

ECOTHERMTM

Swimming Pool

Jump in! The Water's Warm



Installation Manual

Residential Onground or
Semi-Inground Round Swimming Pool

IMPORTANT SAFETY INFORMATION

Enclosed in the liner box is the safety envelope. The safety stickers must be installed as per instructions. Failure to properly install warning labels will void warranty. Alert all visitors and family of the risks associated with jumping and/or diving and point out all warning labels supplied. Failure to mount these safety labels may subject you to substantial liability in case of injury.

Your pool is designed for years of pleasurable, safe family fun. But when used incorrectly, a swimming pool can be dangerous. **To insure your pool is used safely you must observe the following safety precautions:**

1. Do not dive, do not jump, no rough play, no running or pushing.
2. Be sure to install all safety labels provided with your pool according to the safety instructions.
3. Keep a 50' safety rope with a flotation buoy with an outside diameter of 15" accessible in a prominent area by your pool.
4. Post near all entrances to the pool area a list of telephone numbers for the following:
 - a. Local police
 - b. Local fire department
 - c. Local rescue unit
 - d. Local ambulance service
 - e. Local hospital
 - f. 911 emergency number, if available
5. Provide fencing or an enclosure which is independent of the house as a closure around the entire pool area. The fencing must be made of durable material, a minimum of 4' high from ground level and with closures with self-latching locks to make the pool inaccessible to toddlers and uninvited guests. Make sure the gate is always closed. Be sure to follow local building code requirements for load capacity and fencing if using an aftermarket or homebuilt deck.
6. Check with your local town or municipality in regard to obtaining a building permit and/or an electrical permit. The installer shall follow the regulations for set backs, barriers, devices and other conditions.
7. All electrical outlet connections should be a minimum of 5' from the outside perimeter of the wall of the pool. From 5'-10' there should be either a fixed connection (outlet box) or twist lock connection with a GFCI. Connect power cords to a 3-wire grounding-type outlet only.
8. Severe electrical shock could result if you install your pump or filter on a deck. They could fall into the water causing severe shock or electrocution. Do not install on a deck or other surface at, above or slightly below the top ledge of the pool, within 5 feet of pool water edge.
9. Do not sit, stand or climb on the pump and filter or any part of the pool structure. Components such as the filtration system, pumps and heater must be positioned so as to prevent their being used as a means of access to the pool by young children.
10. Never drink alcoholic beverages or use any intoxicants which could hinder your judgment and reflexes.
11. Never use the pool alone. All children must be supervised continuously.
12. Do not use pool if bottom is not clearly visible. At night, sufficient lighting must be available. It is the pool owners' sole responsibility to provide adequate lighting for the pool bottom, safety signs and walkways, which exceeds minimum standards of the IES of North America.
13. Be sure that all toys, chairs and tables or similar objects that a young child could climb on be at least 4' from the pool.
14. Do not use pool during electrical or rain storms.
15. See available Association of Spa and Pool Professionals (APSP) publications for more tips on pool safety.

INTRODUCTION

Although installation conditions might differ from this guide, it is important to consult with the distributor before making any changes that might disturb the integrity of the pool. Failure to follow these instructions will void all warranties. Read and follow all instructions including accessories such as pumps, filters, skimmers prior to starting.

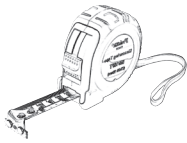
Before you start, check your packing list to confirm that you have the correct number of parts and components. The distributor reserves the right to revise, change or modify construction of its pools. See packing list for pool components included for your pool. If there are any missing or damaged components, please contact your retailer for replacement.

While all Residential Swimming Pools are designed to meet or exceed industry recommended safety standards (ANSI/APSP-4 and 5 American National Standards for Residential Swimming Pools), special attention must be paid to all installation procedures that the installer performs and controls. Spend time to ensure that the entire pool framework is perfectly level and square. Unlevel pools place extreme pressures on the pool walls. A pool cove must also be installed. This keeps the pool liner from creeping out from under the pool wall. Be sure to follow these instructions. Improperly installed pools can rupture, allowing thousands of gallons of water to rush out causing extensive property damage and injury to anyone in its path. As with any major home project, a homeowner is responsible for following all local laws, ordinances and codes. Electrical grounding of swimming pool is required. National and local codes must be followed. A checklist is provided below as a guide for these considerations.

With proper installation, care and maintenance, this Swimming Pool will provide a lifetime of fun and relaxation!

✓ HOMEOWNER CHECKLIST	
	Obtain building permit if required.
	Local building and zoning requirements
	Electrical and Grounding requirements
	Have Ground Tested for Stray Electricity
	Proper Backfill and Drainage
	Fencing requirements
	Backwash (waste water) requirements
	Check availability of utilities.
	Call before you dig (www.digsafe.com)
NOTES:	

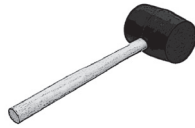
TOOLS AND MATERIALS NEEDED



100ft Tape Measure



Extension Cord



Rubber Mallet



Cloth rag



Pool trowel



Duct Tape



String



Power Drill



Step Drill Bit



1/4" Hex nut driver bit



7/16" and 1/8" Drill bits



Socket Set



Foam Sealant



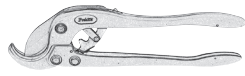
Cooking Spray



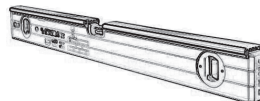
Orange Marking Spray Paint



Hacksaw



PVC Pipe Cutter



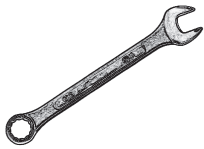
Level



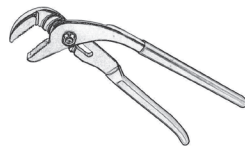
Utility Knife



Metal File



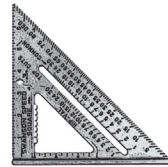
9/16" Open End Wrench



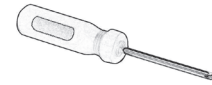
14" Channel Locks



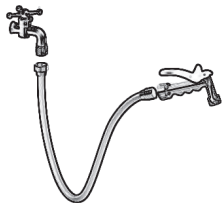
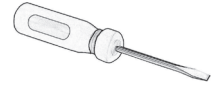
Hand Broom



