



# HydraCradle™ Tank Owner's Manual

---

**HydraMaster**  
11015 47<sup>th</sup> Avenue West  
Mukilteo, Washington 98275

MAN-33154 Rev. C, October 24, 2015  
(P/N 000-182-091)

No part of this manual may be reproduced or used in any form or by any means (i.e. graphic, electronic, photocopying or electronic retrieval systems) without the express written permission of HydraMaster. Specifications and information in this document are subject to change without prior notice. All rights reserved. © 2015 HydraMaster



\*000-182-091\*



# HydraCradle Tank

## Table of Contents

<b>GENERAL INFORMATION.....</b>	<b>SECTION 1</b>
Contact Information.....	1-3
Warnings, Cautions and Notices.....	1-4
Standard Tank Configuration.....	1-6
Specifications.....	1-7
Optional Configurations.....	1-8
Tank Configuration with Optional Hose Reels.....	1-9
Hoses.....	1-11
System Concept.....	1-12
Responsibilities.....	1-14
Local Water Precautions.....	1-15
<b>OPERATING INSTRUCTIONS.....</b>	<b>SECTION 2</b>
Start-Up.....	2-2
Daily Shut-Down.....	2-2
Shut-Down for Extended Storage.....	2-3
Freeze Guarding.....	2-4
<b>ELECTRICAL SYSTEM.....</b>	<b>SECTION 3</b>
Cable Harness Parts List.....	3-4

# HydraCradle Tank

<b>ASSEMBLIES AND PARTS LISTS.....</b>	<b>SECTION 4</b>
HydraCradle Tank with One Solution Hose, Non-Live Reel Assembly Parts List.....	4-3
HydraCradle Tank with One Solution Hose, Live Reel Assembly Parts List.....	4-4
HydraCradle Tank with One Garden Hose, Non-Live Reel Assembly Parts List.....	4-5
HydraCradle Tank with One Garden Hose, Live Reel Assembly Parts List.....	4-6
HydraCradle Tank Assembly Parts List.....	4-10
Vacuum Hose Reel Assembly Parts List.....	4-12
Vacuum Hose Reel Hub Assembly Parts List .....	4-13
14" Diameter 2nd Solution Hose Reel Assembly Parts List .....	4-15
14" Diameter 2nd Garden Hose Reel Assembly Parts List .....	4-17
14" Diameter 1st or 3rd Solution Hose Reel Assembly Parts List.....	4-19
14" Diameter 1st or 3rd Garden Hose Reel Assembly Parts List.....	4-21
1/6 HP 12VDC Motor Assembly Parts List.....	4-22
Pump-In Pump Assembly Parts List.....	4-23
Foot Switch Assembly Parts List.....	4-24
Crank Handle Assembly Parts List.....	4-25
Vacuum Hose Reel Kit Assembly Parts List.....	4-27
Live Garden Fittings Kit Assembly Parts List .....	4-28
Live Solution Fittings Kit Assembly Parts List .....	4-29
<b>MAINTENANCE AND TROUBLESHOOTING.....</b>	<b>SECTION 5</b>
Operational Maintenance .....	5-1
Appearance Maintenance .....	5-3
Troubleshooting .....	5-4
<b>HOW TO ORDER PARTS .....</b>	<b>SECTION 6</b>
Warranty Parts Orders .....	6-1
Parts Orders.....	6-1
Emergencies .....	6-1
<b>WARRANTY INFORMATION .....</b>	<b>SECTION 7</b>
Pump .....	7-1
Vacuum and Solution Hoses .....	7-1
Hard Water Deposits.....	7-1
Warranty Procedure .....	7-1
<b>ACCESSORIES.....</b>	<b>SECTION 8</b>

# HydraCradle Tank

# HydraCradle Tank

# HydraCradle Tank

## 1 - General Information

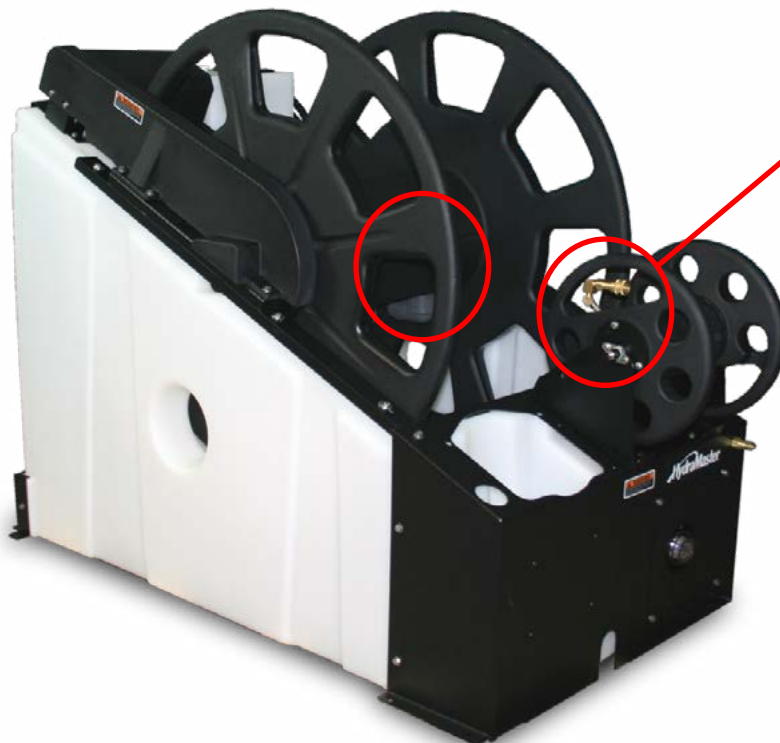
HydraMaster's latest addition to its accessory product line is the HydraCradle™ Tank, a 125-gallon rotomolded fresh water tank with an integrated multi-reel system. It is compatible with most truckmounts on the market and all of HydraMaster truckmounts, including slide-ins.

The HydraCradle Tank is an innovative combination of durable, rustproof rotomolded components and powder coated steel. Its one-piece, frameless self-venting design is virtually leakproof.

Standard features of the HydraCradle Tank include a 38" diameter, rotomolded vacuum hose reel which holds a full 250 ft of 2" diameter vacuum hose and houses a "live-center" vacuum connection. "Live center" means the hose connector on the vacuum reel is always connected to the recovery tank, providing an easy and convenient connection.

The 14" diameter, rotomolded solution hose reel, with a manual crank and an optional live center, holds up to 250 ft of solution hose or up to 50 ft. of garden hose

### **Hydrmaster's HydraCradle Tank - a Multi-Reel Rotomolded Fresh Water Tank**



**One of the HydraCradle Tank's features is the convenient live-center connection on the hose reels -- standard on the vacuum reel and offered as an option on the solution/garden hose reels.**

# HydraCradle Tank

.A convenient foot switch, located on the front of the unit, lets you automatically retract the vacuum hose when you are finished cleaning.

Also located on the front of the unit is an easily accessible fresh water fill connector. When the tank is full, the HydraCradle Tank's water fill sensor automatically shuts off the water, preventing spill over.

The centralized up-front electrical panel houses the pump-in pump, the pump's filter and 15 Amp fuse, and the 30 Amp fuse for the hose reel motor.

Although the HydraCradle Tank has been designed and built to give you years of reliable service, it still requires proper installation and operation, as well as regular maintenance. This Owner's Manual contains installation and operation instructions, and information required for proper maintenance. Please follow the instructions carefully and you will be rewarded with years of profitable, trouble-free operation.

It is imperative that no section be overlooked when preparing for operation of this equipment.

This section of the manual contains the following helpful information. If you are viewing the digital version of the manual, click on the bulleted items to access those subsections.

- Standard Tank Configuration
- Specifications
- Optional Configurations
- Tank Configuration with Optional Hose Reels
- Hoses
- System Concept
- Responsibilities
- Local Water Precautions



# HydraCradle Tank

## CONTACT INFORMATION

If you have any questions regarding the operation, maintenance or repair of this machine, please contact your local distributor.

To find a local distributor, please visit our website at <http://hydramaster.com/HowToBuy/DealerLocator.aspx>

If your question cannot be resolved by your distributor or by the information within this manual, you may contact HydraMaster direct using the following phone numbers.

HOURS	TELEPHONE NUMBERS	E-MAIL ADDRESSES
Monday-Friday 7:00 a.m. to 5:00 p.m.  Pacific Time	<b>Technical Support</b> (800) 426-1301 FAX : (800) 426-4225	<b>Technical Support</b> techsupport@hydramaster.com
	<b>Customer Service/Parts</b> (800) 426-1301 FAX : (800) 426-4225	<b>Customer Service/Parts</b> parts@hydramaster.com

When calling your distributor, be sure to reference the serial number and date of purchase.

### FOR YOUR REFERENCE:

Date of Purchase: \_\_\_\_\_

Purchased From (Distributor): \_\_\_\_\_

# HydraCradle Tank

## WARNINGS, CAUTIONS AND NOTICES

### **WARNING**

HydraMaster uses this WARNING symbol throughout the manual to warn of possible injury or death.

### **CAUTION**

This CAUTION symbol is used to warn of possible equipment damage.

### **NOTICE**

This NOTICE symbol indicates that federal or state regulatory laws may apply, and also emphasizes supplemental information.

# HydraCradle Tank

Warnings and Cautions specific to the HydraCradle Tank include:

## **⚠ WARNING**

**HEARING PROTECTION:** The Occupational Safety and Health Administration (OSHA) recommends the use of hearing protection when a technician is exposed to an average of 85 decibels (this is an average of exposure over an 8-hour period). The carpet cleaning equipment used in conjunction with the HydraCradle Tank can produce sound levels as high as 85 decibels to a distance of 10 ft (3 m). Please check with your local state agencies to see if OSHA standards apply to your application.

## **⚠ WARNING**

**MOVING PARTS:** Never touch any part of the tank assembly or the reel that is in motion. Severe bodily injury may result.

## **⚠ WARNING**

**SECURING TANK TO VEHICLE:** When the HydraCradle Tank is full of water, the tank can weigh more than a 1,000 lbs (454 kg). A sudden or crash stop will cause the machine to rocket forward if not properly secured. To prevent serious personal injury, ensure that the tank is well secured to the floor of the vehicle with the hardware supplied. Protect yourself and the machine.

## **CAUTION**

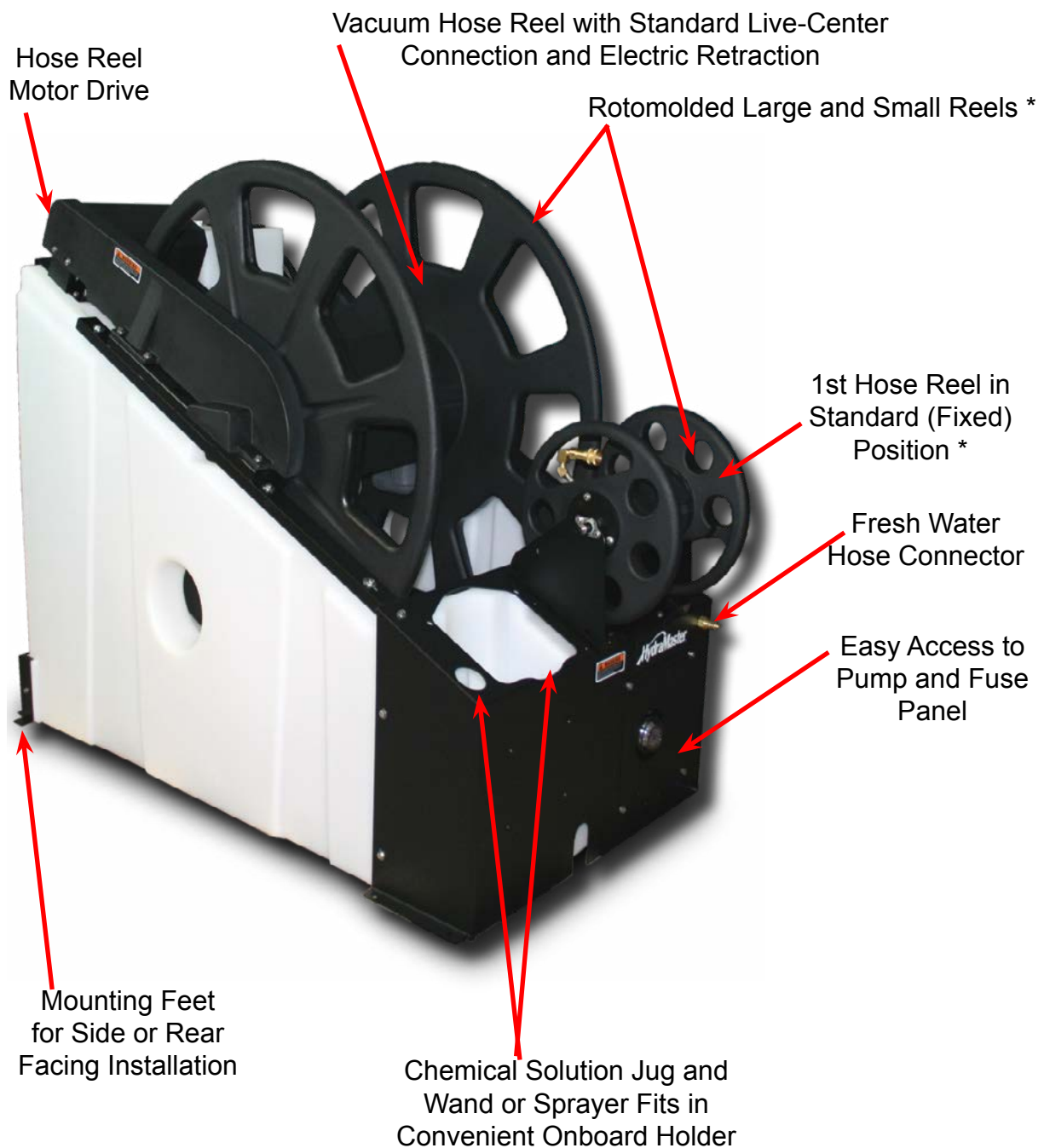
**HARD WATER PROTECTION:** Failure to take appropriate measures to prevent scale build up can result in system failure and loss of warranty on affected parts. Test the water in your immediate and surrounding areas with hard water test strips. Assume all water obtained from wells is hard. If you are operating in a hard water area at 3.0 grains or more per gallon, use a water softening system.

## **CAUTION**

**FREEZE PROTECTION:** Failure to take appropriate measures to prevent equipment damage due to freezing can result in system failure and loss of warranty on affected parts.

# HydraCradle Tank

## STANDARD TANK CONFIGURATION



\* Small reels can be configured with solution or garden hose, all with an optional live-center connection.

# HydraCradle Tank

## SPECIFICATIONS

Tank Capacity	125 gallons (473 litres)	
Tank Construction	Rotomolded LLDPE *	
Mounting Components	Powder coated steel	
Dimensions		
Standard Configuration	47 $\frac{1}{4}$ " H x 65" L x 34" W (120 cm x 165 cm x 86.4 cm)	
Long Configuration (3rd Hose Reel)	47 $\frac{1}{4}$ " H x 74" L x 34" W (120 cm x 188 cm x 86.4 cm)	
Weight (without hoses)		
Standard tank and one reel	285 lbs. (129 kg)	
Tank with two reels	311 lbs. (141 kg)	
Tank with three reels	325 lbs. (147 kg)	
38" (96.5-cm) Diameter Vacuum Hose Reel - Standard - (for 2" (5.1-cm) Diameter Hose)	Maximum Capacity	250 ft. (76.2 m)
	Construction	Rotomolded LLDPE*
	Live Center	Standard
	Electrical Operation	Power Retraction - Standard
14" (35.6-cm) Diameter Hose Reels **		
	Solution (for 1/4" [6.35-mm] Diameter Hoses)	Maximum Capacity
		250 ft. (76.2 m)
	Construction	Rotomolded LLDPE
	Garden (for 5/8" [15.9 mm] Diameter Hoses)	Maximum Capacity
		50 ft. (15.2 m)
	Construction	Rotomolded LLDPE
Pump Fuse	15 Amp	
Hose Reel Motor Fuse	30 Amp	

\* LLDPE = Linear Low Density Polyethylene

\*\* Hose reels are offered with optional configurations; see the next subsection.

# HydraCradle Tank

## OPTIONAL CONFIGURATIONS

### Hose Reels

Refer to the following table before placing your order for the standard HydraCradle Tank with options.

<b><u>Standard: 1st Solution/Garden Hose Reel</u></b>	
<b>Part #</b>	<b>Description</b>
000-163-600	Standard Tank (1 Solution Hose Reel NON LIVE)
000-163-601	Standard Tank (1 Garden Hose Reel NON LIVE)
000-163-600L	Standard Tank (1 Solution Hose Reel LIVE)
000-163-601L	Standard Tank (1 Garden Hose Reel LIVE)

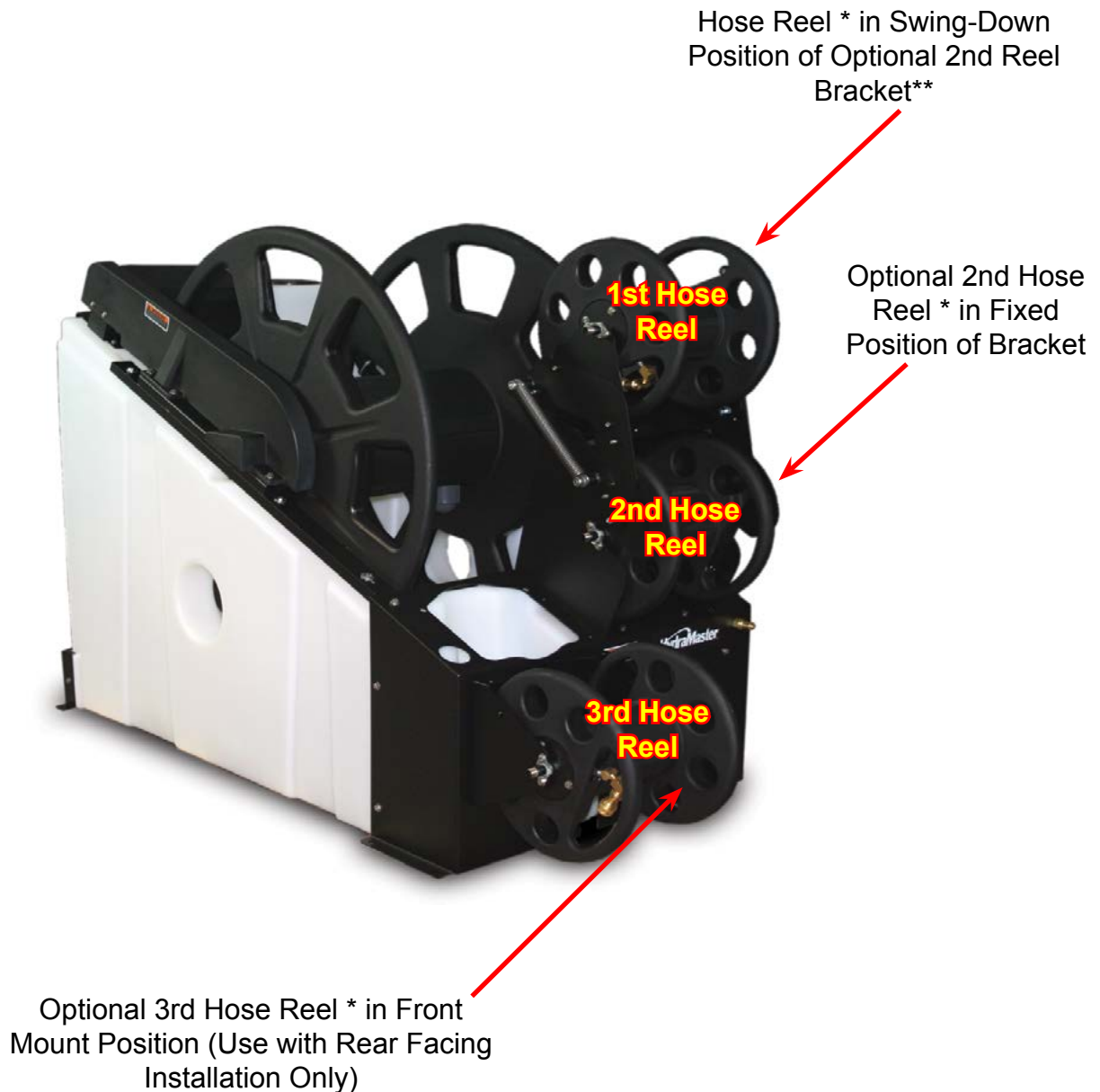
The standard HydraCradle Tank shipment includes 5 packages of components needed to install the tank:

- Pump-in pump barb insert, elbow and quick connect hardware
- Drain valve and PVC nipple
- Crank handle and fastening hardware for the 1st Hose Reel
- Fresh water tank mounting hardware (8 tie down washers, 8 screws, 16 flat washers and 8 Nylock nuts)
- 2 ring terminal connectors for the battery cables, and 2 quick connectors (1 female, 1 male) for the pump-in pump cable

Your shipment also includes the pump-in pump hose and the overflow hose that can be cut to the desired lengths.

# HydraCradle Tank

## TANK CONFIGURATION WITH OPTIONAL HOSE REELS



- \* Small reels can be configured with solution or garden hose, all with an optional live-center connection.
- \*\* Note that the 1st Hose Reel (part of the standard configuration) moves to this position when the optional 2nd Hose Reel with the swing-down bracket is installed.

# HydraCradle Tank

If you decide to add one or both optional hose reels aftermarket, refer to the following table before placing your order.

<b>Optional: 2nd Solution/Garden Hose Reel</b>	
<b>Part Number</b>	<b>Description</b>
000-163-602S	Reel #2 Solution Reel NON LIVE
000-163-602SL	Reel #2 Solution Reel LIVE
000-163-602G	Reel #2 Garden Reel NON LIVE
000-163-602GL	Reel #2 Garden Reel LIVE
<b>Optional: 3rd Solution/Garden Hose Reel*</b>	
<b>Part Number</b>	<b>Description</b>
000-163-603S	Reel #3 Solution Reel NON LIVE
000-163-603SL	Reel #3 Solution Reel LIVE
000-163-603G	Reel #3 Garden Reel NON LIVE
000-163-603GL	Reel #3 Garden Reel LIVE

\*Only available for rear door installation

If you decide to convert a non live-center hose reel to a live-center reel, aftermarket, refer to this table:

<b>Part Number</b>	<b>Description</b>
000-078-604	Fitting Kit, Live Solution Hose
000-078-605	Fitting Kit, Live Garden Hose



# HydraCradle Tank

## HOSES

The vacuum hose and solution/garden hoses are purchased separately when you order a standard HydraCradle Tank. Refer to the following table to order hoses. Please note that you can mix or match colors for the vacuum and solution hoses; the garden hose is only available in green.

