



CS300HD/CS300LO System

AUTOMATIC SAFETY POOL COVER

Recessed Top Track Installation Guide

Automatic Safety SpaCover



The CS300HD Auto Safety SpaCover 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.

SECTIONS

Parts Reference.....	3
Standard Top Track.....	4
Recessed Horizontal / Slim Flush.....	7
Mechanism	9
Cover Fabric.....	13
Home Owner Checklist.....	17
Calibrate Touch Pad Control Switch	18
Installation Check List	19

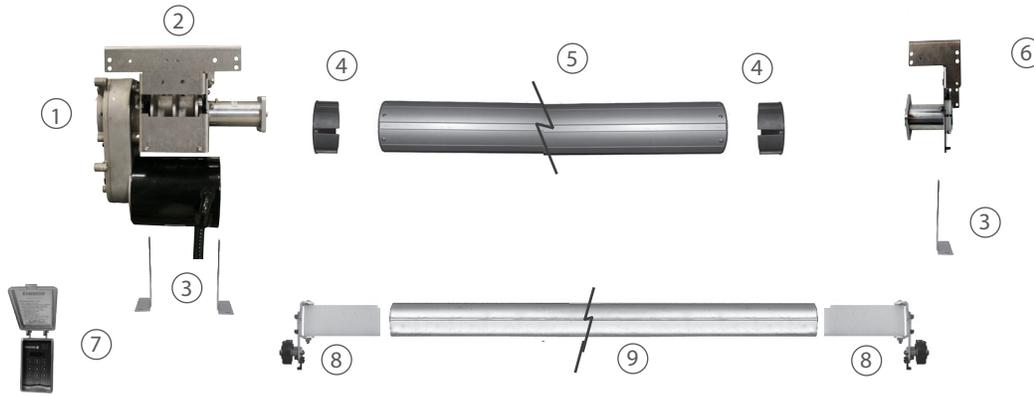
Tools Required

- | | |
|---|---|
| 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

Parts Reference

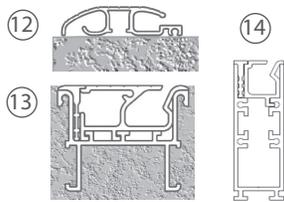
Mechanism Components



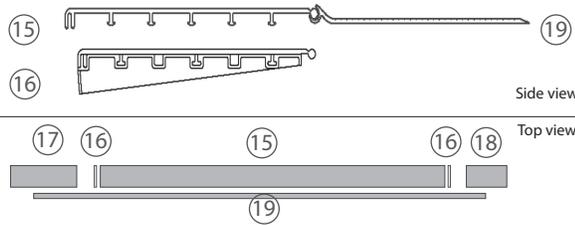
Cover Fabric



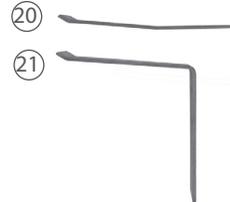
Cover Track Types



Standard Top Track Lid Components



Lid Support Bracket



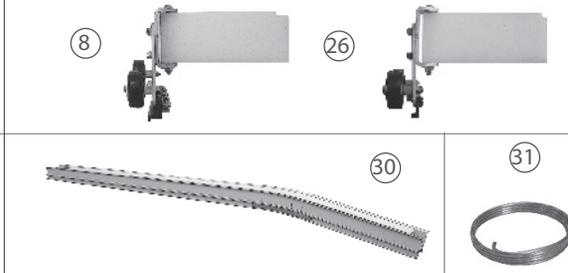
Cover Pump



Guide Feed

Wheel Assemblies

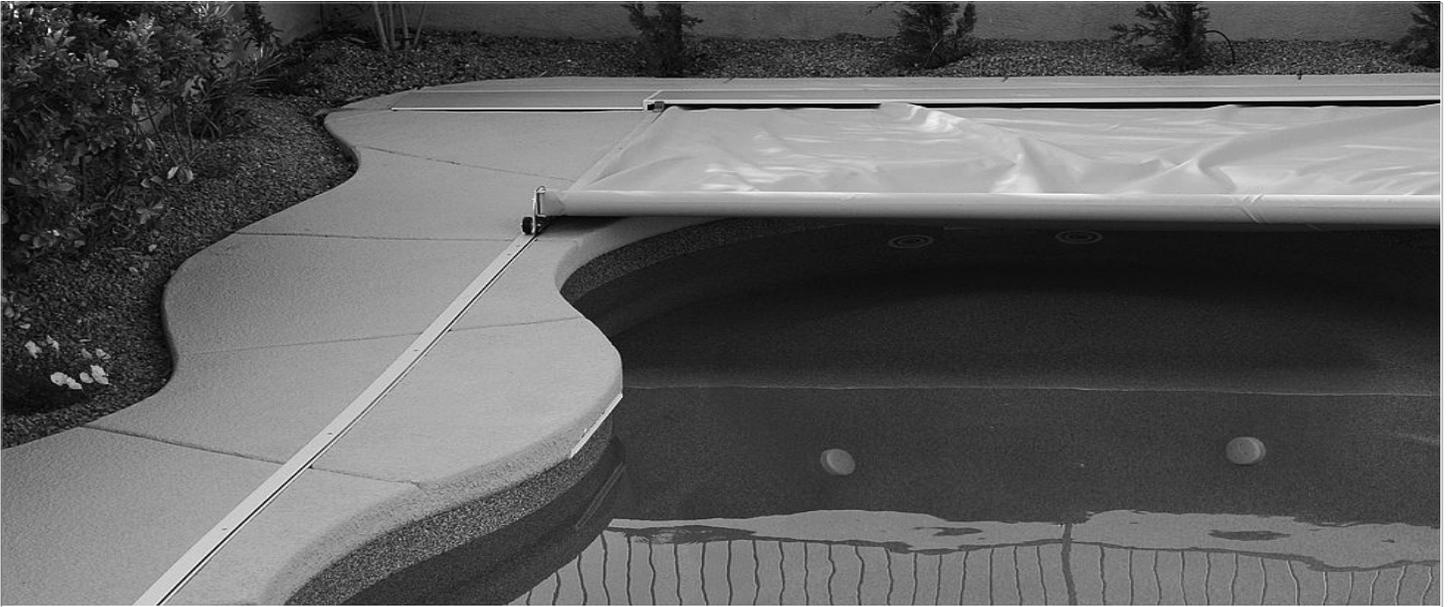
Misc. Hardware



Parts List

- | | |
|--|--|
| 1. A0615 Motor Asm CS300HD w/ Face Plate | 26. A2198 Wheel Assembly (Recessed Horizontal Track) |
| 2. A2341 Mechanism RT or UT (Right) | 27. A0886 Pulley End (standard top track) |
| A2331 Mechanism RT or UT (Left) | 28. A2141 Pulley End (recessed horizontal track) |
| 3. M8433 Mechanism Mounting Foot | 29. A0005 Slim Flush End Pulley Assembly |
| 4. M9682 Composite Tube Insert - 6 inch | 30. A2133 Curved track, housing, stop, splice - 3 ft. |
| 5. X0673 Roll-up Tube 6 in extruded anodized 20 ft. | 31. E1098 Bonding wire |
| 6. A2342 Non-motor end assembly RT/UT (Right) | 32. M3962 Track splice RHG |
| A2338 Non-motor end assembly RT/UT (Left) | 33. E1086 Bonding lug ka-6u (for 1 wire) |
| 7. A2469-A Standard Touch Pad Control Switch | 34. H0334 Screw PFSM 12 x 1-3/4 for Top Track |
| 8. A1565 Wheel Assembly (standard top track) | 35. H0332 Screw PPSM 12 x 1-3/4 for lid hinge |
| 9. X0021 Aluminum leading edge | 36. H0150 Screw PPSM 10-32 x 5/8, for cross brace |
| 10. Cover fabric | 37. H0152 Screw PPSM 10-32 x 1/2 |
| 11. Varies PowerFlex rope - Lengths will vary by cover | 38. H0176 Nut nylock 10-32 |
| 12. X0656 Standard Top Track | 39. H0075 Rope loop (black plastic) |
