

Buttress Oval Pools

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**Installation Instructions**

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# Installation Instructions

## HOW TO USE THESE INSTRUCTIONS

Be sure to read these instructions completely before beginning assembly or installation.

This installation sheet covers four sizes of oval pools. Use your pool parts list booklet and the exploded illustrations on pages 13 and 15 to identify your pool parts, then read these instructions and follow the assembly steps that pertain to your pool assembly.

HII cannot be responsible for damage caused by careless or improper assembly or installation. Your warranty is void if pool assembly and installation instructions are not followed exactly, or if the pool design is altered in any way.

### Contracted Installation

HII is not affiliated with any professional pool installers and can assume no responsibility for installation mistakes made by the professional installer or the homeowner. If the pool is installed by others, please supervise and make sure the installation complies with proper installation techniques as shown.

### Change of Design

HII expressly reserves the right to change or modify the design and construction of any product in due course of our manufacturing procedures, without incurring any obligation or liability to furnish or install such changes or modifications on products previously or subsequently sold.

## CAUTIONS

1. Do not attempt to install pool wall on windy days. An unsupported pool wall can easily blow down and may cause damage to the pool frame, pool wall, or may cause personal injury.
2. When assembling your pool, keep parts not currently used in an area out of the way. Disassembled parts are easily tripped over and may be damaged or cause personal injury.

3. Do not attempt to lift heavy boxes by yourself. To reduce the possibility of personal injury, have someone help you move heavy boxes (pool wall, liner, etc.).

## WARNINGS

1. Your pool must be level within 1" all around. An unlevel pool may cause excessive stress on pool frame. This may result in pool failure which could cause serious personal injury.
2. Your pool must be on undisturbed soil. Backfilled soil, sudden slopes within 6 feet, or water run off may undermine or cause pool foundation to shift. This could cause pool failure and may cause serious personal injury.
3. To reduce the risk of severe electrical shock, always have a qualified electrician install a ground fault circuit interrupter (G.F.C.I.). Always plug pool accessories into a G.F.C.I. protected receptacle.
4. Always install the Warning Decals and Warning Sign. The decals and sign are designed to remind you, your friends and loved ones that your pool is to be used for swimming and wading only. Do not allow any form of horse play in or around the pool. Failure to follow this warning can lead to severe personal injury. Read the "Safety First" booklet.
5. Do not use common sand for pool cove. Common sand can easily erode and allow pool liner to rupture which may cause pool failure or personal injury.
6. Secure your pool when not in use. Ladders and gates should be secured to reduce the possibility of unauthorized entry and possible serious accidents.
7. Always repair liner leaks. Continued leakage between pool wall and liner may cause wall damage which eventually may result in pool wall failure. This could result in serious personal injury.

8. To reduce the risk of possible electrical shock, never install your pool under overhead wires.
9. Do not alter pool as pool failure may result and cause serious bodily injury. Your warranty is void if the pool is altered.
10. Do not bury pool or warranty is void (See warranty card).
11. Do not install a diving board, pool slide or any other recreational accessories for use in diving, sliding or jumping into your pool.

#### Local Codes

Check to see if building permits or utility clearances are required. Comply with safety codes regarding fencing and all electrical codes.

#### BEFORE YOU START

1. Check prevailing winds. The skimmer should be downwind to aid in removing pool surface debris.
2. Pump and filter location. Allow room to service your pool equipment.
3. Do not install your pool liner on top of anything abrasive. Installing your liner on top of abrasives such as concrete, asphalt, peat moss, tar paper, gravel, or wood could puncture your liner.
4. Do not install your pool liner on top of grass or tree roots. They may grow up through your liner.
5. Do not install your pool on soil that has recently been treated with **petroleum based chemicals**. Some soil treatment chemicals may destroy your pool liner. Consult your pool dealer.
6. Treat the ground inside the pool area with a **non-petroleum based** fungicide (available at garden supply shops). This may help prevent liner staining caused by fungus. Consult your pool dealer.
7. Rid pool area of burrowing pests and insects such as gophers and termites. They can cause liner damage.

8. Locate a convenient electrical outlet for filter and pump. Always have a qualified electrician install a ground fault circuit interrupter (See Warnings).
9. Check wall clearances. Be sure you have enough room to work around your pool (18" Minimum).
10. Avoid overhanging eaves. Prevent water running off of roof and carrying debris into your pool.
11. Avoid overhanging branches. Prevent leaves and tree branches from falling into your pool.
12. Avoid sun reflection into residence in order to prevent glare into house.
13. Keep sprinklers away from pool to avoid pool damage.
14. Do not install pool under overhead wires (See Warnings).
15. Be able to view children playing around pool. Secure your pool when not in use (See Warnings Pg.s 2 &3).

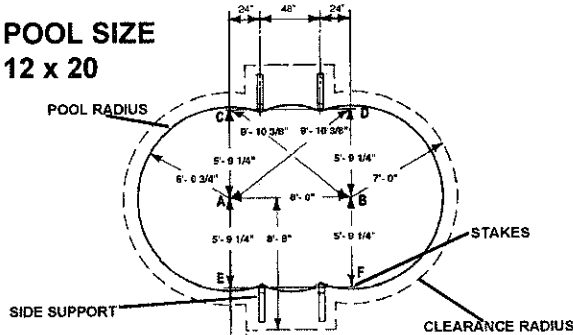
#### TOOLS AND MATERIALS:

1. Non-Stretch Twine (Approximately 50 feet)
2. Garden Rake
3. Nail — 2-1/2" Long (12 Req'd)
4. 18" Long Wooden Stake (12 Req'd)
5. Duct Tape
6. 2" x 4" Board equal in length to the pool clearance radius plus 6 inches (See "Pool Layout Dimensions")
7. Sifting Screen (to remove 1/8" pebbles)
8. 2" x 8" x 12" Patio Blocks. One per Vertical and Side Support
9. Spring Type Clothespins (Bag of 50)
10. Carpenter's Level
11. Carpenter's Saw
12. Flat End Shovel
13. Screwdrivers (Standard)
14. 25' Tape Measure
15. Hammer
16. Tamping Tool or Roller
17. One or more 5/16" Nut Drivers
18. Sharp Knife or Razor Knife
19. Black Felt Marker
20. Transit (See Step 2)
21. 7/16" Open End Wrench (2 Req'd)
22. Hacksaw

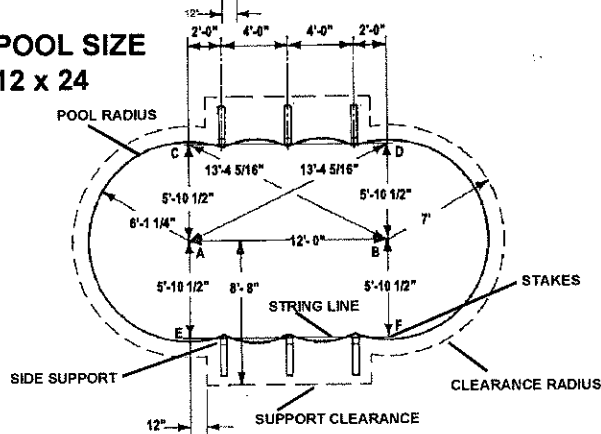
### POOL LAYOUT DIMENSIONS

Study the following illustration of your pool size and familiarize yourself with the dimensions that will be used for your pool layout.