Part Number	Description
000-068-035	50-ft (15.2-m) Garden Hose, Green 5/8" (15.9-mm) Diameter
000-068-048	50-ft (15.2-m) Vacuum Hose, Orange with 2" (5.1-cm) Diameter; 000-052-168 Vacuum Hose Coupler *
000-068-053	150-ft (45.7-m) Solution Hose, Orange, 1/4" (6.35 mm) Diameter with 1/4" (6.35 mm) Insert and Bend Protectors
000-068-065	50-ft (15.2-m) Vacuum Hose, Blue with 2" (5.1-cm) Diameter; 000-052-168 Vacuum Hose Coupler *
000-068-206	150-ft (45.7-m) Solution Hose, Blue 1/4" (6.35-mm) Diameter with 1/4" (6.35 mm) Insert and Bend Protectors
000-068-815	100-ft (30.5-m) Solution Hose, Orange, 1/4" (6.35-mm) Diameter with 1/4" (6.35 mm) Insert and Bend Protectors
000-068-816	100-ft (30.5-m) Solution Hose, Blue 1/4" (6.35-mm) Diameter with 1/4" (6.35 mm) Insert and Bend Protectors

\* For each 2 sections of 50-ft (15.2-m) vacuum hose ordered, order 1 hose coupler.

## NOTICE

Each 250-ft (76.2-m) solution hose is a combination of one 150-ft (45.7-m) hose and one 100-ft (30.5-m) hose, connected with quick connectors. Combining shorter lengths of hose to make 250 ft (76.2 m) is not recommended; extra connectors would require more space than is available on the reel..

# HydraCradle Tank

## SYSTEM CONCEPT

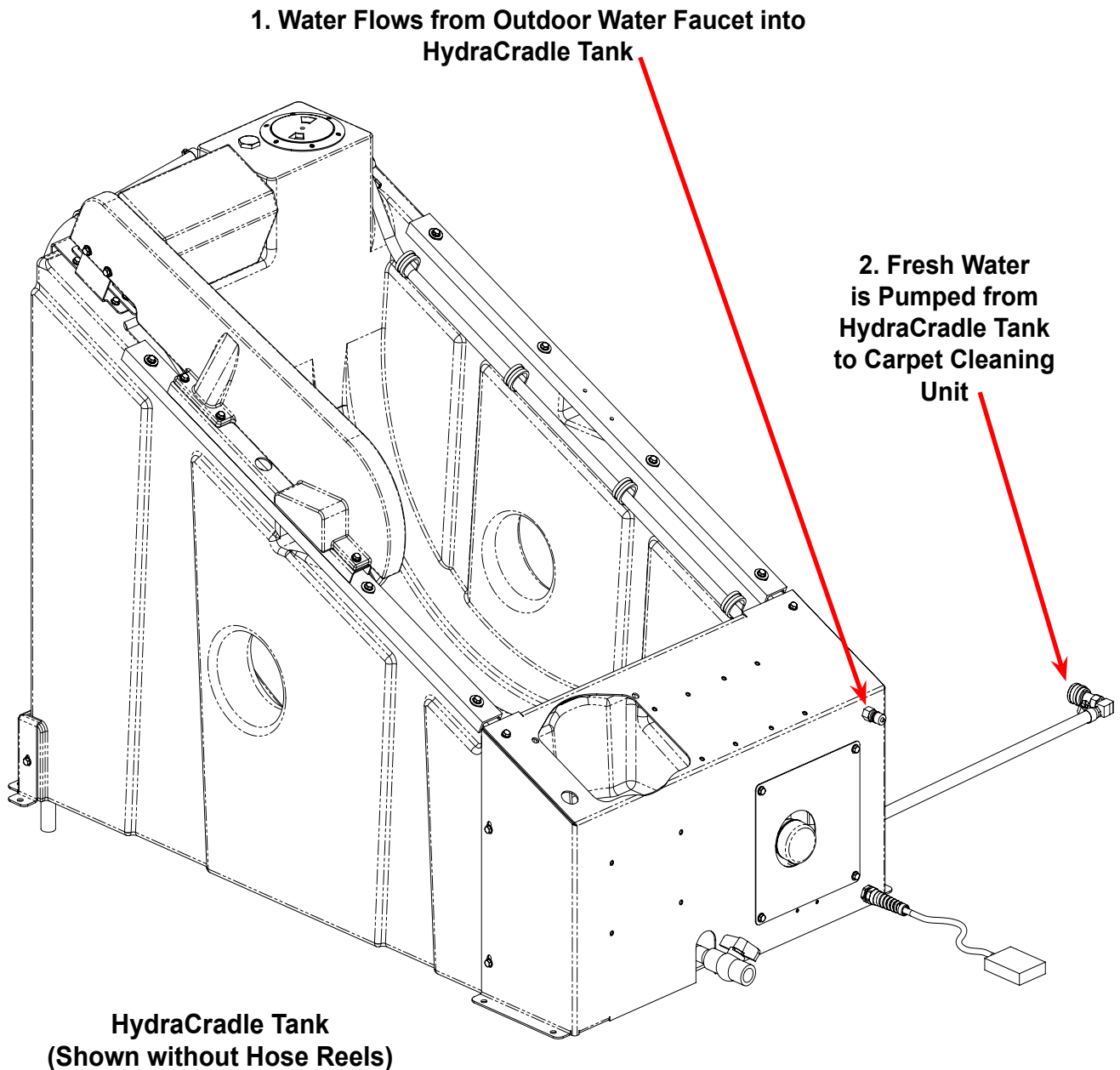


Figure 1-1. Concept Illustration of Water Flow Into HydraCradle Tank and Solution Flow into HydraCradle Tank Solution Hose(s) - HydraCradle View

# HydraCradle Tank

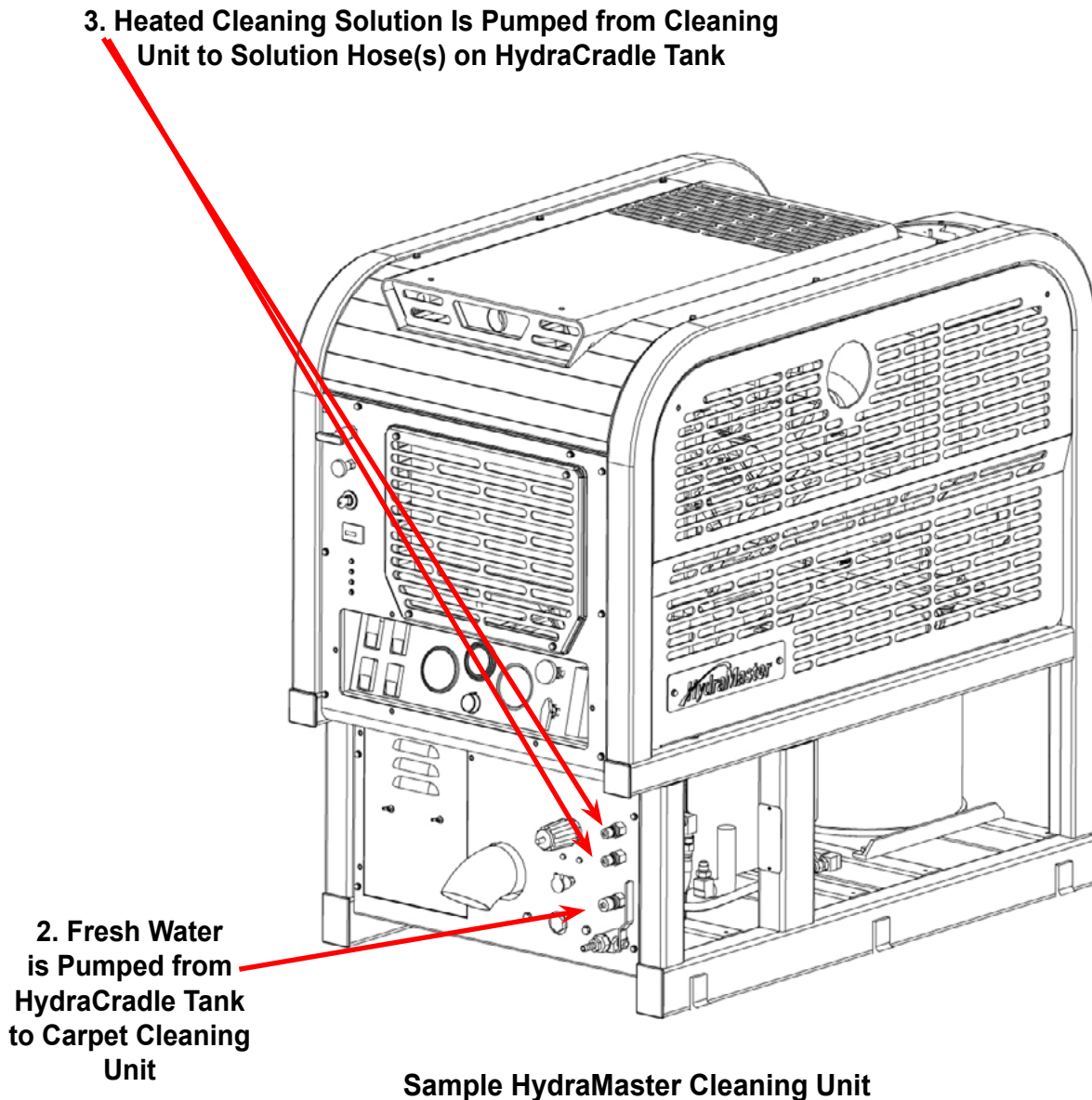


Figure 1-2. Concept Illustration of Water Flow Into HydraCradle Tank and Solution Flow into HydraCradle Tank Solution Hose(s) - Cleaning Unit View

# HydraCradle Tank

## RESPONSIBILITIES

Prior to the arrival of the unit, the vehicle in which the HydraCradle Tank will be installed should be delivered to the installer.

### Purchaser's Responsibility

If you are the purchaser, it is your responsibility to read this Owner's Manual and to familiarize yourself with the information contained herein, paying special attention to all Warnings and Cautions.

### Sales Representative's Responsibility

#### Acceptance of Shipment

1. If the HydraCradle Tank shows any outward signs of damage, do not sign the delivery receipt until you have closely inspected the unit and noted any damage on the delivery receipt.
2. The sales representative from whom you purchased your HydraCradle Tank is responsible for supervising the correct installation of the unit into your vehicle and thoroughly training you in its operation, maintenance and precautions.

#### Installation

- Correctly installing the HydraCradle Tank in your vehicle and securing it with bolts and tie down washers.
- Checking all water and vacuum connections including the vacuum reel rotation prior to starting the carpet cleaning unit.
- Checking all hoses, tools/wands and accessories for correct operation.

#### Training

- A thorough review of the Owner's Manual with the purchaser.
- Instruction in and familiarization with:
  1. How to correctly fill and drain the tank.
  2. How to correctly clean the tank.
  3. How the unit's systems work, how to troubleshoot the tank.
  4. How to do basic repairs.
  5. Safety precautions and their importance
  6. How to avoid freezing damage
  7. How to avoid hard water damage
- A thorough review of the unit warranty and warranty procedures.
- A thorough review of hard water precautions and warnings.
- How to determine hard water areas.
- Use of water softening systems.

# HydraCradle Tank

## **LOCAL WATER PRECAUTIONS**

The quality of water varies greatly. Many areas have an excess of minerals in the water which results in what is commonly called “hard water.” These minerals tend to adhere to the insides of heater coils and other parts of the machines causing damage and a loss of cleaning effectiveness. This influences the reliability and efficiency of equipment in direct proportion to the level of hardness.

### **Hard Water Advisory**

HydraMaster recognizes that any hard water deposits which might occur within the water system of our truckmounts and tanks is a serious problem. Hard water deposits will ultimately decrease the performance of the system and are expected to seriously lower the reliability of the machine.

To validate a machine’s warranty, HydraMaster requires that all machines operating in designated “Hard Water Areas” (3.0 grains or more per gallon) be fitted with a water softening system, or a properly installed magnetic-type descaler must be used and maintained. Periodic descaling or acid-rinsing alone is not adequate in these areas. HydraMaster does not recommend any particular type or brand; however, the relative effectiveness of some types of magnetic descalers or softeners may require additional periodic use of descaling agents.

HydraMaster also recommends, in the strongest possible terms, that machines in all areas be fitted with a water softening system for improved operation and reliability.

## **CAUTION**

Failure to take appropriate measures to prevent scale build up can result in system failure and loss of warranty on affected parts.

# HydraCradle Tank

## Hard Water Area Map

The hard water map, shown in Figure 1-3, defines hard water areas in the lower 48 United States which compromise fluid related components such as hoses, fittings, pumps, and valves. For other countries, hard water area maps can be obtained from geological societies.

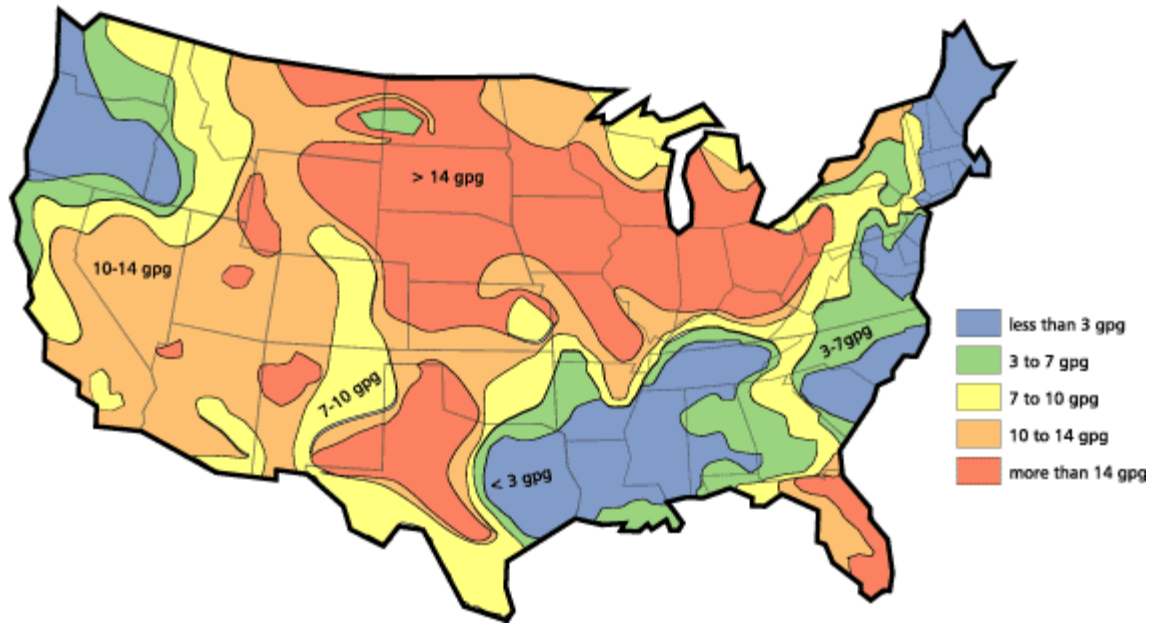


Figure 1-3. Hard Water Map of Mainland United States

## **NOTICE**

The map shown in Figure 1-3 is provided for general reference only. Water hardness in your geographical location should be confirmed by testing.

# HydraCradle Tank

## **Water Softener**

Cleaning efficiency and equipment life is increased, chemical use decreased, and the appearance of cleaned carpets enhanced when water softeners are incorporated in hard water areas. HydraMaster strongly urges the use of water softener units with the HydraCradle Tank in areas exceeding 3.0 grains per gallon.

Failure to use a water softener in these areas will invalidate the tank's warranty. Referring to the hard water area map shown Figure 1-2, determine the quality of water in your area and take immediate action if the water hardness exceeds 3.0 grains per gallon.

The relatively low cost of a water softener service is more than made up for by an increased life of machine parts, reduced chemical costs and continued cleaning efficiency. The water softener will also increase the effectiveness of the cleaning chemicals, therefore less chemical will be needed.

For example: If the softener will treat 900 gallons of water and the machine uses an average of 30 gallons per hour, for an average of 5 hours a day, this equals 150 gallons per day. In 6 days the machine would use 900 gallons of water. Therefore, the softener would need to be charged every 6 working days for maximum softening.

Contact a water softener distributor in your area for information on the rental of a simple water treatment unit to carry in your vehicle. Be sure to charge the water softener in accordance with the capability of the softener.

# HydraCradle Tank



# HydraCradle Tank

## 2 - Operating Instructions

This section of the HydraCradle Tank Owner's Manual includes information concerning:

- Start Up
- Daily Shut Down
- Shut Down for Extended Storage
- Freeze Guarding

If your HydraCradle Tank is configured with the Garden Hose Reel, Non-Live configuration, follow this connection procedure:

1. Unreel all the garden hose from the hose reel.
2. Disconnect the garden hose from the reel using the quick disconnect.
3. Connect the quick connect to the front of the HydraCradle Tank.
4. Connect the garden hose to a water source (outside house faucet).
5. Turn on the faucet to fill the tank.

If your HydraCradle Tank is configured with a Garden Hose Reel (Live) Option, follow this connection procedure:

1. Unreel sufficient garden hose to reach the water source (outside house faucet).
2. Connect the garden hose to the water source.
3. Turn on the faucet to fill tank.

### **⚠ WARNING**

To avoid personal injury, do not use the foot switch if it is in standing water or it is immersed in water.

### **CAUTION**

When operating the HydraCradle Tank during the colder months of the year, ensure that you properly freeze guard the system. Failure to take appropriate measures to prevent equipment damage due to freezing can result in system failure and loss of warranty on affected parts.

### **NOTICE**

Following the recommended HydraCradle Tank maintenance procedures will further extend the life of the HydraCradle Tank and also help ensure the best cleaning results.

# HydraCradle Tank

## START UP

1. Ensure that all electrical cables, hoses and wands/tools have been properly connected.
2. Manually unwind the vacuum hose a few feet off of the vacuum reel, and press on the foot switch to test for power retraction of the hose.

## **⚠ WARNING**

Never touch the vacuum hose reel when it is in motion. Severe bodily injury may result.

3. Start the HydraMaster cleaning unit and begin the cleaning process as recommended in the cleaning unit's owner's manual.

## DAILY SHUT DOWN

After finishing each cleaning job, follow the recommended procedure in the appropriate owner's manual for shutting down the HydraMaster cleaning unit and properly disposing of the recovered cleaning solution.

To shut down the HydraCradle Tank after daily use:

1. Clean out the vacuum hose and, pressing on the foot switch, rewind the vacuum hose onto its reel.
2. Rewind the other hoses.
3. Stow the foot switch securely inside the vehicle.
4. Place prespray bottles and cleaning tools/wands in the tank's storage area.

## **CAUTION**

When operating the HydraCradle Tank during the colder months of the year, ensure that you properly freeze guard the system. Failure to take appropriate measures to prevent equipment damage due to freezing can result in system failure and loss of warranty on affected parts.

## **NOTICE**

In colder climates, insulating the vehicle walls and floor boards will help protect the equipment.

## **NOTICE**

When the van is not in operation, placing an electric heater in the vehicle or parking the vehicle indoors will help ensure against freezing, but should not be the primary method of freeze protection.

# HydraCradle Tank

## SHUT DOWN FOR EXTENDED STORAGE

If you are want to shut down and store the HydraCradle Tank for an extended period of time:

1. Remove the hose from the pump-in pump connector, positioning the hose so it is pointing outside the van.
2. Turn on the pump-in pump and run for 1 - 2 minutes until all the water is purged from the hose.
3. Remove the recovery tank hose from the cleaning unit's recovery tank and the HydraCradle Tank; rinse with clean water and allow the recovery tank hose to drain.
4. Drain the remainder of the water in the tank by opening the drain valve (see Figure 3-1).
5. Manually unwind the vacuum hose and remove it from the reel, rinse the hose with clean water and allow it to drain before rewinding it on the reel.
6. Unwind the garden hose(s), detach from the reel(s) and completely drain the hose(s) before rewinding them onto the reel(s).
7. Remove and clean the filters as instructed in Section 5 of this Owner's Manual.
8. Stow the foot switch securely inside the vehicle.
9. Place prespray bottles and cleaning tools/wands in the tank's storage area.



**Figure 3-1. Turn Drain Valve**

## CAUTION

Failure to take appropriate measures to prevent equipment damage due to freezing can result in system failure and loss of warranty on affected parts.

# HydraCradle Tank

## FREEZE GUARDING

Water freezes at 32° F (0° C), but, to be on the safe side, you should protect your HydraCradle Tank and hoses for any temperature below 35° F (1.67° C).

### CAUTION

When operating the HydraCradle Tank during the colder months of the year, ensure that you properly freeze guard the system. Failure to take appropriate measures to prevent equipment damage due to freezing can result in system failure and loss of warranty on affected parts.

The following precautions are recommended prior to and during cleaning:

1. Run the HydraMaster cleaning unit HydraCradle Tank before leaving for the first job to ensure nothing has frozen the night before, including hoses and tool/wand.
2. Drain the remainder of the water in the tank by opening the drain valve (see Figure 3-1).
3. Insulate the fresh water hose (that connects from the outside water faucet to the HydraCradle Tank) from the cold ground by routing the hose through an extra 1½” (3.8 cm) vacuum hose.
4. Close the van doors until you begin cleaning; afterwards, open the doors only slightly.

### NOTICE

In colder climates, insulating the vehicle walls and floor boards will help protect the equipment.

5. Do not procrastinate during the cleaning operation or the hot water solution line will also freeze on the ground. The solution line should be insulated in extremely cold climates.
6. Whenever possible, store the van in a heated garage at night or over the weekend. If not possible, place a 1,500 Watt electric heater inside the vehicle, aimed directly at the equipment.
7. Follow steps detailed in the preceding Daily Shut Down procedure.

### NOTICE

When the van is not in operation, placing an electric heater in the vehicle or parking the vehicle indoors will help ensure against freezing, but should not be the primary method of freeze protection.

# HydraCradle Tank

## 3 - Electrical System

The HydraCradle's electrical system has been designed to be powered just by the vehicle's or truckmount's 12 V battery (see Figure 3-1). No special power sources are required.

Although the electrical configuration is fairly straightforward and easy to follow as you can see in Figure 3-1, you should note the following if you are the distributor, installer or service technician:

### If installing the HydraCradle tank in a van with a HydraMaster truckmount:

- The white/black pump-in pump cable connects to the white/black cable on the truckmount.
- The grey pump-in pump cable connects to the grey cable on the truckmount.

