

INSTALLATION MANUAL

For the

HYDRAMATIC

UNDERTRACK & TOPTRACK / RECESS MECHANISM AUTOMATIC POOL COVER SYSTEM



*Exclusive Manufacturer of the Hydramatic
Hydraulic Swimming Pool Covers*

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2007

For your safety and ease of installation, be sure to read this manual completely. This cover is one of the most advanced designs in automatic covers and has one of the best warranties in the industry. However, improper installation and operation may severely limit the warranty and life of the system.

TABLE OF CONTENTS

| | |
|--------------------------------------|---------|
| Introduction | 1 |
| Preliminary Pre-Site Checks | 2 |
| Parts List | 3 |
| Component Pictures | 4 |
| Hydraulic Hose Installation | 5 |
| Track Extrusions Installation | 6 - 8 |
| Drive Unit Assembly and Installation | 9 - 13 |
| Track Guide Assembly Installation | 14 |
| Hydraulic Hose Hook - Up | 15 |
| Electrical Hook - Up | 16 - 17 |
| Hydraulic Fluid | 18 |
| Rope String - Up | 19 - 21 |
| Leading Edge Installation | 22 |
| Fabric Installation | 23 - 24 |
| Pressure Adjustment | 25 |
| Cover Alignment Adjustment | 26 |
| Top/Recess Track Layout | 27 - 28 |
| Top/Recess Measurement Diagram | 29 |
| Top/Recess Track Installation | 30 |
| Composite Lid Installation Manual | 32 - 43 |
| Aluminum Lid Installation Manual | 44 - 49 |
| Masonry Lid Installation Manual | 50 - 55 |

INTRODUCTION

The Hydramatic, All Fluid Drive Automatic Safety Cover System, is a unique patented system, powered by two interconnected hydraulic motors. One motor drives the cover drum that pulls the fabric off the pool, and the other motor drives the rope take-up reels that pull the cover fabric onto the pool.

The two hydraulic motors are powered by the powerpack which is a hydraulic pump powered by an electric motor. This pump supplies pressurized hydraulic fluid to the drive unit via two hydraulic hoses. It is about the size of a standard swimming pool filter pump and is generally located at the equipment pad.

Each hydraulic line alternates as a pressure line to the manifold or a return line back to the powerpack reservoir, depending on the direction of cover travel. The direction of cover travel is controlled at the powerpack by a key-operated electric control switch. Turning the key to the open position starts the powerpack supplying pressurized fluid to one line, which causes the cover drum motor to turn. Turning the key to the close position pressurizes the other line and causes the rope reel motor to turn.

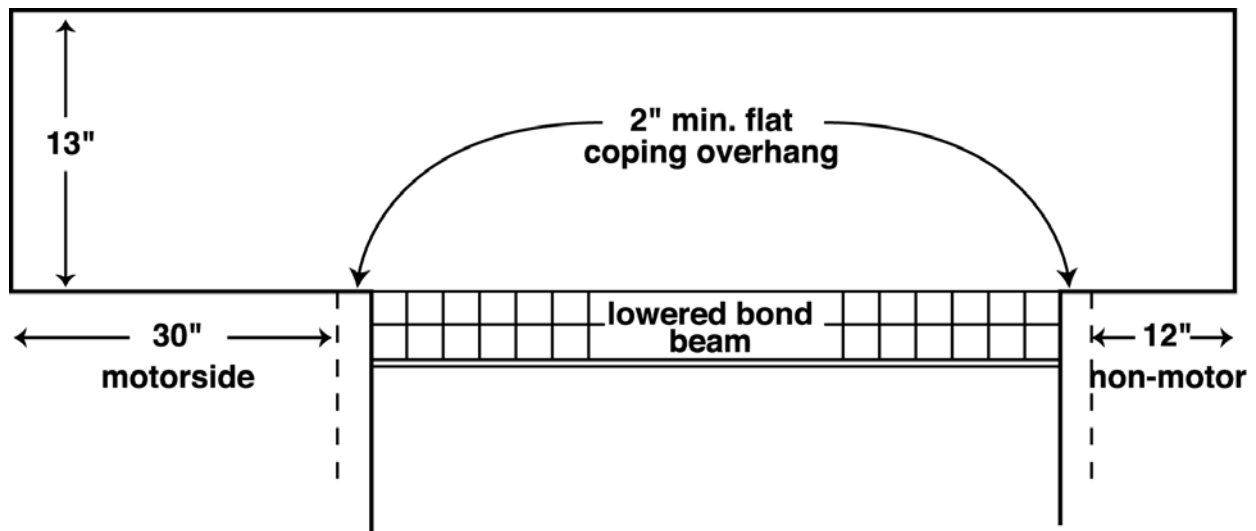
The system has an operating pressure of 600-800 psi. (fairly low for hydraulic standards).

If you have some familiarity with similar electric cover systems, then most of what follows will be fairly straightforward. In fact, the Hydramatic Cover Systems are in some ways much easier to install. An experienced installer should be able to complete an installation in a single day.



Preliminary Pre-Site Checks

- 1). Make sure the cover recess is clear of any sharp protrusions such as nails, re-bar and general debris. The lowered tiled bond beam should be clean on the cover recess side, so that there is no chance of the cover snagging as it pulls across the pool surface.
- 2). The cover recess or the “pit” should be 13” wide (14” for a cover over 45”) and at least 15” deep from the top of the finished deck. The motor side of the recess should project or extend 30” beyond the pool wall. The non-motor side should project or extend 12” beyond the pool wall. **See diagram below for details.**



- 3). Make sure that the 2" I.D. polyethylene hydraulic hose “chase” from the equipment pad to the cover recess is clear and ready to accept the two hydraulic hoses. Pulling the hydraulic hoses will be the first step in the installation process.
- 4). There should be a #8 copper bond wire on one end of the pit, if not both. **Do not cut this wire off.** It is required by various national and local codes that all equipment around the swimming pool be grounded.
- 5). Make sure the recess drain is clear and working properly. Although water will not hurt the Hydramatic system, water should not be allowed to stand in the bottom of the pit, as this water will become stagnant and produce an offensive odor.
- 6). Check to see that there is a minimum of 2" of flat-cantilevered coping to secure the track extrusions to. **See diagrams in “Installation of Track Extrusions” section.**
- 7). Make sure there is a minimum 1" clearance between the bottom of the coping and the top of the lowered tiled bond beam.

Parts List

The equipment generally comes in two bundles. The first bundle is a shrink-wrapped pallet that contains several boxes plus the cover fabric. The second bundle is a wooden crate approximately 22' long by 12" by 12" that contains the long extruded pieces.

The pallet contents are as follows:

- 1 A box containing the hydraulic drive unit and small parts bag.
- 2 A box containing the hydraulic Powerpack with the key switch.
- 3 A box containing the cover pump (not supplied for indoor pools).
- 4 A box containing hydraulic hose with fittings.
- 5 A box containing plastic polymer panels for the recess lid (if type being used).
- 6 A box containing stainless steel lid brackets.
- 7 A bag containing the cover fabric.

The wooden crate contents are as follows:

- 1 Track extrusions.
- 2 Leading Edge Bar.
- 3 Cover roll - up drum.
- 4 Aluminum extrusions for polymer lid (if type being used).
- 5 Aluminum lid (if type being used).

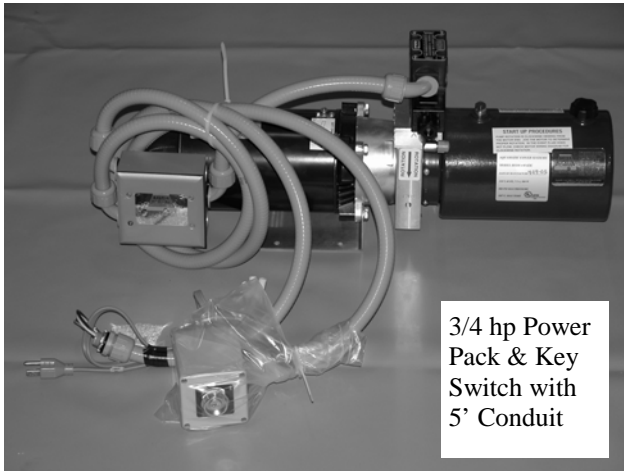
If you are installing a stone or brick lid, then the following boxes or a portion thereof, are shipped in place of the aluminum lid or polymer lid:

- 1 A box containing heavy-duty stainless steel lid brackets with mounting hardware.
- 2 A box containing stainless steel pans.
- 3 A box containing stainless steel clips.

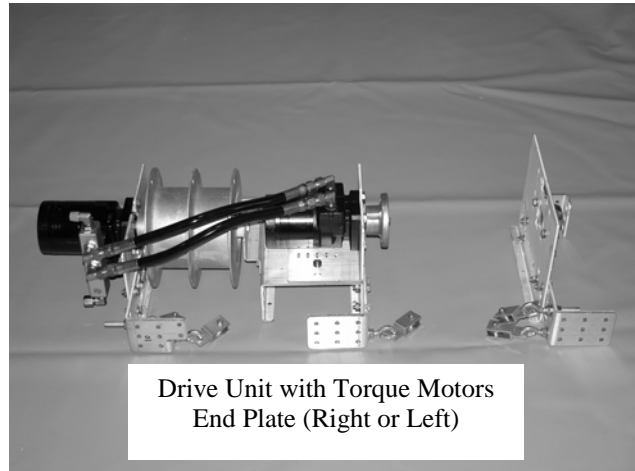
*The above listed equipment may be delivered in several different shipments. This list is provided only as an equipment check-off list and is not intended to correspond with a packing or shipping list.