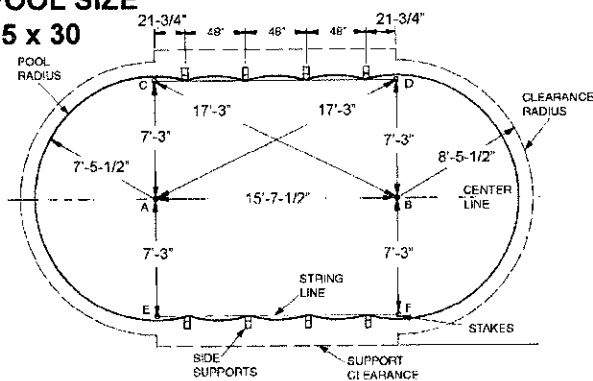
#### POOL SIZE 12 x 20



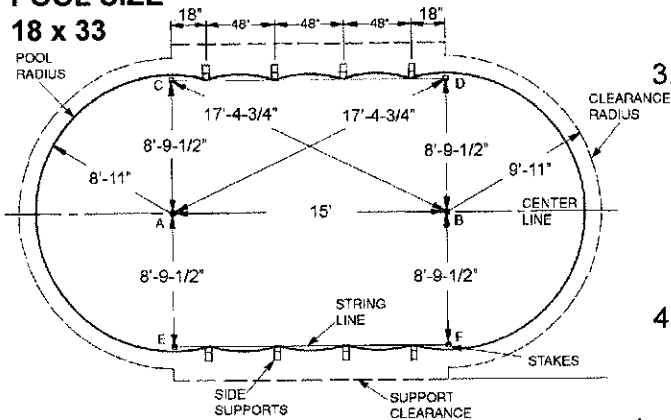
#### POOL SIZE 12 x 24



#### POOL SIZE 15 x 30



#### POOL SIZE 18 x 33



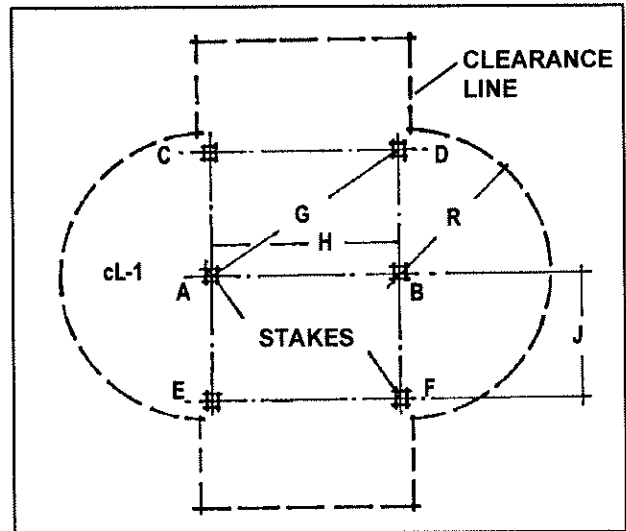
### SITE PREPARATION

A level pool area is a vital part of your pool construction. Avoid possible disassembly later by taking your time and making sure the pool area is leveled properly.

#### WARNING

An unlevelled area may cause excessive stress on the pool's wall and framework, and may result in pool failure. See Warnings. Refer to "Pool Layout Dimensions" for your pool diameter.

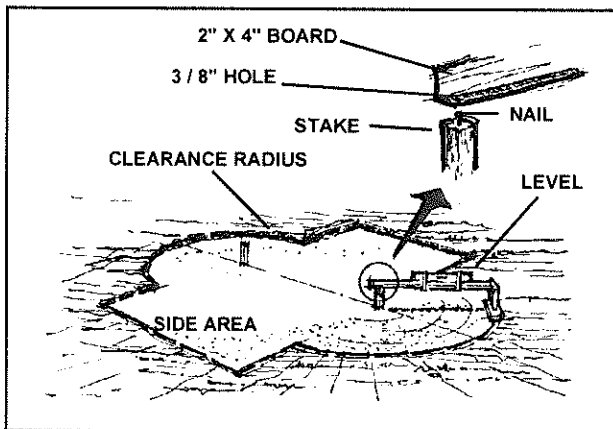
#### Step 1...



1. Using the dimension marked "H", establish the center line (cL-1) of your pool by driving a stake into the ground at positions "A" and "B". Drive a 2-1/2" long nail about halfway into the top of each stake and tightly secure a piece of twine between each nail.
2. Using dimension "J", position stakes "C", "D", "E" and "F" by measuring from stake "A" and "B". Stake each position and drive a 2-1/2" long nail halfway into the top of each of these stakes.
3. To insure stake positioning is square, measure from "A" to "D" and "A" to "F" to achieve the "H" dimension. Repeat for "B" to "C" and "B" to "E" using the same dimension "G". Tightly secure a piece of twine between stakes "C" and "D" and also between stakes "E" and "F".
4. Using stake "A" then "B", lay out the clearance radius dimension. "R" on both ends of pool, marking the ground as you go.

- To mark clearance area for the side supports, start at center line ("A" and "B"), measure out to dimension in the Pool Layout Dimensions.
- Level the tops of "A" and "B" with a 2' x 4' and carpenter's level. It may be necessary to use some stakes between them for the longer spans.
- Remove all sod within the pool area (Refer to Step 2). This sod may be saved for future landscaping needs.

### Step 2...



Using a transit to level the pool area is preferred. When using this method, professional assistance is recommended.

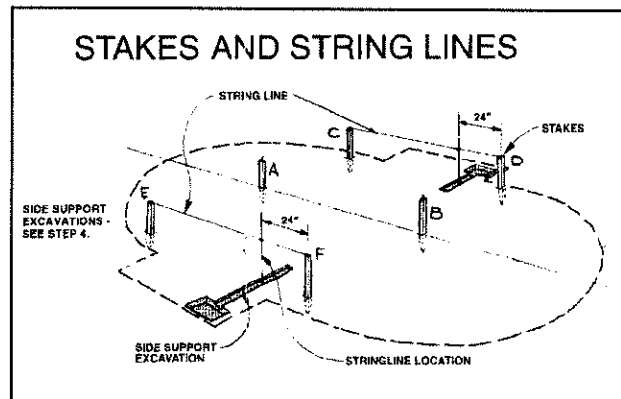
However, a homemade leveling device can be made:

- Determine correct length of 2" x 4". (2" x 4" length is clearance radius "R" plus 6".)
- Drill a clearance hole (3/8" diameter) in 2" x 4" board to fit over nail head. See Step 1.
- Construct an upside down "T" with a base approx. 12" long and nail to opposite end of 2" x 4" as shown in figure.
- Secure carpenter's level to top of long 2 x 4 with tape or twine as shown.

