



Liner Install Section 1 Day one (drain pool mostly and buy liner)



Backfill step

Step 1

:01

When you have a lot of backfill or a lot of loose stone against the wall, it is important to drain the pool and change out the liner responsibly. There is a danger of the backfill collapsing the wall.

:28

The first step is draining the pool below the backfill the day before or day you begin working. You want to accomplish the job promptly once you begin.

:38

Next, you do not want to walk near the outside of the pool, at portions of the wall where there is a lot of backfill.

:52

You can accomplish most of the work from inside the pool if need be. In any case, stay a few feet away from the wall when there is not water inside the pool.

1:10

Kicking the wall as I do here is not a great solution, but then again, nothing is once the dirt caves in the wall, so be careful.



Step 2

:01

Determine what liner you need. First you need to know the size, including the diameter and height of your pool.

:05

Then determine what kind of liner you have, and what liner you want. For most pools, you can use any liner type you want; 1.) overlap, or a unibead, used as a 2.) beaded or 3.) J-Hook... so three different types. If your current liner is a J-Hook, then to change would require either, purchasing plastic beaded channels or plastic coping for the overlap, so most people opt to remain in whatever their current liner is, or upgrade from overlap to J-Hook, since the J-Hook requires no other accessories for installation. But ultimately it is up to the pool owner.

1:09

Look at your skimmer and determine If you want to purchase a new one. Look at the faceplate as well, on the inside of the pool. purchasing a new faceplate and gaskets is recommended at the very least.

1:36

Look at the return and see if there are leaks and if it needs to be replaced. Purchase at the very least a new faceplate and gaskets for the skimmer and a new liner.



Step 3

:01

While waiting for a good one or two days to install your new liner, drain the pool to the height of the backfill or 6 inches, whichever is more.

:13

To siphon the water, put one end of a water hose into the bottom of the pool and the other to a spicket. Turn on the spicket and watch the hose in the pool float down to the bottom as the air is forced out of the hose. Once the air is out, disconnect the hose from the spicket while the water is on. If the hose end that you disconnected is lower than the top of the water line in the pool, the hose will siphon the water out of the pool at that time.

:59

Move the hose end to where you want the water drained to, while keeping it under the pool water line.

 Step 4

:01

Detach the top caps. There are a wide variety of top caps. See how they detach carefully; they can be fragile. And investigate how to disassemble the rest of the pool, including the top rails, top plates, and stabilizer bars.

:42

Often, if the top plates are metal, they do not have to be completely detached from the uprights. If there is a screw in the back, leave that in when the time comes, and flip the top plates up, rather than take the last screw out.



Liner Change Section 2 Day 2 Liner Change

Day two (drain the rest of pool, throughout old liner, bring in sand, evaluate skimmer fully, evaluate wall, and tend to rust spots)



Step 1

:01

Drain the rest of the pool using a sump pump. Do not let the live electric cord hit the water. Another way is to dig a trench a few inches deeper than the pool, outside the pool to funnel the water under the bottom track.

:12

First dig the trench and then cut a hole in the liner with a shovel, where the liner meets the cove.

1:06

Both are viable options. Any water left on the sand after the liner is removed must be shop vacuumed up. You need a shop vac to set the new liner as well.



Step 2

:01

Detach the top caps. There are a wide variety of top caps. See how they detach carefully; they can be fragile. And investigate how to disassemble the rest of the pool, including the top rails, top plates, and stabilizer bars.

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Often, if the top plates are metal, they do not have to be completely detached from the uprights. If there is a screw in the back, leave that in when the time comes, and flip the top plates up, rather than take the last screw out.



Step 3

:01

If you are using a sump pump, dig a hole behind the liner once the water level becomes too low for the pump to continue working.

:10

First, secure the electric cord with a knot away from the water.

:17

Second, cut the liner a few feet at the top of the top rails parallel = to them.

:27

Next, while inside the pool, pull back the liner and step onto the sand and dig a hole roughly 2 times the size of the pump in the sand maybe four inches deep. Put the sand and dirt in a pile near the hole.

1:23

Step back into the liner and reposition the liner onto the hole and place the pump in the hole.

2:09

Let the pump continue pumping until the water is too low for the pump to continue working. Then use the push broom to push water to the pump.



