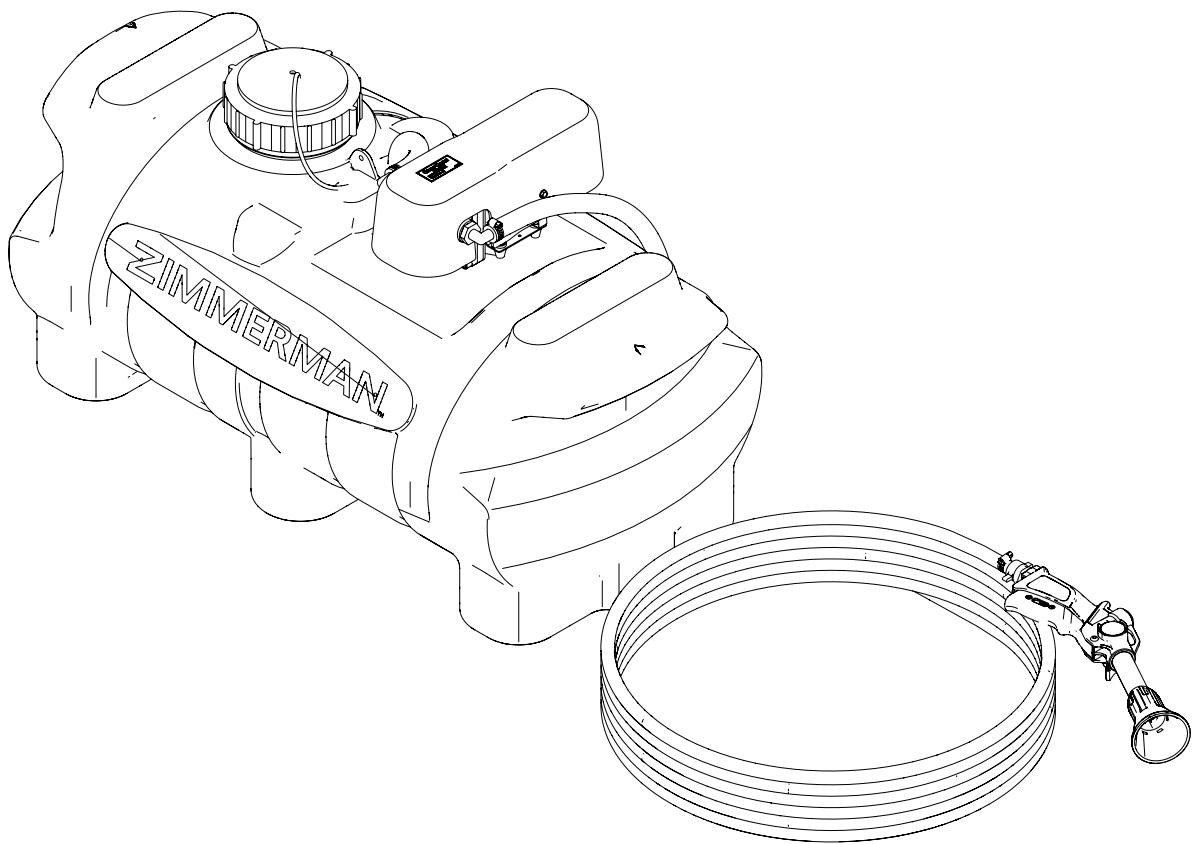


ZIMMERMAN[™]

Owner's Manual

25 Gallon Disinfect Sprayer

Models: DS-15 and DS-25



Manufactured by PBZ LLC
A Paul B Zimmerman Inc. Company
www.ZimmermanEquipment.com

Form: DS25OM
Rev. C Date: 9/21

Thank you for purchasing this Zimmerman product. This owners manual contains helpful information regarding the installation, operation and maintenance of your product. For parts and service please contact your local Zimmerman dealer.

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Before You Begin



Please read and understand this manual and its instructions and warnings completely before operating.

- Please read and understand this manual and its instructions and warnings completely before operating the sprayer.
- Be aware of all safety guidelines, warnings, and cautions.
- Completely assemble the sprayer according to the directions supplied in this manual.
- Read and understand the chemical manufacturer's labels, warnings, and instructions.
- Familiarize yourself and other operators with the sprayer's components and how all parts are operated.

Safety Precautions



General Guidelines

Every year many unnecessary accidents occur due to improper equipment handling and a disregard for safety precautions. You, the operator, can avoid accidents by observing the precautions in this section.

- The operator should be a responsible adult. Do not allow persons to operate this liquid applicator until they have displayed a thorough understanding of applicator safety precautions and operational use!
- The best defense against accidents is a careful and responsible operator.
- A chemical warning decal and an owner's manual warning decal are located on the applicator's tank. Be aware of their location. See Figure 1 and Figure 2.
- Always replace any warning decals that aren't legible or are missing.
- When transporting the sprayer on public roads, always follow state and local regulations regarding safety and transportation requirements.
- If there is any portion of this manual that you do not fully understand, please contact PBZ LLC.

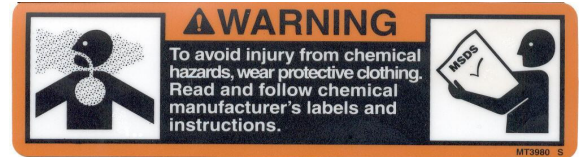


Figure 1: Chemical Warning Decal(# DEMENT3980)

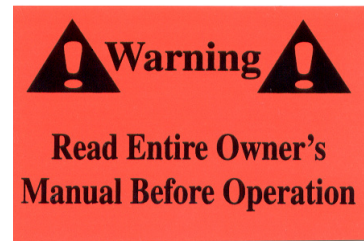


Figure 2: Owner's Manual Decal(# DE39)



Before Operation

- Carefully study and understand this owner's manual.
- Read and follow the inoculant or chemical manufacturer's labels, warnings, and instructions! A material safety data sheet (MSDS) should be provided by the chemical manufacturer.
- To avoid injury from chemical hazards, wear the proper protective clothing. Each chemical manufacturer's clothing requirements are listed under the "Personal Protective Equipment" (PPE) section in the chemical instructions.
- Do not wear loose-fitting clothing which may catch in moving parts.
- It is also recommended that operators wear suitable hearing and eye protection.
- Inspect the sprayer for worn parts, loose bolts, or other visible problems, and make the necessary repairs. See the maintenance section on page 13.
- Make sure the area is clear of any people or obstructions before using the sprayer.
- Have all operators practice operating the sprayer and its attachments until all persons are completely capable of safe operation.

Safety Precautions



During Operation

- Always be aware of bystanders, particularly children!
 - Keep hands and body parts clear of all moving parts!
 - Never leave running equipment unattended.
 - Never leave running equipment, including the liquid applicator, unattended!
 - Remember that accidents can even happen to seasoned operators. Always take your time and follow all safety instructions.
-



Following Operation

- After operation, store the sprayer away from human and livestock activity.
 - Do not permit children to play on or around the sprayer.
-

