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Solera® Universal Hardware Manual Awning to Solera® Hybrid Awning (For Aftermarket Applications)

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Solera® Universal Hardware

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Introduction

System Information

The Solera® Hybrid Awning is the next best thing to a power awning. Simple crank operation makes setting up camp fast and easy, and the Hybrid locks into place when retracted for safe travel. Skip the hassle and cost of wiring and enjoy an easy DIY upgrade from a manual awning.

NOTE: The LCI Solera® Universal Hardware kit for a manual to hybrid 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
434727	Solera Hybrid 69" Tall Arm, Infinite Pitch Standard Kit - Black
434728	Solera Hybrid 69" Tall Arm Infinite Pitch Standard Kit - White



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Preparation

Resources Required

- Additional Qualified Assistants
- Cordless or Electric Drill or Screw Gun
- Appropriate Drive and Drill Bits
- Socket Wrench
- $\frac{3}{8}$ " Socket
- Rivet Gun
- Locking Pliers
- Ladder
- Silicone Sealant
- Non-permanent Method of Marking

Conversion

Dometic Manual Awning to Solera Hybrid 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 Hybrid 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 $\frac{3}{8}$ " socket to remove the bolt securing the drive head (**Fig.1B**) to the support arm (**Fig.1D**).

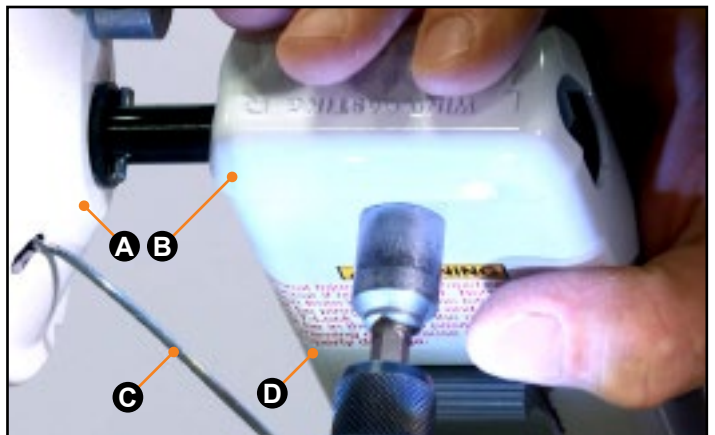


Fig.1

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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

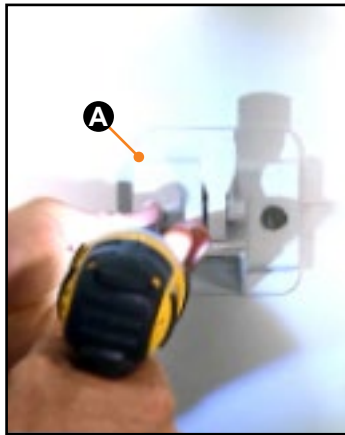


Fig.3

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

THE SPRING IS UNDER EXTREME TENSION. 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**).

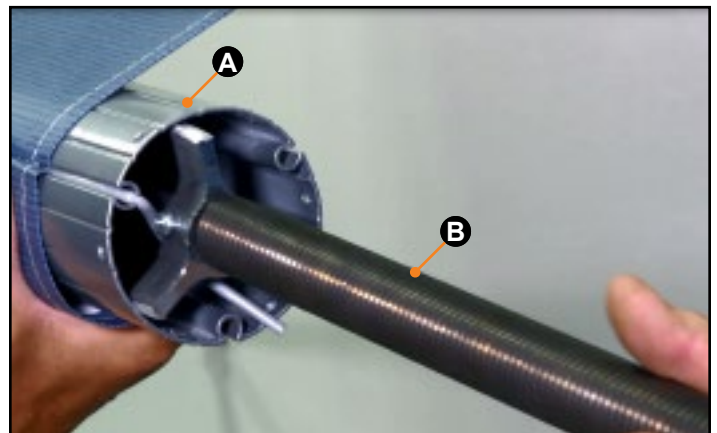


Fig.5

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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.