Pivot leveling device around your pool radius checking for high or low areas. If the bubble in the leveling device is toward the outside of the pool, you've reached a high area. If the bubble in the leveling device is toward the inside of pool, you've reached a low area. Begin leveling at lowest point and work your way around the pool radius until the area inside the clearance radius is level.

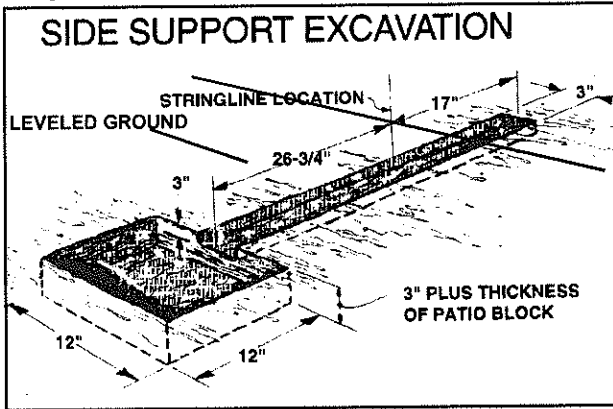
With a shovel and the constructed leveling tool shown above, remove sod and level pool area. Level to the *lowest* spot within pool area. Level side areas to main pool area. **Remove high points — do not fill in low spots. Ground must always be firm.** Be sure pool area is free of stones, sticks, roots and other objects that could puncture liner. **Remember:** The entire assembled pool framework must sit on flat ground within 1 inch of level all the way around. *Spend additional time now to avoid disassembly later.*

### Step 3...



Locate stakes C, D, E and F from your pool layout. Attach strings between C and D, then E and F. Locate center of two side support excavations as shown. Other supports will be located 48" on centers if you desire to excavate at this time. Carefully dig out side support trenches following Pool Layout Dimensions and side support excavation dimensions shown in Step 4. Once level, rake to smooth out area. Clear away rocks, stones, sticks, or any other sharp objects which may puncture your pool liner. Note: Begin clearing in the center and work your way out. Do not remove stakes at this time.

**Step 4...**



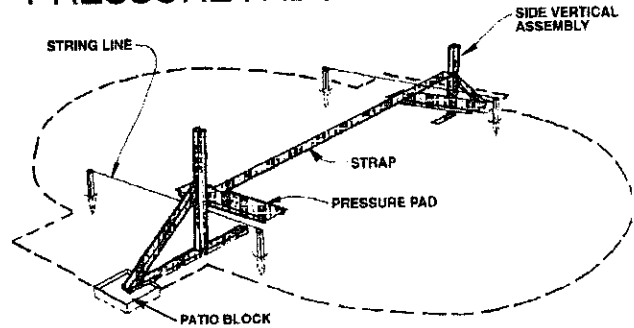
Carefully dig out side support trenches following dimensions above. It is very important that the trench walls remain firm and undisturbed during and after excavation. DO NOT over-excavate with the thought of back-filling later as the side supports will move when pool is filled and pool failure may result.

**Step 5...**

Assemble horizontal beam, side vertical and knee brace as shown in Fig A exploded view. Pressure pad and strap will be installed later. Refer to parts list for item descriptions.

**Step 6...**

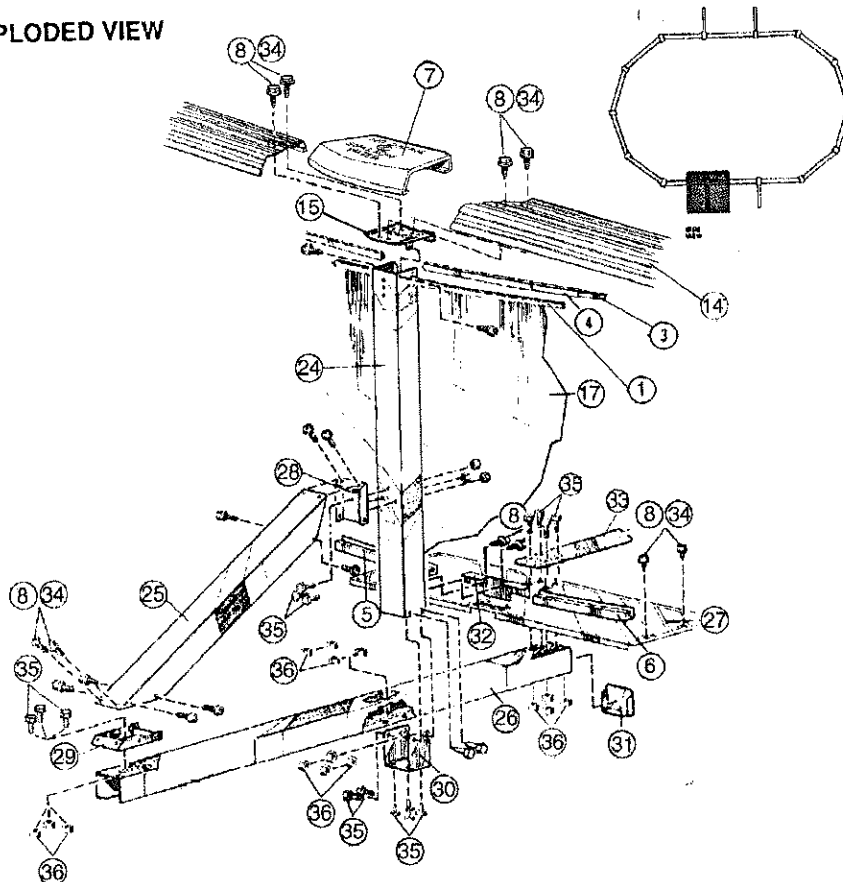
**POSITION SIDE SUPPORT, PRESSURE PADS AND STRAPS**



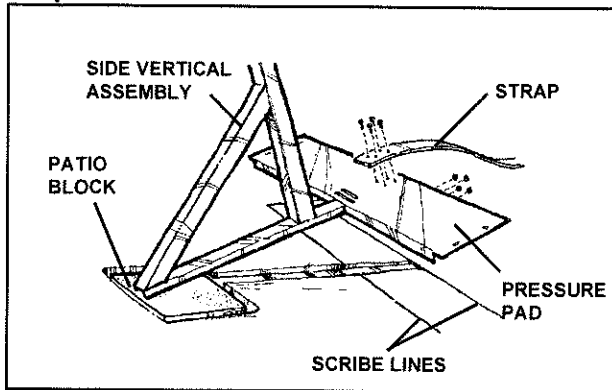
Place patio block into rear of excavation (See Step 7). Position vertical assemblies, pressure pads and strap. Straighten out strap as flat as possible.

