



clear. water. responsibly.

Owner's Manual and Instructions

Version0310



ProSkim® owner's manual and instructions



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Ownership Record and Notes

ProSkim® owner's manual and instructions

Date Purchased: _____

Serial Number: _____

NOTE: Serial number can be found at the top rear of the filtration unit when the cover is removed.

Notes:



Thank You and Congratulations

By purchasing a ProSkimmer® System, you have taken the first step in a new direction towards improving the health of your pond. Your ProSkimmer System is designed to remove floating weeds and debris from the surface of your pond without the use of chemical herbicides. It is capable of extracting 30 to 40 cubic feet of floating weeds and leaves per day while also providing the benefits of aeration and circulation to your pond water. It has been our experience that ponds using the ProSkimmer System for more than one season have substantially less weed growth in succeeding seasons.


Why is this? Chemical herbicides kill weeds. Those dead weeds remain in the water, settle, decay and accumulate on the bottom to become additional nutrients that nourish the next generation of weed growth. The ProSkimmer System physically removes floating weeds and leaves from the water, reducing the accumulation of settled vegetation and additional nutrient load to your pond. Since the System only removes floating weeds and leaves from the surface of the water, it is safe for the natural residents that swim in your pond.


This Manual will provide you with important safety and operating guidelines to help you achieve the most efficient use of your new ProSkimmer System. For additional information, please also review the photographs and videos on our website to see the System operating in different environments.





Important Safety Considerations


Please read and follow these extremely important safety and operating guidelines for your ProSkimmer System. Following these instructions will help ensure your safety and provide the most efficient use of your new System.


-  Do not reach into the in-water collection unit while it is operating for any reason. **WARNING** – the in-water collection unit uses sharpened blades spinning at a high RPM rate to chop incoming debris.


-  The System is shipped with a 115 volt Ground Fault Circuit Interrupt (“GFCI”) plug attachment. **ALWAYS** test the GFCI before using the System. **NEVER** remove the GFCI plug and power on the System without the GFCI installed, tested, and operating.


-  Only plug the System into an outlet with a GFCI and an in-use cover installed by a licensed electrician in conformance with the National Electric Code.


-  Do not use extension cords to power the System.


-  Do not use the connected electric cord or a connected hose to move the in-water collection unit. Serious damage may be caused to the in-water collection unit.


-  Only enter the water while the System is operating to adjust the skimming depth.


-  Do not operate the System if anyone is in the water or if the body of water is used for swimming or bathing activities.

-  Always use extreme caution when operating any electrical equipment with moving parts.

-  Do not run the System out of the water.


-  Do not run the System in less than 18 inches of water or allow it to rest on the bottom of the body of water.


-  Extreme caution should be exercised around water, and especially cold water during any time of the year.

-  Use of a boat to position the in-water collection unit is not necessary or recommended. If you do use a boat, use a stable boat, not a boat prone to tipping, such as a canoe. If you do use a boat, exercise extreme caution in connecting the 2 inch hose to the in-water collection unit.

Important Safety Considerations (continued)



 Do not move or drag the in-water collection unit by pulling on the electrical cord or a hose you have already attached.

 When entering the water wearing waders, use extreme caution. Always use a wading stick to provide balance and to probe the bottom ahead and around you for soft spots, drop offs and other hazards. Always use the “buddy” system, and have someone with you to help in case of emergency.



Read This First

What You Need to Know

The ProSkimmer® System is designed to be easy to use. But it is also a “new” technology that you have probably never used before. By always keeping in mind these guidelines, you will quickly have the System running at peak efficiency. All of the later sections of this manual will help you set up the System quickly, but it is important to understand why this manual directs you to take certain steps so that you can quickly understand this new technology.

While the System looks simple, the physics of fluid dynamics that the System uses are complex. Our design has made the physics easy to use, but we have found that it is helpful for new users to understand a bit about terminology and the physics of how the System works to get the most from it. Similar to how a basic understanding of relevant physics helps one to learn to ride a bicycle or drive a car, understanding the nature of how the System works will help you use it best. We urge you to read this entire section thoroughly before using the System.

Below we cover some basic terminology and the two basic elements of the ProSkimmer System and what you need to know about them – skimming and filtration.

Terminology

Throughout this manual, we will use nautical terminology to describe the orientation of the System. That is, the System has a bow and stern end and a port and starboard side, just like a boat. The bow and stern are arranged along the long axis of the System. Think of the System as an “electric boat”. If the System is installed in water but without a hose attached, the pump will expel water from the “stern” of the System (where the connection pipe and electrical cord exit the System body) and propel it forward “bow” first. (DO NOT attempt this.) Knowing that, the port side is to the left, and the starboard side is to the right, when viewing the System from the stern towards the bow, just as on a boat.

To adjust the System, we suggest the analogy of tightening or loosening a screw. The two large adjustment knobs on the top of the System control the depth of skimming, and function just like a screw you might put into your wall to hold a picture frame. The more you “tighten” the screw by turning clockwise, the narrower the gap between the screw head and your wall. On the System, the more you “tighten” the adjustment knobs by turning them clockwise, the “narrower” or shallower the skimming depth. Hence, to decrease the skimming depth, tighten the adjustment knobs to “narrow” (i.e., make shallower) the skimmed water depth by turning them clockwise. To increase the skimming depth, turn the adjustment knobs counter-clockwise to “widen” or deepen the skimming depth. And just like hanging a picture, you don’t want to over tighten or under tighten the screw, or the skimming adjustment. You will find the System runs best when the skimming depth is set to



about 1 inch while operating, although it will be a little deeper when it is not operating. You will need to find the right depth for your pond with some experimentation.