| 13. A2123 Horizontal Flush Deck Track | 40. H0310 Screw PPSM 10 x 1/2 |
| 14. A0021 Slim Flush Track and Housing | 41. H0324 Plastic anchor STD #12 |
| 15. X0004 Main Lid | 42. H0331 Screw HHWSM Tek 10 x 1/2 SS |
| 16. A0376 Lid wedge | 43. H0096 Carriage bolt 1/4-20 x 1/2 SS |
| 17. X0121 Motor End lid | 44. H0006 Washer split lock |
| 18. X0659 Non-motor end lid | 45. M0105 Standard splice, top track |
| 19. X0943 8" lid hinge | 46. H9630 Spring pin for track alignment |
| 20. A1698 14" cover lid bracket (Set of 2) | 47. H0276 Nylock nut 1/4 - 20 |
| 21. A1694 12" cover lid bracket (Set of 2) | 48. H1101 Screw 10- 32 1-3/8" |
| 22. E1130 Little Giant cover pump & instructions | 49. M9797 Stop Top Track 403, L Shaped Stainless Steel |
| 23. A1071 Guide feed for standard top track | 48. H0096 Bolt 3/8-16- 1-1/4 |
| 24. A1061 RHT Guide Feed and Stop | 49. H0331 Screw HHWSM 12 x 1-1/2 w/slot |
| 25. A0006 Slim Flush Guide Feed & Pulley | 50. H0096 Bolt HH 3/8-16 x 1-1/4 |
| | 51. H0331 Screw HHWSM 12 x 1-1/2 with slot |





STANDARD TOP TRACK

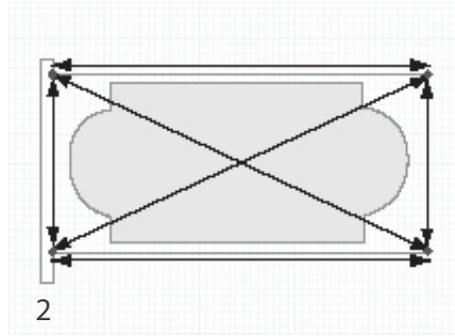
Step By Step Instructions	Page/Step
Standard top track installation.....	5/1

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.



Position the cover track along both sides of the pool. The lengths, widths and diagonal measurements must be equal to each other for the automatic cover system to operate properly. Mark where the center of the track will be on the pool deck.



Cut the length of the track on each side of the pool so it will extend 1 inch past the inside edge of the cover box at the mechanism end.



Splicing the Tracks Together

Before splicing the sections of track together, file all track ends thoroughly, rounding all edges and removing all burrs. This step is extremely important. The cover can be damaged very easily by metal burrs and this damage is not covered by the warranty.



Tap the spring pin (46) into the round splice channel. Slide the center splice (45) into the center channel.



Join the track sections together by hand.



At one end, use a rubber mallet to tap the track sections together.