**Fig A**

**EXPLODED VIEW**

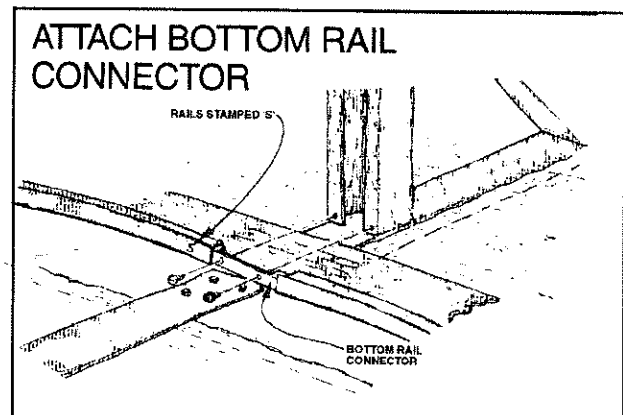


### Step 7...



Using hardware provided, assemble strap and pressure pad to horizontal support beam. Using screwdriver, scribe into ground along pressure pad flanges until pressure pad surface is flush with ground. Repeat for opposite side. When overlapping pressure pads, be sure to use the 1/2" long sheet metal screws provided.

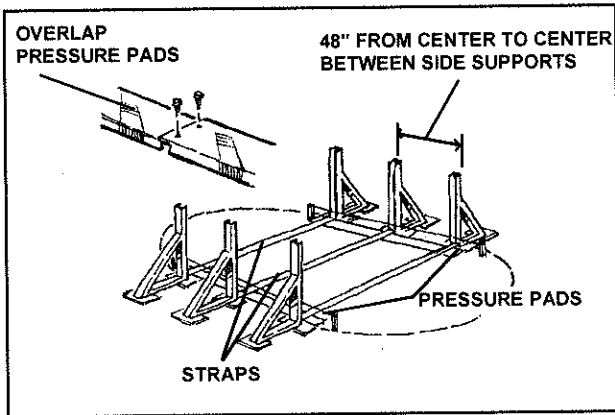
### Step 8..



Loosely assemble bottom rails between verticals with bottom rail locator. Secure as shown. NOTE: Bottom rails stamped "S" go between the strap side supports. *Slightly bend the bottom rail connector towards the outside of pool.*

**Step 9...**

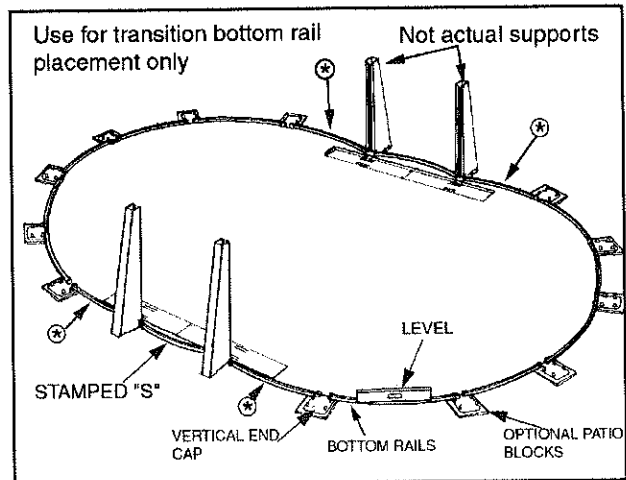
Repeat above steps for assembly and installation of all side support assemblies. Overlap and attach pressure pads as shown. Recheck level and position of side support assemblies.



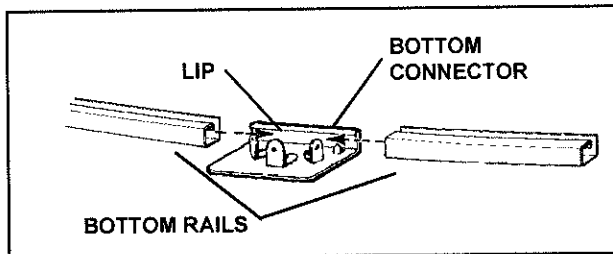
Transition bottom rails, note location on diagram below mark with asterisk (\*)

Begin ends of framework by installing the four rails (\*) stamped 12 for 12' wide ovals, stamped L-15-2 for 15' wide ovals and stamped TR-18 for 18' wide ovals, place these rails on the outside of the end side support verticals. Rails stamped "S" go between each side vertical support and the remaining bottom rails are for the ends of the pool. Pay close attention when installing these rails, if the bottom rails are not in the correct locations, you will have problems attaching top rails.

Confirm levelness of installation by placing a level on top of bottom rails as shown.



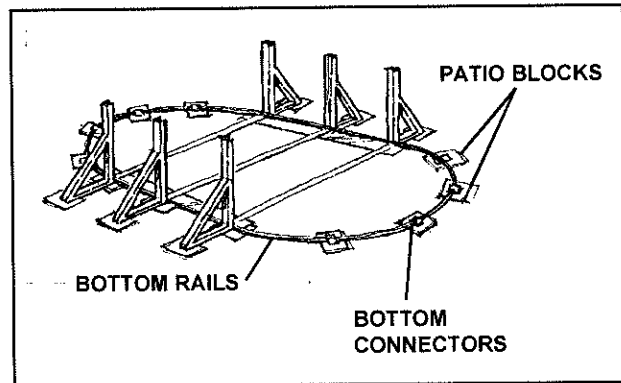
**Step 10...**



Complete bottom framework. The bottom rails slide under the lip of the bottom connector. Some pools will require approx. 1/2" to 3/4" gap between the bottom rails. Keep rails free of dirt... Confirm levelness of installation by placing level on top of bottom rails. Adjust framework until all points are the same distance for the center radius stake.

Refer to the following diagram for important bottom rail locations.

**Step 11...**

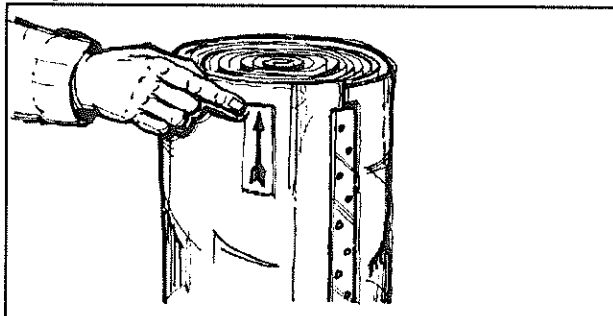


**Patio Block Installation (optional but recommended:** Center 12" x 12" x 2" patio blocks under bottom connectors around ends of pool and mark their positions with a stick. Move bottom framework from ends out of your way in sections.



Turn patio blocks out next to their marked positions. Dig soil in the marked locations away to the depth of the patio block. Patio blocks must sit in solid, undisturbed earth, and be flush with level ground, and have no movement when turned back into place. Use leveling tools and/or transit to make sure each block is level and that all blocks are level to each other. NOTE: If you plan to use sifted earth for pool cove, bring it into pool area at this time. Reinstall bottom framework. Check again for levelness, and to see that bottom connectors are centered on patio blocks.