### If installing the HydraCradle tank in a van with a HydraMaster CDS:

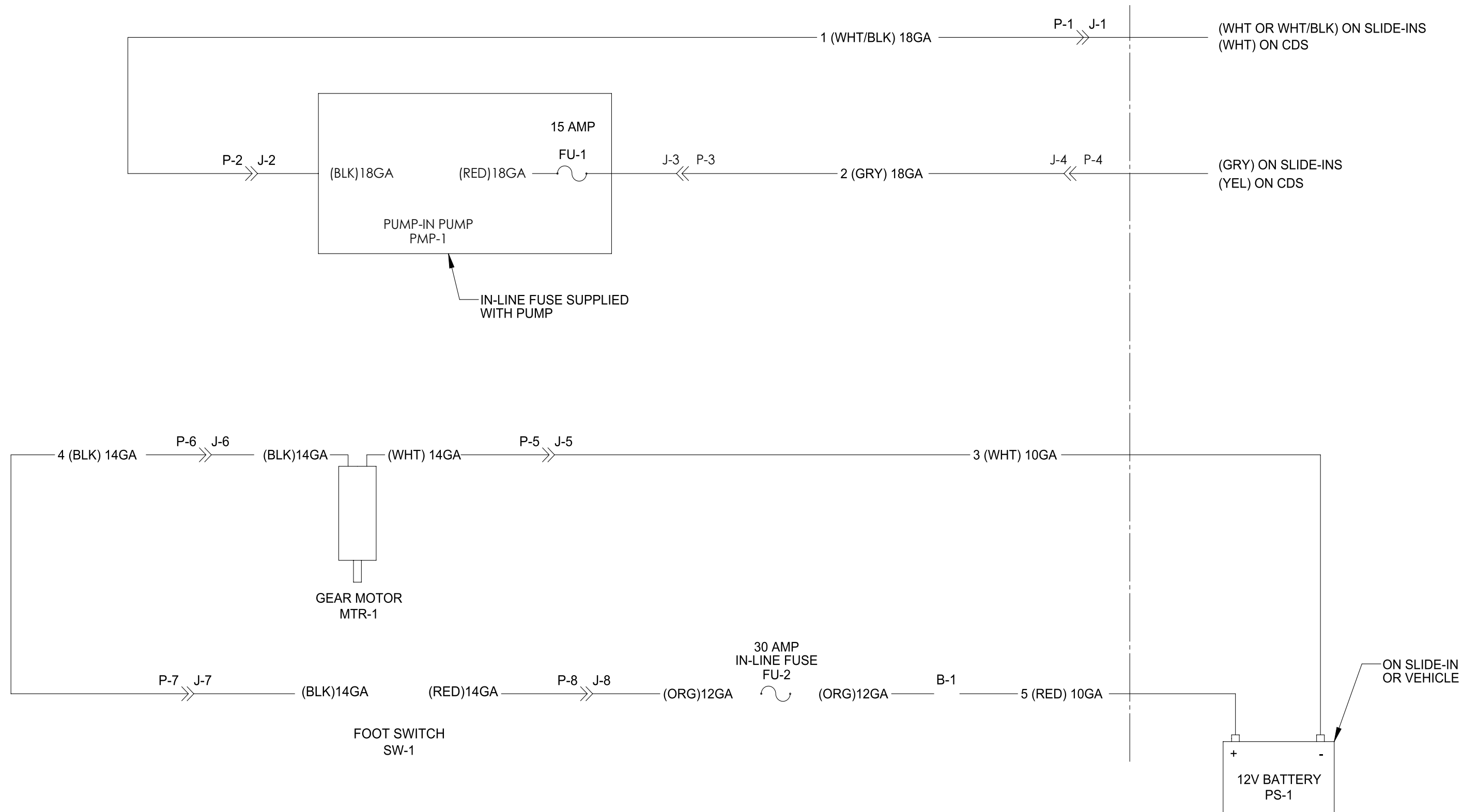
- The white/black pump-in pump cable connects to the white cable on the CDS.
- The grey pump-in pump cable connects to the yellow cable on the CDS.

Also, the HydraCradle's 2 fuses (15 Amp for the pump-in pump and 30 Amp for the foot switch/gear motor), indicated in Figure 3-2, are both easily accessible from the front panel of the HydraCradle.

Figure 3-2, which shows a layout of the HydraCradle's wiring harness, has been included in this manual as a convenient reference and also to provide more connection details for distributors/installers.

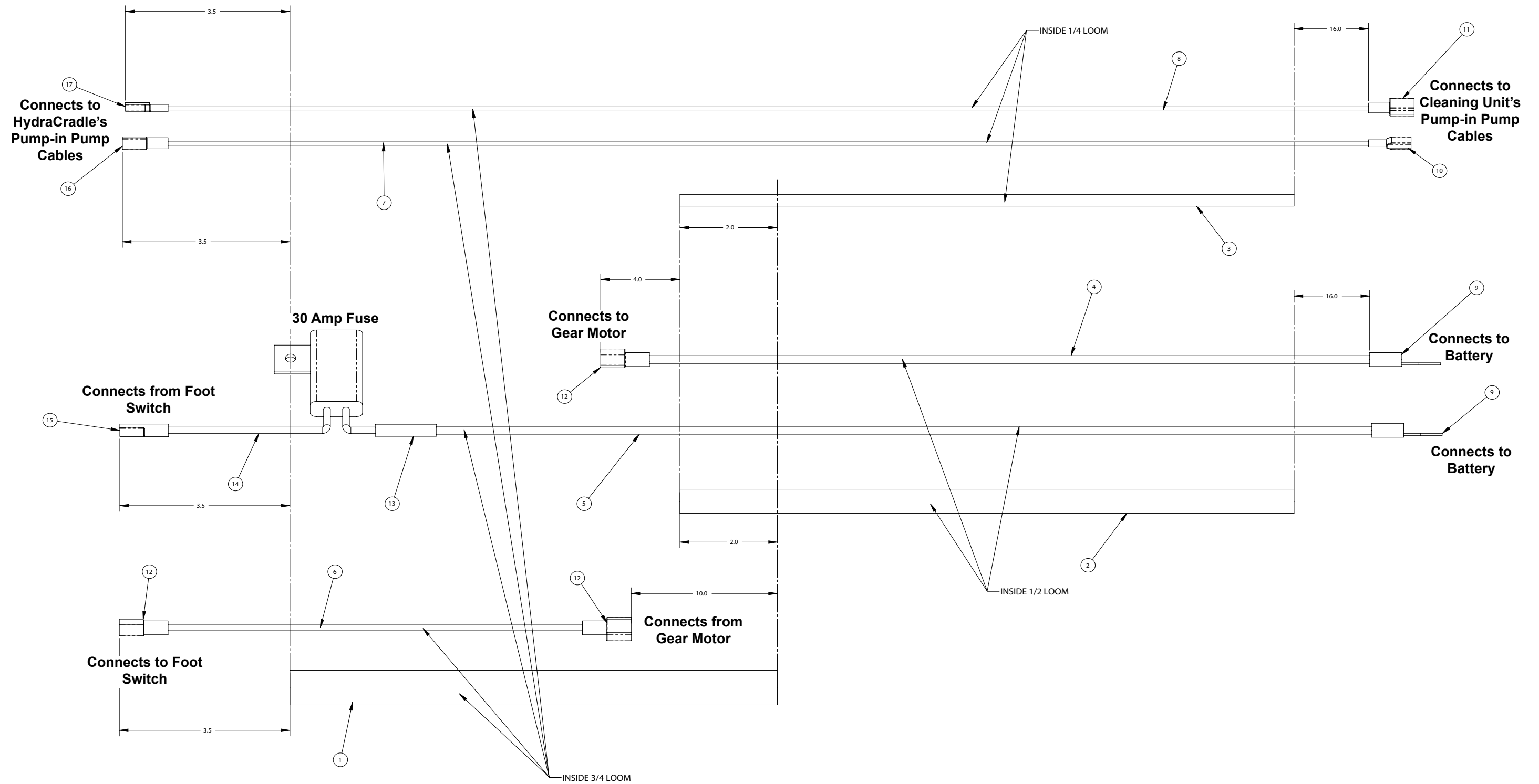
# HydraCradle Tank

Figure 3-1. Wiring Diagram  
000-179-044 Rev. B



# HydraCradle Tank

Figure 3-2. HydraCradle Cable Harness Diagram  
000-063-040 Rev. B



# HydraCradle Tank

## CABLE HARNESS PARTS LIST

Item	Part Number	Description	Qty
1	000-063-017	Harness Wrap, 3/4" Split	5
2	000-063-008	Harness Wrap, 1/2" Split	13
3	000-063-021	Harness Wrap, 1/4" Split	13
4	000-178-014	Wire, GXL, 10 Ga, White	14
5	000-178-035	Wire, GXL, 10 Ga, Red	18
6	000-178-064	Wire, GXL, 14 Ga, Black	5
7	000-178-095	Wire, GXL, 18 Ga, Grey	19
8	000-178-111	Wire, GXL, 18 Ga, White-Black Stripe	19
9	000-037-017	Terminal, 3/8" Stud, 10 Ga Wire, Insulated	2
10	000-037-071	Terminal, Fully Insulated Female, 22 -16 Ga	1
11	000-037-072	Terminal, Fully Insulated Male, 22 -16 Ga	1
12	000-037-023	Terminal, Fully Insulated Male, 12 -10 Ga	3
13	000-037-029	Connector, Butt, 12-10 Ga	1
14	000-056-006	Fuse Holder, In-Line - Weatherproof	1
15	000-037-022	Terminal, Fully Insulated Female, 12-10 Ga	1
16	000-037-009	Terminal, Fully Insulated Male, 16-14 Ga	1
17	000-037-012	Terminal, Fully Insulated Female, 22-16 Ga	1

### NOTICE

A spare fuse (P/N 000-056-011) in a bag (P/N 000-014-110) is also included in the Cable Harness parts.



## 4 - Assemblies and Parts Lists

This section of the manual provides detailed illustrations and parts lists for the following assemblies.

### NOTICE

When ordering parts for assemblies, first refer to the appropriate assembly listed here and then find the part number listed on that specific page. In most cases, you do not have to order the entire assembly to get a part.

If you have an electronic copy (a .pdf) of this manual, you can search for the part number by pressing the **CTRL** key and the **F** key at the same time. This will “pop up” the Find window on your monitor. Type the part number, including dashes, into the Find window and press the **Enter** key.

- HydraCradle Tank with One Solution Hose, Non-Live Reel  
Assembly Parts List .....4-3
- HydraCradle Tank with One Solution Hose, Live Reel  
Assembly Parts List .....4-4
- HydraCradle Tank with One Garden Hose, Non-Live Reel  
Assembly Parts List .....4-5
- HydraCradle Tank with One Garden Hose, Live Reel  
Assembly Parts List .....4-6
- HydraCradle Tank Assembly Parts List .....4-10
- Vacuum Hose Reel Assembly Parts List .....4-12
- Vacuum Hose Reel Hub Assembly Parts List .....4-13
- 14” Diameter 2nd Solution Hose Reel Assembly Parts List .....4-15
- 14” Diameter 2nd Garden Hose Reel Assembly Parts List .....4-17
- 14” Diameter 1st or 3rd Solution Hose Reel Assembly Parts List .....4-19
- 14” Diameter 1st or 3rd Garden Hose Reel Assembly Parts List .....4-21
- 1/6 HP 12VDC Motor Assembly Parts List .....4-22
- Pump-In Pump Assembly Parts List .....4-23
- Foot Switch Assembly Parts List .....4-24
- Crank Handle Assembly Parts List .....4-25
- Vacuum Hose Reel Kit Assembly Parts List .....4-27
- Live Garden Fittings Kit Assembly Parts List .....4-28
- Live Solution Fittings Kit Assembly Parts List .....4-29

# HydraCradle Tank

Some of the illustrations in this section reference sealants, thread lockers, adhesive, primer, anti-seize and lubricant specifications that are used in the construction of HydraMaster equipment.

Refer to Figure 9-1 to identify those substances such as A1, A2 and so forth. Equivalent products are acceptable if they meet or exceed current specifications and are approved by HydraMaster.



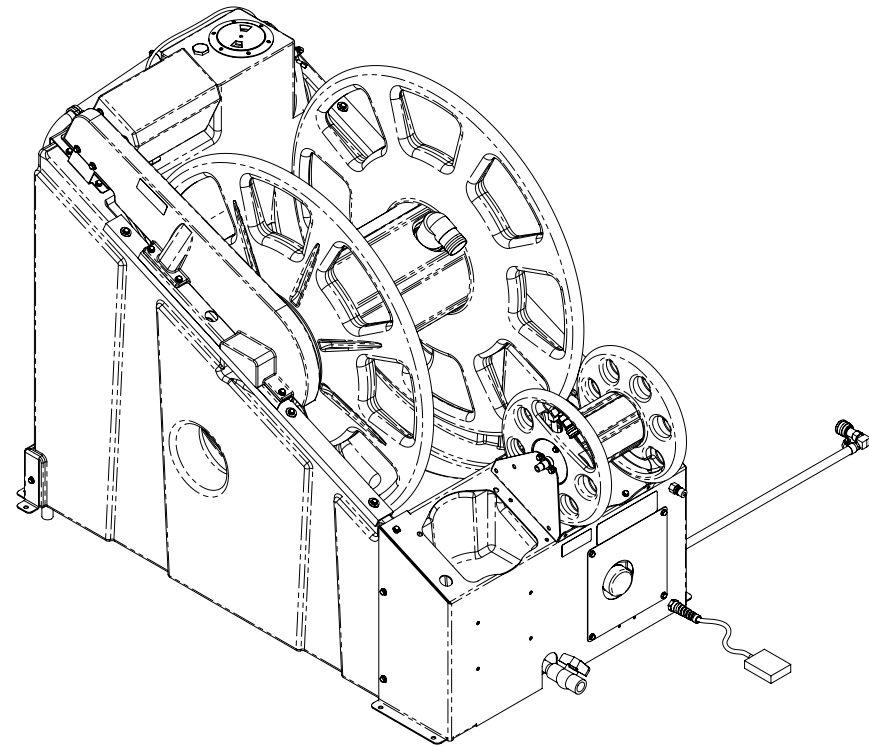
Adhesive Material Production Line Reference Card from ENG-45975 Rev. 0					
<p><b>A1</b> Silicone RTV</p> 	<p><b>A2</b> Loctite 567</p> 	<p><b>A3</b> Loctite 545</p> 	<p><b>A4</b> Teflon Tape</p> 	<p><b>E1</b> Loctite 51252 Grease</p> 	
<p><b>B1</b> Loctite 242</p> 	<p><b>B2</b> Loctite 262</p> 	<p><b>B3</b> Loctite 266</p> 	<p><b>C1</b> Gapper</p> 	<p><b>D1</b> Loctite 7649</p> 	<p><b>E2</b> Molykote Anti-Seize</p> 
<p><b>B4</b> Loctite 222MS</p> 	<p><b>B5</b> Loctite 425</p> 	<p><b>E4</b> Super Lube</p> 	<p><b>E5</b> SKF Anti-Fret</p> 		

Figure 9-1. Adhesive/Sealant Material Reference

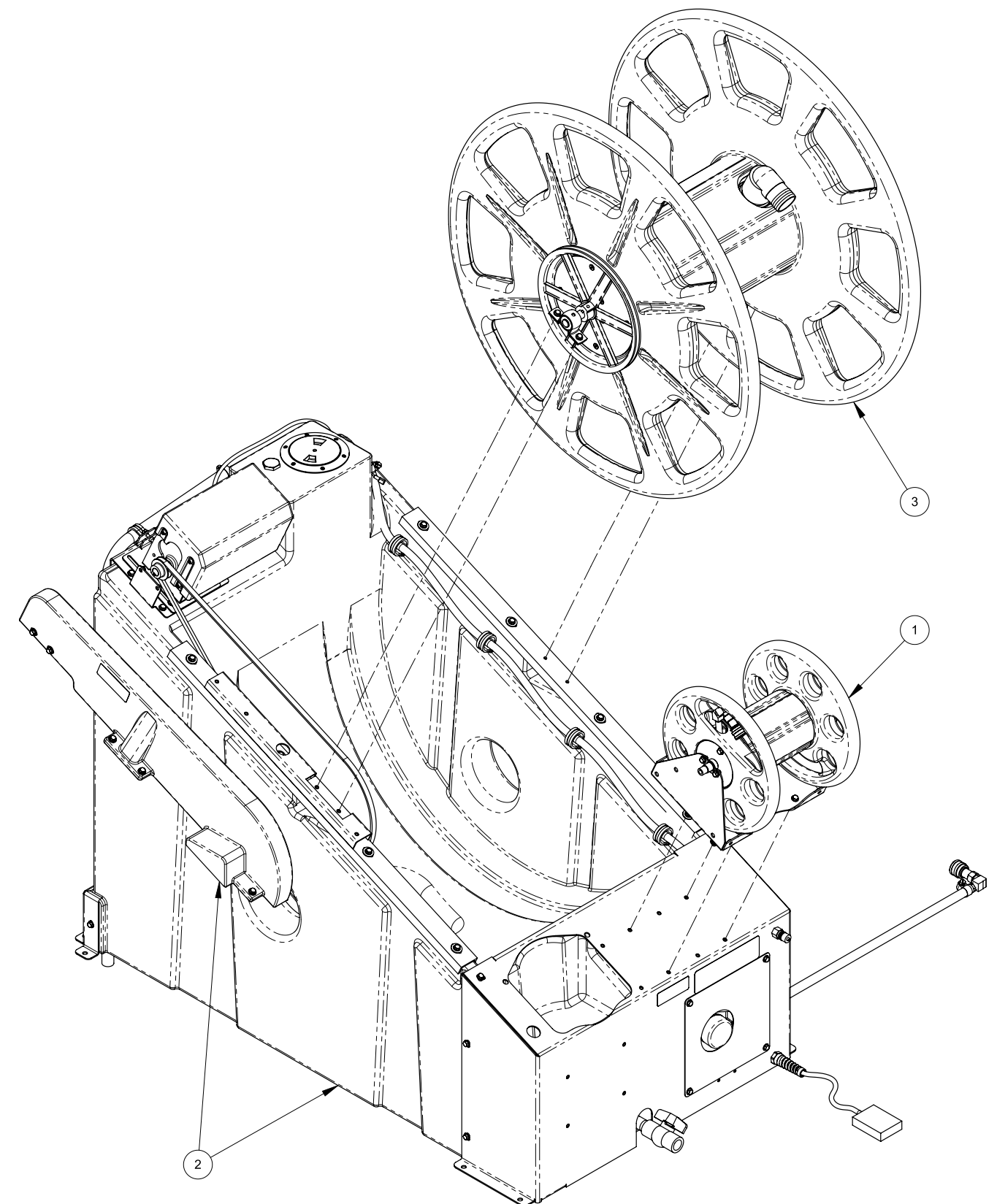
# HydraCradle Tank

Figure 9-1. HydraCradle Tank with One Solution Hose, Non-Live Reel Assembly  
000-163-600 Rev. A



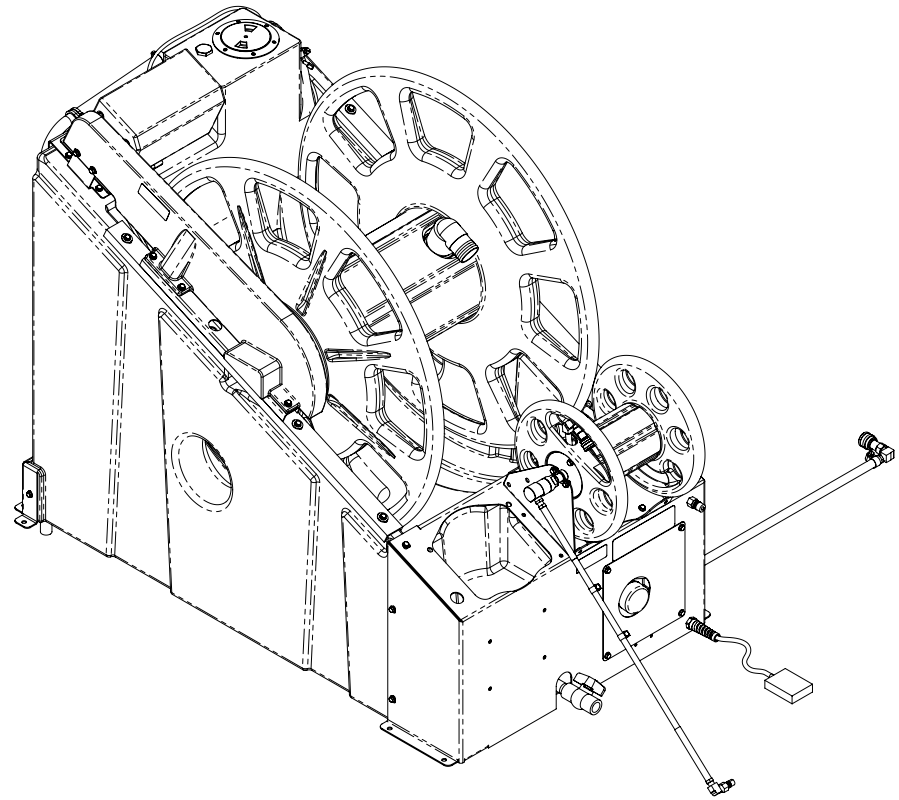
## HydraCradle Tank with One Solution Hose, Non-Live Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-163-603S	Assembly, 14" Hose Reel, Solution	1
2	000-163-604	Assembly, Tank Less Vacuum Reel	1
3	000-163-605	Assembly, Vacuum Hose Reel	1