The two sections of track should be tight together.



Cutting the Tracks to Length

With tracks extended 1 inch into the cover box at the mechanism end, cut the tracks so they extend 18" past the waterline at the opposite end of the pool.



10
Cut the track at the mechanism end to the proper length using a miter saw. It is important to have square cuts on the track. Note: Always wear safety goggles when using powered equipment.



11
File the track ends on both sides of the pool making sure to round all edges and remove all burrs. This step is extremely important. The cover can be damaged very easily by metal burrs and this damage is not covered by the warranty.



12
Checking for Square
Measure the track space, track length and diagonals to make sure the tracks form a perfect rectangle.



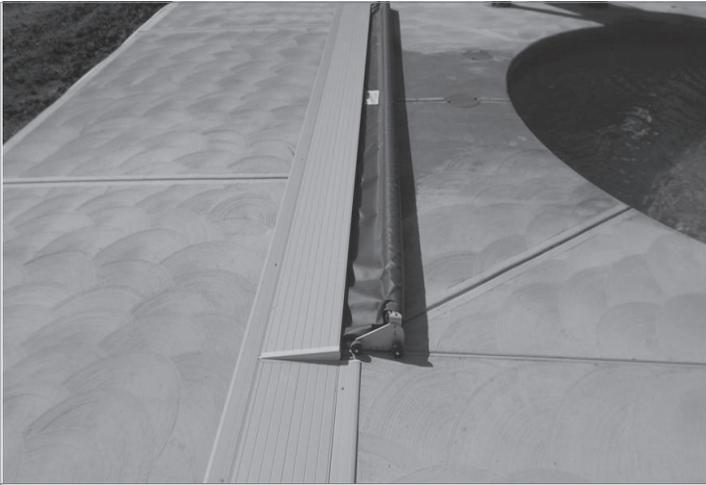
13
Attaching the Tracks to the Deck
Place the tracks into position on the deck in the marked positions. Make sure that the tracks run completely straight on both sides of the pool. Drill through the pre-drilled track holes into the deck. Drill at least 3" deep. For wood or acrylic decks, pre-drill a 3/16" hole, then use screws to secure the track to the deck.



14
Move the tracks to the side to expose the holes in the deck. Clean the dust from each hole and tap plastic anchors (41) into each one.



15
Place the track back over the holes in the deck. Fasten the track screws (34) halfway through the tracks into the plastic anchors. The screws will be fastened completely later in the installation.

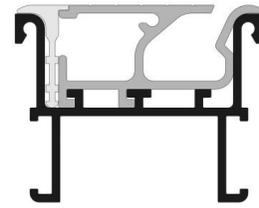


RECESSED HORIZONTAL TRACK / SLIM FLUSH TRACK

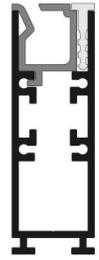
Components & Installation Guidelines	Page
System components & installation guidelines	8

System components

1. Both Recessed Horizontal and Slim Flush Tracks consist of 3 parts, the track housing, the track, and the locking strip.
2. End pulley assembly - This can either be installed when the housing is installed or at the time the mechanism is installed.
3. Track protector: It is important to protect the track while the concrete deck is being poured. This can be done either by using 10 mill plumbing tape or using an optional track protector that is available for recessed horizontal track (X0865).



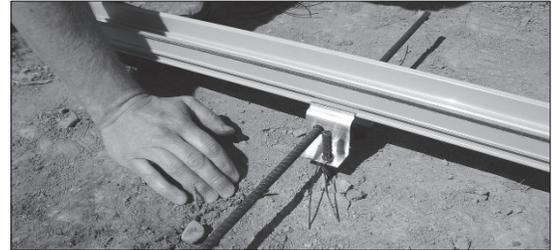
Recessed Horizontal Track with Track, Housing and Spacer



Slim Flush Track with Track, Housing and Spacer

Installation Guidelines

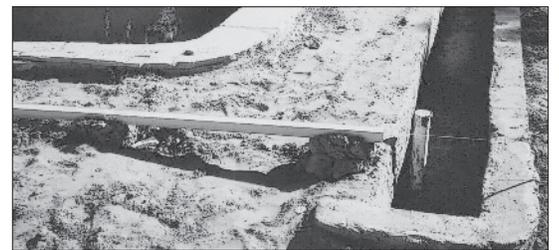
1. The installed tracks must start flush with the inside of the cover box, which must be a minimum of 12 inches from the end of the pool and extend 18 inches beyond the other end of the pool. The tracks must form a perfect rectangle. The track lengths, the distance between the tracks and the diagonals each must be equal.
2. The tracks must be installed exactly at finished deck grade. It is strongly recommended that the deck be kept level from the pool to the track housings. Start the slope outside of the tracks. Note: the deck around the cover housing boxes should be flat for a minimum of 4" before starting any slope if a standard lid is to be used.
3. The housing must have the track, a spacer (standard spacer or optional plastic protector) and top protection in place before pouring deck.
4. There are several ways that the tracks can be installed. In each case track supports / mounting feet must be no further than 5' apart.
 - a. Set in place using the mounting feet kit (A3031 for Slim Flush Track. A1531 for Recessed Horizontal Track)
 - b. Mounted on top 2 x 4 stakes, which are left in the deck permanently. Attach housing to the stakes with self-tapping screws or by drilling holes in the housing and using drywall or deck screws.
 - c. Set into piles of concrete or gunite approximately every 4 feet. If this method is used, care must be taken to make sure that no cement is left higher than the bottom of the side of the channel. Otherwise it will have to be chipped down before the deck is poured.
5. Regardless of how the tracks are installed, it is recommended that a string line be left in place until after the pour.
6. The standard installation is with straight track; however, optional curved pieces of recessed horizontal track are available if flush deck lid is to be used. In this case, the deck is lowered 2" between the tracks and the box is installed 2" lower.
7. It is recommended that a minimum width of 5 to 6 inches of concrete be poured on each side of the housing. Rebar or concrete wire under the housing will help eliminate the concrete cracking and separating from the housing.
8. It is recommended that you put a strike joint off the end of your track to control the shrinkage crack.
9. To avoid concrete flaking when the protector is removed, go down each side with a 1/8-radius edger. For proper cover operation, concrete must be as close to the top of the housing as is possible
10. Some builders find that it is easier to keep the tracks clean if they install Deck-O-Drain channel between the end of the housing and the end of the deck. However, this is optional.