**Step 12...**



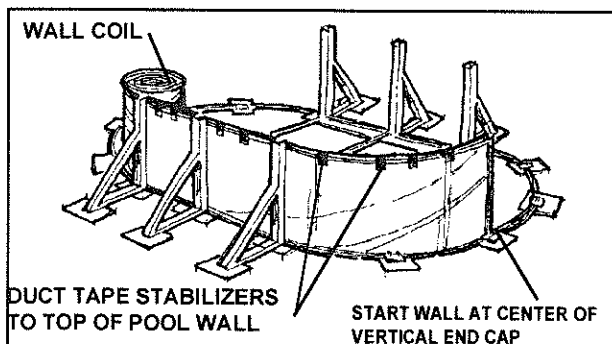
Place wall carton inside pool frame close to the planned skimmer location. Turn the wall carton upside down, open bottom of carton, turn rightside up and lift off over wall. The Up Arrow label should be pointing up as shown. If arrow is not pointing up, turn wall over. From this point you will need approximately 8 to 10 uninterrupted working hours. You will need the help of friends before attempting to install wall. It is essential that your pool assembly be completed. Never leave an unfilled pool unattended. It could easily fall causing pool wall and frame damage.

**Step 13...**

**CAUTION**

Do not install pool wall on windy days. See Cautions pg. 2.  
Do not attempt to lift heavy boxes by yourself. See Cautions pg. 2.  
You will need the help of friends before continuing.

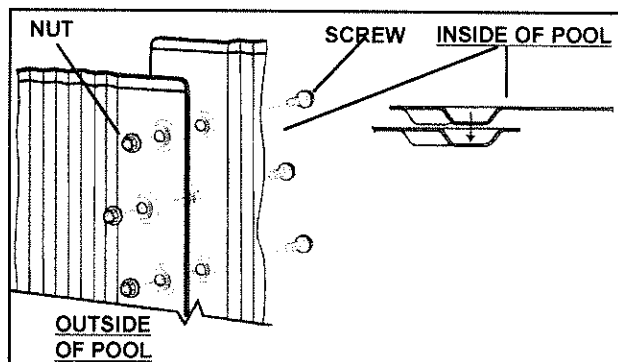
**Step 14...**



**Step 14 con't...**

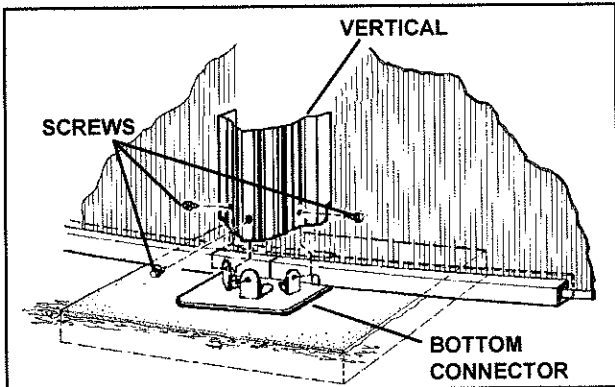
It is essential that your pool assemble be completed with top rails and pool filled with water or damage could occur. Remove pool wall from carton. Note "Up" arrow on wall. Keep hands and feet from under wall during construction. Determine starting point of wall with respect to the desired skimmer location. The skimmer opening will be at the inside end of the wall coil. Always start wall at center of a bottom connector. Uncoil about 6 to 10 feet of wall and insert bottom edge into groove in bottom rails. Place stabilizer rails on top edge of pool wall, working around top of pool as wall is inserted into bottom rails. Telescope small diameter rail into large diameter rail about 6 inches. Secure stabilizer rails to wall with duct tape between each joint.

**Step 15...**



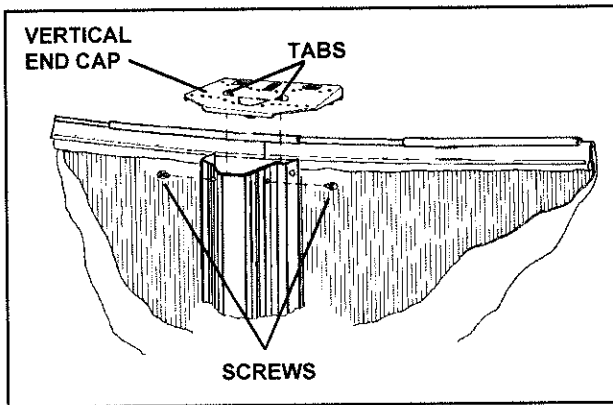
Bring the wall ends together in the center of the bottom connector. If overlapping wall ends do not meet, adjust all bottom connectors in or out uniformly as required. Do not make the total adjustment with only one or two connectors. Fasten overlapping ends of the wall using the 1" long machine screws and nuts. Screw head must be on the inside of pool. When finished, go back and retighten all screws and nuts. Using a file or sand paper, remove any burrs on all screw heads. Place protective vinyl strip over wall screw heads and tape in place on each side of strip with duct tape. Recheck pool ends for roundness. Measure from center stakes to pool wall, adjust pool wall until all distances are equal. Be careful not to damage bottom rails.

**Step 16..**



Install verticals onto bottom connectors using the screws provided.

**Step 17...**



To install vertical end caps to the vertical, position vertical end cap over vertical and insert tabs on vertical end cap between vertical sides and secure with two screws as shown. If you have the new style vertical end cap, it will fit over the stabilizer rail.

**Top Rail Placement - Important Please Read**

When attaching top rails, certain length top rails have to be placed in the correct position.

**All top rails are measured on the short side of the rail.**

**15' x 30'** pool has 3 different length top rails.

Place the longest rails (8) on the ends of the pool.

Place rails (6) (44.44") on the sides.

Place rails (4) (46.71") where the transition bottom rails were used, see Step 10.

**18' x 33'** pool has 2 different length top rails.

Place the longest rails on the ends and sides of the pool.

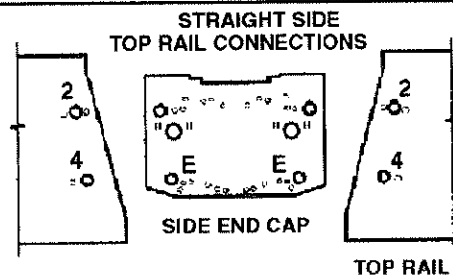
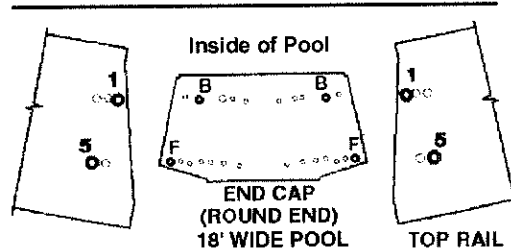
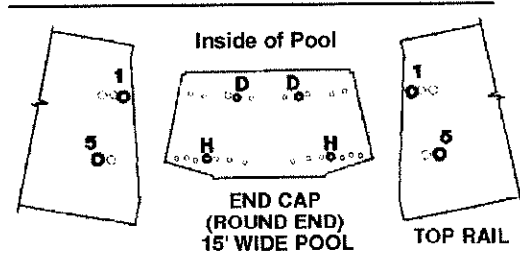
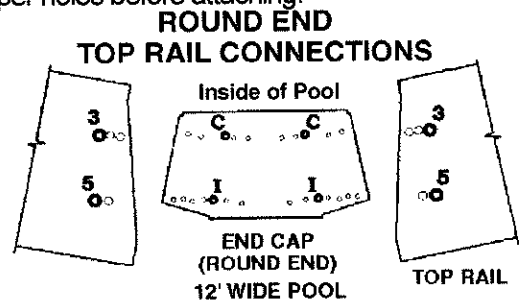
Place the short rails (4) (37.66") where the transition bottom rails were placed, see Step 10.

