LIPPERT COMPONENTS®

Solera® by Lippert Components®



Solera® Universal Hardware

Manual Awning to Solera® 12V Power Awning

(For Aftermarket Applications)

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LIPPERT COMPONENTS

Solera® Universal Hardware

Manual Awning to Solera® 12V Power Awning

(For Aftermarket Applications)

Introduction

System Information

The Solera® 12V Power Awning 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 Solera Universal Hardware kit for a manual to power conversion will **ONLY** fit Dometic and Carefree awnings.

Additional Information Sources

Additional information about this product can be obtained from www.lci1.com/support or by using the myLCI app. Replacement components can be ordered from https://store.lci1.com/ or by using the myLCI app. The myLCI app is available for free on iTunes® for iPhone® and iPad® and also on Google Play™ for Android™ users.

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Safety Information

Warning, Caution and Danger symbols indicate that an installation procedure has a safety risk involved and may cause death, serious injury or property damage if not performed safely and within the parameters set forth in this manual.

⚠ CAUTION

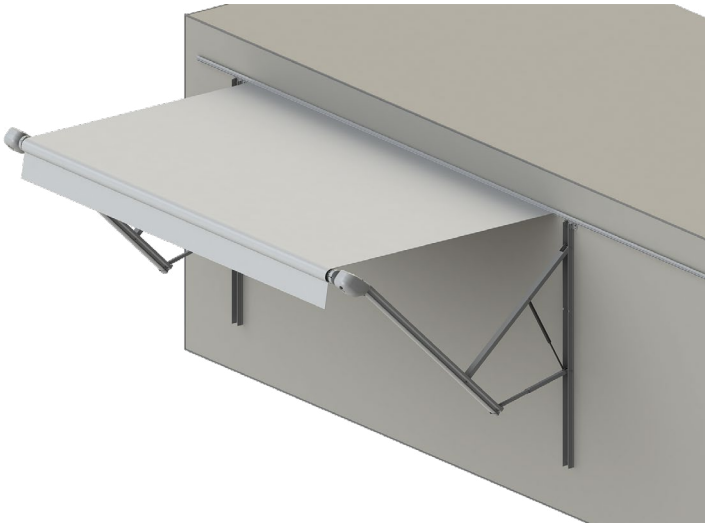
MOVING PARTS CAN PINCH, CRUSH OR CUT. KEEP CLEAR AND USE CAUTION.

Manual awnings that contain springs use tension for ease of operation and can be harmful to the end user should the stored tension come unbound. Cotter pins, travel locks and cam locks are installed and **MUST** be used to contain the tension when the system is being serviced.

⚠ WARNING

FAILURE TO USE THE INSTALLED SAFETY FEATURES MAY RESULT IN DEATH, SERIOUS INJURY, DAMAGE TO THE UNIT AND/OR VOIDING A WARRANTY.

Parts List



Universal Kit #	Description
759516	Solera Power 12V 63” Kit, Black
759404	Solera Power 12V 63” Kit, White
434723	Solera Power 12V 69” Kit, Black
434724	Solera Power 12V 69” Kit, White

Short Arm (63”)

Solera 12V Short Arm (63”) Adjustable Pitch Arms require:

- 63” inches of unobstructed area from the awning rail straight down
- Minimum clearance of 6” between the awning rail and top of the entry door

Tall Arm (69”)

Solera 12V Tall Arm (69”) Flat Adjustable Pitch Arms require:

- 69” of unobstructed area from the awning rail straight down
- Minimum clearance of 4” between the awning rail and the top of the entry door

LIPPERT COMPONENTS

Solera® Universal Hardware

Manual Awning to Solera® 12V Power Awning

(For Aftermarket Applications)

Preparation

Resources Required

- Additional Qualified Assistants
- Cordless or Electric Drill or Screw Gun
- Appropriate Drive and Drill Bits
- Socket Wrench
- ⅜" Socket
- Rivet Gun
- Locking Pliers
- Cordless Battery
- Wire Stripper
- Wire Crimper
- Ladder
- Silicone Sealant
- Non-permanent Method of Marking

NOTE: It is the customer's responsibility to fill in/seal any and all holes left on the unit after installation.

Conversion

Dometic Manual Awning to Solera 12V Power Awning

NOTE: All screws supporting the awning assembly **MUST** have a backer within the structure of the wall of the unit.

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.

NOTE: When converting a Dometic Manual Awning to a Solera 12V Power Awning, the converted awning will be approximately 2" wider than the initial awning. Be sure there are no obstructions that may interfere with the installation of the support arm assemblies **PRIOR** to beginning the conversion process.

1. Unlock the travel locks, move the cam lock to the roll out position and extend the awning approximately 12".

2. Insert a cotter pin **(Fig.1C)** into the end cap **(Fig.1A)** at each end of the awning.

3. On the drive side of the awning, and with an assistant holding the roll tube, use a ⅜" socket to remove the bolt securing the drive head **(Fig.1B)** to the support arm **(Fig.1D)**.