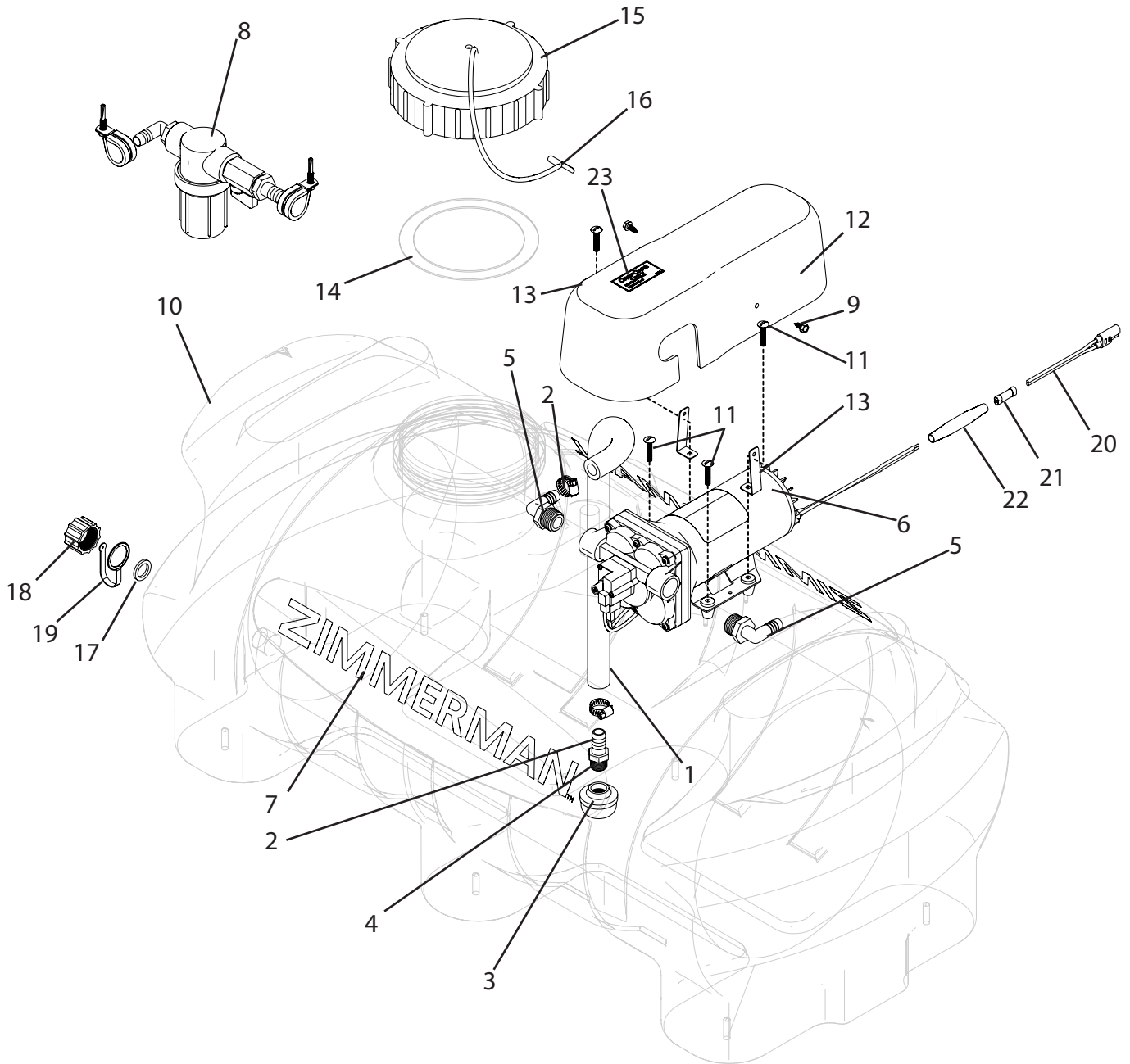


Pump Safety Precautions

- Never pump flammable, explosive, petroleum-based, or any other non-compatible products such as gasoline, fuel oil, kerosene, etc. Such practices will void the manufacturer's warranty.
- DO NOT allow the pump to get wet or to be exposed to the elements. Allowing the pump to get wet or to be exposed to the elements voids the manufacturer's warranty.
- Note: The pump may be run dry for limited periods without resulting in damage.
- Always disconnect the power to the pump when working on the pump. Failure to do this could result in electrical shock.

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown DS-15 & DS-25, Disinfect System Base Assembly



Breakdowns & Parts Lists

Disinfect Sprayer Parts List

DS-15 & DS-25, Disinfect System Base

Ref #	Qty.	Part Numbers		Description
1	1.67'	1208		Hose, EPDM Rubber 1/2" 200 PSI
2	2	62606		Hose Clamp, Narrow 5/16"-7/8" SS
3	1	10416D		Strainer, Suction 3/8" FPT 40 Mesh
4	1	3A3812		Fitting, Hose 3/8" MPT x 1/2" HB
5	2	3EL1212		Hose adapter, 90°, 1/2" MPT x 1/2" barb
6	1	5059-1310-D011-R	**	Pump, 5.3 gpm 12V Shurflo 60psi Demand, 1/2 FPT ports
7	2	DE243		Decal, Zimmerman
8	1	DS106		Filter/Valve Assembly, Disinfect System
9	2	HSS10*12		Screw, Hex TEK #10 x 1/2" SS
10	1	DS108	+	Tank, 25 Gal White Poly w/Lid Lanyard Outlet Cap Gasket&Tether
11	4	SBT316*1		Bolt, Stove Truss Head 10-24 x 1"
12	1	T752		Pump Cover
13	2	T753		Pump Cover Tab
14	1	11042		Gasket, EPDM for 5" Lid
15	1	10035*	*	Lid, Tank 5" w/ out Lanyard
16	1	10873*	*	Lanyard, 12"
17	1	10960*	*	Gasket, Tank Outlet Cap for Den Hartog Applicator Tank
18	1	19024*	*	Cap, Tank Outlet for Den Hartog Applicator Tank
19	1	19025*	*	Tether, Cap Tank Outlet for Den Hartog Applicator Tank
20	1	47965		Extension, Wiring Harness 12" 14 GA
21	2	506346		Connector, Wire Butt Terminal 16-14 Ga Insulated
22	1	HST38*3		Heat shrink tubing, 3/8" x 3" long
23	1	DE184	++	Decal, Model and Revision

* Components are available as part of the tank (SB25WP-DR).

+ With DS-15 use part# DS107 for tank.

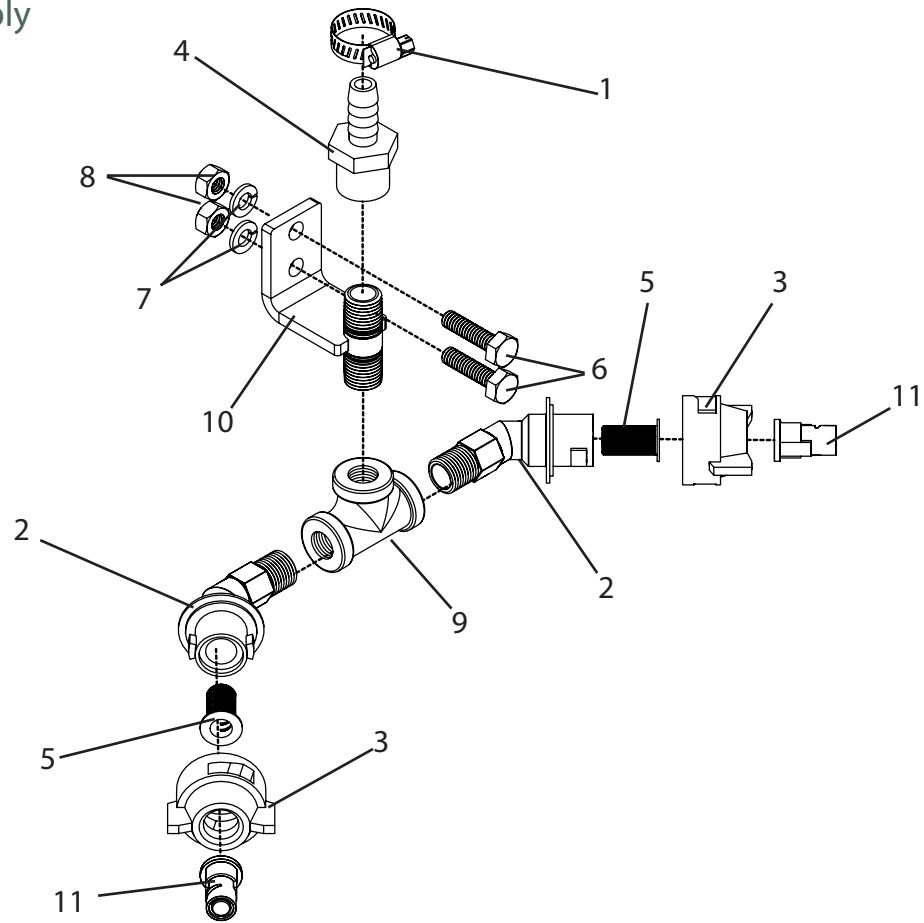
++ With DS-15 use part# DE213.