Step 4

:01

Push the remaining water to the pump or out the cut hole using a push broom.

:07

You can use a shop vac to get the last few gallons out.

:19

If you opt to not get all the water out of the pool in this manner, go to step 5 as an alternative. If you do step 4 fully, so that all the water is completely out of the pool, skip step 5 and go to step 6 after.



Step 5

:01

Cut the liner strategically along the top rails a few feet in length all the way around the pool. Pull the liner towards the pump or to the cut hole to get the remaining water out of the pool.

:59

Two people on the inside of the pool helps with this process and people on the outside can hold the cut liner as well.



Step 6

.01

Pull the liner back onto the sand and cut a piece of the liner that has little sand on it **near the top of the top rails** and drape it over two top rails to throw the liner over, so the mess doesn't damage the pool. Duct tape this liner portion over the top rails.

.23

You can use this portion of the liner for patches for your new liner in the future or also a ladder mat. The first holes in a liner can occur from the friction the ladder causes against the liner. Ladder mats are expensive.



Step 7

:01

In my opinion, this is the most difficult part of changing out the liner. Disposing of the old liner.

:08

Cut the liner into manageable pieces to throw out over the top rails. Throw out the liner pieces one at a time. Two people make this process less difficult.

:39

As you can see this really is a two-man job.

2:50

Sometimes the liner looks like this if you are lucky. But do not cut it in too big of pieces, like I did initially.



Step 8

:01

Detach the hoses from the return and skimmer. A 5/16th hex bit is common for the clamp.



Step 9

:01

Detach the return. Find all the gaskets. Sometimes one is hidden on the inside of the liner.



Step 10

:01

Detach the faceplate from the skimmer. Sometimes the skimmer is held in place by the faceplate screws and sometimes by screws unseen behind the faceplate.

:27

So, hold onto the skimmer as you take out the last screw out of the faceplate. To make sure the skimmer doesn't fall on the ground.



Step 11

:01

Evaluate the skimmer and the return for leaks and imperfections.

Decide if you need new ones. A new faceplate and gaskets are recommended under most circumstances.

1:01

This skimmer, we decided to leave attached because of the rust. We figured we could get some good time in before the wall needed to be replaced if we did not risk taking off the skimmer. 100 percent silicone is totally waterproof and comes in handy sometimes around the skimmer and return.



Step 12

:01

If there is rust on the return and skimmer openings, come up with a plan to improve the situation.

:10

First, use a rag to brush off the loose rust, then rust-oleum paint, and once that dries, one layer of duct tape.

1:38

The rubber gasket can go in two places on the nut side... the outside of the wall, or inside the wall, against the liner. Here we put it on the inside because of the duct tape.



Step 13

:01

Use the same process to improve other rust spots that you see on the inside of the wall. If rust flakes fall off generously during this process, consider shop vacuuming up the rust, so the liner is not vulnerable to getting a hole.



Step 14

:01

Shop vac out any water laying on the sand. Including in the dug hole and rust flakes if needed. Be responsible with the electrical cord.



Step 15

:01

Fill the holes back in with the dirt and sand. I recommend doing this by hand and ensure that there are no stones on the top of the hole.

The stones should be buried.

:44

Use a piece of cardboard to place on the hole and tamp very hard with a hand tamper on this area. The cardboard keeps the wet soft loose dirt from splattering.

1:13

Also fill in the dirt outside the hole, particularly under the track if needed.



Step 16

:01

Walk around barefoot and look for stones or imperfections and fix them with your hands or a push broom. This is not meant to be intensive, however it is helpful.

:48

Evaluate how much sand you need. At the very least you want enough to redo the sand cove, that is a few hundred pounds. However, if there were many stones pressing up through the old liner, or you had a lot of sand wash out from liner holes, you may want considerably more sand.



Step 17

:01

Bring in the mason sand. You can use a wheel barrel and shovel, truck, and shovel, five-gallon bucket, or front-end loader. There may even be more ways to bring in the mason sand, but don't hit the wall. Two-wheel barrels of sand is enough to redo the cove under most circumstances.

Or you can buy bags of "play" sand at your local hardware store.