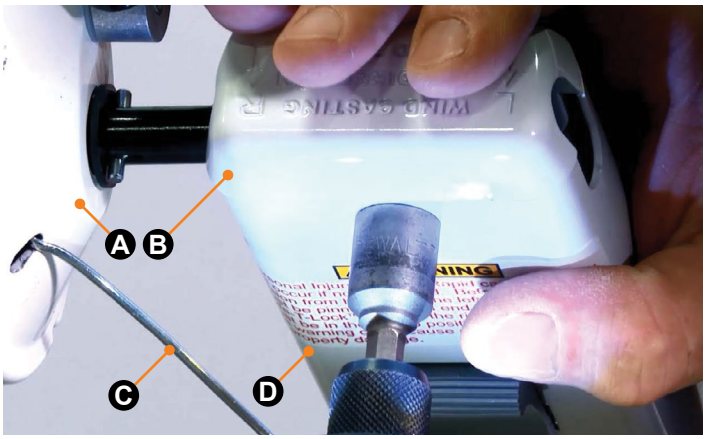


Fig.1

4. Separate the drive head from the support arm and secure the support arm to the unit in the travel position.

5. Remove the fasteners from the upper mounting bracket **(Fig.2A)** of the support arm assembly.

6. Detach the support arm assembly from the lower mounting bracket.

7. Remove the fasteners from the lower mounting bracket **(Fig.3A)** of the support arm assembly.



Fig.2

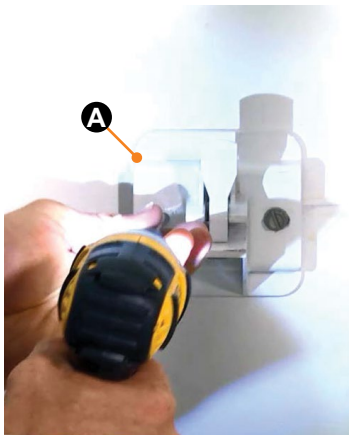


Fig.3

8. Firmly take hold of the drive head with a pair of locking pliers **(Fig.4)**. Remove the cotter pin from the end cap and move the cam lock to the roll up position.

NOTE: Padding the locking pliers will prevent the scratching of components.

⚠WARNING

THESPRINGISUNDEREXTREMETENSION.IMPROPER HANDLING COULD CAUSE DEATH, SERIOUS INJURY OR PROPERTY DAMAGE.



Fig.4

9. Slowly release all of the tension by rotating the drive head with the locking pliers.

10. Using an appropriately sized drill bit, drill out the rivets securing the end cap to the roll tube.

11. Remove the end cap and spring assembly **(Fig.5B)** from the roll tube **(Fig.5A)**.

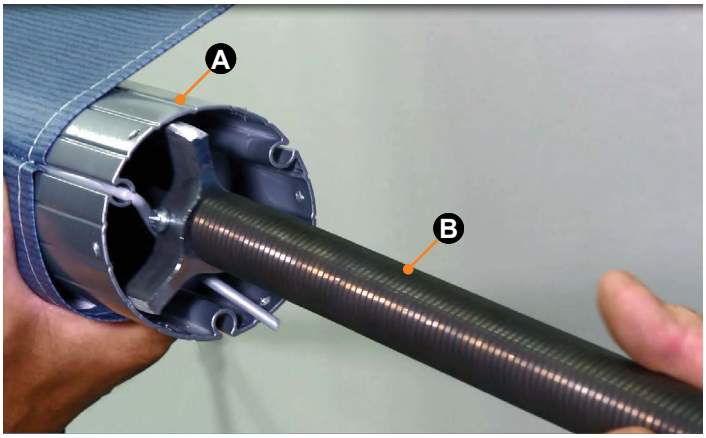


Fig.5

12. Place the Solera end cap **(Fig.6B)** on the end of the roll tube **(Fig.6A)**, making sure it is properly seated and the roll tube channel is aligned with the channel on the end cap.

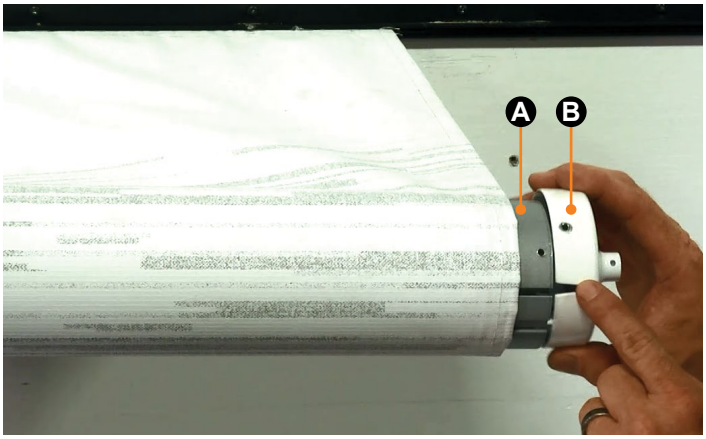


Fig.6

13. Secure the Solera end cap to the roll tube with the provided rivets.

NOTE: It may be necessary to drill out the previous holes in order to accommodate the larger-sized rivets.

14. Insert the Solera drive head assembly shaft **(Fig.7B)** into the end cap **(Fig.7A)**.

NOTE: When identifying the drive head assembly from the idler head assembly, the drive head assembly will have an override plug **(Fig.7C)**. The idler head assembly will not.

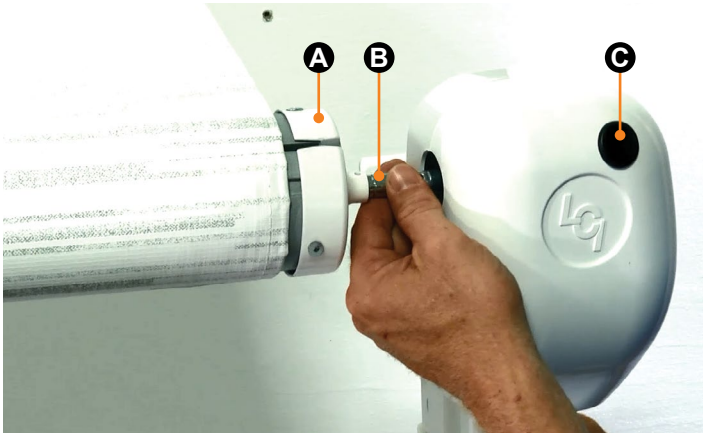


Fig.7

15. Align the holes in the shaft and end cap and secure with the provided #8 - 32 x ½" wax screw **(Fig.8)**.

NOTE: Keep the head of the wax screw ⅛" from fastened to avoid compromising the structural integrity of the wax screw.