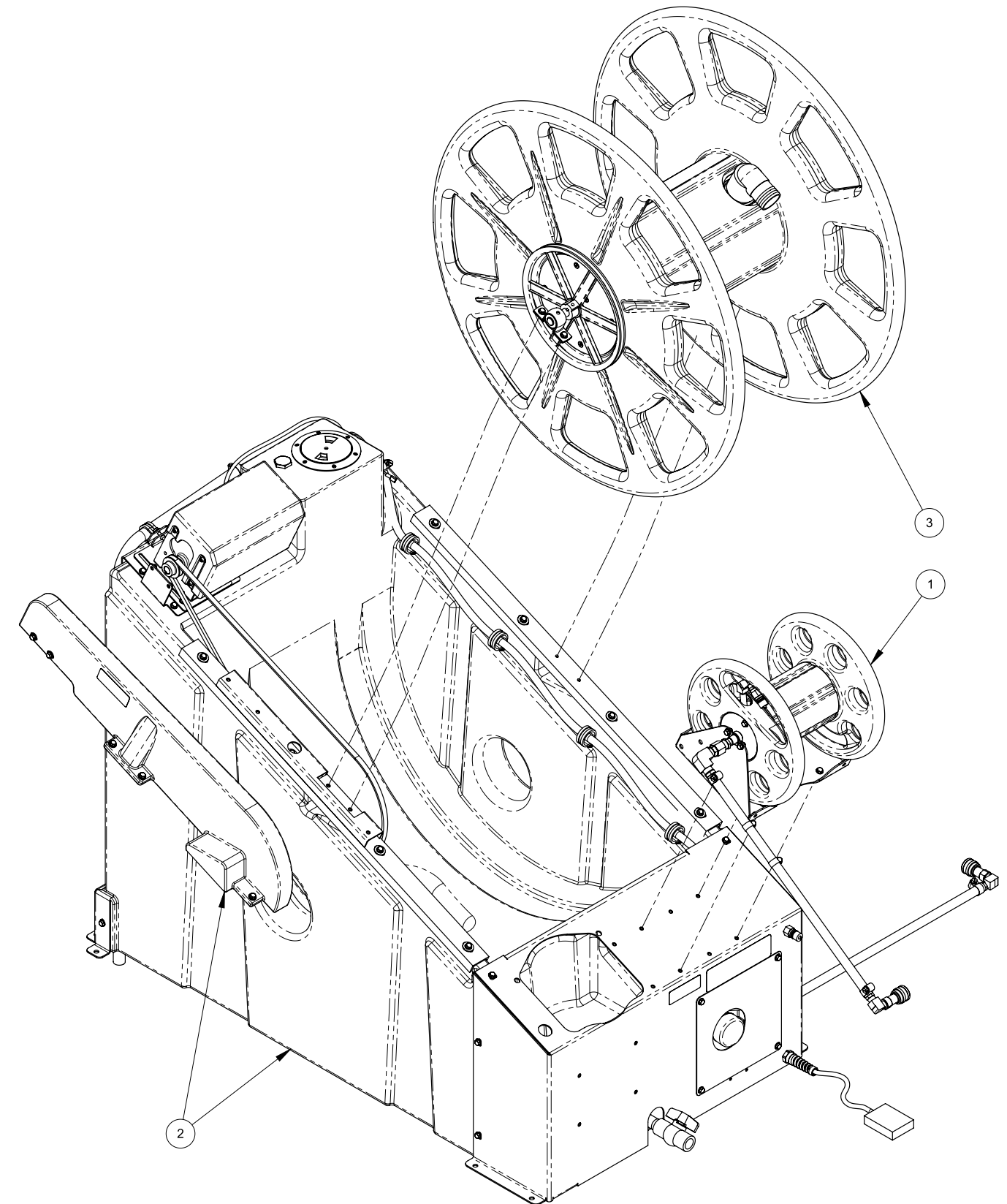
# HydraCradle Tank

Figure 9-2. HydraCradle Tank with One Solution Hose, Live Reel Assembly  
000-163-600L Rev. A



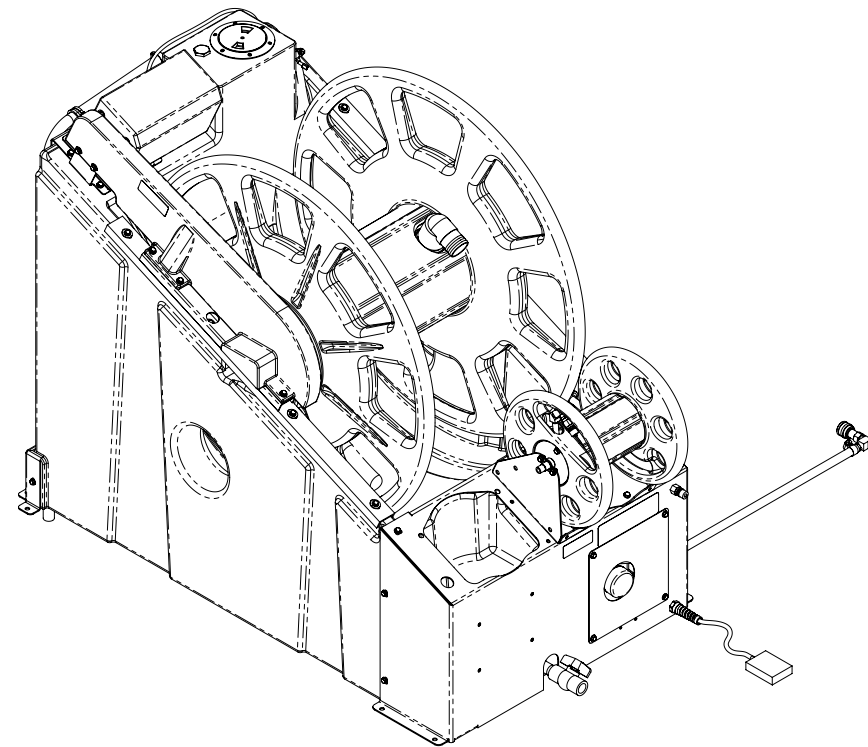
HydraCradle Tank with One Solution Hose, Live Reel  
Assembly Parts List

Item	Part Number	Description	Qty
1	000-163-603SL	Assembly, 14" Hose Reel, Solution - Live	1
2	000-163-604	Assembly, Tank Less Vacuum Reel	1
3	000-163-605	Assembly, Vacuum Hose Reel	1



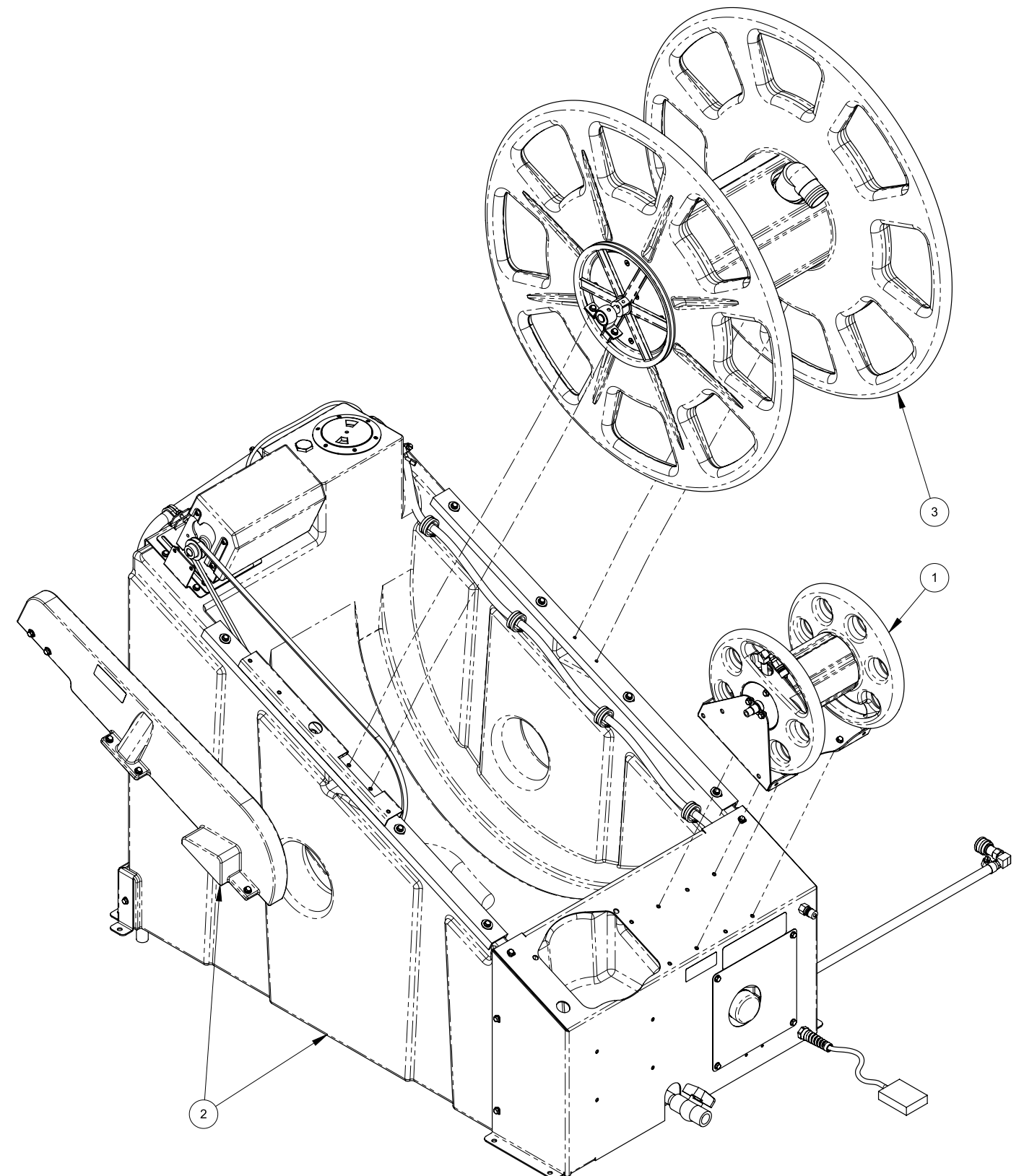
# HydraCradle Tank

**Figure 9-3. HydraCradle Tank with One Garden Hose, Non-Live Reel Assembly**  
000-163-601 Rev. A



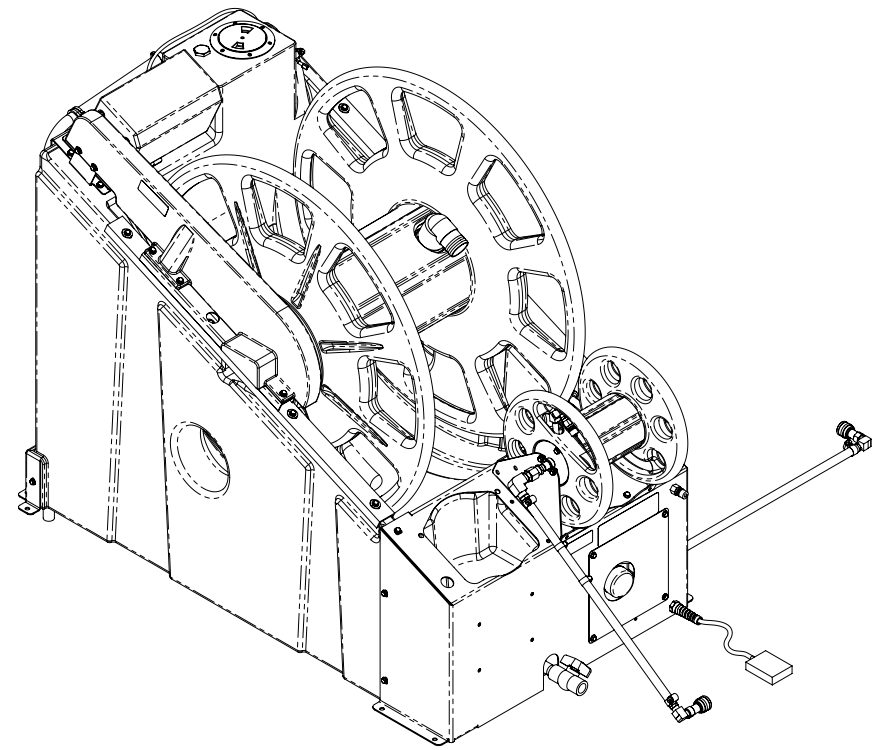
## HydraCradle Tank with One Garden Hose, Non-Live Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-163-603G	Assembly, 14" Hose Reel, Garden	1
2	000-163-604	Assembly, Tank Less Vacuum Reel	1
3	000-163-605	Assembly, Vacuum Hose Reel	1



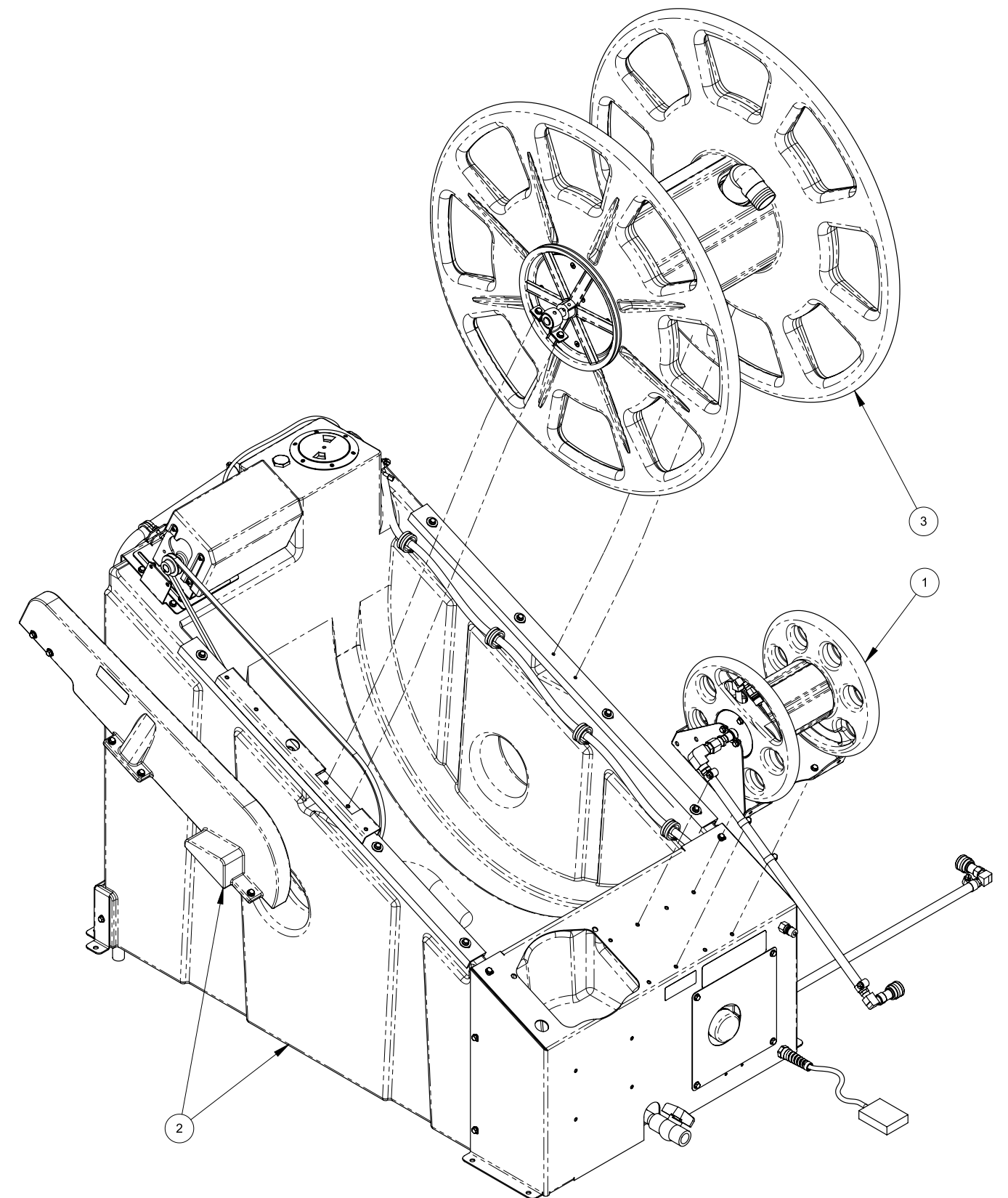
# HydraCradle Tank

Figure 9-4. HydraCradle Tank with One Garden Hose, Live Reel Assembly  
000-163-601L Rev. A



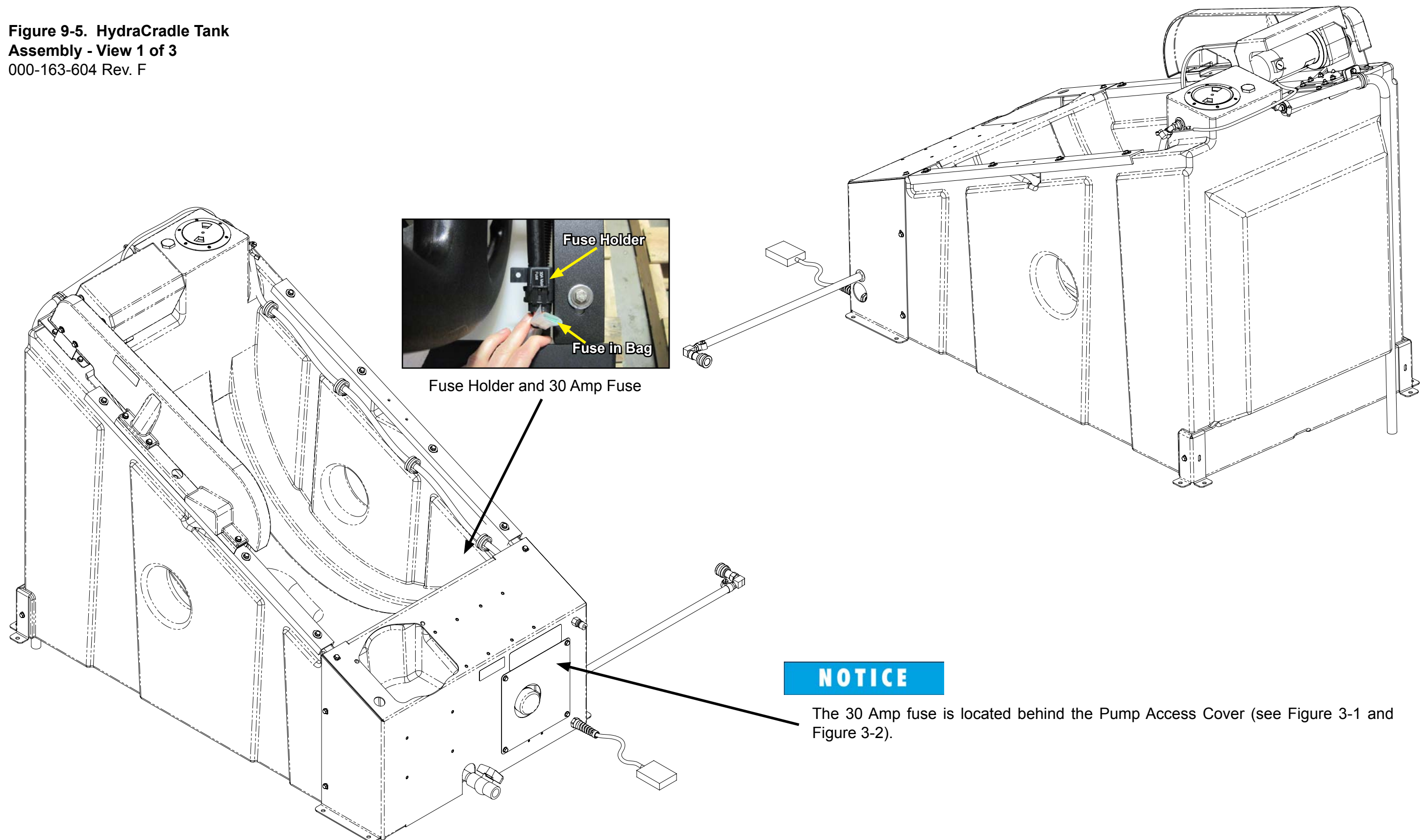
HydraCradle Tank with One Garden Hose, Live Reel  
Assembly Parts List

Item	Part Number	Description	Qty
1	000-163-603GL	Assembly, 14" Hose Reel, Garden - Live	1
2	000-163-604	Assembly, Tank Less Vacuum Reel	1
3	000-163-605	Assembly, Vacuum Hose Reel	1



# HydraCradle Tank

Figure 9-5. HydraCradle Tank  
Assembly - View 1 of 3  
000-163-604 Rev. F

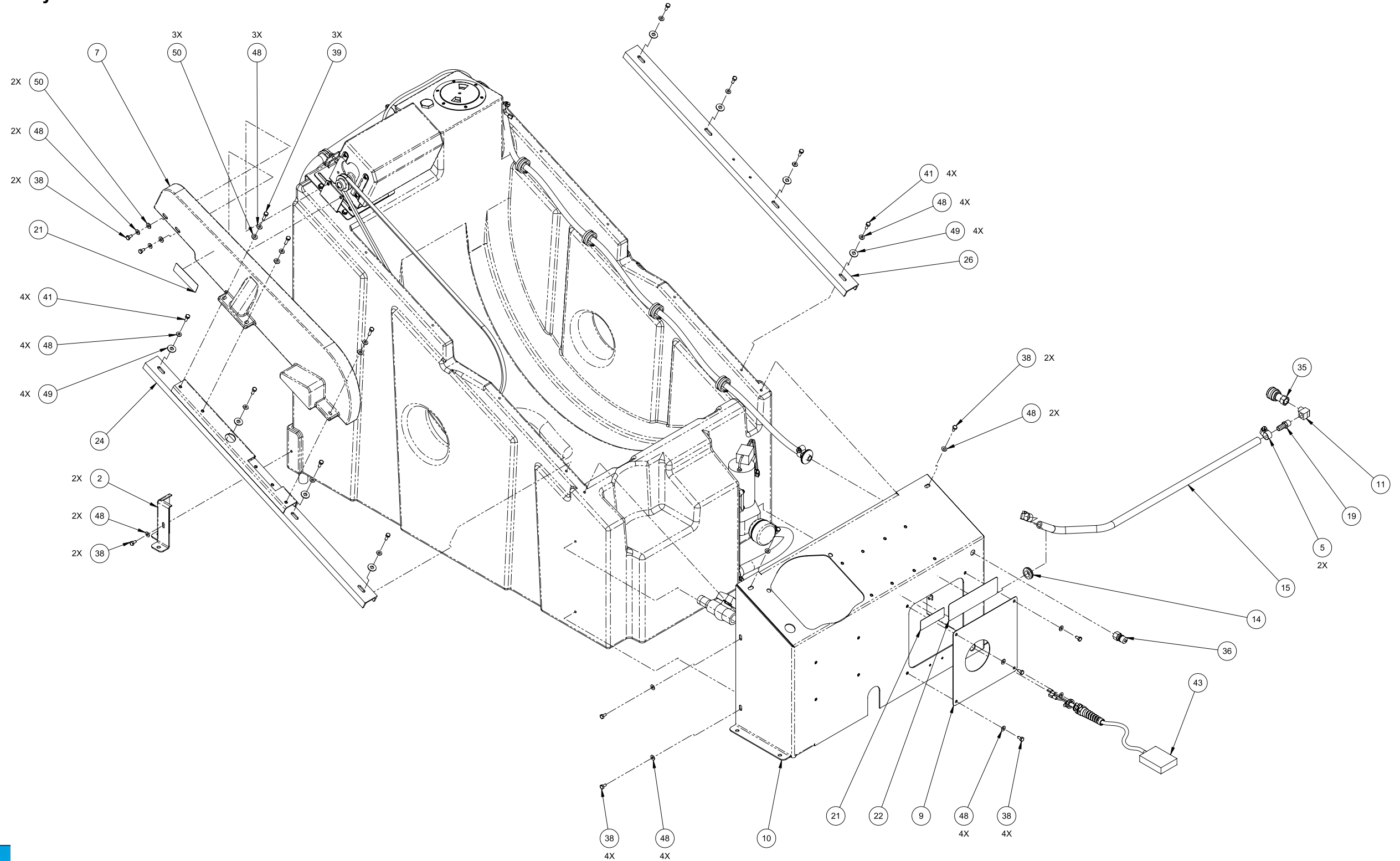


## NOTICE

The 30 Amp fuse is located behind the Pump Access Cover (see Figure 3-1 and Figure 3-2).