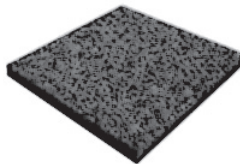
Square



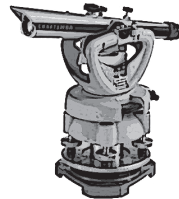
Screwdrivers (Flathead and Phillips)



Hose with spray nozzle



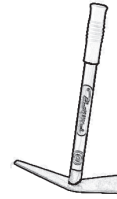
2" Patio Block



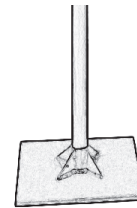
Transit/Laser Level



Masonry Sand



Pick or Mattock



Tamper, 10" or 12" Square



Short handle square shovel



Soft bristle broom



Long handled pointed shovel



2x4



Shop Vac



Wheelbarrow



Rake

IMPORTANT: BEFORE YOU BEGIN

All Pool components are engineered to provide a precise fit. It is very important to handle all components with care. Prior to assembly, all pool components should be free of sand, mud, dirt and debris of any kind.

IMPORTANT: DO NOT ALLOW SPLINES OR COMPRESSION SEAMS TO COME IN CONTACT WITH SAND OR OTHER DEBRIS AS THIS WILL CAUSE DIFFICULTY IN INSTALLATION.

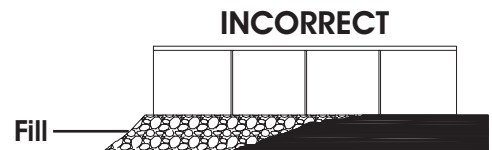
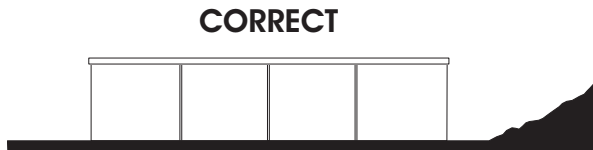
We recommend a small broom or shop-vac to maintain a clean track system throughout the installation process. In addition we recommend a damp cloth be available in the event that any dirt or debris finds its way to the component surfaces.

POOL COMPONENTS CHECKLIST					
Component	16'	18'	21'	24'	27'
Panels	8	8	10	10	10
Rebar	8	8	10	10	10
Anchor Plates	8	8	10	10	10
Coping	8	8	10	10	10
White Cap Screws	50	50	50	50	50
Coping Clips	8	8	10	10	10
Splines	16	16	20	20	20
Bolts (3/8"x 2 1/2")	16	16	20	20	20
Skimmer w/ Mounting Kit	1	1	1	1	1
Return Fitting	1	1	1	1	1
Vinyl Liner	1	1	1	1	1

SELECTING POOL LOCATION

The selection and preparation of the pool site is your responsibility. The distributor can only suggest the proper techniques, indicate the important considerations and emphasize the precautions and cannot be held responsible for damages to your pool that may result from failure to carefully follow all pool specifications.

1. The surface on which your pool will stand must be absolutely level and solid. This condition should extend 2 feet beyond the actual pool area. The best surface is bare solid earth free from stones, roots and other sharp objects.



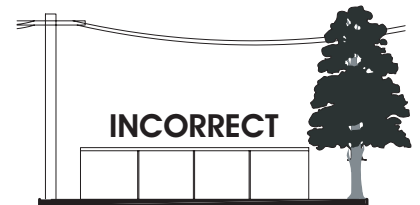
2. Allow plenty of play area around the pool. Fit the location into your landscaping plans.
3. The pool site must be accessible to electrical and water supply and should allow for disposal of great quantities of water when the pool is drained. All electric outlets within 10' must be GFI protected.

5. Do not set up your pool in hilly areas or areas with poor drainage. For Semi-Inground and Inground Installations: The site of installation must accommodate an efficient drainage system to minimize the impact of heavy rain and high ground water conditions.



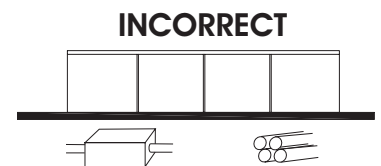
4. When installing your pool on a solid level surface, it is imperative that you protect your pool and liner from chemicals and other foreign matter contained in the surface. Do not install your pool on peat moss, tar paper, roots, sticks, gravel or chemically treated or contaminated soil not approved for pool use. Any or all of these surfaces can ruin your pool and liner and will void your warranty. To prevent stones or other foreign material from damaging the liner it is recommended to build a 2" to 3" base of clean washed masonry sand or other suitable base material inside the entire pool.

5. If ants or termites are prevalent in your area, have soil treated with insecticides and allow sufficient time for them to dissipate before continuing with pool installation.



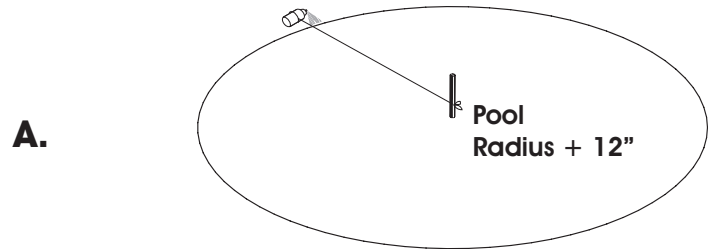
6. Do not set up your pool under trees or under overhead wires.
7. Do not set up your pool near any existing structure such as your house, garage, etc., as this condition may compel diving or jumping into your pool which could result in permanent injury or death. You must check with your local municipality for all appropriate ordinances and regulations.