Step 18

:01

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1:10

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Step 19

:01

Open the skimmer box and prepare the skimmer for installation.

Use a generous amount of Teflon tape and apply it clockwise, so the tape does not unravel when attaching it.

:12

This is the popular hayward skimmer system and is being used as a wide mouth. The wide mouth portion needs to be assembled to the small mouth, so there is extra work to do. Combine the two using 8 round headed screws, as opposed to the flat faceplate screws.

:33

There is a smaller butterfly gasket used for to attach the small mouth to the wall when used as a small mouth skimmer and the same gasket is also used to attach the small mouth section to the wide mouth section.

:49

Place the gasket in between the small mouth and wide mouth portions of the skimmer system and attach the 8 round headed screws loosely at first. Tighten them progressively tighter and be careful with the amount of torque used on your drill, you do not want to crack the plastic. Use the screwdriver last to hand tighten to complete the job. Bottom line, when in doubt follow the directions.

2:14

There are a wide variety of skimmers, and many do not require assembly beyond Teflon tape and inserting hose fittings.



Patch liner Section 3



Step 00

:01

If you find a hole in the liner that is not a seam separation, it is far superior to patch the liner from the inside of liner, rather than on the outside. Outside patches fall off, but patches on the inside never do.

:16

Cut the patch round like the directions suggest, however, make the patch much bigger if you can help it.

:23

IF you are patching the liner in this manner after the pool was filled with water for an entire season or more, keep in mind that once you pump the water below the 8-inch mark you risk the liner shrinking to the point that it will tear when you fill it back up. However, if you get the water out quickly, and refill it up quickly and the liner is not more than a few years old, you likely will be fine.

:47

After the water is at a manageable level to where the patch needs to be placed, simply disassemble the pool, and pull back the liner. The more people helping the better. If it is near the skimmer some skimmer screws may have to be taken off to accomplish this. Working around the skimmer screws is tricky and taking them out is not advisable if you can help it. So, loosening them rather than unscrewing them altogether may be your best bet. In any case, be careful.

1:18

Clean the part of the liner that the patch will rest on and use a generous amount of glue. The glue is toxic mind you and when you get it on your fingers clean them off with soap and water, it will burn otherwise. Place the patch centered on the hole and work out the bubbles in the glue from the middle out. Once the glue sets, it is best not to adjust the patch afterwards, and it sets quickly so be aware.



Step 1 (attach skimmer)

:01

Attach the Hayward skimmer system to the wall using the round headed screws, used to attach the small mouth to the wide mouth portion.

:11

If there is a butterfly gasket first, position the gasket carefully. And when attaching the screws, make sure the side of the gasket pinned in-between the skimmer and wall is flat and can be visibly seen all around the sides to ensure the gasket isn't pinched. Do not over tighten the screws.

1:00

Sometimes it takes readjustment to "unpinch" the gasket, so it lays properly.

1:31

Some skimmers do not use a butterfly gasket, they have two flat gaskets instead, here is an example. First attach the skimmer with the round headed screws.

1:46

If there are bare screws that will touch the liner it is necessary to duct tape them.

2:16

If there is not a butterfly gasket and instead two flat gaskets you can tape one gasket as shown. The other gasket is attached when attaching the faceplate after the liner is installed.

2:39

These gaskets sometimes "slip" when the faceplate is attached. Here at the bottom portion of the gasket only tape it to the mouth of the skimmer as shown, so you can pull the gasket up if it "slips".

3:00

Here is another example of the right way to attach a flat gasket to the skimmer.



Step 2

:01

Fill in with sand the low spots. If some of the sand has been washed away to an extent where the track is exposed or a foundation block, under the track, tamp these areas multiple times. Use your hands to make sure the sand gets in the important places, near a block and under and near the track.



Step 3

:01

Place sand at the cove. Under most circumstances, using additional sand to remake the cove is prudent. Sometimes redoing the cove consists of a few shovel fulls every few feet and sometimes it is half or more of initial cove. In any case, you can always find a few hundred pounds of mason sand useful when changing out the liner.

1:26

The cove should be 3 to 4 inches high on top of the bottom track. Not too much higher.



Step 4

:01

Use the back of the transfer shovel to smooth out the cove as shown. Be careful not to scrape the wall much, and do not scrape the wall bolts at all.