# HydraCradle Tank

Figure 9-6. Tank Assembly - View 2 of 3  
000-163-604 Rev. F



## NOTICE

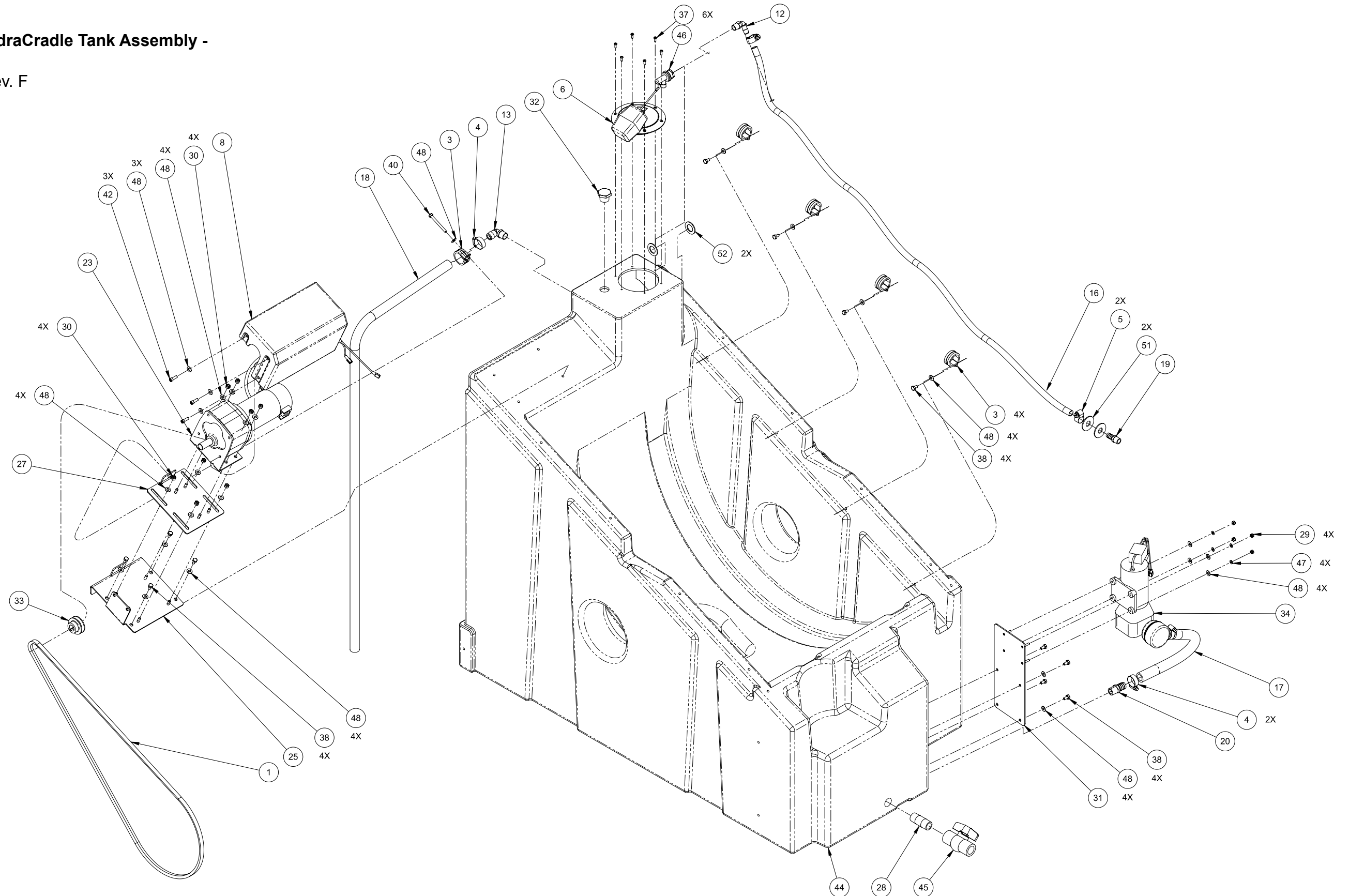
The HydraCradle Tank Assembly includes all valves, all fittings and the retraction motor assembly.

Assemblies and Parts Lists: 4-8



# HydraCradle Tank

Figure 9-7. HydraCradle Tank Assembly -  
View 3 of 3  
000-163-604 Rev. F



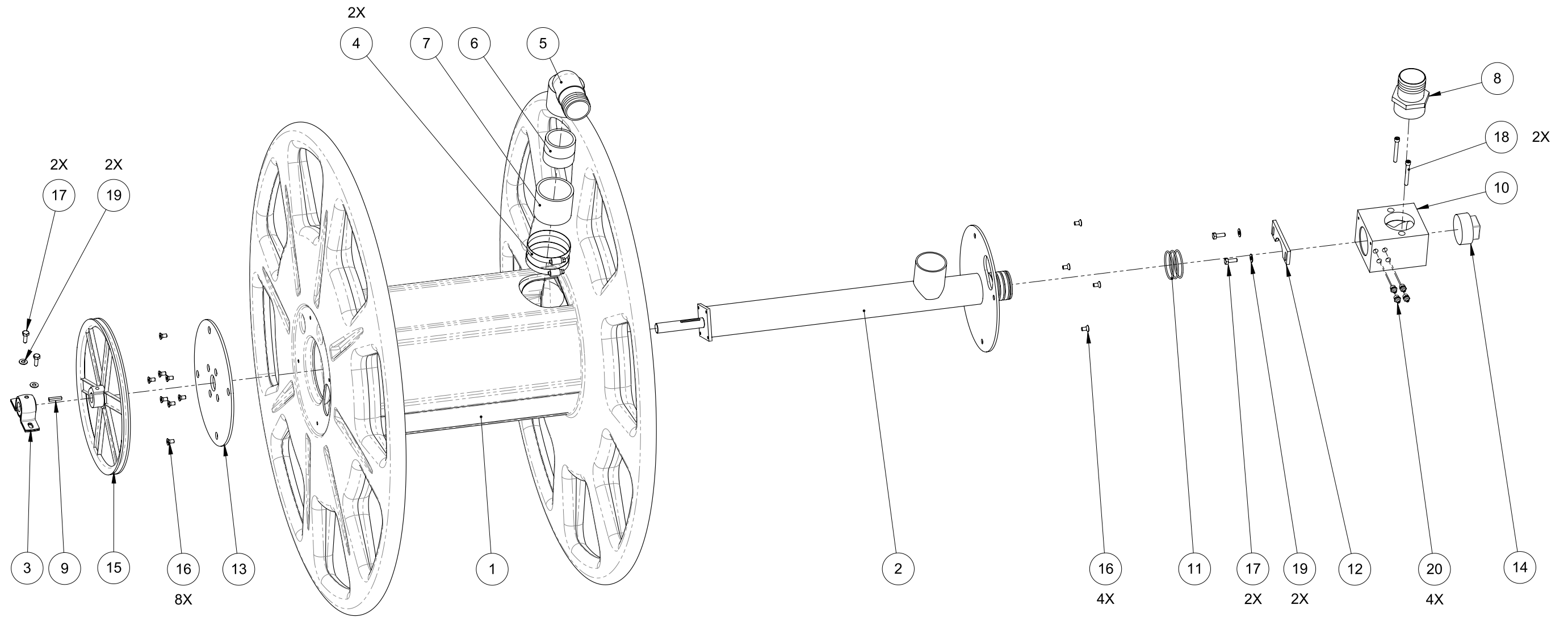
# HydraCradle Tank

## HydraCradle Tank Assembly Parts List

Item	Part Number	Description	Qty	Item	Part Number	Description	Qty
1	000-010-130	Belt, 4L, 73" Long	1	27	000-092-026	Mount, Motor Adjustment - Coated	1
2	000-015-977	Bracket, Rear Base - Coated	2	28	000-052-328	Nipple, 3/4 X 2 1/2,PVC	1
3	000-033-116	Clamp, 1-1/2" Cushion Loop w/ 7/16" Mounting Hole	5	29	000-094-034	Nut, #10-24UNC Nylock	4
4	000-033-029	Clamp, Size #12 Hose	3	30	000-094-009	Nut, 1/4"-20UNC Nylock	8
5	000-033-004	Clamp, Size #6 Mini Hose	4	31	000-100-183	Panel, Pump Mounting - Coated	1
6	000-041-365	Cover, 4" Round	1	32	000-052-816	Plug, 3/4" NPT, PVC	1
7	000-041-475	Cover, Belt - HydraCradle Tank	1	33	000-109-122	Pulley, 2" O.D. X 3/4 Bore	1
8	000-041-474	Cover, Motor, HydraCradle Tank	1	34	000-111-190	Pump, Flojet, 4.5 gpm, 40 psi, 12VDC, Modification	1
9	000-041-477	Cover, Pump Access - Coated	1	35	000-052-053	Quick Connect, 3/8 Female	1
10	000-041-476	Cover, Tank Front - Coated	1	36	000-052-052	Quick Connect, 660 3/8" Brass w/ EPDM O-Ring	1
11	000-052-086	Elbow, 3/8" NPT Street	1	37	000-143-314	Screw, #8 X 1/2" Lg. Pan Head	6
12	000-052-355	Elbow, 3/8" NPT X 1/2" Hose, GFBN	1	38	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	26
13	000-052-197	Elbow, 1/2" NPT X 3/4 Hose, GFBN	1	39	000-143-002	Screw, 1/4"-20UNC X 1.00" Lg. Hex Head	3
14	000-060-013	Grommet, 3/4" I.D. Rubber	1	40	000-143-594	Screw, 1/4"-20UNC X 2 1/2" Lg. HHCS, Full Threads	1
15	000-068-403	Hose, 1/2" I.D. Rubber X 183" Lg	1	41	000-143-001	Screw, 1/4"-20UNC X 3/4" Lg. Hex Head	8
16	000-068-402	Hose, 1/2" I.D. Rubber X 57" Lg	1	42	000-143-566	Screw, 1/4"-28UNF X 0.75" Lg. Socket Head	3
17	000-068-404	Hose, 3/4" I.D. Green Stripe X 14" Lg	1	43	000-157-156	Switch, Foot-Modified	1
18	000-068-405	Hose, 3/4" I.D. Green Stripe X 58" Lg	1	44	000-159-134	Tank, 125 Gallon, HydraCradle	1
19	000-052-105	Insert, #68 (3/8" NPT X 1/2" Barb)	2	45	000-169-202	Valve, 3/4" FPT Ball Valve	1
20	000-052-129	Insert, #812, 1/2NPT X 3/4 Hose	1	46	000-169-217	Valve, Float, Water Box	1
21	000-081-327	Label, ANSI Warning	2	47	000-174-001	Washer, #10 Flat	4
22	000-081-335	Label, Large 8" X 2.375"	1	48	000-174-003	Washer, 1/4" Flat	53
23	000-091-046	Motor Assembly, 1/6HP, 12VDC, Modification	1	49	000-174-005	Washer, 3/8" Flat	8
24	000-092-033	Mount, Bearing - Coated	1	50	000-174-049	Washer, 5/16" Flat	5
25	000-092-027	Mount, Drive Motor - Coated	1	51	000-174-008	Washer, 5/8" Flat	2
26	000-092-034	Mount, Live Center - Coated	1	52	000-174-028	Washer, 7/8" I.D. X 1.50" O.D. X 0.090" Thk.	2

# HydraCradle Tank

**Figure 9-8. Vacuum Hose Reel Assembly**  
000-163-605 Rev. G

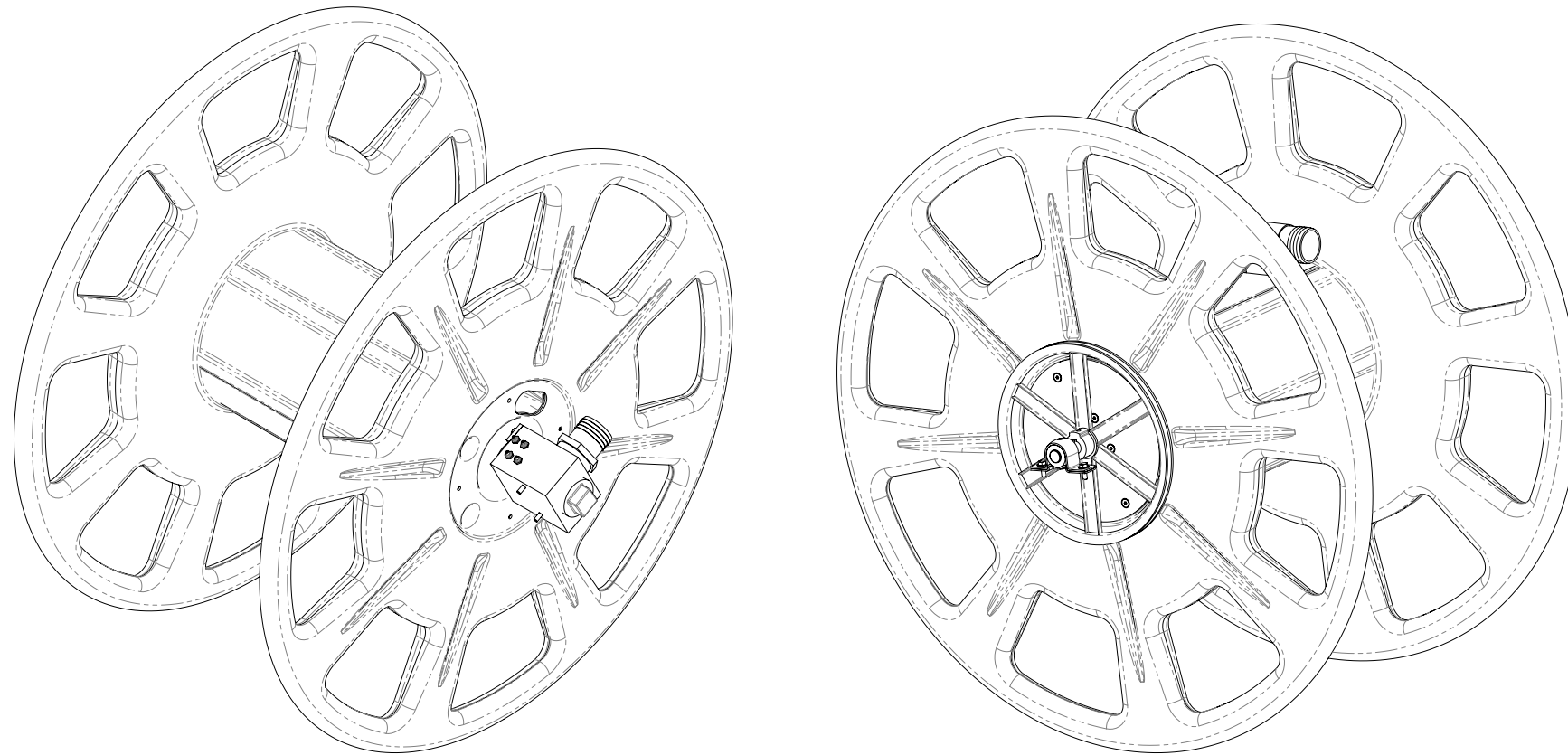


# HydraCradle Tank

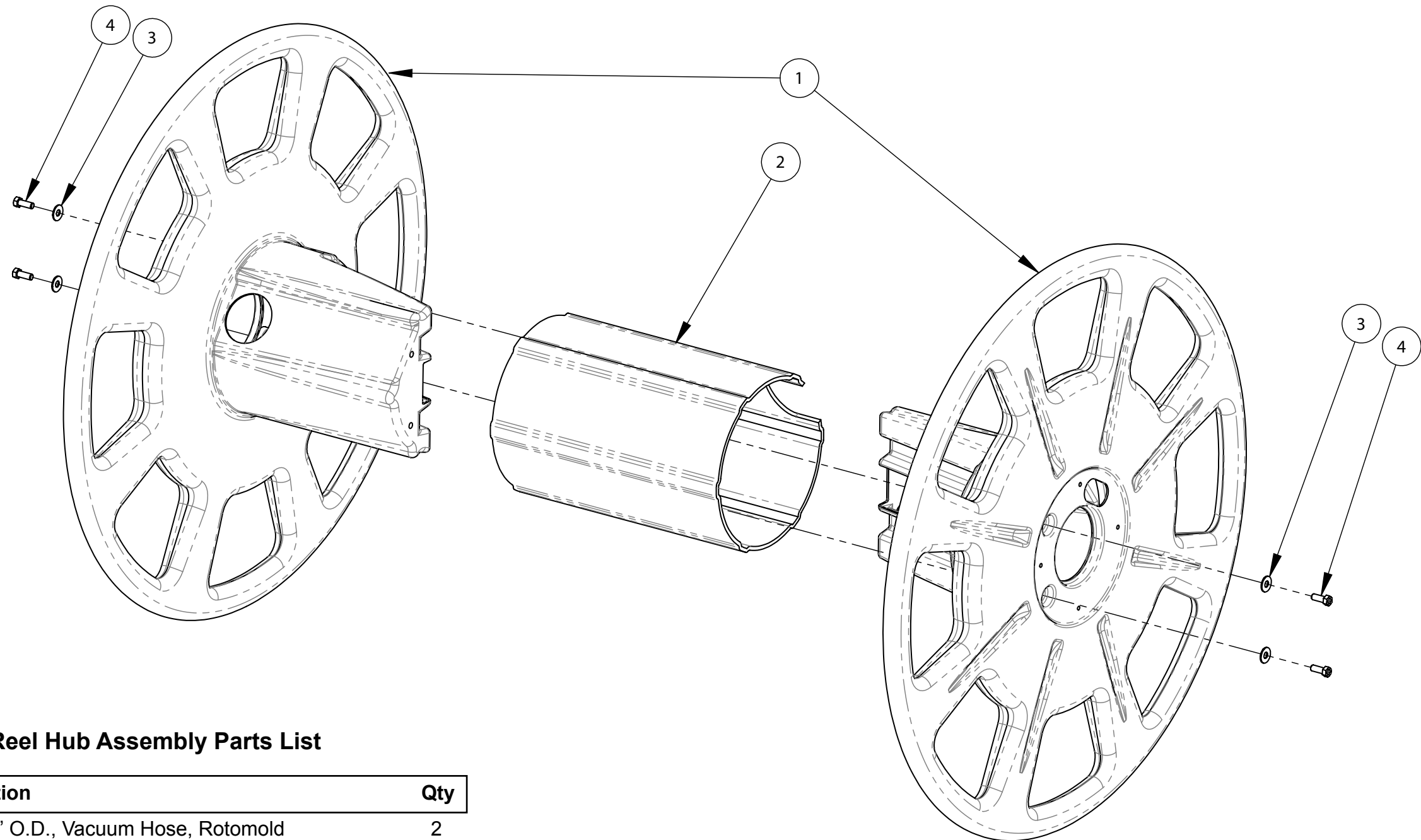
## Vacuum Hose Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-163-597	Assembly, Hub - Vacuum Hose Reel	1
2	000-141-044	Axle, Main Shaft, Welded	1
3	000-008-053	Bearing, Pillow Block, 3/4	1
4	000-033-012	Clamp, Size #44 Hose	2
5	000-052-222	Elbow, 2" Barb X 2" FPT	1
6	000-052-820	Half Nipple, 2" NPT X 2" Lg	1
7	000-068-887	Hose, 2-1/2" Red Stripe X 2-3/8" Lg.	1
8	000-052-221	Insert, 2" NPT X 2" Barb (Gray)	1
9	000-077-016	Key, 3/16 X 3/16 X 1.0" Lg	1
10	000-092-025	Mount, Live Center	1

Item	Part Number	Description	Qty
11	000-097-071	O-Ring, 2" Nom I.D. X 0.103	3
12	000-105-560	Plate, Locking, Vac Hose Reel	1
13	000-105-661	Plate, Reel Mtg Brg Side - Coated	1
14	000-106-018	Plug, 2" NPT, Square Head	1
15	000-109-128	Pulley, 12" O.D. X 3/4 Bore	1
16	000-143-596	Screw, 1/4"-20UNC X 0.50" Lg, Flat Head	12
17	000-143-001	Screw, 1/4"-20UNC X 0.75" Lg. Hex Head	4
18	000-143-606	Screw, 1/4"-20UNC X 2" Lg. Socket Head	2
19	000-174-003	Washer, 1/4" Flat	4
20	000-052-505	Zerk Fitting, 1/8" MNPT Grease Fitting - Straight Z/P	4



**Figure 9-9. Vacuum Hose Reel Hub Assembly**  
000-163-597 Rev. A

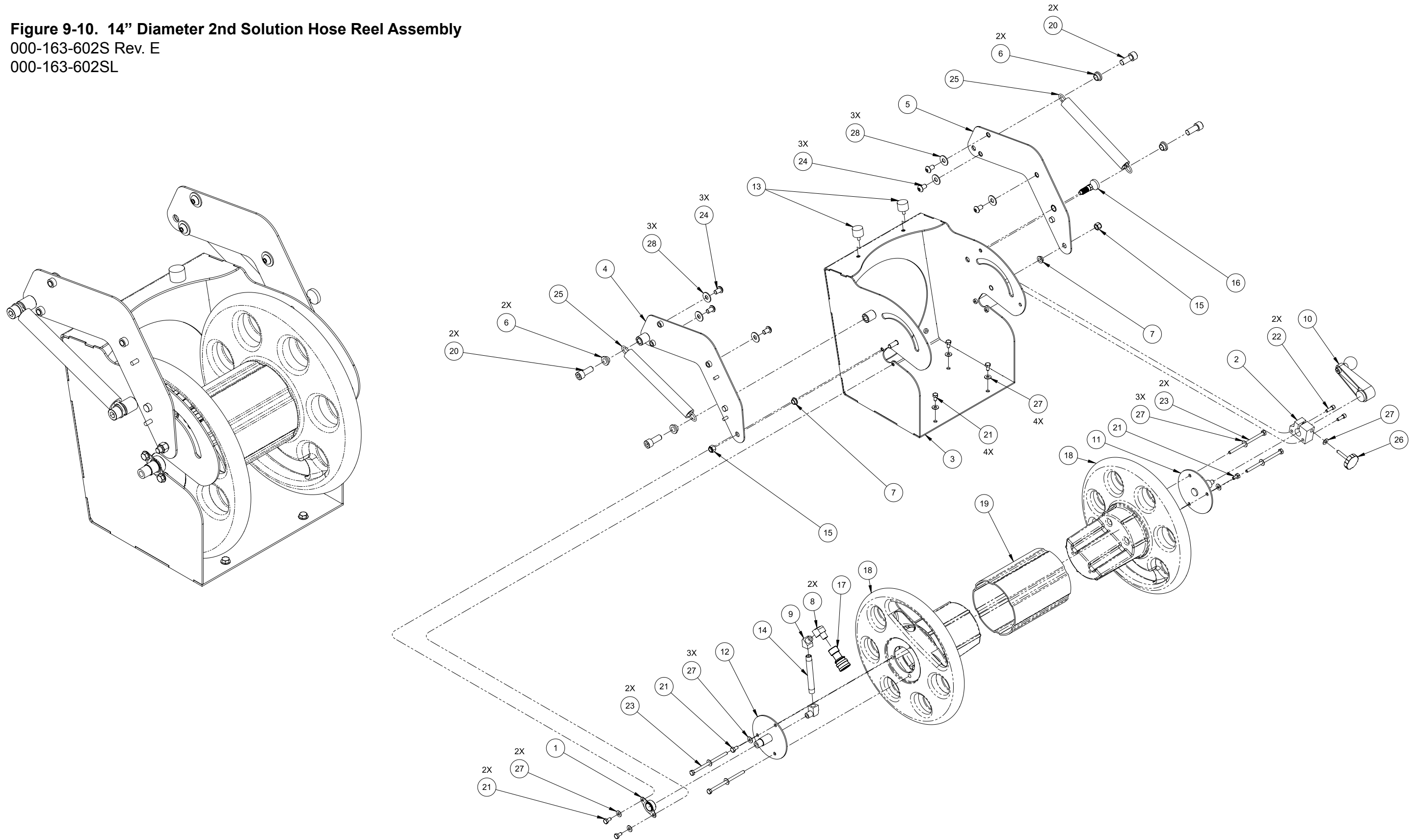


**Vacuum Hose Reel Hub Assembly Parts List**

Item	Part Number	Description	Qty
1	000-163-595	Reel, 38" O.D., Vacuum Hose, Rotomold	2
2	000-163-596	Reel, Center Core, Vacuum Hose, Rotomold	1
3	000-174-005	Washer, 3/8" Flat	4
4	000-143-018	Screw, 3/8"-16UNC X 1" Lg. Hex Head - Grade 8	4