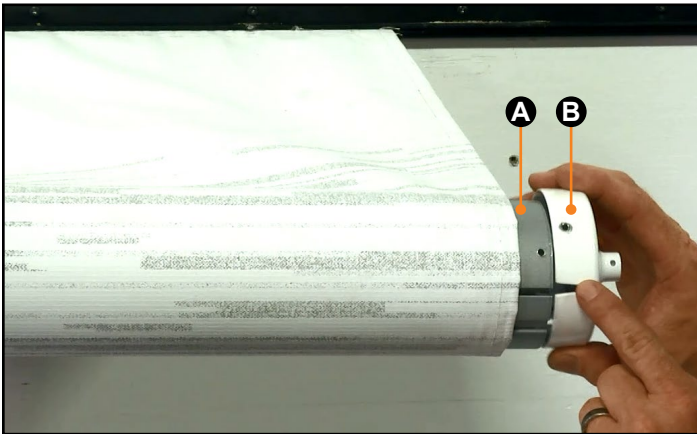


Fig.6

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 the eye bolt for the crank (**Fig.7C**) and manual override plug (**Fig.7D**). The idler head assembly will not.

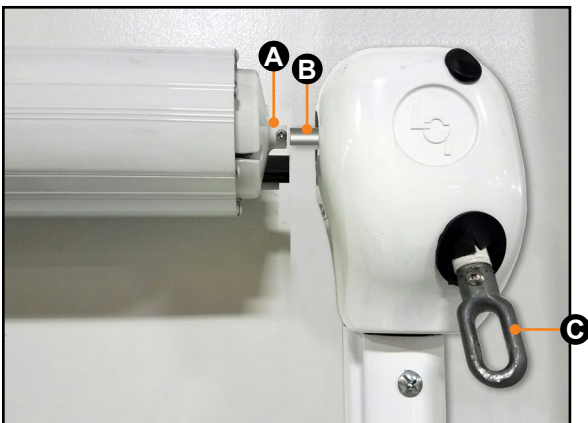


Fig.7

15. Align the holes in the shaft and end cap and secure with the provided #8 - 32 x 1/2" wax screw (**Fig.8**).

NOTE: Keep the head of the wax screw 1/8" 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.

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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.

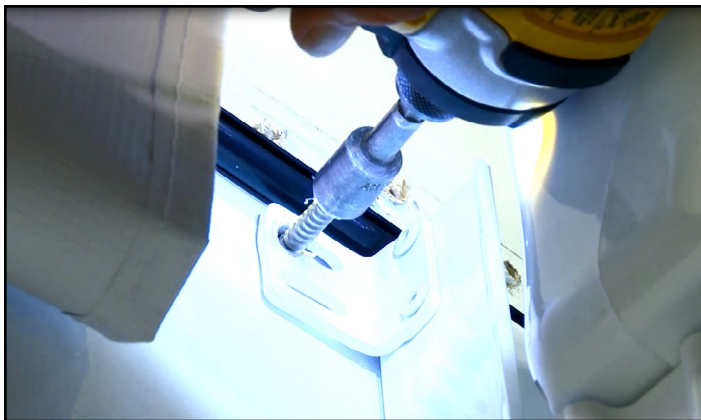


Fig.9

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

NOTE: Because the converted awning is approximately 2" wider than the previous awning, the support arm assembly on the idler side will **NOT** align with the previous holes.

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. Use the manual crank to fully extend the awning. See "Operation" section of this manual.

22. Secure the lower (**Fig.10**) and middle (**Fig.11**) sections of the drive and idler mount arms 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 lower holes and 2 screws in the middle holes).

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



Fig.10

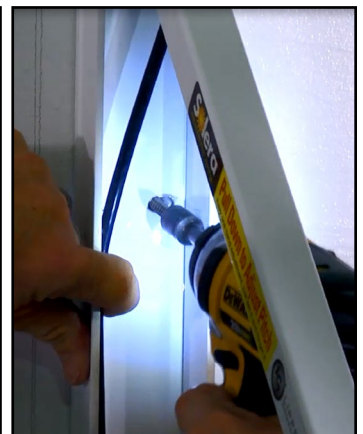


Fig.11

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

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

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Carefree Manual Awning to Solera Hybrid 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.

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.12A) into the end cap (Fig.12B) at each end of the awning.

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.

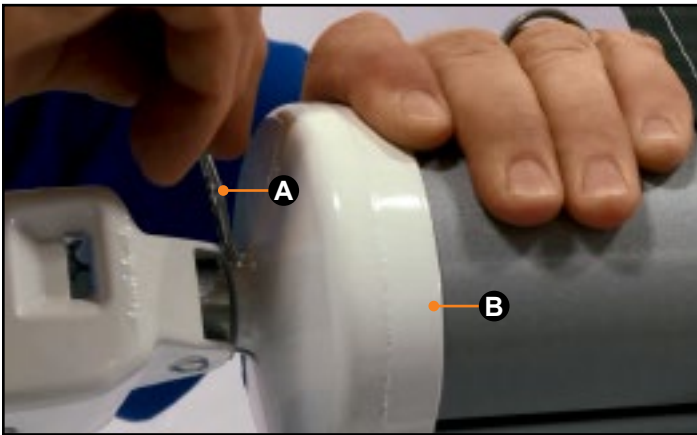


Fig.12

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.13B) from the lock pin (Fig.13A), making sure the cam lock remains in the roll out position.

