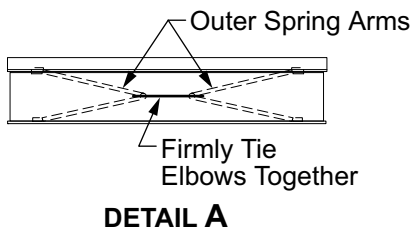


MIRAGE007a

Figure 1. General Description - Mirage Patio Awning.

## CANOPY REPLACEMENT

During the following instructions, use the manual override procedure on page 26 to open and close the awning.



1. Disconnect power to the awnings.
2. Open the awning several inches to expose the arm elbows.
3. (refer to Detail A) Using a minimum 1/2" rope, firmly tie the elbows of the outer 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.**

4. Remove the fabric retainer screws in the leading rail and set aside.
5. (refer to Detail B) Remove the phillips head screw and rubber well nut from the top of the case and the (2) socket head screws that attach the end cap from the inside of the awning case.
6. Use the manual override (refer to page 26) to unroll the canopy until the slot in the tube is aligned with the awning case opening.
7. Remove the end plate from the lead rail assembly.
8. Remove the end plate from the awning case.

**NOTE: It will be necessary to firmly support the roller tube and keep it from coming out of the case.**

9. (refer to Detail C) From the idler end of the rollbar, simultaneously slide the old canopy out of the roller tube and lead rail.
10. Inspect the slots in the roller tube and lead rail. Clean and deburr as required. Lightly spraying the inside of the slot with a dry silicone lubricant will aid in sliding the new fabric in.
11. 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 roller tube. The hem should be on the down side.
12. Center the canopy into the slots of the rollbar and lead rail.
13. Remove any support material from the rollbar and install the case and lead rail end plates.
14. Use the manual override to roll the canopy onto the rollbar, the material rolls under the roller tube. Ensure the fabric rolls evenly onto the rollbar without wrinkling or folding.
15. Once the fabric is snugly rolled up, remove the rope used to tie the arms together.
16. Restore power to the awning.
17. Extend and retract the awning several times. This will allow the canopy to self-center.

**NOTE: It may be necessary to adjust the motor limits. Refer to page 27.**

18. Install the fabric retainer screws in the lead rail.
19. Install the end cap.

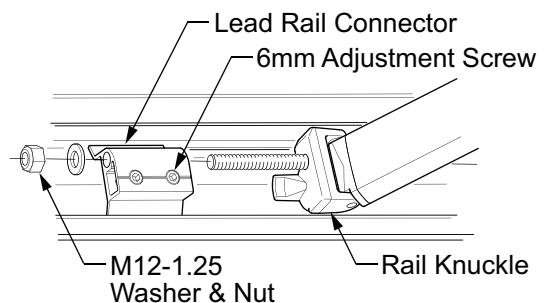
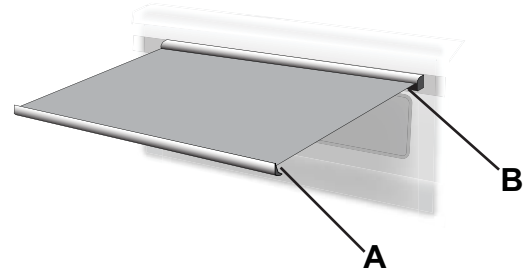
## SPRING ARM REPLACEMENT

**⚠ 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.

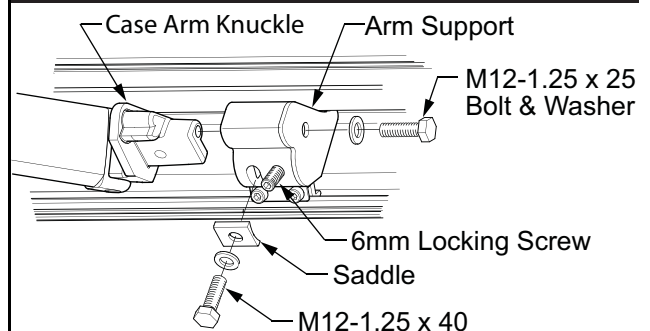
### REPLACING THE ARM

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. For arms with the sensor cable mounted, carefully remove the sensor cable from the wire channel on top of the arm. Use care to not bend, break or compromise the cable.
5. (refer to Detail A) At the lead rail, remove the M12-1.25 lock washer and nut from the arm and lead rail connector.
6. Slightly loosen the 6mm adjustment screw. DO NOT loosen the outer set screw.
7. Firmly grasp the spring arm and slide the lead rail arm knuckle out of the lead rail connector. Allow the arm to extend to its maximum length outside the lead rail. Have a second person hold or otherwise support the unattached end.
8. (refer to Detail B) Inside the case, remove the M12-1.25 x 25 bolt and washer from the side of the arm support. Remove the M12-1.25 x 40 bolt, washer and saddle from the front of the support.
9. Slightly loosen the 6mm locking screw.



**Detail A (Lead Rail)**



**Detail B (Case)**

Mirage037

10. Firmly grasp the spring arm and slide the case arm knuckle out of the arm support. Set the old arm aside.
  11. If the arm has wire channel mounted for the sensor cable, carefully remove the channel from the arm to reuse on the new arm.
  12. On the replacement arm assembly, remove the lead rail connector and arm support bracket from the arm knuckles.
- NOTE:** The lead rail connector and arm support bracket are included in case there is damage to the existing brackets. If there is no damage, it is not necessary to replace them with the arm.
13. If replacing the lead rail connector or case arm support, go to page 4 then return to step 14.
  14. Using two people firmly hold 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.**

*Tip:* Use a floor or ground cover and place one knuckle and arm half on the ground. Have one person firmly hold the arm half on the ground while the second person carefully opens the other arm half.

15. Lift the arm assembly into position.
16. (refer to Detail B) Slide the case arm knuckle into the support inside the case and secure with 1 each M12-1.25 x 25 bolt and washer and 1 each M12-1.25 x 40 bolt, washer and saddle. Do not tighten at this time.
17. (refer to Detail A) Insert the lead rail arm knuckle into the lead rail connector and secure with 1 each M12-1.25 bolt, washer and nut. Do not tighten at this time.
18. If the sensor cable is routed on the replacement arm:
  - a. Attach a piece of wire channel to the top of each section of the arm. If using new channel, cut each piece slightly shorter than the arm extrusion. Attach the channel using double sided tape.
  - b. Route the cable through the wire channel. At the arm joints, arch the cable slightly to avoid binding. Do not twist the cable.

*Tip: Use a small tool, such as a flat bladed screwdriver to gently spread open the channel then insert the cable. Do this for the entire length of the channel until the cable is fully inserted.*
19. Adjust the arm pitch as required. Follow the procedure for pitch adjustment on page 26.
20. Extend and retract the awning several times. This will allow the canopy to self-center.

**NOTE: It may be necessary to adjust the motor limits. Refer to page 27.**

#### *To Replace the Lead Rail Connector:*

1. Remove the lead rail end plate.
2. Carefully mark the location of the existing connector.
3. Loosen the 6mm securing screw and slide the existing connector from the lead rail. This is the outer hex screw.
4. Insert the new connector assembly into the lead rail and position at the marks made previously.
5. Tighten the outer 6mm securing screw.
6. Attach the lead rail end plate.

#### *To Replace the Case Arm Support*

1. Carefully mark the location of the existing support.
2. Remove the end cap if installed.
3. Remove the end plate.
  - For the idler side, slide the end plate off of the roller tube idler and set aside. (Refer to details on page 2.)
  - For the motor side, Support the roller tube and carefully pull the motor and end plate out 3"-4". (Refer to details on page 5.)

### CAUTIONS

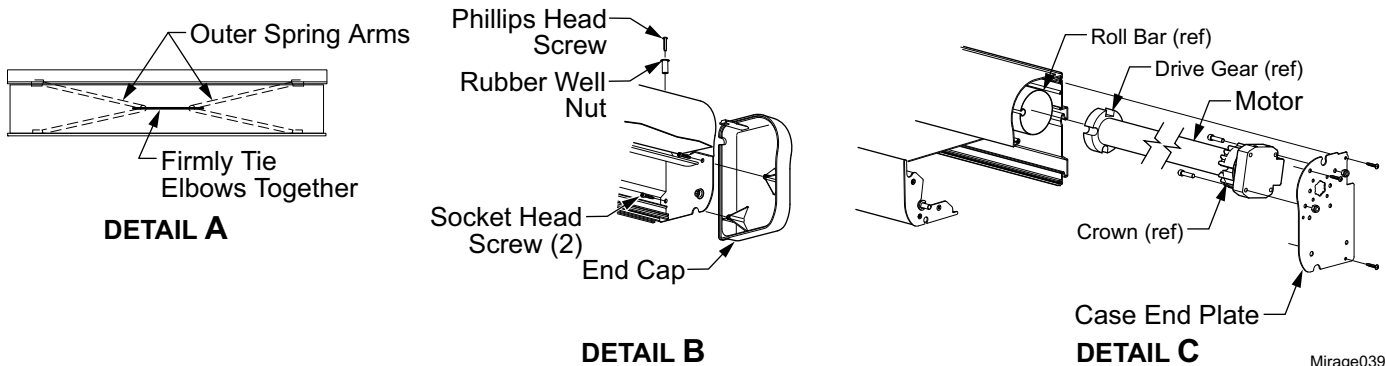
**WHEN PULLING THE MOTOR OUT OF THE CASE, THE SERVICING TECHNICIAN MUST USE CARE TO NOT BREAK OR DAMAGE THE MOTOR CABLES.**

**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 (REFER TO ILLUSTRATION UNDER CANOPY REPLACEMENT ON PAGE 2 FOR IDLER DESCRIPTION).**

4. Loosen the clamping screws on the support and slide the old support out of the case.
5. Insert the new support assembly into the case and position at the marks made previously.
6. Tighten the clamping screws.
7. *For an idler side replacement.* Reinstall the end plate. Ensure that the idler pin of the roller tube is properly seated.
8. *For a motor side replacement.* Press the motor back into the rollbar. Ensure that the idler pin of the roller tube is properly seated on the opposite side. Reattach the end plate to the case.
9. Reinstall the end caps if previously installed.
10. Return to step 14 on the previous page.

## MOTOR REPLACEMENT

During the following instructions, use the manual override procedure on page 26 to open and close the awning.



1. Disconnect power to the awning.
2. Open the awning several inches to expose the arm elbows.
3. (refer to Detail A) Using a minimum 1/2" rope, firmly tie the elbows of the outer 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.**

4. (refer to Detail B) Remove the phillips head screw and rubber well nut from the top of the case and the (2) socket head screws that attach the end cap from the inside of the awning case.

**NOTE: It will be necessary to firmly support the roller tube to keep it from coming out of the case.**

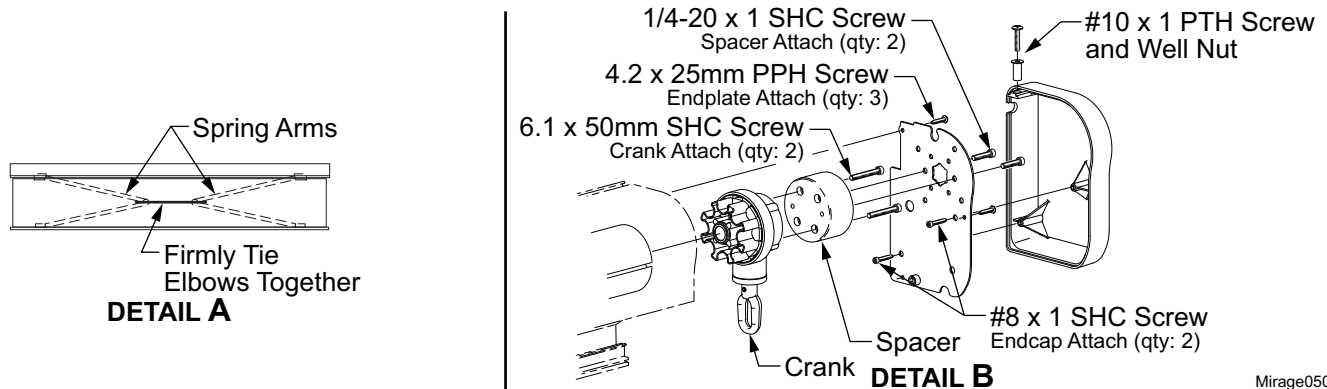
5. (refer to Detail C) Remove the attaching screws then pull the end plate and motor partially out from the awning case.

### ⚠ 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 INTO THE ENDPLATE BEFORE CONTINUING (REFER TO ILLUSTRATION UNDER CANOPY REPLACEMENT ON PAGE 2 FOR IDLER DESCRIPTION).**
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 out of the roller tube and remove the attaching screws holding the motor to the end plate. Make note of the motor orientation on the end plate. Do not discard the hardware.
  8. Remove the drive gear and crown 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.
  10. Slide the new motor assembly into the roller tube. Ensure that the motor drive gear and crown are properly seated inside the roller tube.
  11. Route the new motor wire into the coach and attach (refer to wiring diagrams on pages 15 - 19 for the appropriate control system) 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). **All wiring must conform to NEC (National Electrical Code) and local codes.**
  12. Attach the end plate to the case.
  13. Remove the roller tube support.
  14. To test, restore power then extend and retract the awning.
  15. It will be necessary to adjust the motor limits. Refer to page 27.
  16. After completing the adjustments, install the end cap.