** Includes items 20, 21, and 22.

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List

DS101, Nozzle Assembly

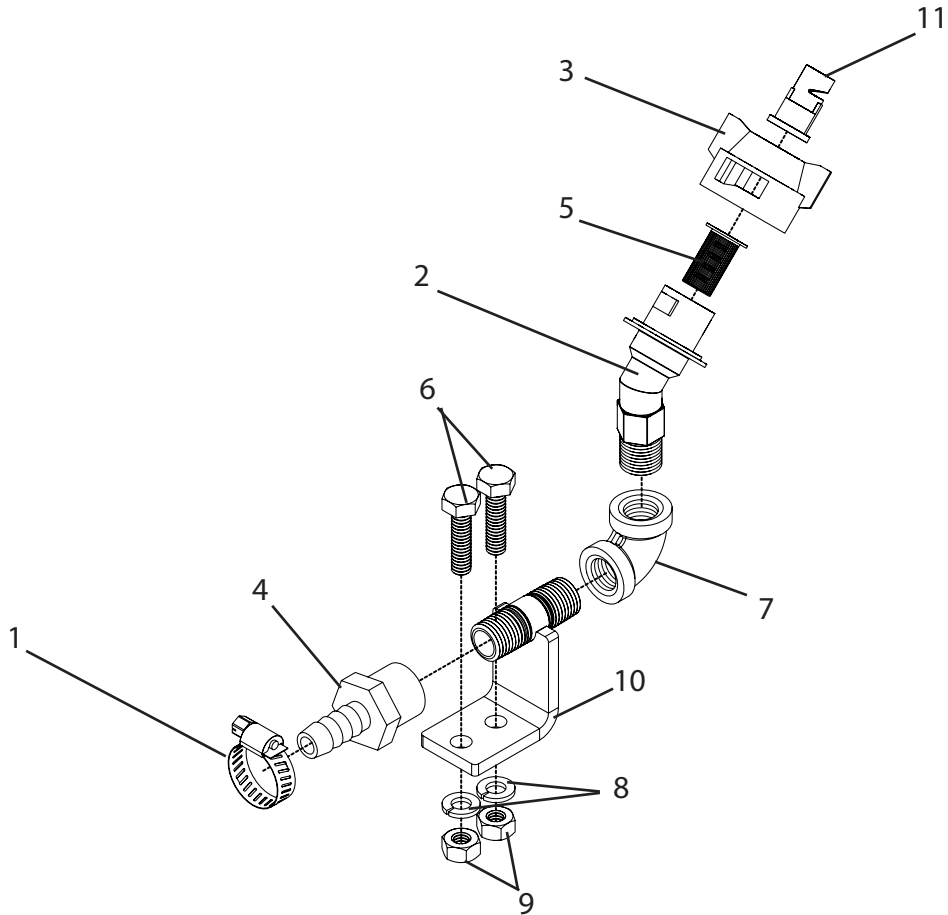


Ref #	Qty.	Part Numbers	Description
1	1	62606	Hose Clamp, Narrow 5/16"-7/8" SS
2	2	22674-14-NYB	Adapter, Nozzle 45° 1/4" NPT
3	2	256003NYR	Cap & Gasket, Quick TeeJet Red
4	1	3AF1438	Adapter, Hose 1/4" FPT x 3/8" HB
5	2	8079PP50	Strainer, Tip 50 Mesh Red Poly Body SS Screen
6	2	H5C14*1	Bolt, Hex 1/4-20 x 1" Gr 5
7	2	LW14	Washer, Lock 1/4"
8	2	NC14	Nut, Hex 1/4-20
9	1	T14S	Tee, 1/4" NPT SS
10	1	T533	Gauge mount nipple, 1/4" MPT x 1 1/2", stainless
11	2	TFVP2	Tip, Turbo FloodJet Polymer Red