# HydraCradle Tank

**Figure 9-10. 14" Diameter 2nd Solution Hose Reel Assembly**  
000-163-602S Rev. E  
000-163-602SL



## 14" Diameter 2nd Solution Hose Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-008-054	Bearing, Face Flange, 3/4 I.D.	1
2	000-008-055	Bearing-Tensioner	1
3	000-015-992	Bracket, 2nd Reel - Coated	1
4	000-015-994	Bracket, 2nd Reel, LH Pivot - Coated	1
5	000-015-993	Bracket, 2nd Reel, RH Pivot - Coated	1
6	000-020-068	Bushing, Flanged Bronze, 1/2 I.D. X 5/8 O.D. X 3/8 Lg	4
7	000-020-072	Bushing, Flanged, Bronze, 3/8 I.D. X 1/2 O.D. X 1/4 Lg	2
8	000-052-085	Elbow, 1/4" NPT Street	2
9	000-052-082	Elbow, 1/4" NPT Street X 45	1
10	000-061-152	Handle, Crank - Modified	1
11	000-092-028	Mount, 14" Reel Crank - Coated	1
12	000-092-029	Mount, 14" Reel, Live Center - Coated	1
13	000-092-031	Mount, Rubber Bumper, w/1/4-20 X 1/2 Lg Mtg Stud	2
14	000-052-678	Nipple, 1/4 NPT X 4", Sch 80	1

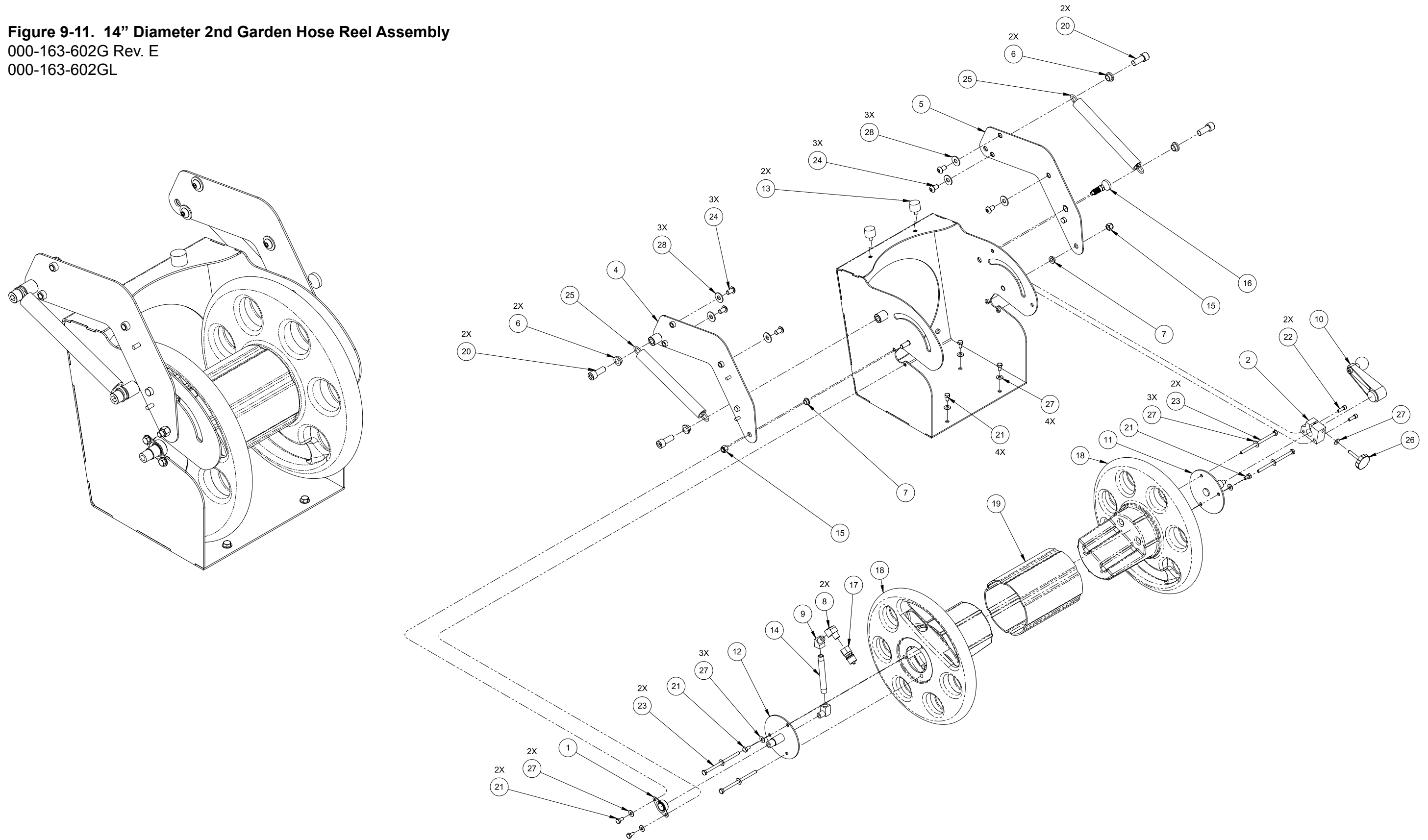
Item	Part Number	Description	Qty
15	000-094-100	Nut, 3/8-16, Nylock	2
16	000-103-057	Pin, Retractable, 1/2-13 Threads	1
17	000-052-051	Quick Connect, 440 Female w/ EPDM O-Ring	1
18	000-163-598	Reel, 14" Rotomold	2
19	000-163-599	Reel, Center Core, Rotomold	1
20	000-143-603	Screw, 1/2-13UNC X 1-1/4" Lg. Socket Head	4
21	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	8
22	000-143-599	Screw, 1/4"-20UNC X 3/4" Lg. SHCS, S/S	2
23	000-143-610	Screw, 1/4"-20UNC X 4.50" Lg. Hex Head	4
24	000-143-602	Screw, 3/8-16 X 5/8 Lg, Button Head	6
25	000-155-104	Spring, Extension, 1" O.D. X 9" Lg X .135 Wire Dia	2
26	000-143-589	Thumb Screw, 1/4-20 X 1-1/2 Lg, w/ Rosette Hd	1
27	000-174-003	Washer, 1/4" Flat	13
28	000-174-005	Washer, 3/8" Flat	6

### NOTICE

P/N 000-078-604 Live Solution Fittings Kit is included with P/N 000-163-602SL.

# HydraCradle Tank

Figure 9-11. 14" Diameter 2nd Garden Hose Reel Assembly  
000-163-602G Rev. E  
000-163-602GL





## 14" Diameter 2nd Garden Hose Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-008-054	Bearing, Face Flange, 3/4 I.D.	1
2	000-008-055	Bearing-Tensioner	1
3	000-015-992	Bracket, 2nd Reel - Coated	1
4	000-015-994	Bracket, 2nd Reel, LH Pivot - Coated	1
5	000-015-993	Bracket, 2nd Reel, RH Pivot - Coated	1
6	000-020-068	Bushing, Flanged Bronze, 1/2 I.D. X 5/8 O.D. X 3/8 Lg	4
7	000-020-072	Bushing, Flanged, Bronze, 3/8 I.D. X 1/2 O.D. X 1/4 Lg	2
8	000-052-085	Elbow, 1/4" NPT Street	2
9	000-052-082	Elbow, 1/4" NPT Street X 45 Degree	1
10	000-061-152	Handle, Crank - Modified	1
11	000-092-028	Mount, 14" Reel Crank - Coated	1
12	000-092-029	Mount, 14" Reel, Live Center - Coated	1
13	000-092-031	Mount, Rubber Bumper, w/1/4-20 X 1/2 Lg Mtg Stud	2
14	000-052-678	Nipple, 1/4 NPT X 4", SCH 80	1

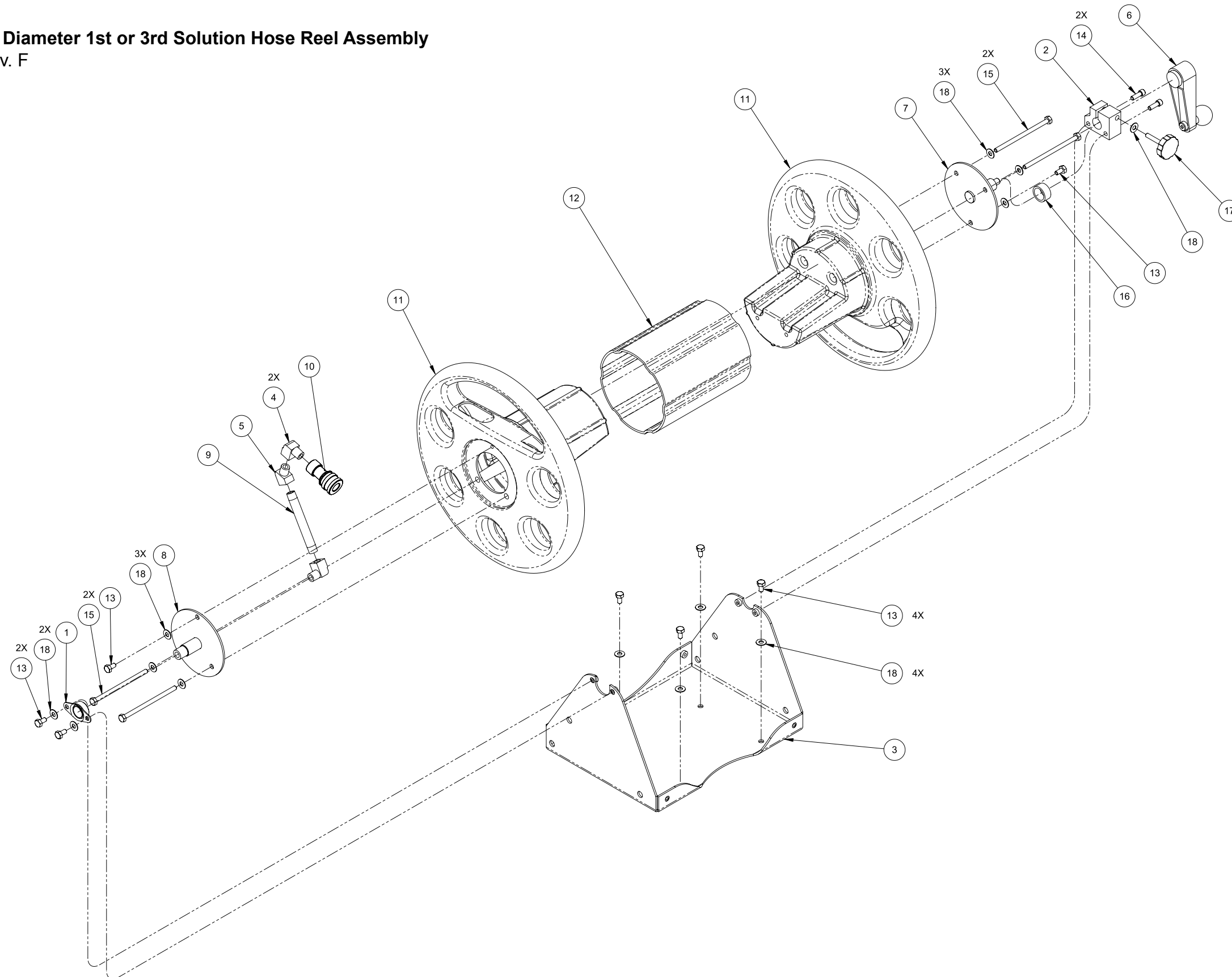
Item	Part Number	Description	Qty
15	000-094-100	Nut, 3/8-16, Nylock	2
16	000-103-057	Pin, Retractable, 1/2-13 Threads	1
17	000-052-052	Quick Connect, 660 3/8" Brass w/ EPDM O-Ring	1
18	000-163-598	Reel, 14" Rotomold	2
19	000-163-599	Reel, Center Core, Rotomold	1
20	000-143-603	Screw, 1/2-13UNC X 1-1/4" Lg. Socket Head	4
21	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	8
22	000-143-599	Screw, 1/4"-20UNC X 3/4" Lg. Shcs, Ss	2
23	000-143-610	Screw, 1/4"-20UNC X 4.50" Lg. Hex Head	4
24	000-143-602	Screw, 3/8-16 X 5/8 Lg, Button Head	6
25	000-155-104	Spring, Extension, 1" O.D. X 9" Lg X .135 Wire Dia	2
26	000-143-589	Thumb Screw, 1/4-20 X 1-1/2 Lg, w/ Rosette Hd	1
27	000-174-003	Washer, 1/4" Flat	13
28	000-174-005	Washer, 3/8" Flat	6

### NOTICE

P/N 000-078-605 Live Garden Fittings Kit is included with P/N 000-163-602GL.

# HydraCradle Tank

**Figure 9-12. 14" Diameter 1st or 3rd Solution Hose Reel Assembly**  
000-163-603S Rev. F  
000-163-603SL



## 14" Diameter 1st or 3rd Solution Hose Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-008-054	Bearing, Face Flange, 3/4 I.D.	1
2	000-008-055	Bearing-Tensioner	1
3	000-015-979	Bracket, Reel Mount - Coated	1
4	000-052-085	Elbow, 1/4" NPT Street	2
5	000-052-082	Elbow, 1/4" NPT Street X 45 Degree	1
6	000-061-152	Handle, Crank - Modified	1
7	000-092-028	Mount, 14" Reel Crank - Coated	1
8	000-092-029	Mount, 14" Reel, Live Center - Coated	1
9	000-052-678	Nipple, 1/4 NPT X 4", SCH 80	1

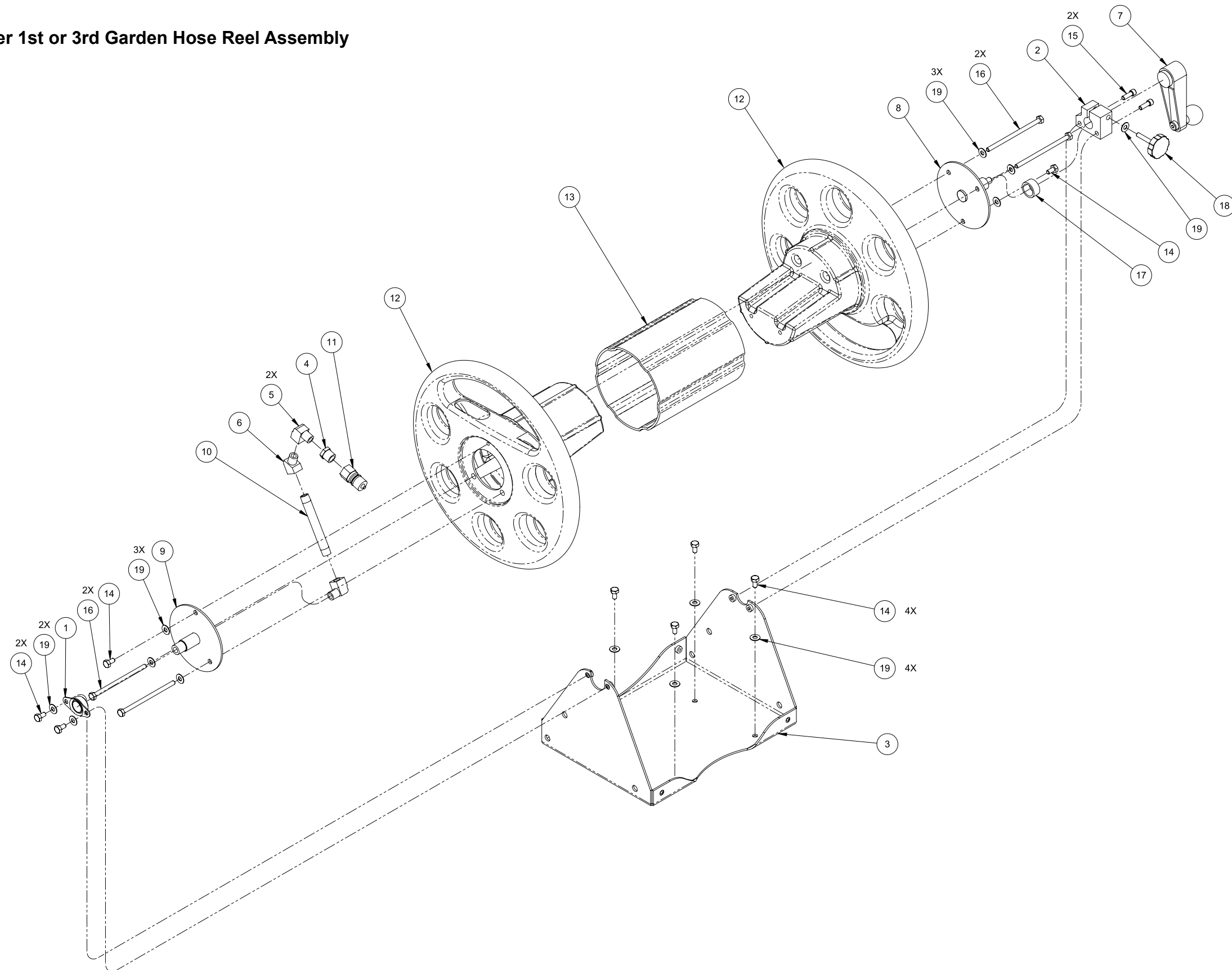
Item	Part Number	Description	Qty
10	000-052-051	Quick Connect, 440 Female w/ EPDM O-Ring	1
11	000-163-598	Reel, 14" Rotomold	2
12	000-163-599	Reel, Center Core, Rotomold	1
13	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	8
14	000-143-599	Screw, 1/4"-20UNC X 3/4" Lg. SHCS, S/S	2
15	000-143-610	Screw, 1/4"-20UNC X 4.50" Lg. Hex Head	4
16	000-154-179	Spacer, 0.82" I.D. X 1.05" O.D. X 0.5" Lg	1
17	000-143-589	Thumb Screw, 1/4-20 X 1-1/2 Lg, w/ Rosette Hd	1
18	000-174-003	Washer, 1/4" Flat	13

### NOTICE

P/N 000-078-604 Live Solution Fittings Kit is included with P/N 000-163-603SL.

# HydraCradle Tank

**Figure 9-13. 14" Diameter 1st or 3rd Garden Hose Reel Assembly**  
000-163-603G Rev. E  
000-163-603GL



## 14" Diameter 1st or 3rd Garden Hose Reel Assembly Parts List

Item	Part Number	Description	Qty
1	000-008-054	Bearing, Face Flange, 3/4 I.D.	1
2	000-008-055	Bearing-Tensioner	1
3	000-015-979	Bracket, Reel Mount - Coated	1
4	000-052-061	Bushing, 3/8" NPT X 1/4" FPT	1
5	000-052-085	Elbow, 1/4" NPT Street	2
6	000-052-082	Elbow, 1/4" NPT Street X 45 Degree	1
7	000-061-152	Handle, Crank - Modified	1
8	000-092-028	Mount, 14" Reel Crank - Coated	1
9	000-092-029	Mount, 14" Reel, Live Center - Coated	1
10	000-052-678	Nipple, 1/4 NPT X 4", SCH 80	1

Item	Part Number	Description	Qty
11	000-052-052	Quick Connect, 660 3/8" Brass w/ EPDM O-Ring	1
12	000-163-598	Reel, 14" Rotomold	2
13	000-163-599	Reel, Center Core, Rotomold	1
14	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	8
15	000-143-599	Screw, 1/4"-20UNC X 3/4" Lg. SHCS, S/S	2
16	000-143-610	Screw, 1/4"-20UNC X 4.50" Lg. Hex Head	4
17	000-154-179	Spacer, 0.82" I.D. X 1.05" O.D. X 0.5" Lg	1
18	000-143-589	Thumb Screw, 1/4-20 X 1-1/2 Lg, w/ Rosette Hd	1
19	000-174-003	Washer, 1/4" Flat	13

### NOTICE

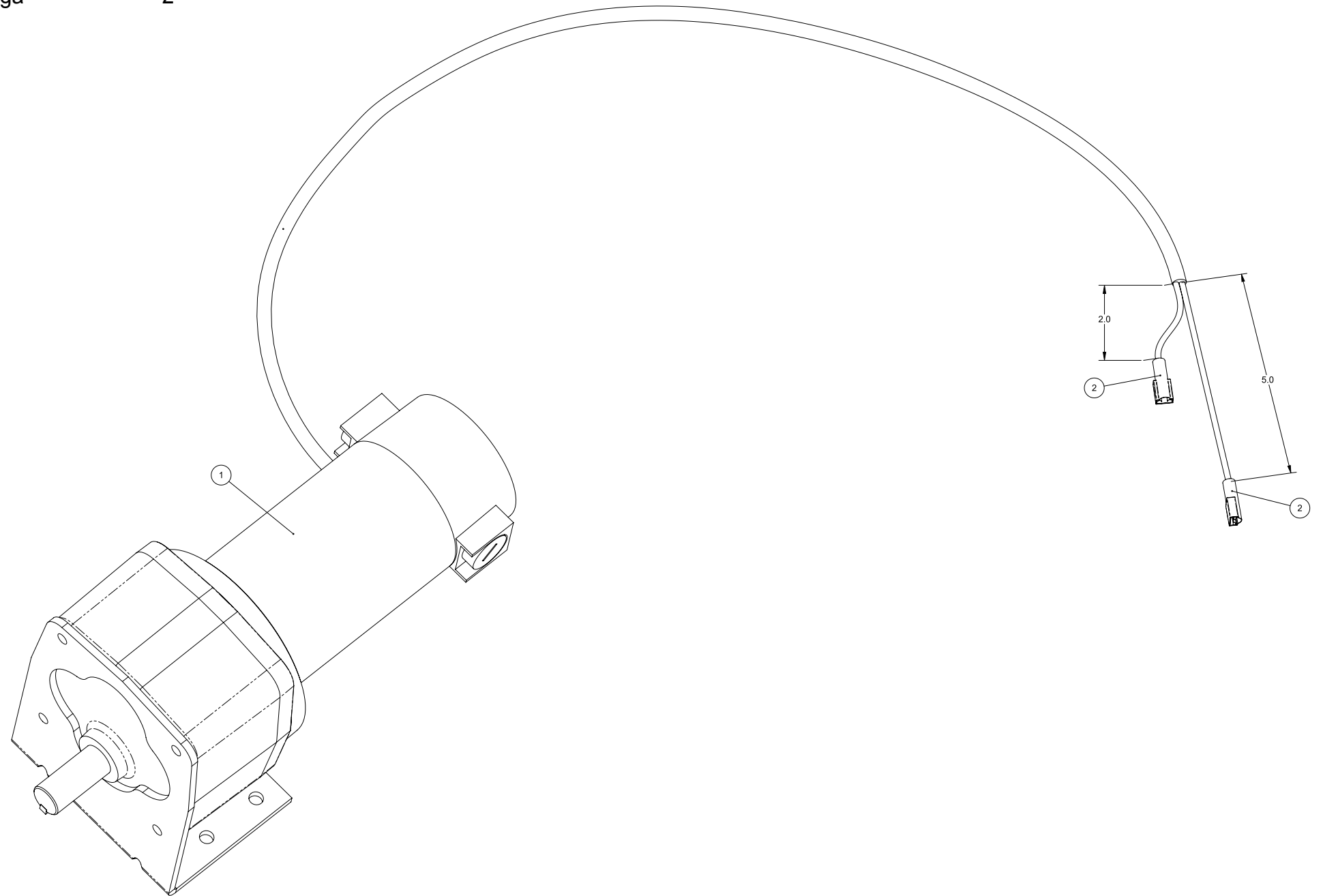
P/N 000-078-605 Live Garden Fittings Kit and two 1/4-20 x 1/2 screws (P/N 000-143-596) are included with P/N 000-163-603GL.