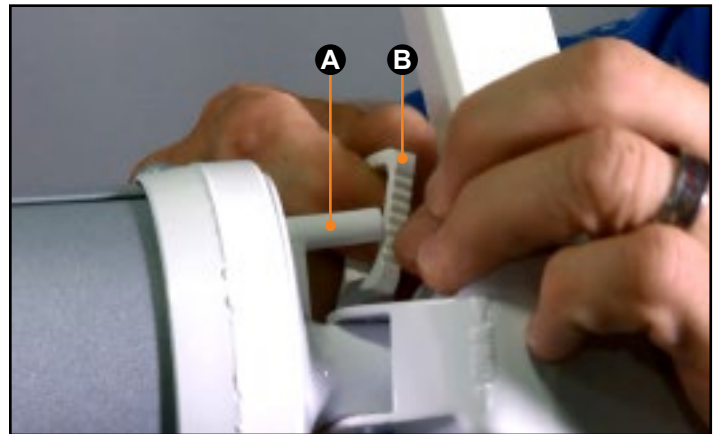


Fig.13

3. With an assistant holding the roll tube (Fig.14A), remove the fastener securing the drive head (Fig.14B) to the support arm.

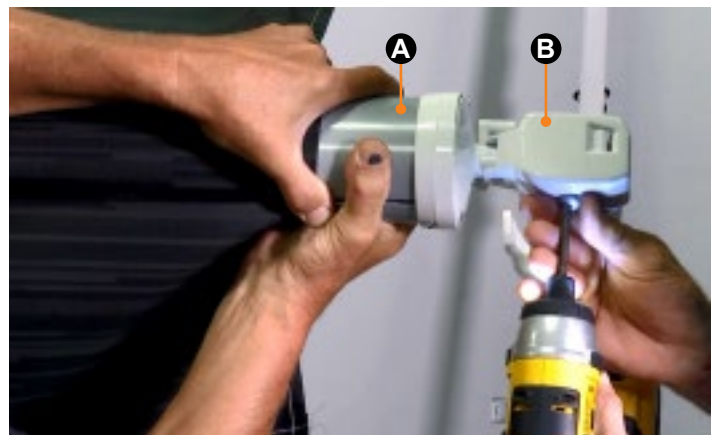


Fig.14

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

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5. Remove the fasteners from the upper mounting bracket (**Fig.15**) 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.16**) of the support arm assembly.



Fig.15



Fig.16

8. Firmly take hold of the drive head with a pair of locking pliers (**Fig.17**). 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.

⚠ WARNING

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



Fig.17

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

10. Remove the 3 screws securing the end cap (**Fig.18B**) to the roll tube (**Fig.18A**).

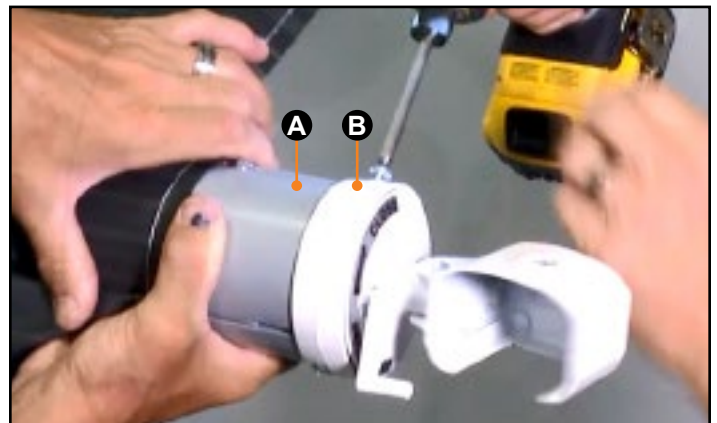


Fig.18

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11. Remove the end cap (**Fig.19C**) and spring assembly (**Fig.19B**) from the roll tube (**Fig.19A**).

