



3000 Series 12V Power Awning LED Lights

Aftermarket Manual

(For Aftermarket Applications)

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Introduction

The Solera® 3000 Series 12V Power Awning LED Lights features an internal motor to steadily operate the awning. Additionally, the pitch arm assembly allows for rain dump and adjustable pitch features. The pitch arm assembly also provides added stability.

NOTE: The openings on awning rails, both existing and new installations, need to be measured before proceeding. Openings that are too large could cause fabric detachment from the unit. See *Installing the Awning Rail (If Needed)* on page 4 for measurement procedure.

NOTE: This manual will refer to the “drive side” and “idler side” throughout for various instructions. The “drive side” is the right hand side of the awning when facing the awning from the exterior of the unit. The “idler side” is the left hand side of the awning when facing the awning from the exterior of the unit.

Additional information about this product can be obtained from <https://support.lci1.com/> or by using the LippertNOW app. Replacement components can be ordered from <https://store.lci1.com/> or by using the LippertNOW app.

The LippertNOW app is available for free on Apple App Store® for iPhone® and iPad® and also on Google Play™ for Android™ users.

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For information on the assembly or individual components of this product, scan this QR code or go to: <https://support.lci1.com/solera-3000-series-12v-power-awning>



Safety

⚠ WARNING

THE “WARNING” SYMBOL ABOVE IS A SIGN THAT AN INSTALLATION PROCEDURE HAS A SAFETY RISK INVOLVED AND MAY CAUSE DEATH OR SERIOUS INJURY IF NOT PERFORMED SAFELY AND WITHIN THE PARAMETERS SET FORTH IN THIS MANUAL. ALWAYS WEAR EYE PROTECTION WHEN PERFORMING THIS INSTALLATION PROCEDURE. OTHER SAFETY EQUIPMENT TO CONSIDER WOULD BE HEARING PROTECTION, GLOVES, AND POSSIBLY A FULL FACE SHIELD, DEPENDING ON THE NATURE OF THE INSTALLATION PROCEDURE.

⚠ WARNING

THIS MANUAL PROVIDES OPERATIONAL PROCEDURES FOR THE SOLERA 300 SERIES 12V POWER AWNING. OPERATING THE AWNING IN ANY OTHER MANNER THAN DESCRIBED MAY RESULT IN PERSONAL INJURY, DAMAGE TO THE RECREATIONAL VEHICLE UNIT OR THE AWNING ASSEMBLY AS WELL AS VOIDING THE LIPPERT COMPONENTS LIMITED WARRANTY.

⚠ WARNING

IMPACT OR CRUSH HAZARD - PITCH MUST BE SET TO LOWER ONE SIDE OF THE AWNING AFTER THE AWNING IS EXTENDED. FAILURE TO SET PITCH COULD LEAD TO WATER, SNOW OR DEBRIS ACCUMULATING ON THE AWNING FABRIC, WHICH COULD CAUSE THE AWNING TO MOVE UNPREDICTABLY, BECOME UNSTABLE, AND BEND OR COLLAPSE CAUSING DEATH OR PERSONAL INJURY OR PROPERTY DAMAGE.



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⚠ WARNING

IMPACT OR CRUSH HAZARD - DO NOT ADJUST PITCH MANUALLY IF THERE IS ALREADY POOLING WATER, SNOW OR DEBRIS ON THE AWNING FABRIC. KEEP THE AWNING ARM AREA CLEAR OF PEOPLE AND OBJECTS WHEN IN OPERATION. FAILURE TO HEED THESE WARNINGS COULD CAUSE SEVERE PERSONAL INJURY AND/OR PROPERTY DAMAGE.

⚠ CAUTION

THE AWNING MUST BE RETRACTED COMPLETELY DURING INCIDENTS OF HIGH WIND, HEAVY RAIN AND/OR DURING ANY EXTENDED TIME AWAY FROM THE UNIT. FAILURE TO RETRACT THE AWNING IN THOSE INSTANCES COULD CAUSE EXTENSIVE DAMAGE TO THE AWNING AND UNIT.

⚠ CAUTION

MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION.

Prior To Installation

All screws supporting the awning assembly must have a backer within the structure of the wall of the unit. Refer to the unit manufacturer for proper location.

Resources Required

- 1-3 People, Depending on Task
- Cordless or Electric Drill or Screw Gun
- Appropriate Drive Bits
- Rivet Gun (If Needed)
- Non-Permanent Method of Marking
- Silicone Sealant or Butyl Tape
- Screwdriver
- Silicone Lubricant



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Installing the Awning Rail (if necessary)

NOTE: Awning rail not included.

NOTE: Before installing the awning rail, measure the opening to make sure that the opening is no larger than $\frac{3}{16}$ " (Fig. 1A). An opening that is too large could lead to fabric detachment from the unit.

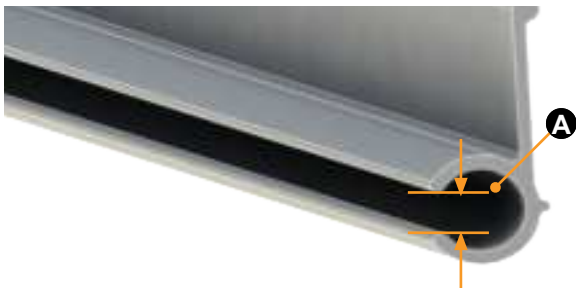


Fig. 1

1. Position the awning rail along the line where roof and wall meet OR:
 - A. For pitched awnings: A minimum of 11" above doors or windows
 - B. For flat awnings: A minimum of 4" above doors or windows

NOTE: The awning rail must be level and parallel with the floor line of the unit (**Fig.2**).

