



Lil Ducky Pitcher Pump

OWNER'S MANUAL

Serial No. _____

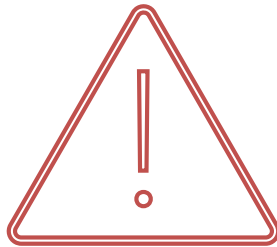
Rev A

Proudly Manufactured in Conway, Arkansas, UNITED STATES OF AMERICA.



ATTENTION:

Do **NOT** pump when dry!



- Read the instructions completely before beginning the installation process.
- After periods of no use, drain the pump of water and apply a light spray of **Extra Virgin Olive Oil** to the inside of the body and the piston seal. This is used for lubricating the pump internally.
- DO NOT use petroleum products to lubricate the pump.



Table of Contents

Product Specifications	5
Installation.....	6
Operation	8
Winterize	8
Maintenance.....	10

Appendix

Detail A: Installation Measurement Detail	13
Detail B: Standard Installation	14
Detail C: Orientation of Installation	15
Detail D: Handle Orientation	16
Detail E: Pump Exploded View.....	17
Detail F: Pump Part Listing.....	18
Detail G: Drop Pipe Assembly Exploded View	19
Detail H: Drop Pipe Assembly Part Listing	19

Lil Ducky Pitcher Pump

Owner's Manual

Product Specifications

Description: The Lil Ducky Pitcher Pump is a stainless steel suction pump specifically designed for water duck races.

Features

- Over 10 ounces per stroke
- About twelve (12) strokes for one gallon of water
- Hand polished stainless steel finish
- Self-priming and no routine maintenance
- Handle with pvc grip
- Trough Support Assembly for 4"-8" diameter trough
- Drop Pipe Assembly with filter and screen

Composition

- Pump body, handle, lift rod, and trough support are stainless steel
- Fasteners are stainless steel
- Other components are NSF approved Acetal or lead-free brass

Physical Characteristics

- Overall height: 16 ¼"
- Weight: 12 pounds
- Inlet connection: 1 1/4" NPT
- Bottom Flange: 6.3" diameter with (4) holes for 3/8" anchor bolts

Installation

Before you begin the installation of your new pump, open the box and inspect the contents. Verify that you have received everything that you ordered. If there is anything that is missing or does not match, please contact us immediately to correct the situation at Sales@CadronCreekPlay.com.

Record your Lil Ducky Pump Serial Number on the front page of this manual.

Location – Before deciding on the location of your pump, you should consider the physical limitations of this style of pump. The pump should be installed in a location that meets the vertical and horizontal pumping limitations of the Lil Ducky pump.

Read the instructions completely before beginning the installation process.

After long periods of no use, drain the pump of water and apply a light spray of Extra Virgin Olive Oil to the inside of the body and the piston seal. This is used for lubricating the pump internally. Do not use petroleum products to lubricate the pump.

Do NOT operate the Lil Ducky Pump dry (low water level).

Step #1: Verify there is proper space for the hand pump and pipe

See **Detail A** to reference Lil Ducky measurements. Review your space above and below where the pump is to be installed. Verify that there is proper clearance for the bottom flange (**Detail B – Item A**) on the top side of the pump platform and no obstructions for the anchor bolts (**Detail B – Item C**) and drop pipe assembly (**Detail B – Item D**) underneath.

Step #2: Determine installation items needed

Tools: Drill, 2 ½” hole saw, 3/8” to 7/16” drill bit, (2) 9/16” sockets and ratchets (or wrenches), and a 5/32” allen wrench (or socket bit).

Anchor bolts – 3/8” bolts and nuts are recommended. Determine the thickness of the pump platform plus ¼” for the thickness of the bottom flange (**Detail B – Item A**). Add at least another ½” for the nut and washer to that total. This measurement determines the minimum length of anchor bolt that you require.

Step #3: Identify proper location, mark and drill holes

Determine the exact location you would like to place the Lil Ducky Pump on the pump platform. Refer to **Details B & C** for a standard installation.

Once you have determined the exact location of the hand pump, mark a line along the entire perimeter of the bottom flange (Detail C – Item A). From the front edge of the bottom flange, measure 3 1/8" toward the center and mark the hole location (Reference Detail A "Edge to Hole Center"). At the marked location, drill a clearance hole of 2 1/2" in diameter (Detail C – Item B) through the pump platform to allow clearance for the incoming water pipe.

Next, align the pump along the perimeter of the bottom flange drawn earlier. Once the pump is in the proper position, trace the anchor bolt holes and mark the center of each hole. Remove the pump from the pump platform surface. Drill 3/8" to 7/16" holes through the top of the pump platform for each anchor bolt.

