

This Manual Must Be Read Before Operating The Equipment

Owner / Operator's Manual



AccuSpray De-Icing Systems

FOR MODELS

VSS-1000

VSS-2000

VSS-3000



CUSTOMER COPY

Warren, Michigan 48089

800-725-8377

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Have a question or need assistance?
SnowEx Customer Service
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Thank you for your purchase of the new SnowEx Accu-Spray Liquid De-Icing System. Welcome to the SnowEx family of products.

You have purchased an innovative liquid system that lets you apply ice control solutions directly to the spreading material or directly to the pavement with a choice of three patterns. The choice is yours!

As with all SnowEx products, read your Owner's Manual carefully. Maintained properly, your system will give you trouble-free service. SnowEx products are the best built de-icing products in North America.

Sincerely,
The SnowEx Team

CONGRATULATIONS!

The sprayer you have purchased is an example of snow and ice control technology at its finest! Your sprayer's self-contained design is a trademark of all Snowex products. Here's why...

SIMPLICITY: Fast installation, easy operation and high quality parts means minimal maintenance for your SnowEx sprayer system.

RELIABILITY: High impact linear low density polyethylene tank, custom engineered powder coated frame, 12 volt high output pumps coupled to a unique spray boom system.

VERSATILITY: Multi-use capabilities allows spraying of a variety of materials for snow and ice control.

WARRANTY: Two years from date of installation.

The benefits you are about to recognize are that of time, money and effort.
We welcome you to the world of Snowex Performance.

Registration

Record the following information in this manual for quick reference.

Sprayer Model Number _____

Sprayer Serial Number _____

Date of Purchase _____

Dealer Where Purchased _____

When ordering parts, the above information is necessary. This will help to insure that you receive the correct parts.

At the right is a diagram of the ID tag. This tag on the spreader is located on the frame.

The logo for SnowEx, featuring the word "SNOW" in a bold, sans-serif font, followed by "EX" in a larger, stylized font with a checkmark integrated into the "X". A registered trademark symbol (®) is located to the right of the "X".

SER. NO. _____
TRYNEX INTERNATIONAL
Warren, MI 48089 (800) 725-8377

Please fill out the warranty card with all the necessary information to validate it. This will also give us a record so that any safety or service information can be communicated to you.



Before attempting any procedure in this book, these safety instructions must be read and understood by all workers who have any part in the preparation or use of this equipment.

For your safety, warning and information decals have been placed on this product to remind the operator of safety precautions. If anything happens to mark or destroy the decals, please request new ones from Snowex.



Unit must be strapped down and locked into position before operating vehicle.



Never exceed the Gross Vehicle Weight Rating of vehicle. Failure to do so may limit a vehicles handling characteristics.



Never attempt to take a unit off a truck with material in it.



Never exceed 45 m.p.h. when loaded spreader is attached to vehicle. Braking distances may be increased and handling characteristics may be impaired at speeds above 45 m.p.h.



Never allow children to operate or climb on equipment.
Always check areas to be spread to be sure no hazardous conditions or substances are in the area.
Always inspect unit for defects: broken, worn or bent parts, weakened areas on sprayer mounts.



Always shut off vehicle and power source before attempting to attach or detach or service spray system. Be sure vehicle/power source is properly braked or chocked.



Always keep hands, feet, and clothing away from power-driven parts. Remember it is the owner's responsibility to communicate information on safe usage and proper maintenance of all equipment.



Always make sure personnel are clear of areas of danger when using equipment. Maintain 60' distance from all bystanders when operating the spray system.



Inspect the unit periodically for defects. Parts that are broken, missing, or worn out must be replaced immediately. The unit, or any part of it cannot be altered without prior written permission from the manufacturer.



WARNING

Always inspect pins and latches whenever attaching or detaching sprayer system and before traveling.



CAUTION

Never leave material in spray tank for long periods of time.



WARNING

Remember, most accidents are preventable and caused by human error. Exercising of care and precautions must be observed to prevent the possibility of injury to operator or others!



WARNING

Never operate equipment when under the influence of alcohol, drugs, or medication that might alter your judgment and/or reaction time.