:28

The cove should be 3 to 4 inches high on top of the bottom track. Not too much higher.



Step 5

:01

Tamp the cove and do not scrape the wall much and do not scrape the wall bolts.



Step 6

:01

Spread out the rest of the sand in low spots and areas where sand is needed, including on the hole dug for placing the pump in.

:11

First use the transfer shovel to transfer the sand to these areas, and next use a push broom, dirt rake, or sand rake to finish the sand neatly.

1:01

The area near the front of the cove, often is low and can contain stones if you are not careful.

1:12

Some areas you may want to tamp after the sand is spread and then continue to layer the sand in the same manner.



Step 7

:01

Tamp all the sand that has been disturbed and the sand foundation that was reapplied. A small plastic roller can be used in place of the hand tamper. Personally, I do not fill up this roller with water, as it is impossible to get it out of the pool before draining it.



Step 8

:01

The Armor Shield Pool Pad and products like it is a wonderful product that protects liners from tears from plants, tree roots, rocks, or animals that burrow under the earth. They increase the life of your liner and some stores have been known to increase the liner warranty terms because of their implementation.

:23

Novices would benefit from using one. It will improve the installation, guard against mistakes, and increase the life of your liner.

Armor Shield Pool Pad (optional)

:53

First, unfold the Armor Shield and spread it around to the edges. Center the pool pad to the best of your ability. And pull out the wrinkles as shown without stepping into the cove.

1:43

If the pool pad lays up the wall after all of this, fold the pool pad underneath itself as shown.



Step 9

:01

Place the liner out of the box, unfolded into the center of the pool. Hand the liner from the top of the deck or from the shoulder of another person or persons outside the pool on the ground that is of a similar elevation to the person on the inside. Handing the liner from a similar elevation decreases the likelihood that the outside helpers fall into the wall.



Step 10

:01

Take off the top rails and place them outside the pool nearby, to reassemble later. Keep the screws and use the right bit. Often the Philips # 3 bit, not the more common #2. Self-tapping screws are a good general substitute for missing or rusted screws later.

1:02

Here I had to a Sawzall to get the screws off. This is necessary, occasionally.



Step 11

:01

If you have the beaded liner than the liner will be pulled out of the coping channel strips. Be careful when you do this because you don't want the coping channel strips to break if you can help it.

:23

When pulling the liner out of the coping, be careful at the transitions from one coping strip to the next. The coping strips are most vulnerable to inadvertent damage caused by pulling the liner through these intervals.

:54

Afterward, check these coping strips to see if any became cracked or broken in the process. If they did then replace them. Other than replacing these strips there is no reason to disassemble the top plates or the stabilizer bars. Leave them attached.



Step 12

:01

Disassemble the top plates from the uprights and stabilizer bars. If the top plate is metal and has one of three screws securing the upright in the back, check to see if you can take off the two side screws and the back screw leave attached. Sometimes you can bend the metal top plate up and have it be functionally the same as removing it. The object is to allow the stabilizer bars to be taken off and on.



Step 13

:01

Take off the stabilizer bars and reattach them to the wall once the old liner remanent is removed. Cut the liner occasionally and dispose of it. Notice how the stabilizer bars are attached. Often, they should be spaced out evenly between two uprights so that the top plates secure two ends of stabilizer bars. This is how, they ought to be reattached once the liner is set properly. Centered in-between uprights that are held straight up by comparison.

:28

This is an example of why it is not wise to take off the stabilizer bars while the liner is spread out. The metal stabilizer bars can fall into the spread-out liner.

:41

This task can be accomplished from the outside of the pool as well.

1:11

If you have an overlap liner, you will find plastic coping. Inspect the coping to make sure it is functional. Pull up the coping carefully, they can be fragile after having been used for a time. However, often the coping is still functional if it does not obviously break.

1:50

Finally, if you have round coping holding the old overlap liner, there is no need to take off the metal stabilizer bars. Just make sure the stabilizer bars are connected properly after you carefully take off the liner and coping. Retape with duct tape the sharp edges of the stabilizer bars because the new liner will sit directly on it. If the coping does not break you can reuse it. These coping can be spaced out a few inches from each other, so one piece of broken coping should not set you back.