See Following Page for Pictures

Under Track System



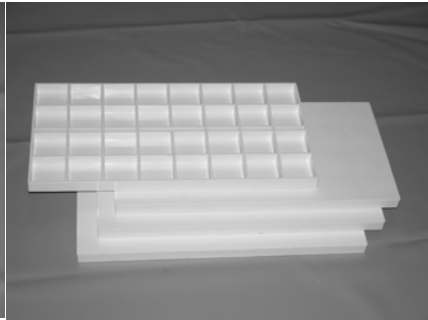
3/4 hp Power
Pack & Key
Switch with
5' Conduit



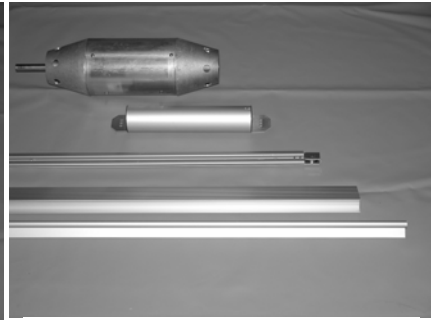
Drive Unit with Torque Motors
End Plate (Right or Left)



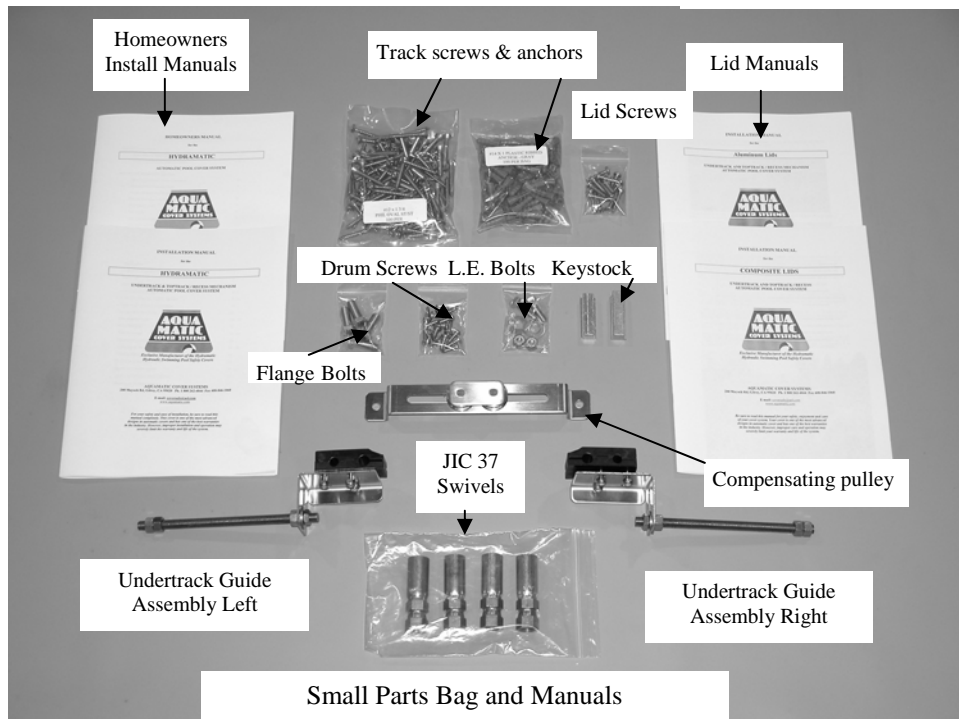
Cover Pump



Composite Lid Panels



6'' Cover Drum, Leading Edge
Bar, L.E. Caps and L.E. brackets,
Track and Lid Extrusions



Homeowners
Install Manuals

Track screws & anchors

Lid Manuals

Lid Screws

Drum Screws L.E. Bolts Keystock

Flange Bolts

JIC 37
Swivels

Compensating pulley

Undertrack Guide
Assembly Left

Undertrack Guide
Assembly Right

Small Parts Bag and Manuals

Installation of the Hydraulic Hoses

The hydraulic hoses should be taped off at both ends to ensure that no water or debris enters the hose. The entry of foreign matter into the hydraulics can cause severe damage to the system.

Generally, the hoses can be pushed through the “chase” with little or no difficulty. A little bit of electrician’s wire lube works well as lubrication. The hoses may be pushed from either end of the chase, but it is usually easier from the equipment pad end.

An electrician’s fish tape can be used if there is difficulty in pushing the hoses through. As a rule of thumb, if the “chase” is over 50’, a fish tape will probably be needed.

Once the hoses are through the chase, be sure there is at least two feet of slack coming out at the motor side of the pit to attach to the drive unit. At the equipment pad, there should be enough hose to reach and connect to the powerpack.

If need be, the hydraulic hoses can be run across the bottom of the pit from one end to the other. In this case, be sure to secure the hoses every 3 to 4 feet with a conduit clamp or equivalent. This is to prevent the hoses from being wrapped up in the cover fabric as it moves across the pool.

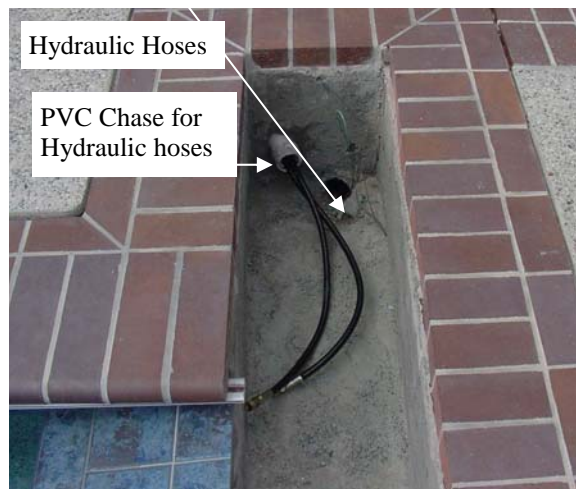
The hydraulic hose specifications are as follows:

3/8 inch I.D. (inside diameter) non-conductive poly-braided hydraulic hose.

Working pressure of 1250 to 2250 psi. (pounds per square inch).

#6 - JIC 37 female swivel fittings

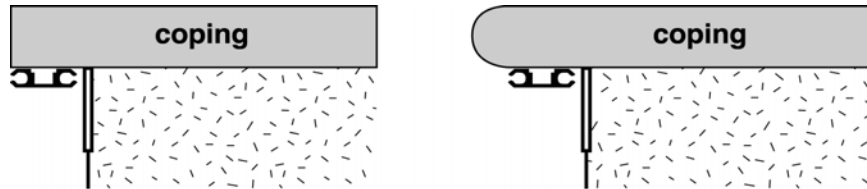
Unless otherwise requested, the hoses will come with the fittings already attached at both ends. A portable swaging tool, complete with the proper dies and pusher is available from the factory.



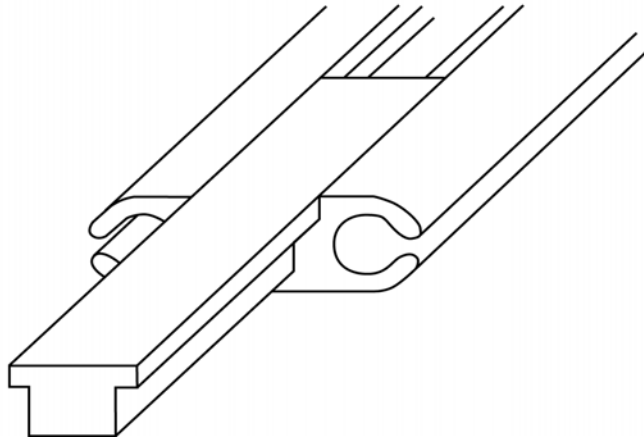
Installation of Track

Start by installing the track at the far end of the pool, away from the drive unit end. Locate a piece of track with a pulley at one end (there will only be two such pieces). With the pulley towards the far end of the pool and the notched side of the track up, use C-clamps and secure the track under the coping. Usually, three clamps evenly spaced along the length of the track are sufficient. Place the pulley end against tile and track edge along inside edge of coping. This will allow for about 1/4" of space between the track and the tiled wall.

See diagram below.



Drilling holes for the track is usually the hardest and most tedious part of the installation. There are several ways of drilling along the underside of the coping. If the pool is full of water, you can lower the pool water so that a drill can safely fit under the coping. The other way is to use a five-gallon plastic bucket as a dry well for drilling in the water. **Always plug into a GFCI outlet when working around water to prevent a shock hazard. *See note on next page if installing track prior to plaster***



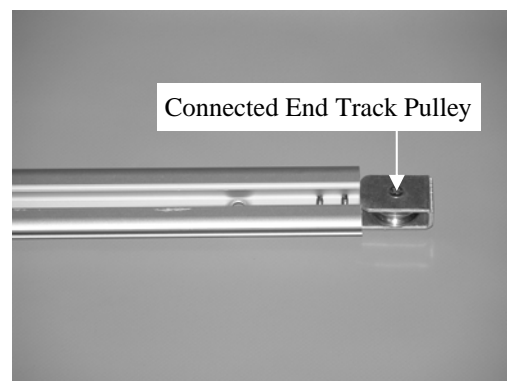
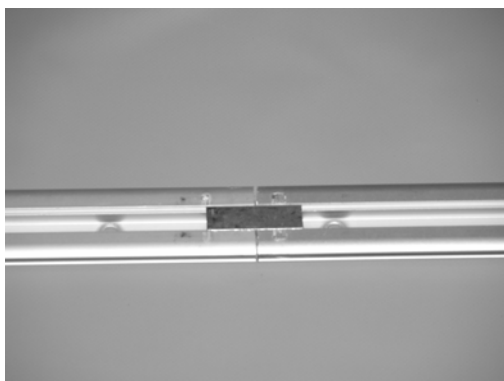
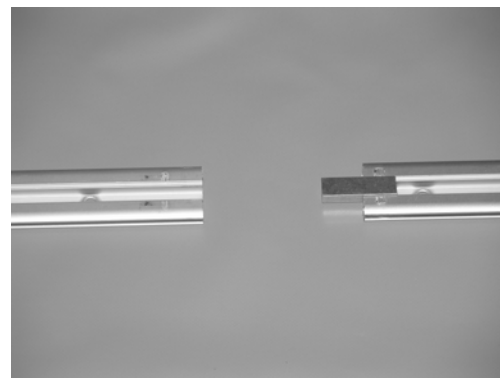
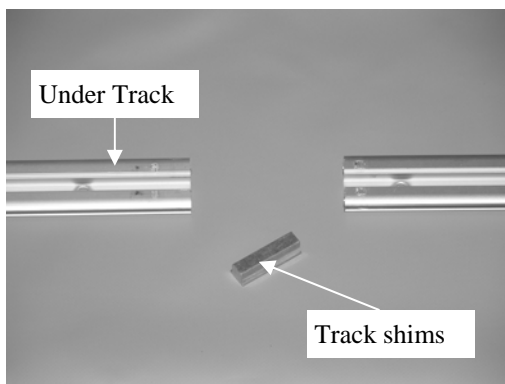
Using a 1/4" masonry drill bit, drill holes through the pre-punched track holes into the underside of the coping about 1 1/2" deep. **Drilling too deep will break through the top of the coping.** Angle the drill slightly inward to minimize the chance of breaking out the edge of the coping. After all the holes in the first section of track are drilled, remove an end C-clamp so that the track hangs down exposing the drilled holes. Carefully tap the 1/4" plastic anchors into the exposed holes and re-clamp the track. Screw in the # 12 x 1 3/4" stainless steel track screws to secure track end. Finish placing remaining anchors in the holes, and then insert the screws through the track and tighten. Before tightening the screw at end of the track opposite the pulley end, be sure and place track joint connector (small parts bag) in the track. **See diagram above.**

Locate second piece of track. Notice that on one end of the track, the first hole is 3" from the end and on the opposite end the hole is 2" from the end. Use the end with the hole 2" away from the end and butt it up to the previous piece of track. **Be sure to leave approximately 1/16" gap between the two pieces of track for thermal expansion.** The end of the track should be cut down to extend into the pit between 2" and 3".

