

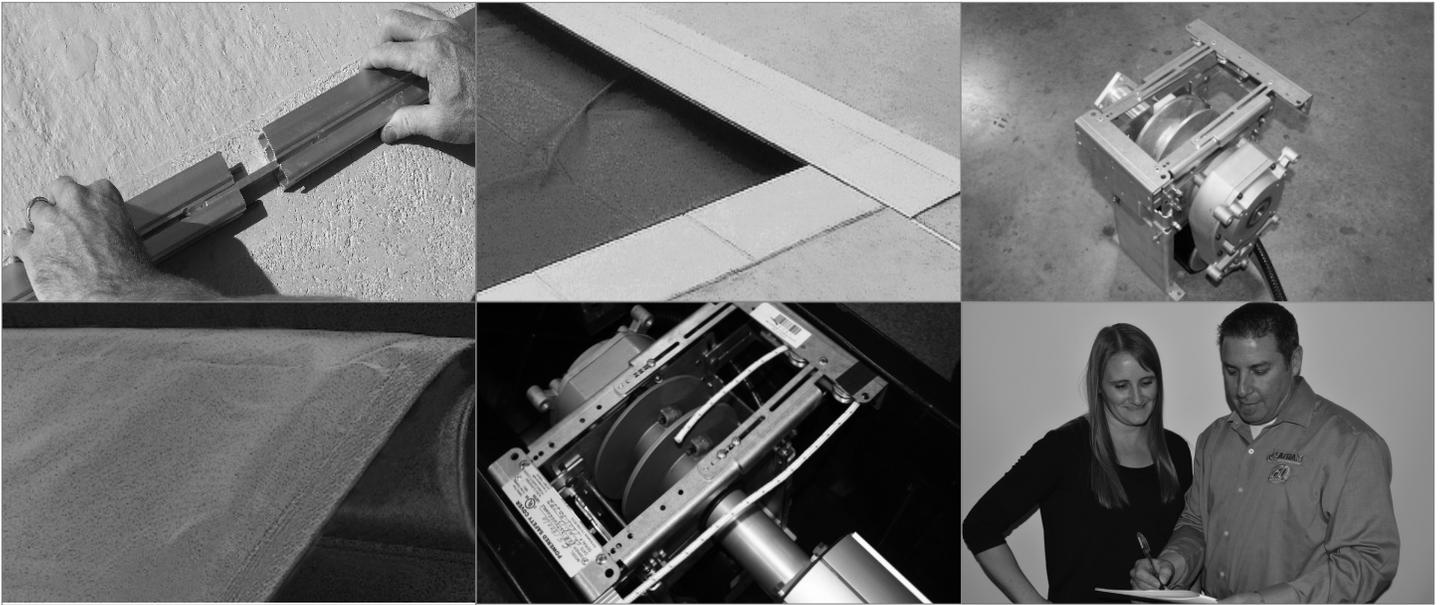


## **CS300HD SPA / LOW OFFSET SYSTEM**

Automatic Safety Pool Cover

### **Under Track Installation Guide**

# Automatic Safety SpaCover



The CS300HD Auto Spa cover is a system that can be installed in cover boxes that have a width between 10 -14 inches, including our polymer housing. It also offers lower offsets than the full sized Eclipse system. This mechanism is designed to cover spas and small pools up to 12 x 24 or smaller for CS300HD systems or 16 x 32 or smaller for CS300LO systems.

It can be used in Under Track, Deck Mount, or Recessed Top Track applications. Be sure to read through all of the system requirements in regards to the pool construction, cover box, drainage, and electrical BEFORE you install this system.

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## Tools Required

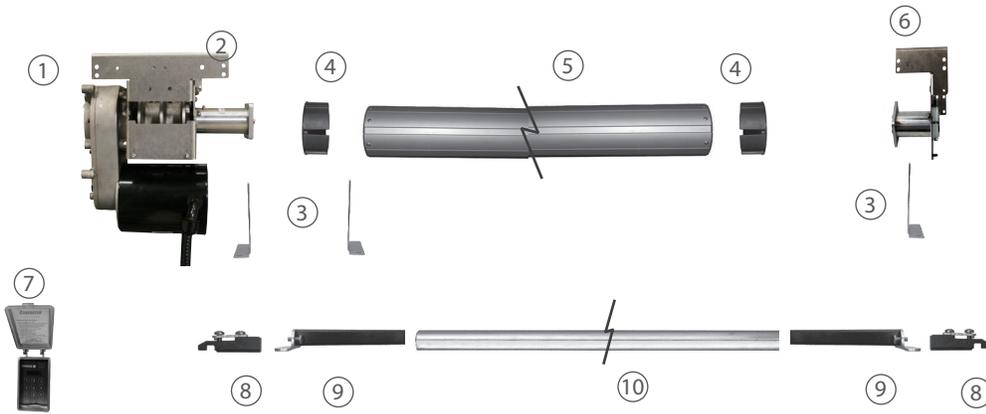
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|---|---|
| 1. Hammer drill or rotary hammer                  | 18. Crescent wrench                             |
| 2. Masonry drill bit 1/4" x 6" (1/4" x 12" bit)   | 19. 100 & 25 foot tape measure                  |
| 3. Extension cords                                | 20. Chalk line ( use white chalk)               |
| 4. #2 and #3 Phillips & standard screw drivers    | 21. Nut drivers - 5/16", 3/8", 7/16", 1/2"      |
| 5. Ratchet with 5/16" - 3/4" sockets              | 22. Chisel (wood & concrete)                    |
| 6. Hacksaw  | 23. Scissors                                    |
| 7. String line                                    | 24. Wire strippers                              |
| 8. Utility knife                                  | 25. Set of box/open end wrenches - 5/16" - 3/4" |
| 9. Broom  | 26. 6" level                                    |
| 10. Hammer & rubber mallet                        | 27. Set of allen wrenches                       |
| 11. Pliers - standard, needle nose & channel lock | 28. Wire  |
| 12. Files - round, triangular & flat              | 29. Electrical tape                             |
| 13. Lighter                                       | 30. Small sledge hammer                         |
| 14. Carpenter's square                            | 31. Vice grips                                  |
| 15. 5/16 hex head driver bit with 12" extension   | 32. #2 #3 Phillips drill bits                   |
| 16. Drill (cordless or corded)                    | 33. Pencil or marker                            |
| 17. Set of drill bits (1/4" down to 1/16")        | 34. 6 - 8 clamps                                |

## Optional Power tools

Skill saw with carbide tipped blade  
Sawzall, Grinder, Angle drill

Mechanism Components

Cover Fabric

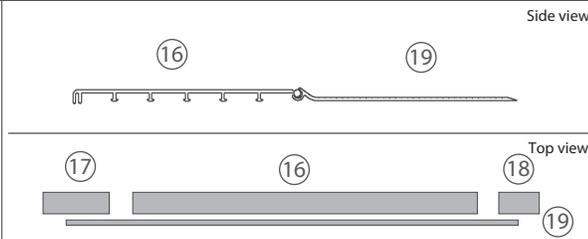
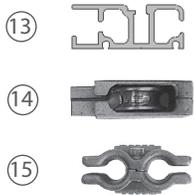