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List

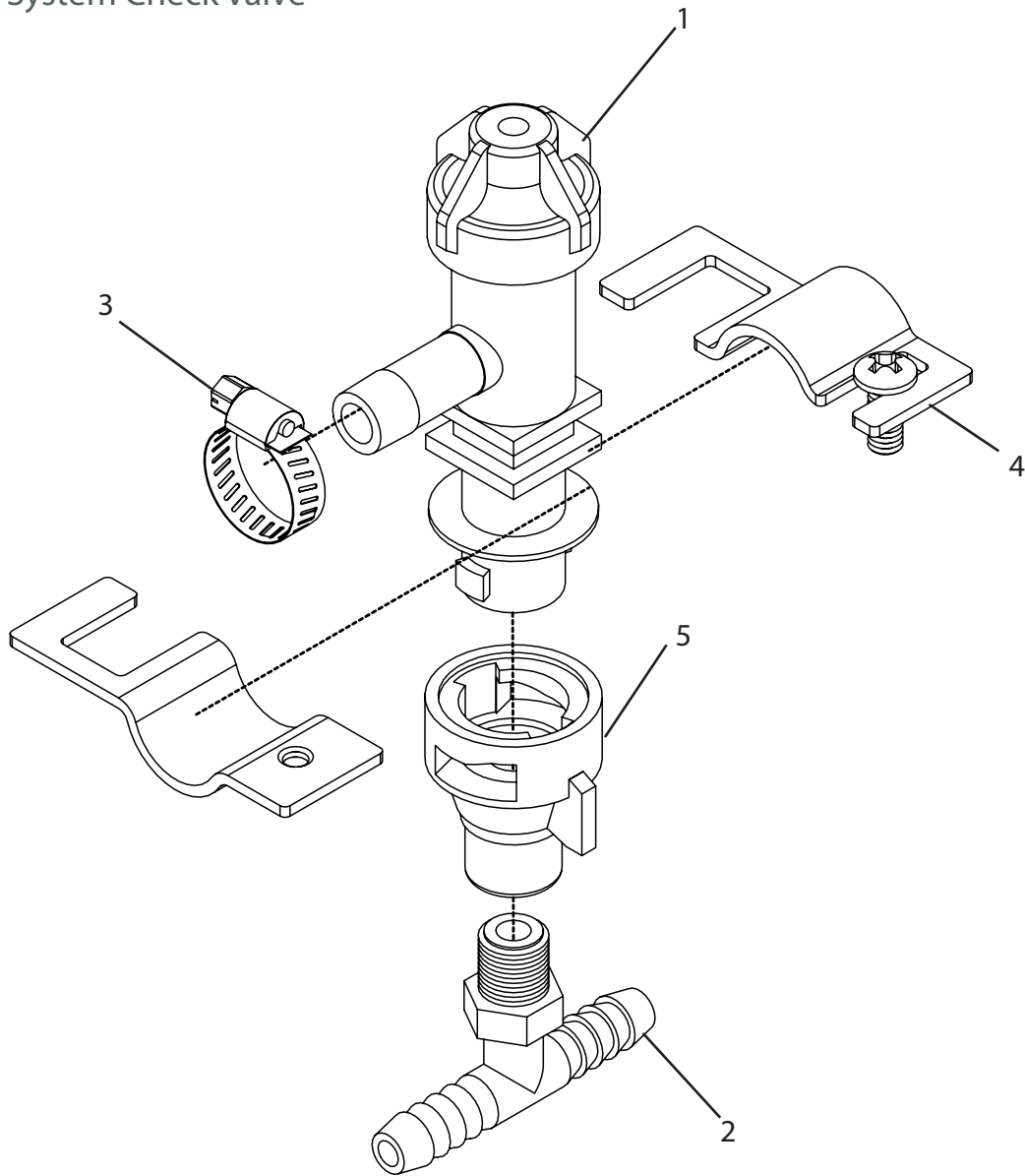
DS102, Nozzle Assembly



Ref #	Qty.	Part Numbers	Description
1	1	62606	Hose Clamp, Narrow 5/16"-7/8" SS
2	1	22674-14-NYB	Adapter, Nozzle 45° 1/4" NPT
3	1	256003NYR	Cap & Gasket, Quick TeeJet Red
4	1	3AF1438	Adapter, Hose 1/4" FPT x 3/8" HB
5	1	8079PP50	Strainer, Tip 50 Mesh Red Poly Body SS Screen
6	2	H5C14*1	Bolt, Hex 1/4-20 x 1" Gr 5
7	1	L14S	Elbow, 90° 1/4" NPT SS
8	2	LW14	Washer, Lock 1/4"
9	2	NC14	Nut, Hex 1/4-20
10	1	T533	Gauge mount nipple, 1/4" MPT x 1 1/2", stainless
11	1	TFVP2	Tip, Turbo FloodJet Polymer Red

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List DS103, Disinfect System Check Valve

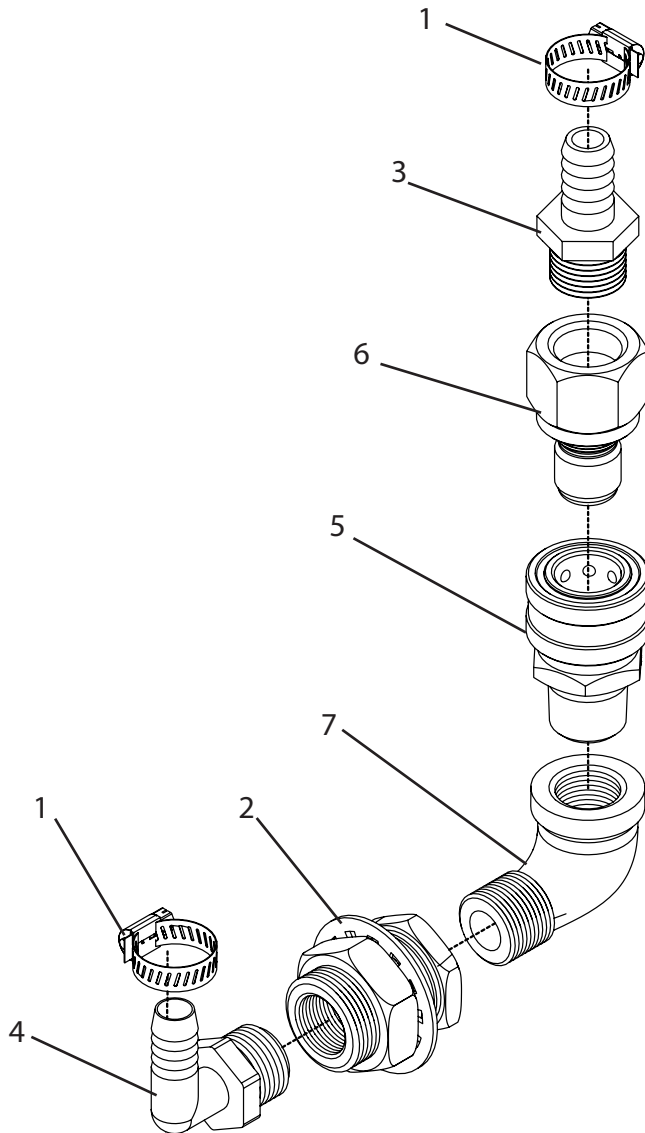


Ref #	Qty.	Part Numbers	Description
1	1	22251311500NYB	Body, Nozzle Elbow 1/2" QJ300
2	1	3T1438T	Tee, Fitting 1/4" MPT x 3/8" HB Run Poly
3	3	62606	Hose Clamp, Narrow 5/16"-7/8" SSd
4	1	QJ11112	Clamp, Nozzle Body 1/2" Pipe
5	1	QJ467614NYR	Adapter, Cap QJ To 1/4" FPT

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List

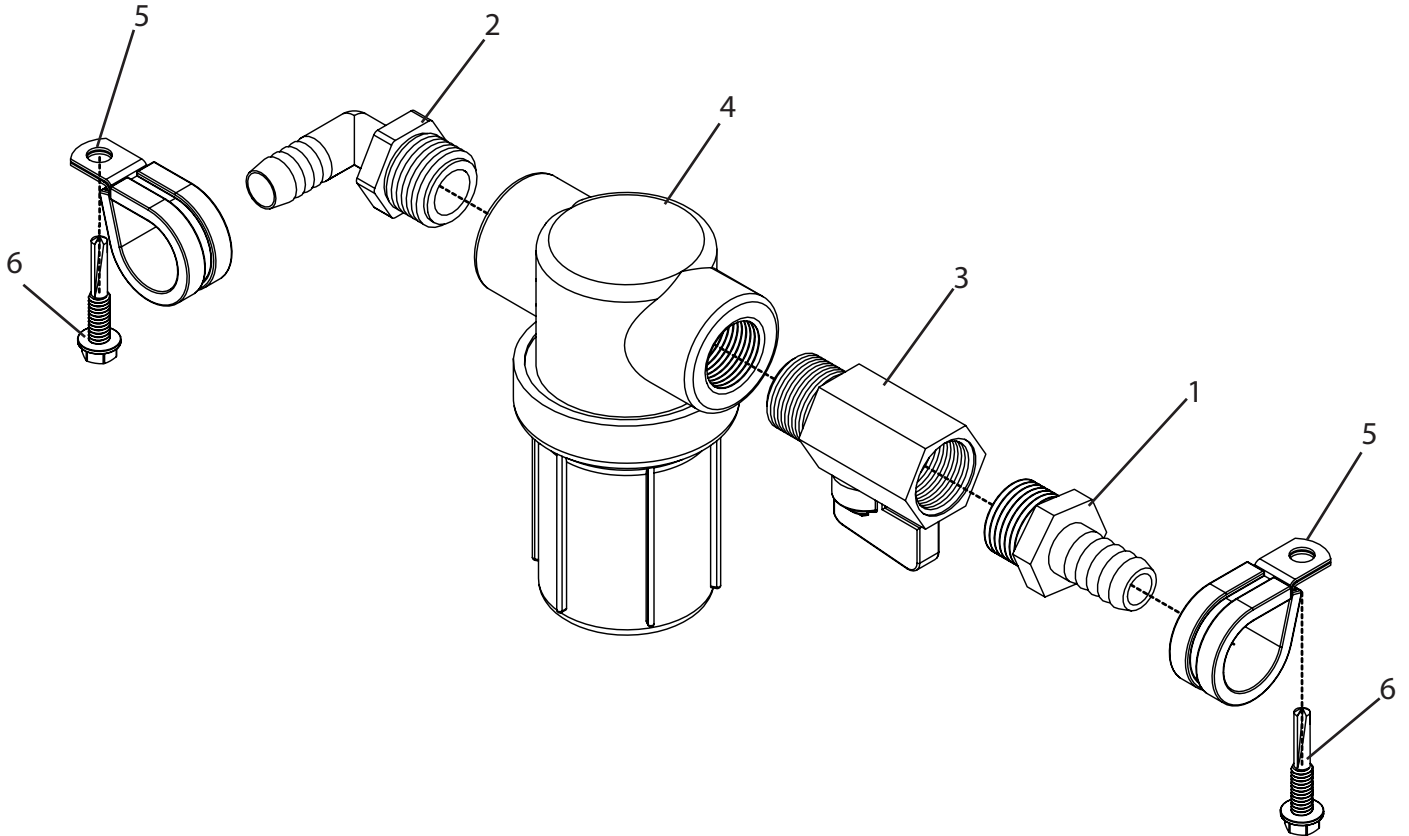
DS104, Disinfect System Quick Disconnect