Step #4: Attach hand pump to the planned installation surface

Align the pump over the anchor bolt holes and install the four (4) bolts through the top of the pump platform. Attach the washers and nuts onto the bottom by partially tightening the first nut. Then move to the nut diagonally opposite. Repeat by moving to the other two in the same manner. Once all four are partially tightened, completely tighten all four following the same pattern.

Step #5: Connect the drop pipe assembly to the pump

The Lil Ducky Pump accepts 1 1/4" NPT pipe. One drop pipe assembly (Detail G) will come in two pieces with each Lil Ducky Pump. Connect one half to the other by pressing the drop pipe extension (Detail G – Item 6) into the PVC connector (Detail G – Item 5) until snug. To install, thread the drop pipe assembly into the connection on the bottom of the pump and hand tighten. **Do not overtighten drop pipe. Be careful not to cross-thread drop pipe.**

Step #6: Fill the water tank with clean water

The bottom of the drop pipe assembly should sit at least 6" from the bottom of the water tank and ideally in the middle of the water level of the tank. If positioned too low, debris is more likely to enter the pump system causing excessive wear. If positioned too high, the water level may run below the bottom of the drop pipe assembly causing the pump to run dry. Be sure that the pvc adapter (Detail G – Item 3) is completely submerged. The water level will need to be monitored to maintain the correct level. **Do NOT operate the Lil Ducky Pump dry (low water level).** Additional drop pipe and connections can be ordered to extend the drop pipe assembly length. Contact Cadron Creek Play for more information.

Step #7: Connect the trough to the trough support assembly

The Trough Support Assembly (Details E & F – Item 7) will come fully assembled and attached to the bottom plate. A trough can then be attached by tightening the top trough support bolt through a hole in the trough and into the threaded hole of the trough support attachment. Use the rubber washer to seal off around the trough support bolt. The trough can be adjusted by removing the quick release pins, sliding the round trough support up or down, and then reinserting the quick release pins.

We recommend that both pins be installed for a secure mounting connection. [See Details B & E](#) for more information.

Step #8: Pump water

The installation is complete. Begin pumping the Lil Ducky Pump until water begins to flow. Be aware that multiple strokes may be required to initially create suction and thus draw water. It is not necessary to prime the pump.

Operation of the Lil Ducky Pump

Overview: The Lil Ducky Duck Pitcher Pump is an actual shallow well pump that draws water from a source by creating a vacuum inside the pump body. The vacuum is created by moving the handle up which pushes the piston assembly down. This action moves water upward through the piston to above the piston. When the handle is brought down it raises the piston. This process creates a vacuum under the piston which “draws” water from the source. At the same time, the water that was above the piston is lifted to the spout where it flows out.

Normal Operation: The Piston Body and Piston Seal ([Detail E & F – Items 4 & 5](#)) move through the pump body during operation by means of pumping the handle. This should require a minimal amount of force. The pump will retain its prime (water does not flow back to the source because it is stopped by the check valve in the bottom of the pump).

After long periods of no use, drain the pump of water and apply a light spray of Extra Virgin Olive Oil to the inside of the body and the piston seal. This is used for lubricating the pump internally. Do not use petroleum products to lubricate the pump.

Do NOT operate the Lil Ducky Pump dry (low water level).

How to Winterize the Lil Ducky Pump

To winterize the pump, you need to drain it of water to prevent freezing which can cause damage to the pump. The Lil Ducky Pump will freeze if exposed to temperatures below 32 degrees F.

Step #1: Drain water from water source

Drain the water from the water source (water tank). Now is also a good time to clean the water tank.

Step #2: Drain water from the pump

Remove the external check valve housing ([Detail E & F – Item 8](#)) from the pump to drain water from inside the pump.

Step #3: Remove piston and inspect

Remove the (4) screws (**Detail E – Item 1**) in the top plate using a 5/32” allen wrench. Pull up on the lift rod to remove the handle and piston assemblies from the pump body. Inspect the piston seal (**Detail E – Item 5**) for wear and replace if needed. Inspect the inside of the pump body for debris and clean if needed. Apply a **light spray** of Extra Virgin Olive Oil to the piston seal and inside the pump body before reinserting the piston into the pump body. Work the piston seal inside the body and past the spout using your fingers. Do not excessively force the piston inside the body or past the spout. Now reinstall the (4) screws into the top plate and tighten in an alternating pattern until all are tight.

Step #4: Inspect the check valve

Disconnect the drop pipe assembly from the external check valve housing. Inspect the check valve (**Detail E & F – Item 9**) to make sure it is clear of any excess water and that it functions properly. Now would be a good time to perform maintenance if needed. See **“Maintenance: Check Valve”**.

Step #5: Reconnect the drop pipe assembly and external check valve housing

Reconnect the drop pipe assembly to the external check valve housing. Reconnect the check valve housing to the connection on the bottom of the pump. **Do not overtighten drop pipe or check valve housing. Be careful not to cross-thread drop pipe or check valve housing.**

Do NOT operate the Lil Ducky Pump dry (low water level).