2. After determining the awning rail's proper location, mark its position with a non-permanent method of marking.
3. Seal the back of the awning rail.
4. Align the awning rail on the wall and secure with #10 x $\frac{3}{4}$ " screws, using all fastener holes.

Callout	Description
A	Awning Rail
B	Support Arm Assembly
C	Roll Tube Assembly

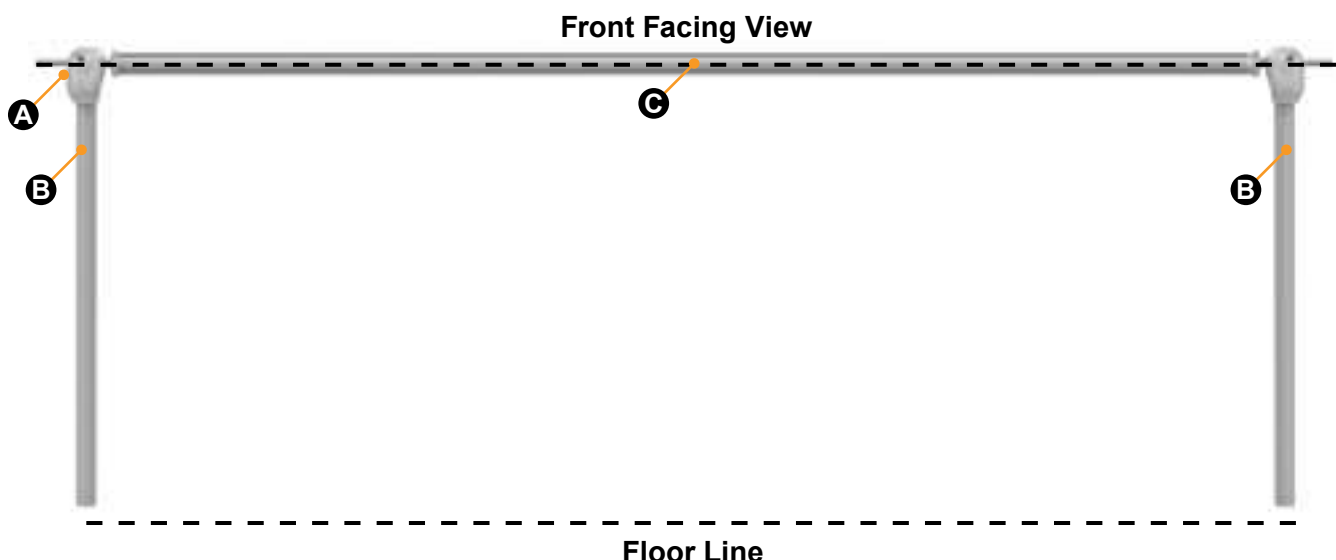


Fig. 2



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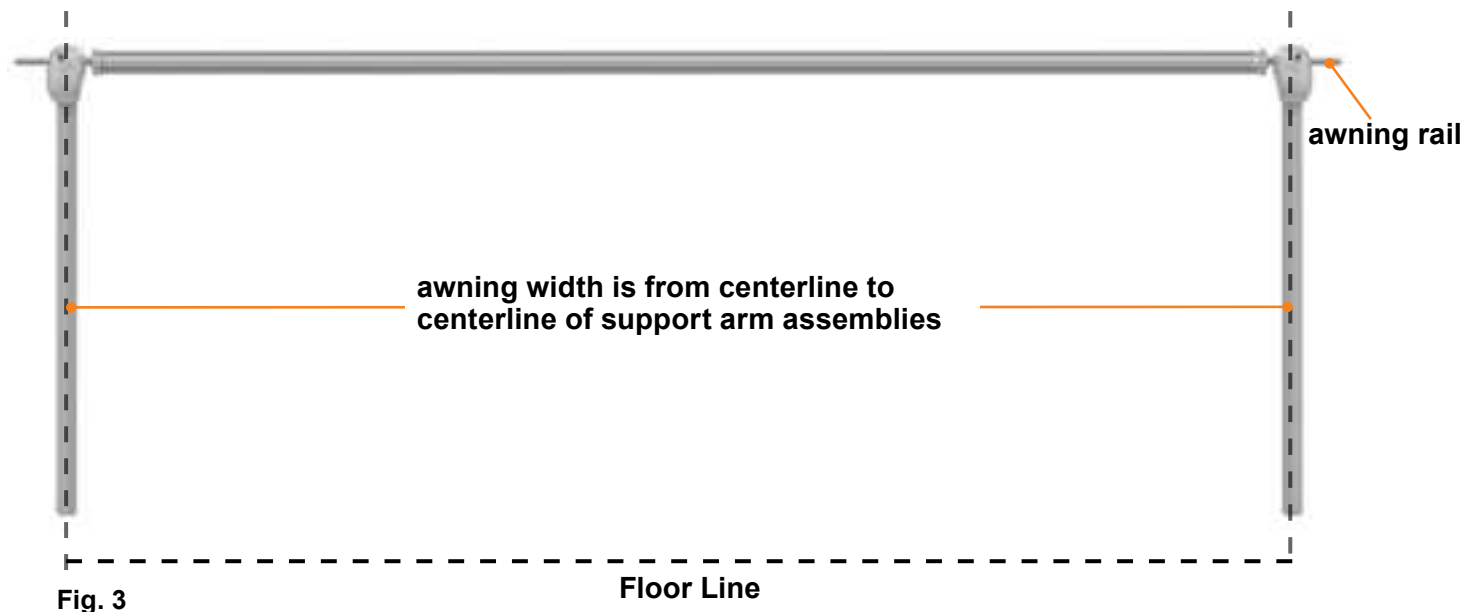
Installation