2:33

Here is a shot of the duct tape I am referencing.



Step 14

:01

Unfold the liner. Two people can accomplish this much easier than one. Often, the liners do not unfold easily. Generally, the warmer the temperature the easier this is to do.

:14

Pull the cove seam in the liner to the cove and fold the liner on top of itself as shown in the video. Do not step into the cove. If you get sand on the liner, you have the option of shop vacuuming it out. Again, don't step into the cove.



Section 4 Liner Change

 Step 1

 :01

Attach the top plates, once the stabilizer bars are in place properly. Make sure the uprights are vertically straight as you go.

:42

Bend back the metal tabs of metal top plates as shown here, so you can attach them easily.

:52

Some plates have other tabs that can be broken to make the process easier, however, if the stabilizer bars do not attach together in some fashion remember this, that the top plates, should secure two stabilizer bar ends.

1:52

Some resin top plates need to attach in this manner... with a rubber mallet.

2:02

Here am I straightening an upright before the screws are attached to the top plates. This will help ensure the top rails fit properly with no further adjustment needed.

 Step 2

 :01

Attach the top rails. First make sure the uprights are vertically straight as you go and apply all top rail screws loose. Adjusting the top rails can be tricky and need various types of adjustment to make them all attach. I will address some of the tricks.

1:24

Sometimes at the end you cannot attach the top rails to each upright while the upright is straight. Go back and see where you can take slack and attempt to bring slack over to the areas in need... often there are different screw holes you can utilize, and it may just be a matter of changing some screw hole placement. Self-taping screws come in handy occasionally.

1:53

If it still doesn't work out, as a last resort you can pull the top rails while the screws are still loose and force it to fit, however, make sure that the top caps not yet placed fit properly over the screw holes.

2:43

At the end, before there is 8 inches of water in the pool you can kick the bottom of the uprights to straighten them out if they were set crooked in order to get the top rails to attach securely.



Step 3

:01

Position the liner by jumping back towards the cove with your feet to adjust it so it looks equal. Stay on the balls your feet as you do this. Do not step into the soft cove.

:17

If the liner was hung tight at one part, "pull" the liner as close as you can to the wall in that area to compensate for this, remembering not to step into the cove. The idea here, is to generally position the liner, before the vacuum is turned on, so you do not have to move the liner around much once the vacuum is on, just get the wrinkles out at that point.



Step 4

:01

Once you have adjusted the liner where it is evenly placed place the shop vacuum hose into the return hole. Put the hose 6-10 inches above the top of the cove and use cardboard or duct tape to close the gaps from the skimmer opening and turn on the vacuum.

:19

While the vacuum begins running adjust the liner in a similar manner as you did before... jumping back on the balls of your feet and not stepping into the cove. Continue doing this until most of the wrinkles on the bottom are pulled out.

:50

Sometimes, you can start this process all over and make better progress on this task... just turn off the vacuum and go back to the former step and begin again.

1:44

In any case, the liner manufacturer does not guarantee a wrinkle free liner for professionals and novices alike, and once there is less than an inch of water covering the bottom, you can make further progress by turning off the vacuum and manually moving the wrinkles to the cove, later discussed.

3:08

This is one way to get out of the pool once the liner is “set”.



Step 5

:01

Begin filling up the pool with water. As you are doing this walk around the pool barefoot and try to feel for stones particularly near the base of the sand cove. Do not step into the cove.

:14

If you feel one you can bring it into the cove and push it into the cove sand safely without having to disassemble the pool... If you find or make a hole in the liner that is another story at this point. I have a video on that as well that you are welcome to see. Another option for a rock, is to move the rock so that it faces a flat part and hit it with a rubber mallet, so it sinks into the sand.

:39

You may have to turn off the vacuum to move the stone into the sand cove at this point, however.

1:02

Leave the vacuum on until water is covering the entirety of the pool, up to the cove.



Step 6

:01

To get imperfections out of the sand, like footprints you can fill a small plastic roller 2/3 of the way and roll the liner until you are satisfied. Do not roll over any screws and clean the roller before bringing it into the pool... the greater degree of imperfections the greater the results. I generally do this only when the ground is very soft.