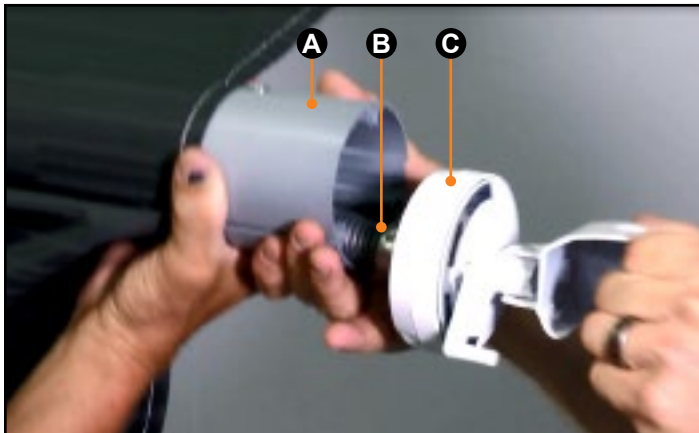


Fig.19

12. Place the Solera end cap (**Fig.20B**) on the end of the roll tube (**Fig.20A**), making sure it is properly seated and the roll tube channel is aligned with the channel on the end cap.

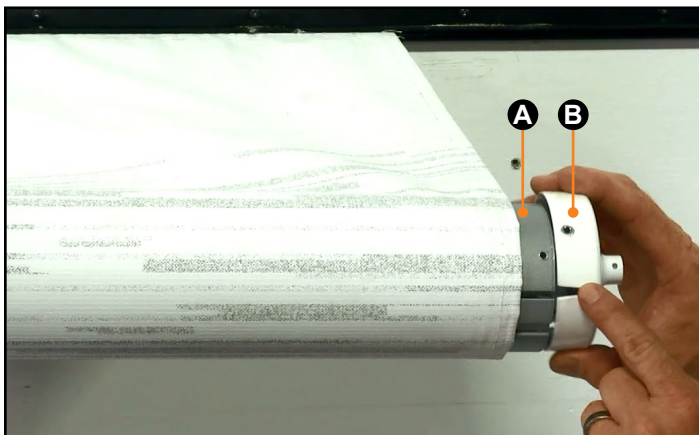


Fig.20

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.21B**) into the end cap (**Fig.21A**).

NOTE: When determining the drive head assembly from the idler head assembly, the drive head assembly will have an override plug (**Fig.21C**), while the idler head assembly will not.

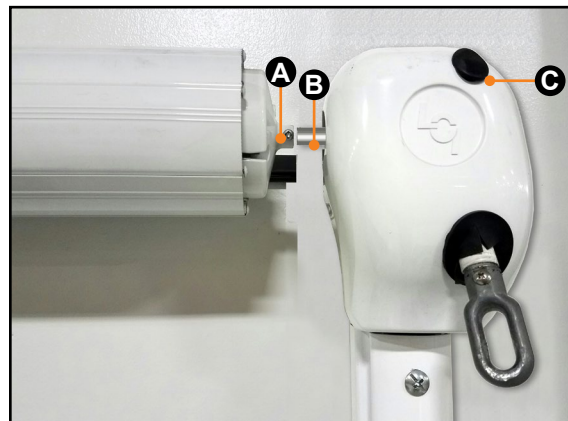


Fig.21

15. Align the holes from the shaft on the head to the end cap and secure with the provided #8 - 32 x 1/2" wax screw (**Fig.22**).

NOTE: Keep the head of the wax screw 1/8" from fastened to avoid compromising the structural integrity of the wax screw.

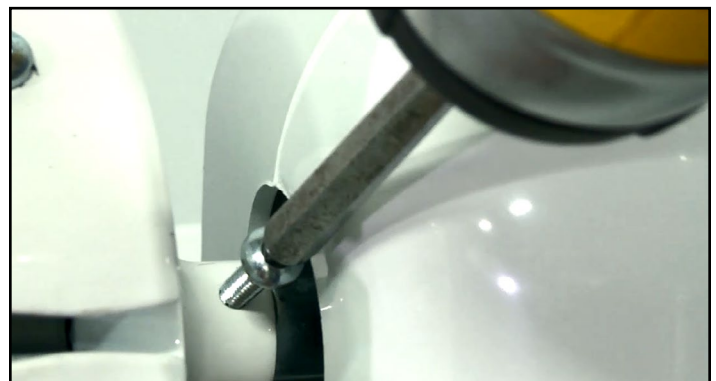


Fig.22

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. Secure the upper section of the drive mount arm to the unit with 2 of the provided #14 x 1 1/4" screws, aligned directly below the holes of the awning removed (**Fig.23**).