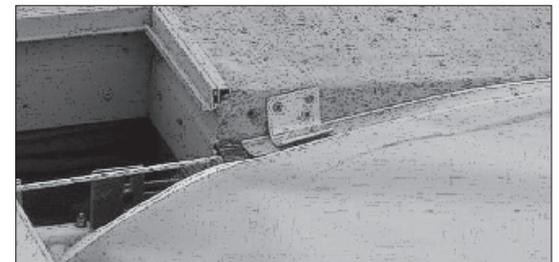
(4.a.) Track staked in place using the optional mounting feet, ready for pour



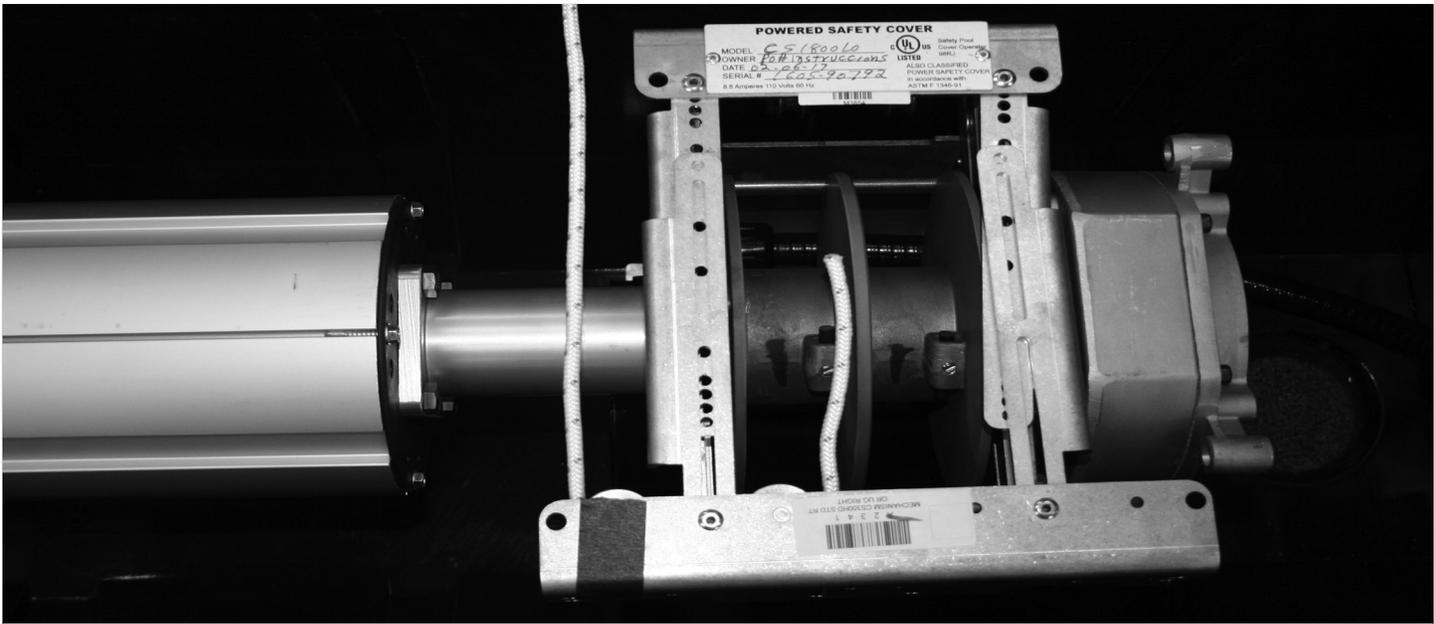
(4.a.) Track staked in place, ready for pour



(4.b.) Housing in place mounted on gunite piles ready for deck pour.



(6) OPTION: Recessed horizontal track sloped into the box. Purchase set of curved tracks for housing end of track. Bend begins 15" in front of housing. Make sure top of track is minimum of 1" lower than bottom of lid.



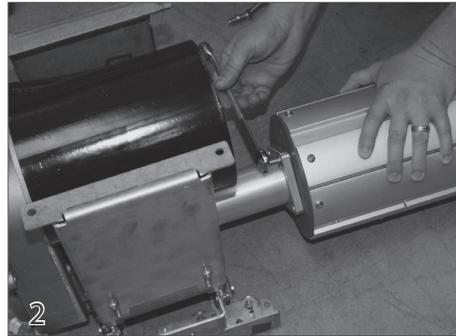
MECHANISM

Step By Step Instructions	Page/Step
Assembling the mechanism	10/1
Installing the mechanism in the cover box.....	10/6
Wiring the touch pad control switch.....	12
Electrical wiring and bonding.....	12



Assembling the mechanism

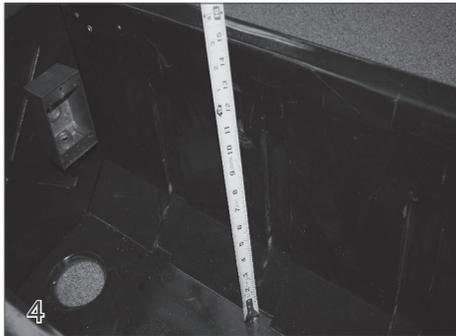
Turn the motor and non-motor end upside down. This is done to appropriately attach the roll-up tube and the mechanism mounting feet.