Cover Track

Cover Lid

Lid Support Bracket

Cover Pump



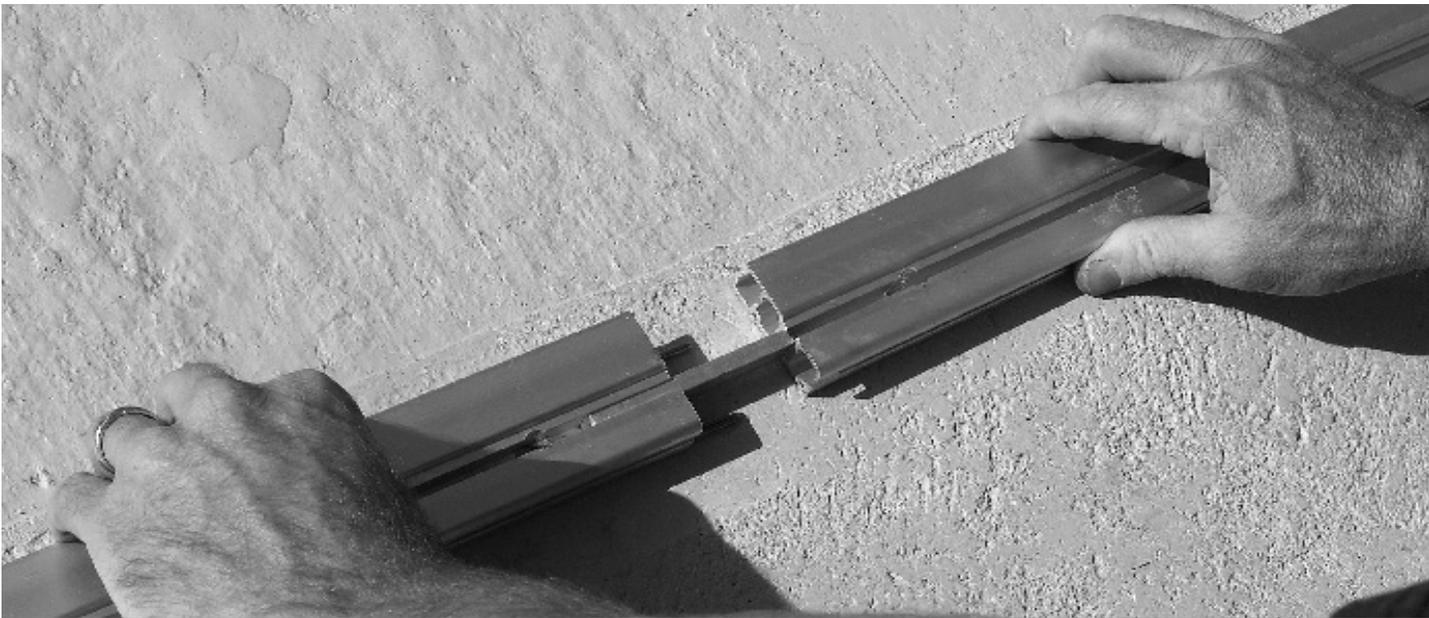
Parts List

Misc. Hardware

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>1. A0615 Motor Asm CS300HD w/ Face Plate</li> <li>2. A2341 Mechanism RT or UT (Right)</li> <li>   A2331 Mechanism RT or UT (Left)</li> <li>3. M8433 Mechanism Mounting Foot</li> <li>4. M9682 Composite Tube Insert - 6"</li> <li>5. X0673 Roll-up Tube 6 in extruded anodized 20 ft.</li> <li>6. A2342 Non-motor end assembly RT/UT (Right)</li> <li>   A2338 Non-motor end assembly RT/UT (Left)</li> <li>7. A2469-A Standard Touch Pad Control Switch</li> <li>8. A1100 Slider Assembly UT 403 &amp; 801 for detachable ropes</li> <li>9. A0057 Leading edge insert assembly UT 1" LE</li> <li>10. X0717 Aluminum leading edge 1" Flat</li> <li>11. Cover</li> <li>12. Rope .250 diameter (Length varies)</li> <li>13. A0614 403 under track, 21'</li> <li>14. A0958 Pulley endcap assembly 403 &amp; 801 UT</li> <li>15. A1884 Guide feed 2 piece SS UT</li> <li>16. X0004 Main Lid</li> <li>17. X0121 Motor End lid</li> <li>18. X0659 Non-motor end lid</li> <li>19. X0943 8" Lid hinge</li> <li>20. A1692 Standard cover lid bracket (set of 2)</li> <li>21. A0338 Little Giant cover pump &amp; instructions</li> <li>22. M0104 Track splice UT 403</li> <li>23. E1086 Bonding lug Copper (for 1 wire)</li> <li>24. H0332 Screw PPSM 12 x 1-3/4" for UT STD</li> </ul> | <ul style="list-style-type: none"> <li>25. H0150 Parts kit cross brace joining screw</li> <li>26. H0152 Screw PPMS 10-32 x 1/2"</li> <li>27. H0176 Nut nylock 10-32</li> <li>28. H0075 Rope loop (black plastic)</li> <li>29. H0310 Screw PPSM 10 x 1/2"</li> <li>30. H0313 Screw HHWSM tek 10 x 1/2" SS</li> <li>31. H0324 Plastic anchor STD #12</li> <li>32. H0331 Screw HHWSM 12 x 1-1/2" w/slot</li> <li>33. H0294 Carriage bolt 1/4-20 x 3/4"</li> <li>34. H0096 Bolt HH 3/8-16 - 1-1/4"</li> <li>35. H0006 Split lock washer 3/8"</li> <li>36. E1098 Bonding wire</li> <li>37. H9630 Spring pin for track alignment</li> <li>38. H0276 Nut Nylock 1/4-20</li> <li>39. H0130 Screw PFMS 10-32 x 1"</li> <li>40. H1099 Screw PPMS 10-32 1-3/4"</li> </ul> |
|---|--|



The above parts list is typical for most pools up to 16 x 32 and includes all parts necessary to install the CS300HD system; however, parts will vary for longer or wider pools and according to your specific order.

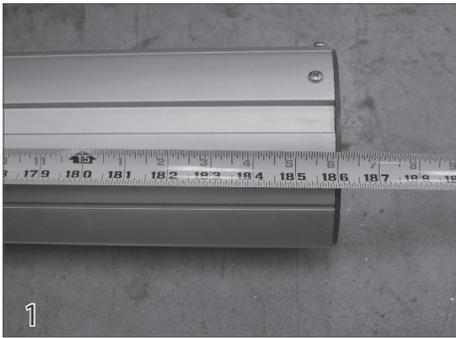


# STANDARD UNDER TRACK

Step By Step Instructions	Page/Step
Mounting the tracks	
Encapsulated under track .....	5/7

## Step By Step Instructions

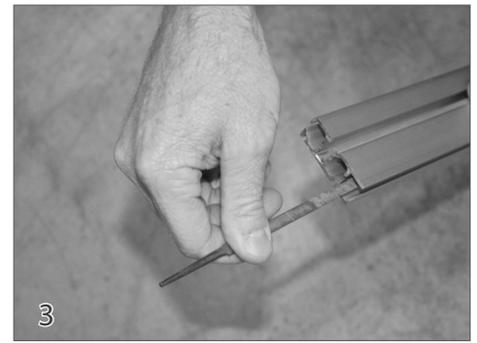
Numbers in parenthesis refer to hardware shown on page 3.