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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.

17. Repeat Steps 3-16 for the idler side of the awning, skipping all cam lock instructions.

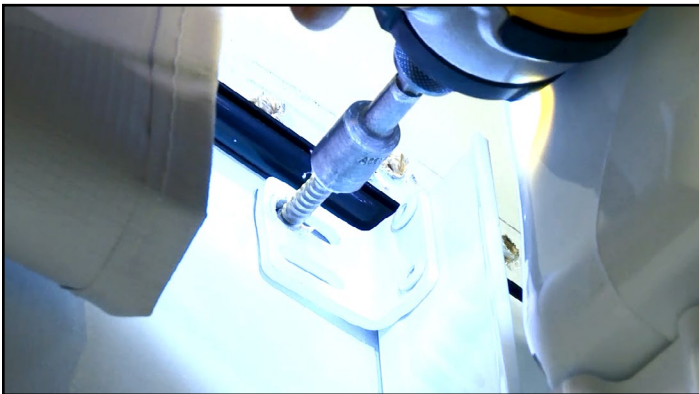


Fig.23

NOTE: The idler head does **NOT** have a cam lock, 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.

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

19. Use the manual crank to fully extend the awning. See "Operation" section of this manual.

20. Secure the lower (**Fig.24**) and middle (**Fig.25**) sections of the drive and idler mount arms to the unit with the provided #14 x 1 1/4" screws or rivets. Make sure arms are square to the unit. (There will be 2 screws in the lower holes and 2 screws in the middle holes.)

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

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



Fig.24

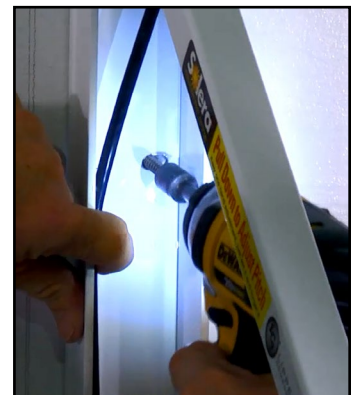


Fig.25

Operation

NOTE: If the unit is equipped with a locking latch, be sure to unlock the latch prior to extending the awning. After retraction and before travel, be sure to lock the support arms back into place.

Extending the Awning

1. Locate the crank handle for the awning (**Fig.27A**).
2. Insert the hook end of the crank handle into the eye bolt on the drive head (**Fig. 26A**).
3. Turn the crank handle so the eye bolt rotates in a clockwise direction and fully extend the awning.

NOTE: Keeping the handle as parallel to the support arm assembly as possible makes it easier to turn.

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. 28**).

⚠ CAUTION

TYING THE ROLL TUBE DOWN 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.



Fig.27

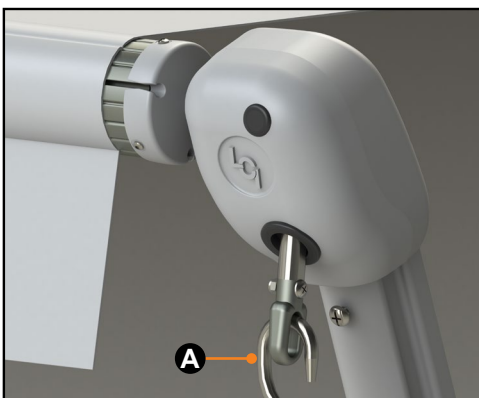


Fig.26

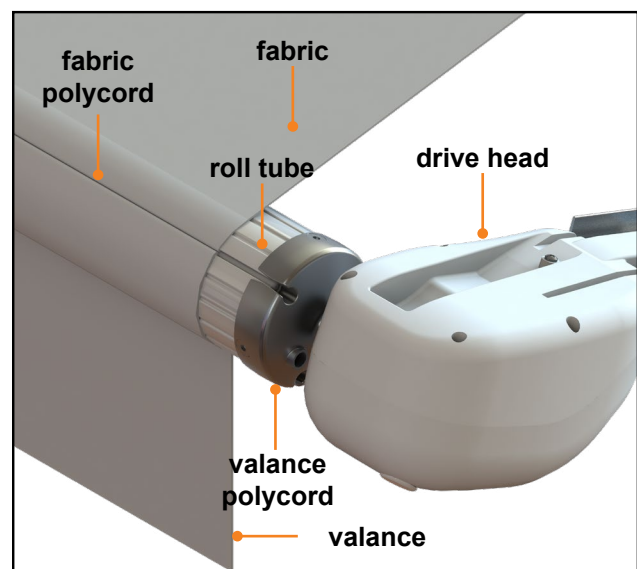


Fig.28

Retracting the Awning

NOTE: The awning can be retracted without resetting the pitch (see Adjusting Pitch).