8. Do not set up your pool on or near any septic system or underground utilities.

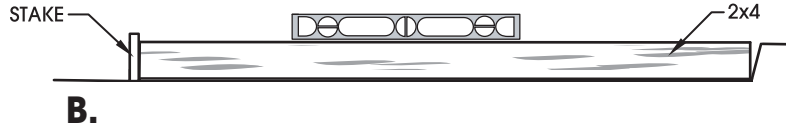


PREPARING THE POOL SITE

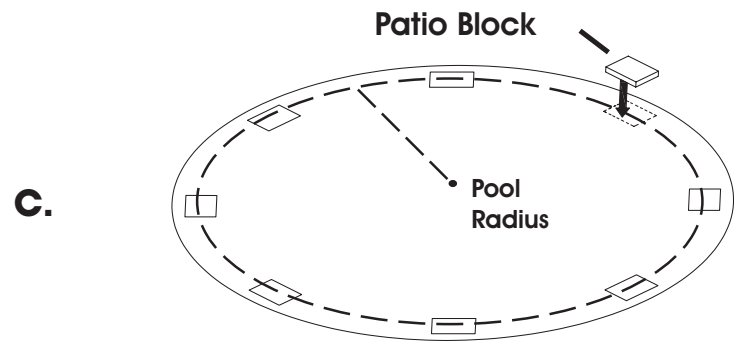
Once you have chosen an appropriate location for your pool based on the criteria specified above, determine the pool circumference by putting a stake in the ground at the center of the location desired and with a line equal in length to the radius of the pool (1/2 the pool size) plus 12", mark off the circumference with a sharp object, lawn edger, spray paint, etc. (fig.A)



After all of the sod has been removed, you must make the pool area absolutely level as measured by a transit or level. Find the lowest spot within the pool area and level the ground to that lowest spot. (fig.B) Do not add dirt to the low areas. It is the high areas that must be dug away. The perimeter of the pool must be a solid foundation to prevent the pool from settling into dirt that is loosened by rain and water splashing over the side.



Once again, clean the area of all sharp objects, including roots and rocks that could later effect your swimming pool.

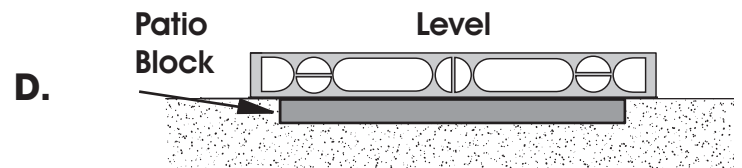


PATIO BLOCK INSTALLATION

Once the ground is prepared, begin installing 2"x8"x16" patio blocks. (fig.C) The patio blocks should be installed at the perimeter line of the pool (1/2 the pool size from the center stake) and at intervals corresponding to the number of panels associated with the size of the pool. Please see chart for appropriate spacing.

Pool Size	Patio Block Intervals	Qty Needed
16'	6' 1 1/2"	8
18'	6' 10 5/8"	8
21'	6' 5 7/8"	10
24'	7' 5"	10
27'	8' 4 1/8"	10

Sink each patio block into the prepared ground making sure that each block is level in all directions (side to side as well as front to back). Repeat this step around the perimeter of the pool area making the tops of all blocks level with the ground. Do not install the blocks on loose sifted soil or sand. All patio blocks must be flush with the ground, solid and level with each other in all directions. Once all of the patio blocks are installed, place an anchor plate on each patio block. (fig.D) The anchor plates will be used to provide a level platform for wall installation.



WALL INSTALLATION

Locate the wall panel that is cut for the skimmer and return fitting. The location for the panel should be adjacent to the electrical supply and provide ease of access once the pool is installed.

Place an anchor plate centered on a patio block. Place 2 wall panels so they meet on the center of the anchor plate. (fig.E) Please be aware that each compression seam should be flush before attempting to insert the splines. (fig.G) Splines are designed to slide freely into place when inserted properly into panels. Gently shaking panels can help ease insertion of some splines.

If wall panels are not level it will be hard to drop splines. Use cooking oil or food spray as lubricant on the first 4-6" of the splines. Do not use petroleum based lubricants (WD-40).

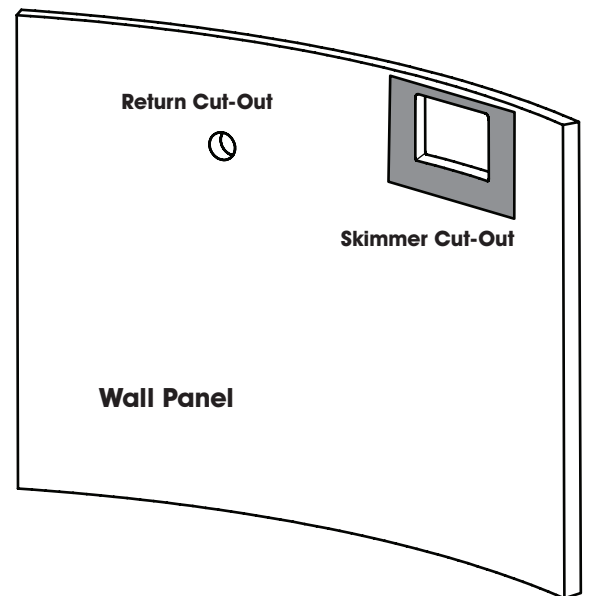
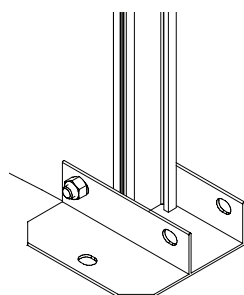
Hard downward pressure or hammering causes metal burrs and jams the spline into the compression seam. If a spline does not install easily, leave it and go to the next one or next panel. Aligning the next panel will most frequently align the previous one as well.

Duplicate this process with the remaining wall panels, stopping before installing the final wall panel. At this time you need to bring in the sand through this opening to prepare the bottom of the pool.

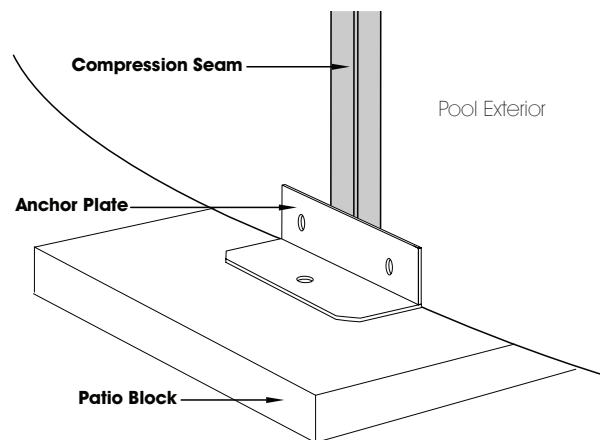
Drill 7/16" holes through the pool panels at the anchor plate predrilled holes. Secure with 2 1/2" bolts and nuts. Make sure the panels are securely in the anchor plates and even at the top before drilling. This will create a bolted pool frame for bonding, if needed. Check with local codes for requirements.