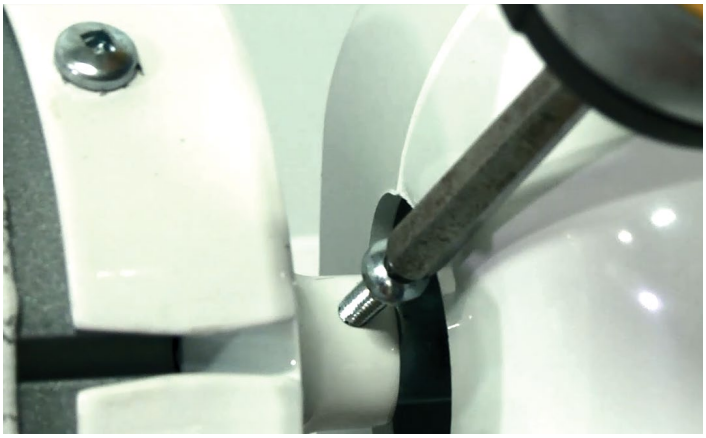


Fig.8

16. Place the drive support arm assembly directly under the awning rail so the top of the mount arm is touching the bottom of the rail.

17. Slide the drive support arm assembly outward to align below the holes of the awning that was removed before securing the upper bracket.

NOTE: Silicone sealant **MUST** be used on all screws and holes to prevent water from infiltrating the unit.

18. Secure the upper section of the drive mount arm to the unit with 2 of the provided #14 x 1 ¼" screws **(Fig.9)**.

NOTE: Do **NOT** install fasteners to the lower and middle sections of the wall mount arm at this time.

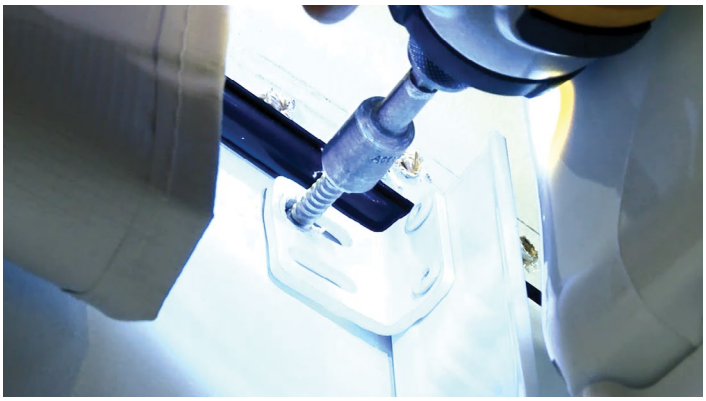


Fig.9

19. Repeat Steps 3-18 for the idler side of the awning, skipping all cam lock instructions.

NOTE: The idler head does **NOT** have a cam lock. The cotter pin is holding all the tension of the spring assembly.

NOTE: Be sure to handle the assembly with care and always have a secure hold of the idler head.

20. Once the drive and idler side conversions are complete, cut the nylon ties containing the support arm assemblies.

21. At the drive support arm assembly, connect the motor leads **(Fig.10A)** to a cordless battery **(Fig.10B)** and fully extend the awning.

22. Remove the wire covers to expose the lower and middle sections of the mount arm.

NOTE: The wire cover may only be on the drive support arm assembly.

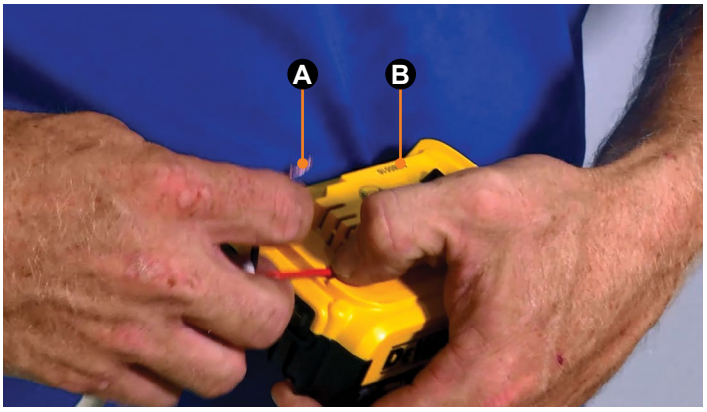


Fig.10

23. Secure the lower **(Fig.11)** and middle **(Fig.12)** sections of the drive mount arm to the unit with the provided #14 x 1 ¼" screws or rivets. Make sure the arm is square on the unit wall. (There will be 2 screws in the middle holes and 2 in the bottom holes.)

NOTE: For units with fiberglass sidewalls, LCI requires the use of rivets for securing the lower and middle sections of the mount arm.

NOTE: Silicone sealant **MUST** be used on all screws and holes to prevent water from infiltrating the unit.



Fig.11

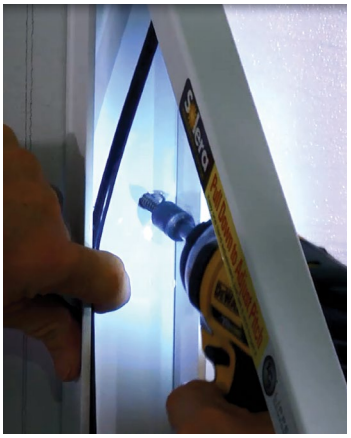


Fig.12

24. Repeat Steps 22-23 for the idler mount arm.

NOTE: See "Wiring" Section to complete installation.