1. Locate the crank handle for the awning (**Fig.30A**).
2. Insert the hook end of the crank handle into the eye bolt on the drive head (**Fig. 29A**).
3. Turn the crank handle so the eye bolt rotates in a counterclockwise direction until the awning is fully retracted.

NOTE: Keeping the handle as parallel to the support arm assembly as possible makes it easier to turn.

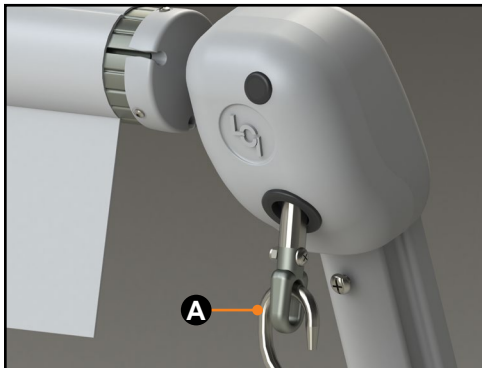


Fig.29

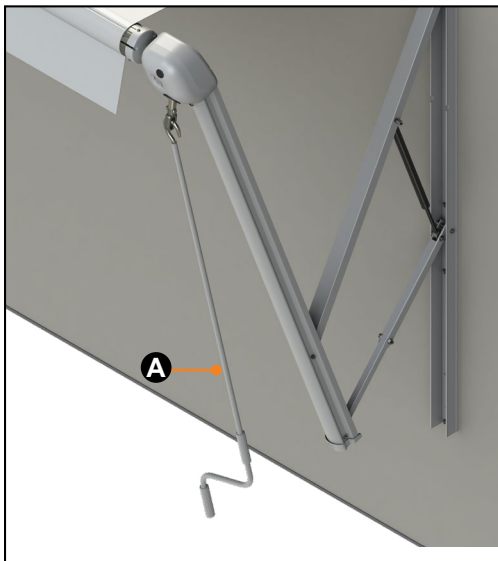


Fig.30

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.

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**).

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.

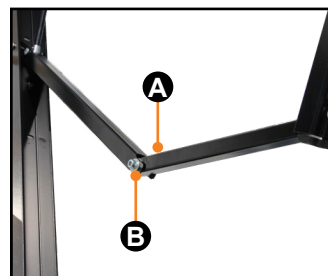


Fig.31

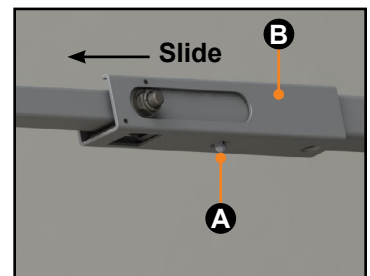


Fig.32



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Manual Awning to Solera Hybrid Awning

(For Aftermarket Applications)

Solera Hybrid Awning Troubleshooting

What's Happening?	What Should Be Done?
Awning won't open or close.	If optional travel locks are installed, ensure that they have been unlocked.
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 3 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.
	Ensure 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 seems to wobble when extending or retracting.	Ensure the bolts that hold the head to the support arm assemblies are tight.
	Ensure the end caps are seated properly on the roll tube.
	Ensure the shaft coming out of the head going to the end cap isn't bent.
	Ensure the mount arms are properly secured to the wall.
	Ensure no part of the support arm assemblies are bent.
	Ensure the wear collar spacers are all properly located in the support arm assemblies.
Awning rolls up backward.	The awning fabric should always be above the roll tube. However, if the crank handle is operated past full extension, the awning will roll up backwards. This is not a defect. To correct the fabric orientation, simply operate the crank handle in the retract direction and the awning will then extend to its correct orientation and normal operation can resume.



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Maintenance

Fabric Care

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

NOTE: Periodically clean vinyl or woven acrylic fabric using a mixture of ¼ cup of dish soap and 5 gallons of warm water. 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. Extend the awning and hose off with fresh water. Repeat if necessary. Allow to dry before retracting.



Solera® Universal Hardware

Manual Awning to Solera 12V Power Awning

(For Aftermarket Applications)

Notes

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Notes



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