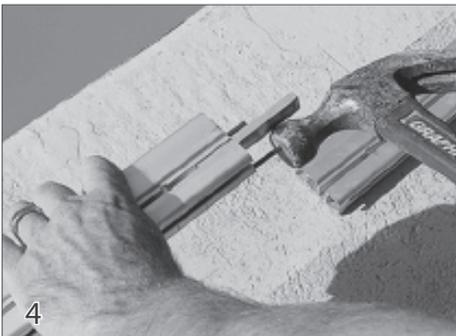
To determine if the cover system was ordered correctly for the pool, the length of the roll-up tube should be 3 inches shorter than the track space. For example, for an 16 foot track space, the correct length of roll-up tube is 15 ft 9 in.



Cut the track (13) so it will extend from the front edge of the coping at the far end of the pool to 1" past the inside of the cover box if no encapsulation is being used. When encapsulation is used, it will extend one inch past the inside of the cover box, with the track extending one inch past the end of the encapsulation.



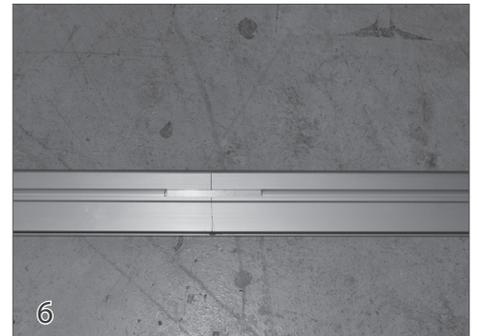
Before splicing the sections of track together, file all track ends thoroughly, rounding all edges and removing all burrs. This step is extremely important!



Tap the splice pins (37) into one end of the track and slide the center splice (22) into the center channel.



Lay the sections of track on the deck and tap them together using a rubber mallet so the center splice and splice pins interlock with each section of track. It's important that, the splice is tight together so there is not a gap from one track to the next. Slide pulley end cap (14) into the end of the track at that is at the opposite end of the pool from the mechanism.

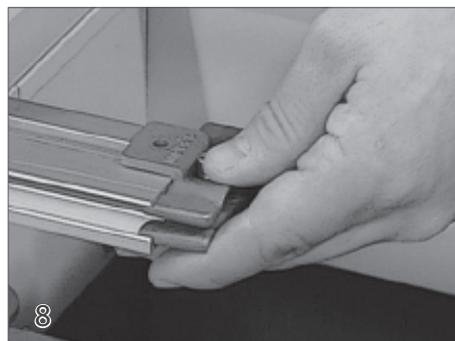


Continue tapping the end of the track until the two sections of track are tight together so there is not a gap from one track to the next.

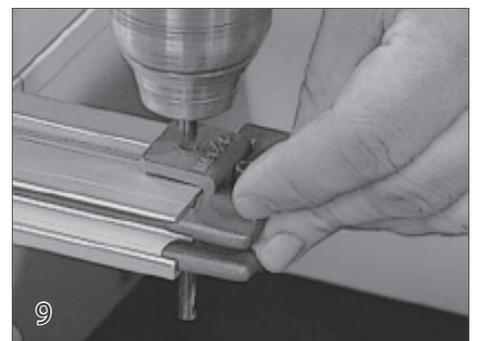


### Encapsulated Under Track

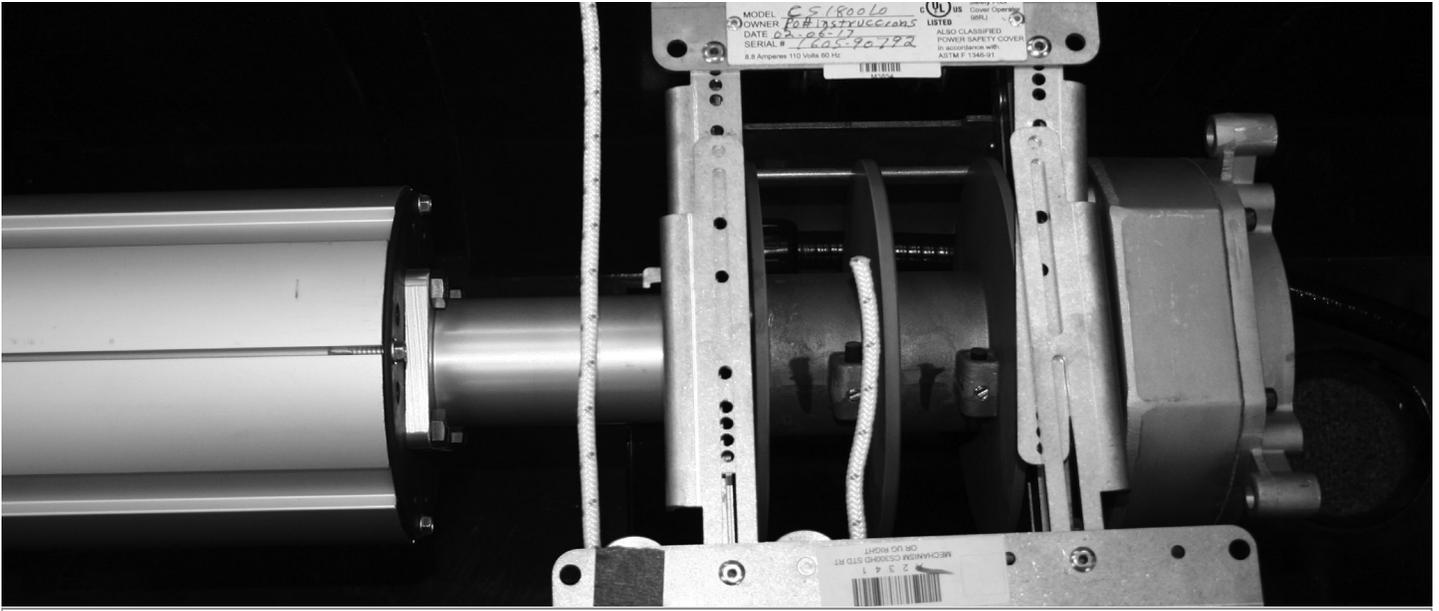
If encapsulation is being used, the track is normally installed during the cover installation. (See cover installation section page 11, step 8).



Using a 5/32" allen wrench, loosen the screw on the top of the guide feed (15). Insert the guide feed on the end of the track that will extend into the cover box.



While holding the guide feed firmly, use a 6 inch 3/16" bit to drill through the hole in the guide feed and through the track. Remove the guide feed. Do this for the track on both sides of the pool.



## MECHANISM

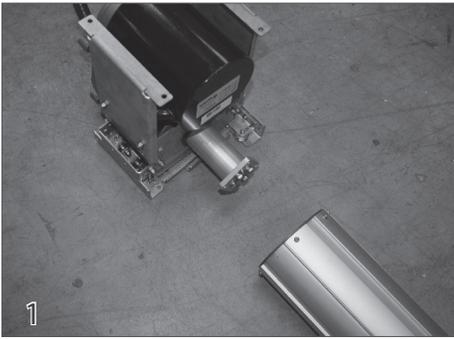
### Step By Step Instructions

### Page/Step

Assembling the mechanism .....	7/1
Installing the mechanism in the cover box.....	7/6
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Electrical wiring and bonding.....	9

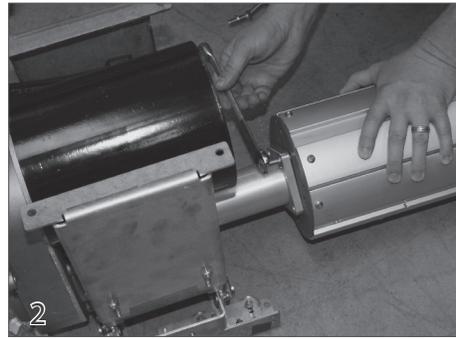
## Step By Step Instructions

Numbers in parenthesis refer to hardware shown on page 3.