IMPORTANT:

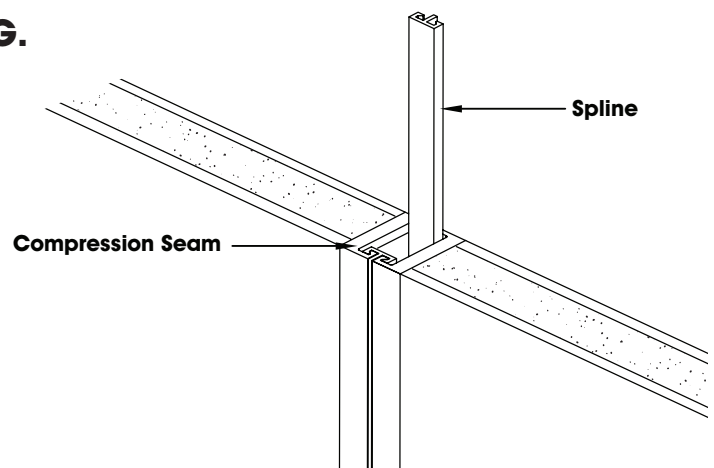
Do not drill or install anchor plate bolts until entire wall is constructed.



E.



G.

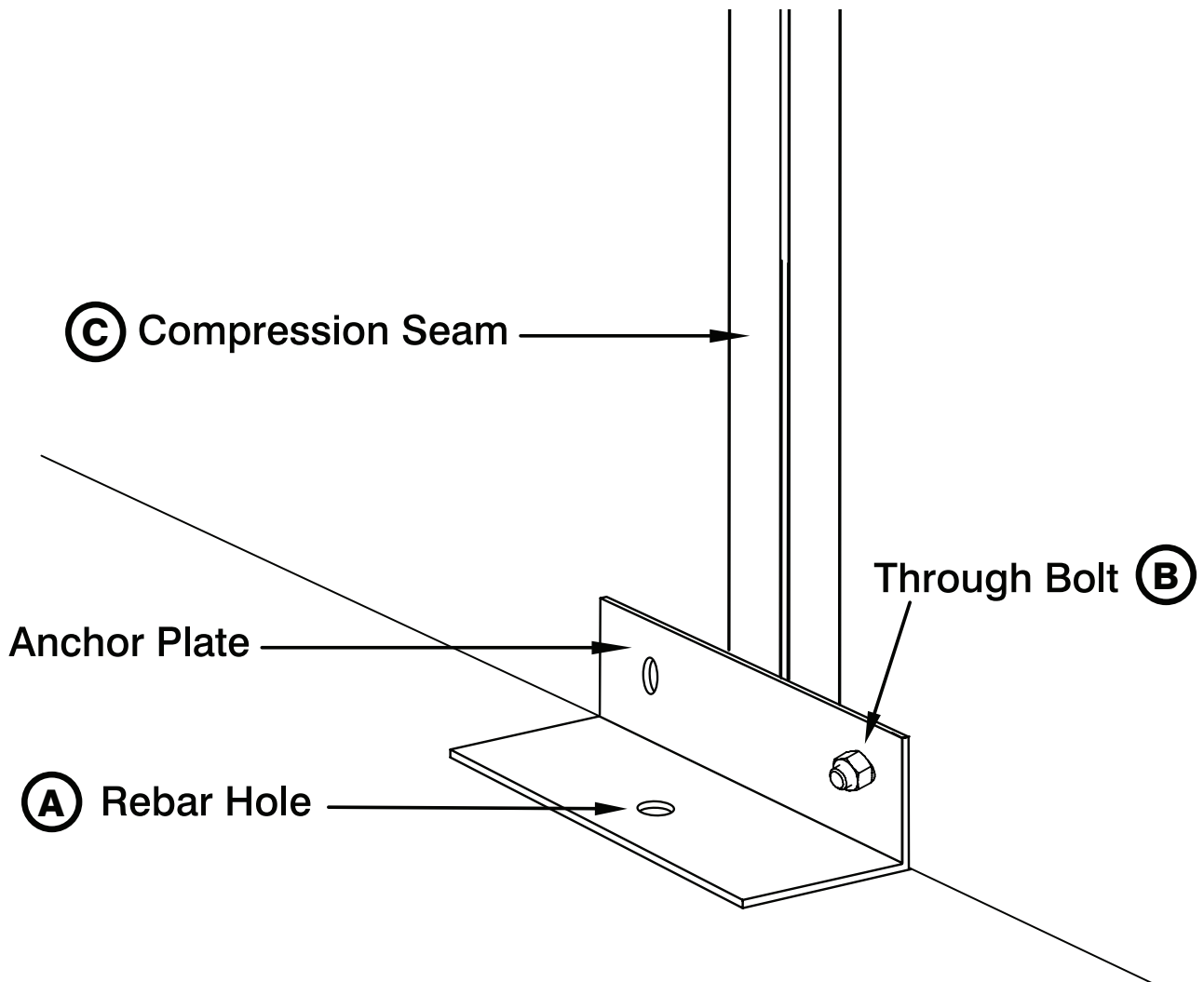


GROUNDING/BONDING

ECOTHERM™ Swimming Pools recommends all their swimming pools be grounded/bonded according to National Electrical Code (NEC) guidelines and individual State and Local requirements.