## HAND CRANK REPLACEMENT

**NOTE:** Replacement crank assemblies have a shorter extension shaft. The eyelet does not extend below the case. If replacing an original crank, it is also necessary to replace the crank handle (crank handle p/n R001564).



Mirage050

1. Open the awning 12" inches to expose the arm elbows.
2. (refer to Detail A) Using a minimum 1/2" rope, firmly tie the elbows of the outer 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. (refer to Detail B) Remove the phillips head screw and rubber well nut from the top of the case and the (2) socket head screws that attach the end cap from the inside of the awning case.

**NOTE:** It will be necessary to support the roller tube to keep it from coming out of the case. A rag can be stuffed between the tube and case to temporarily hold the roller tube in place.

4. Remove the attaching screws then pull the end plate and hand crank out from the awning case and roller tube.

### ⚠ CAUTION

**WHEN REMOVING THE CRANK, DO NOT LET THE ROLLER TUBE 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 (REFER TO ILLUSTRATION ON PAGE 2 FOR IDLER DESCRIPTION).**

5. Remove the screws holding the spacer to the end plate. Set parts aside and save.
6. Remove the screws holding the crank to the spacer. Note the hole position and orientation of the parts. Set parts aside and save.
7. Attach the new crank to the spacer using the screws removed previously.
8. Attach the spacer to the end plate paying attention to match the orientation.
9. Calibrate the hand crank.

- For LH cranks:

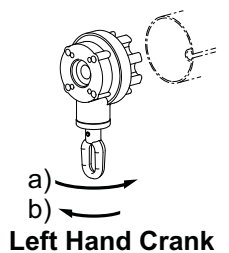
- a) Twist the eyelet clockwise until it stops.
- b) Twist the eyelet counterclockwise 4 turns plus (+) 4.5 turns for every 6" the awning was opened in step 1. (see sample below).

- For RH cranks:

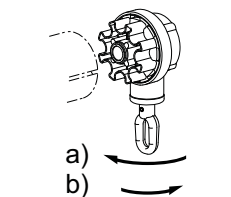
- a) Twist the eyelet counterclockwise until it stops.
- b) Twist the eyelet clockwise 4 turns plus (+) 4.5 turns for every 6" the awning was opened in step 1. (see sample below).

- Sample of calculating turns: If awning was opened 12" in step one then the number of turns would be  $4 + (2 \times 4.5) = 13$ .

10. Attach the end plate to the case.
11. Remove the roller tube support.
12. Install the end cap.



Left Hand Crank



Right Hand Crank

Mirage051



## DIAGNOSTICS/TROUBLESHOOTING

The following procedures are intended to aid the service technician to logically resolve operational issues with the Mirage installation. These procedures do not address conditions that may arise with the basic awning installation.

When procedures are system specific, the four electrical systems are designated as:

- System #1**, Direct Connect (No Relay Box) Reference Wiring Diagram - page 15
- System #2**, Switches w/ Relay Control Box Reference Wiring Diagram - page 16
- System #3**, Standard Electronics w/ Optional Auto-Retract Reference Wiring Diagram - page 18
- System #4**, Direct Response Electronics Reference Wiring Diagram - page 19
- System #4**, Direct Response Electronics, Winnebago Reference Wiring Diagram - page 20

### Common Operation Items

1. *For Direct Response:* If the optional ignition lockout is installed, the system will disable the extend function while the vehicle ignition key is in the ON position. Operation will return to normal when the key is OFF.

## ⚠WARNING

**ALWAYS DISCONNECT POWER WHEN CONNECTING OR DISCONNECTING 110VAC WIRES.**

<i>Procedures in this section:</i>	<i>Page</i>
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## SYSTEM TESTS

### *Standard Electronics w/ Optional Auto-Retract*

1. Provide 110VAC and 12DC power to the awning system.
2. At the switch panel, turn the POWER SWITCH to "ON".
3. Press the button to extend the awning. The awning will continue to the maximum extension.
4. Pressing the button again will stop the awning.
5. Press the button a third time and the awning will retract.
6. Set the WIND SPEED switch to 12 mph. Refer to Setting the Wind Speed Sensitivity on page 28.
7. Extend the awning using the PATIO switch.
8. 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.**

9. Repeat steps 7 and 8 two (2) more times with the Wind Speed switch set to a medium value and then to higher value.
10. Repeat steps 7 through 8 with the Power switch set to OFF. The awning should not move.

If the awning does not operate as described:

- If the awning extends, reverse the red and black motor wires. Refer to the wiring diagram.
- If the awning does not stop at maximum extend or retract, it may be necessary to adjust the "in" and/or "out" limit switches. Refer to page 27.
- If the awning does not operate, check the wiring and power according to the wiring diagram.

### TESTING THE REMOTE

1. Turn the power switch to "ON".
2. On the 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 remote; program the remote following the directions on page 28.

### *Direct Response w/ DKS Style Switch Panel*

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 ON/press OFF. The auto-functions will continue until the awning is fully extended/retracted or when the stop button is pressed.

1. While observing the control panel, have a second person initiate 110VAC power to the coach and 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 extinguish. The POWER ON/OFF button disables all functions including Auto-Retract and the optional RF remote if installed. 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 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 rocking motion with the leading edge of the awning. The awning should retract after 2-3 seconds of the motion.
10. *If the optional Ignition Sensor is installed:*
  - 10.1 Partially retract the awning.
  - 10.2 Turn the ignition key ON.
  - 10.3 Press the EXTEND button. The LED should flash for 2 seconds then shut off and the previous function LED will come back on.

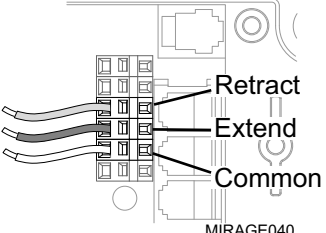
### *Testing the Key FOB*

1. Ensure that the system is OFF at the switch panel.
2. Press each button on the Key FOB. The awning should not move.
3. Turn the system on.
4. Press and release the EXTEND button. The awning should extend automatically.
5. Press and release the RETRACT button on the Key FOB. The awning should retract automatically.
6. While the awning is retracting, press and release the STOP button on the Key FOB. The awning should stop when the button is pushed.

In the charts below, YES is a positive response to the test; NO is a negative response.

<b>D01 THE AWNING DOES NOT OPERATE</b>			
<b>A</b>	Confirm 110VAC power to control box.		
	1. Shut off power source. 2. Open control box. 3. On some early units a fuse is installed on the circuit board (if installed). Check that fuses on circuit boards are intact. 4. Check that 110VAC connections are correct and secure. Refer to correct system schematic.	YES	Power is present; go to test B
		NO	Check vehicle circuits and fuses. Repair as required and retest
<b>B</b>	Confirm awning motor is functioning		
	1 1.1 With power off, disconnect motor wires and AC power in from switches (system #1) or control box. 1.2 Connect awning motor directly to 110VAC power source.  Motor White to Neutral (White) of AC cord Motor Green to Ground (Green) of AC cord Motor Red & Black are Motor Direction Control – connect Red to AC Hot (Black).  1.3 While observing awning, briefly apply power. 1.4 Disconnect power and attach other motor direction control wire (Black) to AC Hot (Black). 1.5 While observing awning, briefly apply power. 1.6 Does awning move when power is applied? <b>Note:</b> If the awning runs but does not extend or retract completely, it may be necessary to adjust the motor limits (refer to page 27).	YES	Awning motor is good, control circuit is defective – test and repair For System #1, 2, 3 – Go to Step C For System #4 – Go to Step D
		NO	Go to step B-2
	2 Test continuity and connections of motor wire between control box and junction box.	YES	Continuity is good, motor is defective – replace
		NO	Repair wire as required and retest
<b>C</b>	Test Control Switches (Systems #1, 2, 3 Only)		
	This test requires the use of a continuity tester. 1. Disconnect wires from switch to be tested. 2. Attach the first probe to the common (center) terminal; attach the second probe to the second terminal. 3. With switch in neutral or off position, does meter indicate an open circuit? 4. Activate switch, does meter indicate a closed circuit? 5. For double direction switches, move the second probe to the third terminal and repeat step 4.	YES	Switches are good, control box is defective – replace <b>NOTE: Relay box for system #2 is no longer available. It will be necessary to replace with system #3 control box and switches. Follow the diagram on page 18.</b>
		NO	If answer to any of question (3 – 5) is no, switch is defective – replace.

**D01 Continued on next page**

<b>D01 THE AWNING DOES NOT OPERATE</b> <i>(continued from previous page)</i>			
<b>D</b>	Test Key pad (System #4 – Direct Response Only)		
	1 Confirm 110VAC power to control box 1.1 Shut off power source. 1.2 Open control box. 1.3 On some early units a fuse is installed on the circuit board. Check that fuses on circuit boards are intact. 1.4 Check that 110VAC connections and splices to board is correct and secure. Refer to system schematic. 1.5 While observing the circuit boards, have power restored. The LEDs on the boards should blink red then green.	YES	Power is present; go to test B
		NO	Check vehicle circuits and fuses. Repair as required and retest
	2 Press the "Power On" button on the touch-pad. The "Power On" LED should illuminate.	YES	Power is on, go to step D-4
		NO	LED does not illuminate, go to step D-3
	3 Check the cable between the switch and control box. As a continuity check, Pin 1 of connector 1 goes to Pin 1 of connector 2; pin 2 goes to pin 2; pin 3 goes to pin 3 and pin 4 goes to pin 4.	YES	Continuity OK; go to step D-4
		NO	Replace cable and retest
	4 Check the function of the Key pad 4.1 On the control board, locate the terminal strip next to the phone cord connectors. 4.2 Insert 3 wires into the terminals shown below 4.3 While observing the awning, short the wire ends between the Common and Extend terminals. Does the awning move? 4.4 Short the wire ends between the Common and Retract terminals. Does the awning move?	YES	Control Board is good, Key pad is defective - replace
		NO	Control Board is defective – replace control box.
		 <p style="text-align: center;">MIRAGE040</p>	

<b>D02 THE AWNING OPERATES DIFFERENTLY THAN THE SWITCH MARKINGS</b> <i>This condition generally occurs during new installations or when major components have been replaced.</i>			
<b>A</b>	Does Awning operate in reverse of the switch plate labeling (i.e. extends when retract is pushed)?	YES	Motor wires from awning are reversed - locate motor wires in the control box, reverse the red and black wires.

<b>D03A AWNING DOES NOT AUTO-RETRACT IN WIND (STANDARD ELECTRONICS)</b>			
<i>NOTE: For standard electronics with the optional auto-retract anemometer; the auto-retract system is always on. Confirm that the sensitivity is set correctly (if set on highest level, system may appear not to function). Setting the sensitivity is in the Owner's manual and on page 28.</i>			
<b>A</b>	Confirm that the retract function works using the PATIO switch	YES	Function works using the switch; go to test B
		NO	Function does not work with switch; go to procedure D01
<b>B</b>	Test Anemometer		
	1 Do the anemometer cups spin freely?	YES	Go to step B2
		NO	Anemometer defective - replace
	2 Test signal from anemometer: 2.1 Remove anemometer wires from control box; 2.2 Place continuity tester between anemometer wires; 2.3 Have a helper slowly turn the anemometer: Does the circuit open and close? It should open and close once for every revolution.	YES	Control Box is defective - replace
		NO	The circuit stays open or stays closed; go to step B3
3 Test the wire continuity between the control box and the anemometer.	YES	Continuity OK; replace anemometer	
	NO	Repair or Replace wires as required	

<b>D03B AWNING DOES NOT AUTO-RETRACT IN WIND (DIRECT RESPONSE)</b>			
<b>A</b>	Press the power on button then press the auto-retract button. Does the auto-retract LED flash?	YES	The flashing LED indicates that the sensor has been disengaged or otherwise disabled. Go to step C.
		NO	Function does not work with switch; go to procedure D01
<b>B</b>	Confirm that the retract function works using the push buttons.	YES	Function works using the switch; go to test C
		NO	Function does not work with switch; go to procedure D01
<b>C</b>	Test Motion Sensor		
	1 Confirm cable is plugged into connector on box marked "Shaker"	YES	Go to step 2
		NO	Correct as required and test.
	2 2.1 Unplug sensor from control box. 2.2 Connect a second sensor into control box. 2.3 Set the control switches for the auto retract function 2.4 Hold the second sensor horizontally and gently move up and down.	YES	Awning retracts; original sensor defective - replace
NO		Awning does not retract; control box defective - replace	

<b>D04A REMOTE DOES NOT OPERATE (STANDARD ELECTRONICS W/ OPTIONAL REMOTE)</b>			
	1	Confirm normal operation with switches	If system does not operate, go to test D01
	2	Confirm batteries in remote are good. Pressing any button on the remote will illuminate the LED indicator on the remote	Replace as needed
	4	Confirm that the receiver is programmed for the remote	-- Refer to "Programming the remote on page 28 and retest. If system does not work; go to step 4
	5	Program a second remote and test	YES 2 <sup>nd</sup> remote works. 1 <sup>st</sup> remote is defective.
			NO 2 <sup>nd</sup> remote does not work; control box receiver is defective - replace

<b>D04B REMOTE DOES NOT OPERATE (DIRECT RESPONSE)</b>			
	1	Confirm normal operation with touch pad	If system does not operate, go to test D01
	2	Check the cable between the RR24 and control box. As a continuity check, Pin 1 of connector 1 goes to Pin 1 of connector 2; pin 2 goes to pin 2; pin 3 goes to pin 3 and pin 4 goes to pin 4. Cable must be plugged into the "BUS" port of controller #1.	YES Cable is OK. Confirm that cable is securely plugged in; go to step 4
			NO Repair or Replace cable as required.
	3	Confirm that the RR24 is programmed for the Remote	-- Refer to "Programming the Receiver" on page 29 and retest. If system does not work; go to step 5
	4	Program a second remote and test	YES 2 <sup>nd</sup> Key FOB works. Replace battery in 1 <sup>st</sup> Key FOB and retest, if no response, 1 <sup>st</sup> Key FOB is defective.
			NO 2 <sup>nd</sup> remote does not work; go to step 6
	5	Replace the Receiver and test. (it will be necessary to program receiver for remote)	YES System works OK. 1 <sup>st</sup> receiver is defective
			NO System does not work. Reinstall 1 <sup>st</sup> receiver; go to step 7
	6	Replace control box	--

## ELECTRICAL

### IMPORTANT NOTICES:

- Failure to follow the wiring instructions in this publication may void the motor 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 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.
- For 110VAC installations, enclosed junction boxes are required for all wire splices and direct connection switch installations. Boxes are required in conformance with prevailing construction codes. The servicing technician or installer is required to furnish the flush mounted, UL approved electrical duplex boxes where required.