De-winterizing

Be sure that the weather has warmed sufficiently before continuing with this process, assuming the pump is not in a heated environment.

Step #1: Refill the water source

Refill the water source (water tank) with clean water until the water level is at its normal level. See **“Installation: Step 6”**. Be sure that the pvc adapter (**Detail G – Item 3**) is completely submerged. **Do NOT operate the Lil Ducky Pump dry (low water level).**

Step #2: Lubricate the pump

Apply a **light spray** of Extra Virgin Olive Oil to the inside of the body and/or the piston seal before the first use after winterizing.

Step #3: Pump water

With the water tank filled, begin pumping the handle. Continue until water begins to flow from the spout. Be aware that multiple strokes may be required to initially create suction and thus draw water.

Maintenance

Replacement components are shown in [Details E & G](#) and listed in [Details F & H](#).

The Lil Ducky Pitcher Pump has components that may wear with usage. Required maintenance other than planned at the end of a season will be required if there is excessive wear causing noticeably more force to pump the handle. A reduction in water output would also indicate the need for maintenance.

Piston Seal – The life of this seal is directly related to usage and water condition. If the installation site is high usage, then it would be a good idea to replace the seal each winter. Water that has contaminants that could act as an abrasive will cause excessive wear.

To inspect/perform maintenance, remove the (4) screws ([Detail E – Item 1](#)) in the top plate using a 5/32" allen wrench. Pull up on the lift rod to remove the handle and piston assemblies from the pump body. Inspect the piston seal ([Detail E – Item 5](#)) for wear and replace if needed. Apply a **light spray** of Extra Virgin Olive Oil to the piston seal and inside the pump body before reinserting the piston into the pump body. Work the piston seal inside the body and past the spout using your fingers. Do not excessively force the piston inside the body or past the spout. Now reinstall the (4) screws into the top plate and tighten in an alternating pattern until all are tight.

Check Valve – The check valve ([Detail E – Item 9](#)) is located inside the check valve housing ([Detail E – Item 8](#)) and is held in place by the internal retaining ring ([Detail E – Item 10](#)). To perform maintenance, remove the internal retaining ring using a pair of .070"-.078" tip snap ring pliers (available for purchase). Press the check valve out towards the threaded side of the check valve housing using a flat head screwdriver or similar. Clean the inside of the check valve housing with fresh water. To install the new check valve, lubricate the check valve and inside of the check valve housing with Extra Virgin Olive Oil and press the check valve into the check valve housing with the rubber o-ring going in first. Press in fully until the snap ring groove is visible. Then install the internal retaining ring using a pair of snap ring pliers. Make sure the retaining ring is fully seated. Check that the check valve fully opens and then closes automatically by its spring.

Drop Pipe Assembly – The drop pipe assembly contains an external filter ([Detail G – Item 1](#)) and an internal screen ([Detail G – Item 4](#)) to filter out contaminants in the water. Both should be inspected periodically depending on the quality of water being used. If any large debris is found in the external filter, remove the debris and inspect the rest of the tank for more. To inspect or clean the internal screen, remove the external filter by unscrewing it from the end of the drop pipe assembly. Visually inspect the screen inside the pvc adapter. If debris is found in the screen, remove the pvc adapter ([Detail G – Item 3](#)) to gain access to the screen (be careful not to drop the screen as it will be loose). After cleaning the screen, reinsert it into the top of the pvc adapter making sure that it lays flat. Reinstall the drop pipe extension ([Detail G – Item 6](#)) into the top of the pvc adapter and reinstall the external filter into the bottom of the pvc adapter. Thread the drop pipe assembly into the connection on the bottom of the pump and hand tighten. **Do not overtighten drop pipe. Be careful not to cross-thread drop pipe.**