On ECOTHERM™ Swimming pools, grounding/bonding wire may be attached at any of the following locations on the pool:

- The anchor plate rebar hole **(A)**
- A through bolt in anchor plate at base of pool **(B)**
- Drill and tap at a compression seam/spline location **(C)**



SKIMMER ASSEMBLY

Place the U shaped foam insert into the panel cut out with open side up. **(fig. H)**

Install the rubber sandwich gasket on the gray mounting plate, making sure the gasket straddles both sides of the mounting plate. **(fig. I)**

Place the gray mounting plate with gaskets on the pool interior side of the panel cut-out, with the white plate on the exterior of the panel. Secure the assembly with 2 1/4" countersink bolts and T-nuts loosely through 4 pre drilled corner holes in the gray mounting plate, the wall panel and the white mounting plate. **(fig. J)**

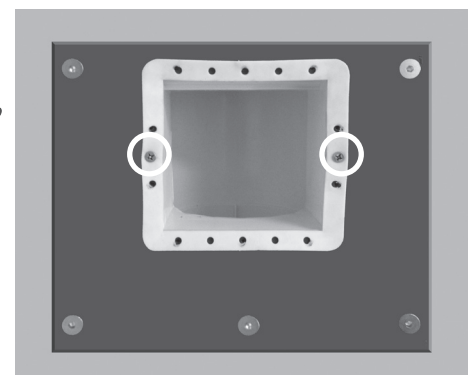
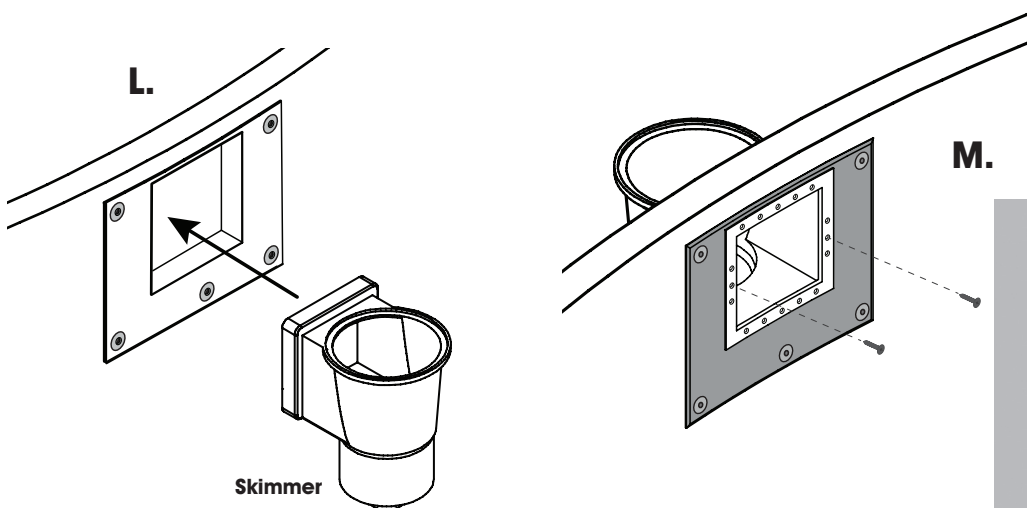
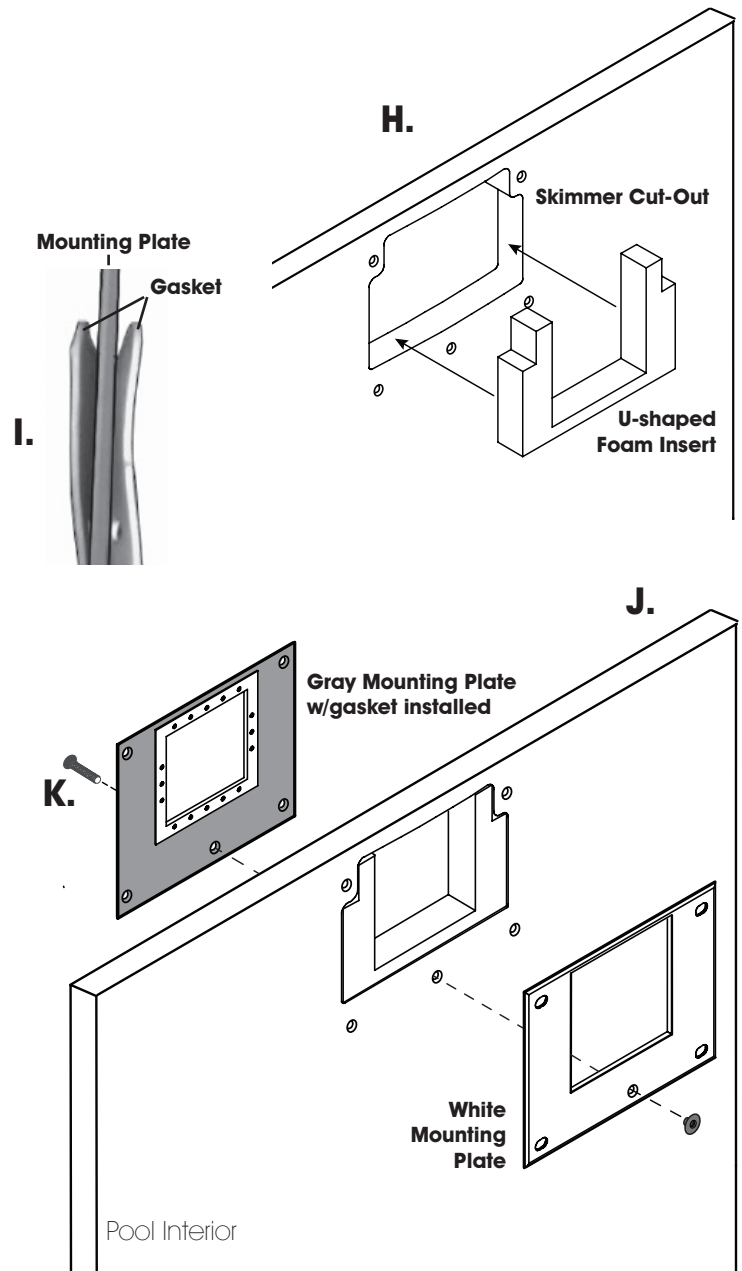
Use the fifth bolt and T-nut at the bottom center hole in the mounting assembly and tighten firmly. Do not over tighten. **(fig. K)**

Slip skimmer body through the white plate to the gasket on the gray plate. **(fig. L)**

Secure tightly with 2 pan head screws (different style screws in the skimmer hardware bag) from the water side through the gaskets and gray plate into the skimmer body center hole on each side. **(fig. M)**

Tighten the 4 corner bolts, firm, do not over tighten. The skimmer faceplate is attached after the liner is installed.