**HOLE PATTERNS FOR FASTENING TOP RAILS TO END CAPS**

**Step 18...**

Each pool size has two specific hole patterns for mounting the top rails to the end caps. Select the figure for either the 12', 15' or 18' wide pool that show connections for the round ends of the pool. Use the last figure for the straight side connections for the 12' x 20', 12' x 24', 15' x 30' and 18' x 33' pools. Attach the top rails to the vertical end caps using four (4) 1/2" long sheet metal screws.

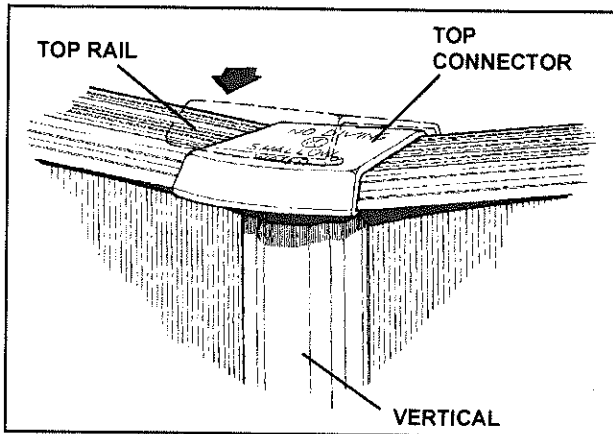
**Helpful Suggestion:** Use a felt pen to mark all proper holes before attaching.



**12' x 20', 12' x 24', 15' x 30' and 18' x 33'**  
**TOP RAIL CONNECTIONS**  
**(Straight Side)**

### Step 19...

Center top connector over vertical. Hook rear of top connector firmly under the top rails inside the pool. Swing top connector down over the vertical end cap and push down firmly until the connector snaps in place as shown. Repeat this step for each vertical.

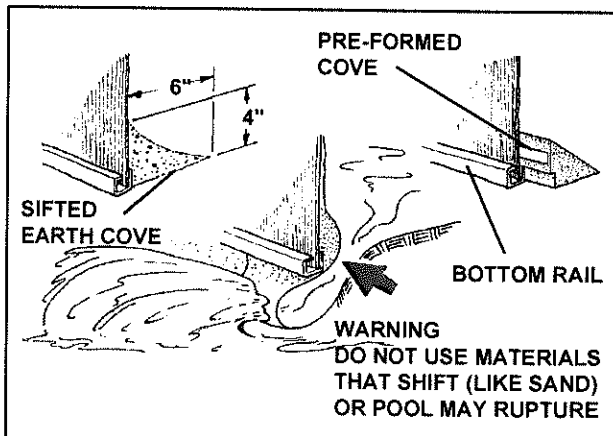


### Step 20...

Remove pool liner from carton. Slightly loosen liner coil and allow sun to warm it. This will allow liner to become more pliable and easier to install.

### Step 21...

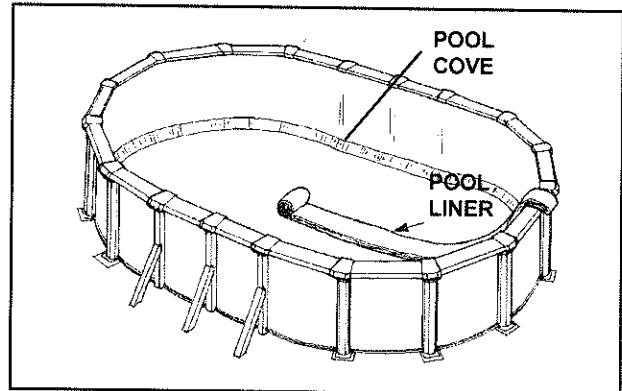
If pre-formed pool cove is to be used, install it at this time. Be sure to follow manufacturer's directions. If sifted earth is to be used, build and compact the cove as shown. **The cove is an important structural element which prevents water pressure from forcing the pool liner out under the bottom rails.** Hll will not assume responsibility if common sand is used or the cove is omitted. When cove construction is completed rake pool floor smooth.



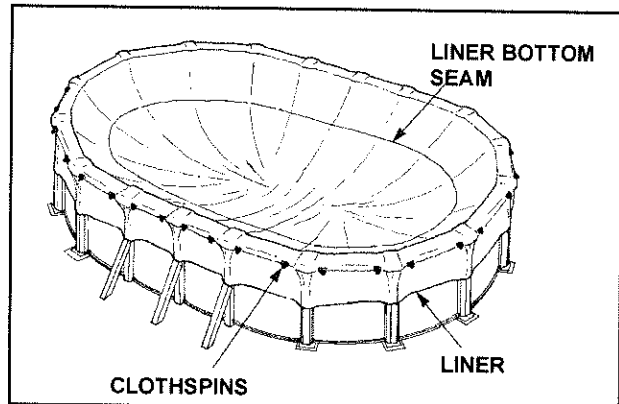
## LINER INSTALLATION

### Step 22..

Check the pool floor (area inside pool wall) for levelness. Remove all stakes, stones and sharp objects that could puncture your liner. Fill in any footprints and slight depressions with sifted earth and tamp. **Cover inside tension straps and pressure plates with sifted earth.** Check the pool floor for levelness. If you have been using a ladder for access over the pool wall, remove it at this time.



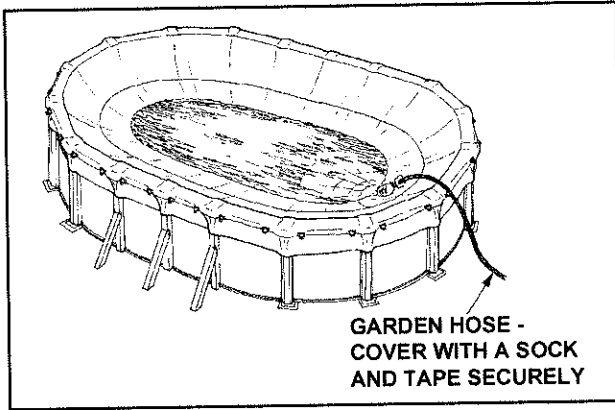
You will need some friends to help you install your liner. Place liner on top of top rail. Standing outside the pool at either round end, lift the liner to the pools top rail (over a vertical support) and rest it there. Hold the liner end and unroll it down the center of the pool, as you would a carpet. With textured side of the liner up, carefully pull the liner over the top rails as shown below.



**Note:** The center of liner should be 6 in. to 1 ft. off the ground in the center of the pool only. Using caution not to cut liner, secure to the outside bottom edge of top rails with spring type clothes pins (at least three clothes pins per top rail).