Step 7

:01

Once the water is barely covering the bottom you can work out the remaining wrinkles. If there is more than two inches of water the weight of the water makes it difficult to do this. Certain types of shoes work well to move the liner wrinkles on the bottom. Be aware the wrinkles on the side of the pool, generally work themselves out as the water fills up and pushes the liner to the side. Do not step into the cove.

:27

If you are filling up your pool with a water truck then once there is water covering the bottom, stop the water from coming in. Then work the wrinkles out to the sides of the pool as shown, before continuing filling up the pool.



Step 8

:01

Attach the top caps.

Attach Skimmer to liner



Step 9

:01

Have a minimum of 8 inches of water in the pool before attaching the skimmer. The first step is to find the upper corner screw holes and

predrill the holes so they can be found easily. I recommend doing this from the inside of the pool with another helping on the outside.

:18

This first example is a skimmer with a butterfly gasket, so there is not a flat gasket to be positioned between the faceplate and the skimmer.

:27

In this example we did not attach the skimmer to the wall first, that is an option, howbeit not one I recommend for novices.

:36

Once the faceplate is attached with the top two corner screws the rest will line up perfectly.

:48

This is the example of a skimmer that uses two flat gaskets in place of the butterfly gasket.

:58

Please note the faceplate screw heads are flat, never rounded.

 **Step 10**

:01

If your skimmer has a butterfly gasket than the only thing left to attach is the faceplate to the skimmer. Attach the skimmer faceplate right side up with two screws in the predrilled holes you have made. Do not over tighten.

1:01

If you have one flat gasket to attach, then there is one already in position ducted taped. Attach the two screws through the faceplate and gasket into the predrilled holes as shown.

1:14

Once the top two screws in the faceplate are secured lightly not tightly, attach the bottom two screws in the faceplate in the same manner.

1:56

Continue attaching the screws lightly until they are all in position. If you have a butterfly gasket there is a chance that the gasket has got pinched in the process, so before you hand tighten the screws tighter, check to see if this is the case. You should be able to see visually the gasket all around the skimmer on the outside of the pool. If you see that it has gotten pinched, loosen the screws in the faceplate and manually adjust the butterfly gasket from outside the pool. A flathead screwdriver often works.

3:54

Finish tightening the screws with a screwdriver once you have insured the butterfly gasket is in place properly.

4:03

How tight you should attach the faceplate screws depend on the skimmer model. Hayward skimmer screws or ones with a butterfly gasket should be made tight by hand. Rapid flow skimmer systems or ones with two flat gaskets should be attached very lightly, the plastic will crack otherwise. There is a wide range of variation of how tight these screws should be attached. If you are unsure consult the manual or your salesperson.



Step 11

:01

Cut out the skimmer opening with a box cutter as shown.

For skimmers with two flat gaskets sometimes the flat gasket that was duct taped to the skimmer “slips” down and is not flush with the top of the skimmer.

:42

If this happens the skimmer may leak if the gasket is not repositioned. If this occurs first loosen the screws around the “slipped” gasket and pull the duct tape pieces up to bring the gasket flush with the top of the skimmer. If that does not work, then a pair of tweezers may work.

2:17

Once the gasket is flush, retighten the skimmer screws. Finally, if there is tape left on the skimmer tear it off once the gasket is in position and the skimmer screws are in place properly.

Hold onto the liner piece that was cut out. It can be used as a good liner patch years down the road.



Step 12

:01

Attach the return once there is a minimum of 8 inches of water in the pool. This is to stretch the liner down the wall and prevents wrinkles from developing near the return opening. Follow the directions.

1:06

The return should come with 2 or 3 gaskets. One gasket is positioned in between the wall and the big return nut on the outside of the pool, and one in between the return and liner on the inside of the pool. If there is a 3rd gasket it should go in between the wall the liner. That gasket can be positioned from the outside of the pool.

1:29

First cut an X in the return hole and push the return through as shown with the corresponding gasket attached to the return. Then cut all the excess liner off the return. If you leave some excess liner on the return the big nut that is applied on the outside of the pool may not be able to be tightened fully and a leak may appear consequently, so cut all the excess liner off all the threads for the big nut.