The 110V electronic control system provides the user with simple pushbutton controls for the awnings installed. Four configurations are available:

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### WARNING

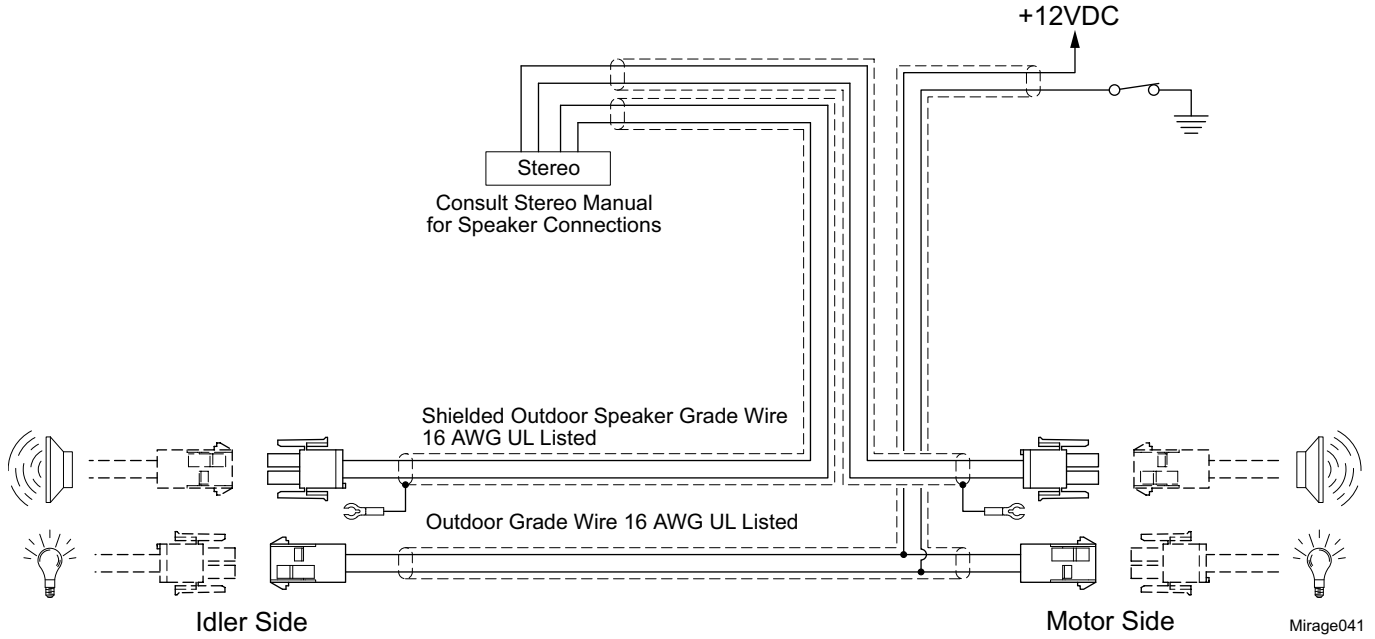
**ALWAYS DISCONNECT THE VEHICLE BATTERY AND ELECTRICAL SOURCES BEFORE WORKING WITH ELECTRICAL WIRING AND COMPONENTS.**

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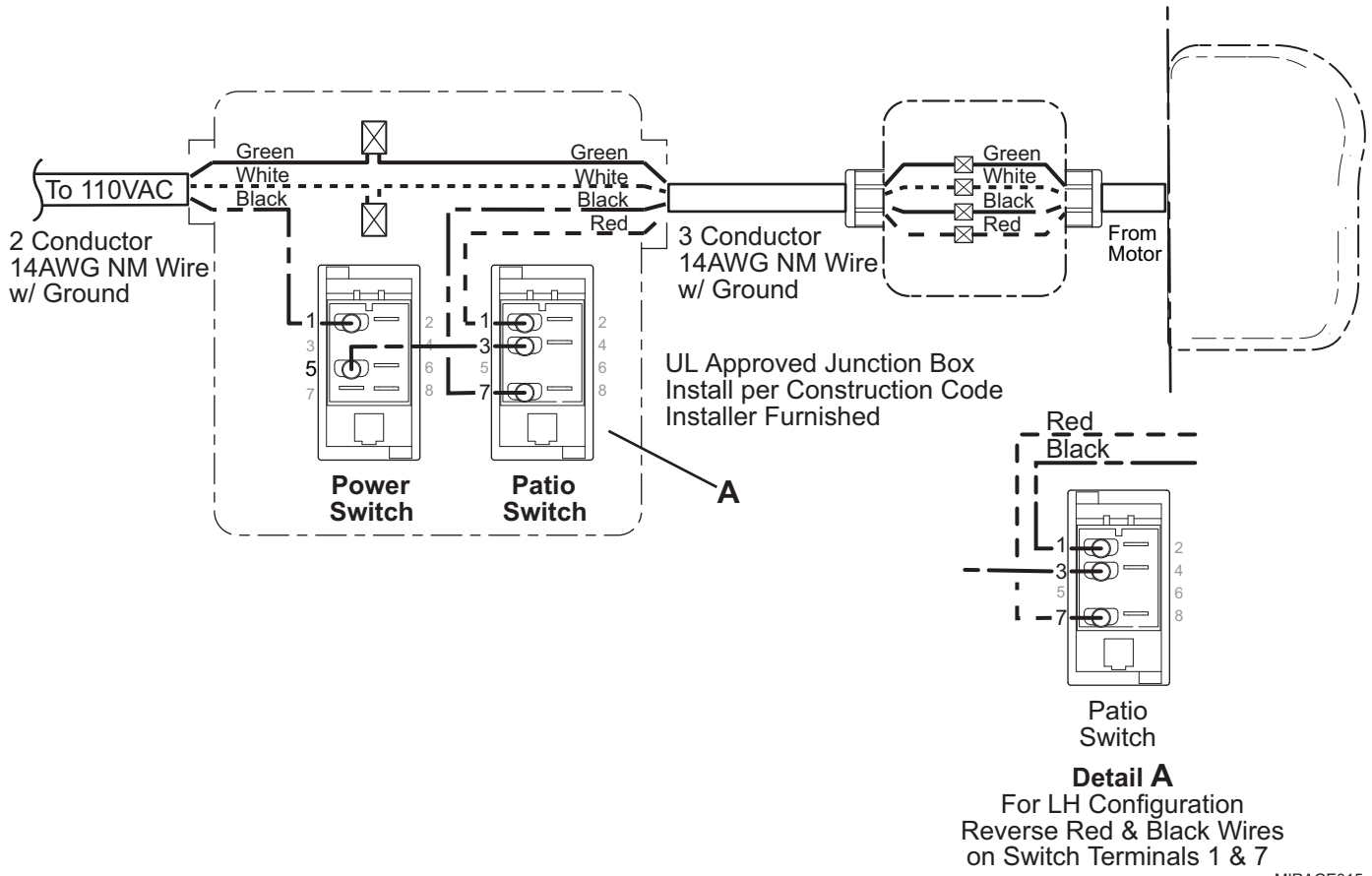
- 1) Direct Connect (reference as system #1). 110VAC is routed directly through the switches to the awning motor.
  - System includes: 1 power switch and 1 patio (extend/retract) switch.
  - This system is no longer offered.
- 2) Optional Relay Box (reference as system #2). 110VAC power is controlled by a relay control box. The switches use a 12VDC signal to control the relays. Switch installation is simplified; the switches do not require a duplex box.
  - System includes: 1 power switch, 1 patio (extend/retract) switch and 1 relay control box.
  - This system is no longer offered.
- 3) Standard Electronics w/ Optional Auto-Retract (reference as system #3). The optional auto-retract system detects adverse wind conditions and retracts the awning. Sensitivity is set by the user.
  - Standard system includes: 1 power switch, 1 patio (extend/retract) switch, 1 control box
  - An optional anemometer is available for the auto-retract system; and
  - An optional remote control is available.
- 4) Direct Response (reference as system #4). 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 windspeed sensitivity setting), motion sensor.
  - An optional RF remote control is available with the *Direct Response* system.
  - An optional ignition lockout is available.
  - 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 cables. Terminated cable is 4-wire RJ11 terminated phone cord (straight, no twist). This does not include 110VAC power in or awning motor power.



WIRING HARNESS – OPTIONAL LIGHT & SPEAKER END CAPS  
(THIS SYSTEM IS NO LONGER AVAILABLE)



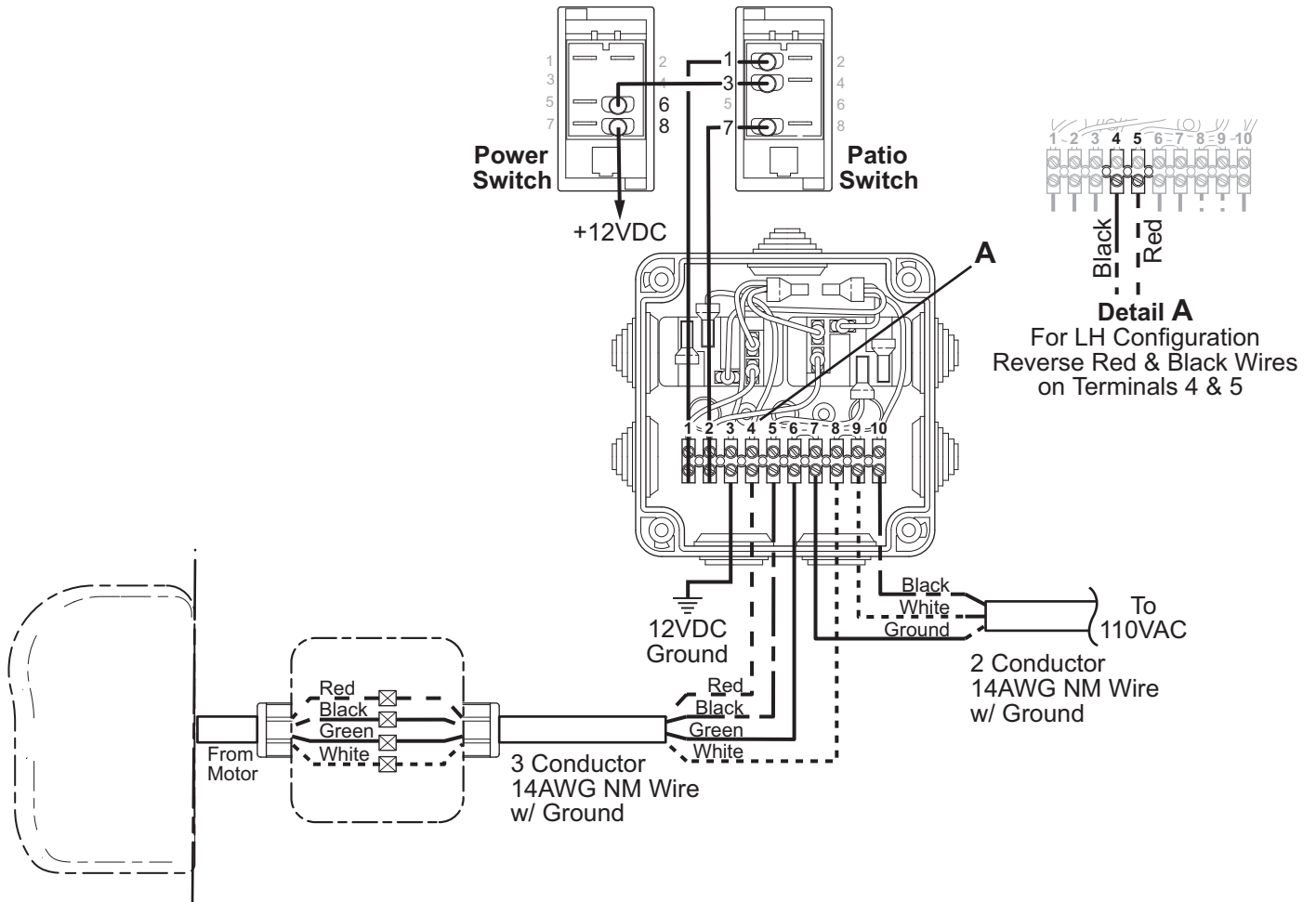
WIRING DIAGRAM - DIRECT CONNECT (NO RELAY CONTROL BOX)  
**SYSTEM #1** (THIS SYSTEM IS NO LONGER AVAILABLE)