25. Replace the wire covers.

Carefree Manual Awning to Solera 12V Power Awning

NOTE: All screws supporting the awning assembly **MUST** have a backer within the structure of the wall of the unit.

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. Using a non-permanent method of marking, draw a vertical line along the inside of both the drive and idler side support arm assemblies. This will act as a guideline for re-installation.

1. Unlock the travel locks, move the cam lock to the roll out position and extend the awning approximately 12”.

2. Insert a cotter pin **(Fig.13A)** into the end cap **(Fig.13B)** at each end of the awning.

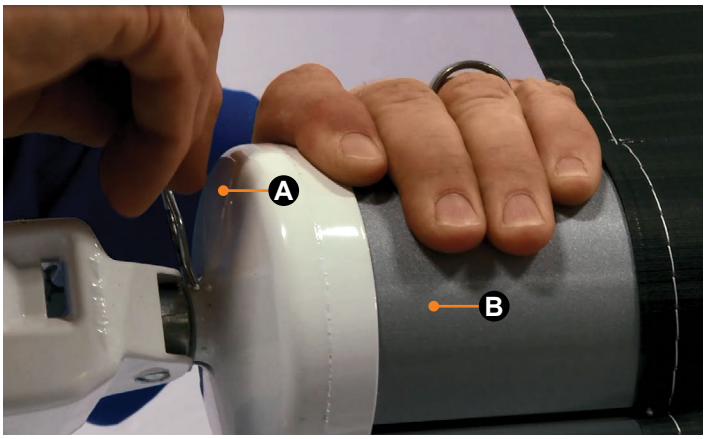


Fig.13

NOTE: Some Carefree systems do not have a hole on the drive end cap for the cotter pin. In this instance, the cam lock **MUST** remain in the roll out position until it is time to release the tension in the springs.

NOTE: Some Carefree systems are equipped with a cam lock assist on the drive side of the awning. If equipped, remove the cam lock assist **(Fig.14B)** from the lock pin **(Fig.14A)**, making sure the cam lock remains in the roll out position.

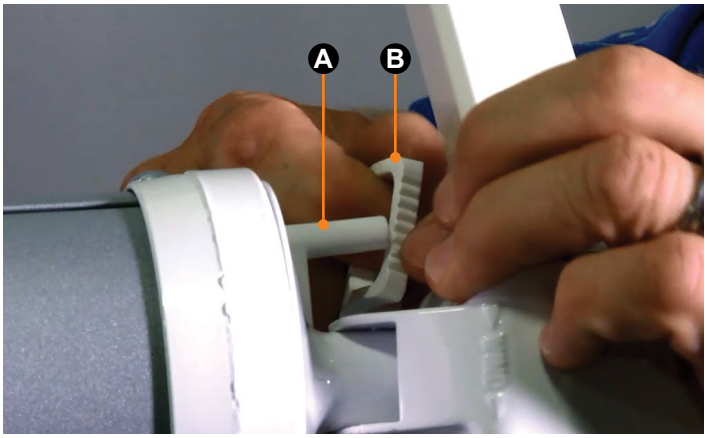


Fig.14

3. With an assistant holding the roll tube **(Fig.15A)**, remove the fastener securing the drive head **(Fig.15B)** to the support arm.

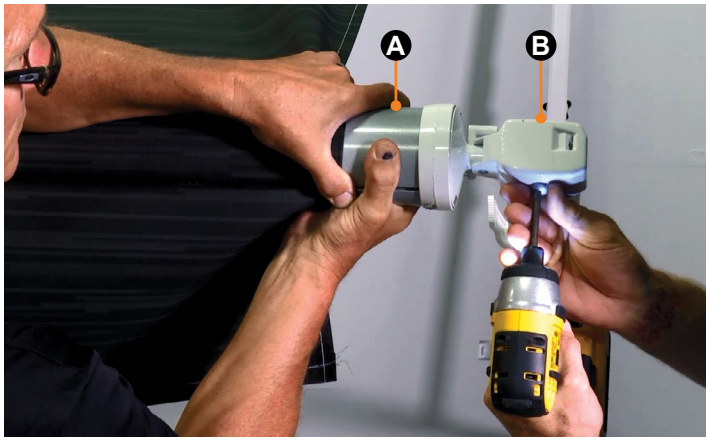


Fig.15

4. Separate the drive head from the support arm and secure the support arm to the unit in the travel position.

5. Remove the fasteners from the upper mounting bracket **(Fig.16)** of the support arm assembly.

6. Detach the support arm assembly from the lower mounting bracket.

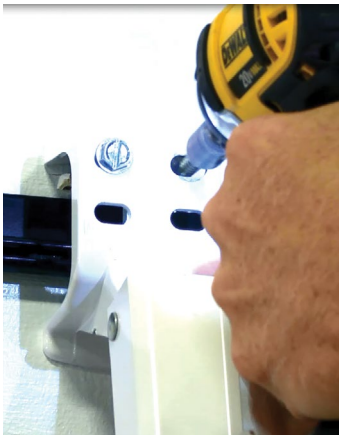


Fig.16



Fig.17

7. Remove the fasteners from the lower mounting bracket **(Fig.17)** of the support arm assembly.

⚠ WARNING

THE SPRING IS UNDER EXTREME TENSION. IMPROPER HANDLING COULD CAUSE DEATH, SERIOUS INJURY OR PROPERTY DAMAGE.