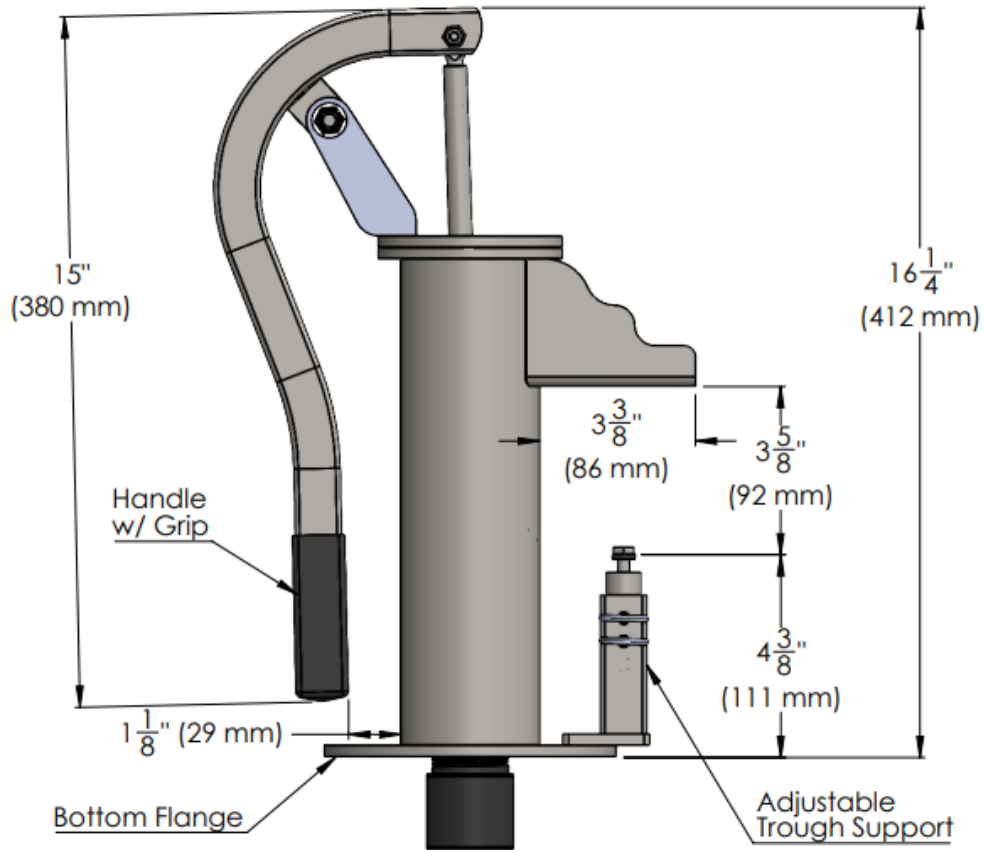
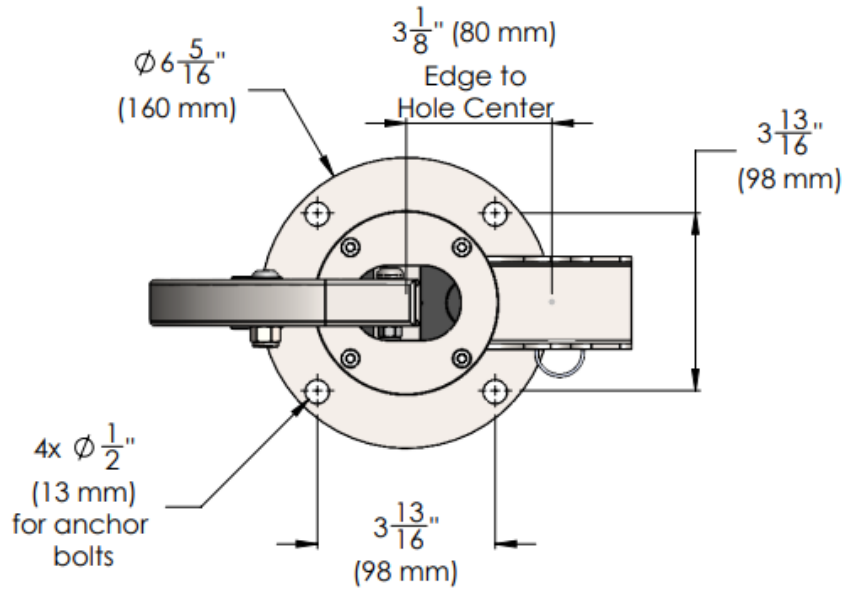
Hardware Maintenance – With proper care, it is unlikely that you will need to replace the hardware used to assemble your Lil Ducky Pump. Extra hardware can however be purchased by contacting us at Sales@CadronCreekPlay.com.