The rate of flow of the System is dependent upon a concept called “head”. All pumps are rated at a certain “head” which is expressed in flow rate per minute at a certain height. For example, the ProSkimmer System is rated 80 gallons per minute at 10 feet of head. In practice, few pumps achieve their rated head. Head represents the amount of water a pump can move against a number of forces, including gravity (moving the water up to a height of 10 feet) as well as friction (from hoses, connections, and especially from hose kinks). You will want to maximize the head the System achieves by using hose lengths as short as possible and by eliminating twists, turns or kinks in the hose to achieve the best efficiency. Additional terminology is defined in this manual under Components of the System.

Basics of Skimming

The System is designed to remove the top, surface level of water that supports the floating weeds you wish to remove. For efficiency and balance, it draws weeds and water in from both sides at the surface. Therefore it is important that the System floats on a level basis. Things that can affect this include installation in too shallow water that doesn't allow the System to float freely; too long a length of hose running to shore from the System through open water which can drag the stern down; and air pockets trapped within the System's body that cause it to tilt inappropriately. Remember these points when you are setting up the System for the first time.

The System's skimming depth is adjustable using the two large top-mounted knobs as was discussed above. When you first install the System, you will probably want to loosen the adjustment knobs so that the two sections of the System “bounce” on the springs of the suspension System. The suspension System exists to cushion the flow of water upon startup, as well as to allow the System to continue to run if a bird lands on it. This allows you to set up the System once and not have to reenter the water again. During setup, you will find an optimal setting for the knobs for your application.

The System uses a vortex to entrain floating weeds and debris and suck them into the pump. This vortex looks like a miniature tornado, and you can see examples on our website, both photographs and videos. For the System to work properly, you want strong vortex formation. The System is designed to direct water entering it into a circular, vortex flow. This will take floating weeds and objects and pull them directly into the pump. Since the pump operates at a relatively constant speed (which is dependent upon the “head” of your installation as determined by your hose length and configuration) the amount of water entering the System will be constant. Therefore you need to create a strong vortex by adjusting the skimming depth.



Read This First

If you set too shallow of a skimming depth (by over tightening the adjustment knobs) you may have difficulties keeping water entering the System. In this case, the System will “bob” out of the water, and you will need to re-enter the water to re-start it (after adjusting the skimming depth deeper). If you set too deep of a depth, water will flow under the weeds and not form a vortex. In this case, water will flow through the System but no weeds will be collected.

One frequently asked question about skimming is: How often do I have to move the System? The answer is you shouldn't have to, if you pick a spot where weeds accumulate early in the season from natural wind or current drift. The reason is that the System relies upon natural solar convection to draw weeds to it. Our research has found that ponds which have a covering of weeds experience what we call a “micro thermocline” of very warm water on the surface of the pond from solar absorption. While clear water would reflect a great deal of the solar energy and transmit the remainder to the bottom of the pond, a pond covered in weeds absorbs this energy at the surface in the form of heat. The System removes this inch-deep layer of heated water, and by doing so causes the topmost layer of the pond to move toward the System. This effect carries the weeds to the System, so moving it is not necessary. But this doesn't mean you should install the System in the center of your pond – that is not necessary either, as the System will draw the weeds to itself.

One important tip: It is best to set up the in-water unit first, connected to the filtration unit, but without the filters installed. This is because if you are in the water adjusting the skimming depth, you will stir up bottom sediments. These sediments are very fine and will quickly clog the filters. If at all possible, get the in-water unit set up, then install the filters the next day and begin skimming after these sediments have had time to re-settle to the bottom. Any time you enter the water to adjust the skimming depth, you may need to clean sediments from the filters for most efficient operation.

Basics of Filtration

The on-shore filtration unit is designed to continuously filter the skimmed water, separating the weeds from the water while simultaneously aerating the water. This aerated water is then returned to your pond. The System uses two modes: Maintenance Mode for collection of small amount of weeds (up to three cubic feet) in an easy to handle and empty container, and Continuous Mode for removal of large amount of weeds.

Just as with the in-water collection unit, you will want to set the filtration unit up for maximum throughput. This is easy to do using the four adjustable legs on the filtration unit and the included push pins, which offer independent height adjustment of all four legs. These legs are adjustable in ½ inch units. The filtration unit is shipped with all four legs at the same height, so that the filtration unit is level upon delivery.



For the most efficient use of the filters in the System, start with the filtration unit as close to level as possible. Do this by leveling the body of the filtration unit so that the outside rails are level. However, note that the primary filter (the small filter in the top of the filtration unit where the water first enters the unit) is designed to have a natural downwards sloping angle.

For Maintenance Mode, remember to keep the filtration unit level. If it is tilted, weeds may overflow the collection box and will then return to your pond, wasting the effort. Remember to check the collection box frequently at first, until you can gauge how quickly weeds are being collected, so that the box does not overflow.

For Continuous Mode, you will want to angle the filtration unit downward slightly. This can be done by raising the rear legs, or lowering the front legs, or a combination of both. This allows the weeds to slide off the collection chute at a slight angle. You will need to experiment at first to find the right angle for your installation. In our experience, duckweed requires a steeper angle, while watermeal need only a level or very shallow angle of incline.