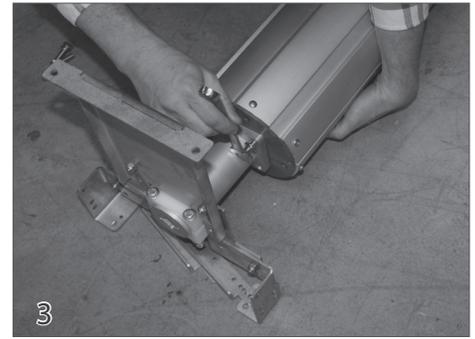


### Assembling the mechanism

Turn the motor and non-motor end upside down. This is done to appropriately attach the roll-up tube and the mechanism mounting feet.



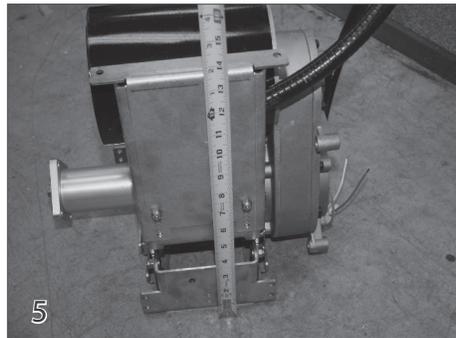
Attach the roll-up tube to the motor end of the mechanism using the 3/8" x 1-1/4" bolts (34) and lock washers (35) provided.



Attach the roll-up tube to the non-motor end of the mechanism using the 3/8" x 1-1/4" bolts (34) and lock washers (35) provided.

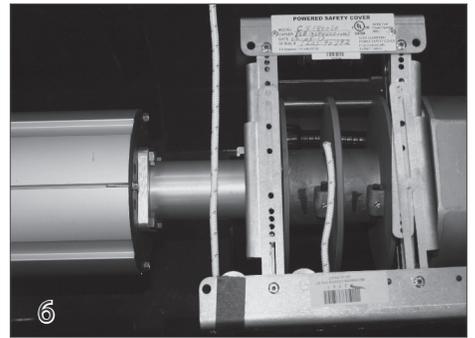


To attach the feet, first measure the distance from the bottom of the cover box to the bottom of the track. (This will determine the height of the mechanism.)



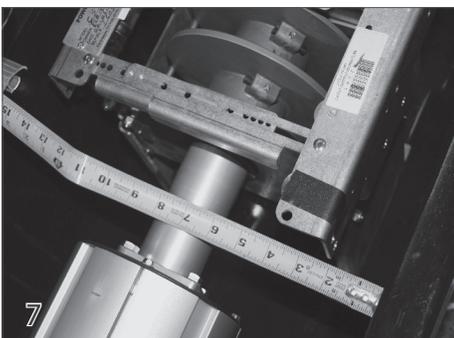
Attach the mechanism feet to the mechanism approximately 1 inch less than the distance from the bottom of the cover box to the top of the track/retainer. Use a 7/16" ratchet to tighten bolts.

Tip: The roll-up tube should be set as high as possible without allowing the cover rub on the lid brackets.

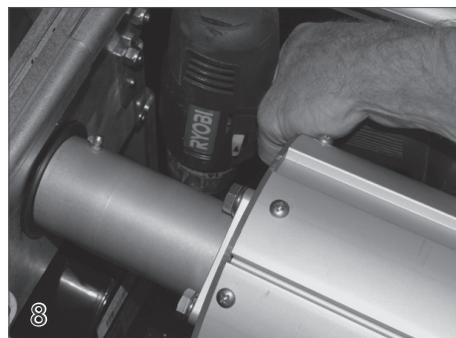


### Installing the mechanism in the Cover Box.

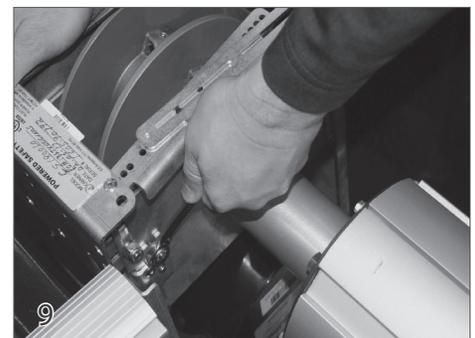
Line up the mechanism with the track so the rope will come straight out and around the motor end pulley.



Center the tube in the cover box. Tip: If the pool is not square, square up the mechanism with the track.



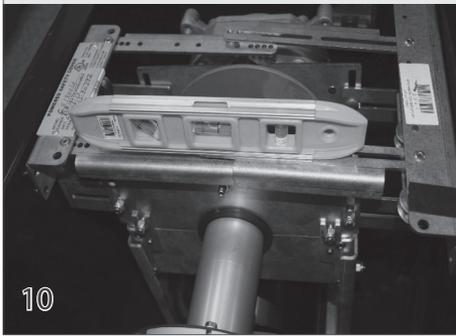
Attach the mechanism feet to the floor of the cover box. Use the mounting hardware provided.



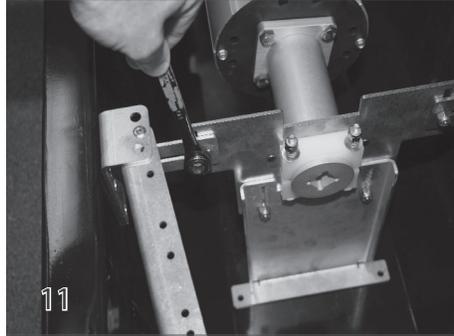
Loosen the four nylock nuts on the pulley brackets. Raise the pulley bracket assembly so it is level with the bottom of the track.

## Step By Step Instructions

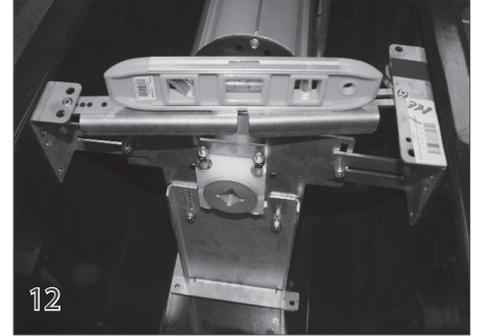
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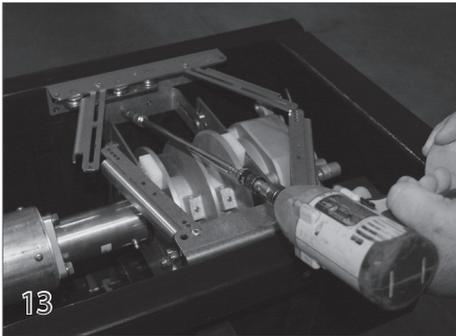
With the brackets in position, place a small level across them to make sure they are level. Tighten the four nuts on the adjustable motor end brackets.



Loosen the bolts on the adjustable brackets on the non-motor end of the mechanism. Spread the pulley brackets outward against the walls of the cover box.



With the brackets on the non-motor end in position, place a small level across the brackets to make sure they are level with the bottom of the track. Tighten the nylock nuts on the adjustable brackets.