MIRAGE015

WIRING DIAGRAM –SWITCHES W/ RELAY CONTROL BOX - PREVIOUS

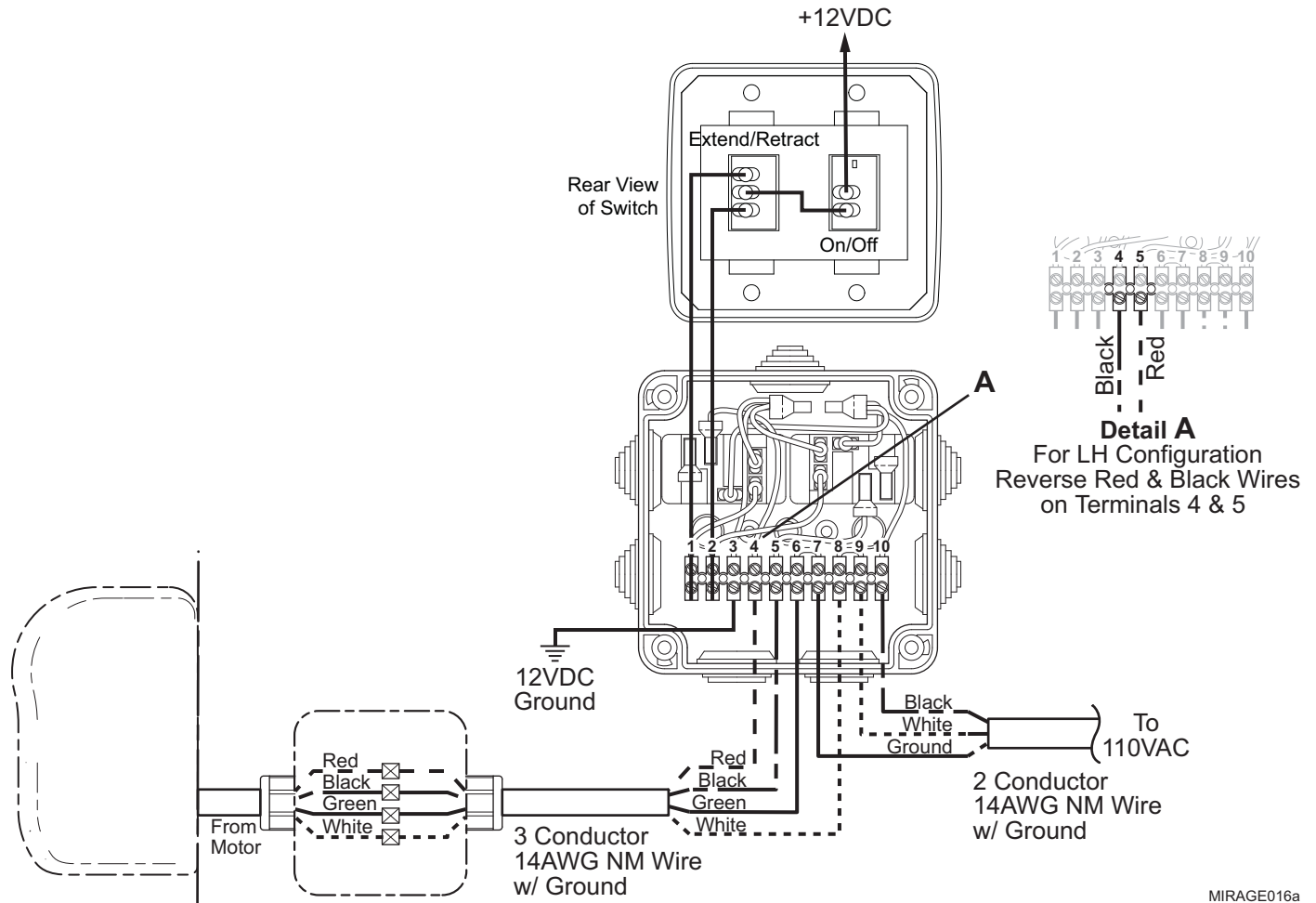
**SYSTEM #2 - The current configuration of this switch configuration has been updated to use R019468-006 switch kit. For switch replacement use R019468-006 kit and the wiring diagram on the next page.**



MIRAGE016

FROM		To (RH CONFIGURATION)		To (LH CONFIGURATION)	
Patio Switch	Terminal 1	Control Box	Terminal 1	Control Box	Terminal 1
	Terminal 7		Terminal 2		Terminal 2
Power Switch	Terminal 6	Patio Switch	Terminal 3	Patio Switch	Terminal 3
	Terminal 8	12VDC Power Source		12VDC Power Source	
Motor	Red	Control Box	Terminal 4	Control Box	Terminal 5
	Black		Terminal 5		Terminal 4
	Ground		Terminal 6		Terminal 6
	White		Terminal 8		Terminal 8
AC Power Source	Ground	Control Box	Terminal 7	Control Box	Terminal 7
	White		Terminal 9		Terminal 9
	Black		Terminal 10		Terminal 10

WIRING DIAGRAM –SWITCHES W/ RELAY CONTROL BOX - CURRENT SYSTEM #2

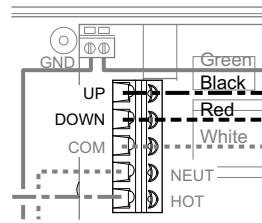
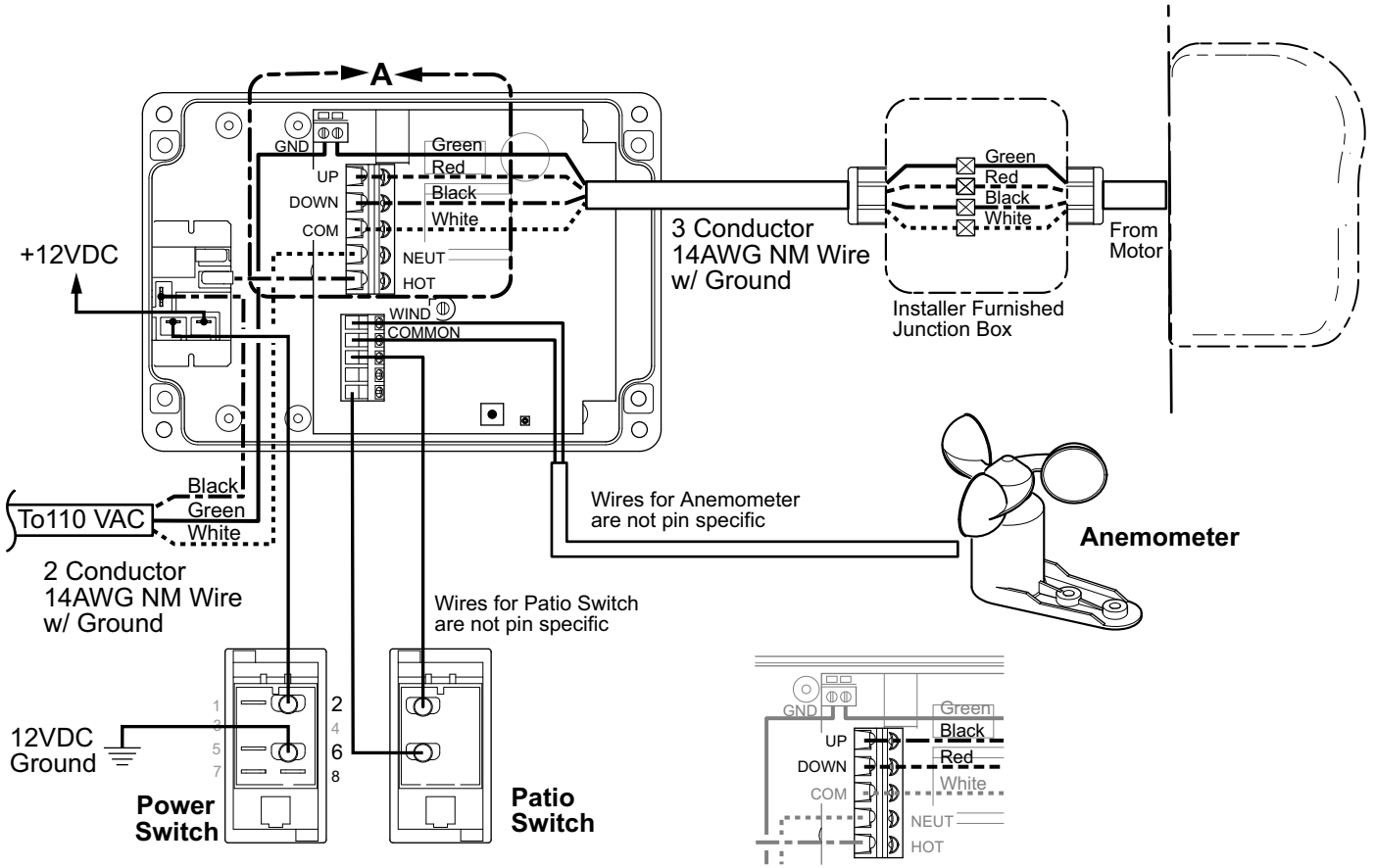


FROM		To (RH CONFIGURATION)		To (LH CONFIGURATION)	
Extend/Retract Switch	Upper Terminal	Control Box	Terminal 1	Control Box	Terminal 1
	Lower Terminal		Terminal 2		Terminal 2
ON/OFF Switch	1st Terminal <sup>1</sup>	Extend/Retract Switch	Center Terminal	Extend/Retract Switch	Center Terminal
	2nd Terminal <sup>1</sup>		12VDC Power Source		12VDC Power Source
Motor	Red	Control Box	Terminal 4	Control Box	Terminal 5
	Black		Terminal 5		Terminal 4
	Ground		Terminal 6		Terminal 6
	White		Terminal 8		Terminal 8
AC Power Source	Ground	Control Box	Terminal 7	Control Box	Terminal 7
	White		Terminal 9		Terminal 9
	Black		Terminal 10		Terminal 10

**NOTES:**

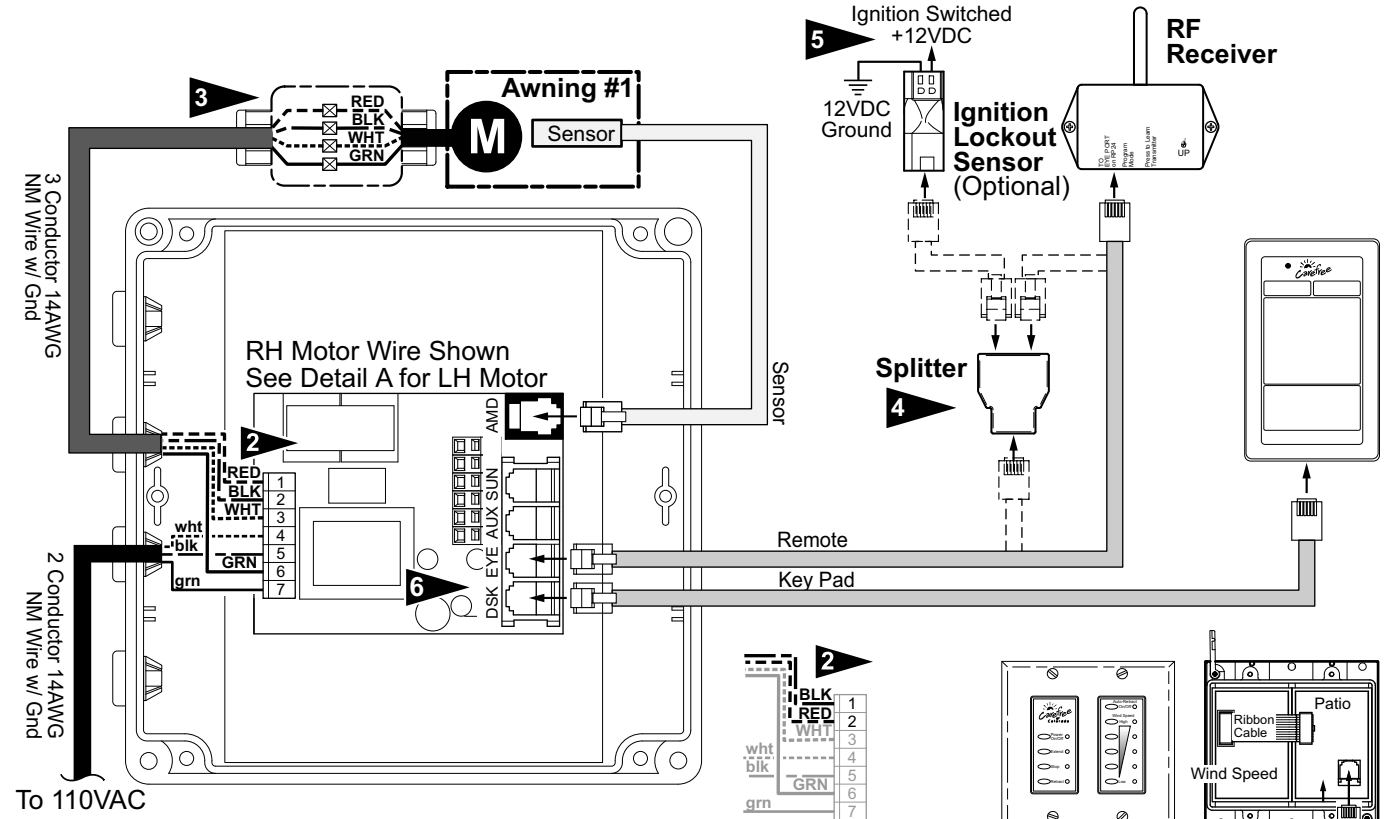
1. Wires to ON/OFF Switch are not pin specific.
2. The SO cable from the 110VAC awning motor can only pass directly through a wall, it can not be laid up in the wall and must be connected to NM wire or individual wires in conduit no more than 6 inches past the point of entry.