1. On the awning rail, mark the position of the centerlines of the support arm assemblies. Make Sure that the support arm assemblies will not interfere with any lights, vents or other obstructions.
2. Using a non-permanent method of marking, mark a perpendicular line from the awning rail down to the floor line. This is the centerline of the support arm assembly (Fig.3).
3. Insert the drive head assembly shaft into the end cap (Fig.4). Align the holes and secure with waxed screw. Repeat process for idler head assembly at other end.

NOTE: Keep the head of the wax screw $\frac{1}{8}$ " from fastened to avoid compromising the structural integrity of the wax screw.



Fig.4



NOTE: For awnings exceeding 21 feet in length, a center support must be installed. Locate the center of the awning (between the perpendicular marks previously made corresponding to the center of the support arm assemblies) and make a mark. Once the awning has been installed, refer to [TI-303 Solera® Awning Center Support](#) for detailed instructions covering center support installation.



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4. Use a screwdriver to spread open either end of the awning rail channel on the installation side (Fig.5A).
5. To protect the fabric from damage during installation, file any sharp edges or burrs from the awning rail channel.
6. Use silicone lubricant and spray the inside of the awning rail channel (Fig.5B).

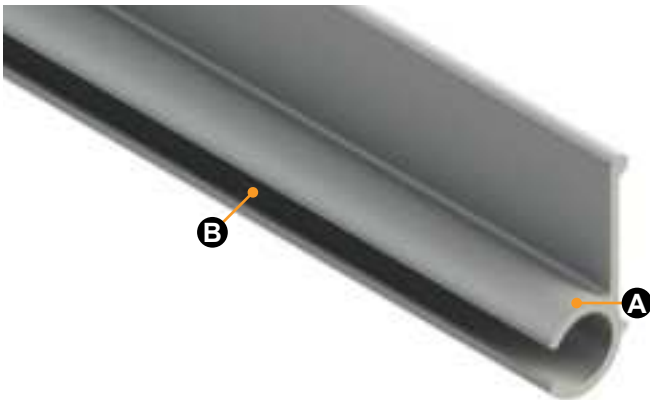


Fig. 5

7. Remove the tape from the fabric. Unroll a small portion of fabric.

NOTE: The next steps will require three people: One to feed the polycord into the awning rail channel; two to walk the support arm assemblies along the awning rail while the fabric slides into position.

8. Slide the polycord into the awning rail channel and walk the support arm assemblies and fabric down the awning rail channel until the support arm assemblies are in line with the centerline marks made previously.
9. Lift the support arm assembly up and secure by setting the awning assembly to the desired height and attaching it to the side of the unit with two #14 x 1 1/4" screws at the top (Fig.6) and two #14 x 1 1/4" screws at the bottom (Fig.7).



Fig. 6

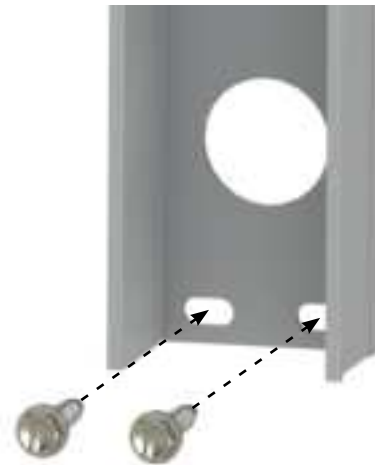


Fig. 7

NOTE: Best practice for setting the awning height is to push the top of the support arm assemblies up to be flush with the bottom of the awning rail. The awning height can be adjusted lower if desired, but ensure that the distance from the awning rail to the top of the support arm assemblies is consistent at both ends of the awning.

NOTE: Make sure the awning assembly is square on the unit prior to mounting the bottom two screws.

NOTE: Four rivets with 3/16" grip range can be used in place of the two middle and two lower screws on laminated walls.



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10. Cut the zip ties and connect the wires from the drive head assembly to a power source and run the awning half way out. Remove the wire cover to expose the fastening points. Install the remaining two #14 x 1 ¼ screws at any of the three locations shown (Fig.8) in the center of the support arm. Repeat this process for the other end of the awning assembly.



Fig. 8

Securing The Fabric

Secure the fabric with to the awning rail using **ONE** of the two options listed below. In option 1 the screw will go through the fabric, awning rail, and polycord, while in option 2, the screw will only go through the awning rail and polycord.