WARNING

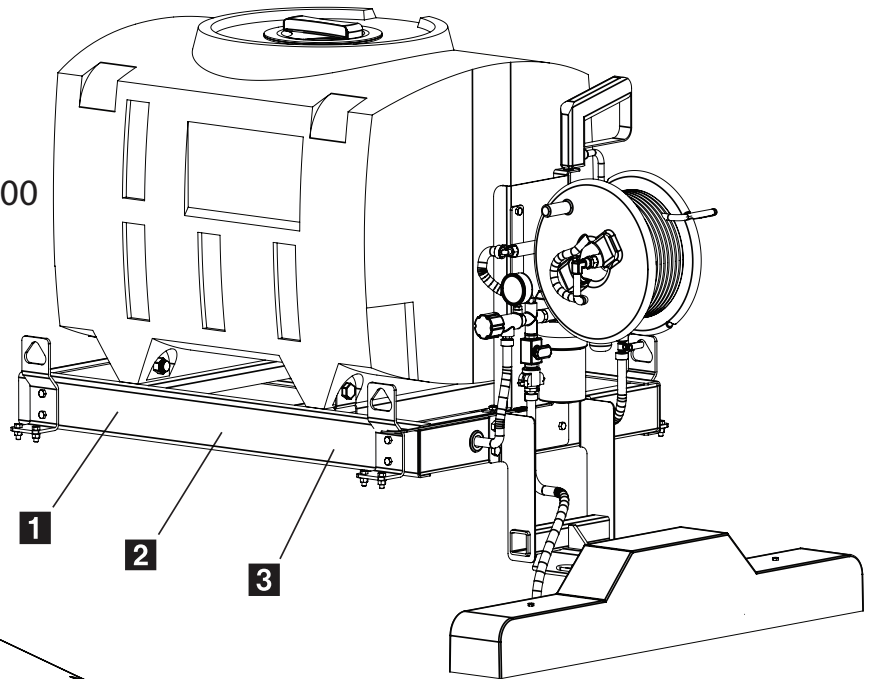
Before working with the sprayer system, secure all loose fitting clothing and unrestrained hair.