Ref #	Qty.	Part Numbers	Description
1	2	62606	Hose Clamp, Narrow 5/16"-7/8" SS
2	1	207-08-08	Fitting, Bulkhead Brass 1/2" NPT
3	1	3A1212	Adapter, Hose 1/2" MPT x 1/2" HB
4	1	3EL1212	Hose adapter, 90°, 1/2" MPT x 1/2" barb
5	1	BST4M	Quick Disconnect, Brass, 1/2" MNPT
6	1	BSTN4	Plug, Quick Coupler 1/2" NPT Brass
7	1	SE12S	Elbow, Street 90° Stainless 1/2" NPT

Breakdowns & Parts Lists

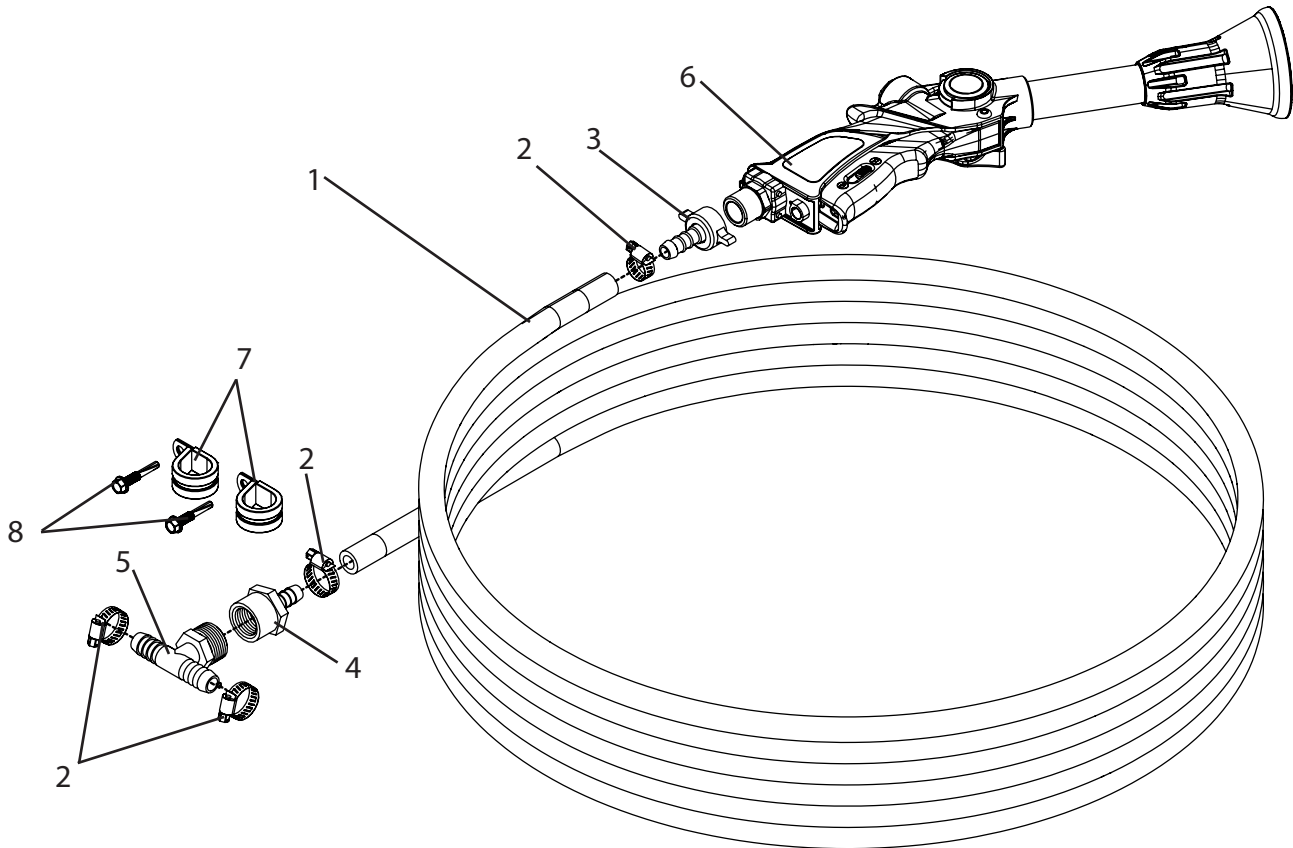
Disinfect Sprayer Breakdown & Parts List DS106, Disinfect System Filter/Valve Assembly



Ref #	Qty.	Part Numbers	Description
1	1	3A1212	Adapter, Hose 1/2" MPT x 1/2" HB
2	1	3EL1212	Hose adapter, 90°, 1/2" MPT x 1/2" barb
3	1	90FMB12	Valve, Ball 1/2" FPT x 1/2" MPT 300PSI
4	1	AA12212PP50	Strainer, Line 1/2" FPT 50 mesh screen
5	2	DC2014	Clamp, Loom Steel 7/8"
6	2	TK12*114H5	Screw, Tek Hex Head 12-24 x 1-1/4"

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List GK50DS, Disinfect System Filter/Valve Assembly