Attach the roll-up tube to the motor end of the mechanism using the 3/8" x 1-1/4" bolts (44) and lock washers (50) provided.

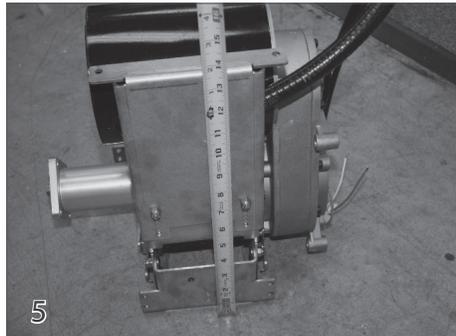


Attach the roll-up tube to the non-motor end of the mechanism using the 3/8" x 1-1/4" bolts (44) and lock washers (50) provided.



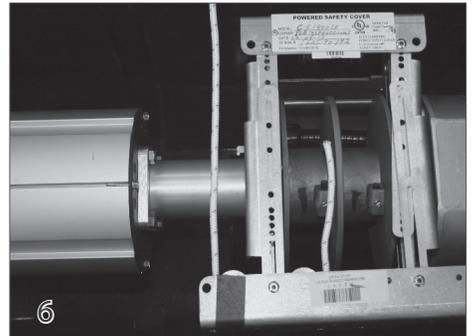
To attach the feet, first measure the distance from the bottom of the cover box to the bottom of the track.

(This will determine the height of the mechanism.)



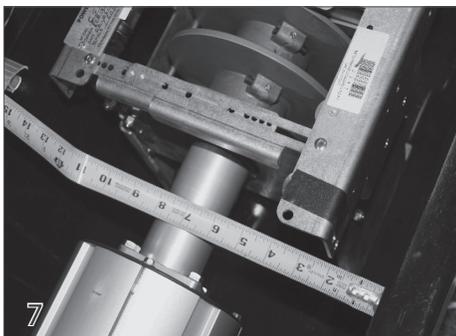
Attach the mechanism feet to the mechanism approximately 1 inch less than the distance from the bottom of the cover box to the top of the track/retainer. Use a 7/16 inch ratchet to tighten bolts.

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

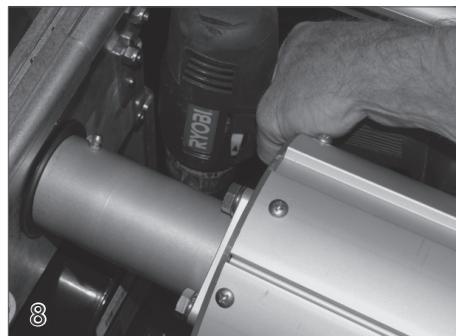


Installing the mechanism in the Cover Box

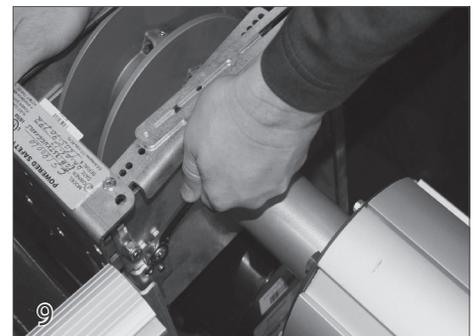
Line up the mechanism with the track so the rope will come straight out and around the motor end pulley.



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



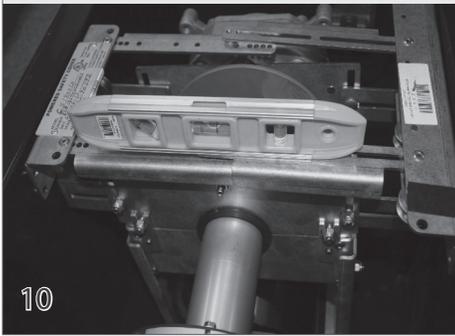
Attach the mechanism feet to the floor of the cover box. Use the mounting hardware provided.



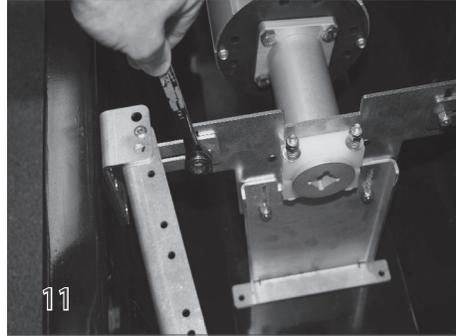
Loosen the four nylock nuts on the pulley brackets. Raise the pulley bracket assembly so it is level with the bottom of the track.

Step By Step Instructions

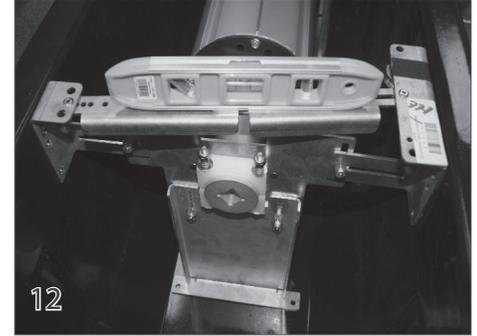
Numbers in parenthesis refer to hardware shown on page 3.