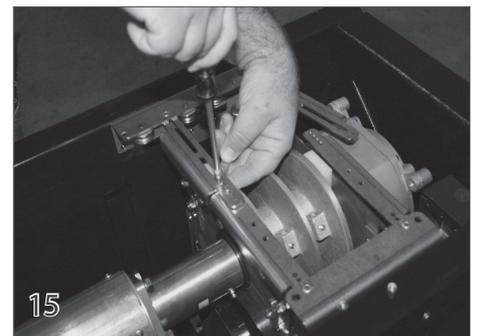


### Anchoring the Pulley Brackets

Anchor the motor mechanism brackets into the cover box in as many places as possible. Use the appropriate screws and anchors depending on the type of cover box being used.



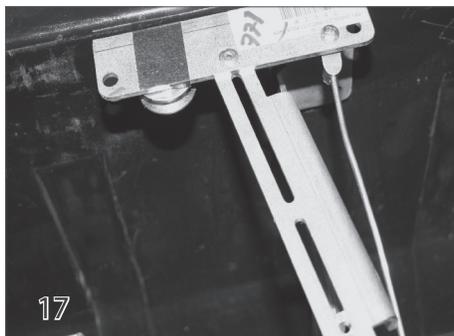
Anchor the non-motor side of the mechanism into the cover box in as many places as possible. Use the appropriate screws and anchors depending on the type of cover box being used.



On the motor and non-motor side, use the half inch screws (26) and nylock nuts (27) provided and secure the cross braces together.



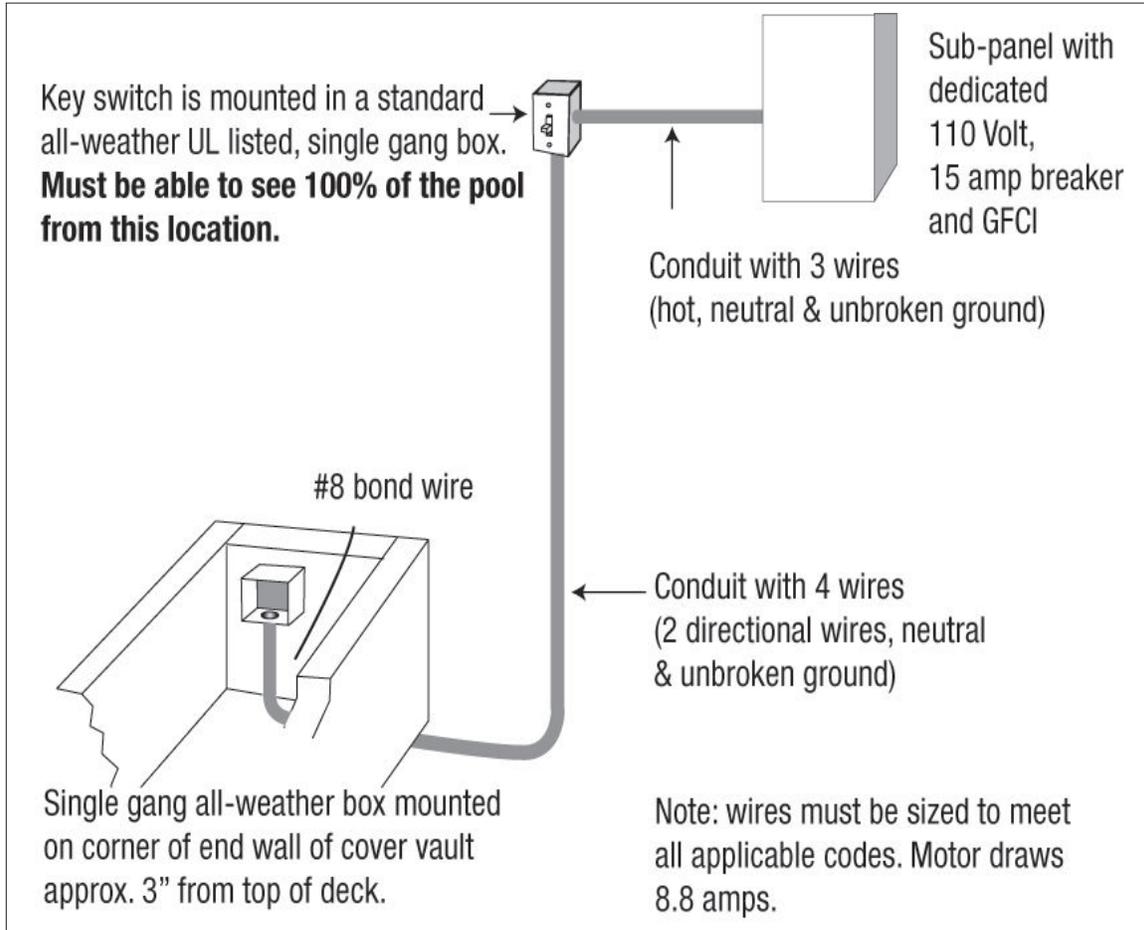
Attach the #8 copper bond wire (36) that is stubbed into the cover box to the bonding lug on the motor end of the mechanism.



Make the same connection with the #8 copper bond wire (36) that is in the cover box on the non-motor end of the mechanism.