For Skimmer Assembly instructions for Inground installation, see page 20.



SKIMMER ASSEMBLY: INGROUND

Place a gasket on both sides of the gray mounting plate. Be sure to align all holes. **(fig.C)**

Position the gray mounting plate over the panel cutout on the interior side of the pool. Slide skimmer face through the panel cut out to the gray mounting plate. Attach the gray plate to the skimmer face with Pan Head screws at the top and bottom center holes **(fig.D)**. Tighten screws firmly.

Slip the white U-shaped mounting plate up from under the skimmer throat on the exterior side of the pool so that the top holes of the plate match the top holes in the panel. Assemble the skimmer with the gray and white mounting plates by inserting 2 1/4" Countersunk bolts and T-nuts through pre-drilled holes in the gray mounting plate, the wall panel and the white mounting plate. Once all bolts are in place, screw in securely. **Do not over tighten.**

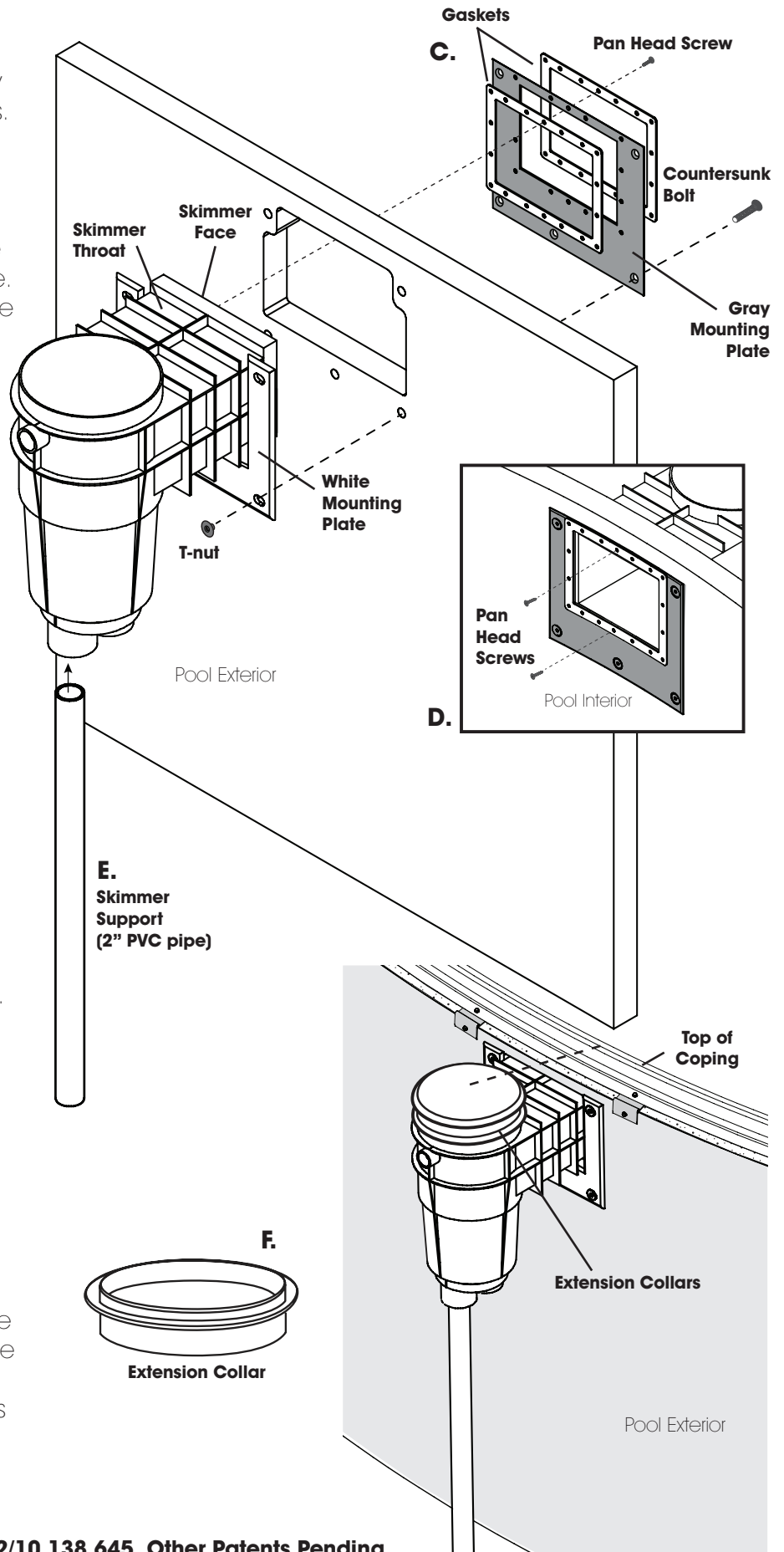
Install Skimmer Support

It is recommended that 2" Schedule 40 PVC pipe be cut to size, depending on installation. Plug unused skimmer port. Place PVC pipe under skimmer body and adjust to make top of skimmer level. **(fig.E)**

Any gaps in the back of the white mounting plate should be covered using a spray foam filler such as "Great Stuff". After the concrete collar is poured, check level of skimmer top.

The skimmer faceplate is attached after the liner is installed.

Extension Collars (not included) **(fig.F)** are used with most inground skimmers to raise the top of the skimmer to the height of decking. The number of extension collars needed is determined by benchmark established by top of coping.



Patent Nos:9,890,547/D837,471/D830,012/10,138,645. Other Patents Pending.