Contact

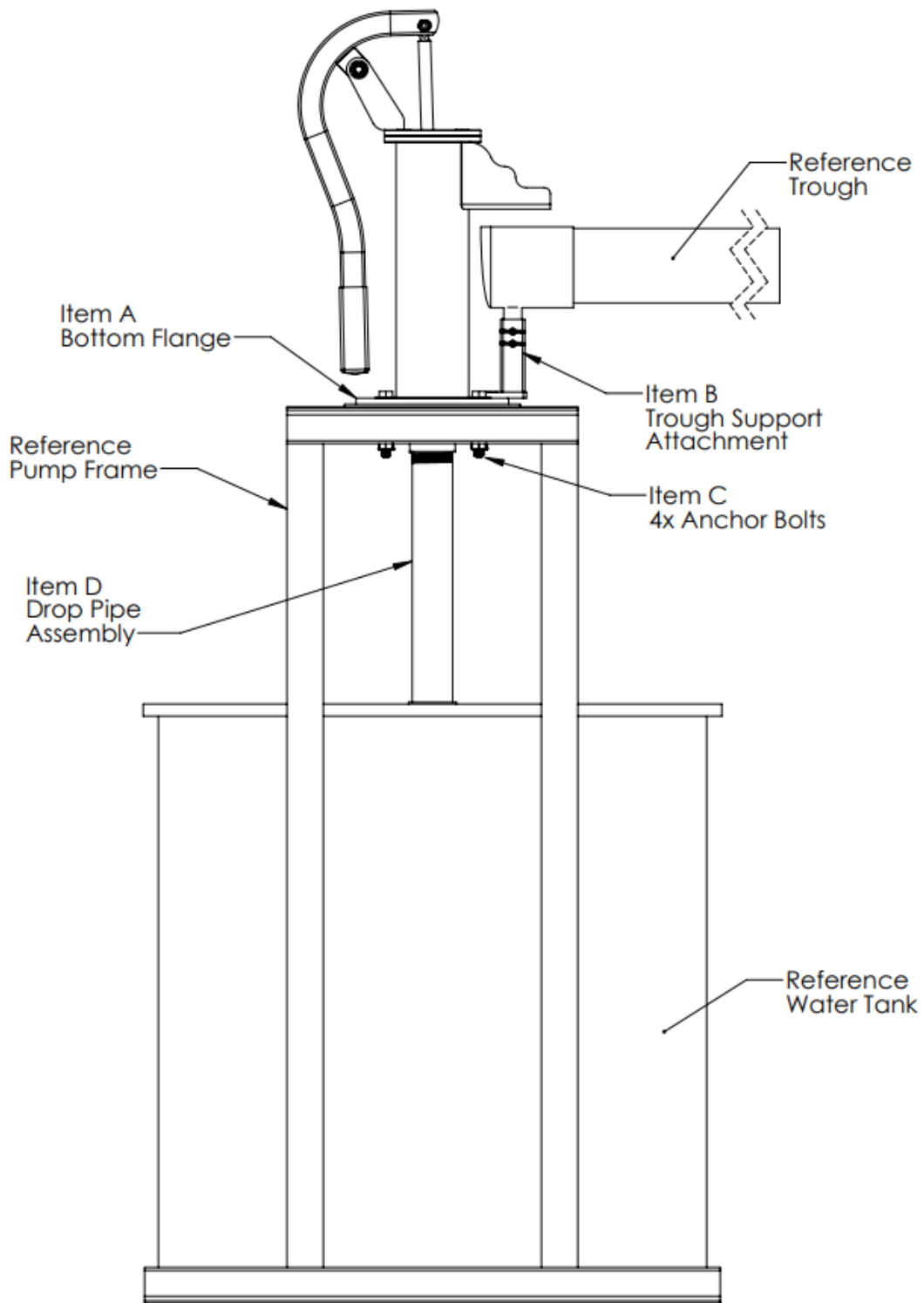
For questions about your product, you can email technical support at