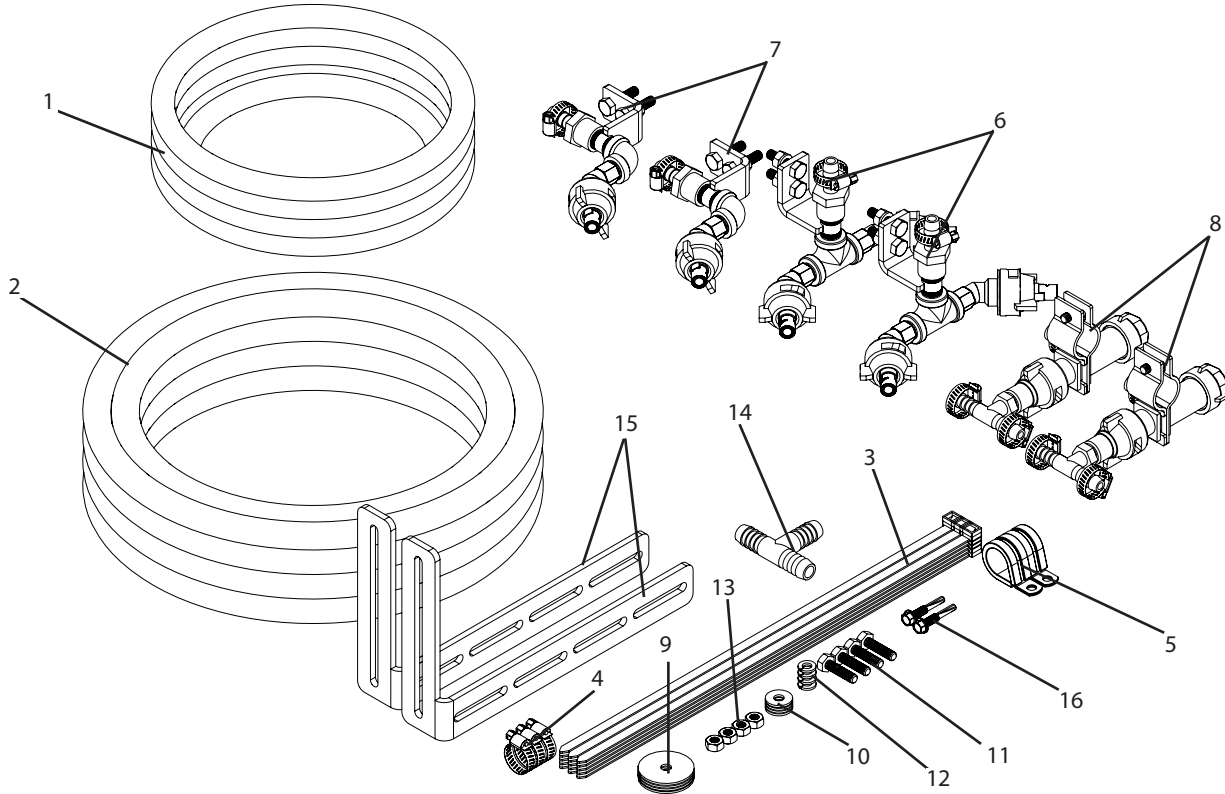


Ref #	Qty.	Part Numbers	Description
1	50'	1206	Hose, EPDM Rubber 3/8" 200 PSI
2	4	62606	Hose Clamp, Narrow 5/16"-7/8" SS
3	1	9910110131	Adapter, 3/8" HB x 1/2" BSP Wing Nut Assy
4	1	3AF1238	Adapter, Hose 1/2 FPT x 3/8 HB
5	1	3T12T	Tee, Fitting 1/2" MPT x 1/2" HB Run Poly
6	1	5106006	Spray Gun, 700 PSI
7	2	DC2014	Clamp, Loom Steel 7/8"
8	2	TK12*114H5	Screw, Tek Hex Head 12-24 x 1-1/4"

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List

DS-TK, Disinfect System, Tractor/Straight Truck Plumbing Kit

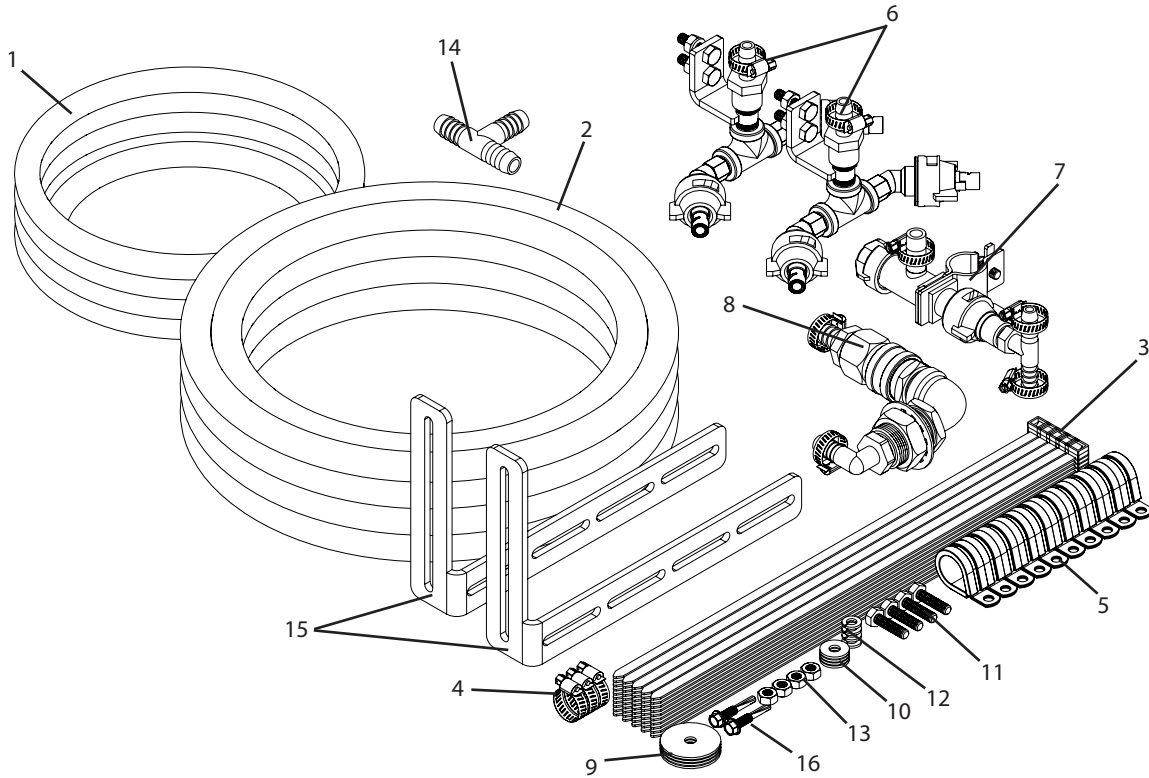


Ref #	Qty.	Part Numbers	Description
1	25 FT	1206	Hose, EPDM Rubber 3/8" 200 PSI
2	55 FT	1208	Hose, EPDM Rubber 1/2" 200 PSI
3	15	1475UV	Cable Tie, 14" 75 Lb UV Black
4	3	62606	Hose Clamp, Narrow 5/16"-7/8" SS
5	2	DC2014	Clamp, Loom 7/8" Steel
6	2	DS101 *	Disinfect System Nozzle Assembly (Drives and Trailer)
7	2	DS102 *	Disinfect System Nozzle Assembly (Steering)
8	2	DS103 *	Disinfect System Check Valve
9	4	FDW14*112	Washer, Fender 1/4" ID x 1-1/2" OD
10	4	FW14	Washer, Flat 1/4"
11	4	H5C14*1	Bolt, Hex 1/4-20 x 1" Gr 5
12	4	LW14	Washer, Lock 1/4"
13	4	NC14	Nut, Hex 1/4-20
14	1	T12	Tee, 1/2" Hose Barbs Nylon
15	2	T533BKT	Extension Bracket for T533
16	2	TK12*114H5	Screw, Tek Hex Head 12-24 x 1-1/4"

* These items are shown assembled, but will come in individual bags. See individual breakdowns for assembly.

Breakdowns & Parts Lists

Disinfect Sprayer Breakdown & Parts List DS-TR, Disinfect System Trailer Plumbing Kit