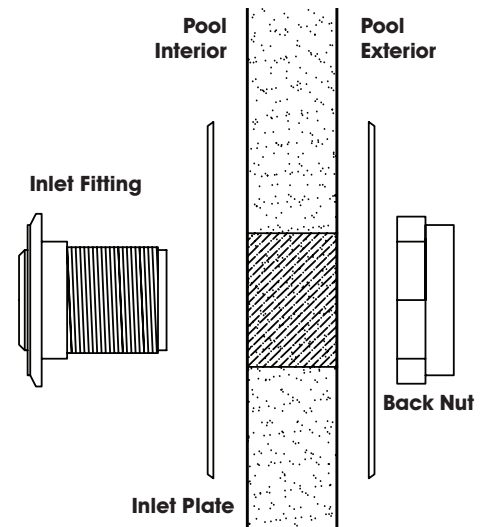
RETURN FITTING ASSEMBLY

The return fitting kit includes 3 parts: inlet fitting, inlet plate and back nut. Install the inlet fitting into the pre-cut hole, slide the inlet plate over the exposed threads and then thread the back nut onto the fitting. **DO NOT OVERTIGHTEN.**

For additional return fittings, drill 3" (with 3" hole saw) hole 12" down from top of panel. Edges will be sharp but not in contact with liner or hands once wall fitting has been installed. Install return wall fitting per directions, firmly. **Do not over tighten.**

Note: For an LED light, drill hole 14" down from top of panel. Installation is identical to return fitting.

The return faceplates are attached after the liner is installed.



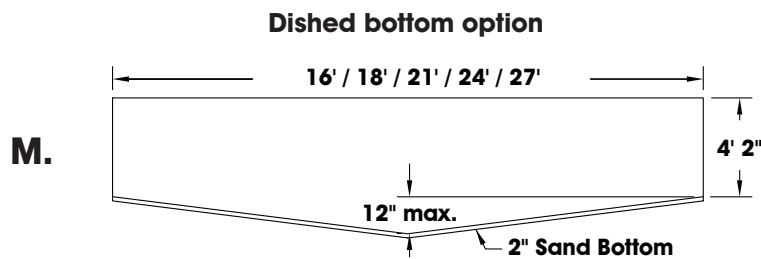
SAND REQUIREMENTS

Bring the required amount of clean and washed masonry sand into the interior of pool area. Refer to the chart for the required amount. Once the sand has been placed inside the pool, install the remaining wall panel.

Masonry Sand Requirements

Pool Size	Sand Amt (cubic yds)
16'	1.8
18'	2
21'	3
24'	3.5
27'	4.5

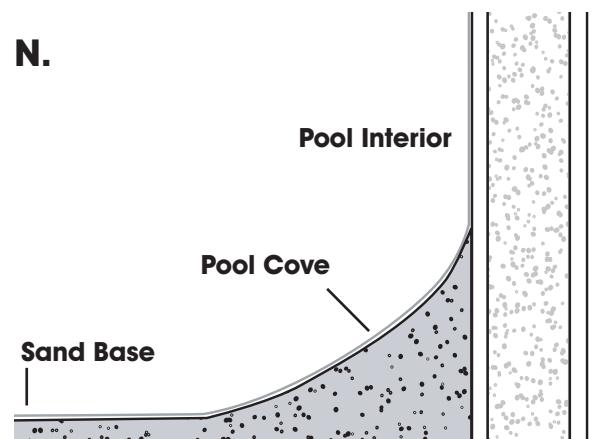
1 yard masonry sand = appx 1.5 tons)



PREPARING POOL COVE

Using the masonry sand, build a pool cove 4" to 6" high inside the wall along the entire circumference of the pool. (fig. N) This will prevent the liner from creeping under the wall. **This step is not optional and must be done.**

Spread the remaining sand equally across the bottom of the pool. This will give you a 2" sand base. After the cove and base are in place, dampen, rake and tamp the entire pool area. Make sure that no sand is allowed to remain on the wall above the cove. This could cause pinholes in your liner. Once bottom and pool cove are set, install final panel.



INSTALLING PLASTIC COPING

The plastic coping is installed by simply placing coping lengths over the pool wall and securing with screws on the exterior of the pool.

Place all coping lengths around pool, leaving a 1" gap between each length. The coping gap should be offset from a wall joint.

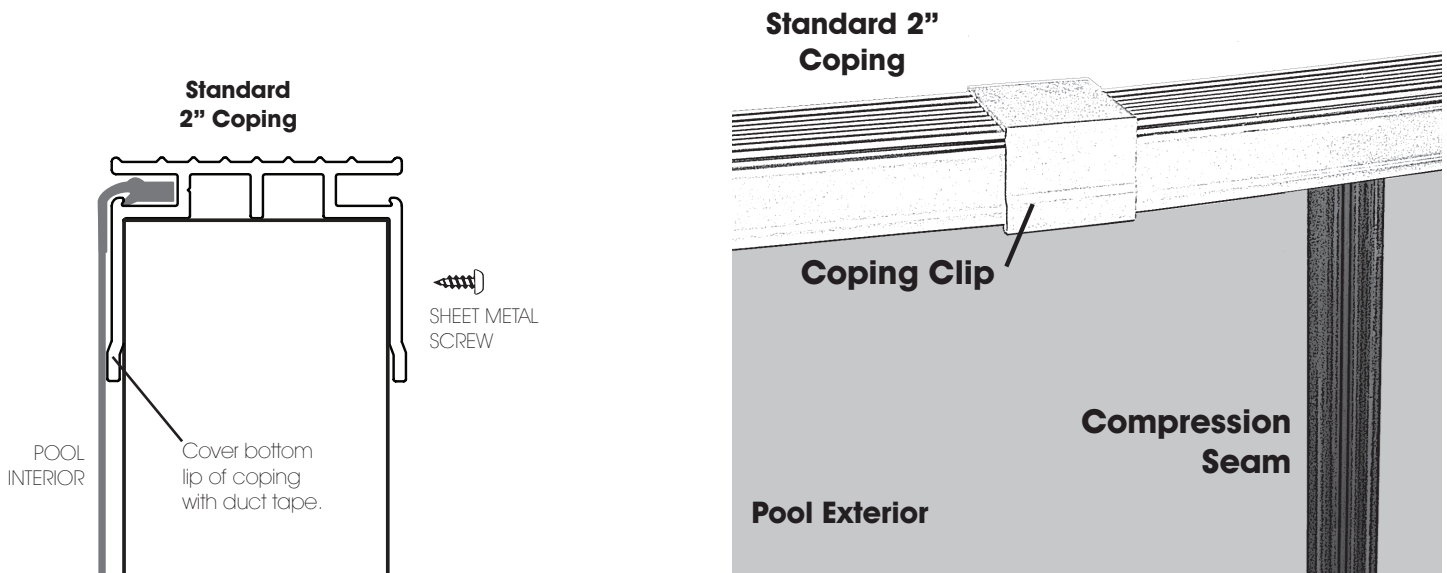
Once all of the coping has been placed, secure the coping to the pool wall with sheet metal screws provided. **THIS STEP CANNOT BE SKIPPED.**

Included are 5 sheet metal screws for each full size coping length. The screws, placed at the appropriate intervals, are essential to the secure installation and long term durability of the coping. The screw spacing should be as follows:

- One screw approximately 2-3" from each end.
- One screw in the middle of the coping length.
- One screw half way between center and each end screw.