Fig.18

8. Firmly take hold of the drive head with a pair of locking pliers **(Fig.18)**. Remove the cotter pin, if equipped, from the end cap and move the cam lock to the roll up position.

NOTE: Padding the locking pliers will prevent the scratching of components.

9. Slowly release all of the tension by rotating the drive head with the locking pliers.

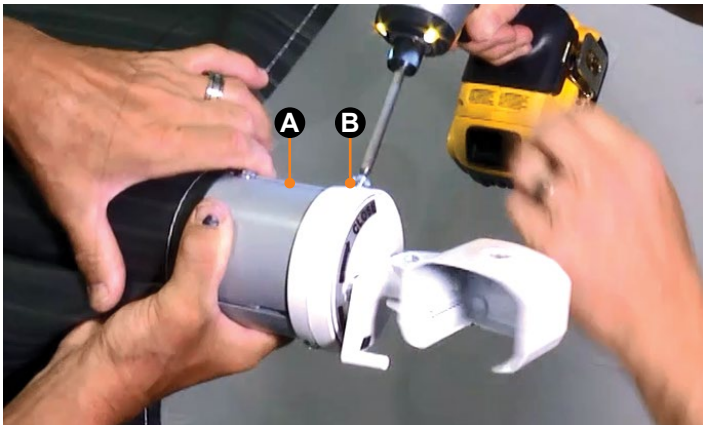


Fig.19

10. Remove the 3 screws securing the end cap **(Fig.19B)** to the roll tube **(Fig.19A)**.

11. Remove the end cap **(Fig.20C)** and spring assembly **(Fig.20B)** from the roll tube **(Fig.20A)**.

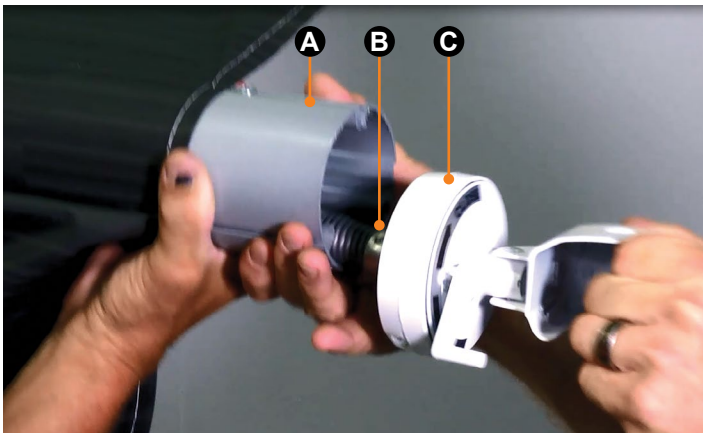


Fig.20

12. Place the Solera® end cap **(Fig.21B)** on the end of the roll tube **(Fig.21A)**, making sure it is properly seated and the roll tube channel is aligned with the channel on the end cap.

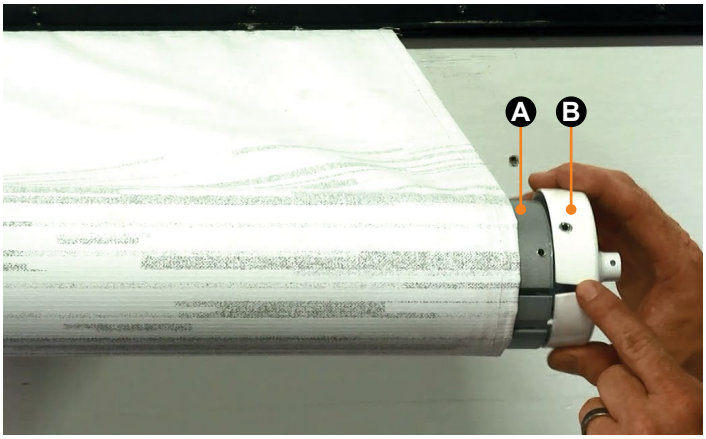


Fig.21

13. Secure the Solera® end cap to the roll tube with the provided rivets.

NOTE: It may be necessary to drill out the previous holes in order to accommodate the larger sized rivets.

14. Insert the Solera® drive head assembly shaft **(Fig.22B)** into the end cap **(Fig.22A)**.

NOTE: When determining the drive head assembly from the idler head assembly, the drive head assembly will have an override plug **(Fig.22C)**, whereas the idler head assembly will not.

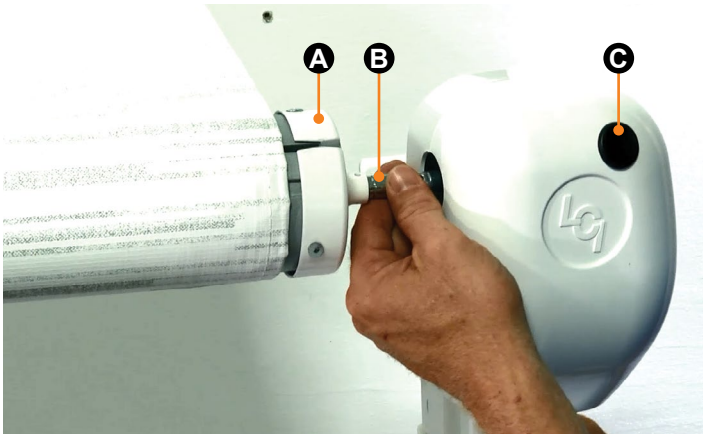


Fig.22

15. Align the holes from the shaft on the head to the end cap and secure with the provided #8 - 32 x ½" wax screw **(Fig.23)**.