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.

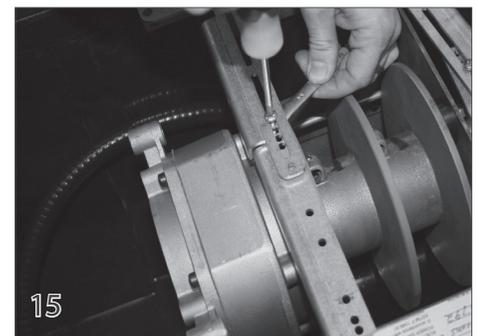


Anchoring the Pulley Brackets

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.



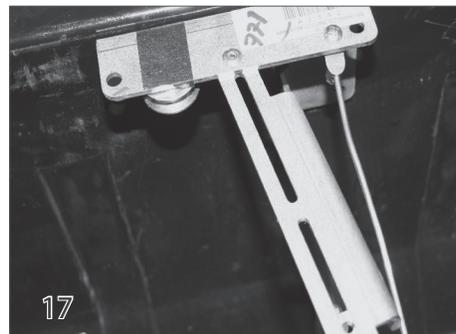
Anchor the non-motor side of the mechanism into the cover box in as many places as possible. Use the appropriate screws and anchors depending on the type of cover box being used.



On the motor and non-motor side, use the half inch screws (37) and nylock nuts (47) provided and secure the cross braces together.



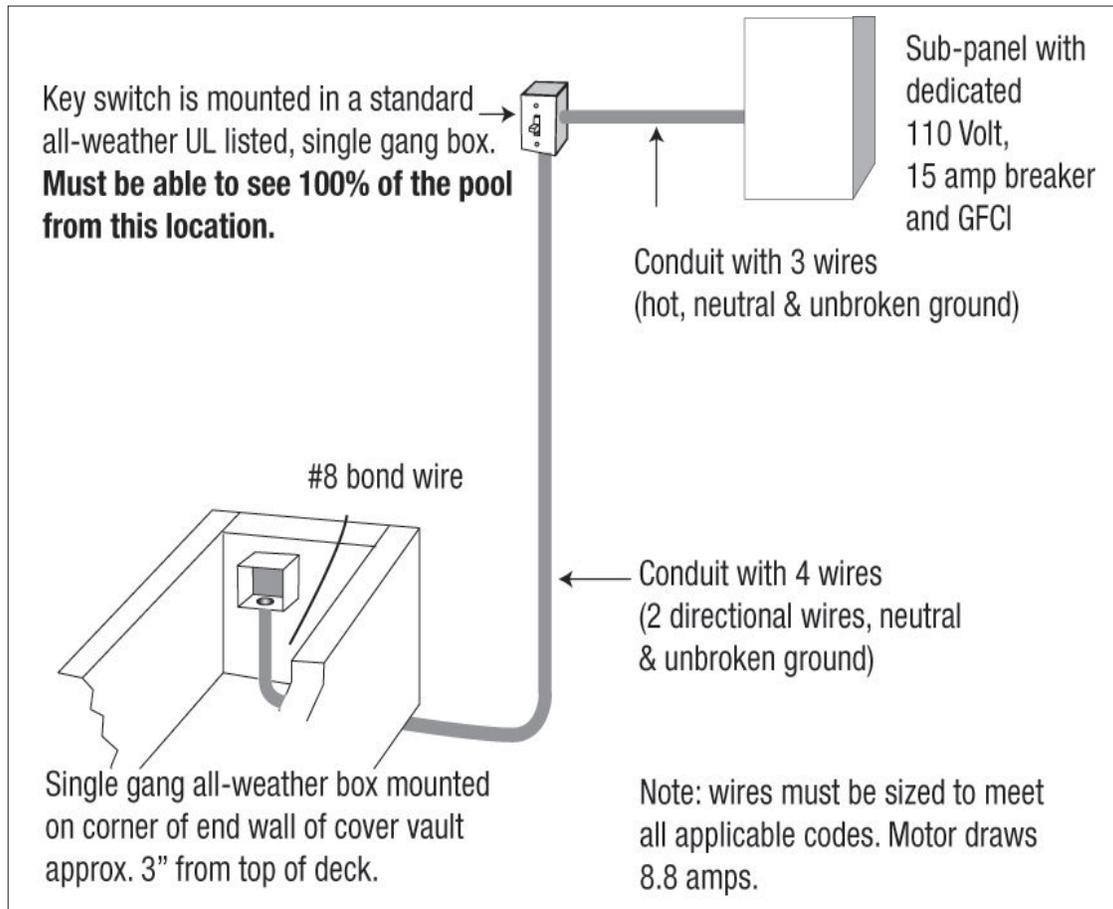
Attach the #8 copper bond wire that is stubbed into the cover box to the bonding lug on the motor end of the mechanism.