Using a 1/8" drill bit, drill through the plastic coping and exterior pool wall while pressing down firmly on the coping on top of pool wall. Using a Phillips screwdriver, hand tighten each screw. **DO NOT OVER TIGHTEN.**

The beaded vinyl liner with the weight of the water will draw coping into place and level on the interior of the pool wall. After the liner is in place, install coping clips by snapping over gaps between coping lengths. **DO NOT SCREW IN COPING CLIPS.**



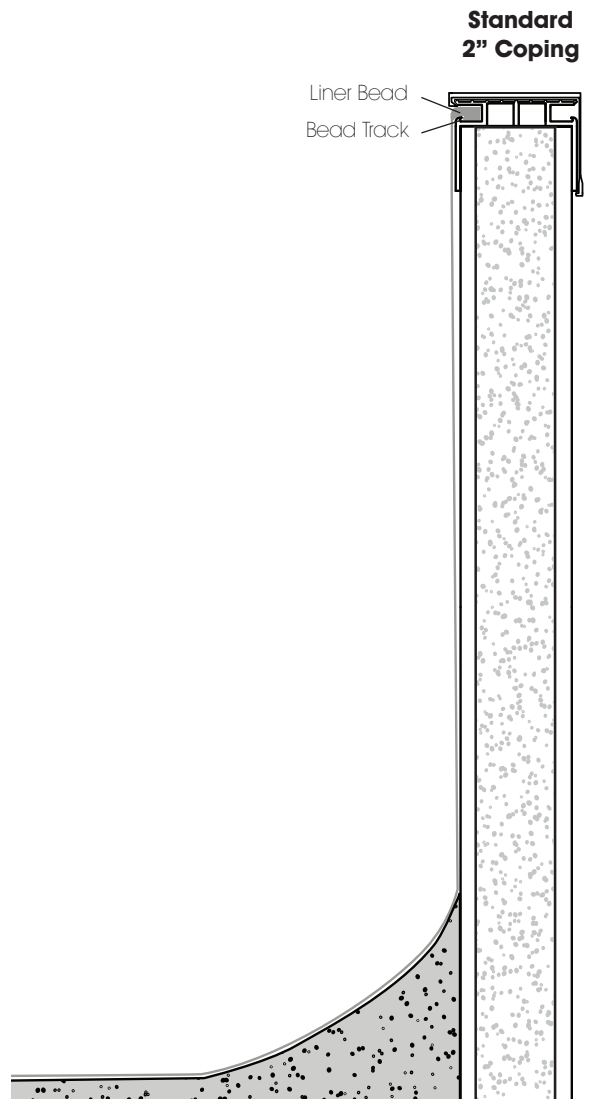
INSTALLING LINER

Prior to installing liner, tape all joints, including coping and compression seams, with Gorilla Tape®. Clear all sticks and sharp objects from an area near the pool that is as large as the pool itself. Remove the liner from its carton and unfold and open the liner. Refold the liner so that it can easily be carried to the pool and unfold from the outside of the pool. Check to make sure the sand in the pool is level and that there are no sharp objects in the pool.

Place the liner into the pool while holding onto the top of the wall section of the liner. Snap the bead of the liner into the bead receiver track around the entire pool.

Gently pull on the liner and use a soft bristle broom to remove as many wrinkles as possible on the bottom of the pool. Start filling the pool slowly with water. Continue pulling gently and working the liner with a broom as needed. Some wrinkling of the liner may be evident and in no way affects the structural strength of your pool. You can continue to work out the wrinkles as needed by pulling gently on the liner or by using a broom.

TIP: To help in removing stubborn wrinkles, a shop vacuum may be used to suck the air out from behind the liner. Attach shop vac to skimmer outlet and seal with duct tape. Seal all other openings with duct tape as well. Turn on vac and run till wrinkles are removed. Once the wrinkles are gone, begin filling with water. After 6" of water is in the pool, turn off and remove the shop vac.



FILLING YOUR POOL

Whether you are filling the pool with your own home water source or through a water-fill service, please use the chart below to determine the water volume requirements for your particular size pool.

Please see your pool professional for instructions on proper water testing and treatment.

Water Gallonage per Pool Size

Pool Size	52" Pool Wall (46" of water)
16'	5,514
18'	6,963
21'	9,477
24'	12,378
27'	15,666

INSTALLING FACEPLATES

Once the water level reaches 2"-3" from the return and skimmer, install the faceplates. Carefully locate the screw holes for each opening. Once located, carefully puncture the liner with an icepick or nail.

Attach skimmer faceplate with 1" screws and hand tighten evenly in order. When installing return faceplate, hand tighten each screw by a half turn, alternating between each, until all are tightened evenly. This ensures uniform compression of sealing gaskets. Using a razor knife, carefully trim the liner from inside of the openings for the skimmer and return. When done, install the eyeball into the return.

NOTE: Follow Step distributor's instructions for installation of step faceplate and gasket after the liner is installed and water level reaches 6-8" depth.

COMPLETING INSTALLATION

Please refer to the distributors' installation instructions for all other installation components. These include pump, filter, lights, and all other equipment and accessories.

ECOTHERM™

Swimming Pool

Jump in! The Water's Warm



CAUTION: No Diving or Jumping.
Aboveground pools are designed for swimming only.

Your family's security is our priority. Always ensure the proper supervision of children when around a swimming pool.

Code: 25102ECOR 04/18