If a third section of track is needed and it is shorter than 10' in length, please place this shorter piece between the longer pieces of track. This will prevent the small piece of track from pulling loose when running the cover back with a water load on it. Keep in mind that there must always be a hole at each end where two pieces come together. Drill and counter sink the hole if needed. The last screw in the track at the pit (generally between the coping and the lowered bond beam) cannot be drilled. This is not a problem and should remain loose for later adjustments.

PLEASE NOTE: If the tracks are going to be installed ahead of the pool plastering stage, you must tape over the track for protection against plaster and other construction residue entering into the track. Use only electrical tape, as any other type of tape leaves a glue residue and is harder to remove.

After all the tracks are secured to both sides of the swimming pool, it will be time to install the drive mechanism.





Assembly and Installation of the Drive Unit

Place the drive mechanism side of the drive unit behind the pit on the drive mechanism end of the pit (this is the end of the pit with the longer extension). The drive should be set so that the hoses are up, and the four-holed drum flange is facing towards the opposite end of the pit. **Place some cardboard or rags under the drive mechanism to catch any oil that may leak from the manifold (red plastic caps).**

Take the bearing plate and place it behind the pit on the non-mechanism end of the pit. Set it with the pulleys facing towards the pool and down on the deck.

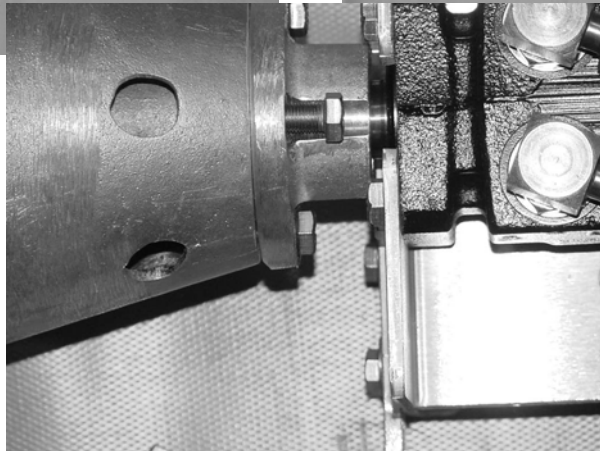
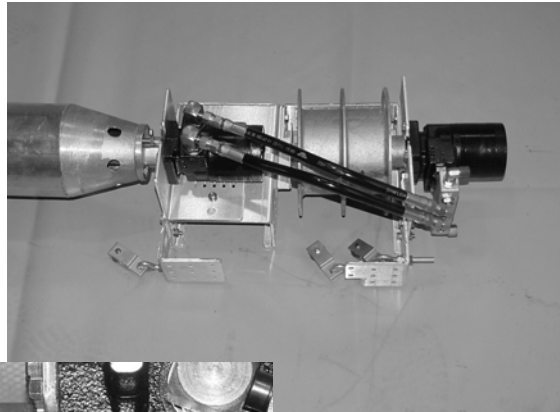
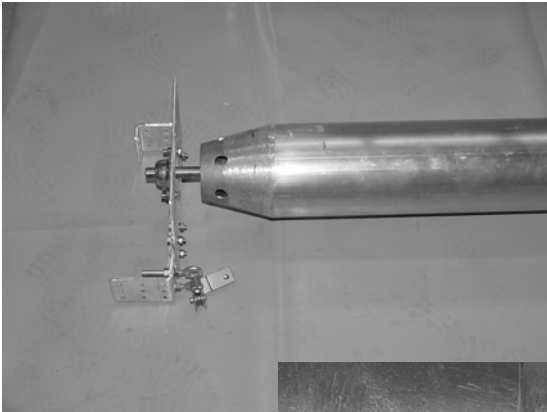
Position the 6" cover drum so that the shaft is in the bearing plate brass bushing. The bearing should slide onto the shaft with relative ease. If this is not the case, then check the shaft for any burrs or raised spots and file down as needed.

The other end of the drum has four fine thread $\frac{3}{8}$ " holes that will line up with the four holes in the flange on the drive mechanism. Insert the four $\frac{3}{8}$ " - 24 x 1" hex bolts (small parts bag) through the flange holes and start each one into the cover drum end. Tighten with a $\frac{9}{16}$ " wrench.

In some cases, the motor-mounting bolts are in-line with the flange holes and will not allow room for the bolts to be inserted into the flange. If this is the case, large channel-lock pliers can be used to manually turn the flange to a proper position.

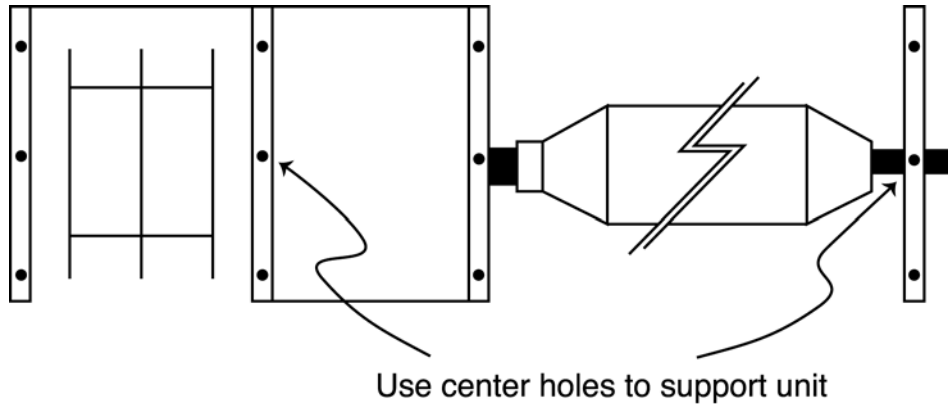
Please note that the drive unit is upside down for ease of assembly.

See following pictures for details:



Once the drive mechanism is secured to the cover drum, it is time to place the whole assembly in the pit for mounting.

Flip the assembly over so that the pulleys are not at the top and are away from the swimming pool. Now, with a 1/4" x 6" long piece of all-thread with two 1/4" hex head nuts, attach a short piece of track to the drive mechanism using the hole provided. The piece of track should be about 2' long so that it will span the width of the pit with a hole near the center. Repeat for the bearing plate side of the drive assembly.



Position the bearing plate side over the pit. Take the drive mechanism side by the piece of attached track and place it into the pit. You should now have the drive unit assembly suspended in the pit by the attached pieces of track. **See pictures below.**



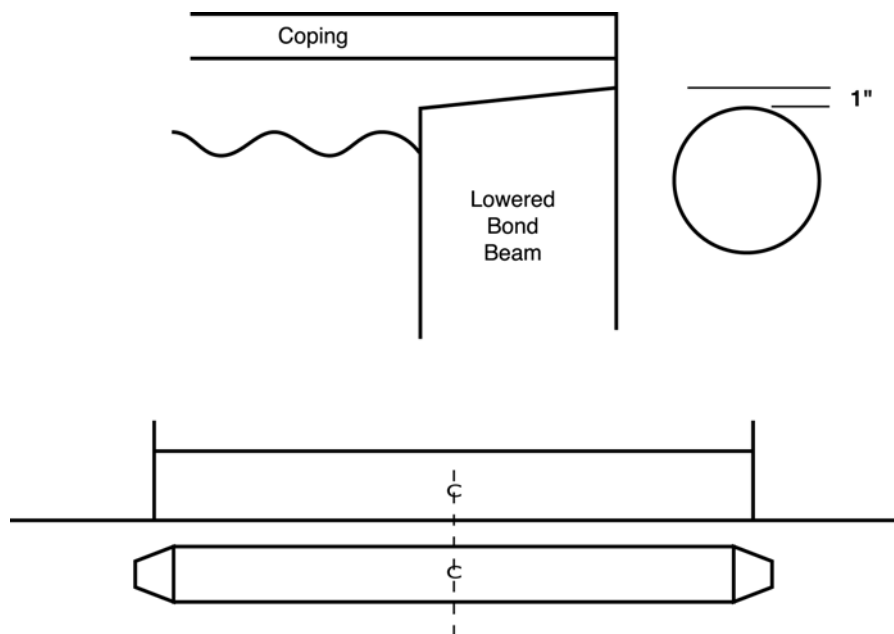
Adjust the drive mechanism for height by increasing or decreasing the length of the all-thread. The cover drum should generally be 1" below the top of the lowered bond beam. **Note: If you are using a stone lid or the like, then the top of the drive unit must be as low in the pit as the finished lid is thick. This will usually place the drum lower than the specified 1". This is not a problem and will be addressed later in this manual.**

If a composite lid is to be used, the drive assembly will need to be a minimum of 1" below the surface of the deck. This will still allow for the correct drum positioning.

If a stone lid is to be used, be sure to place the unit low enough in the pit so that the lid has enough clearance, but high enough so that the cover drum is as high in the pit as possible.