WIRING DIAGRAM – STANDARD ELECTRONICS W/ OPTIONAL AUTO RETRACT SYSTEM #3 (THIS SYSTEM IS NO LONGER AVAILABLE)



Mirage031

WIRING DIAGRAM – DIRECT RESPONSE ELECTRONICS



NOTES:

- 1 Wire Legend:
  - Red
  - Black
  - White
  - 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) Black; 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.
- 4 Splitter is used only when Optional Lock-Out Sensor is installed. Connect RF Receiver directly to "EYE" if Lock-Out is not installed.
- 5 Wires for the Ignition Lock-Out Sensor are not pin specific.
- 6 For early units: Label "DSK" was "ACC"; Label "EYE" was "BUS"; Label "AMD" was "SHAKE"

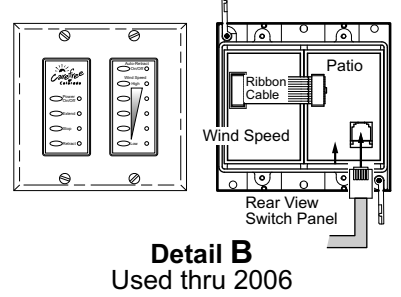
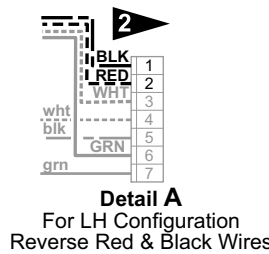


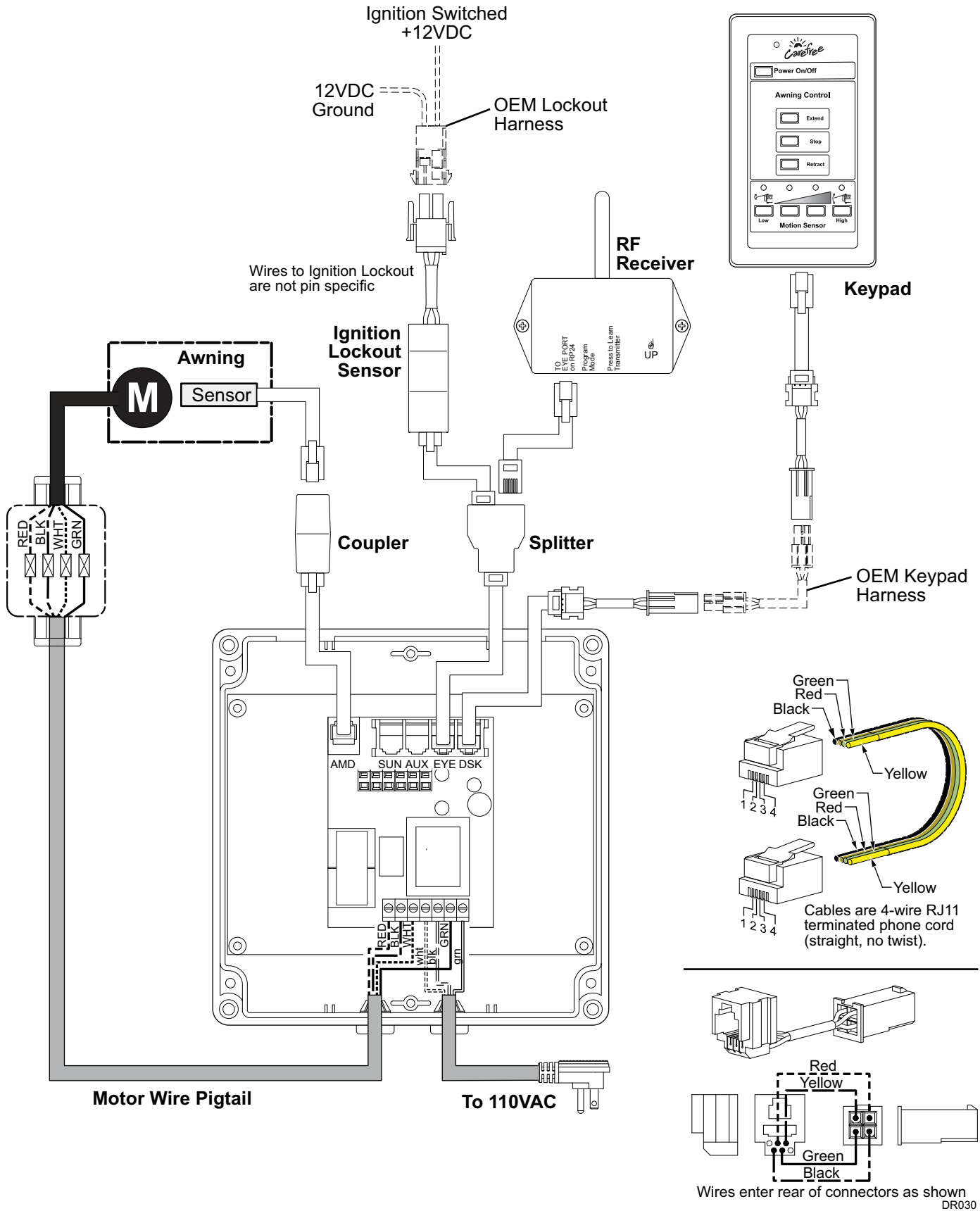
Figure 2. Wiring Diagram – Direct Response System.

DR012a

FROM	To (RH CONFIGURATION)			To (LH CONFIGURATION)	
	Wire Color	Control Box	Pin	Control Box	Pin
Motor	Red	Control Box	1	Control Box	2
	Black		2		1
	White		3		3
	Ground		6		6
AC Power Source	White	Control Box	4	Control Box	4
	Black		5		5
	Ground		7		7
Awning Sensor	10' Cable	Control Box	"AMD"	Control Box	"AMD"
Switch Assy	60" Cable	Control Box	"DSK"	Control Box	"DSK"
Splitter	60" Cable	Control Box	"EYE"	Control Box	"EYE"
Receiver	60" Cable	Splitter		Splitter	
Ignition Lockout	60" Cable	Splitter		Splitter	

Notes: 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.

WIRING DIAGRAM – DIRECT RESPONSE WINNEBAGO



**Mating Connectors:**

Ignition Lock Out Harness - AMP female 2 pin Mat-N-Lok p/n 1-480699-0; 18-24 ga. pin p/n 350689-1.

Key Pad Harness - Molex 4 pin Minifit Jr p/n 39-01-2040; 18-24 ga. female terminal p/n 39-00-0039.

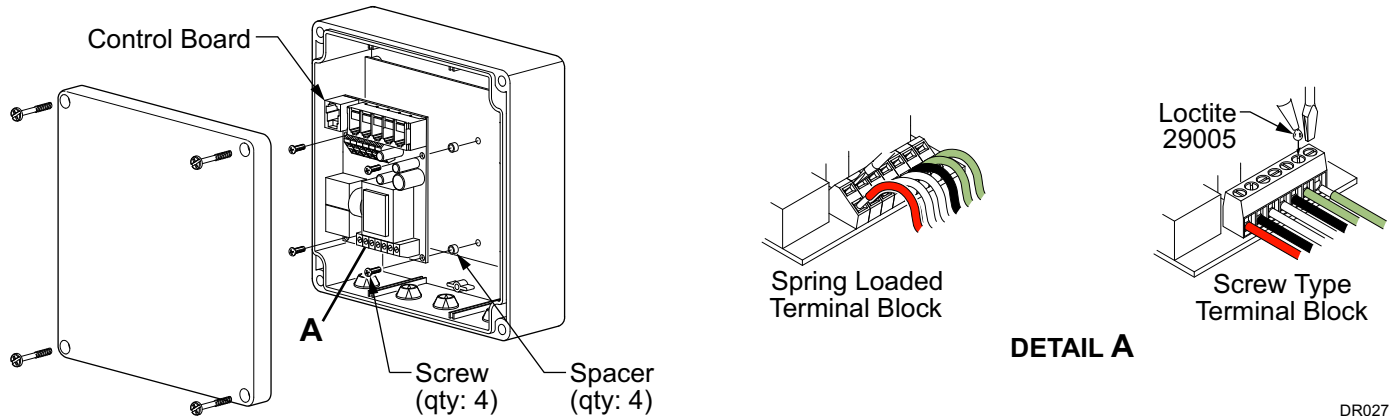
## CONTROL BOARD REPLACEMENT - DIRECT RESPONSE

When a control board fails, it is possible to replace the board. It is not necessary to replace the complete control box assembly.

### ⚠ CAUTION

**THE PROCEDURE REQUIRES HANDLING THE PRINTED CIRCUIT BOARD. TO AVOID INCIDENTAL DAMAGE FROM STATIC DISCHARGE, THE TECHNICIAN SHOULD GROUND THEIR SELF TO DISSIPATE ANY STATIC ELECTRICITY BEFORE OPENING THE PACKAGE OF THE NEW BOARD.**

**FOR DISASSEMBLY AND ASSEMBLY, USE ONLY HAND TOOLS. DO NOT USE POWER EQUIPMENT.**



DR027

Figure 3. Replacing a Control Board.

### NOTES:

- The illustration shows the flat square enclosure. The procedure is valid for all enclosure styles including the single and double rectangular enclosures.
- For reference, use the appropriate Direct Response wiring diagram on page 19.
- (Detail A) On older boards, power and motor wires were connected using a spring loaded terminal block. Newer and replacement boards use a screw type terminal block. Wire connections are the same for both (i.e. motor ground wire goes to terminal 6).
- For early units: Label "DSK" was "ACC"; Label "EYE" was "BUS"; Label "AMD" was "Shake".

- Disconnect the AC power to the control box.
- Remove the lid from the control box and set aside.
- Disconnect all wires and cables from the board to be replaced. Mark and tag the wires. The wires must be connected to the replacement board in the same configuration as removed from the old board.
- Remove the four screws, circuit board and spacers (if used) from the enclosure. Set screws and spacers aside.
- Install the replacement board in the enclosure.
  - For rectangular enclosures use the existing screws. The board seats on top of the molded posts and does not require spacers.
  - For the square enclosures, new screws and spacers are included with the replacement board. Spacers are required to provide clearance from the mounting board.
- Connect the wires and cables to the new board. (Refer to notes above).
- Restore AC power to the awning systems and test operation.
- After testing, use Loctite 29005 or equivalent to secure screws in terminal block.
- Reattach the lid to the control box.

## SENSOR REPLACEMENT FOR DIRECT RESPONSE

**NOTE:** The original Direct Response Shake Sensor was mounted horizontally on the inside of the lead rail. For product integrity, sensors are now mounted vertically. If replacing an original horizontally mounted sensor, it is necessary to install the vertical mounting bracket for the replacement sensor. Replacement sensors must be mounted vertically and will not work properly if mounted horizontally.