To improve the health of your pond, consider adding long lengths of inexpensive plastic pipe to the water returns of the filtration unit, which will extend the returned water deeper into your pond. By returning the warm aerated water from the filtration unit to a deeper, colder, less oxygenated area, you will make a significant contribution to your pond's health for a very modest additional cost. See the Recommended Hoses section in this Manual and on our website for more details.

Summary

To achieve efficient results, you need to consider the skimming depth of the collection unit and the setup angle of the filtration unit. Each installation is different, but once set up for that installation, the System will need little if any adjustment. Each installation will vary depending upon the length of hose used and its orientation (remember to eliminate kinks and sharp bends in the hose) and the type and thickness of the weeds you are removing. Spending a little extra time getting the set up right will save you an enormous amount of time later while the System operates on its own, and you will be able to remove your weeds quickly and efficiently – something you could not do until this time.



Figure 1 Components of the System

Your ProSkimmer System includes:

- 1 In water collection unit, with
- 2 Depth adjustment knobs
- 3 Carrying handles
- 4 Water outlet for 2 inch hose connection
- 5 Power cord
- 6 The on-shore filtration unit includes:
 - 7 3 inch clear water outlets
 - 8 4 Adjustable legs with pushpins
 - 9 Collection chute



- 10 Collection box
- 11 Extension frame (assembled) including:
 - 11A Two H-shaped extension legs; and
 - 11B Two crossmembers and pushpins
- 12 Two 3 inch quick connect discharge hoses (attach to 7 above)
- 13 2 inch quick connect inlet hose

Not shown: Primary filter inside filtration unit.

You will need to supply:

- 2-inch hose in a length appropriate for your installation or intended use
- 3-inch hose or piping and appropriate fittings for returning water to your pond
- GFCI electrical outlet

All connections for the ProSkimmer System are standard plumbing connections available from hardware stores and plumbing supply houses. This allows flexibility and multiple, low-cost options for quick connections that work best for your situation.

To find suppliers of standard hoses appropriate for the System see our list of recommended hose suppliers on page 38 of this Manual or at our website under "Recommended Hoses". Custom hoses are also available from ProSkim in any length and in several colors.

Setting up the System

Unpacking

The System arrives on a standard pallet. Remove all items from the pallet. To prepare for installation of the System, remove and unwrap all components, including components found inside the on-shore filtration unit. Check the parts unpacked against the included shipping list to verify you have received all required parts.



Setting up the System

Carefully roll the in-water collection unit on its side and remove the cardboard shipping pump support from inside the unit by reaching through the large round vent holes in the in-water collection unit bottom. Lay out all components to begin installation.

Placement of the in-water collection unit

We recommend that you wear waders when you enter the water and position the unit.

Position the in-water collection unit in the water relatively close to shore. Be sure that the unit floats freely and take into consideration any potential fluctuations in the depth of your pond. The in-water collection unit should be near the shore to minimize the length of hose required to connect the in-water collection unit to the on-shore filtration unit.

The in-water collection unit requires a depth of only 2 feet of water to operate efficiently. If the unit “bottoms out” or “runs aground”, skimming action will be reduced or completely interrupted.

Since the in-water collection unit will be tethered to shore by both the electrical cable and the hose, it is generally not necessary to anchor the unit, unless strong winds or currents are encountered. If you need to anchor the unit, use one or more stakes placed into the pond bottom – for example, one or two stakes on either side of the unit, or against the side of the unit to offset wind or current drift. If you use stakes to anchor the unit, be sure that the stakes do not block or obstruct the water inlets. Also, be sure the unit remains free floating, and can move up or down with the pond level.

To collect the maximum volume of weeds, position the in-water collection unit away from areas containing large floating rooted plants, such as water lilies, or above-water plants such as cattails. Also, consider the prevailing wind direction and any currents created by streams flowing into your pond. It is generally easier to determine System placement early in the season before weed growth is severe, by noting where the early growth of weeds tends to accumulate.

The ProSkimmer System will create its own water flow on your pond, depending on where you place the water return and the length of hose that you choose. For proper operation and greatest efficiency, it is important that the hose connected to the in-water collection unit not have any kinks or slack in it and that it runs to shore smoothly.

Placing the in-water collection unit further from shore or in deep water may upset the equilibrium of the unit due to the added weight of the hose.



Lay out the System components

Position the in-water collection unit near a GFCI electrical outlet.

Unroll your 2-inch hose to the desired location of the filtration unit. Make sure that the hose runs as straight as possible from the in-water collection unit to the on-shore filtration unit, without kinks or twists. Tip: running the hose roughly parallel to the shore line help produce a straight connection and avoids kinks which can be created when the hose exits the water. Avoid running the hose over sharp walls or rocks, or any abrupt rise next to the pond to avoid kinks and potential damage to the hose.

Position the 2-inch cam-lock inlet hoses, the three-inch cam-lock outlet hoses and your three-inch outlet pipes or hoses around the on-shore filtration unit.

Determine the Mode of operation

The ProSkimmer System can be operated in either Maintenance Mode or Continuous Mode. Use Maintenance Mode for small concentrations of weeds and when it is not necessary to operate the System for extended periods of time.

When in Maintenance Mode, weeds accumulate in the internal collection box that is found inside the on-shore filtration unit. The collection box can be emptied as needed.

Maintenance Mode is best for early season weeds and removing small weed growths as the season progresses. Use continuous mode for heavy weed growth when the volume of weeds collected by the System will be greater than what the internal collection box can hold.