Option 1

Secure the fabric (Fig. 9A) in the awning rail (Fig. 9B) no more than 1" inside the edge of the fabric on both ends using an OEM supplied #6 x ½" hex head screw (Fig. 9C). Install the screw (Fig. 9C) down through the awning rail (Fig. 9B) into the fabric (Fig. 9A) and the polycord (Fig. 9D).

Option 2

Secure the fabric (Fig. 9A) in the awning rail (Fig. 9B) no more than ¼" outside the edge of the fabric on both ends using an OEM supplied #6 x ½" hex head screw (Fig. 9E). Install the screw (Fig. 9E) down through the awning rail (Fig. 9B) and polycord (Fig. 9D).

NOTE: When choosing option 2 for installation, polycord **MUST** extend past the fabric more than ¼" to allow it to be secured by the screw, and screw must fully penetrate and secure polycord when installed.

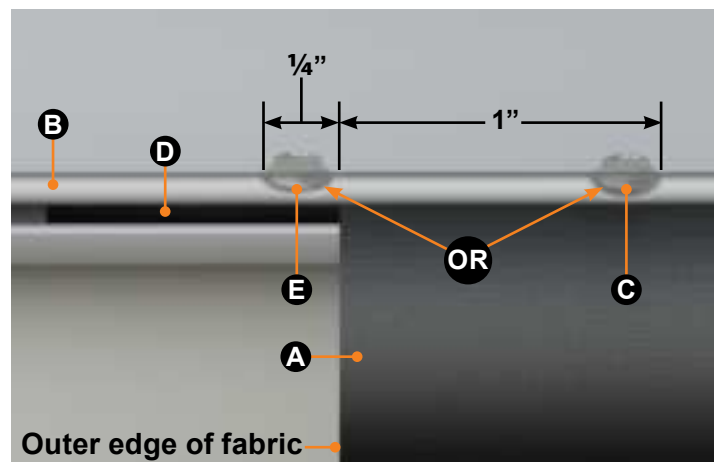


Fig. 9

Awning Wiring

1. Pull the wires from the unit through the support arm assembly. These wires may be located at the bottom or the top of the support arm assembly.
2. Connect wiring from the unit to the switch and the awning drive head per the wiring diagram below (Fig.10).

NOTE: Check the switch. If the awning is running in reverse of what the switch indicates, reverse the wires.

NOTE: Solera Power Awning motors come stock with an internal 6A auto reset breaker. If this breaker trips, it will take approximately 30 seconds to reset. LCI recommends that the awning be wired into a 15A circuit.

NOTE: All wire to be 14 AWG or larger as necessary to provide 12V minimum at all times at the connection to the Lippert-supplied power cable.