NOTE: Keep the head of the wax screw ⅛" from fastened to avoid compromising the structural integrity of the wax screw.



Fig.23

16. Place the drive support arm assembly directly under the awning rail so the top of the mount arm is touching the bottom of the rail.

17. Secure the upper section of the drive mount arm to the unit with 2 of the provided #14 x 1 ¼" screws **(Fig.24)**, aligning directly below the holes of the awning removed.

NOTE: Silicone sealant **MUST** be used on all screws and holes to prevent water from infiltrating the unit.

NOTE: Do **NOT** install fasteners to the lower and middle sections of the wall mount arm at this time.

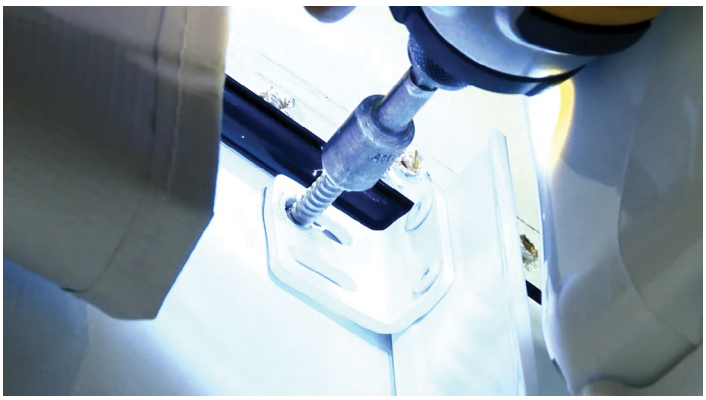


Fig.24

18. Repeat Steps 3-17 for the idler side of the awning, skipping all cam lock instructions.

NOTE: The idler head does **NOT** have a cam lock, and therefore the cotter pin is holding all the tension of the spring assembly.

NOTE: Be sure to handle with care and always have a secure hold of the idler head.

19. Once the drive and idler side conversions are complete, cut the nylon ties containing the support arm assemblies.

20. At the drive support arm assembly, connect the motor leads **(Fig.25A)** to a cordless battery **(Fig.25B)** and fully extend the awning.

21. Remove the wire covers to expose the lower and middle sections of the mount arm.

NOTE: The wire cover may only be on the drive support arm assembly.

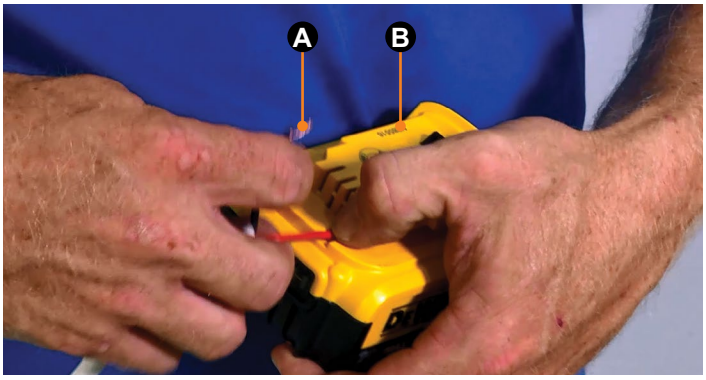


Fig.25

22. Secure the lower **(Fig.26)** and middle **(Fig.27)** sections of the drive mount arm to the unit with the provided #14 x 1 ¼" screws or rivets. Make sure arms are square to the unit. (There will be 2 screws in the middle holes and 2 in the bottom holes.)

NOTE: Silicone sealant **MUST** be used on all screws and holes to prevent water from infiltrating the unit.



Fig.26

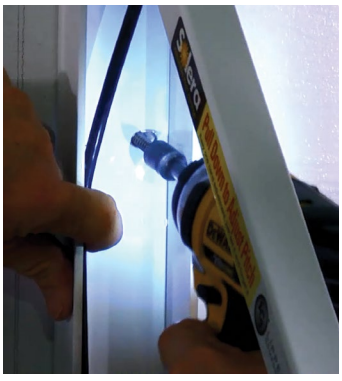


Fig.27

NOTE: For units with fiberglass sidewalls, LCI requires the use of rivets for securing the lower and middle sections of the mount arm.

23. Repeat Steps 21-22 for the idler mount arm.

NOTE: See "Wiring" Section to complete installation.

24. Replace the wire covers.

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.28)**.

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 LCI-supplied power cable.