When in Continuous Mode, the internal collection box is removed from the on-shore filtration unit and replaced with the collection chute.

Using the extension leg kit, the on-shore filtration unit can be elevated. This allows you to position a wheelbarrow or garden cart beneath the collection chute so that weeds fall out of the filtration unit directly into the cart or wheelbarrow, while filtered and aerated pond water is returned to your pond.

Consider where you place the on-shore filtration unit in relation to the in-water collection unit. The 2-inch hose must be long enough to span the distance between both units.

Setting up for Maintenance Mode

Lay the on-shore filtration unit on its side and connect the adjustable legs to the unit as shown (Figure 2). Attach the shorter legs to the front (by the water outlets that use the two 3-inch hoses) and the longer legs to the rear (by the water inlet that uses the 2-inch hose).



Figure 2
Inserting the adjustable legs into the filtration unit.

Lock legs into place with the quick release pushpins as shown (Figure 3).



Figure 3
Locking the adjustable legs with a pushpin.

The adjustable legs can be adjusted in one-half inch increments. Use either the top or bottom hole on the filtration unit frame, allowing for adjustment of the unit on unlevelled ground. You can estimate if the legs are correctly set for flat ground by counting the number of holes exposed on the adjustable legs and setting each leg accordingly.

Carefully set the on-shore filtration unit upright. At this point you may re-adjust each leg separately to make sure the unit is level. ProSkim recommends that you initially use the on-shore filtration unit on a level plane. In some cases you may wish to incline the unit, especially in Continuous Mode (see page 26).

Connecting the 2-inch cam-lock inlet hose

Once the filtration legs are attached and the unit is level, connect the 2-inch cam-lock inlet hose to the back of the filtration unit. (Figure 4)

Figure 4
Preparing to install the 2 inch quick connect hose to the filtration unit.



The cam-lock connection is made by opening the cam-lock connection levers until they are away from and perpendicular to the hose body.

Lock the 2-inch cam-lock inlet hose in place by pulling the cam-lock levers down 90 degrees so that they are parallel to the hose itself.

Setting up for Maintenance Mode



Figure 5
Locking the 2
inch cam-lock
connector in
place.

Slip the connections together, and then lock in place by retracting the cam-lock levers until they are parallel to the hose (Figure 5).

On the other end of the 2-inch inlet hose, remove the cam-lock quick connect fitting that shipped with your System by pushing the cam-lock handles forward to release (Figure 6).



Figure 6
Removing the
cam-lock quick
connect fitting
that shipped
with your
System.

Setting up for Maintenance Mode

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Once the cam-lock quick connect fitting has been removed from this end of your 2-inch inlet hose, screw this connector onto your 2-inch hose of choice, as shown (Figure 7).

Figure 7
Screw the quick connect fitting on to your 2-inch hose.



NOTE: If you wish to use other hose, or additional hose, you must remove the cam-lock component that shipped with your System and place it onto the hose of your choice.

The completed 2-inch connection to your hose will look like this (Figure 8):

Figure 8
Quick connect fitting secured to your 2 inch hose.



Setting up for Maintenance Mode

Connect your 2-inch hose connection to the 2-inch quick connect connector already installed on the on-shore filtration unit.

Install the primary filter

The primary filter will slide into the filter housing through the two grooves in the lower part of the housing and will drop into place (Figure 9). The filter may be inserted in either direction, but make sure that the fine mesh filtration medium is facing up, with the underlying stainless support grid facing down underneath.



Figure 9
Inserting the primary filter.

The correctly inserted primary filter will look like this (Figure 10):



Figure 10
The correctly inserted
primary filter.

IMPORTANT: Follow the reverse procedure to remove the primary filter for cleaning later.

Insert the collection box

The collection box will simply pop down into place.

Be sure to insert the collection box into the unit with the vertical filtration screen in the rear of the unit (intake end) as shown (Figure 11). The solid side of the box will be in the front.

Figure 11
Inserting the collection box.



The correctly inserted collection box will look like this (Figure 12):

Figure 12
The collection box correctly inserted.



Setting up for Maintenance Mode

Connecting the outlet hoses to the outlets

Connect the 3-inch cam-lock outlet hoses to the outlets of the on-shore filtration unit (Figure 13) as you had when you attached the 2-inch cam-lock input hose (as described on pages 17 and 18).



Figure 13
Connecting the 3 inch
outlet hose.

Using standard plumbing fittings that you supply (appropriate for your application), connect your 3-inch return hoses or pipes of choice to the end of the 3-inch cam-lock hoses. Figures 14 and 15 show the completed 2 inch and 3 inch quick connect hoses properly connected.



Figure 14
3 inch quick connect
hoses properly con-
nected.

Figure 15
2 inch quick connect
hose properly con-
nected.



If you wish, place the cover over the on-shore filtration unit.

Attaching your 2-inch hose to the in-water collection unit

It is easiest to connect the 2-inch hose to the in-water unit if you purchase a hose with a “fire hose” rotating connection on one end as we recommend. See our list of Recommended Hoses.

NOTE: IT IS STRONGLY RECOMMENDED THAT YOU ATTACH THE HOSE TO THE INWATER COLLECTION UNIT AFTER YOU HAVE POSITIONED THE UNIT IN THE WATER.

Important: if you connect your 2-inch hose to the in-water collection unit while the unit is out of the water, move the unit into the water very carefully to avoid damaging the internal connections within the unit. Have one person carry the unit while another carries the hose and cord. Moving the in-water collection unit on land with a hose attached can damage the unit and may void your warranty.