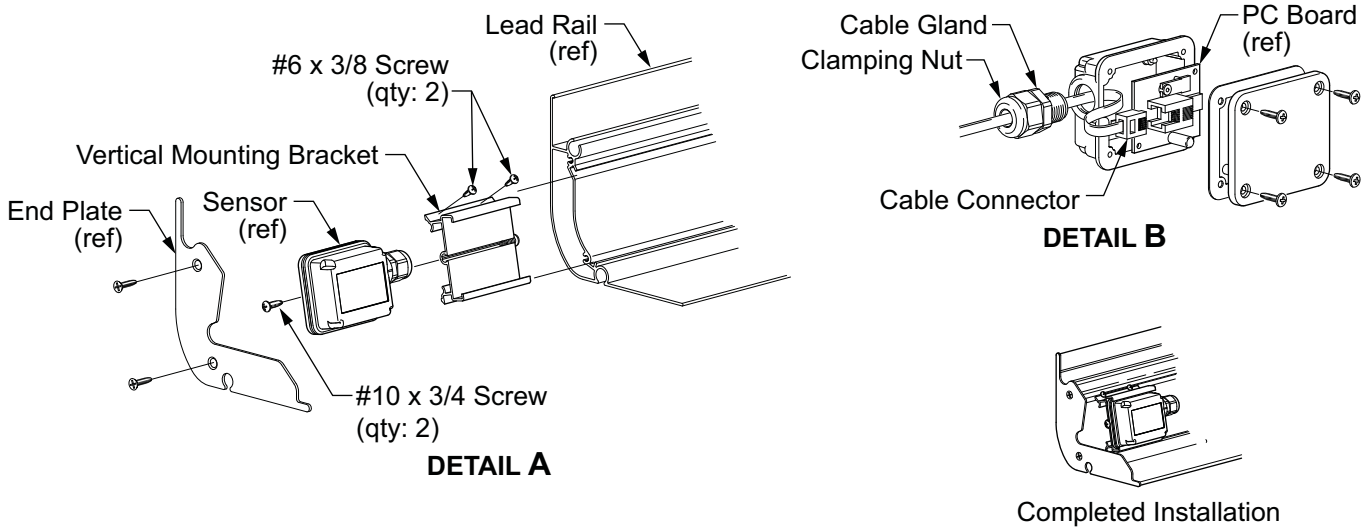


Figure 4. Replacing the Sensor.

### *Installing the Vertical Mount Bracket*

#### *(Detail A)*

1. Remove the lead rail end plate and set aside.
2. Detach the existing sensor. The sensor is attached with a strong double sided adhesive tape. It will be necessary to use a putty knife or similar tool to carefully pry the sensor off. Use care to not bend or otherwise damage the lead rail. Allow the sensor to hang from the cord. **DO NOT CUT THE SENSOR CABLE.**
3. Use an acetone solvent and clean any glue residue from the inner surface of the lead rail. Follow the solvent manufacturer's directions.
4. The sensor is secured to the new bracket with a #10 x 3/4 screw on each side of the bracket. Insert one (1) screw into the edge of the bracket that will be pointed to the inside of the lead rail.
5. Slide the new vertical mount bracket into the grooves of the lead rail. Position in the approximate location of the old sensor.
6. Secure the bracket with two (2) #6 x 3/8" screws through the top of the bracket.

### *Installing a New Sensor*

#### *(Detail B)*

The replacement sensor is furnished with a 25 foot cable. The cable is furnished in case the installed cable has been damaged or compromised.

### **⚠ CAUTION**

**DO NOT ATTEMPT TO CUT AND SPLICE THE CABLE. IF DAMAGED, THE CABLE MUST BE REPLACED TO ENSURE SYSTEM INTEGRITY.**

### **REMOVING THE OLD SENSOR**

1. After detaching the sensor from the lead rail, loosen the clamping nut on the wire gland.
2. Unscrew the wire gland from the sensor case and slide down the wire and out of the way.
3. Remove the back of the sensor case to reveal the PC board.



4. Carefully remove the board from the case. In some instances, the board may be tacked with adhesive and must be pried out. Use care to not damage the cord or connector.
5. Disconnect the cable from the board and slip the connector out of the case. Set the old sensor parts out of the way.
6. Test the integrity (continuity) of the installed cable. Several cable testers are commercially available. If the cable is faulty, go to "Replacing a Sensor and Cable". If the cable is OK go "Installing a Sensor Only".

#### REPLACING A SENSOR AND CABLE

1. Remove the existing cable. Pay particular attention to the routing and attachment points of the existing cable.
2. Slide the new sensor into the vertical mounting bracket and secure with a #10 x 3/4 screw as shown.
3. Route the new cable and sensor to the control box. Arch the cable slightly at the arm joints to avoid binding.

Tip: Use a small tool, such as a flat bladed screwdriver, to gently spread open the channel then insert the cable into the channel. Do this for the entire length of the channel until the cable is fully inserted.

#### INSTALLING A SENSOR ONLY:

1. On the new sensor, loosen the clamping nut on the wire gland.
2. Unscrew the wire gland from the sensor case and slide down the wire.
3. Remove the back of the sensor case to reveal the PC board.
4. Carefully remove the board from the case.
5. Disconnect the cable from the board and slip the connector out of the case.
6. Slide the connector of the installed cable into the new sensor case.
7. Attach the wire gland to the case. Do not tighten the clamping nut at this time.
8. Attach the cable to the new board.
9. Reassemble the new sensor.
10. Tighten the cable gland clamping nut.
11. Slide the new sensor into the vertical mounting bracket and secure with a #10 x 3/4 screw as shown.

#### OPTIONAL MANUAL BYPASS SWITCH – DIRECT RESPONSE

Installers may elect to install a manual bypass switch for testing or emergency operation of the awning. The simple switch allows the operator to extend or retract the awning without using the keypad control panel. For multiple awning installations, a separate switch must be installed for each awning.

1. Open the control box and identify the terminal block next to the phone cord jacks.
2. Connect the switch to the terminal block as shown in the diagram.

The switch is a single pole, double throw, momentary ON, center OFF. Components are installer furnished.

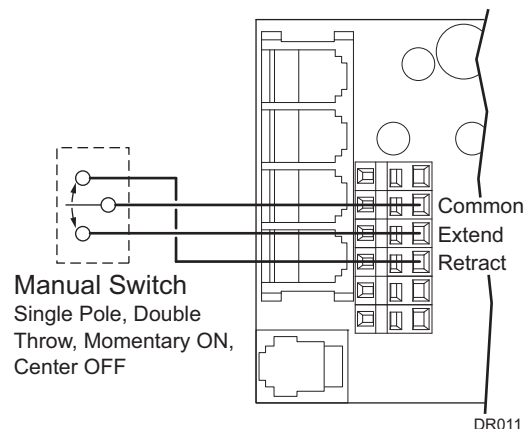


Figure 5. Manual Bypass Switch.

## OPTIONAL WHITE LED LIGHTING

### Switch Installation

An optional factory installed LED light strip is available for the Mirage 2-Stage awning. The strip is mounted in the lead rail; the harness is routed through the awning with the Direct Response cable.

**NOTE:** Installers may choose to furnish the control switch. The installation requires that the power line (+12VDC) be attached to a dedicated 2A circuit breaker or a 2A in-line fuse must be installed between the switch and power source. For easy access, locate the fuse close to the switch.

1. Route the harness into the vehicle with the Direct Response cable and the motor power cable.

2. Determine the location of the switch.

3. At the switch location, cut a 1 1/8" x 1 1/2" hole.

4. Wire the switch as shown below. Wire terminals at the switch are .187, 18-24 awg female disconnects.

**NOTE:** Allow adequate slack in the 12VDC power line so that the in-line fuse (installed in step 4) can be accessed from behind the switch.

5. Install the in-line fuse:

5.1. Near the switch, cut the red 12VDC power line to the switch. Do not strip the insulation.

5.2. Insert a wire end into one of the wire channels until it butts up against the stop.

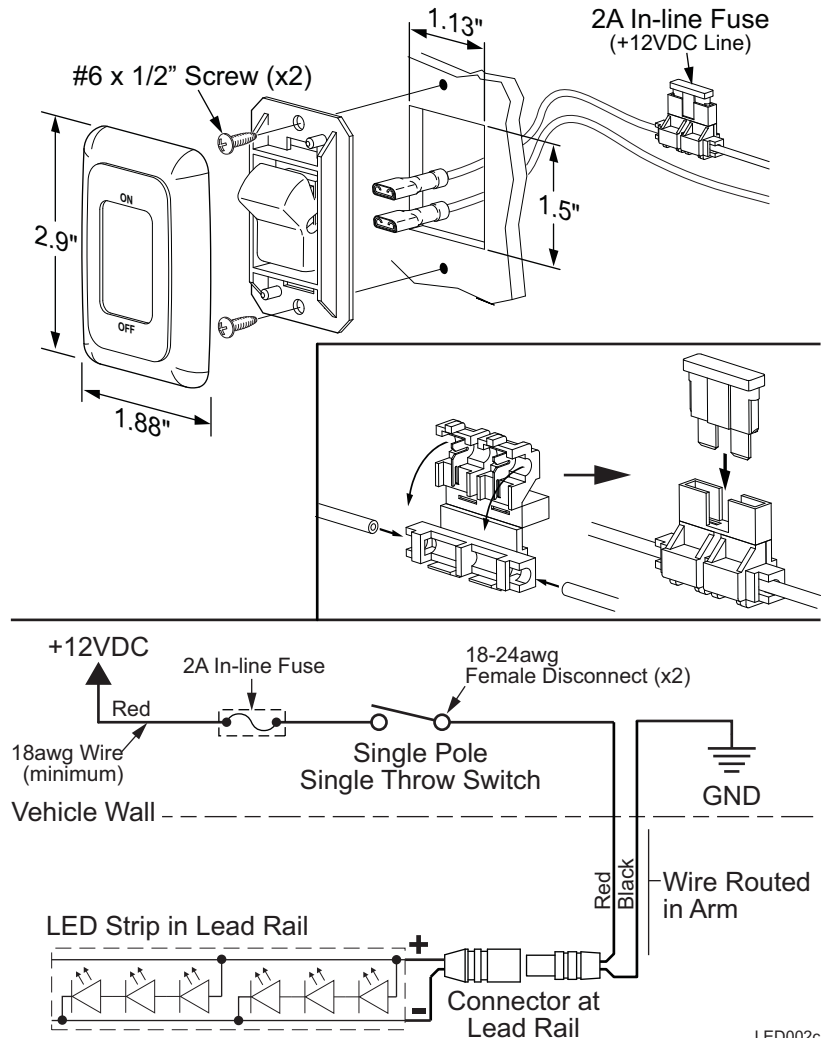
5.3. Fold that half of the connector body over until the element contacts the wire. Use pliers to crimp the connector closed.

5.4. Repeat for the second wire end.

5.5. Slide the fuse into the fuse port. Ensure that is firmly seated.

6. Press the in-line fuse, wires and switch into the mounting hole. Secure the switch using two (2) #6 x 1/2" screws.

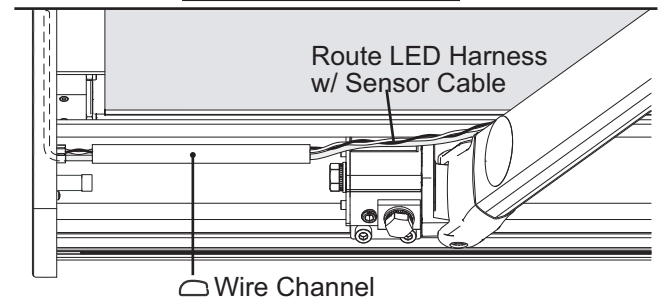
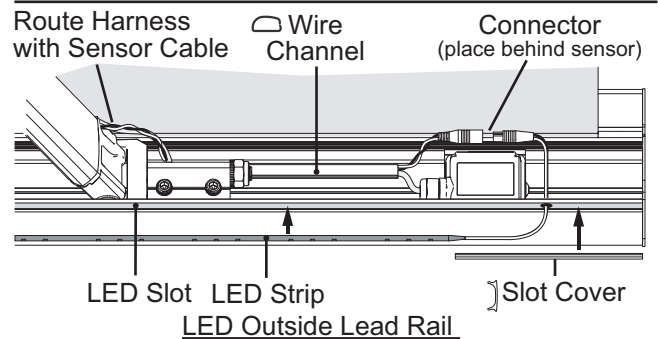
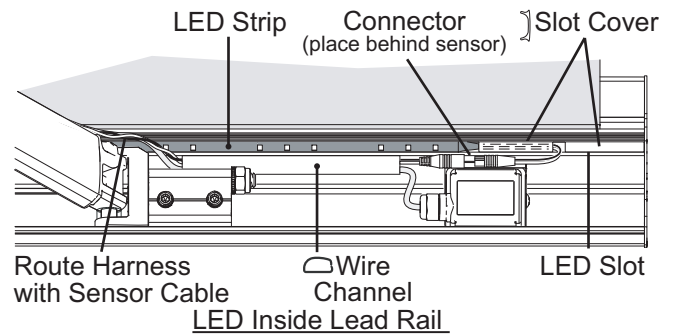
7. Snap the switch bezel over the switch frame.



LED002c

### Replacing the LED Strip

1. Extend the awning out completely.
2. Disconnect power to the awning and the LED strip.
3. Use a non-permanent marker to mark the location of the ends of the LED strip.
4. Remove the slot covers from the ends of the LED strip and set aside.
5. Inside the lead rail, disconnect the connectors. For strips mounted on the outside of the lead rail, carefully pull the wire and connector for the LED strip out of the lead rail through the hole that is located behind the slot cover location.
6. Remove the existing LED strip from the lead rail.
7. Clean the slot to remove any dirt and tape residue.
8. Starting at the reference mark made previously, press the new strip into the LED slot.
9. At the end of the lead rail, cut the LED strip to match the mark made previously. To trim the LED strip, always cut between the 4-pad cluster as shown.
10. Route the new LED strip wires into the lead rail and connect to the harness.
11. Press the slot covers into the LED slot.
12. Restore power and test.