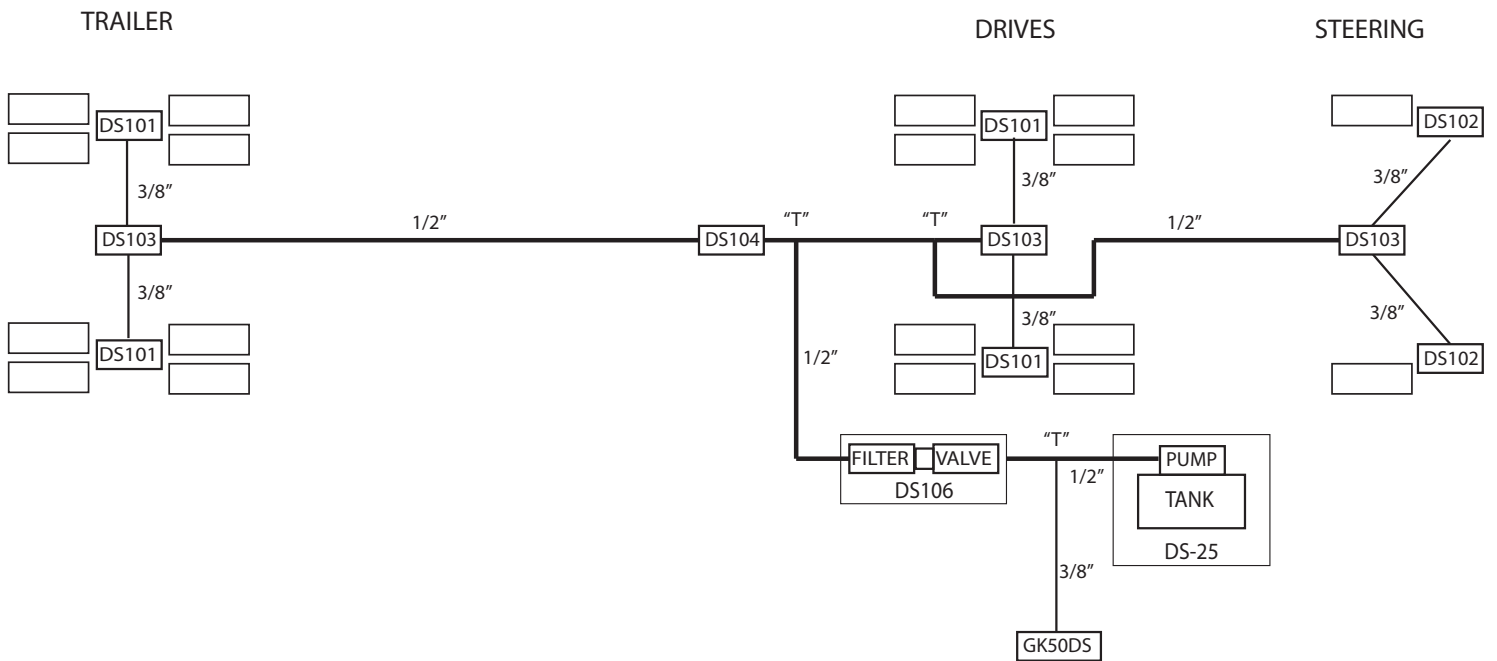
Ref #	Qty.	Part Numbers	Description
1	25 FT	1206	Hose, EPDM Rubber 3/8" 200 PSI
2	65 FT	1208	Hose, EPDM Rubber 1/2" 200 PSI
3	50	1475UV	Cable Tie, 14" 75 Lb UV Black
4	3	62606	Hose Clamp, Narrow 5/16"-7/8" SS
5	10	DC2014	Clamp, Loom 7/8" Steel
6	2	DS101 *	Disinfect System Nozzle Assembly (Drives and Trailer)
7	1	DS103 *	Disinfect System Check Valve
8	1	DS104 *	Disinfect System Quick Disconnect
9	4	FDW14*112	Washer, Fender 1/4" ID x 1-1/2" OD
10	4	FW14	Washer, Flat 1/4"
11	4	H5C14*1	Bolt, Hex 1/4-20 x 1" Gr 5
12	4	LW14	Washer, Lock 1/4"
13	4	NC14	Nut, Hex 1/4-20
14	1	T12	Tee, 1/2" Hose Barbs Nylon
15	2	T533BKT	Extension Bracket for T533
16	10	TK12*114H5	Screw, Tek Hex Head 12-24 x 1-1/4"

* These items are shown assembled, but will come in individual bags. See individual breakdowns for assembly.

Disinfect Sprayer Schematic

Disinfect Sprayer Plumbing Schematic

NOTE: This is a typical tractor trailer configuration for the DS-15 & DS-25.



Installation

Base Unit Installation (DS-15 & DS-25)

Base Unit Box Contains:

Qty.	Description
1	Assembled Base Unit
1	Parts bag with filter assembly components

1. Select a mounting surface for the base unit. Mount the tank on the truck in a location that can withstand the weight of the base unit with a full tank (approximately 250 lbs).
2. The location of the tank should not cause interference with the operation of the equipment it is mounted on.
3. For optimal stability, mount the liquid applicator with bolts using the six threaded holes in the bottom of the tank. It is recommended that you measure the distance between the bottom mounting holes because tank measurements can vary up to 1/8".
4. Attach the tank to the desired mounting surface using 5/16-18 bolts making sure that the bolts do not extend more than 1/2" into the tank. Use the shortest bolts possible and spacing washers as needed to ensure that excess bolt length does not puncture the tank. NOTE: Do not over-tighten bolts.

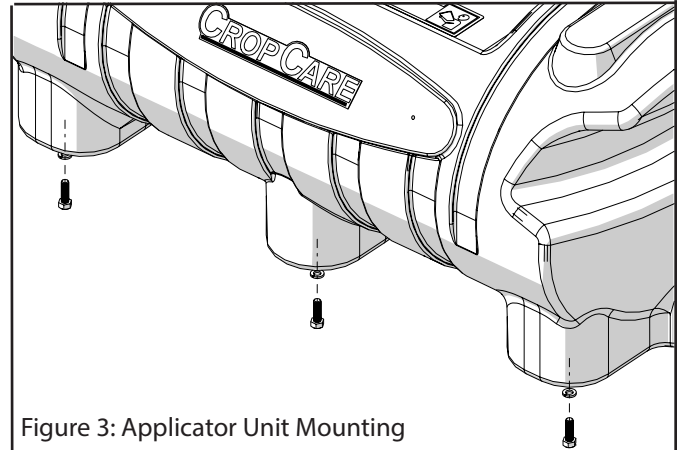


Figure 3: Applicator Unit Mounting

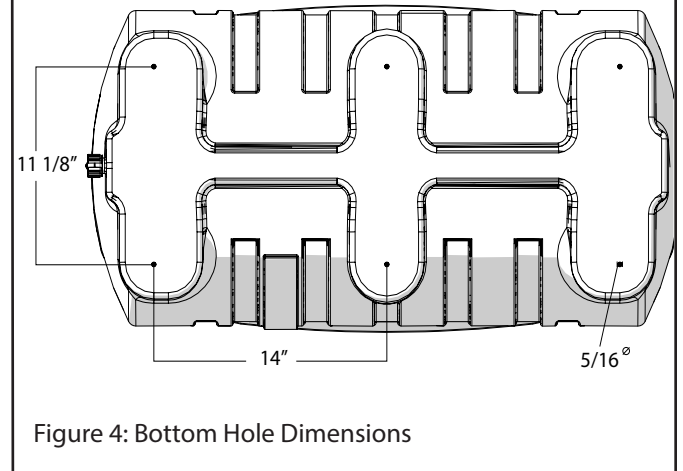
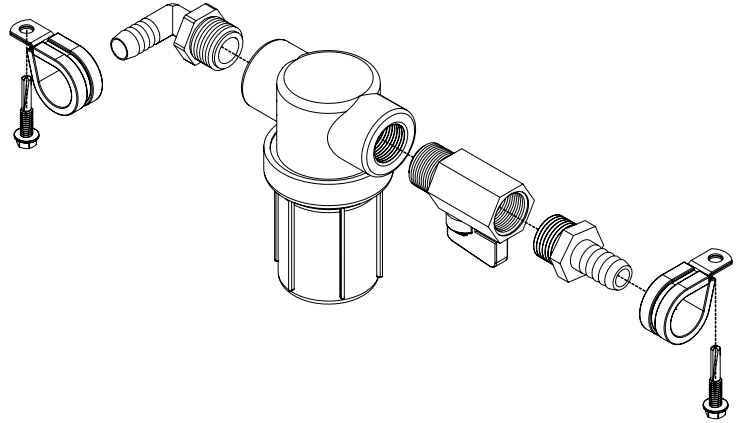


Figure 4: Bottom Hole Dimensions

Installation

Filter Unit Assembly and Installation (DS106)

1. Assemble components from filter unit package as shown on page 12. Use Teflon tape and/or thread sealant paste to seal threaded connections. Do not over-tighten plastic fittings or damage will occur.
2. Secure the filter unit to a solid surface using the supplied loom clamps and self-drilling hex head screws.
3. Connect the pump outlet to the filter assembly inlet with the required length of 1/2" hose and secure the hose with hose clamps. Reference plumbing schematic on page 16.