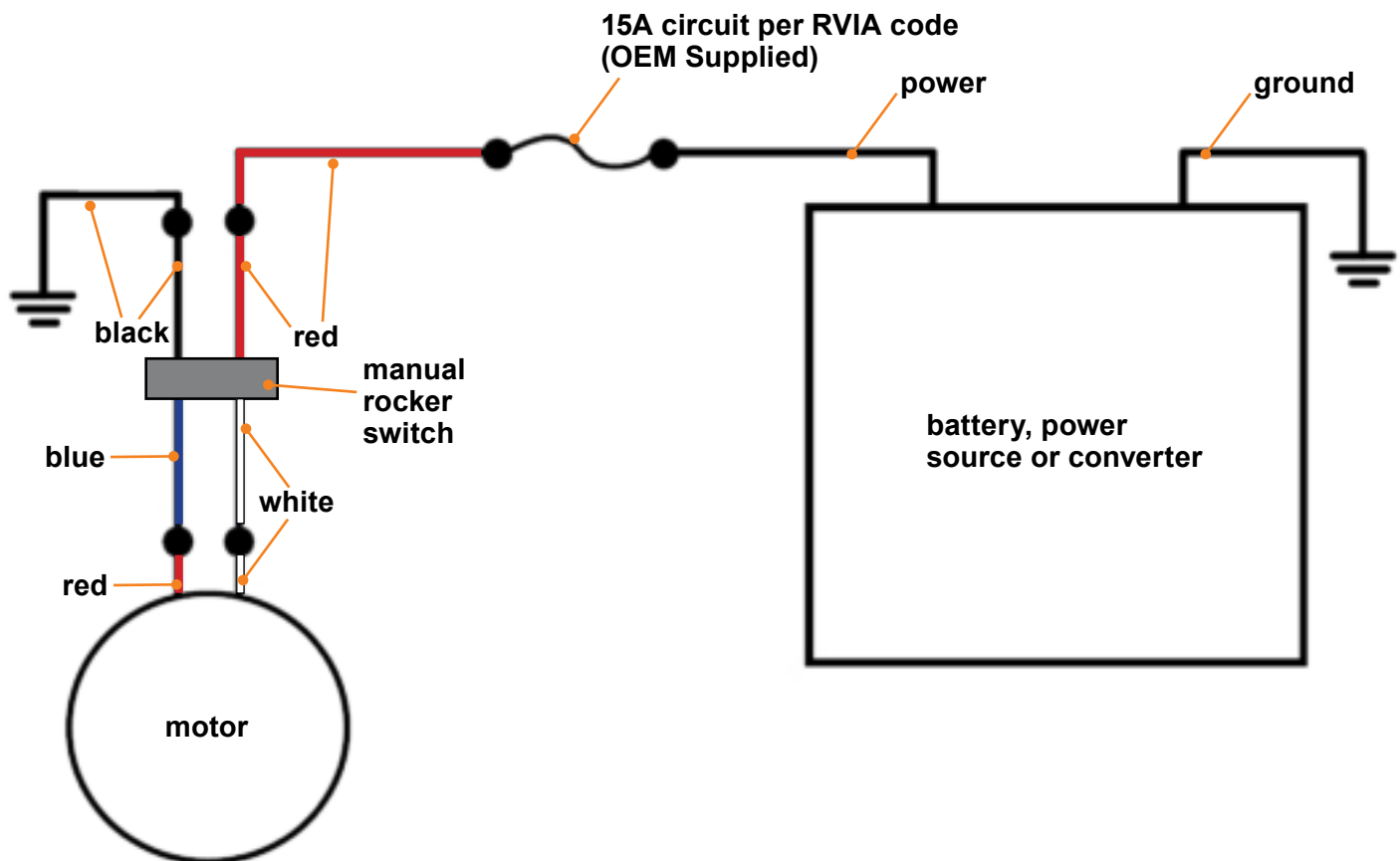


Fig. 10



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LED Light Installation

Fabled (Fabric LED)

1. Depending on top wire or bottom wire installation, remove the wire covers in the drive mount arm.
2. If bottom installation, take the LED power wire (**Fig. 11A**) from the light track and run it down the drive arm. Make sure to run the wires over the center pin of the drive mount arm.
3. Connect the LED power wire to the unit's power source. Make sure the black wire is connected to a ground and the red wire is connected to 12V DC power source.
4. Connect an appropriate-size fuse to protect all wiring going to the light, that meets or exceeds RVIA standards.

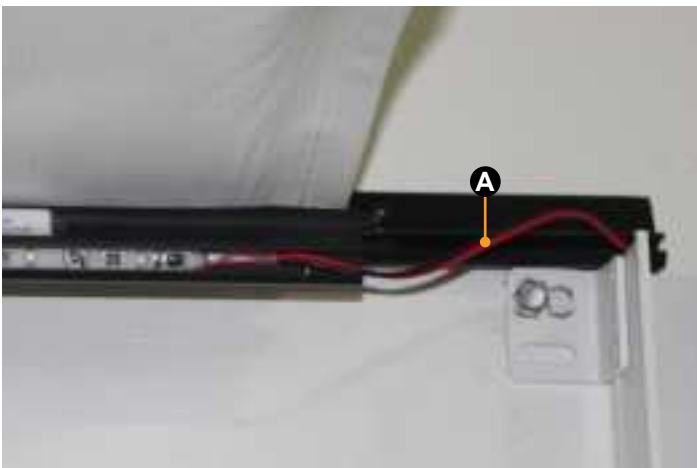


Fig. 11

LED Roll Tube

The awning fabric has a power wire (**Fig. 12A**) sewn into the hem. The power wire is connected to the LED light in the roll tube prior to the end cap being installed on the roll tube by LCI.

1. Connect the wires from the roll tube end cap to the wires in the hem of the fabric.

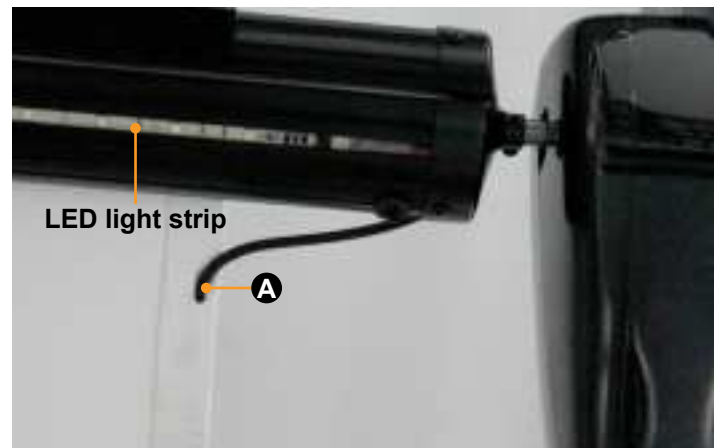


Fig. 12

2. Depending on top wire or bottom wire installation, remove the wire covers in the drive mount arm.
3. If bottom installation, take the LED power wire (**Fig. 11A**) sewn into the hem of the fabric and run it down the drive arm. Make sure to run the wires over the center pin of the drive mount arm.
4. Connect the LED power wire to the unit's power source. Make sure the black wire is connected to a ground and the red wire is connected to 12V DC power source.
5. Connect an appropriate-size fuse to protect all wiring going to the light, that meets or exceeds RVIA standards.



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Seal Wall Penetrations

1. Seal all fastener locations and wire penetrations to protect against water intrusion (Fig. 14).
2. Reinstall all wire covers into the support arm assemblies.



Fig 14

LED Light Rail

NOTE: Solera® Power Awning must be installed prior to LED Light Rail installation.

1. Seal the back of the LED light rail.
2. Mount the LED light rail (Fig. 13B) directly below the awning rail (Fig. 13A) and secure to the side of the unit.
3. Remove the wire covers in the drive side mount arm.
4. Route the light wire over the top of the upper brackets on the mount arm and run the light wire down through the support arm assembly in the same manner as the motor wire (Fig. 13C).