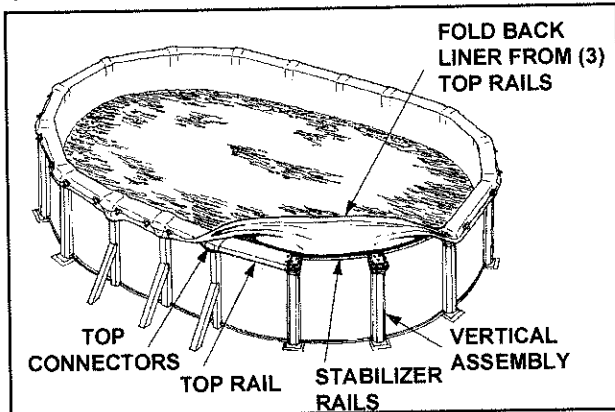
**Step 23...**

Start filling pool with water. As the liner fills, the center of liner will stretch, smoothing the wrinkles and touch the floor of the pool. It will be necessary to gradually release the liner into the pool. Work evenly around the pool releasing just enough liner to ease tension from the top connectors. Adjust liner evenly, all the way around the pool. When properly installed the bottom seam will be approximately midway up the cove. Continue filling until water is 24" up the wall then stop filling. (Using 3 or 4 hoses will speed up this process.)



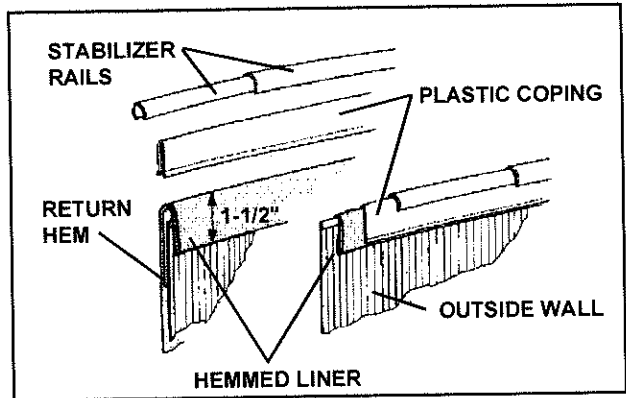
**Step 24...**

Pull liner back as shown. Be careful not to let liner fall back into the pool. Remove four (4) top connectors and three (3) top rails. Remove previously installed stabilizer rails.



**Step 25...**

Pull liner up and over pool wall. Make a hem along the top edge of the liner. Pull hem back over the top edge of the pool wall as shown so it hangs over top edge of pool wall by about 2". Install plastic coping by pushing it all the way down to overlap pool wall and liner as shown. Make sure the plastic coping is butted end to end. Install enough coping to cover two top rail lengths centered where you removed the top rails in Step 24.



Install interlocking stabilizer rails over the plastic coping as before in step 14 (this time do not tape).

Reinstall the center top rail of the three removed in Step 24. Working your way around pool, remove the next top connector, top rail, and stabilizers. Pull liner over the pool wall in the new working area. Install coping and stabilizer rails as described above. Reinstall a top rail next to the previously reinstalled top rail. Continue working your way completely around pool in this manner. In some pools you may find the last piece of plastic coping is too long. If so, cut it to fit. Do not overlap ends. Be careful not to cut liner. Reinstall last top rail and all top connectors.

**Step 26...**

Do not finish filling the pool until after you have installed your pool pump, filter, pool return and additional accessories. Refer to all other pool equipment owner's guides for special instructions. If no other equipment is to be installed, finish filling your pool to 6" from top rail. Consult with your dealer for the proper chemicals and water treatment recommended.

**Note:** Do not allow vertical side seam in liner wall to lay over skimmer or return fitting opening locations. If it does, the gaskets for these accessories may not seal properly.

## **CLEANING**

Pool parts are easily cleaned with a mild liquid soap and a soft cloth. Do not use abrasive cleaning pads, or cleaners containing abrasives as they may scratch or dull the surface appearance.

## **SAFETY LITERATURE**

Now that you have installed your new pool, you can look forward to many years of fun and enjoyment. However, your pool is also a big responsibility. For this reason, we have provided you with an assortment of safety literature. **Please take the time to read and understand all the safety literature provided.**

You have also been given an assortment of signs and decals. Refer to your "Safety First" booklet for detailed instructions of where and how to apply them. Remember, warnings only

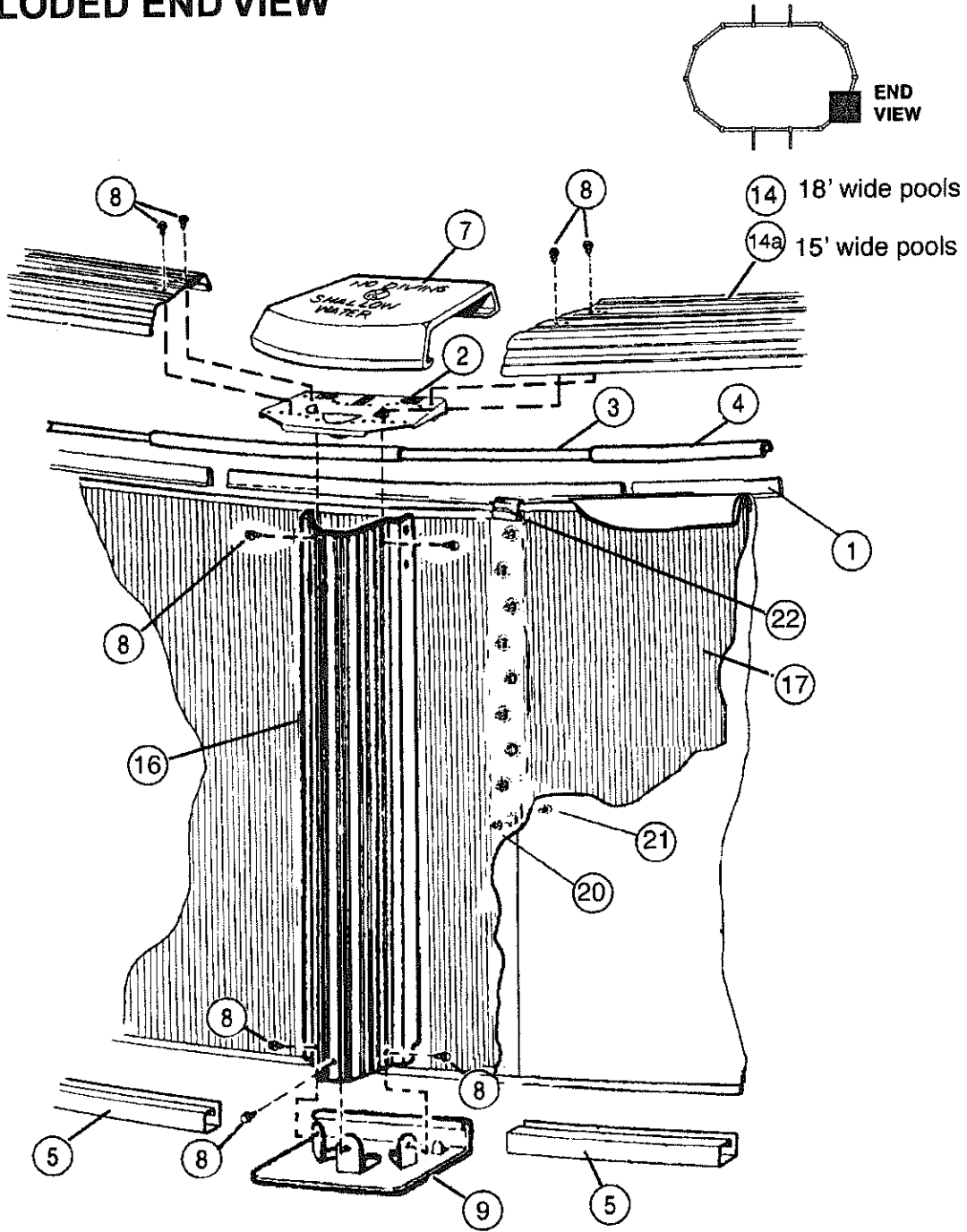
help if you put them up. Please help us protect the good health and safety of your family and friends! Read the "Safety First" booklet through completely and follow the directions in it.