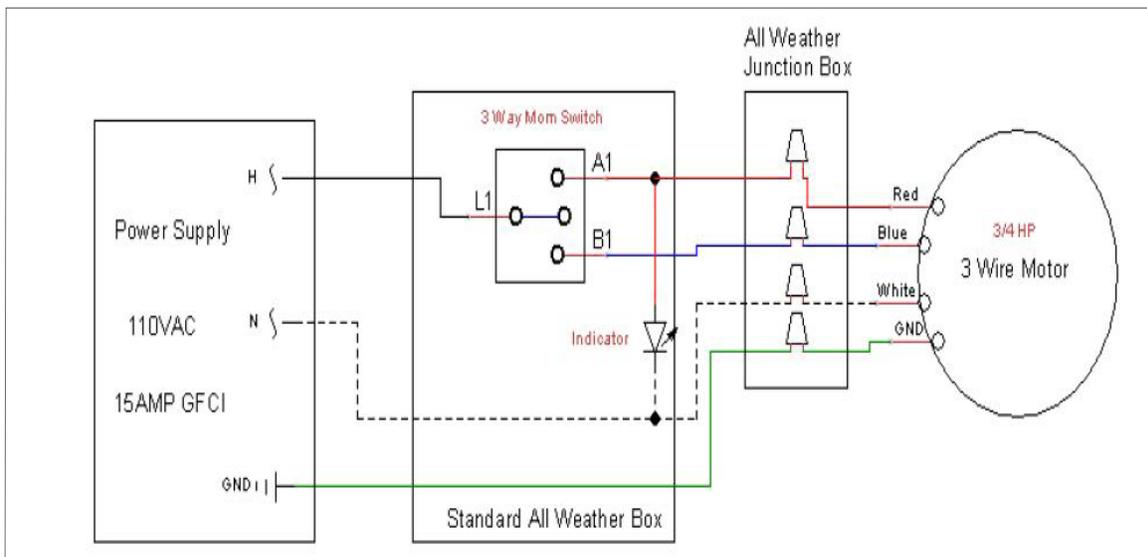
# Electrical Wiring & Bonding

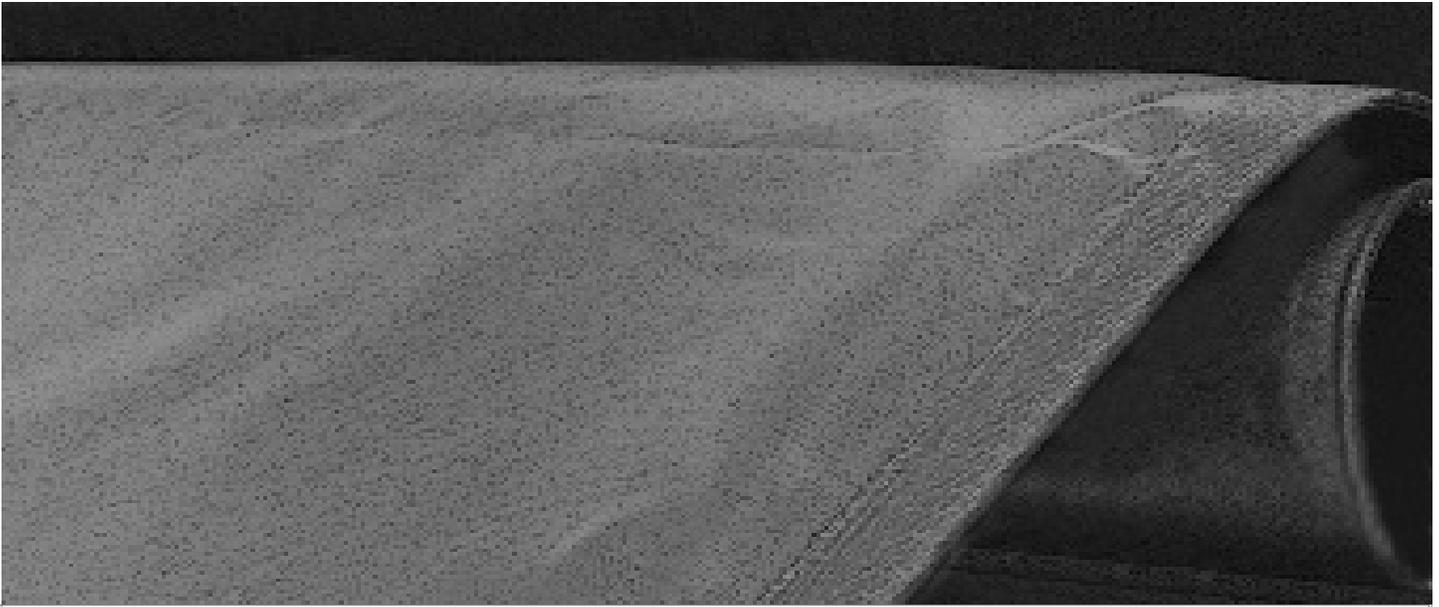
The system must be bonded to meet the National Electrical Code. Bond both tracks to the mechanism by attaching a bonding lug to the track screw and running a #8 solid copper bond wire to the mechanism. Bond the lid to the mechanism by drilling a hole in the lid at either end of the lid and attaching a bonding lug in each position and bonding it to the mechanism. All brackets and any other metal over 4" long should likewise be bonded to the mechanism. There should be a bond wire from the equipment pad inside the cover box. Attach this bond wire to the mechanism to complete the bonding requirement. Note: Builder is responsible to bring proper electrical lines, conduit and bonding to the mechanism. Electrical wiring diagram and details are shown below.



## Wiring The Electrical Switch

The control switch must be mounted in an all-weather box, in a location where 100% of the pool is visible. Connect the control switch according to the diagram below.



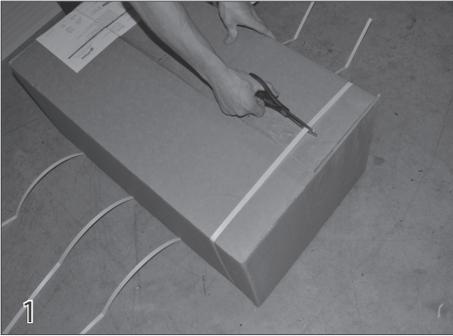


## COVER FABRIC

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Attaching the ropes to the rope reel .....	14/28
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Using the switch and operating the cover to open .....	14/33

## Step By Step Instructions

Numbers in parenthesis refer to hardware shown on page 3.



### Opening the Cover

To open the cover box, cut the bands that hold the two halves of the box together. Never cut the top of the box open. Doing this could easily damage the cover inside. This kind of damage is not covered under the fabric warranty. With the bands cut, lift and remove the top box.



### Rolling Out the Cover

Standing behind the housing looking over the pool, unroll the cover from left to right.



Unwrap the ropes and run them through the tracks.



Take a short length of rope outside the track and press it into the rope channel that is closest to the pool. This will allow some rope to remain outside the track for easier pulling of the rope down the length of the track.



Pull the rope along the water side of the track towards the pulley end cap.

Tip: A guide feed can be put on to help feed the rope.



Feed the rope around the pulley end cap. (14)



Press the rope into the back side of the track and pull through towards the cover box. Insert the pulley end cap into the track. Repeat this on the other side of the cover.



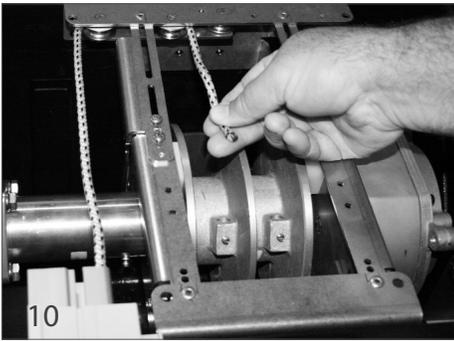
Install the track into the encapsulation with the slider channel facing inside toward the pool.



Install the spacer underneath the track to lock the track into the encapsulation.

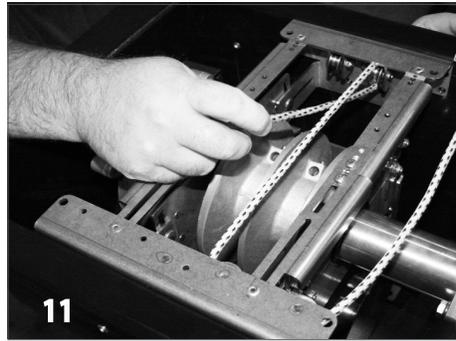
## Step By Step Instructions

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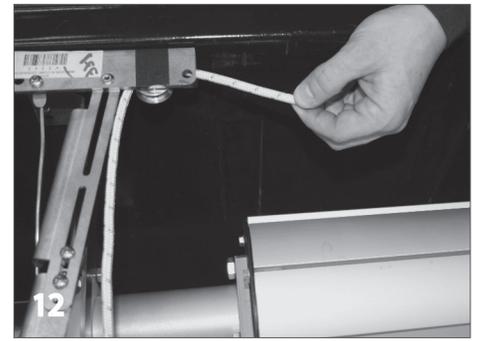


### Running the Rope Through the Mechanism

On the motor end, feed the rope around the first and second horizontal pulleys on the back wall of the cover box.



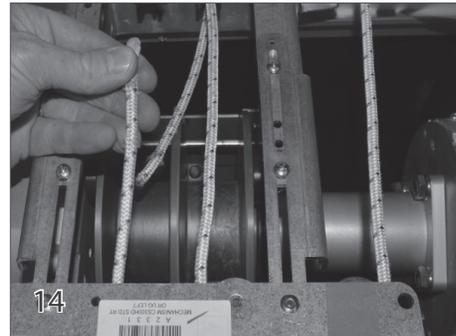
Pull the rope around the vertical pulley on the front wall of the cover box.