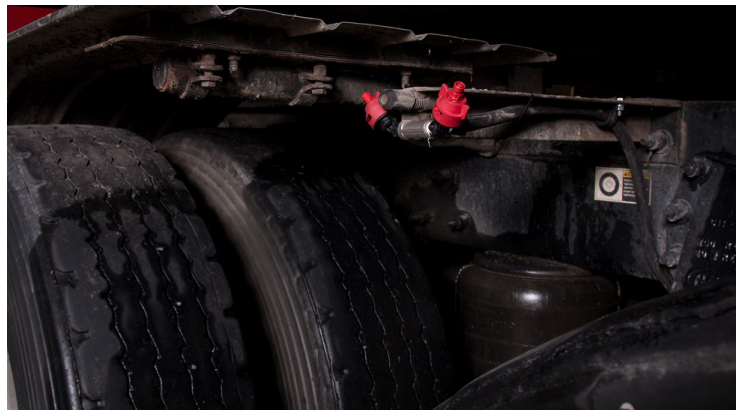


Trailer/Drive Axle Nozzle Assembly and Mounting (DS101)

1. Assemble components from nozzle unit package as shown on page 8. Use Teflon tape and/or thread sealant paste to seal threaded connections. Do not over-tighten plastic fittings or damage will occur.
2. Nozzle should be approximately 13" from the tire and centered between the dual wheels or centered on the single tire to ensure complete and thorough coverage of the tire(s). Use the supplied universal mounting bracket to ensure that you can achieve the desired coverage.



Nozzles Mounted with Bracket



Nozzles Mounted without Bracket

Installation

Steering Axle Nozzle Assembly and Installation (DS102)

1. Assemble components from nozzle unit package. Use Teflon tape and/or thread sealant paste to seal threaded connections as shown on page 9. Do not over-tighten plastic fittings or damage will occur.
2. Nozzle should be approximately 8" from the tire and centered on the tire to ensure complete coverage.



Installation

Diaphragm Check Valve Assembly and Installation

1. Assemble components from nozzle unit package as shown on page 10. Use teflon tape and/or thread sealant paste to seal threaded connections. Do not over-tighten plastic fittings or damage will occur.
 2. Secure the check valve unit near the axle with the supplied universal mounting bracket (reference 4, page 10).
 3. Connect the 3/8" hose to the "T" (reference 2, page 10) on the check valve unit and route hose to the nozzle unit.
 4. Connect 1/2" hose to the check valve inlet and route hose from the check valve to the outlet of the filter assembly.
 5. Use one check valve assembly for every axle. Connect the 1/2" hoses from all check valve assemblies together using 1/2" tees (reference plumbing schematic, page 14)
-

Bulkhead/Quick Disconnect Assembly and Installation

1. Drill a 1-3/16" hole in the desired location for the quick disconnect coupler. It should be located near the air and/or electrical connections between the tractor and trailer.
 2. Place the bulkhead adapter fitting through the hole and secure with the external locking washer and nut.
 3. Assemble the remaining components from the quick disconnect assembly package onto the bulkhead as shown on page 11.
 4. Connect 1/2" supply hose from filter assembly to the fixed end of the quick disconnect and the tractor supply hose to the plug end of the quick disconnect (reference plumbing schematic, page 14).
-

Spray Gun Assembly and Installation

1. Cut the 1/2" supply line between the pump outlet and the filter assembly. Install the adapter "T" (reference 5, page 13) into the supply line and secure with hose clamps (reference plumbing schematic, page 14).
2. Connect the 3/8" spray hose to the adapter "T" (reference 4, page 13) and to the swivel spray gun adapter (reference 3, page 13) and secure the hose with a hose clamp (reference 2, page 13).
3. Thread the swivel adapter (reference 3, page 13) onto the spray gun inlet.
4. Coil the 3/8" spray hose and securely fasten to the truck with bungee straps (not included) or alternative method.

Maintenance & Winterizing Instructions

Routine Maintenance

It is very important to perform routine maintenance on your Sprayer before and after each use. Good maintenance practices will help to guard against any unnecessary machine breakdowns or accidents.

1. Perform a visual and physical inspection for any worn parts, loose bolts, or other visible problems. Make all necessary repairs before spraying. Please contact PBZ LLC. to order parts or to receive technical help.
 2. The suction strainer (ref # 1, page 12) is located on the end of suction hose (inside the tank) and should be inspected and rinsed off on a regular basis.
 3. The in-line filter screen should be taken out and rinsed daily. NOTE: Be careful not to lose the gasket in the filter bowl. The filter will leak without this gasket.
 4. The spray tip strainers located behind each nozzle should be taken out and rinsed daily.
-

Winterizing Your Sprayer

When operating your disinfect applicator in freezing conditions, it is essential that you treat your disinfect with an anti-freeze additive to prevent freezing. This will avoid damage to and allow for optimal performance of your disinfect system. Consult the manufacture of the disinfect product for specific instructions regarding cold weather use. Failure to protect your applicator from freezing will void the manufacturer's warranty.

Zimmerman™ Limited Warranty

Disinfect System Model: DS25

Warranty Coverage

Zimmerman™ hereby provides a Limited One (1) Year Warranty on this product. This product is warranted against any manufacturer's defects in any of the product's components in the 12 months following the original date of purchase. Defective components will be repaired or replaced at the discretion of the manufacturer. It is the responsibility of the purchaser to return warranted components to the manufacturer. This warranty is limited to the repair or replacement of the product's components only. Zimmerman™ is not to be held liable for incidental or consequential damages of any kind. This warranty covers the purchaser of this product and any other owners who own it during the one year warranty period. To retain the warranty, the product must be operated and maintained as ascribed by its owner's manual. For warranty service, please have a copy of the purchase invoice available.

To retain the Product Warranty, the Product must be operated and maintained as set forth by its owner's manual. For warranty service, please have a copy of the purchase invoice available.

Warranty Is Void if:

1. The sprayer has been subjected to, in the opinion of Zimmerman™, negligent handling, misuse, an accident or if the instructions in the owner's manual were not completely followed.
2. The sprayer's components have been altered in any manner or repairs have taken place with unapproved parts.
3. The sprayer and its components were subject to freezing or freezing conditions. The Product must have been winterized as per the maintenance instructions to retain the Product Warranty.
4. A non-compatible chemical was used and/or if the sprayer operator failed to rinse all chemical residue out of the Product's components after use.
5. A petroleum-based, oil-based, or flammable product was used and caused damage to the pump, tank, hoses, or any other component.

Getting Warranty Service

All warranty claims must be made through PBZ LLC. All warranty claims must be submitted with an invoice or a proof of purchase that denotes the purchase date and place of purchase. If you have any questions or comments concerning this warranty, please contact PBZ LLC.

Contact Us

We desire to give you continuing service in the best manner possible. This includes listening to your comments, suggestions, and problems. We will do our best to answer all questions thoroughly and in a timely manner. Please feel free to contact our customer service department.

Ordering Parts

Please contact PBZ LLC. to order replacement parts for your product.

ZIMMERMAN™

Manufactured by PBZ LLC
A Paul B Zimmerman Inc. Company
www.ZimmermanEquipment.com