Next, the drive assembly cover drum must be centered between the tracks. This is done quite easily by measuring from the tile to tile across the lowered bond beam and finding the center point. Then just line up the marked center hole of the cover drum with the center point of the bond beam. Generally, the holes in the drum castings will line up with the outside edge of the mounted under track.

Centering of the cover drum and making sure that it is the correct length is important to achieve good operating performance. **See diagram below for details.**



The 6" cover drum should be approximately 3" shorter than track-to-track measurements. This does not include the drum casting ends. Now that the unit is the correct height and centered with the tracks, it is time to mount it to the pit walls. Always start at the drive mechanism end and mount to the front of the pit wall first (side closest to the pool).

Generally, the slots in the mechanism frame are the points used to mount to the front wall. Drill one 1/4" hole in the center of one of the slots about 2" deep. Twist 1/4" plastic anchor onto a 1 3/4" stainless steel screw and tap it into the drilled hole just until the plastic anchor is set. Tighten using a # 3 Phillips bit.

Repeat for each slot across the front. The other predrilled holes in the frame can be used in the event that the slots will not provide a strong mounting point. Four screws across the front of the mechanism frame are sufficient for an average size cover. If you are in doubt, then use more screws. The numerous holes provide you with multiple mounting options.

The pulley bracket bolts should be loosened with a 1/2" wrench so that the brackets can be adjusted out to fit the width of the pit. Tighten bolts, keeping the pulley brackets flush against the back wall of the pit and level with the mechanism frame. Using one of the predrilled holes in the bracket, drill a 1/4" hole. Twist a plastic anchor onto a 1 3/4" stainless screw and tap into the drilled hole just until the anchor is set, tighten and repeat for 2 or 3 more holes. It is best to stagger the holes instead of placing them all in a line. This will minimize the fracture stress on the concrete.

The bearing plate at the opposite end of the drive mechanism must be centered on the drum shaft to allow for proper adjustments. **Do not use the bearing as the centering point. The centering point is the mounting plate, on which the bearing is mounted.**

Repeat the above steps to mount the bearing plate side.

Please Note: The drive unit must be properly secured to the pit walls for proper cover operation. Any weak points could result in serious damage to the pool system.

See following pictures for details.



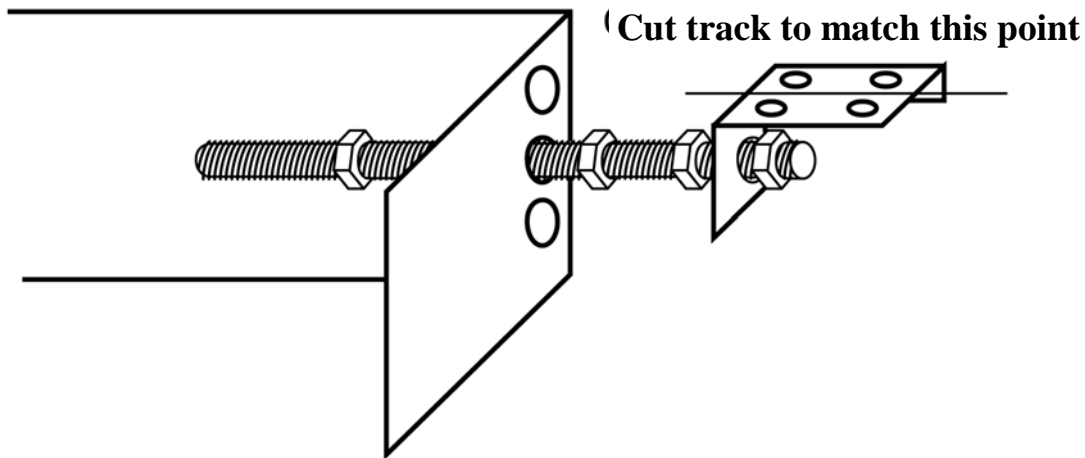


Installation of the Track Guides and Brackets

The track guide, bracket and all-threaded rod come preassembled in the small parts bag. There is a right-hand assembly and a left-hand assembly. **See diagrams below for details.**



Remove the guide and guide bracket from the all-thread. Also, remove one hex nut from the other end of the all-thread. The all-thread should now be inserted into one of the three holes in the drive mechanism frame. **Choose the hole that allows the track to remain pressed up against the underside of the coping when the guide assembly is attached.** Place the removed hex nut back onto the all-thread. The all-thread should be placed in the mechanism frame so that it is lower than the track and extends to within one inch of the track. Re-attach the guide bracket to the all-thread, keeping it square and level with the track. Do not tighten the all-thread nuts at this time. Mark the track at the mid-point of the guide bracket and cut so that the track lines up in the middle of the guide bracket. **See diagrams below for details.**



Be sure to file and debur the end of the track after cutting. It is easier to cut the track back if you remove the guide bracket assembly.

Place the guide, with the tongue inserted in the middle of the track and the open slotted side towards the pool, onto the guide bracket. With the two #10 - 32 x 1 1/4" panhead slotted machine screws in the guide holes and into the holes in the guide bracket, butt the guide and bracket against the trimmed track and drill a 3/16" hole into the track, using the hole in the guide's tongue as a guide. This hole only needs to go through the track, as the guide bracket's predrilled hold should line up with it.

Repeat the above steps for the other side of the drive unit.

Remove the guide brackets, and set them aside until the fabric is installed.

Hydraulic Hose Hook-up

Each end of the hose should have the #6 JIC 37 female swivel fitting swaged to it. These fittings should have been or can be supplied with the hose. Always make sure that the correct fittings are used with the hose. Check with Aquamatic if you are not sure.

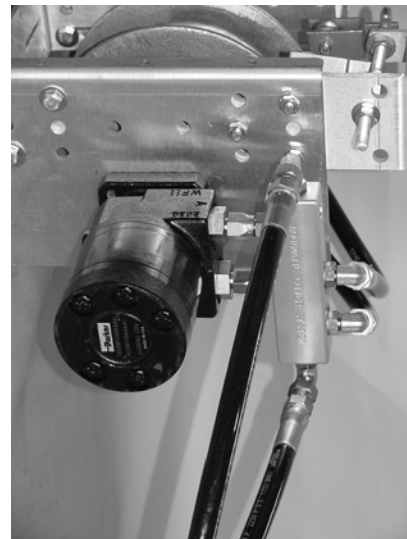
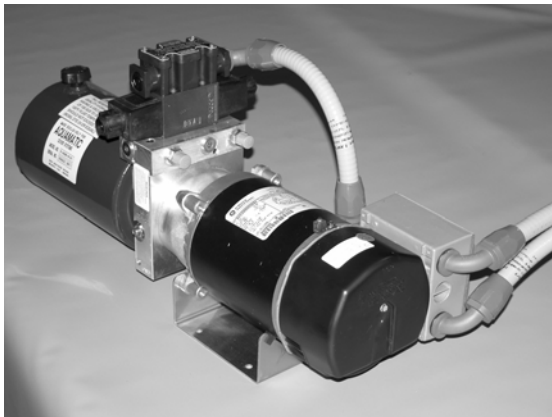
At the mechanism, attach one of the hoses to the bottom manifold fitting and tighten. Take the second hose and attach to the upper manifold fitting, and tighten. These are flared fittings so do not over tighten.

It does not matter which hose connects to which port. Both hoses alternate between pressure and return depending on the direction of the fluid flow.

Hook up the hoses at the Powerpack. Again, it does not matter which hose is attached to which port.

Be sure to check that all fittings are tight. **Note:** The 90-degree female swivel fitting, which the hoses were connected to at the Powerpack, must be tight. The swivel is only for positioning and once tight, must not move.

Be sure to leave enough hose at each end so that when hooked up, they will not have any sharp turns or kinks. Also, make sure that the hoses do not rub against any moving parts, as this will rub a hole in the hose and cause a leak.



Electrical Hook-Up

Temporary Hook-Up for Installation Purposes

The Powerpack, if not already installed by the electrician, is supplied from the factory with a short temporary drop cord (pigtail). **This is only temporary, the system must be hardwired.**

The pigtail allows the installer to use the Powerpack during installation by plugging it directly into an electrical outlet. The pigtail has two separate circuits connected to it. One circuit is the control switch circuit (black and white wires); the other is the motor circuit (red, brown, and green wires).

Using the shortest extension cord possible, plug the pigtail into an electrical outlet. To test the Powerpack for proper wiring, toggle the key switch in both directions. The motor should engage in each direction.

If the system being installed requires a 1.5 HP Powerpack, it must be hooked up to 220v. See below for wiring instructions.

Permanent Hook-Up of the Powerpack (by qualified electrician only)

As shown in the electrical schematic, wiring for the Powerpack requires two circuits. One circuit powers the key switch operated solenoid and the other powers the motor. Dividing the power supply in this way allows us to have the key switch a reasonable distance away from the Powerpack on a 14 gauge electrical run without affecting performance. **Note: The key switch must be placed in a location that allows full view of the cover while operating.**

The Powerpack is currently supplied with the latest style GE motor, which features an easy-to-use 110v to 220v dial switch (all 3/4 HPs are set at 110v and all 1.5 HPs are set at 220v). The 3/4 HP Powerpack can be hooked up to either 110v or 220v, but we suggest always hooking up to 220v.

When wiring 220v the key switch must always remain on 110v circuit or the solenoid on the Powerpack will be damaged.