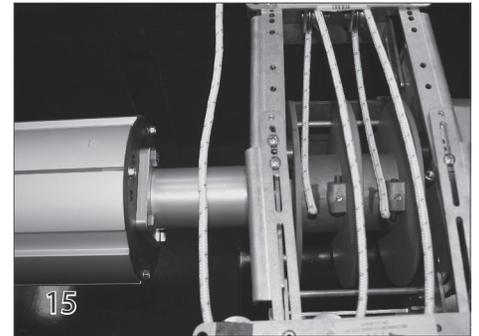
On the non-motor end, feed the rope around the pulley of the non-motor end pulley bracket. Pull the rope through to the motor end.



Run the rope from the non-motor end along the backside of the cover box. The rope should run through the rope loops (28) to keep it from getting caught in the cover. Space the rope loops evenly across the back of the cover box.



Feed the non-motor end rope behind the first and second and third horizontal pulleys.



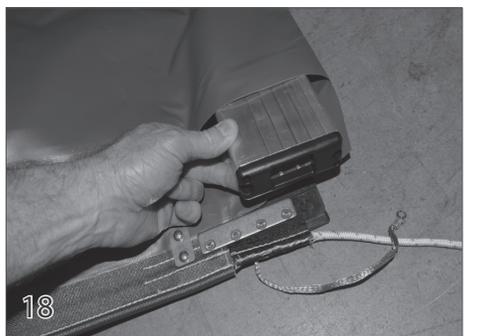
Pull the rope around the vertical pulley on the front wall of the cover box.



Feed one side of the cover and slider into the track. This will make it easier to insert in the leading edge tube.



Continue to pull that one side of the cover into the track so the leading edge loop is over the water of the pool.



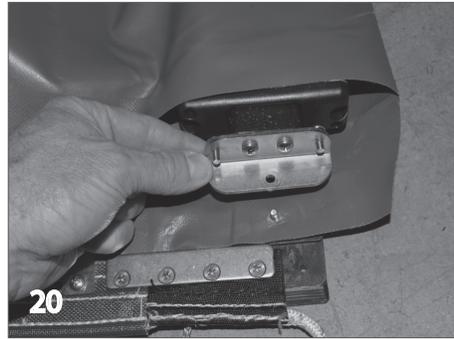
On the opposite side of the cover that isn't in the track, insert the leading edge tube (10) into the loop of the cover.

## Step By Step Instructions

Numbers in parenthesis refer to hardware shown on page 3.



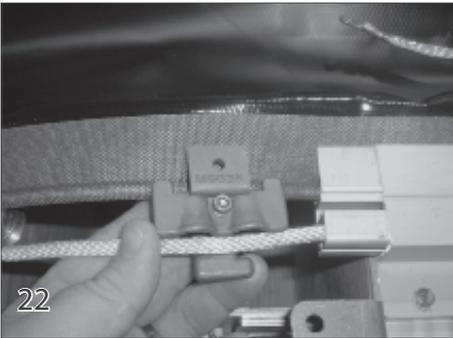
Insert the leading edge inserts (9) into the leading edge tube. When using the 1" or 2-1/2" leading edge bars, make sure the end cap is in place before inserting the leading edge insert.



Attach the leading edge insert to the slider by inserting the a screw (39) from the bottom of the slider. The screw will go through a punched hole in the cover, then into the leading edge insert.

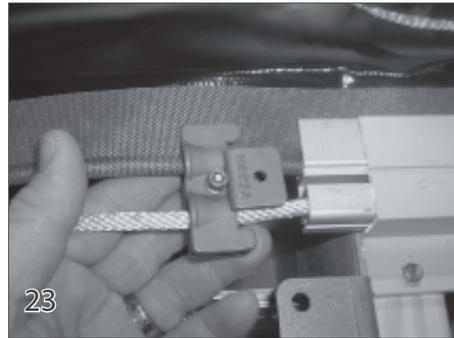


Tighten the nut (27) all the way down, then loosed 1/2 turn to allow movement between the slider and the leading edge insert. Repeat the installation of the leading edge insert on the other side of the cover.

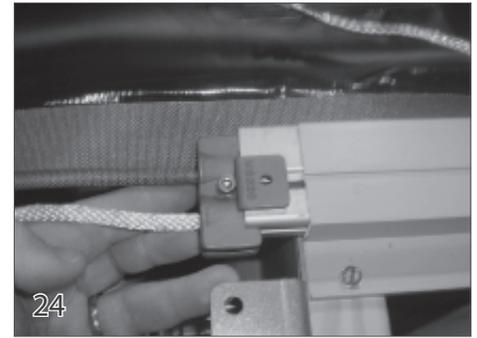


### Attaching the Guide Feed

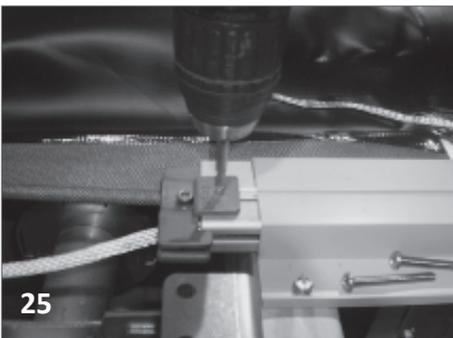
Use a 5/32" allen wrench to loosen the allen bolt on the guide feed (15). Turn the top of the guide feed halfway to open. Install the guide feed around the rope and the webbing.



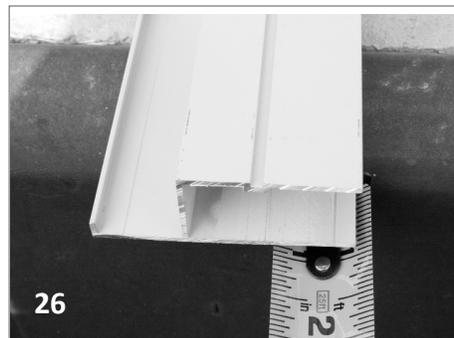
Turn guide feed back to closed over the rope and webbing then tighten the allen bolt.



Slide the guide feed onto the track with the flange inserted in the slider channel.

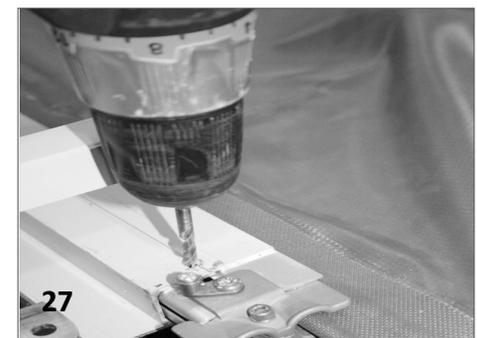


Drill a hole through the guide feed into the track for the attachment bolt.



### Track Retainer Method

When using encapsulation on the pool, extend it one inch into the cover box. When cutting the cover track to length, extend it one inch past the encapsulation.



Install a bonding lug on top of the guide feed. Drill through the center of the encapsulation and track. Insert a 10-32 x 1-3/4 screw (40) and nylock nut (27). This step is very important. This will prevent the track from sliding into the cover box during the operation of the cover system.

## Step By Step Instructions

Numbers in parenthesis refer to hardware shown on page 3.