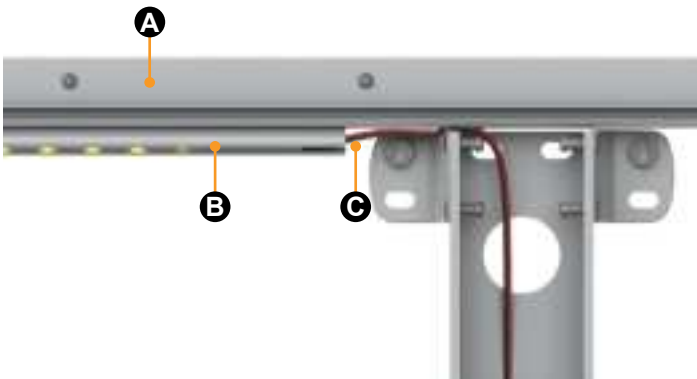


Fig. 13



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Operation

NOTE: Some units may not use the Lippert switch (Fig. 15).

Extending the Awning

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⚠ CAUTION

TYING DOWN THE ROLL TUBE ONCE THE AWNING IS EXTENDED WILL NOT ALLOW THE FREE-FLOATING SUPPORT ARMS TO WORK AS DESIGNED AND MAY CAUSE DAMAGE TO THE AWNING OR UNIT.

1. Verify the RV battery is fully charged and connected to the electrical system.
2. Locate the locking latch on the side of the support arm, if equipped, and unlock the latch.

NOTE: This latch is optional and may or may not be installed on one or both support arms.

3. Press and hold EXTEND (Fig. 15A) until the awning is extended completely.



Fig. 15

NOTE: Extension is considered complete when the fabric is completely unrolled, the valance is hanging down from the roll tube and a section of the roll tube is exposed (Fig. 16).

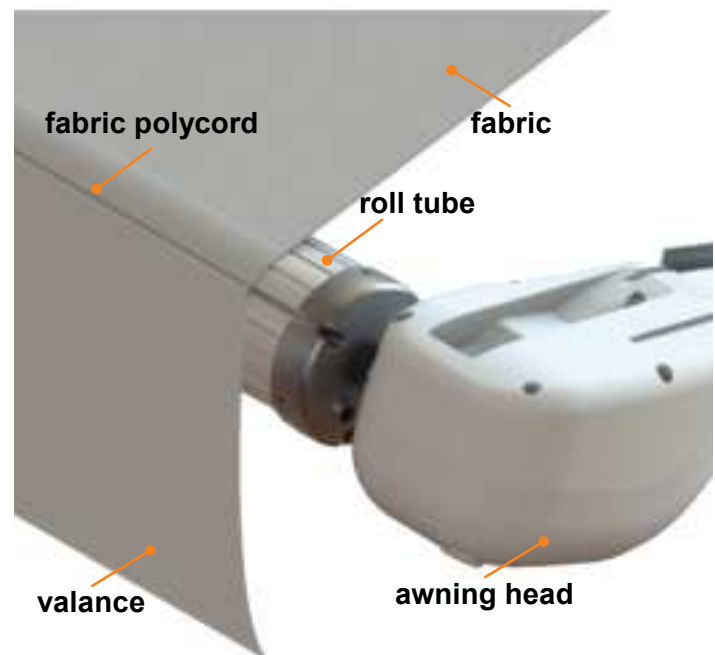


Fig. 16



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Retracting the Awning

⚠ CAUTION

DURING INCIDENTS OF HIGH WIND, HEAVY RAIN OR EXTENDED TIME AWAY FROM THE UNIT, IT IS ADVISABLE TO RETRACT THE AWNING COMPLETELY TO PREVENT DAMAGE TO THE AWNING AND THE UNIT.

1. Verify the coach battery is fully charged and connected to the electrical system.

NOTE: The awning can be retracted without resetting the pitch.

2. Press and hold RETRACT (Fig. 15B) until the awning is retracted completely.
3. Locate the locking latch (Fig. 17A) on the side of the support arm, if equipped, and lock the latch.

NOTE: Some awnings are equipped with a 2-position pitch arm (Fig. 17). The 2-position arm can be set in the pitch position or snapped into a straight position by pushing the release button (Fig. 17A) and sliding the sleeve (Fig. 17B).

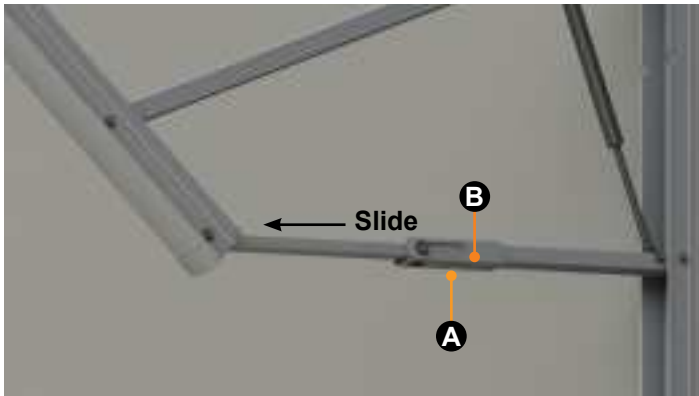


Fig. 17

Adjusting Pitch

1. Set pitch using pitch arms with gas strut (Fig. 18A). Scan the QR Code to watch the video on How to Correctly Pitch a Lippert Awning.