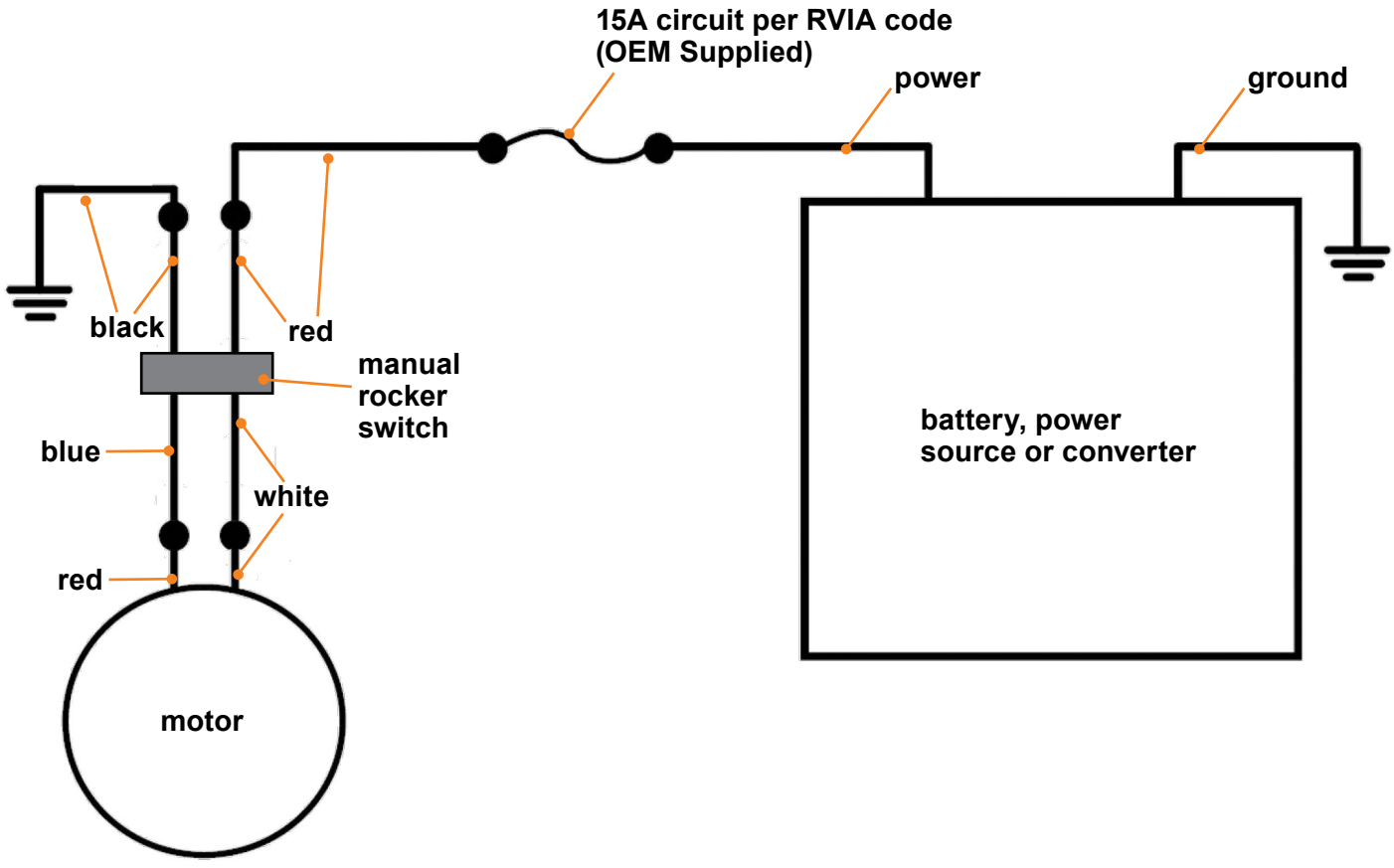


Fig.28

Operation

Extending the Awning

NOTE: Some units may not use the LCI switch **(Fig.29)**.

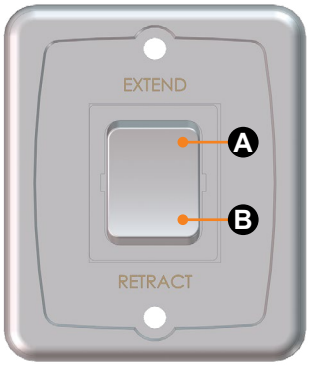


Fig.29

Extending the Awning

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.29A)** until the awning is extended completely.

NOTE: 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 **(Fig.29B)**. The awning will then extend to its correct orientation and normal operation can resume.

⚠ 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.

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.30).**

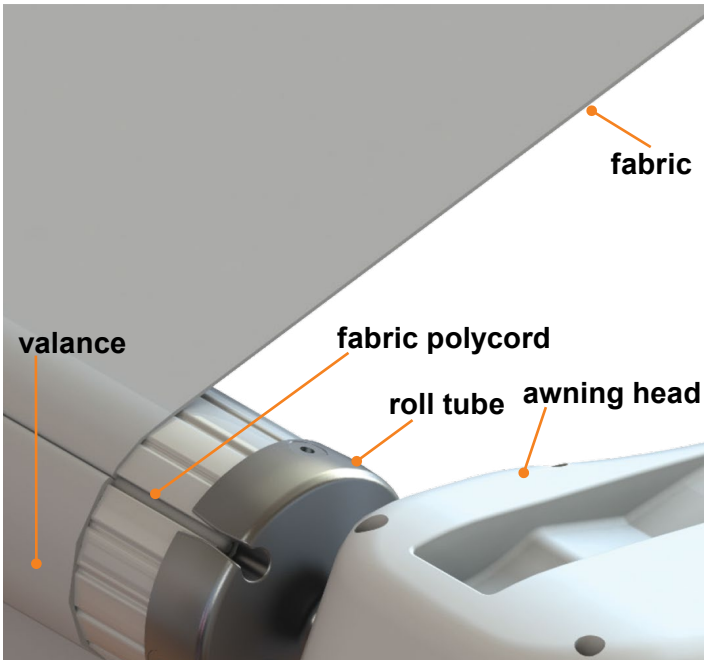


Fig.30

⚠ 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.

Retracting the Awning

1. Verify the RV 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.29B)** until the awning is retracted completely.

3. Locate the locking latch on the side of the support arm, if equipped, and lock the latch.

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

Adjusting Pitch

NOTE: The awning will pitch itself to purge the pooling of excess water and may dump a significant amount of water without notice.

NOTE: Pitch can be set by adjusting the pitch arm to tip one side of the awning to allow water runoff.

1. Extend the awning to the fully open position.

2. Choose the side of the awning for optimum shade or convenient water runoff. Pull downward on the joint of the pitch arm until desired pitch is set **(Fig.31A)**. Belleville washers and bolt **(Fig.31B)** allow for the joint to remain in the position set by the operator.