Once the in-water unit is in the water and in your desired location, attach the 2-inch fire hose connection by holding the hose steady in one hand while screwing the connection to the in-water collection unit with the other.

For proper operation, it is important that you do not leave any slack in the hose between the in-water unit and the shore. Slack in this connection will allow the in-water unit to move excessively on start-up (or in response to winds or currents) or kinking of the 2-inch hose. This will result in substantial loss of skimming efficiency and may result in the unit “popping” out of the water because it will not draw any water through the inlets.

Important: Once the 2-inch hose is connected, push the in-water unit under water and allow it to settle so that the vortex chamber is completely filled with water. The in-water unit has air venting holes which allow this air to exit. Be sure to hold the System underwater and rock it slowly back and forth several times along both axis (bow-to-stern and port-to-starboard) to be sure no excess air bubbles are within the body of the in-water collection unit.

Setting up for Continuous Mode

Use continuous mode when weed growth is heavy on your pond. It is recommended that the extension frame be used when in continuous mode, as the System is capable of disgorging a large volume of weeds in a short time period.

First, remove the primary filter, the collection box and the hoses.

CAUTION: To avoid any damage, remove the 2-inch and 3-inch quick-connect hoses. Lay the filtration unit on its side and remove the adjustable legs from the filtration unit frame and set them aside.

CAUTION: Be careful not to press the hollow portions of the extension legs or the frame of the filtration unit into the soil – this may result in clogging of the hollow pieces, and will make adjustment or leveling of the filtration unit very difficult. If this does occur, remove the dirt or clog using a long, slender rod, or flush the hollow connections with a garden hose to remove the blockage.

For ease in assembly and later disassembly, it is recommended that you apply a lubricant (such as



Figure 16
Inserting the extension legs into the body of the filtration unit.

Setting up for Continuous Mode



WD-40 or graphite powder) to the ends of the extension frame before attaching the frame to the filtration unit.

Attach the extension frame legs by connecting the two side frame components (shaped like elongated and uneven "H"s) as shown in (Figure 16). Insert the taller extension frame leg into the rear (water inlet) end, and the shorter leg into the forward (water outlet) end. Lock the extension legs into the filter frame using the supplied quick release pushpins as shown below (Figure 17A and 17B).

Figure 17A
Locking the extension legs into the body of the filtration unit with pushpins.



Figure 17B
Locking the extension legs into the body of the filtration unit with pushpins.



Setting up for Continuous Mode

The adjustable legs may be attached to the extension frame legs and locked in place with the supplied quick release pushpins. Carefully set the filtration unit upright, and attach the horizontal stabilizing cross members. The cross member pieces will slip over the horizontal of the "H" of the side frame components at either end of the horizontal of the "H".

Align the holes of the cross member pieces with the holes in the side frame components and lock in place with the supplied quick release pushpins.



Figure 18
Attaching the extension leg cross members and securing with pushpins.

Re-attach the 2-inch and 3-inch quick-release hoses and insert the primary filter. If you haven't already, remove the collection box from the unit.



Figure 19
Extension leg assembly completed and ready for installation of the collection chute.

Setting up for Continuous Mode



Slide the collection chute into the filtration unit so that the filter mesh medium of the collection chute lays over the filtration unit. The chute protrudes beyond the filtration unit. Secure the collection chute in place by pushing it underneath the primary filter and back, then lift the chute and slide it forward until it locks in place. The completed assembly for Continuous Mode (Figures 20 and 21):

Figure 20
Collection chute installed for Continuous Mode. Note that the filtration unit frame is level with the ground, and the collection chute slopes slightly downward. This is a good starting point. You may wish to alter the slope of the unit with the adjustable legs.



When using Continuous Mode, you may wish to have a large cart or wheelbarrow positioned under the end of the collection chute to collect the large volume of weeds that may accumulate in a short time. Do not allow large volumes of weeds to accumulate near the shoreline, as a heavy rain could possibly wash them back into your pond.

Figure 21
Running in Continuous Mode without extension legs. Note that the quick connect hose allows a smooth connection without kinking, and the user provided (blue) 2 inch hose is laid out straight without kinking.



Starting and operating the System

Once the System is completely connected by hoses and situated as you desire, simply plug the power cord from the in-water collection unit into your GFI protected electrical outlet.

Check that all hose connections are locked and not leaking.

Check and adjust the skimming depth, if required. As the in-water collection unit operates, it will develop a powerful vortex which draws in weeds that are floating on your pond, as shown (Figure 22 and Figure 23).



Figure 22
Proper vortex
formation with
correct skim-
ming depth.



Figure 23
Optimal skim-
ming depth.
Note the water
level entering
the inlets. This
level will be
different (usually
higher) when
the System is
not running.

Skimming depth

Your System's performance will be dependent on skimming depth, which is adjustable using the rotating knobs located on each end of the in-water unit.

A deeper skimming depth is generally less efficient, but will provide quieter operation. To deepen the skimming depth, turn the adjustment knobs counter-clockwise (or "loosen").

A shallower skimming depth will be more efficient, but you may occasionally hear the in-water unit "gulp" down some air. If this occasional noise is unacceptable for your application, simply deepen the skimming depth by turning the adjustment knobs counter-clockwise, as shown (Figure 24).

If the in-water collection unit is not forming a vortex, then "tighten" or make shallower the skimming by rotating the adjustment knobs clockwise.