2. Choose the side of the awning for optimum shade or convenient water runoff. Pitch **MUST** be set by adjusting the articulating arm to tip one side of the awning to allow water runoff.

NOTE: Before manually adjusting pitch, make sure there is no water or snow pooling or debris present on top of the awning fabric. Use a long-handled tool that will not puncture the fabric (e.g. a broom) to push up on the awning fabric to drain off the water, snow or debris.

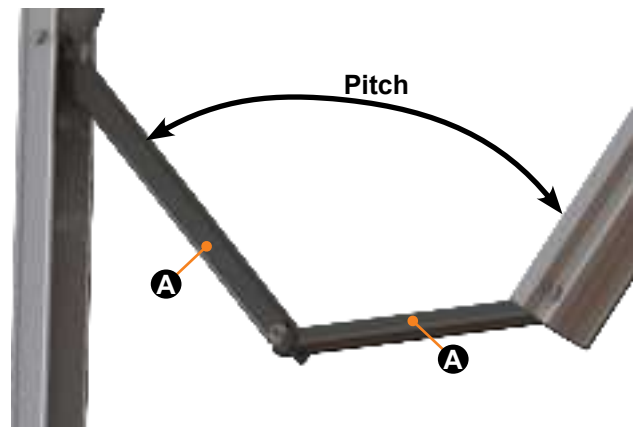


Fig. 18

3. Pull downward on the joint of the pitch arm until desired pitch is set (Fig. 18). A bolt, Belleville washers and nut (Fig. 19A) allow the joint to remain in the position set by the operator. If pitch arm does not hold position, see "Adjusting Pitch Arm Fasteners" in the Troubleshooting section of this manual.

NOTE: Do not push the joints of the articulating arms up past a straight line (Fig. 20A). This will put tension on the gas strut, which can cause the strut to break.

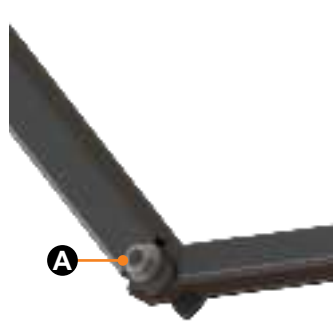


Fig. 19

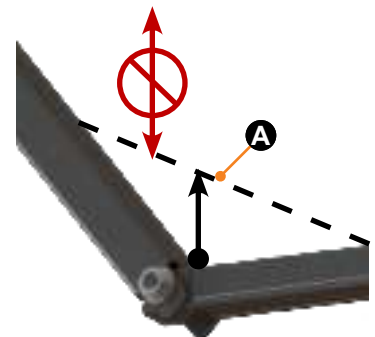


Fig. 20



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Manual Override

⚠ CAUTION

DURING INCIDENTS OF HIGH WIND, HEAVY RAIN OR EXTENDED TIME AWAY FROM THE UNIT, IT IS ADVISABLE TO RETRACT THE AWNING COMPLETELY TO PREVENT DAMAGE TO THE AWNING AND THE UNIT.

In the event of power loss or motor failure, the awning can be extended and retracted manually. Perform the following procedure to manually retract the awning.

NOTE: This procedure may also be performed to extend or retract the awning in the event of dry camping or camping without a battery.

1. Remove the rubber grommet (Fig. 21A) from the drive head assembly, exposing the manual override nut on the motor.



Fig. 21

NOTE: The drive head assembly is always located on the right side of the awning as it is viewed from outside of the unit.

2. Using a $\frac{7}{16}$ " socket and cordless or electric drill or screw gun, spin the manual override nut clockwise to extend or counterclockwise to retract the awning (Fig. 22A).

NOTE: Use caution when retracting the awning manually. The use of a step stool or ladder may be required to completely retract the awning.



Fig. 22

3. When the awning is completely retracted, replace the rubber grommet in the drive head assembly (Fig. 21A).

NOTE: The motor's internal drive system prevents the awning from moving (extend or retract) on its own. If the motor is damaged or disabled, make sure to secure the awning in the retracted position with a strap around both the outer arm and the mount arm (Fig. 23A) before the manual override nut is released.

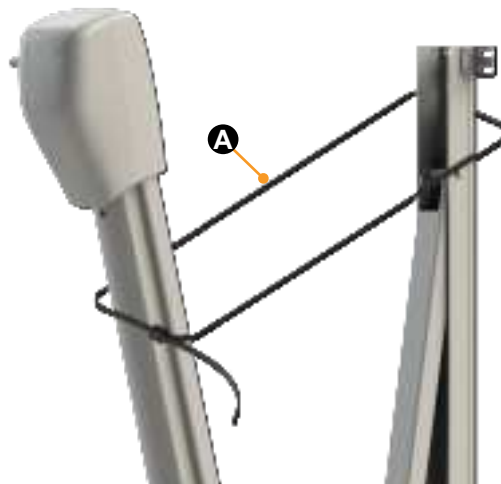


Fig. 23



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Troubleshooting

Adjusting Pitch Arm Fasteners

If the pitch arm does not hold position, it can be tightened by adjusting the bolt (Fig. 24A) in the center of the pitch arm.