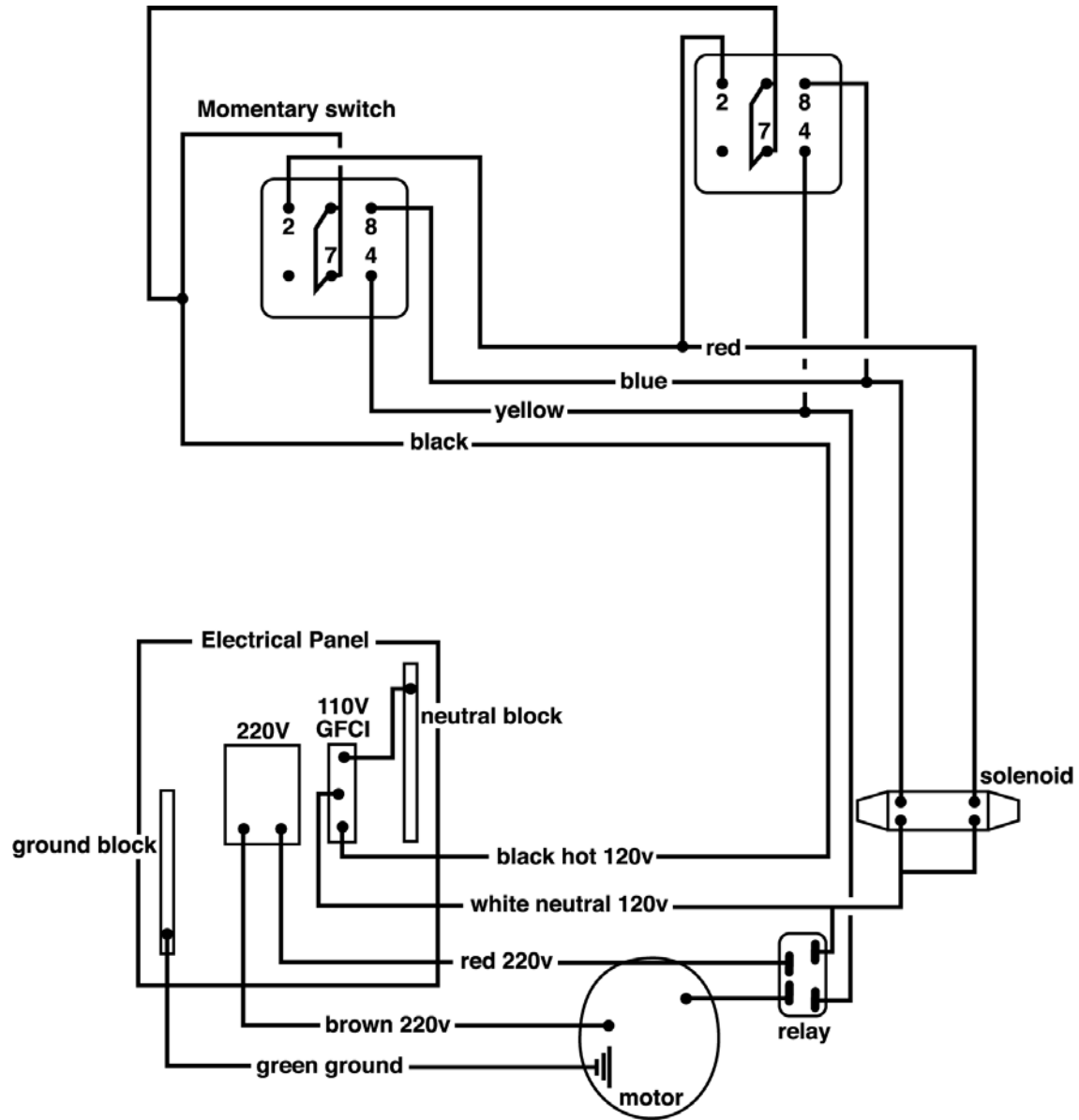
The Powerpack comes factory pre-wired with a 5-foot piece of conduit and a connector, ready for connection to the electrical panel. Simply remove one of the appropriate “knock-outs” at the bottom of the panel and install the supplied connector. The wires may now be connected to the appropriate breakers.

It is preferred to have the motor circuit wired at 220v. At this voltage, the current draw is between 4 and 5 amps. Please note that the brown wire now becomes the other “hot” leg, instead of the neutral as in the 110v wiring scenario.

The control circuit must remain wired at 110v. The Powerpack comes pre-wired with the key control switch ready for operation. If the key switch is to remain at the equipment pad, then all that is needed is to mount it to the wall.

If the switch is going to be remotely located, the pool cover must be completely visible at all times. Run an extra conduit from the equipment pad to the remote location. Pull four colored wires (red, blue, black, and yellow) and a green ground wire through the conduit. Remove the switch housing and switch and replace it with a junction box. Place the switch in the new location.

As the wiring diagram shows, you may also run parallel wired switches in several locations. Contact Aquamatic Cover Systems for extra switches.



Filling the System with Hydraulic Fluid

The Powerpack may be filled with one of the following types of fluids:

Dexron III Automatic Transmission Fluid (preferred by Aquamatic)

Regular Hydraulic Fluid (usually 2 to 3 times the cost of the above)

You will need a small funnel and rags available to fill the reservoir of the Powerpack.

The reservoir will hold approximately 3 1/2 quarts of fluid with the hydraulic hoses holding an additional one-quart per each 35ft. of hose.

Be sure to check for any loose fittings before continuing.

Remove the vent cap from reservoir and pour in 3 1/2 quarts of fluid using the funnel. Replace the vent cap. Engage the key switch to **open** position for 15 seconds and stop. Remove the vent cap and check the fluid level. Fill the reservoir up to within 1" of the top, and replace the vent cap. Again, turn the key to the **open** position for 15 seconds. Check the fluid level and repeat filling until the reservoir will not take any more fluid.

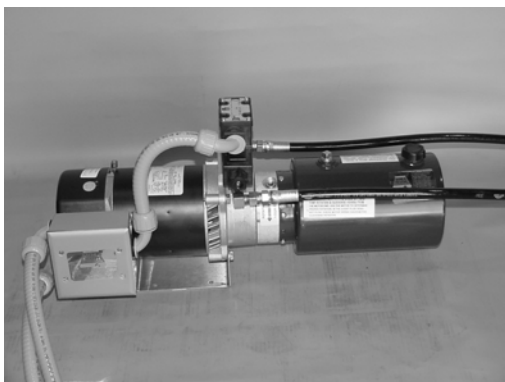
After the reservoir is completely full within 1" of the top, you may run the switch in the **close** position. Hold the switch in this position for approximately one minute. **Only turn the key switch in the opposite direction after the reservoir and hoses are completely full of fluid.** This will ensure that the least bit of air as possible gets into the system.

Any air that is still in the system after filling will bleed out through the vent cap. Following the steps above will eliminate most of the air from getting into the system.

Check for any leaks and fix if needed.

Check for proper switch direction. When the switch is engaged in the "open" position, the cover drum should turn away from the swimming pool. When turning to the "close" position, the rope take-up reels should be turning towards the swimming pool. If this is not the case, then simply interchange the "red" and the "blue" wires at the key switch.

Do not adjust the hydraulic pressure at this time. It is better to leave the pressure at its lowest factory setting until the fabric has started moving across the pool.

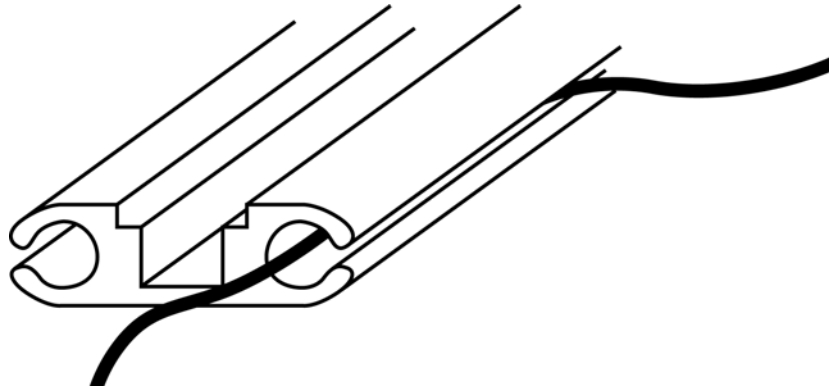


Stringing the Cover Ropes

Unpack the cover fabric; be sure not to drag the fabric across the deck surface as this could cause damage to the fabric. Untie the rope binding the fabric, but do not pull it out from underneath the fabric, as this tends to put a burn mark across the fabric. Position the fabric behind the cover recess and unfold it so that the front beaded edge of the cover is at the top and towards the end of the pool. You can also tell the top of the cover by the stitching and by the look of the fabric itself. The underside of the fabric is glossy and the top, correct side of the fabric, is dull.

Standing behind the fabric and facing the swimming pool, take the bundle of rope in your hands and unfurl it, throwing the rope behind you and away from the swimming pool. This is meant to untangle the ropes and to eliminate any knots.

Upon reaching the end of the rope, take the rope in both hands at a point about four feet from the end. With your hands about 12" apart, position the rope at the inside edge of the track and work it back and forth until it starts into the track. **See diagram below for details.**



Continue to pull the rope towards the far end of the pool. **The rope should pull relatively easy. If it doesn't then either it has come out of the track or it is knotted at the start of the track.** When the end of the track is reached, stop. **Do not continue pulling the slack out of the end of the track.**

Feed the end of the rope around the pulley to the backside of the track. Place your fingers at the point where the rope needs to be started into the backside of the track. Slightly push the rope inward, at the gap in between the pulley and the track and with your other hand, give the rope a sharp tug. This should start the rope into the backside of the track. Pull the rope down the track until the end is reached.

Do not pull all of the rope slack through the track at this time.

Take both ends of the ropes coming out of the track and pull them back and forth to ensure that they are fully in the track and around the pulley.

Leave the three feet or so of rope sticking out of the end of the track and repeat for the other side of the swimming pool. The next step is to run the ropes through the pulley but first, the floating compensating pulley must be mounted on the back wall of the pit.

Stringing the Cover Ropes continued

Locate the compensating pulley in the small parts bag. This is the double pulley that is attached to a 6" long slide. Find a location in the center of the back wall of the pit that is in line horizontally with the upper pulleys of the drive unit mechanism. Mount the pulley at this point with the provided holes.

Note: After the ropes are strung through all the pulleys, the "eyebolt" pulleys will be at a 45-degree angle towards the center of the swimming pool.

Take the non-motor side rope coming out of the backside of the track and run it through the top "eyebolt" pulley towards the compensating pulley. Run the rope down through the center of the compensating pulley and back towards the non-motor side. Run the rope through the backside of the lower "eyebolt" pulley and back towards the motor side of the pit.

The first drive mechanism-mounting bracket has a slot at the top and a hole through the center. Run the non-motor side rope through the hole and then through the backside of the lower rope reel "eyebolt" pulley. Pull the slack towards the far end of the pool until approximately 3' of rope is remaining from the track to the front of the fabric.