Figure 24
Adjusting the
skimming depth
adjustment
knobs.



To maintain a level skimming platform, it is best to adjust the skimming depth turning both knobs to the same degree or number of turns.

If you are forced to install the System with a long length of hose running from the System but not touching the bottom of the pond, you may need to tighten down the adjustment knob on the stern end of the System.

Starting and operating the System

CAUTION: Suspending more than 3 feet of hose from the unit before the hose touches bottom or shore is not recommended, and will cause the unit to become unbalanced. If you can not avoid a long length of suspended hose, use some form of float (for example, duck decoys or sealed empty soda bottles) to suspend the hose every several feet to avoid upsetting the flotation of the System.



Once adjusted, it is

Figure 25

Too long a length of unsupported hose will reduce skimming efficiency.

rarely necessary to re-adjust the skimming depth, unless you move the System to a different pond which may have different requirements or problems.

To shut down the System, simply unplug the power cord.

In Maintenance Mode, be sure to empty the collection box as needed. It is not necessary (but may be desirable) to shut down the System during this step.

In Continuous Mode, be sure to monitor the amount of weeds that have collected in your cart or wheelbarrow and empty as necessary. Again, it is not necessary (but may be desirable) to shut down the System during this step.

You may wish to experiment with different skimming depths for the System by using adjustment knobs located on the in-water unit. For effective adjustment, the skimmer must be running.

If you make adjustments of more than two complete revolutions of the knob, make sure to press down on the in-water collection unit once or twice, "bouncing" it in the water, to ensure that the suspension is operating freely.

Starting and operating the System



Remember: Adjust the knobs so that the in-water unit is pulling water evenly from both sides and a vortex forms in the vortex chamber, which entrains weeds and debris to the grinding pump.

Ideally, the skimmer should be pulling in the surface water of the pond only, at approximately 1 inch depth over the skimmer inlets. Less water depth will cause the skimmer to suck air (making gurgling sounds) and greater depth may not permit vortex formation, so only water underneath the surface is drawn in, and no surface materials are entrained.

Once the skimming depth is set for your application, you should not have to reset it. Also, effectively adjusting the skimming depth will cause the machine to start without any attention in the future – if skimming depth is too shallow, you may need to re-enter the water to stabilize the unit because it is not drawing enough water to maintain dynamic stability upon startup.

Please note that the Proskimmer System features a patented suspension System, which provides for easy consistent startup without entering the water (after initial setup). Once properly set up, upon startup you may notice that the System seems to “bob” several times as the System equilibrates. This is normal. In the event a bird lands on the System, the System is designed to continue operation without interruption after a similar short equilibration.



Cleaning of Filters

Because the ProSkimmer System uses an extremely fine filter to capture watermeal (even in its juvenile state) and other small weeds, the filters in the System must be cleaned regularly. It is most important to clean the primary filter inside the filtration unit, but the filters in the internal collection box and the collection chute should also be cleaned regularly. In normal operation, the primary filter should pass at least 80% of the water coming in to the filtration unit. If the primary filter is not cleaned regularly, it is possible that water flow through the primary filter will be impeded, resulting in overflowing of the internal collection box or sluicing of weeds off the collection chute by excessive water flow off the primary filter. If these conditions occur, promptly clean all the filters in use. Depending upon conditions in your pond and the types of weeds harvested by the System, it may be necessary to clean the filters (especially the primary filter) every 24 hours. In addition, if you stir up pond sediments when installing the in-water collection unit, the filter may require additional cleaning in the first 24 hours of operation, until these sediments have resettled. The filters are designed to be easily removable from the filtration unit and easily transportable. **CAUTION:** The filters are constructed from high grade stainless steel fabric and supported by stainless steel wire mesh, but may be damaged by excessive scrubbing. To clean the filters, use a standard garden hose at standard water pressure. Spray the filters thoroughly across the entire filter area, from both sides of the filter. **DO NOT USE A PRESSURE WASHER OR OTHER HIGH PRESSURE WATER STREAM ON THE FILTERS. DAMAGE TO THE FILTERS FROM IMPROPER CLEANING OR HANDLING IS SPECIFICALLY EXCLUDED FROM YOUR WARRANTY.** When removing and transporting the filters for cleaning, be especially careful to protect the filters from being punctured. If the filters are especially dirty, spray them with a solution of 50% bleach and 50% water (or a commercial bleach-based cleaner, such as Tilex), then scrub them lightly with a bristle brush and rinse before reinstalling them. Repeat as necessary.

Removal of the Primary Filter for Cleaning

The primary filter is easily removable from the filtration unit. Open the filtration unit and push the front of the primary filter up from its bracket and slide it out. Once the filter is cleaned, slide it back in through the slots on the bottom of the primary filter housing until it reaches the back of the housing, and drop it into place on the primary filter housing, where it should rest flush with the housing.



Backflow Cleaning of the Unit

Once a day, the System should be cleaned using the back-flow method, especially if being operated in Continuous Mode. This method allows the System to disgorge any material that may potentially cause a clog in the System. To do this, simply shut the System down and wait until all water runs back through the System and out through the in-water unit (approximately 1 minute per 25 feet of 2 inch hose installed). When water ceases to bubble up from the vortex chamber of the in-water collection unit the backflow is complete. Then turn the System on again. Repeat the process once or twice more as necessary.