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

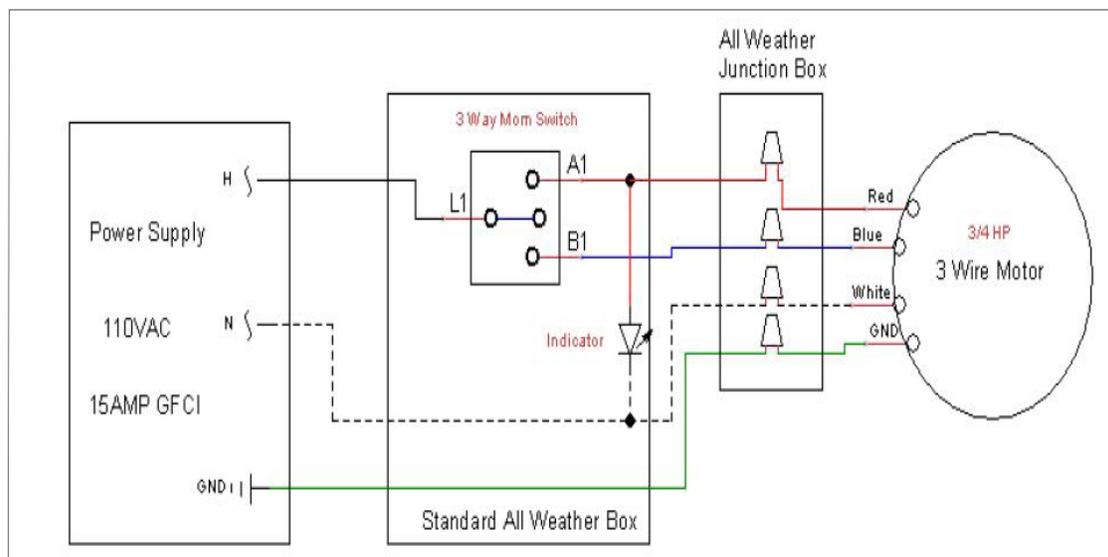
Electrical Wiring & Bonding

The system must be bonded to meet the National Electrical Code. Bond both tracks to the mechanism by attaching a bonding lug to the guide 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.



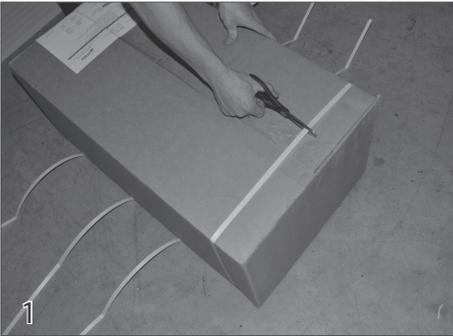


COVER FABRIC

Step by Step Instructions	Page/Step
Opening the cover box	14/1
Running the rope through the track.....	14/4
Routing the ropes.....	15/10
Attaching the ropes to the reels.....	16/30
Pinning the cover to the tube.....	16/32

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.



Running Ropes Through the tracks

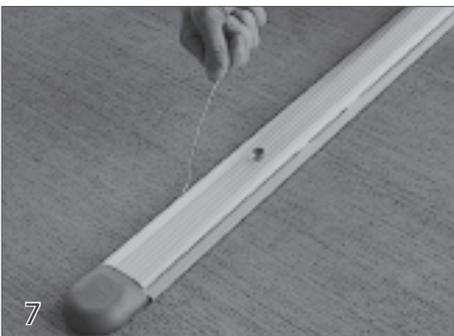
The preferred method of running the rope is to pierce the rope with a 1' length of wire and use it as a handle to feed the rope through the track.



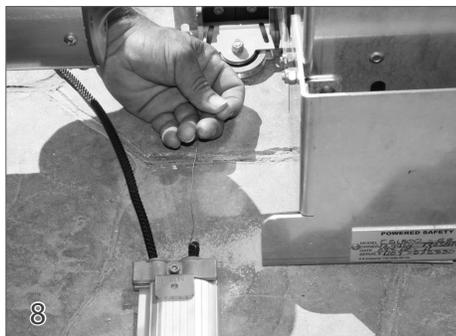
Hold the wire with some pliers and pull the rope down the length of the track toward the end of the pool.



Feed the rope through the pulley assembly (28) and place the pulley housing onto the end of the track.



Feed the rope into the back channel then pull the rope down the back side of the track toward the cover housing.



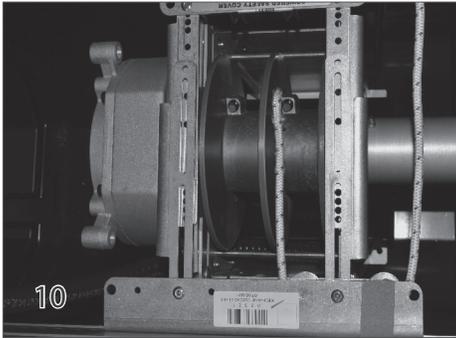
Pull all excess rope through the cover track.



Complete the fastening of all track screws flush to the top of the track and fasten the pulley screw on both sides of the pool. Clean concrete dust from tracks and pulley endcap. Make sure ALL screws are flush with tracks.

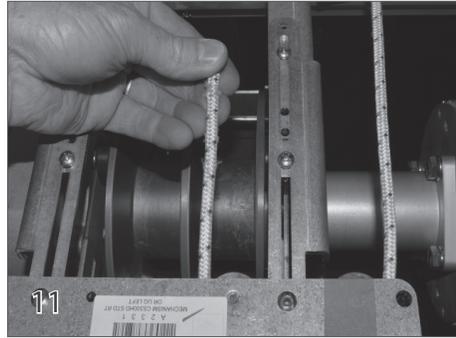
Step By Step Instructions

Numbers in parenthesis refer to hardware shown on page 3.