Sales@CadronCreekPlay.com.

Appendix

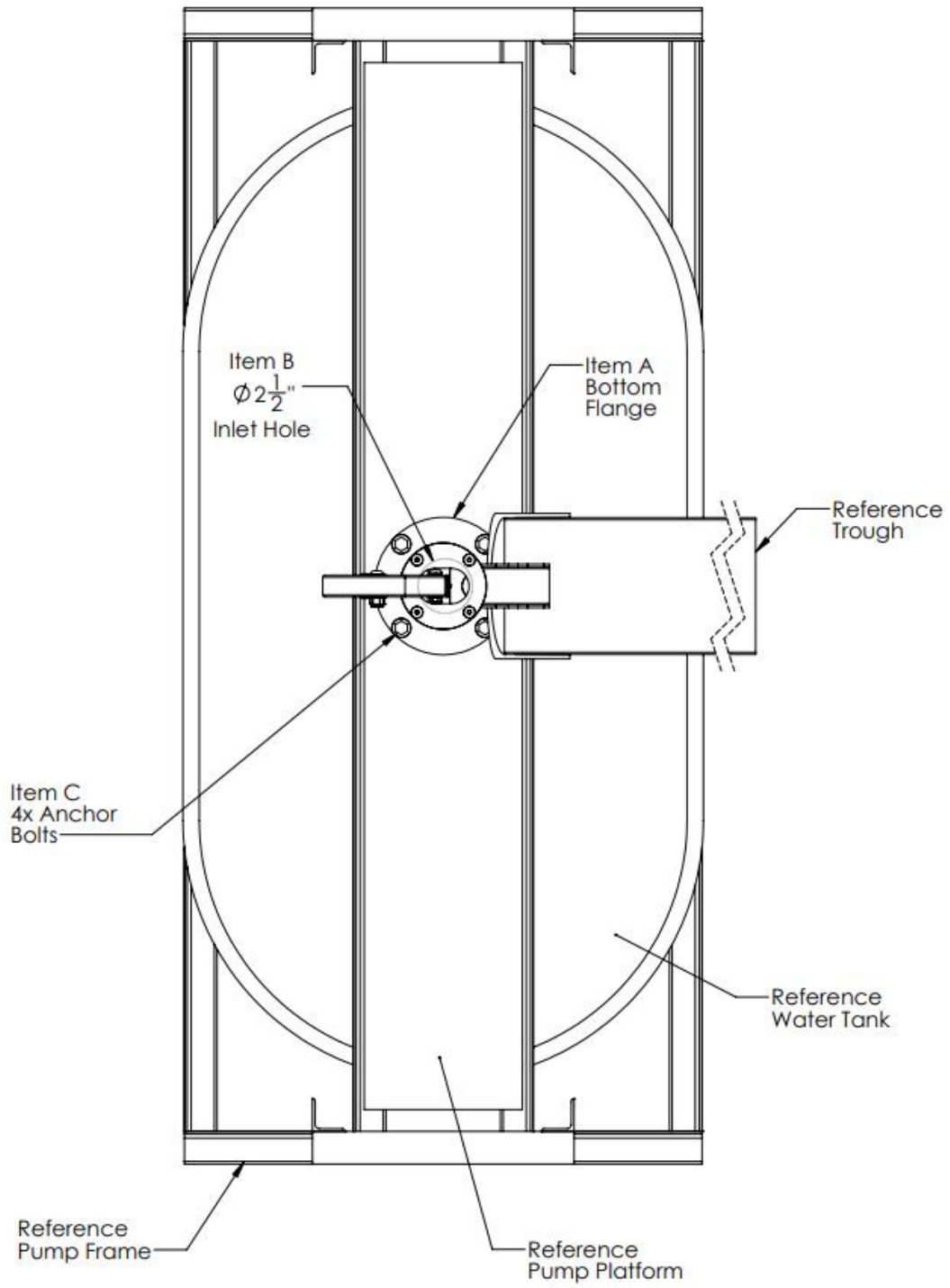
Detail A: Installation Measurement Detail