Cut Between Pads to Adjust Length

M2015

### Harness Replacement

1. Extend the awning out completely.
2. Separate the LED connectors at the lead rail. Carefully pull the harness from the wire channel at the top of the arm.
3. At the awning case, clip the harness. Clamp the harness going into the vehicle to prevent it from falling in the vehicle wall.
4. Connect the new harness to the LED strip.
5. Route the harness through the arm wire channel with the direct response cable. At the arm joints, arch the cable slightly to avoid binding.
6. At the vehicle wall:
  - 6.1. Route the new harness through the wall to the switch.
 

*Tip: Tie the new harness to the old harness that was cut previously. Use the old harness to pull the new harness through the wall to the desired location.*
  - 6.2. Seal the wall entrance hole and harness with a quality silicone sealant.
  - 6.3. Connect the new harness to the switch. Two (2) .187, 18-24 awg female disconnects are provided if connecting to a switch.
  - 6.4. Alternate method: At the wall, splice the new harness to the existing harness using 24 awg butt connectors. Push the connectors into the vehicle wall. Seal the wall entrance hole and wires with a quality silicone sealant.

**NOTE:** Be sure to allow enough harness from the arm to provide a slack in the harness and adequate length for the connectors to be pushed inside the wall before sealing the hole and harness with a quality silicone sealant.

## STANDARD SERVICE PROCEDURES

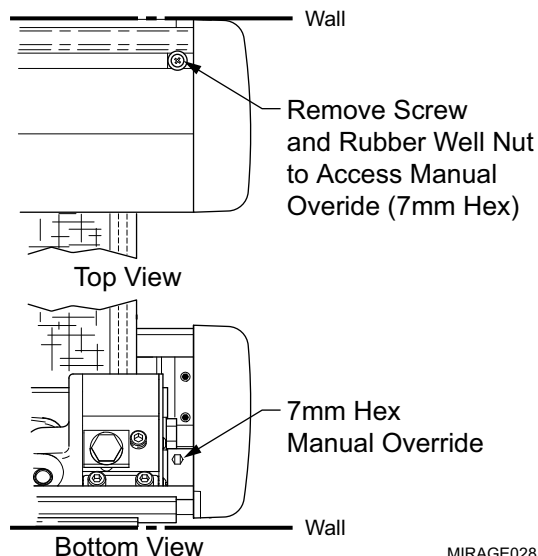
### MANUAL OVERRIDE (MOTORIZED VERSIONS ONLY)

If 110V power is not available to the coach, the Mirage 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 6. 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.

### 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.**

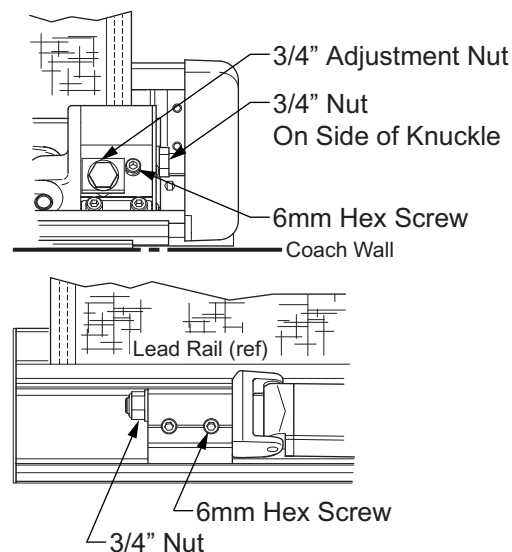
1. Extend the awning fully.
2. On one end, loosen the 6mm hex screw located on the spring arm knuckle.
3. SLIGHTLY loosen the 3/4" nut on the side of the knuckle.
4. Turn the 3/4" adjustment nut located on the bottom of the knuckle. CLOCKWISE raises the pitch, COUNTERCLOCKWISE lowers the pitch.

**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 7. 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.

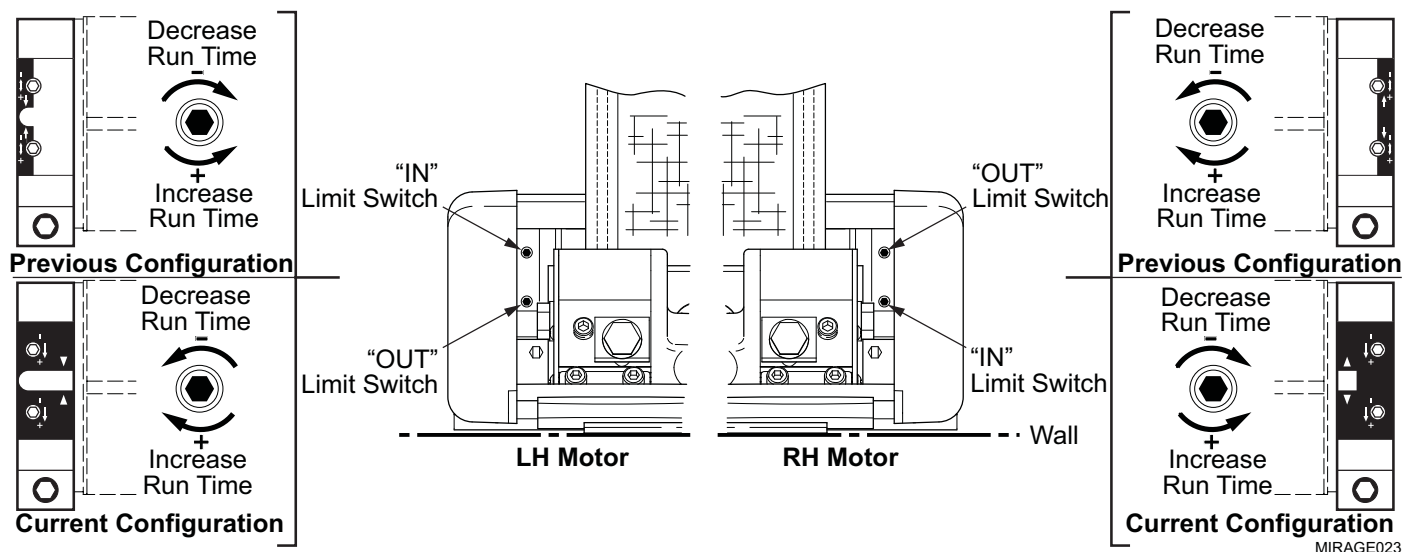


Figure 8. Motor Limit Switches.

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

**NOTE:** There are two (2) motor limit switch configurations. Before making adjustments, visually inspect the limit switches to determine which configuration is installed in the awning. Use the illustration above to determine the correct turning direction for the adjustments.

### Adjusting the OUT Limit Switch

**NOTE:** During normal operation, the awning will extend out then roll back slightly to tension 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.
3. If the motor continues to run, the fabric will sag; use a 4mm allen wrench to turn the "OUT" limit switch to DECREASE the motor run time.
4. If the motor quits before the arms are extended; use a 4mm allen wrench to turn the "OUT" limit switch to INCREASE the motor run time.

**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.

5. Extend and retract the awning several times to confirm that the adjustment is correct.
6. Repeat 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 monitors the motor 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 to INCREASE the motor run time. It is not necessary that the screw matches the closed position. The Direct Response electronics control the closed position.

**NOTE:** It is normal for the lead rail to slightly relax after the awning closes completely.

For motorized awnings w/ standard electronics:

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 to increase the run time to pull the awning into the case or decrease the run time so the awning does not try to over retract.

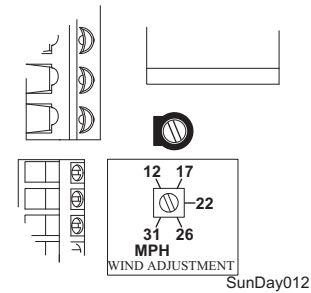
**NOTE: It is best to make the adjustments in increments of a single turn. 3 full turns of the screw equals approximately 2" of fabric extension.**

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

## SETTING THE WIND SPEED SENSITIVITY (STANDARD ELECTRONICS)

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.



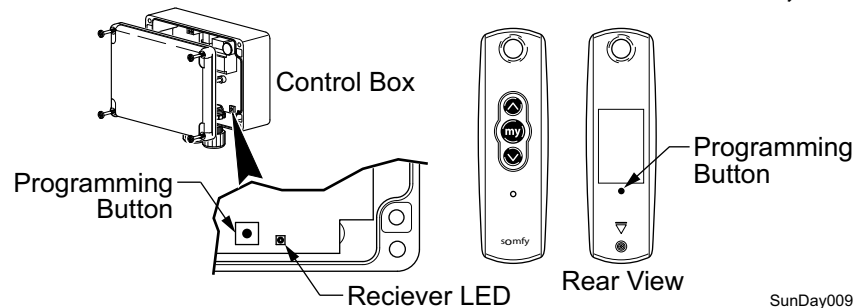
SunDay012

Figure 9. Setting Wind Sensitivity.

## PROGRAMMING THE REMOTE (STANDARD ELECTRONICS W/ OPTIONAL REMOTE)

- a. Connect awning to power source.
- b. Press the Programming Button (PROG) of the receiver located in wind sensor control box (lower right corner) until LED illuminates.

**NOTE:** The receiver exits the program after 60 seconds and the LED will extinguish.



SunDay009

Figure 10. Programming the Remote.

- c. Press the Programming Button on the back of the transmitter (remote) with a ballpoint pen until the receiver's LED blinks. The address of the transmitter is instantly memorized and the receiver automatically ends the programming mode.

Reinstall the control box cover.

## PROGRAMMING THE REMOTE RECEIVER (DIRECT RESPONSE)

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 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.

### CAUTION

**WHEN THE RECEIVER LEARNS THE TRANSMITTER SIGNAL THE SYSTEM WILL PERFORM THE OPERATION OF THE BUTTON PRESSED. EXAMPLE: PRESSING AN "EXTEND" BUTTON DURING THE LEARNING PHASE WILL CAUSE THE AWNING TO EXTEND WHEN THE RECEIVER LEARNS THE SIGNAL. USE CAUTION TO AVOID UNEXPECTED MOVEMENT BY THE AWNING.**

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.

**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 bottom button will program the bottom button for extend and the top button as retract.**

5. Repeat for each additional remote.

### Operational Notes:

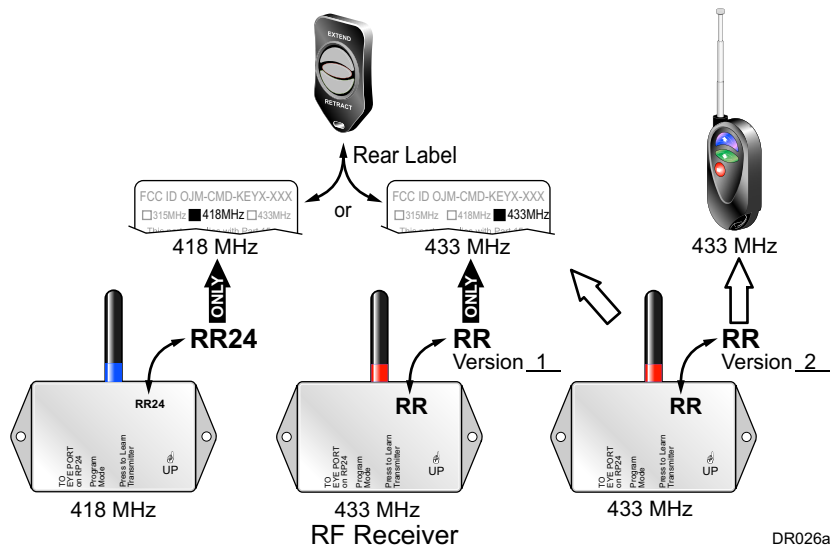
- a. Transmitter and receiver must match in frequency (418 MHz or 433 MHz).

#### Key FOBS:

- The gray button Key FOBS are marked with a label for 418MHz or 433MHz.
- Key FOBS w/ antenna are 433MHz.

#### Receivers:

- 418 MHz receivers are marked "RR24".
- 433 MHz receivers marked "RR" Version 1 can only be used with the 433 MHz gray button Key FOB.
- 433 MHz receivers marked "RR" Version 2 can be used with either of the 433 MHz Key FOBS.



- b. The receiver exits the program mode after ten seconds.
- c. If the light does not come on above, the memory is full and must be cleared.
- d. If the light does not go out above, the receiver already knows the transmitter's signal or the battery in the remote needs to be replaced.
- e. 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.
- f. The system may be programmed for up to 5 remotes. Additional remotes may be ordered separately.

## STANDARD MAINTENANCE

Maintaining the Carefree Manual Patio 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 an awning frame.
  - For Vinyl Fabric – Use a soft brush and warm water with soap.
  - 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°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, ROLL UP THE AWNING AND SECURE FOR TRAVEL.**

### ARM CARE

The best method of keeping the arms and braces operating smoothly is to clean them. Dirt and debris can cause the channels not to slide easily.