Take the motor side rope coming out of the backside of the track and run it through the "eyebolt" pulley towards the compensating pulley. Run it down through the compensating pulley and back towards the motor side. Run the under the rope under the "eyebolt" pulley previously used and through the slot in the mounting bracket. Run the rope through the upper "eyebolt" pulley at the rope take up reels towards the end of the swimming pool. Pull the rope slack through until approximately 3' of rope is remaining from the track to the front of the cover fabric.

Pull on the rope coming out of the backside of the track and feed the black slider at the front of the cover into the track. Ensure that the slider moves freely in the track. If it does not, then it will need to be slightly filed down at the points where the slider screws go into the slider neck.

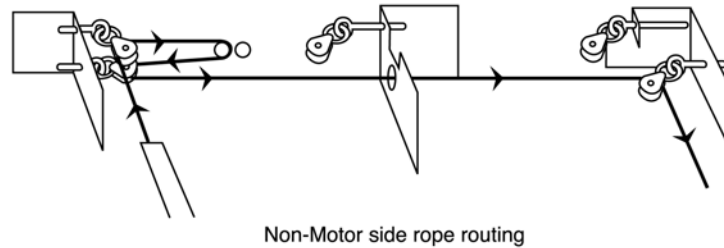
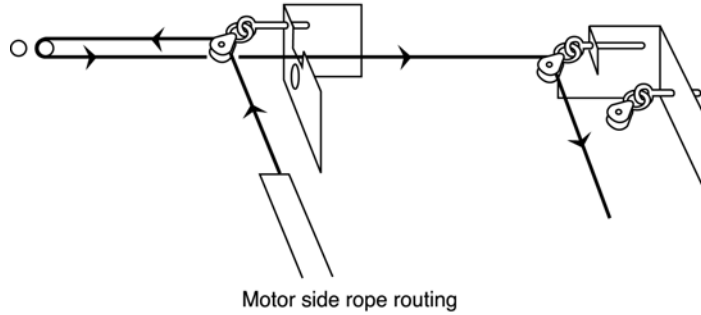
When the slider screws are inserted into the slider, they will sometimes flare out the plastic, making these points too wide to fit into the track slot. **Also, make sure that the slider screws are down past the top of the plastic. If not, the heads will drag in the track.**

Repeat for the other side of the fabric. Once the sliders fit smoothly into the track, it will be time to install the "leading edge" bar onto the front beaded edge of the cover fabric.

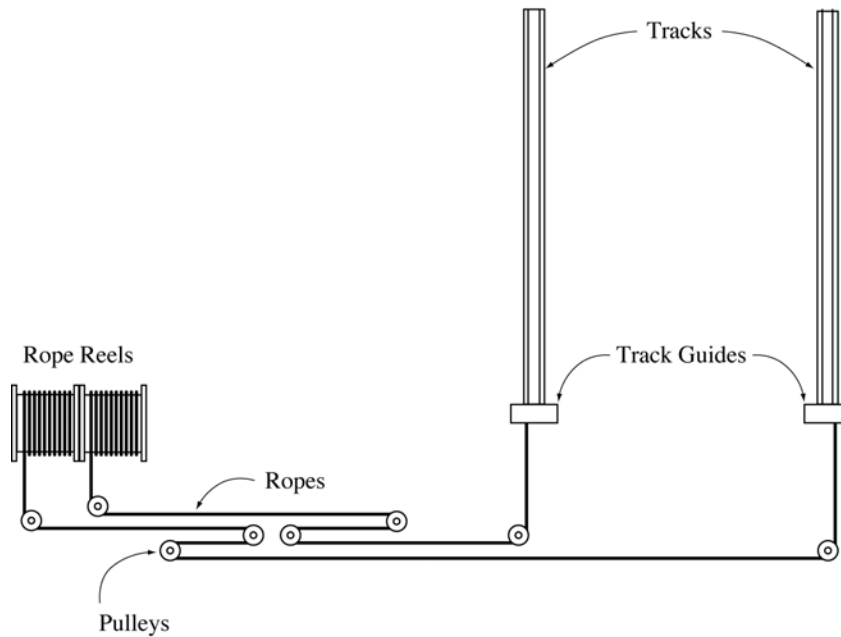
See diagrams on following page for details.

Left Hand Motor Unit Rope String-Up

Left Hand Motor Unit Rope String-Up



ROPE ALIGNMENT, TOP MOUNT



Please note that the compensating pulley and pulley brackets are not to scale. This rendering is only meant to show proper rope mounting.

Leading Edge Installation

Before installing the leading edge, you must first decide which side of the cover it will be installed. It may be installed from either side. The only deciding factor is the surrounding environment. The leading edge must extend into the yard and/or the deck area in order to slide it onto the front of the fabric.

After the installation side is determined, remove that side of the fabric from the track so that the slider and approximately two feet of rope are sticking out of the track. Lay the leading edge bar out, so the slotted edge is towards the fabric and the end flat brackets are down. Spray a small amount of silicone or equivalent down the slotted edge of the leading edge. This will ease the installation process.

Grab the front of the cover fabric below the slider and start the leading edge onto the beaded edge of the fabric. While holding the fabric taut, slide the leading edge across the length of the fabric until the opposite end of the fabric is reached. Slide the leading edge past the end of the fabric so that 1 1/2" of fabric is sticking out of both ends. **Be sure to hold onto the fabric while sliding the leading edge. Do not merely hold onto the rope and webbing as this could pull the stitching loose. In addition, you may want to tape around the leading edge bracket at the end, so that it will not scratch the tile as it slides across the lowered bond beam.**

Grab the fabric near the end of the leading edge and pull towards the center until approximately 1" of fabric is sticking out of the end. Insert a 1/2" long pan-head screw into the predrilled hole in the end of the leading edge. Repeat for the other end. Gather the excess fabric more or less evenly towards the center of the leading edge.

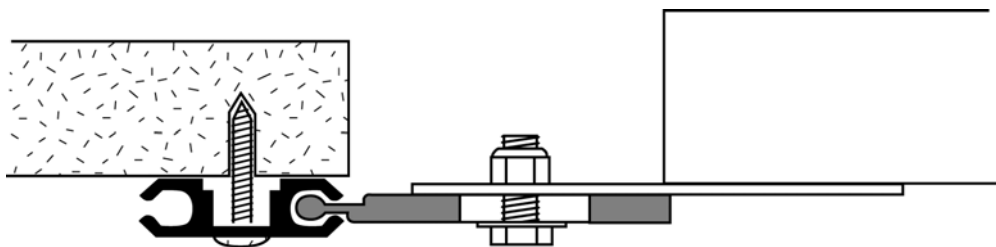
Next, feed the slider and approximately 6" of fabric into the track. Check the other side of the cover and make sure that 6" of fabric is inserted into the track, also.

Flip the leading edge over and using one of the bracket screws, attach the copper bond strap at each end of the leading edge.

Re-install the track guides and brackets, making sure that the orientation is correct and that the beaded edge of the cover moves freely through the slotted edge of the guide. Make sure that all three # 10-32 machine screws are tightened with the #10-32 nyloc nuts.

Flip the leading edge back over and place the end brackets on top of the sliders. You should have approximately 1" of space between the end of the bracket and the tracks on each side. If this is not the case, use the slots in the leading edge brackets to obtain the proper spacing.

Fasten the slider to the leading edge bracket using the 5/16" x 1" stainless steel bolt, nyloc nut and washer. The bolt with washer should come up through the bottom of the slider through the center hole in the leading edge bracket with the nyloc nut on top. Tighten down the nut so that it is just snug and then back it off from 1/4" to 1/2" turn. **The bolt must remain loose so that the leading edge will float back and forth as the cover is run across the pool. This allows for any variances in the track parallels.**



Fabric Installation

Pulling the Fabric Across the Pool

If this is your first installation or your are unsure of the installation process, please use the following procedure to pull the fabric across the pool.

This procedure is much easier if two people are available.

Grab the ropes coming out of the tracks and pull. This will start the fabric feeding into the track towards the opposite end of the pool. If two people are present, pull on the ropes simultaneously. If you are alone, you will have to pull on one side and then the other about 10" at a time.

Follow the direction under "Attaching the Fabric to the Cover Drum" after the cover completely covers the pool surface.

If you have had some previous experience with the Aquamatic Cover Systems, then you may want to use the drive mechanism to pull the cover over onto the pool.

Standing in front of the rope reels with your back towards the end of the pool, take a rope in each hand. Make sure that the ropes are not crossed and pull the ropes taut (do not pull too hard as to pull the fabric further into the tracks). By pulling on one rope, you will pull the compensating pulley all the way over to the extent of its slide. Then by pulling on the other rope, you will pull the compensating pulley over to the extent of its slide. Even up your hands, so that the compensating pulley is centered in its slide travel. There is where the compensating pulley must remain for proper operation.

With the cover in the completely open position (off the pool), all the rope that is needed for the take-up reels is between 3 and 4 feet in length. Keep the compensating pulley centered in its slide, run your hands down the length of the ropes about 4' from the rope take - up reels cut off the excess rope.

Be sure that you understand this procedure completely before cutting the ropes. Always remember that there must be between 3' and 4' of rope that goes past the leading edge of the cover. This applies no matter where the leading edge is positioned down the track.

Take the rope ends and put them through their corresponding holes in the rope reels. Tie the knot at the end of the rope and pull it up tight against the hole. With your hands, you should be able to turn the rope reels in the direction towards the pool, so that when the ropes are completely wound up, they are feeding onto the reels from the top. Be sure you keep the ropes tight and even as you wrap them up, or the center of the compensating pulley could be compromised. **Never allow someone to operate the key switch while the ropes are being fed onto the rope reels, as this could result in serious injury.**

At the control switch, turn the key to the **close** position. The cover will start to pull out over the swimming pool. Watch the fabric to ensure that it is pulling across the pool, square. Periodically, you may have to straighten out the fabric at the point where it feeds into the track. Run the control switch until the cover reaches the end of the pool. **See the Pressure Adjustment section if the cover will not pull across the swimming pool.**

After the fabric is completely pulled across the pool, there should be at about 3' of fabric sticking out of the end of track. This extra fabric will be used to attach the cover to the wind - up drum and should not be cut off.