# HydraCradle Tank

Figure 9-14. 1/6 HP 12VDC Motor Assembly  
000-091-046 Rev. B

## 1/6 HP 12VDC Motor Assembly Parts List

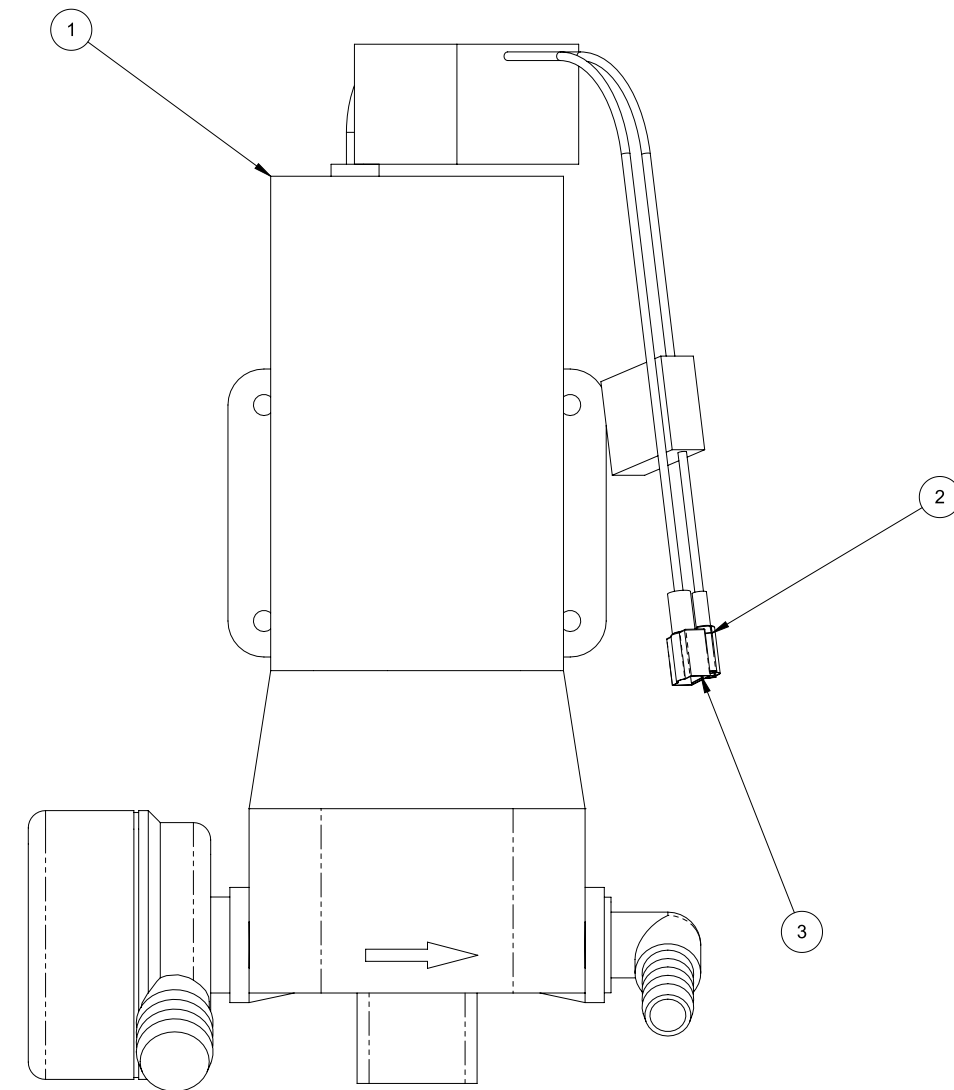
Item	Part Number	Description	Qty
1	000-091-045	Motor Assembly, 1/6HP, 12VDC, Modification	1
2	000-037-022	Terminal, Fully Insulated Female, 12-10 ga	2



**Figure 9-15. Pump-In Pump**  
000-111-190 Rev. A

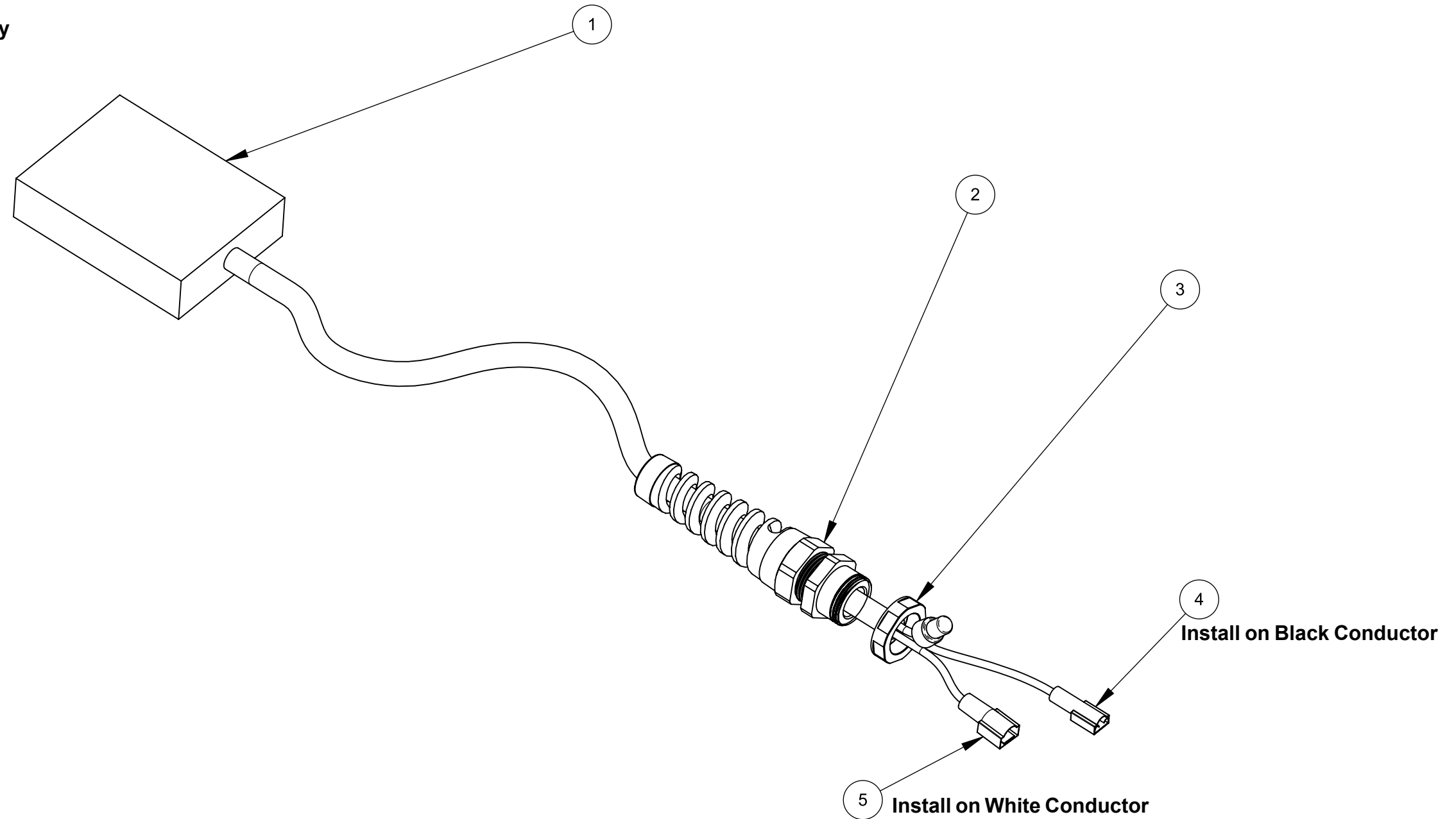
## Pump-In Pump Assembly Parts List

Item	Part Number	Description	Qty
1	000-111-189	Pump, Flojet, 4.5 gpm, 40 psi, 12VDC	1
2	000-037-012	Terminal, Fully Insulated Female, 22-16Ga	1
3	000-037-009	Terminal, Fully Insulated Male, 16-14Ga	1



# HydraCradle Tank

**Figure 9-16. Foot Switch Assembly**  
000-157-156 Rev. B

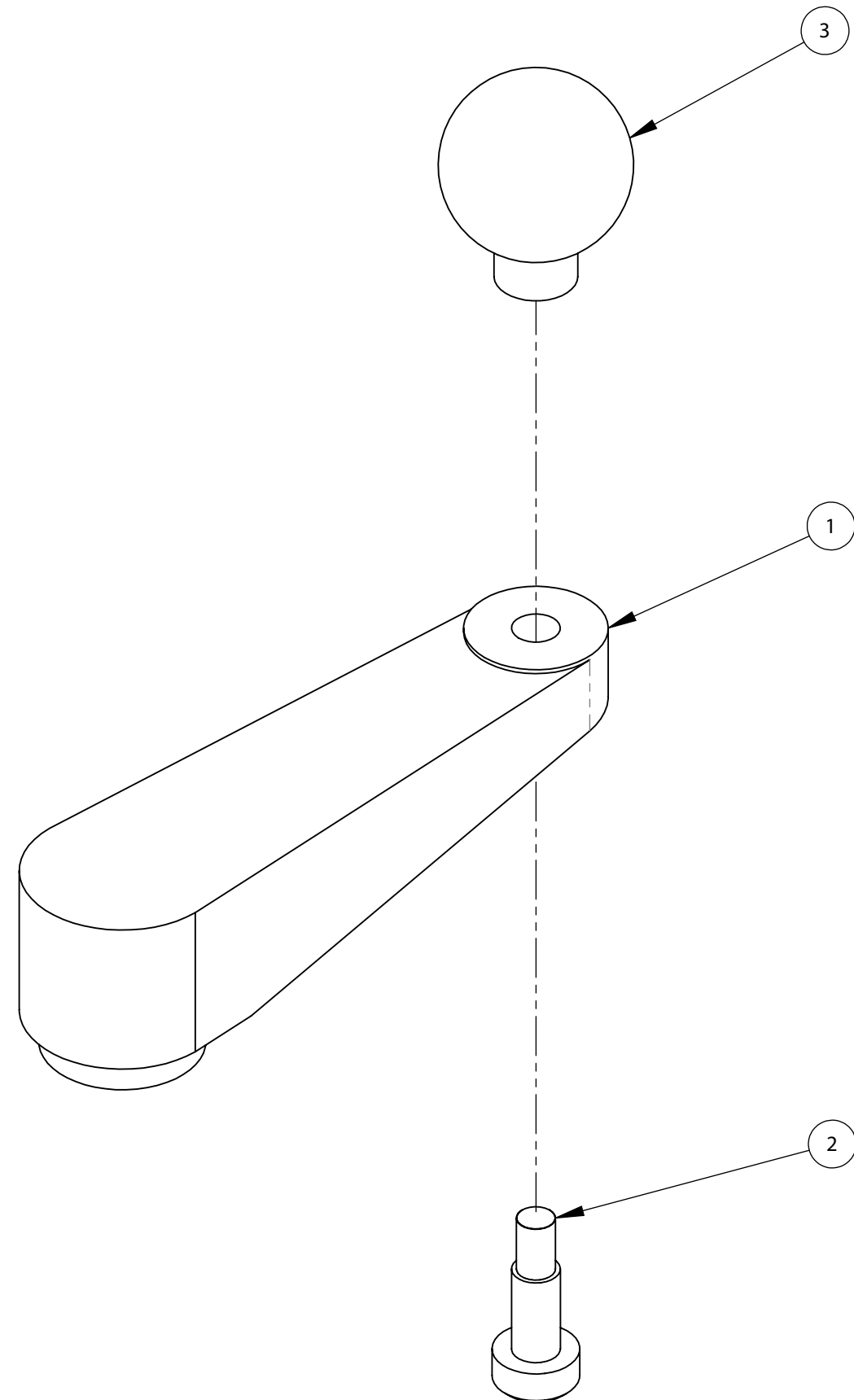
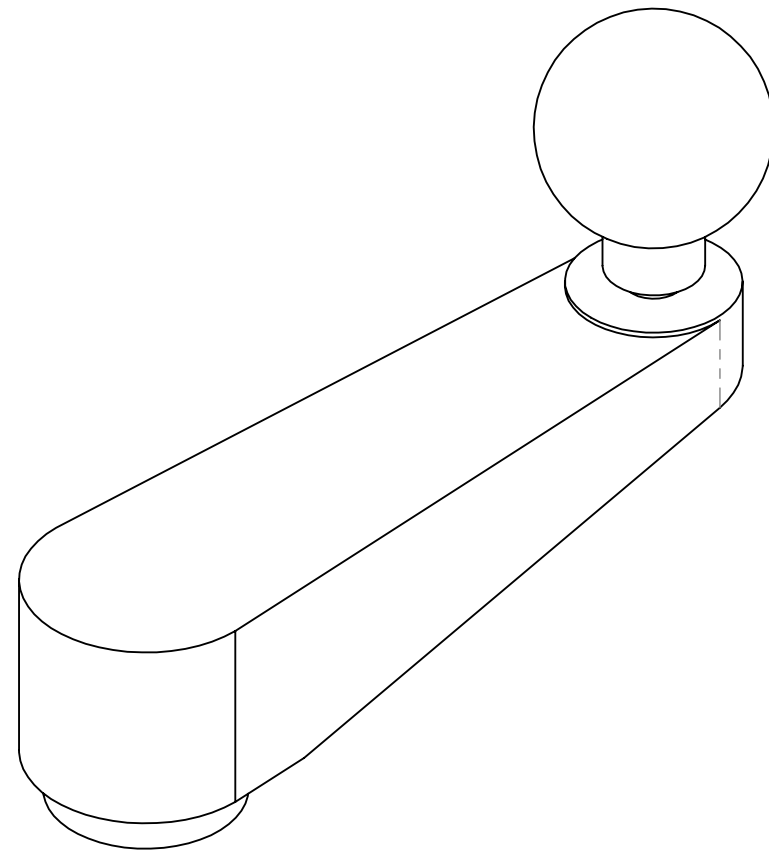


**Foot Switch Assembly Parts List**

Item	Part Number	Description	Qty
1	000-157-155	Switch, Foot w/8 ft Cord	1
2	000-108-012	Protector, Power Cord Relief	1
3	000-094-036	Nut, 1/2" NPT Pipe Plastic	1
4	000-037-022	Terminal, Fully Insulated Female, 12-10GA	1
5	000-037-023	Terminal, Fully Insulated Male, 12-10GA	1



**Figure 9-17. Crank Handle Assembly**  
000-061-152 Rev. B

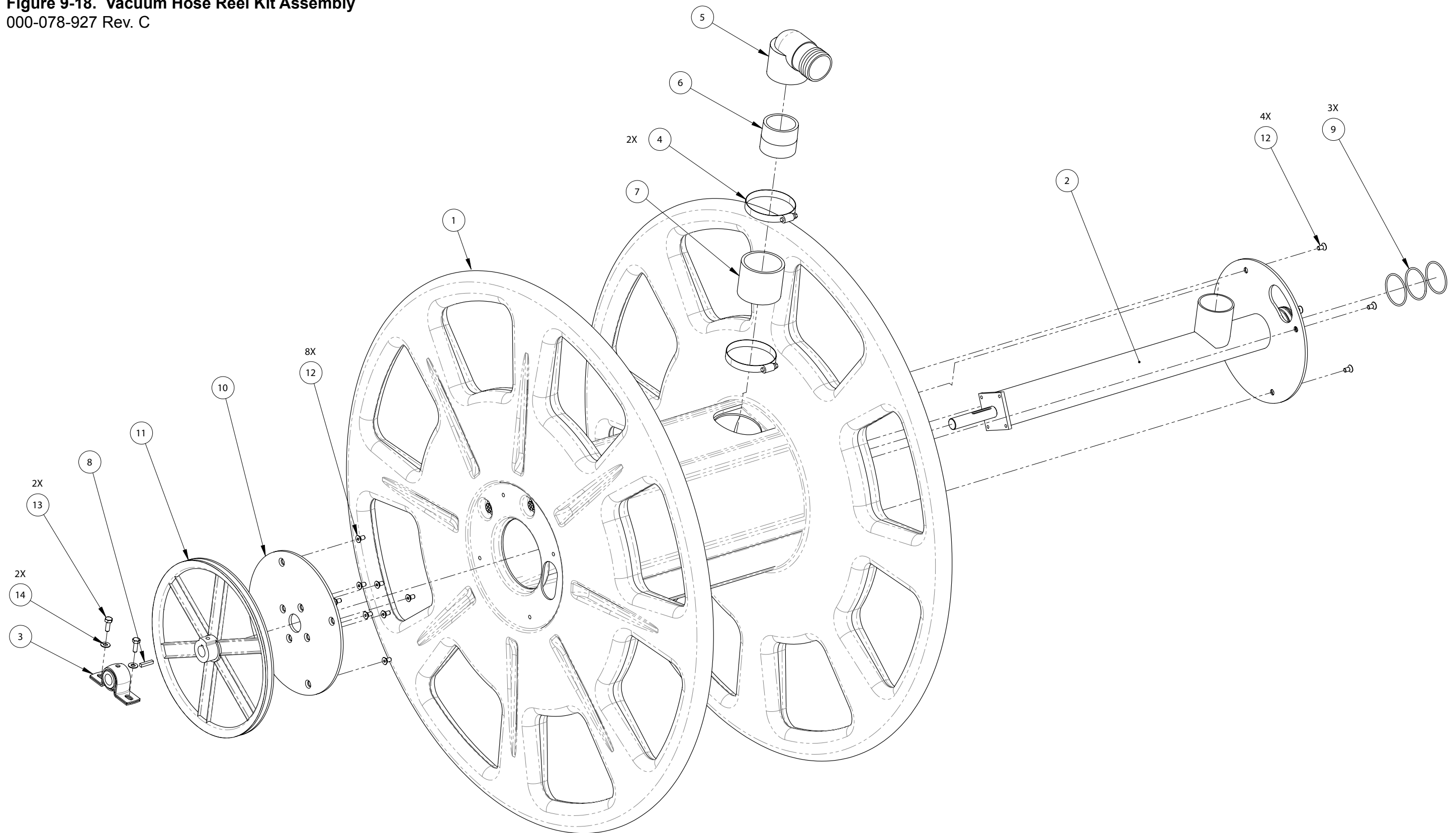


**Crank Handle Assembly Parts List**

Item	Part Number	Description	Qty
1	000-061-150	Handle, Crank	1
2	000-143-591	Screw, Shoulder 5/16" Dia X 5/8" Lg.	1
3	000-061-151	Knob, 1 1/4 Dia w/1/4-20 Thds	1