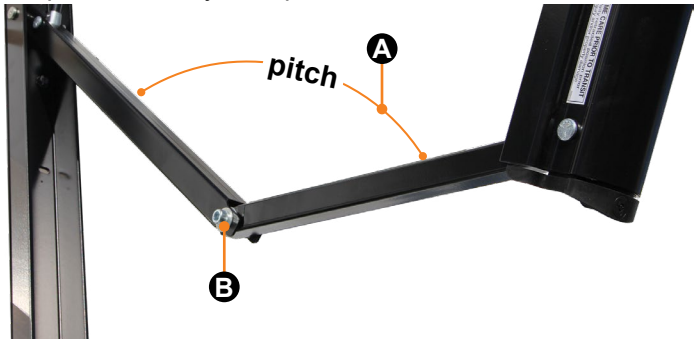


Fig.31

NOTE: Some awnings are equipped with a 2-position pitch arm **(Fig.32)**. The 2-position arm can be set in the pitch position or snapped into a straight position by pushing the release button **(Fig.32A)** and sliding the sleeve **(Fig.32B)**.

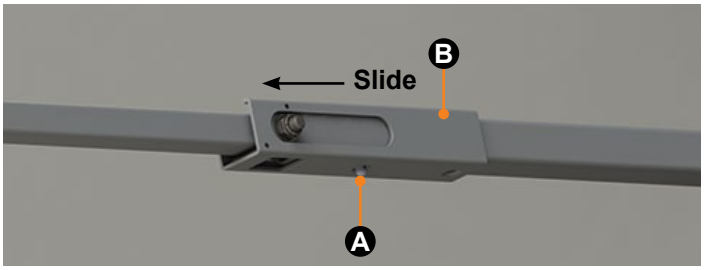


Fig.32

NOTE: Do not push the joint of the pitch arm up past the point where the two sections are in a straight line. This will put tension on the gas strut, which can cause the strut to break.

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

NOTE: If the pitch arm does not hold position, it can be tightened by adjusting the bolt **(Fig.31B)** in the center of the joint.

Troubleshooting

Manual Override

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.33A)** from the drive head assembly, exposing the manual override nut on the motor.



Fig.33

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 7⁄16" socket and cordless or electric drill or screw gun, spin the manual override nut counterclockwise to retract the awning **(Fig.34)**.

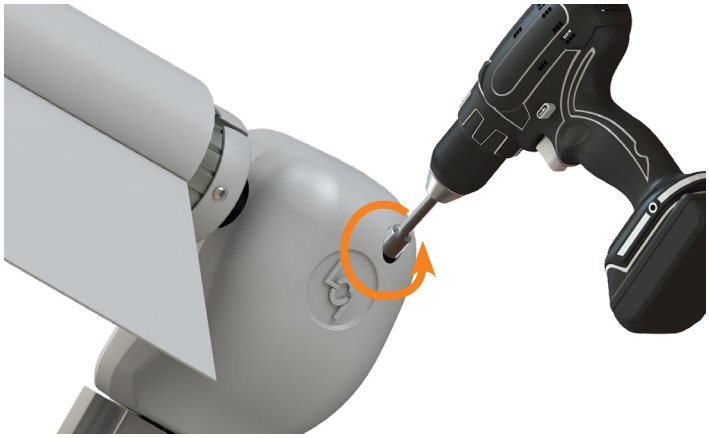


Fig.34

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

3. When the awning is completely retracted, replace the rubber grommet in the drive head assembly **(Fig.33A)**.

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, be 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.

⚠ 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.

Solera Power Awning Troubleshooting

What's Happening?	What Should Be Done?
Awning won't open or close.	If optional travel locks are installed, make sure that they have been unlocked.
	Verify the fuse is good.
	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.	Check for bad gas strut.
	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.)
	Make sure all three washers are in the proper location of the pitch arm.
Awning doesn't close all the way.	The awning is considered completely closed as long as the outer arm is overlapping the mount arm. This overlap can vary.
	Make sure there are no obstructions in the support arm assemblies preventing the awning from closing.
	Verify the fabric is square from unit to roll tube and is rolling up straight on the roll tube.
Awning runs slow.	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.
	Make sure there are 12 volts where the unit wire meets the awning wire during retract.
	Make sure pitch arms are not bent in an upward direction.
	Make sure the ground wire before the switch has a good connection to the battery or chassis.
Lights won't work.	There is a resettable fuse that can take up to 30 seconds to reset.
	Make sure to have 12 volts to the red wire on the light.
Awning seems to wobble when extending or retracting.	Make sure the bolts that hold the head to the support arm assemblies are tight.
	Make sure end caps are seated properly on the roll tube.
	Make sure the shaft coming out of the head going to the end cap isn't bent.
	Make sure the wall mount is properly secured to the wall.
	Make sure no part of the support arm assemblies are bent.
	Make sure the wear collar spacers are all properly located in the support arm assemblies.

Solera Power Awning Troubleshooting (Continued)

What's Happening?	What Should Be Done?
Awning works in opposite direction of what switch shows.	Wires going to awning have been reversed or switched. Reverse the wires.
Awning rolls up backward.	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.

Maintenance - Solera Awnings

Fabric Care

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

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

Periodically clean vinyl or woven acrylic fabric using a mixture of ¼ cup of dish soap and five gallons of warm water.

1. Liberally apply the mixture on the top of the fabric and retract the awning for five minutes.

2. Apply the mixture to the bottom of the fabric as well.

3. Extend the awning and hose off with fresh water.

4. Repeat if necessary.

5. Allow to dry before retracting.

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