**NOTE: Avoid introducing water into the motorized housings.**

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.

### MOTOR MAINTENANCE

- Check all wiring and connections for wear. Repair when needed.

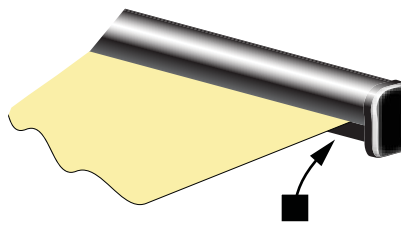


# PART NUMBER LISTING

## PART NUMBER CONFIGURATION

**Example: Part Number: V W 19 EA 25 10 DR R LL**

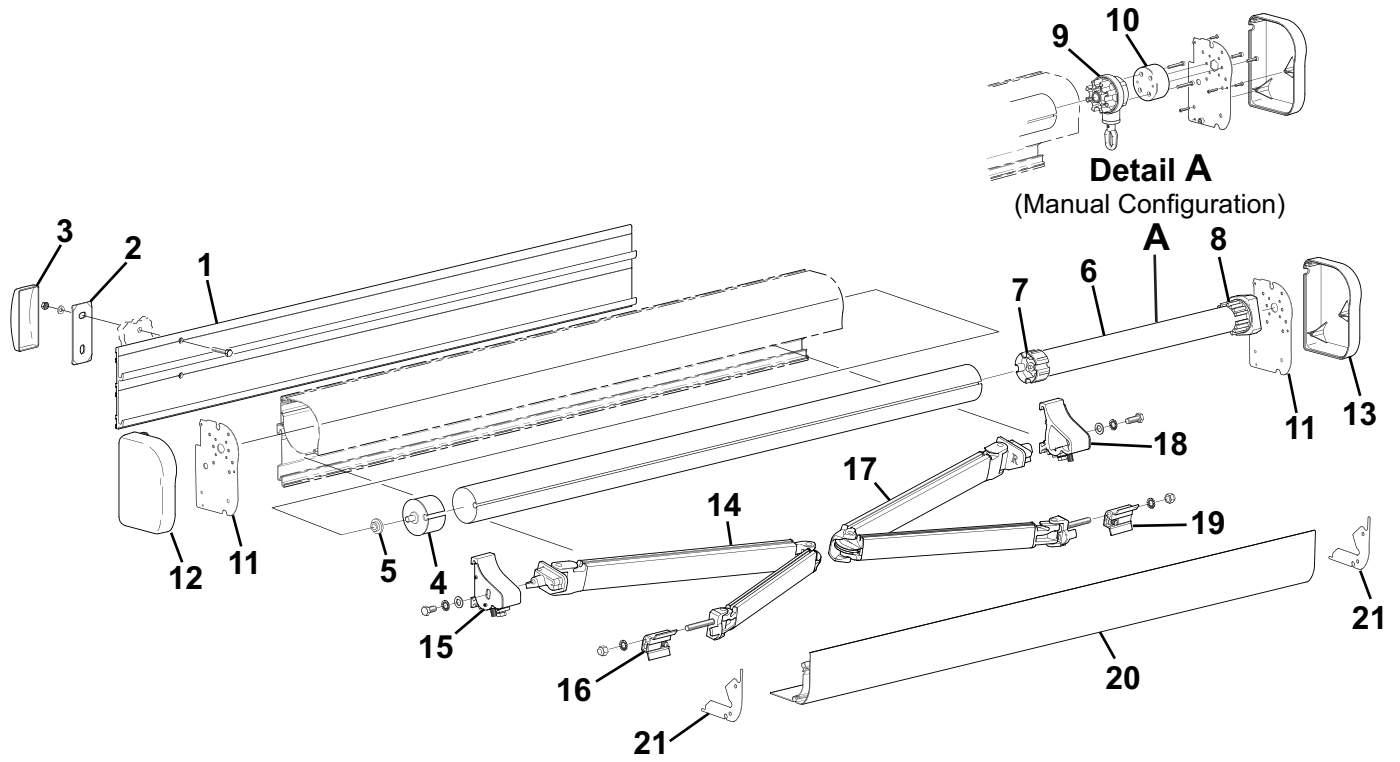
VW	19	EA	25	10	DR	R	LL
Mirage	19'	Linen Tweed	White	10' Extension	Direct Response	RH Motor	LED
STYLE CODE	SIZE	CANOPY COLOR	CASE COLOR	EXTENSION	CONTROL SYSTEM	MOTOR SIDE	LED
<b>VW =</b> w/ 10' arms  <b>WQ =</b> w/ 8' arms	12' – 21' (in feet)	<b>ACRYLIC</b> Refer to sales order information for specific codes and colors available	<b>STANDARD</b> <b>25 = WHITE</b> <b>JV = BLACK</b>	10' standard	<b>No Code =</b> Manual Crank <b>WM =</b> 110V motorized <b>DR =</b> 110V motorized w/ Direct Response	<b>R = RH</b> <b>L = LH</b>	<b>LL = LED in Lead Rail</b> <b>LB = LED in Case and Lead Rail</b>



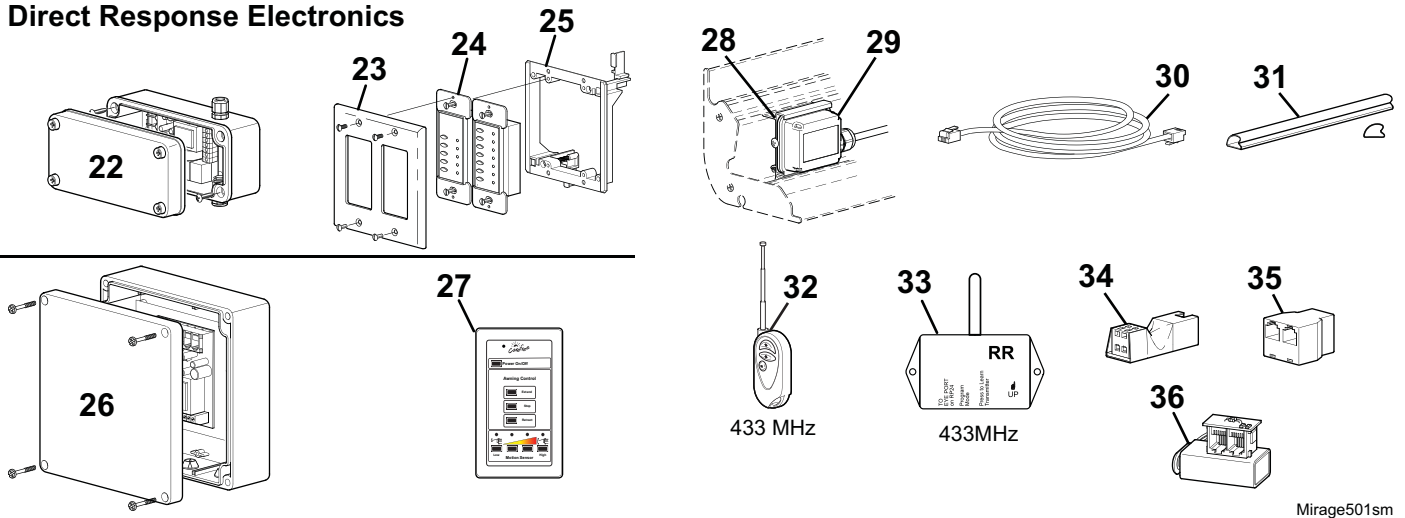
Serial# / Part# Located Inside Case on Motor Side

Mirage048

ILLUSTRATED PARTS LIST



Direct Response Electronics



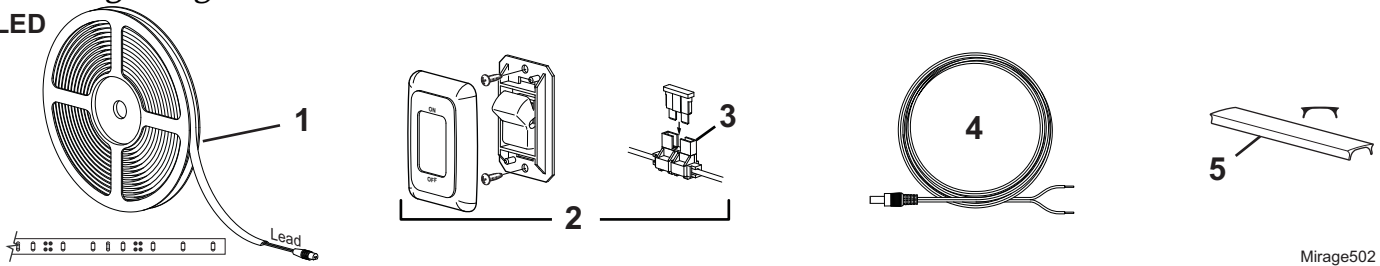
Mirage501sm

Item	Part Number	Description	Notes
1	R001077SAT-xxx	Mounting Plate	
2	R036333-001	Backing Plate	
3	R040548-001	Cover, Backing Plate	
4	R001054	End Plug, Roller Tube, Left	
5	R035310-002	Bushing, Used on Idler end plate	
6	R001055	Motor Assy (includes items 7 & 8)	
7	R030886-001	Drive Gear, Motor	
8	R030885-001	Crown, Motor	
9	R062779-001	Gear Assy, Hand Crank	
10	R040551-001	Spacer	Used w/ Hand Crank
10a	R001546-RP	Crank Handle Assy	
11	R001052	End Plate, Housing	
12	R001051XXX	End Cap, Standard, LH	
13	R001056XXX	End Cap, Standard, RH	
14	R012531-XXL096	Spring Arm Assy, LH & Center	8' extension 6,10
	R001616XXX	Spring Arm Assy, LH & Center	10' extension 6,10
15	R062764-001	Knuckle, LH, Spring Arm, Mirage	6,10
16	R062766-001	Connector, LH, Lead Rail, Mirage	6,10
17	R012531-XXR096	Spring Arm Assy, RH	8' extension 7
	R001617XXX	Spring Arm Assy, RH	10' extension 7
18	R062765-001	Knuckle, RH, Spring Arm, Mirage	7
19	R062767-001	Connector, RH, Lead Rail, Mirage	7
20	R001173-XXX-xxx	Lead Rail	
21	R001053	End Plate, Lead Rail	
22	R060525-001	Control Box	DSK 3,5
23	R060535-001	Switch Plate	3,5
24	R019474-001	Switch Assy, DSK style	3,5
25	R072141-001	Mounting Box, Switch	3,5
26	R060633-001	Control Box	110VDR 3,5
27	R060616-102	Key Pad	3,5
28	R060538-001	Motion Sensor w/ cable	4
29	R001356	Bracket Kit, Vertical Sensor Mount, Mirage	4
30	R060434-001	Phone Cable, 60"	
31	R040616-006	Cable Channel	Black
	R040616-005	Cable Channel	White
32	R060622-001	Key FOB, Remote, 433 MHZ, Version 5	8,9
33	R060429-002	RF Remote Receiver, 433MHz, Version 5	8,9
34	R060532-001	Ignition Lockout Sensor, EL (Extend Lockout)	Optional 4
	R060532-002	Ignition Lockout Sensor, RTL (Retract Then Lock)	Optional 4
35	R060589-001	Splitter	used w/ Ignition Lockout Sensor 4
36	SR0095	Sensor Test Tool	
50	R012458-001	Hardware Pack, Motorized, Aftermarket	not shown
52	R012459-001	Hardware Pack, OEM	not shown

- Notes:
1. XXX = Color; xxx = Length in inches.
  2. Direct Response system is standard. For early motorized models without Direct Response, an upgrade kit SR0035 is available.
  3. Ignition Lockout Sensor is an option for the Direct Response System Only.
  4. Replacement motion sensors must be mounted vertically. If replacing a horizontal mount sensor, it will be necessary to order and install R001356 bracket kit.
  5. The DSK style switch assy must be used with item 36 control box. The keypad (item 41) must be used with the "110VDR" control box (item 37).
  6. Item 14 (LH Spring Arm Assy) contains items 15 and 16 (LH Knuckle and Lead Rail Connector).
  7. Item 17 (RH Spring Arm Assy) contains items 18 and 19 (RH Knuckle and Lead Rail Connector).
  8. If replacing the key fob (item 32) it will also be necessary to replace the receiver (item 33).
  9. If replacing the remote receiver, version 5 is compatible with 433MHz key fobs versions 2 thru 5. If the key fob is an older version, it will be necessary to replace the key FOB.
  10. For awnings 19' and longer with 3 arms, use LH arm (item 14) for middle arm.

LED Lighting

LED



Mirage502

1a	R060732-001	LED Strip	used for awnings 18' or less	1
1b	R060732-004	LED Strip	used for awnings 19' or longer	1
2	SR0101	Switch and Fuse Kit (includes item 3)	used with White LED	
3	019493-001	Fuse Kit (includes fuse holder and 2A fuse)		
4	R060718-001	Harness	22' Length	
5	R001716	Slot Cover	24" Length	

Notes: 1. LED strip (item 1) is sent on a roll and cut to length during installation.