# HydraCradle Tank

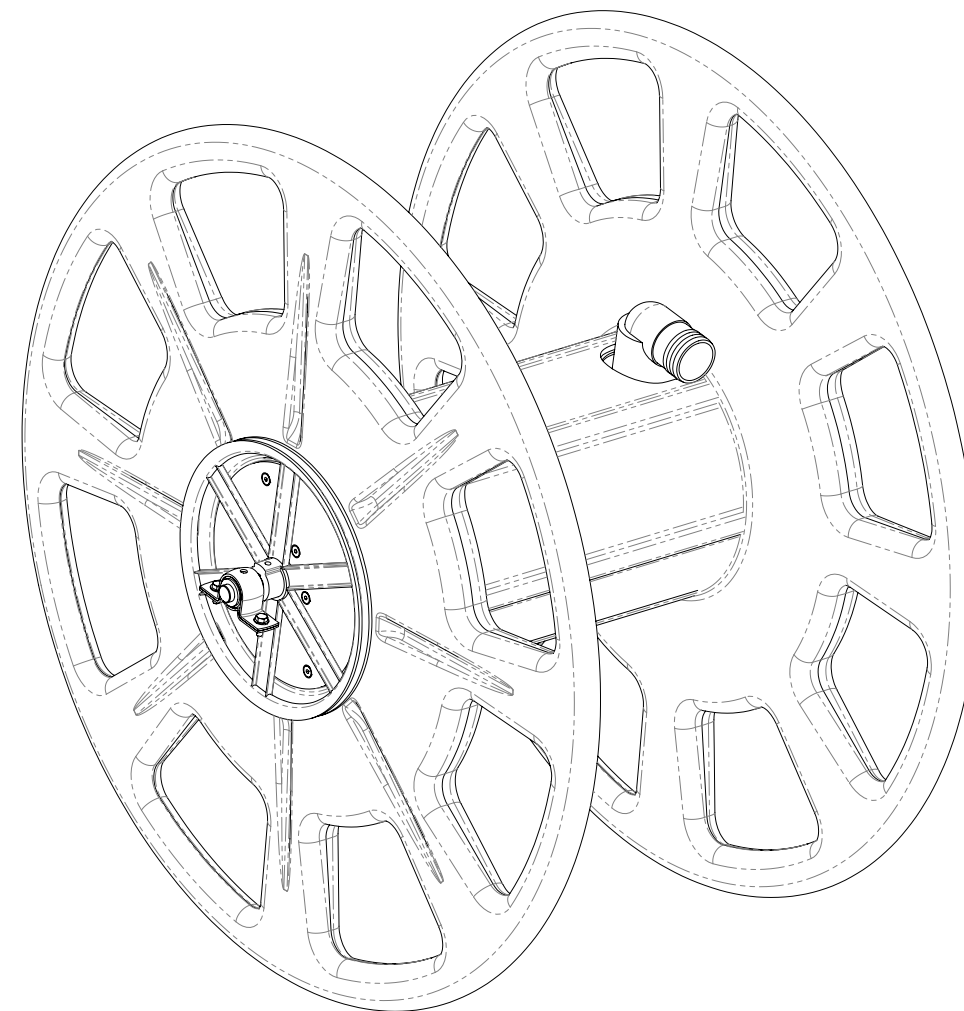
Figure 9-18. Vacuum Hose Reel Kit Assembly  
000-078-927 Rev. C



## Vacuum Hose Reel Kit Assembly Parts List

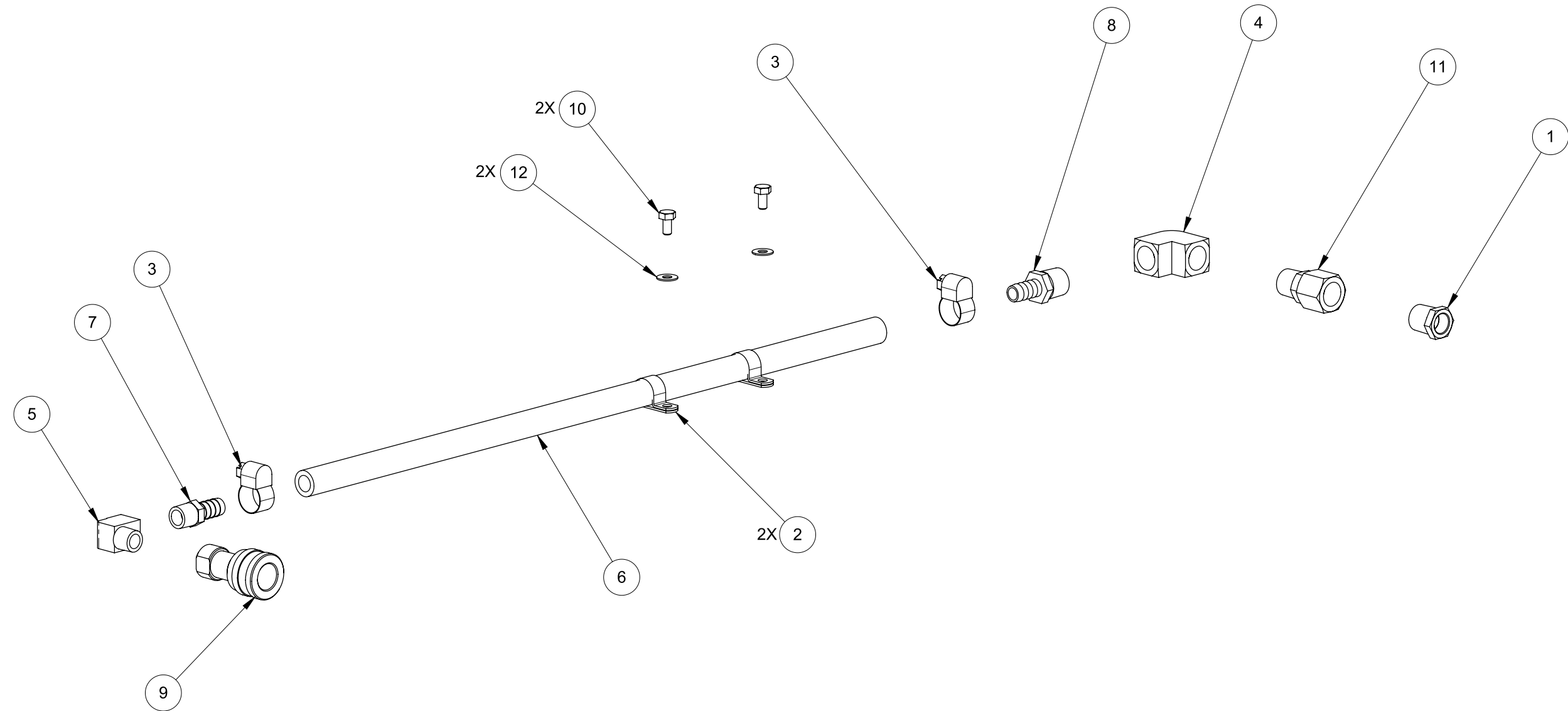
Item	Part Number	Description	Qty
1	000-163-597	Assembly, Hub - Vacuum Hose Reel	1
2	000-141-044	Axle, Main Shaft, Welded	1
3	000-008-053	Bearing, Pillow Block, 3/4	1
4	000-033-012	Clamp, Size #44 Hose	2
5	000-052-222	Elbow, 2" Barb X 2" FPT	1
6	000-052-820	Half Nipple, 2" NPT X 2" Lg	1
7	000-068-887	Hose, 2-1/2" Red Stripe X 2-3/8" Lg.	1

Item	Part Number	Description	Qty
8	000-077-016	Key, 3/16 X 3/16 X 1.0" Lg	1
9	000-097-071	O-Ring, AS568A-136, Buna-N, 2" Nom I.D. X 0.103	3
10	000-105-661	Plate, Reel Mtg Brg Side - Coated	1
11	000-109-128	Pulley, 12" O.D. X 3/4 Bore	1
12	000-143-596	Screw, 1/4"-20UNC X 0.50" Lg, Flat Head	12
13	000-143-001	Screw, 1/4"-20UNC X 3/4" Lg. Hex Head	2
14	000-174-003	Washer, 1/4" Flat	2



# HydraCradle Tank

**Figure 9-19. Live Garden Fittings Kit Assembly**  
000-078-605 Rev. B



**Live Garden Fittings Kit Assembly Parts List**

Item	Part Number	Description	Qty
1	000-052-064	Bushing, 1/2 M X 3/8 F	1
2	000-033-134	Clamp, 3/4 I.D. Cushion	2
3	000-033-004	Clamp, Size #6 Mini Hose	2
4	000-052-143	Elbow, 1/2 FPT, Brass	1
5	000-052-086	Elbow, 3/8" NPT Street	1
6	000-068-994	Hose, 1/2" Rubber X 62" Lg	1

Item	Part Number	Description	Qty
7	000-052-105	Insert, #68 (3/8" NPT X 1/2" Barb)	1
8	000-052-107	Insert, #88 (1/2" NPT X 1/2" Barb)	1
9	000-052-053	Quick Connect, 3/8 Female	1
10	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	2
11	000-052-290	Swivel, Garden, 1/2 NPT	1
12	000-174-003	Washer, 1/4" Flat	2

# HydraCradle Tank

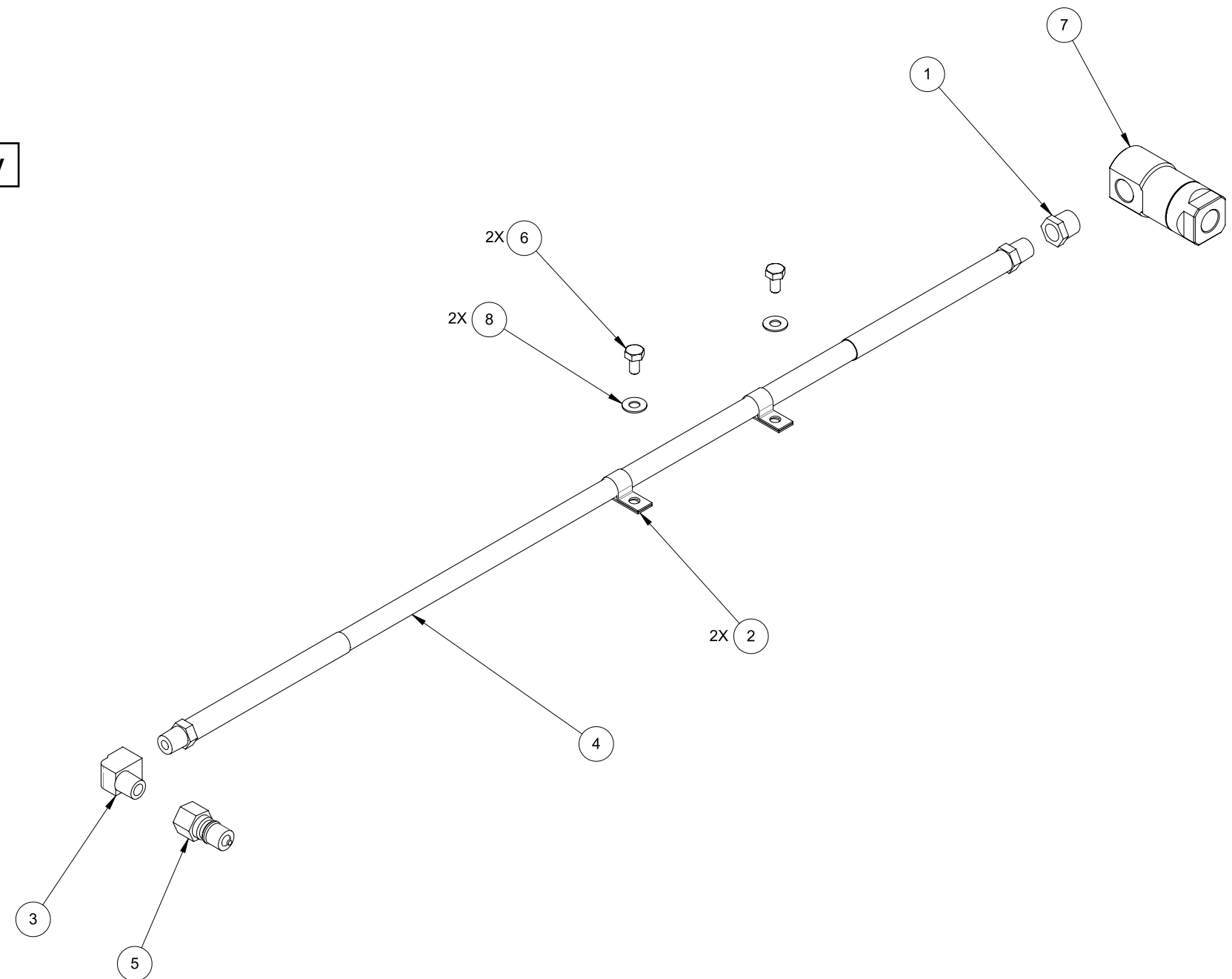
**Figure 9-20. Live-Center Solution Fittings Kit Assembly**  
000-078-604 Rev. D

## Live Solution Fittings Kit Assembly Parts List

Item	Part Number	Description	Qty
1	000-052-061	Bushing, 3/8" NPT X 1/4" FPT	1
2	000-033-046	Clamp, 1/2" Wide X 1/2" Tube	2
3	000-052-085	Elbow, 1/4" NPT Street	1
4	000-068-813	Hose, Sol Blue, 1/4" w/1/4" Inserts	1
5	000-052-050	Quick Connect, 440 Male w/ Viton Std	1
6	000-143-333	Screw, 1/4"-20UNC X 0.50" Lg. Hex Head	2
7	000-163-574	Swivel, 3/8 Live Solution, Steel	1
8	000-174-003	Washer, 1/4" Flat	2

### NOTICE

Items 2,6,7 and 8 are shipped in a plastic bag with the kit.



# HydraCradle Tank

# HydraCradle Tank

## 5 - Maintenance and Troubleshooting

To avoid costly repairs and down-time, it is imperative to develop and practice good maintenance procedures. Periodic procedures fall into daily and weekly increments, and are outlined in this section. All recommended maintenance must be performed by competent service personnel.

This section is divided into the following topics:

- Operational Maintenance
- Appearance Maintenance
- Troubleshooting

### **OPERATIONAL MAINTENANCE**

This section contains recommendations for maintenance that will affect the service life of your HydraCradle. HydraMaster recommends that you follow maintenance schedules as stated.

#### **Belt Tension**

Each month, check the tension on the V belt by:

1. Removing power from the HydraCradle by detaching the HydraCradle's battery cables from the 12 V battery.
2. Removing the 5 screws and 5 washers that secure the belt cover to the HydraCradle frame and then remove the belt cover.
3. Pressing in on the V belt to test the tension. If the belt can be pressed in more than 1" (25.4 mm), it needs to be tightened.
4. After checking and/or adjusting the belt, re-attach the belt cover frame and re-apply power.

#### **Zerk Lubrication**

If your HydraCradle Tank is configured with a live-center connection on a small hose reel, lubricate the zerk on the swivel after every 40 hours of use with molybdenum disulfide ("moly") grease (see Figure 4-21).

### **CAUTION**

Do not overgrease.



**Figure 4-21. Location of Zerk on Swivel**

# HydraCradle Tank

## Pump-in Pump Filter Check

Remove, inspect and clean the pump-in pump filter on at least a monthly basis.

1. If the tank is not empty, drain it by opening the drain valve.

### NOTICE

If the tank is not drained prior to changing the filter, water will drain from the filter opening when the filter is removed.

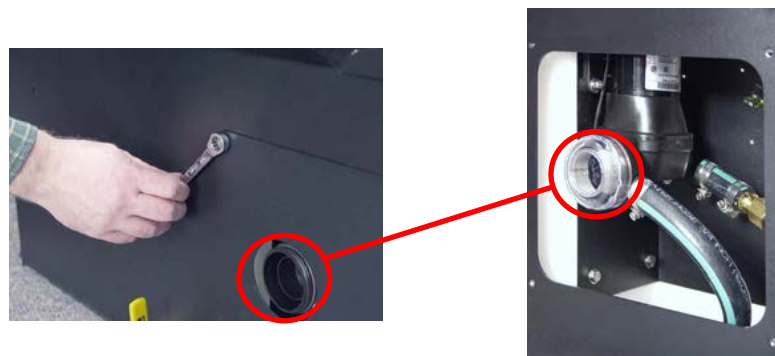
2. Remove, inspect and clean the pump-in pump filter (see Figure 4-22).



**Figure 4-22. Unscrew See-through Cap (Left Photo); Remove and Inspect Filter (Right Photo)**

### NOTICE

For easier access to the cap, you have the option of removing the pump access cover first, as shown in Figure 4-23, using a 7/16" (11 mm) wrench.



**Figure 4-23. Remove Pump Access Cover**



# HydraCradle Tank

## **Descaling**

Scale deposits on the interior of the HydraCradle can cause a noticeable loss in performance. Deposits of this kind result from hard water deposits. The frequency with which descaling procedures are required will vary. If your area has particularly hard water or you see evidence of deposits in the HydraCradle and the solution/garden hoses, you may have to descale monthly.

To descale your system:

1. Add an appropriate descaler chemical to your HydraCradle.
2. Pump the descaler through the HydraCradle system according to the directions on the descaler container's label.
3. Flush and repeat as necessary.
4. Clean the pump-in pump filter and check it frequently following descaling.

## **APPEARANCE MAINTENANCE**

Maintaining the original appearance of your HydraCradle is important for two reasons:

1. It represents a big dollar investment for your cleaning business and its appearance should reflect that fact. A dirty machine does not look professional.
2. Maintenance, troubleshooting and repair is much easier to accomplish on a clean, well-maintained unit. Regular cleaning of the tank offers you an opportunity to visually inspect all parts of the tank and spot potential problems before they occur.

The following maintenance is recommended at the frequency indicated:

### **Daily**

- Wipe tank thoroughly with a damp cloth.
- Wipe down hoses as needed.

### **Weekly**

- Visually inspect hoses for cuts and abrasions.
- Thoroughly clean hoses.
- Remove large debris which may have accumulated under the vacuum hose, at the bottom of the tank, and wipe away any remaining smaller debris.

# HydraCradle Tank

## TROUBLESHOOTING

### **1.0. No vacuum hose retraction - foot switch will not power on**

<b>Probable Cause</b>	<b>Solution</b>
1.1 Check foot switch	Connections are not secure; reseal connectors.
	Check continuity on foot switch cables; if defective, replace foot switch.
1.2. Check hose reel motor	30 Amp fuse is bad; replace fuse.
	Drive belt is loose or broken; adjust or replace belt.
1.3. Check battery	Battery is weak or dead; replace battery.
	Battery connections are not tight; reseal connectors
	Check continuity on battery cables; if defective, repair or replace.

### **2.0. Pump-in pump does not power on**

<b>Probable Cause</b>	<b>Solution</b>
2.1. Check pump-in pump motor.	15 Amp fuse is bad; replace fuse.
	Cable connections are not secure; reseal connectors.
	Check continuity on cables; if defective, repair or replace cables
2.2. Check battery.	Battery is weak or dead; replace battery.
	Battery connections are not tight; reseal connectors
	Battery cables may be bad; if defective, replace.

### **3.0. Recovery hose vacuum is weak or there is no vacuum**

<b>Probable Cause</b>	<b>Solution</b>
3.1. Recovery hose is not securely connected to live-center mount.	Disconnect and reconnect the recovery hose onto the barbed fitting.
3.2. Square head plug on live-center mount is missing or is not seated tightly.	Insert and tighten plug onto one opening of the live-center mount.
3.3. Live-center mount O-rings may be defective.	Disassemble live-center mount and check the 3 O-rings; replace all 3 O-rings as necessary. <u>Always</u> lubricate the O-rings with standard O-ring grease prior to re-installation.

# HydraCradle Tank

## **4.0. Solution/garden hoses losing pressure or have no pressure**

<b>Probable Cause</b>	<b>Solution</b>
4.1 Quick connects may have come loose.	Tighten or replace as necessary.
4.2 Hoses may be leaking.	Repair or replace as necessary.

## **5.0. HydraCradle Tank is empty or fills slowly**

<b>Probable Cause</b>	<b>Solution</b>
5.1. No water coming from source.	Check water supply at the house faucet or water's source.
5.2 There is a restriction in the water supply system.	Inspect the supply system from the source through the incoming quick connect for kinks, clogs or restricted filters. Clean or repair as necessary.
5.3. The float valve in the tank has jammed or is stuck open.	Remove the round cover on the rear of the tank; determine the cause of the obstruction and remove it from the tank..
5.4. The float valve in the tank is defective.	Replace float valve.

## **6.0. HydraCradle Tank overflows**

<b>Probable Cause</b>	<b>Solution</b>
6.1. There is a restriction in the drainage system.	Inspect the drain line for kinks or clogs. Clean or repair as necessary.
6.2. The float valve in the tank has jammed or is stuck open.	Remove the round cover on the rear of the tank; determine the cause of the obstruction and remove it from the tank.
6.3. The float valve in the tank is defective.	Replace float valve.

# HydraCradle Tank

# HydraCradle Tank

## 6 - How to Order Parts

To order warranty replacement parts or repairs, it is important that you read this section which includes:

- Warranty Parts Orders
- Parts Orders
- Emergencies

### **WARRANTY PARTS ORDERS**

1. Call the local distributor where you purchased your equipment and ask for the Service Department.
2. Have the following information ready:
  - a. Date of Purchase
  - b. Description of Malfunction
3. Once it has been determined which parts are needed to correct the problem with your machine, make arrangements with your distributor to either perform the repairs or ship the parts to you.

Any questions you have regarding the warranty program should be directed to the Customer Care Department at (800) 426-1301, 8 a.m. to 5 p.m. Monday through Friday (PT).

We shall always endeavor to be fair in our evaluation of your warranty claim and shall provide you with a complete analysis of our findings.

HydraMaster warranty covers only defective materials and/or workmanship for the periods listed. Diagnostic reimbursement is specifically excluded.

### **PARTS ORDERS**

Call your local distributor. In most instances, they either stock or have access to parts through a regional service center.

### **EMERGENCIES**

If, for any reason, your distributor is unable to supply you with the necessary parts, they may call us and arrange for expedited shipping.

HydraMaster sells parts only through authorized distributors and service centers.

# HydraCradle Tank

## 7 - Warranty Information

To avoid misunderstandings which might occur between machine owners and the manufacturer, we are listing causes of component failure that specifically voids warranty coverage. Such causes listed in this section shall constitute abuse or neglect.

### **PUMP**

- Failure to protect pump-in pump against freezing.
- Failure to use water softener in hard water areas.

### **VACUUM AND SOLUTION HOSES**

- Failure to protect hoses against freezing.
- Failure to protect hoses against burns from engine and blower exhaust.
- Damage to hoses from being run over by vehicles.
- Kinking or cracking from failure to store or unroll hoses correctly.
- Normal wear and tear from everyday use.

### **HARD WATER DEPOSITS**

- Failure to use or maintain a water softening system or a properly installed magnetic-type descaler, whichever might be necessary, with machines operating in designated "Hard Water Areas" (3.0 grains or more per gallon).

### **WARRANTY PROCEDURE**

Warranty coverage is available to you through your local distributor.

If you have moved to a new area or have purchased a used machine and need information regarding your local distributor, call HydraMaster at (800) 426-1301 or email us at: [techsupport@hydramaster.com](mailto:techsupport@hydramaster.com).

When calling your distributor, be sure to have the machine's information; model and serial number, ready for the service representative.

# HydraCradle Tank



# HydraCradle Tank

## 8 - Accessories

HydraMaster's machine accessories are the most innovative collection available in the cleaning industry.

The full line of machines, accessories and chemicals can enhance cleaning performance while reducing your labor costs, and include:

- Upholstery Tools
- Wands
- Vacuum Hoses
- Van Accessories
- Carpet Care Detergents
- Rinse Agents
- Pre-Sprays
- Hard Floor Care Detergents
- De-Foamers and Descalers
- Deodorizers and Disinfectants
- Spotting Agents

For more information, visit our website at [www.hydramaster.com](http://www.hydramaster.com).

To order genuine HydraMaster accessories and chemical solutions, call your nearest authorized HydraMaster Distributor. (To find a local distributor, please visit our website at [www.hydramaster.com/HowToBuy/DealerLocator.aspx](http://www.hydramaster.com/HowToBuy/DealerLocator.aspx) ).

# HydraCradle Tank