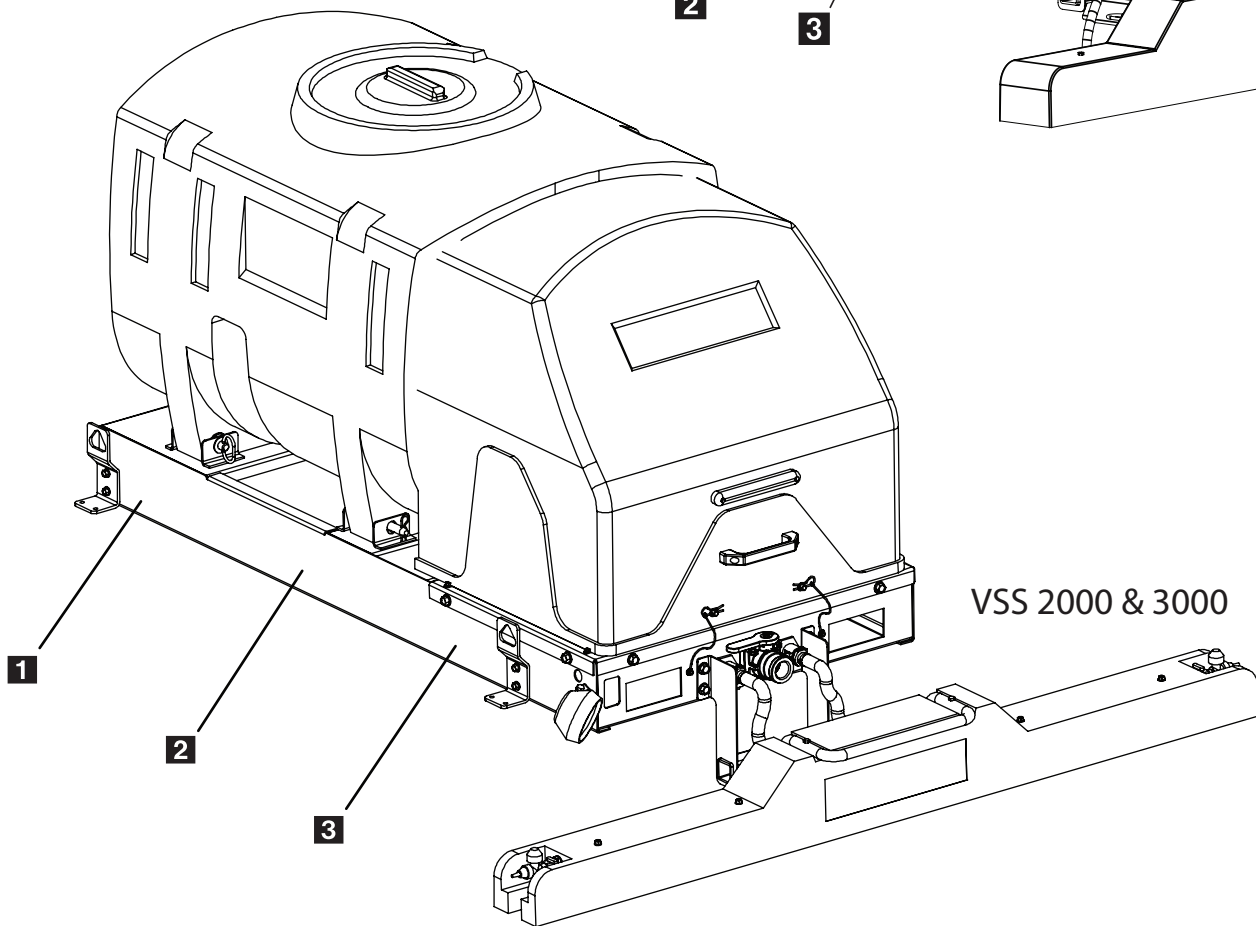
WARNING

Always wear safety glasses with side shields when servicing sprayer system. Failure to do this could result in serious injury to the eyes.

VSS 1000



VSS 2000 & 3000



1 D 6546



2 T 20317



3 D 6548

Summary of Important Safety Information

Chemical accident procedures

Immediate response is necessary in the event of sprayer leaks, bodily chemical contact, poisoning, or spills. See instructions below:

Sprayer leak	<p>If the sprayer develops a leak, immediately stop spraying. Turn off power to the sprayer and follow directions below, as applicable.</p>
Bodily chemical contact	<p>Personal contamination can occur when chemicals splash, spill, or spray directly onto a person.</p> <ol style="list-style-type: none"> 1. Immediately follow First Aid instructions on chemical label. <ul style="list-style-type: none"> <u>General procedures can include:</u> <ol style="list-style-type: none"> a) Eyes – immediately flush with water. b) Skin – wash all contaminated skin surfaces with soap and water. c) Clothing – remove contaminated clothing. Dispose of heavily contaminated clothing per chemical label instructions. 2. Seek medical advice if instructed on the label or the victim experiences symptoms of harmful effects. Bring the chemical label for reference.
Poisoning by ingestion or inhalation	<p>In case of poisoning from ingestion or inhalation</p> <p>If the victim has collapsed or is not breathing, <u>call 911</u>. Otherwise:</p> <ol style="list-style-type: none"> 1. If you are the victim, immediately seek assistance from nearby personnel, because you may become incapacitated. 2. Immediately follow first aid instructions on chemical label. 3. Call a poison control center for further advice. In the U.S., call 1-800-222-1222. Have the chemical label available for reference.
Chemical spills	<p>Chemical spills must quickly be contained and properly cleaned up.</p> <p>Refer to the chemical label for any specific clean-up instructions.</p> <p>General procedures include:</p> <ol style="list-style-type: none"> 1. Controlling the spill by stopping the source of the spill. 2. Containing the spill so that it does not spread and get into water sources. 3. Cleaning up the spill immediately. 4. Seeking additional advice from: <ul style="list-style-type: none"> - <u>Chemical manufacturer</u> See chemical label for contact information. - <u>State pesticide regulatory agency</u> In the U.S., call the National Pesticide Info. Ctr. at 800-858-7378 for assistance in contacting your state's agency.

Summary of Important Safety Information

LISTED BELOW is a summary of safety information of particular importance. See individual sections of this owner's manual for more details.

DURING ASSEMBLY

CHECK and **TEST** completed assembly as directed in this manual. Serious injury could result from chemical leaks if sprayer is improperly assembled.

DO NOT MODIFY SPRAYER DESIGN

DURING OPERATION

READ and **FOLLOW** each chemical label's instructions and warnings.