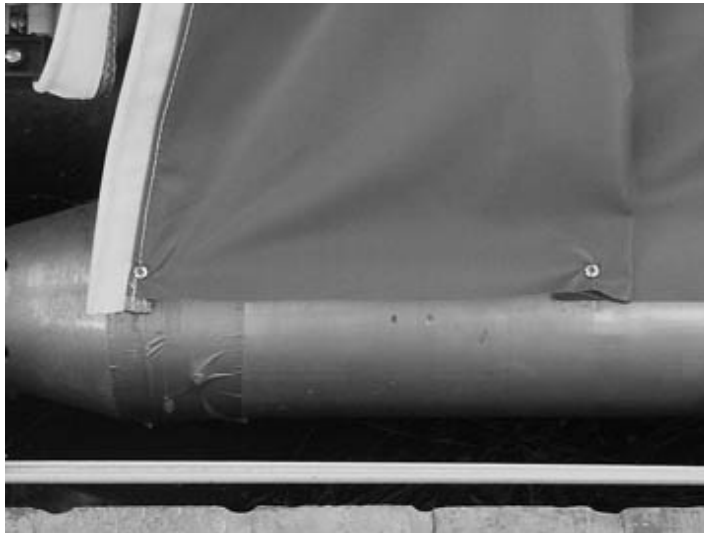
Attaching the Fabric to the Cover Drum

Flip the end of the fabric back over onto the swimming pool. Locate the predrilled holes along the length of the cover drum. Using the holes in the end castings, you may need to use a large screwdriver to turn the drum so that the holes are at the top of the drum.

Starting at one end of the cover, flip the fabric back over. Remove the panhead screw that is in the casting. This screw will be in-line with the predrilled holes and should not have tape covering it. Attach the edge of the fabric to the drum at this point by inserting the screw through the fabric at the stitch line and about 1" from the end of the fabric. Repeat for the opposite end of the cover drum.

Find the center of the fabric and attach it to the drum by inserting a screw into the center hole in the cover drum. This hole is generally marked with a circle or a "c". **Be sure to place the screw about 1" from the end of the fabric. This should be maintained the entire length of the cover drum.**

Continue attaching the fabric to the cover drum, working your way from the center towards the end. Be sure to pull the fabric taut as you work your way to the ends. When you reach the last hole in the cover drum, you will have some slack in your fabric. Simply fold the fabric over and attach it to the drum, using the remaining hole. You will have about a 2" fold on each of the drum.



With a large screwdriver inserted into the holes in the drum castings, turn the drum away from the pool so that the fabric wraps up on the drum. Be sure that the edges wrap up straight and do not fold over on themselves.

Once the fabric is wrapped up on the cover drum, you can turn the control switch to **open**. If the cover will not run back off the pool, then see the **Pressure Adjustment section**. Run the cover all the way open and closed several times and refer to the **Cover Adjustment section** if out of square.

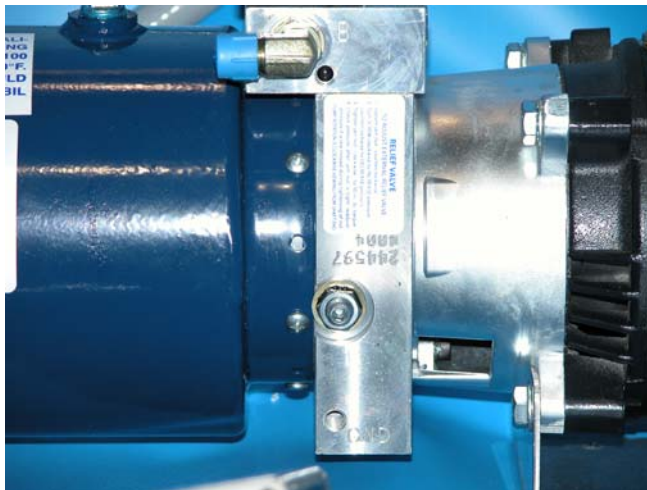
If a recess cover lid is to be installed, then refer to that manual at this time.

Pressure Adjustment

The amount of pressure that the powerpack (hydraulic pump) supplies to the hydraulic motors is more or less directly related to the amount of torque or turning power that the motor can produce. Less pressure-less torque, more pressure-more torque. Since you are using the pressure as a sensor to stop the cover when it reaches the end of travel or meets an obstruction, you want to set the pressure just high enough to make the cover move, but low enough so that it will stop when it meets an obstruction.

At the powerpack, there is an adjustable pressure relief valve. This is a spring-loaded screw valve, which will allow hydraulic fluid to bypass back to the reservoir above a certain pressure setting. If the pressure needs to be adjusted, refer to the following:

The pressure can be adjusted with a minimum amount of effort. The adjustment valve located at the three o'clock position, mid pack (looking from the tank end). Loosen the 9/16" nut with a socket. While holding down the nut, screw the 3/16" Allen set screw in, to increase the pressure. This can be done by inserting the Allen wrench through the end of the socket. Tighten the nut to reseal the adjustment. Make only small adjustments at the time; 1/4 to 1/2 turns. Check to see that the cover operates in both directions without any hesitations. Repeat adjustment if necessary.

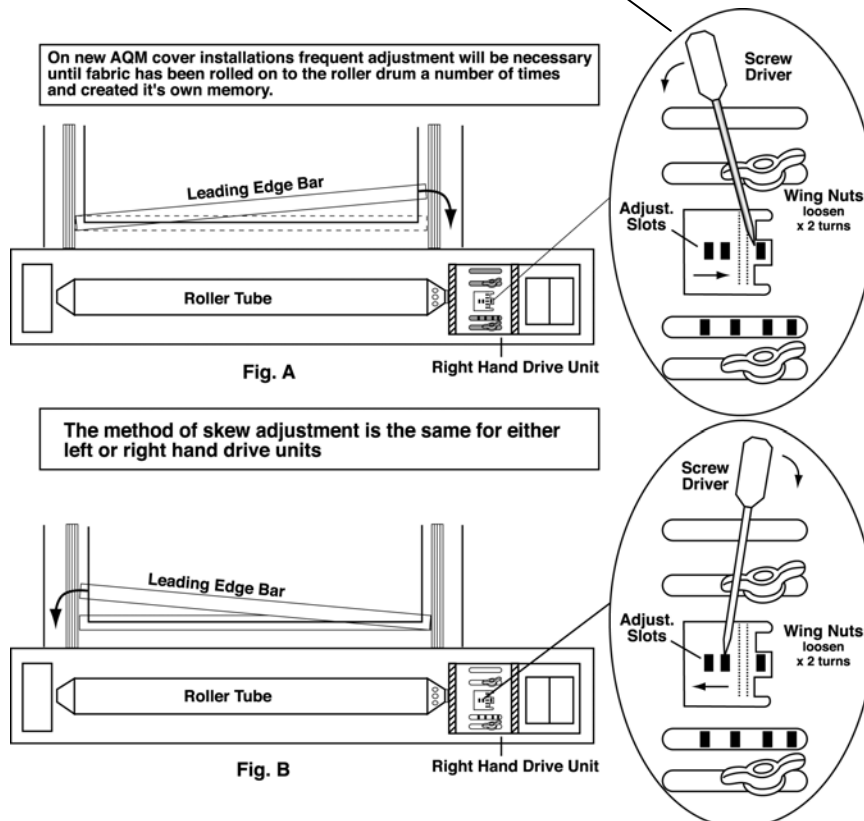
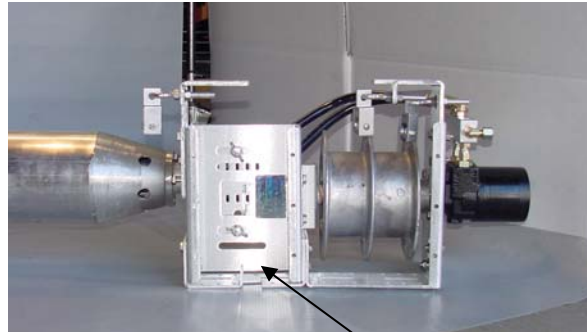


Skew Adjustment-Cover Alignment

To adjust the skew, the Hydramatic Cover System has a provision for allowing the cover drum to be adjusted. Moving the cover drum allows the fabric edges to roll up on a larger or smaller diameter part of the cover drum, therefore making the cover roll up faster or slower.

Run the fabric out over the pool. This will make the adjustment easier, since you will not be moving the weight of the fabric on the cover drum. Locate the two large wing nuts and loosen slightly (about one turn). Using a flat head screwdriver, move the cover drum in the required direction by leveraging against the tab and the slots. This action will move the cover drum lengthwise in the recess housing. Only move 1/4" and tighten. Run the cover several times to check the alignment before making another adjustment.

Always move the cover drum towards the side of the pool that is not coming back far enough. This action will make that side of the cover wrap on a larger diameter of the cover drum casting and therefore make the side of the cover roll up faster. Larger diameter = More fabric wound up per revolution of the cover drum.