Troubleshooting

In operation, the in-water collection unit should be straight and level and drawing water equally from both water inlets. But some conditions may occur where the System draws water unevenly, has a variable flow rate, does not appear to be holding a vortex, or “pops” out of the water, such that the System does not draw any water through the water inlets. It is also possible that weeds may “sluice” off the collection chute, adding excessive water to the collected weeds on shore. If these problems occur, please refer to the troubleshooting suggestions below:

Water Flow and Depth Problems

The System must be free floating. If the System runs aground, it will not function properly. Consider any potential water level variation in your pond. If necessary, anchor the unit by holding it in place with one or more poles secured in the bottom of your pond. Be sure that no slack in the hose exists from the in-water unit to shore.

Vortex Formation

At times vortex formation in the System may be interrupted. This is generally because the pump in the System is macerating a large piece of debris. Once the debris has been digested and passed by the pump, the vortex should reform. During this time the unit may have variations in water flow rates, and corresponding changes in buoyancy, making the System appear to move up and down, or side to side in the pond. This is normal, and should have no effect on long-term System operations. If you cannot see a large stick or other obstruction protruding from the System, the System may be digesting a stick or other object. **IMPORTANT:** Do not immediately power off the System and restart it if the System had been operating normally the last time you checked it. Doing so may cause the stuck object to jam the pump. Allow the System to run for another hour or so. If the condition persists, power the System off, and attempt to remove the object inside the bottom of the vortex chamber. Once the object is removed, restart the System.

However, if a large stick or other object becomes lodged in the vortex chamber and does not reach the grinding pump, vortex formation and skimming may be interrupted until the large object is removed. The unit is designed to handle most sticks, leaves, debris, nuts and other natural objects on common ponds, but will not digest sticks or debris that cannot reach the pump. If this occurs, try a backflow cleaning of the unit. If a backflow cleaning does not improve the problem, it may be necessary to stop the machine, enter the water, and remove the obstruction. In extreme cases, you may need to remove the pump from the skimmer and clear the obstruction. Contact ProSkim for details.



Improper Flotation

It is possible under certain circumstances for the in-water unit to “pop” out of the water, such that no water is drawn in. Known causes for this include the in-water System running aground, slack in the hose between the in-water unit and the shore, too-shallow skimming depth and blockage of one or both water inlets. If this occurs, stop the unit by unplugging it from the power. Allow the unit to resettle into the water, similar to a back-flow cleaning, for at least 45 seconds, and then restart the unit. If you experience continuing problems with the unit popping out of the water, it is likely that excessive air pockets exist in the underside of the in-water unit. The in-water unit has numerous air vent holes that should release this air, but which may become clogged in excessively dirty ponds. To release these air pockets, enter the water and hold the in-water unit completely underwater, then rock it back and forth slowly several times, both bow-to-stern and port-to-starboard, to allow air to escape from the air vent holes. In extreme cases, it may be necessary to clean the air vent holes, or completely invert the in-water unit while it is held underwater to clear excessive air. If this is the case, be sure to clean the air vent holes before reinstalling the unit.

Filter Problems

If weeds “sluice” off the collection chute (that is, if an excessive amount of water is running off the collection chute into your weed collection vessel), A) immediately clean the filters. Remember that about 80% of water flow should pass through the primary filter, and the remainder should pass through the filter in the collection box or the collection chute. Very little if any water should run off the end of the collection chute in Continuous Mode operation and no water should accumulate in the internal collection box during Maintenance Mode operation. B) Be sure that the filtration unit is as close to level as possible, so that water flow is spread evenly over the filters and is not excessive on one side or the other. C) Also be sure that the filtration unit is not excessively sloped towards the outlet of the unit. If necessary, reduce the angle of the filtration unit by adjusting the legs. In Continuous Mode, note that the collection chute is designed with high sides to contain a large amount of weeds, and it is not generally necessary for the chute to be angled excessively to allow the weeds to exit the System. Before starting the unit, always be sure that the filters are clean. Once the unit is running in Continuous Mode, large collections of weeds should also help to “dam” water flow in the collection chute. Since every pond is different, experiment with the angle of the filtration unit by adjusting the front or rear legs up and down to find the best angle for your application.



Troubleshooting

Inlet Blockages

Some situations may cause the water inlets of the in-water unit to become clogged or blocked. These may include a large floating stick, large weeds such as lily pads, or dense growths of filamentous algae. If this occurs, try one or more backflow cleanings of the unit. If this does not clear the blockage, it may be necessary to enter the water and physically clear the blockage. Be sure to remove the blockage to shore before restarting the unit so it is not drawn back to the unit.

Clogging of the System.

Occasionally it may be possible for the System to become clogged by large debris. This may occur at the water inlets of the in-water unit, within the vortex chamber of the in-water unit, within the volute of the pump in the in-water unit, or in the 2 inch hosing connecting the in-water unit to the filtration unit. If this occurs, try a backflow cleaning of the unit as described above, and repeat as necessary. If the pump will not restart, you may need to open the skimmer and remove the pump for cleaning. For details and assistance, please call ProSkim for additional information and service.

Transporting and Storing the System Repairs and Service



Transporting the System

One of the advantages of the ProSkimmer® System is that it can be easily moved within the pond, or from one pond to another. To move the System, simply reverse the instructions above on setting up the System, and relocate it as necessary. Before moving the filtration unit, disconnect all hoses and pipes and retract or remove the legs. It is not necessary to completely remove the adjustable legs or the extension legs before moving the unit, but use caution when doing so (especially over rough terrain) to avoid bending the frame or the legs. Move the filtration unit to a new position and re-level the filtration unit. Re-attach hoses and pipes as described above, and restart the unit.