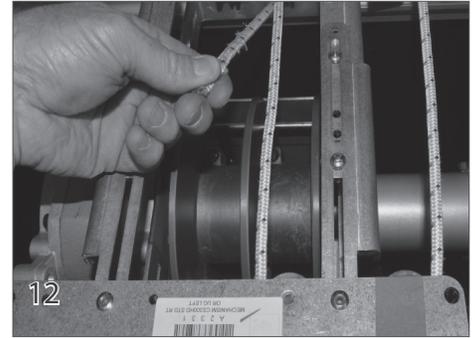


Routing the Ropes

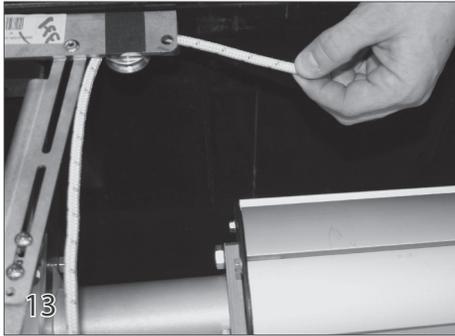
Begin on the motor end of the mechanism. Run the rope from the track so it travels straight from the track to the first pulley. Extend the rope out the back side of the pulley.



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



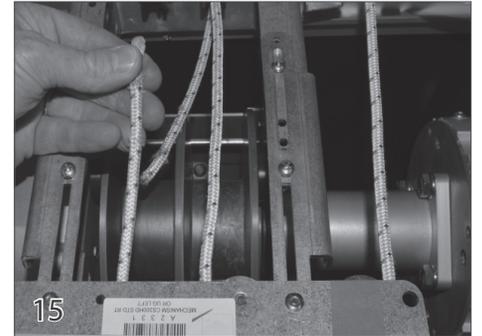
Pull the rope around the vertical pulley on the front wall of the cover box.



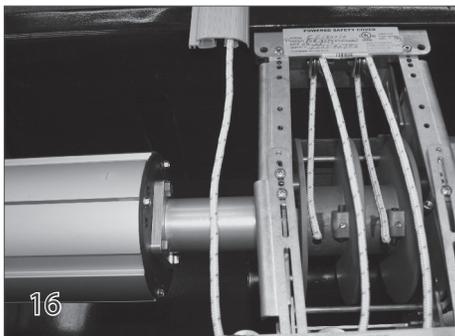
On the non-motor end, feed the rope around the pulley of the non-motor end pulley bracket. Pull the rope through to the motor end.



Run the rope from the non-motor end along the backside of the cover box. The rope should run through the rope loops (39) 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.



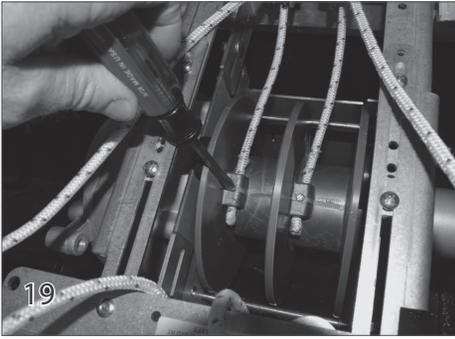
Pull the rope around the vertical pulley on the front wall of the cover box.



The cover must be open when cutting and attaching the ropes. Pull the cover back until the sliders are against the guides. Pull the ropes tight as they come off the pulleys on the mechanism to eliminate the slack in the rope.

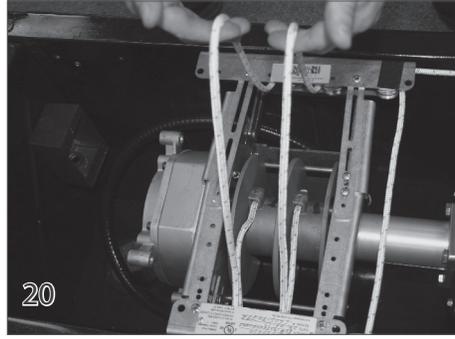


While pulling both ropes tight, use a lighter or torch to burn the rope in the location it will be cut. This will help them not fray after they have been cut. Cut the ropes so they are at least 8 ft long. Use the lighter to reburn the cut ends of the rope if needed.



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.

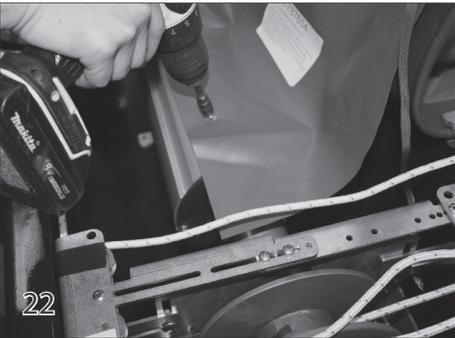


Tip: The rope for the non-motor side should be attached approximately 1 inch further down than the motor side rope depending on the width of the pool. Use the switch and operate the cover in the "Closed" position to cover the pool.



Pinning the Cover to the Roll-up Tube

Using a self-tapping screw (42), attach the bonding wire on both sides of the roll-up tube.



Using a self-tapping screw (32), 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. This will help to distribute the slack across the roll-up tube evenly.

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

Make sure that the cover and the webbing roll up nice and even around the roll-up tube. Operate the cover 6-10 times to and make any adjustments to the rope reel brake and roll-up tube brake if necessary.

The CS300HD installation is complete.



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 pump4
- How to uncover and cover the pool6-7
- Warn about standing water on the cover4
- Who is authorized to operate the cover system.....6
- Pool chemicals and cover life8
- Proper maintenance and care of the cover system...8-9
- Inform the customer on pool safetyBack 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.