Toptrack / Recess Track Layout

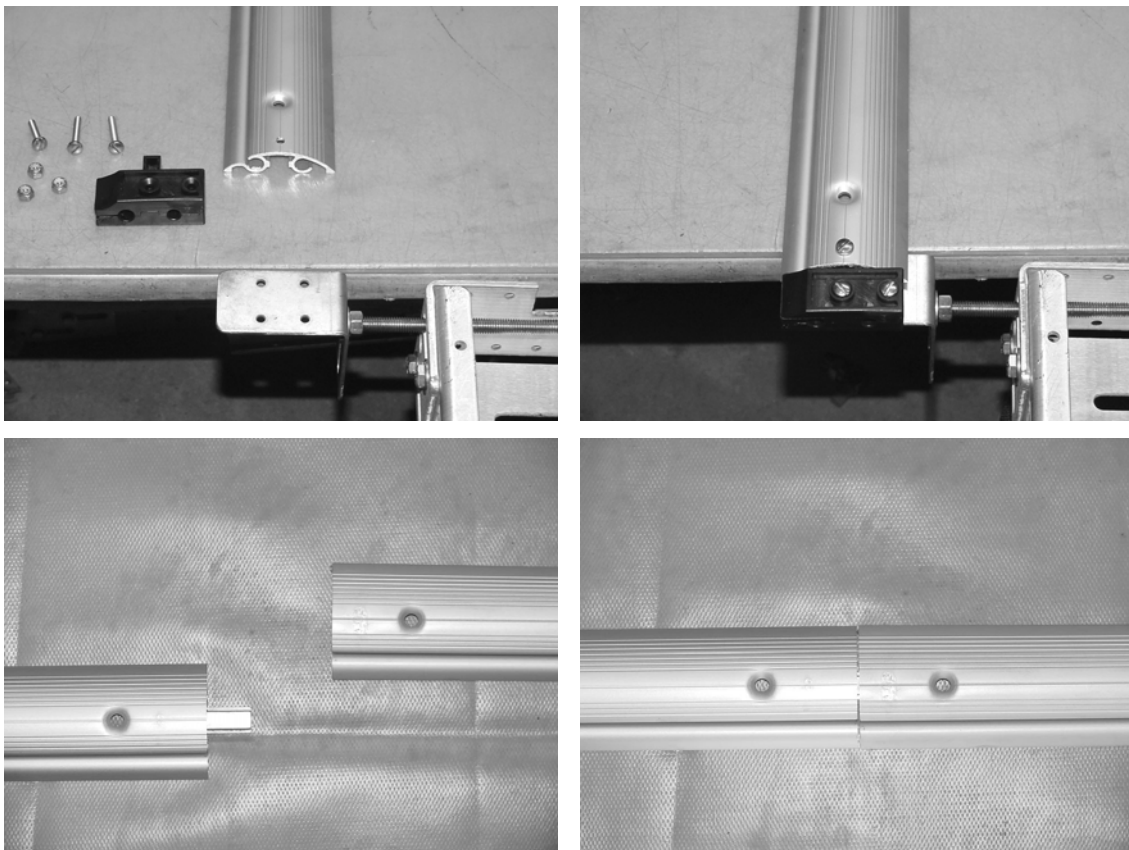
It is extremely important not to deviate from the track to track measurements of the ordered cover.

Track to track measurement is taken from the inside open slot of the track extrusions from one side of the pool to the other. The measurement is used at the factory to size the Leading Edge bar and the cover drum as well as the cover fabric. Whereas the **length** of the fabric may vary 4" to 6", it is important that the **width** be accurate. A fabric too tight will limit the life of the fabric - a cover too wide will result in excess wrinkles and poor control.

Lay the tracks along the slides of the swimming pool with the open slot towards the pool. Take the track closest to the drive unit and place the end of it over the tongue of the track guide (black delrin piece). Mark a hole in the track so that it lines up with the tongue of the guide. **Be sure to keep the track butted up against the guide.** The track will protrude 3/4" into the pit. Drill a 1/4" hole in the track at the marked location and attach the track to the guide stud using the 3/16" nyloc nut. Repeat for other side of the drive unit.

Using the supplied track joint connectors, connect the remaining pieces of track to the first pieces of track. **Be sure to leave a 1/16" gap between the sections of track for expansion.**

See following pictures for details.



Position drive unit as high (preferably even with the deck) in the pit as possible

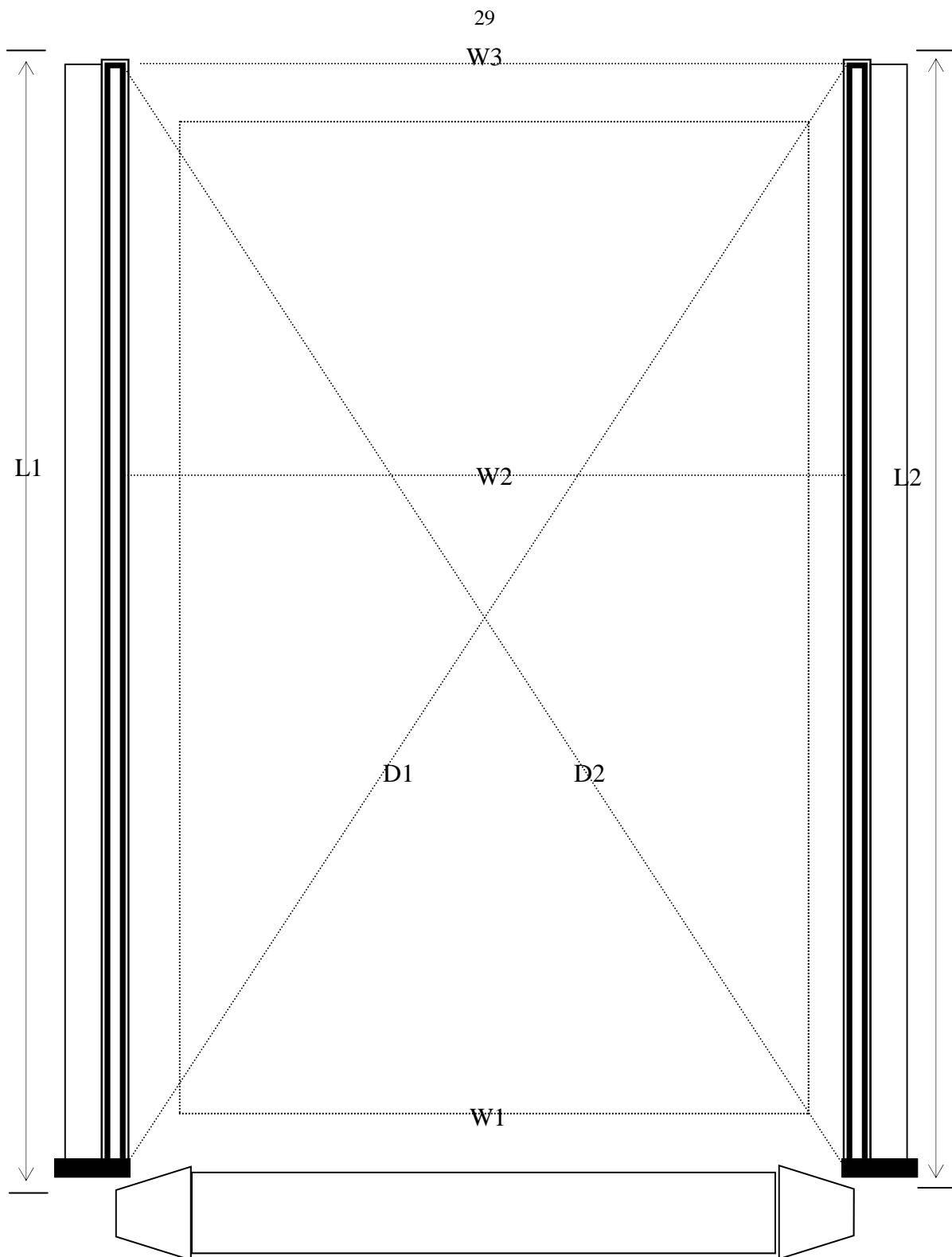
At the opposite end of the pool, the tracks should extend approximately 12" beyond the end. Measure from the track guide to this point. The measurement should be within about 6" of the length of the cover ordered. **This is the track length, not the length of the fabric.** Cut the track off at this point and repeat for the other side of the pool. Once the track is cut to length, the last hole in the track needs to be between 2" and 6" away from the end of the track. If this is not the case, you must drill and countersink a new hole in the appropriate location. Be sure to file down the end of the track. Keep in mind that the track along both sides of the swimming pool once cut should be the same length.

Take a measurement at the point where the tracks attach to the drive unit. Measure from the open slot to the other track. This measurement should be the same as the track to track measurement of your order. Move the bearing plate in or out on the shaft to obtain proper measurement. Take the same measurements in several spots along the length of the tracks. Move the tracks accordingly to equal the same measurements as the track to track. Try to make certain that the tracks are parallel with the swimming pool, if at all possible. Mark the correct track locations with a pencil in case of movement.

Take the diagonal measurements of the tracks. These should be equal. By moving one side of the drive unit forwards or backwards, you can make these measurements equal. When the track is in the proper location, mark it with a pencil in case of movement. After all the track measurements are taken, you should have a **true rectangle** over the swimming pool and square to the mechanism housing.

Use the drawing on the following page for details on measuring points.





Track to track measurement = W1, W2 and W3 should be the same

Track length = L1 and L2 should be the same

Diagonals=D1 and D2 should be the same

Make sure to file and ream all openings of the track ends

Anchoring of Track

Before drilling any holes, make sure that the track has not moved out of the correct position.

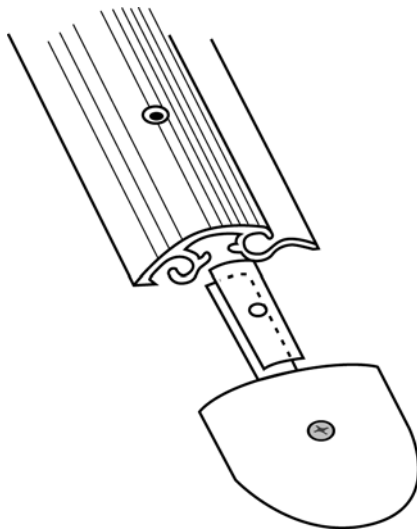
Using a hammer drill and a 1/4" masonry drill bit, drill a hole about 2" deep. Start at one end of the track and place a spent drill bit or something similar in the drilled hole. This keeps the track from moving while drilling the other holes. Repeat at the end and center of each piece of track.

Drill the remaining holes through the track; make sure that the track remains straight.

After all the holes are drilled, remove the spent drill bits. Remove the guide. Move the track off the drilled holes so that they are exposed. Insert the 1/4" plastic anchors into the holes and tap them down flush with the deck.

Before the tracks are put back in place, the "end pulley assembly" must be attached to the end of the tracks. Leaving the pulley cap hold down screw in place, loosen the bottom screw until the retaining plate is backed off enough so the upper and lower plates will slide into the track. Tighten down the retaining plate so they both squeeze down on the groove in the track. Once tightened down, the pulley assembly should not pull out of the track.

See drawing and picture below for details:



Reposition the track over the holes. Insert, and partially screw down a 2" track screw in each hole. Leave approximately 3/8" of screw sticking up above the track. **These screws should be tightened down after fabric and rope have been installed.**

Repeat for the track on the other side of the pool.

Track - Track Dimensions