If any of your safety literature, signs or decals become lost or damaged, you can get more free by contacting HII Customer Service Department:

HII  
315 N. Sebastian Street  
West Helena, AR 72390

**IMPORTANT:** Above-ground pools are designed for swimming and wading only. Diving or Jumping is product mis-use. **DO NOT DIVE OR JUMP!** Use only an above-ground swimming pool ladder to enter or exit your pool. Do not use slides, diving boards, or any other platform or object which can be used for improper pool entry! **It is your responsibility to secure your pool against unauthorized, unsupervised, or unintentional entry. Remember, pool mis-use can result in severe injury and/or other dangers to life and health.** Always obey and enforce all safety rules.

# EXPLODED END VIEW

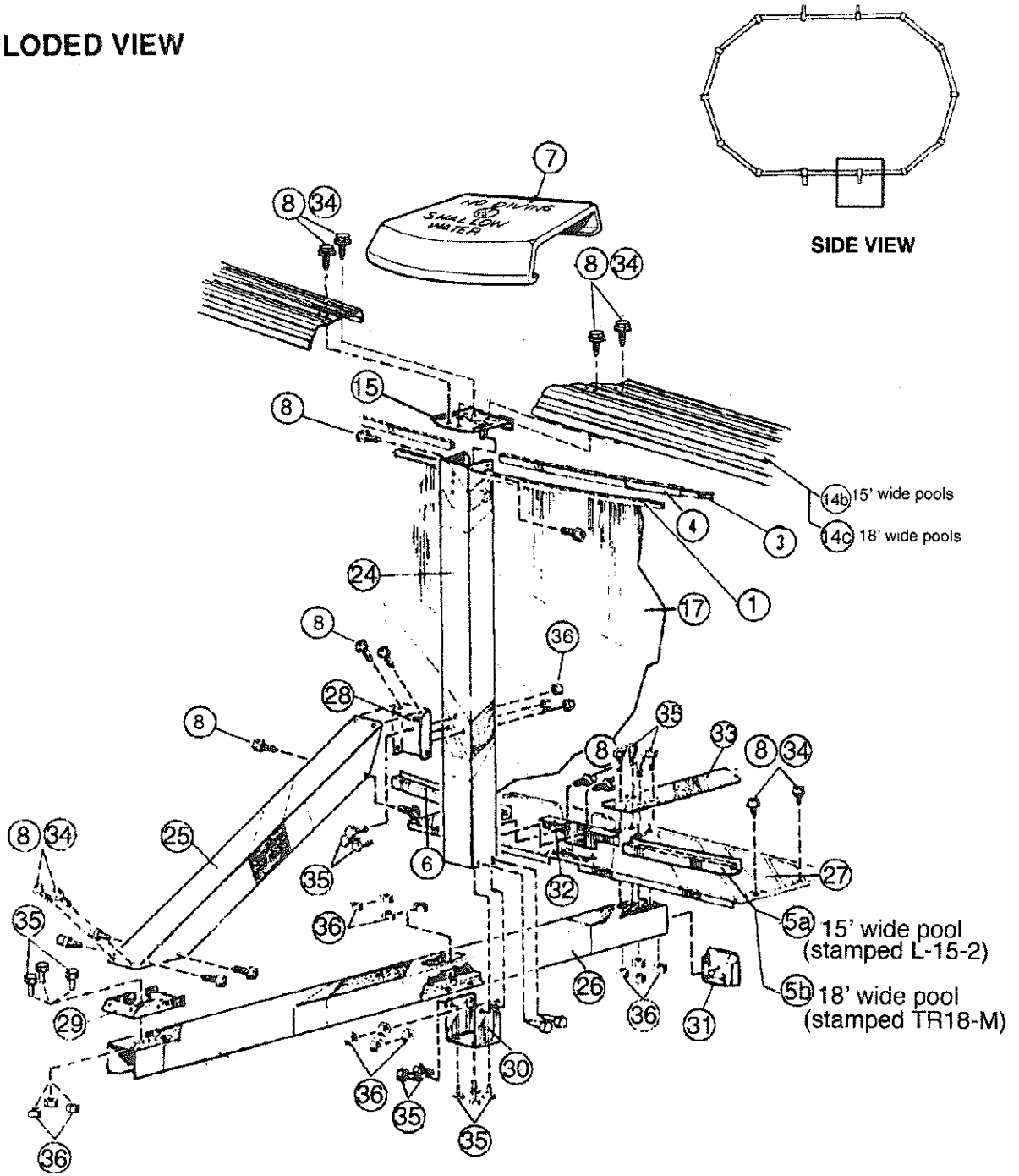


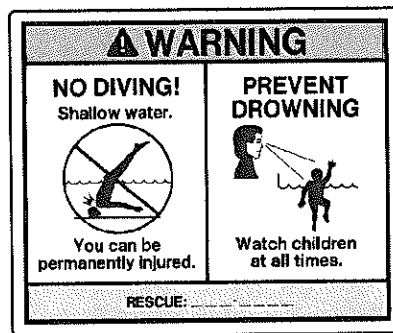
## PARTS LIST

See your Pool Parts List Booklet for a complete parts listing

# EXPLODED SIDE VIEW

## EXPLODED VIEW





**Important!** Above-ground pools are designed for swimming and wading only. Do not Dive or Jump! Misuse of your pool may result in crippling injury and/or other dangers to life and health. Do not use slides, diving boards, or any other platform or object which can be used for improper pool entry. Use only an above-ground swimming pool ladder to enter or exit your pool. It is the pool owner's responsibility to secure the pool against unauthorized, unsupervised or unintentional entry. It is also the pool owner's responsibility to warn all pool users of the hazards of diving into shallow water: paralyzing injury may result. Always obey all safety rules. Remember, pool safety is everybody's responsibility.

Change of Design: HII expressly reserves the right to change or modify the design and construction of any product in due course of our manufacturing procedures, without incurring any obligation or liability to furnish or install such changes or modifications on products previously or subsequently sold.