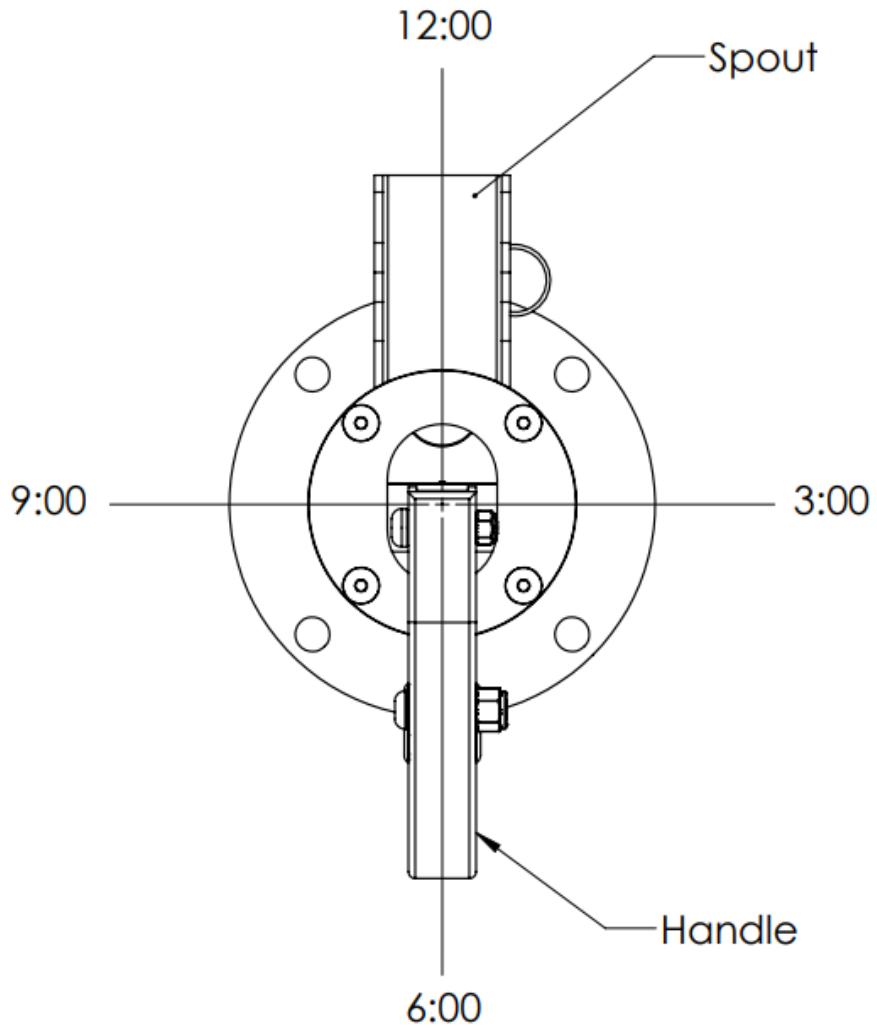
Detail B: Standard Installation



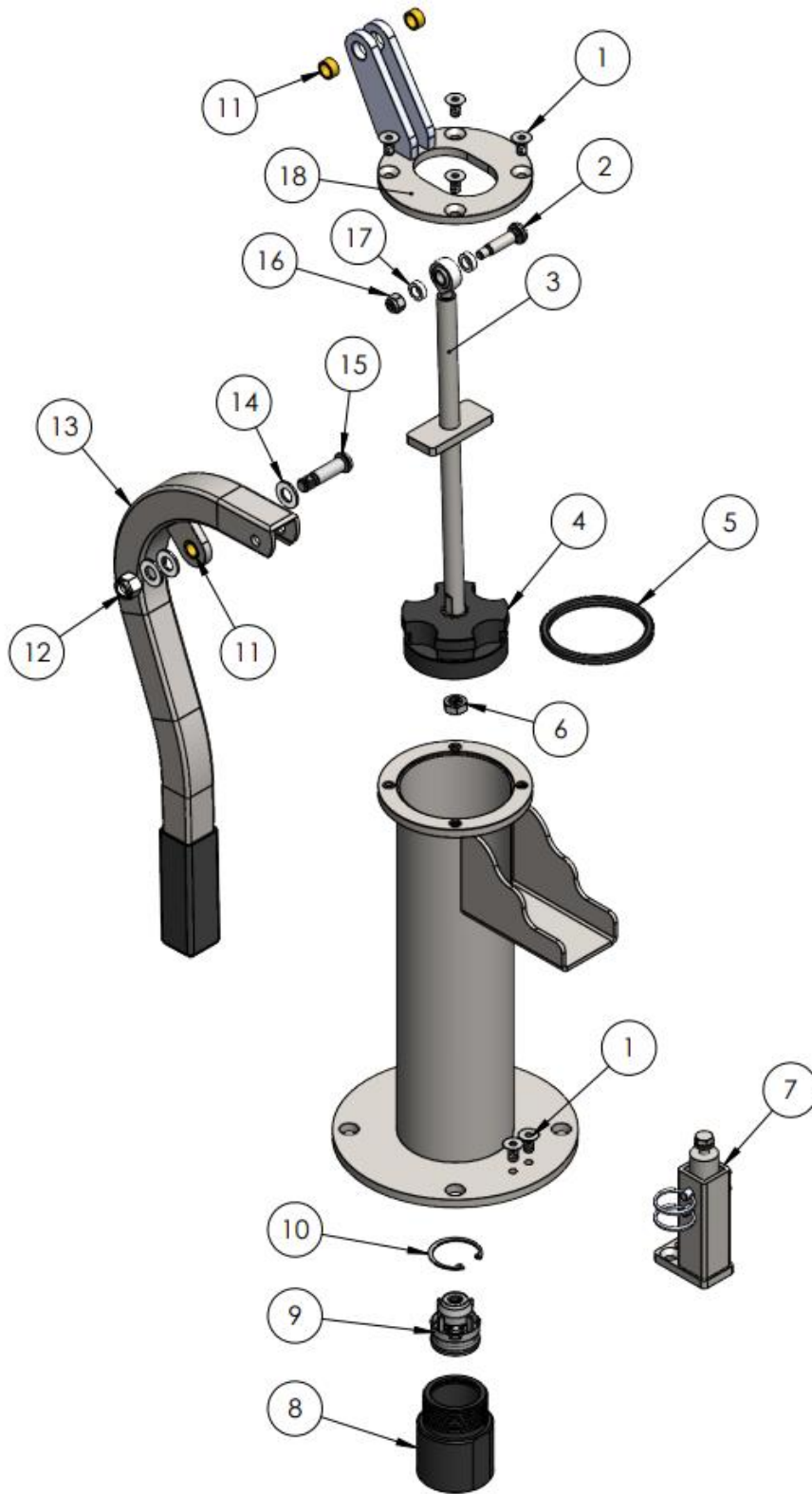
Detail C: Orientation of Installation



Detail D: Handle Orientation



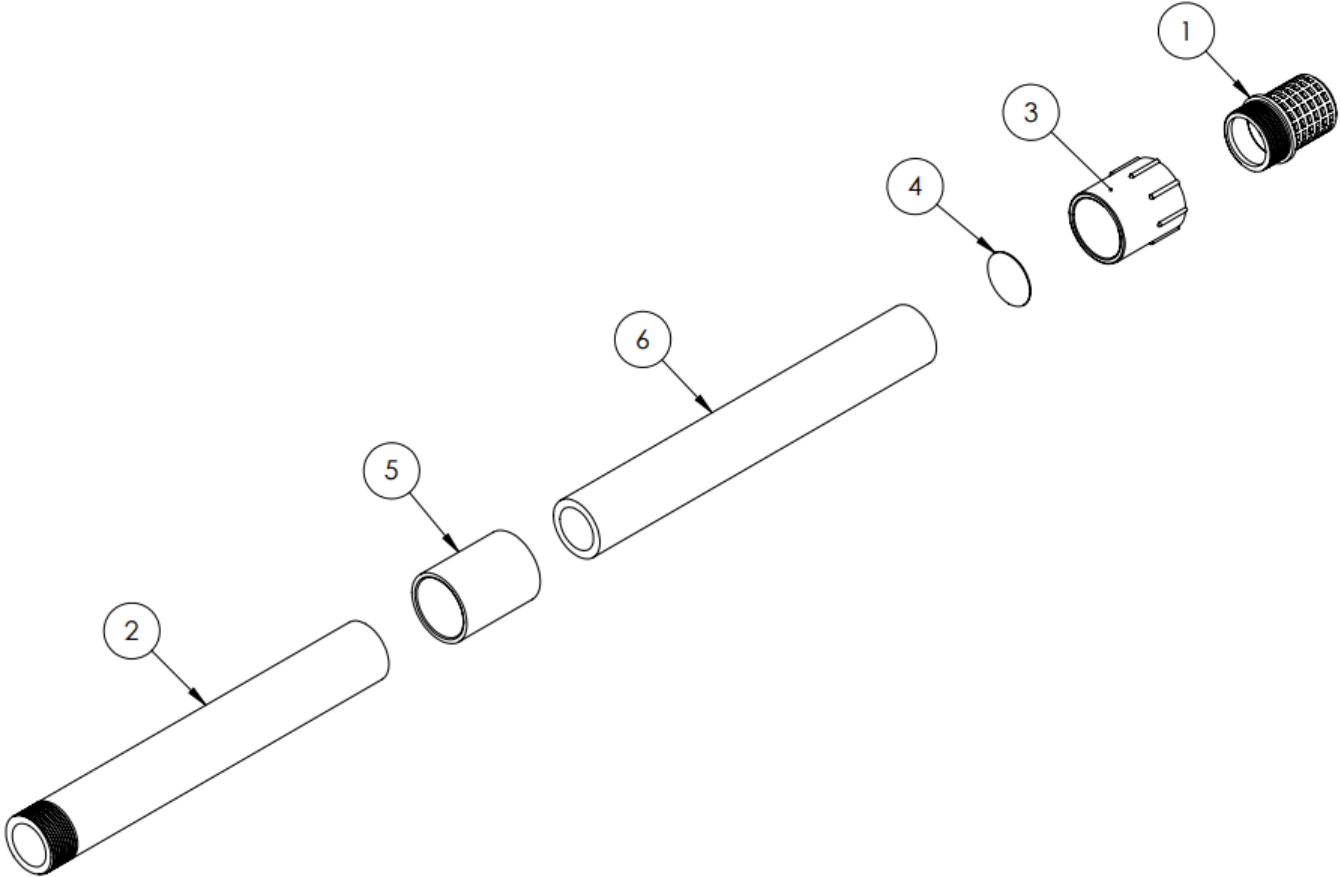
Detail E: Pump Exploded View



Detail F: Pump Part Listing

Item No.	Part Number	Description	Quantity
1	04-000-1-45-40	Hex Drive Flat Head Screw	6
2	50-100-0-03-06	Handle Shoulder Bolt	1
3	60-010-0-14-01	Lift Rod Assembly	1
4	60-010-0-04-02	Piston Body	1
5	04-002-3-71-06	Piston Seal	1
6	04-000-1-50-21	Piston Ny-Loc Nut	1
7	65-010-0-12-01	Trough Support Assembly	1
8	60-010-0-01-06	External Check Valve Housing	1
9	04-000-5-75-01	Check Valve	1
10	04-022-1-68-01	Internal Snap Ring	1
11	05-200-6-04-01	Bronze Bushing	3
12	04-000-1-50-20	Link Ny-Loc Nut	1
13	60-010-0-03-01	Handle Assembly	1
14	04-000-5-40-01	Link Washer	4
15	60-010-9-03-10	Link Shoulder Bolt	1
16	04-000-1-50-26	Handle Ny-Loc Nut	1
17	04-000-5-40-03	Handle Washer	2
18	60-010-0-06-01	Top Plate Assembly	1

Detail G: Drop Pipe Assembly Exploded View



Detail H: Drop Pipe Assembly Part Listing

Item No.	Part Number	Description	Quantity
1	51-200-0-01-05	External Filter	1
2	65-010-0-13-02	Drop Pipe	1
3	65-010-0-13-03	PVC Female Adapter	1
4	65-010-0-13-04	Internal Screen	1
5	65-010-0-13-05	PVC Connector	1
6	65-010-0-13-06	Drop Pipe Extension	1