1. Use a 1/2" wrench to tighten the nut (Fig. 24A) while holding the bolt (Fig. 24B) on the other side of the pitch arm with a 1/4" hex wrench.

NOTE: When tightening the nut do not tighten more than 1/4 turn at a time and do not tighten to the point of crushing the pitch arm.

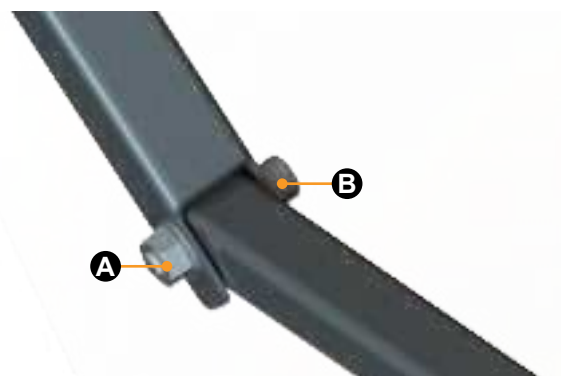


Fig.24

NOTE: Existing bolt, Belleville washers and nut are installed in a specific orientation for tensioning. Removal of these components or modification of the orientation will cause adverse effects on the pitch arm functionality.

NOTE: Use caution when retracting the awning manually. The use of a step stool or ladder may be required to completely retract the awning.

2. When the awning is completely retracted, replace the rubber grommet in the drive head assembly (Fig.22A).

NOTE: The motor's internal drive system prevents the awning from moving (extend or retract) on its own. If the motor is damaged or disabled, make sure to secure the awning in the retracted position with a strap around both the outer arm and the mount arm before the manual override nut is released.

What's Happening	Why?	What Should Be Done?
Awning won't open or close.	Optional travel locks are locked.	If installed, make sure optional travel locks are unlocked.
	Bad fuse.	Verify the fuse is good.
	Low power to the motor when switch is in the extended or retracted position.	Check for power at the motor when the switch is in the extended or retracted position.
Awning pitch won't stay in the flat position.	Bad gas strut.	Check for bad gas strut. Replace if necessary.
	Weakened pitch arm bolt.	Check pitch arm bolt for proper tension. High winds can cause the pitch arm to deviate from the flat position due to the built-in safety feature of the awning.
	Pitch arm washers are out of proper location.	Make sure all three pitch arm washers are in their proper location.



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What's Happening	Why?	What Should Be Done?
Awning doesn't close all the way.	Normal condition.	The awning is considered completely closed as long as the outer arm is overlapping the mount arm. This overlap can vary.
	Obstructions in the support arm assemblies.	Clear any obstructions from the support arm assemblies preventing the awning from closing.
	Fabric not square with roll tube.	Verify the fabric is square from unit to roll tube and is rolling up straight on the roll tube.
Awning runs slow.	Normal difference between retract and extend speeds.	The awning will run slower during retract than extend. Retract is approximately 35 seconds while extend is approximately 27 seconds on a fully-charged battery.
	Low voltage between unit and awning wire.	Make sure there are 12 volts where the unit wire meets the awning wire during retract.
	Pitch arms are bent in an upward direction.	Make sure the pitch arms are not bent in an upward direction.
	Poor switch ground connection to battery or chassis.	Make sure the ground wire before the switch has a good connection to the battery or chassis.
Awning seems to wobble when extending or retracting.	Loose support arm assembly bolts.	Make sure support arm assembly bolts are tight.
	Improperly seated end caps.	Make sure end caps are properly seated on roll tube.
	Bent head shaft.	Make sure shaft exiting the head and going to the end cap isn't bent.
	Wall mount not secured.	Make sure wall mount is secured to the wall.
	Support arm assemblies are bent.	Make sure no part of the support arm assemblies are bent.
	Wear collar spacers are not properly located in the support arm assemblies.	Make sure the wear collar spacers are all properly located in the support arm assemblies.
Awning works in opposite direction of what switch shows.	Reversed or switched wires.	Wires going to awning have been reversed or switched. Reverse the wires.
Awning rolls up backwards	Awning fabric does not roll up above the roll tube.	The awning fabric should always be above the roll tube. However, if the extend switch is engaged too long or extend is hit inadvertently instead of retract, the awning will roll up backward. This is not a defect. To correct the fabric orientation, press the retract button. The awning will then extend to its correct orientation and normal operation can resume.
Lights won't work.	Resettable fuse not reset.	There is a resettable fuse that can take up to ³⁰ seconds to reset.
	Low voltage on red wire going to the light.	Make sure to have 12 volts to the red wire on the light.

BY  **LIPPERT**

Maintenance

Fabric Care

If the awning is retracted while wet, extend the awning and let it dry as soon as conditions allow before retracting. This will help prevent the formation of mildew and add greatly to the life of the awning.

NOTE: Mildew does not form on the fabric itself, but on the accumulated dust, dirt and grime.

1. Periodically clean vinyl or woven acrylic fabric using a mixture of ¼ cup of dish soap and 5 gallons of warm water
2. Liberally apply the mixture on the top of the fabric and retract the awning for 5 minutes. This will apply the mixture to the bottom of the fabric as well.
3. Extend the awning and hose off with fresh water. Repeat if necessary.
4. Allow to dry before retracting.

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Notes

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