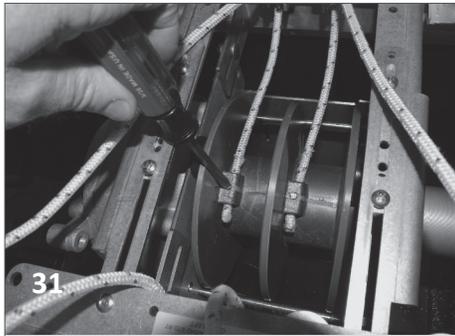
Pull the cover all the way open until the sliders stop against the guide feeds.



Attach the bonding wire to the leading edge bar using a self-tapping screw (30).

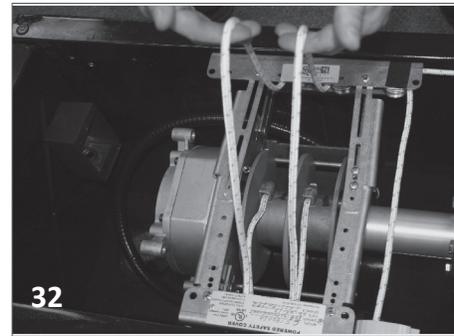


Leaving an extra 6-8 feet of extra rope length, pull on the ropes until the leading edge begins to move forward equally on both sides. Use a lighter to burn the rope where it will be cut prior to cutting it. After the rope has been cut, burn the ends of each rope to keep them from fraying.



### Attaching the Ropes to the Rope Reel

Attach the rope to the rope reel. Guide the ropes onto the rope reel while operating the key switch in the cover position.



Tip: The rope for the non-motor side should be attached approximately 1 inch further down than the motor side rope depending on the width of the pool. Use the switch and operate the cover in the "Closed" position to cover the pool.



### Pinning the Cover to the Roll-up Tube

Using a self-tapping screw (30), line the cover up straight as it comes out of the track and pin the cover to the roll-up tube on both sides.



Find the center of the slack and pin directly to the tube (DO NOT FOLD THE SLACK). Repeat this step several times along the tube.

Tip: Use the weld line on the tube to help pin the cover straight on the tube.



Using a self-tapping screw (30), attach the bonding wire on both sides of the roll-up tube.

### Using the Switch and Operating the Cover to Open

Make sure that the cover and the webbing roll up nice and even around the roll-up tube.

Operate the cover several times to and make any adjustments to the rope reel brake and roll-up tube brake if necessary.



## HOME OWNER CHECKLIST

After the cover system is installed, it is critically important to instruct the home owner on how to operate the cover system safely and do routine maintenance. Use the following check list and the Coverstar Use & Care Guide as your primary instruction source.

### Use & Care Guide Page

- How to use the cover pump .....4
- How to uncover and cover the pool .....6-7
- Warn about standing water on the cover .....4
- Who is authorized to operate the cover system.....6
- Pool chemicals and cover life .....8
- Proper maintenance and care of the cover system....8-9
- Inform the customer on pool safety .....Back cover

## Calibrate Touch Pad Control Switch

The touch pad can be calibrated for the specific pool it is installed on. This calibration will teach the touch pad what the electrical current consumption is (for retrofit models) and what the transit operation time will be in normal operation. The touch pad utilizes this information to determine over currents and cycle calculations.

1. Access the service menu using the service passcode. (5991)
2. Press the Service button. The display will alternate between showing the "service contact information" and "Press Select (5) for Menu".
3. Press Select (5).
4. Press the down arrow (8) until "Calibrate Pool" is visible. Press the Select (5) button to select this option.
5. Operate the cover until it is in its fully uncovered position.
6. Press Select (5) to confirm that the pool is completely uncovered.
7. Operate the cover until it is in its fully covered position.
8. Press Select (5) to confirm that the pool is completely covered.
9. Operate the cover until it is in its fully uncovered position.
10. Press Select (5) to confirm that the pool is completely uncovered.
11. The display will show the amp draw and time of operation for both covering and uncovering the pool. Press Select (5) to accept these measurements.

## Adjust Current Limits:

The touch pad retrofit model supports electronic current limiting. The default current settings are 7.5 Amps. The system will actively monitor operation of the cover and stop the system if current exceed 150% of the above value. To adjust these settings do the following:

1. Access the service menu using the service passcode (5991)
2. Press the Service button. The display will alternate between showing the "service contact information" and "Press Select (5) for Menu".
3. Press Select (5).
4. Press the down arrow (8) until "Current Limits" is shown. Press the Select (5) button to select this option.
5. The display will show the average amp readings while opening the cover and the current limit setting for opening the cover.
6. To change the average amp reading, press the up arrow (2) or down arrow (8) buttons. Press Select (5) to advance the cursor to the limit setting.
7. To adjust the limit setting, press the up arrow (2) or the down arrow (8) buttons. Press Select (5) to save the new settings.
8. Make the same adjustments for the settings for closing the cover.
9. Press Select (5) to save the new amp and torque settings and return to the service screen.

Press the service button at any time to cancel the process

# Installation Check List

## Tracks

- Does the track space measurement match how the cover system was ordered?
- All track ends filed. This is extremely important.
- Cover goes through the track joints smoothly.
- All track screws are tight and flush.
- Pulleys are flush against the end of the track.
- The guide feeds are snug against the track.
- Guide feeds bolted in and are tight.
- Stops installed.
- Alignment pins and splices used when joining the tracks, even in encapsulation.

## Mechanism

- Mechanism installed level in the box.
- Roll-up tube level in cover box.
- Tube centered between the tracks.
- Enough clearance top, bottom, sides for the fabric. No rubbing of webbing on sides or bottom of box.
- Tube at the right height? The ideal location is to install the cover in the box so that the cover is coming off at as small an angle as possible. This reduces stress on the mechanism and reduces wear on cover tracks at the end of the track.
- Tube either centered in the box or positioned slightly more towards the back of the box, so that the cover is unlikely to rub on front of the box.
- System mounted at right angle to the track.
- Ropes coming back straight out of the track. An excessive angle will cause wear on the cover tracks at the end of the track.
- Ropes are not rubbing on any brackets or the deck.
- Ropes are run correctly.
- 8 feet of rope left on rope reel.
- System bonded according to electrical code. Cover bonded to leading edge and roll-up tube.
- Make sure there is adequate drainage from the cover box.

## Cover

- Fabric pinned to the roll-up tube without pinned folds.
- Cover runs smoothly.
- Cover properly aligned when it closes or retracts. Note: An inch or two out of square is not uncommon and is not a concern as it will not affect the operation of the cover. Because of the size of the fabric roll, and changes in operating conditions the cover may vary slightly in alignment as it is run.
- The leading edge inserts move in and out freely the whole length of the pool.
- Fabric is pinned to the leading edge flush with the ends of the tube.
- Cover not rubbing in the cover box as it rolls up.

## Cover Lid

- All sharp edges have been filed.
- All areas where the lid is not flat on the deck have been screwed down to eliminate any potential hazards.
- There is enough clearance between the lid brackets and the cover to avoid rubbing.

## Misc.

- Key switch is in full view of the pool.
- Cover pump tested by putting it in the water and operate it in front of homeowner.
- The cover box is clean and clear of debris so that the drains are not easily clogged.
- Pool area cleaned up.
- Homeowner has been instructed on the operation of the automatic safety cover system.



## QUESTIONS?

For questions about this installation guide,  
contact your Independent Coverstar Distributor.



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