Storing the System

If the System is to be stored for an extended period of time, disassemble the System into the components shown in Figure 1. Be sure to drain all water from the System, including the hoses, and allow the System to dry before storage. It is recommended that you flush the in-water collection unit with compressed air to remove remaining water. Store the System in a dry interior area not subject to freezing. Do not expose to or store the System in freezing conditions, especially if the System has water in it. Do not leave the System frozen into your pond. Freezing the in-water collection unit may damage it and will void your warranty. To protect your investment in hoses, be sure to thoroughly drain them before storage. Unrolling them on a slope to dry, then re-rolling them and storing them in a dry interior space not subject to freezing, will extend their useful lives.

Repairs and Service

Please contact ProSkim for your repair and service requirements at service@proskim.com.



Recommended Hoses

Your ProSkimmer system requires one 2-inch hose for connecting the in-water skimmer to the on-shore filter, and two 3-inch hoses or pipes for returning water from the filter to your pond. ProSkim recommends using rigid (suction) hose for returning water to your pond because the filtered water flows by gravity only and is not under pressure. Flexible return hoses are not recommended for most applications. You may readily find these hoses or pipes at your local supply house or plumbing wholesaler. Following are some national vendors for these parts (all prices and model numbers current as of December 2008 and subject to change):

2-inch hose

<u>Vendor</u>	<u>Part No.</u>	<u>Price</u>	<u>Size</u>	<u>Comment</u>
Grainger	1FYR2	\$33.30	25ft	Blue, vinyl
	1FYR3	\$49.35	50ft	Blue, vinyl
	3P575	\$153.75	25ft	Black, rubber
	1P961	\$15.20	25ft	Blue, vinyl
	6ZF11	\$45.45	50ft	Blue, vinyl
Northern Tool	506251	\$29.99	25ft	Blue, vinyl
	50621	\$39.99	50ft	Blue, vinyl

3-inch hose

<u>Vendor</u>	<u>Part No.</u>	<u>Price</u>	<u>Size</u>	<u>Comment</u>
Grainger	1ZMY5	\$222.00	20ft	Green, Goodyear
	2P568	\$122.25	20ft	Green, Alliance
Northern Tool	50715	\$79.99	15ft	Blue
	50624	\$249.99	50ft	Green

Custom Hose

<u>Vendor</u>	<u>Part No.</u>	<u>Price</u>	<u>Size</u>	<u>Comment</u>
McMaster-Carr 2"	5295K18	\$14.56 plus	\$0.60/ft	Blue
McMaster-Carr 3"	See www.mcmaster.com for several varieties.			

Other Options

Custom hoses in black are available from ProSkim. Please call for details.

The best, cheapest, and easiest 3" return system can be easily assembled from standard ABS (black) or PVC (white) plastic pipe and fittings from your local plumbing supply wholesaler.

As outlined in this Manual, using a long length of fixed 3-inch pipe to return water to your pond allows you to return the warm, aerated filtered water to a deep spot in the center of your pond, promoting circulation of the aerated water, and is recommended.



COMMERCIAL LIMITED WARRANTY - 2010

GENERAL PROVISIONS – The warranties described below are provided by ProSkim LLC (“ProSkim”) to the original purchasers of new ProSkimmer Systems from ProSkim or authorized ProSkim dealers. Under these warranties, ProSkim will repair or replace, at its option, any covered part which is found to be defective in material or workmanship during the applicable warranty term. Warranty service must be performed by ProSkim or a dealer or service center authorized by ProSkim to sell and/or service the ProSkimmer System, which will use only new or remanufactured parts or components furnished by ProSkim. Warranty service will be performed without charge to the purchaser for parts or labor. The purchaser will be responsible, however, for any service call and/or transportation of product to and from ProSkim or the dealer’s or service center’s place of business, for any premium charged for overtime labor requested by the purchaser, and for any service and/or maintenance not directly related to any defect covered under the warranties below. These warranties are not transferable.

WHAT IS WARRANTED – All parts of any new ProSkimmer System (except filtration screens, including the Primary Filter and filter screens in the Collection Box or Collection Chute) are warranted for 100 days from the date of purchase.

WHAT IS NOT WARRANTED – PROSKIM IS NOT RESPONSIBLE FOR THE FOLLOWING: (1) Filtration screens, including the Primary Filter and the filtration screens in the Collection Box and Collection Chute; (2) Any product that has been altered or modified in ways not approved by ProSkim; (3) Damage caused by powering the System with a generator or extension cords; (4) Damage caused by operating the System in less than 24 inches of water; (5) Damage caused by the negligence of the purchaser or operator.

SECURING WARRANTY SERVICE – To secure warranty service, the purchaser must (1) report the product defect to ProSkim and request repair within the applicable warranty term, (2) present evidence of the warranty start date, and (3) make the product available to ProSkim within a reasonable period of time.

LIMITATION OF IMPLIED WARRANTIES AND OTHER REMEDIES – To the extent permitted by law, neither ProSkim nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the System covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE PERIOD OF WARRANTY SET FORTH ON THIS PAGE. THE PURCHASER’S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON THE PROSKIM SYSTEM ARE THOSE SET FORTH ON THIS PAGE. IN NO EVENT WILL THE DEALER, PROSKIM OR ANY COMPANY AFFILIATED WITH PROSKIM BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages so the above limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



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