AVOID inhaling, ingesting, or coming into contact with any chemicals.

KNOW applicable licensing and regulatory requirements for the chemical you plan to use.

KNOW emergency procedures before handling chemicals. Carefully review "Chemical Accident Procedures" listed below and later in this manual. Also see First Aid instructions on the chemical label.

WEAR protective clothing, eye protection, and chemical resistant gloves when filling, using and cleaning the sprayer. Wear additional protective gear, such as facemask or apron, as recommended on the chemical label.

EXERCISE EXTRA CAUTION around children and pets. Pesticides are especially toxic to them. Keep sprayer and spray materials away from them at all times.

DO NOT MIX OR POUR chemicals in an enclosed, unventilated area.

DO NOT USE flammable or corrosive chemicals in the sprayer.

FLUSH the sprayer before switching chemicals in order to prevent dangerous chemical interactions.

STORE pesticides in a correctly labeled container and in a secure location.

MONITOR the health of operators frequently exposed to pesticides, as recommended by the chemical label or local/federal regulations.

BEFORE SPRAYING

INSPECT and **PREPARE** sprayer before each use as directed in this manual.

FOLLOW INSTRUCTIONS for SAFELY FUELING the engine. Gasoline is flammable and can explode. Always use caution when handling gasoline.

DO NOT START sprayer until ready to spray in order to avoid unintentional spray release.

WEAR ADDITIONAL PERSONAL PROTECTIVE EQUIPMENT if you will be spraying overhead.

You will be exposed to much more chemical fallout in these applications. Wear chemical resistant head and neck protection, full face mask or half face mask with sealed goggles, and consider using a respirator.

DO NOT SPRAY when wind speed exceeds 4 MPH in order to minimize spray drift.

KEEP sprayer and spray materials away from children/pets. Pesticides can be especially toxic to children and animals.

DO NOT ALLOW anyone younger than 16 to operate sprayer since pesticides are especially toxic to children.

Summary of Important Safety Information

During Spraying

- **DO NOT OVERAPPLY** pesticide. Apply at rate recommended by chemical manufacturer. Excess pesticide can be dangerous to humans/animals, damage desirable plants, and contaminate soil and water sources.
- **DO NOT EAT, DRINK, SMOKE, RUB YOUR EYES, or TOUCH YOUR BARE SKIN** while handling chemicals and spraying.
- **NEVER POINT THE SPRAY GUN** at people or animals.
- **DO NOT SPRAY** near open flames or sources of heat.
- **ALWAYS HOLD THE SPRAY GUN FIRMLY** when using it to spray at higher pressures in order to prevent gun from whipping. Keep good footing and balance at all times.
- **EXERCISE EXTRA CAUTION** when spraying near areas accessible to children and pets.
- **CLEAN** up spills immediately per instructions on the chemical label.
- **TURN OFF** vehicle and set brake or block wheels, **TURN OFF** sprayer, and **RELIEVE** system pressure before leaving sprayer unattended.
- **SEE** Troubleshooting section of this manual before attempting any repairs. Wear personal protective equipment and follow safety instructions.

After Spraying

CLEAN sprayer immediately after use according to the directions provided in this manual.

DECONTAMINATE yourself after you are done spraying and have cleaned the sprayer. Wash all exposed areas of the body with soap and water, and remove and launder clothing.

DISPOSE OF or **STORE** remaining chemicals in secure storage with correctly marked container.

Transporting Safety

READ safety instructions in your vehicle manual with regard to carrying heavy cargo loads.

DO NOT ALLOW drivers younger than 16 to drive the vehicle with the filled sprayer attached.

MAKE SURE SPRAYER IS SECURELY ATTACHED to vehicle.

EXERCISE CAUTION in vehicle handling when driving with filled sprayer to avoid loss of control or rollover.

- Keep speed to a minimum so you can maintain control. Reduce speed prior to turns.
- Allow for more distance to stop.
- Avoid any sudden steering maneuvers, starts, or stops that could create liquid sloshing in the sprayer and instability.

SLOW DOWN and **EXERCISE EXTRA CAUTION** on sloped or uneven terrain. Pick the most level route possible across fields--drive up and down slopes when necessary, rather than across. Use a vehicle equipped with a roll over protection system (**ROPS**) if you will be working on non-level terrain.

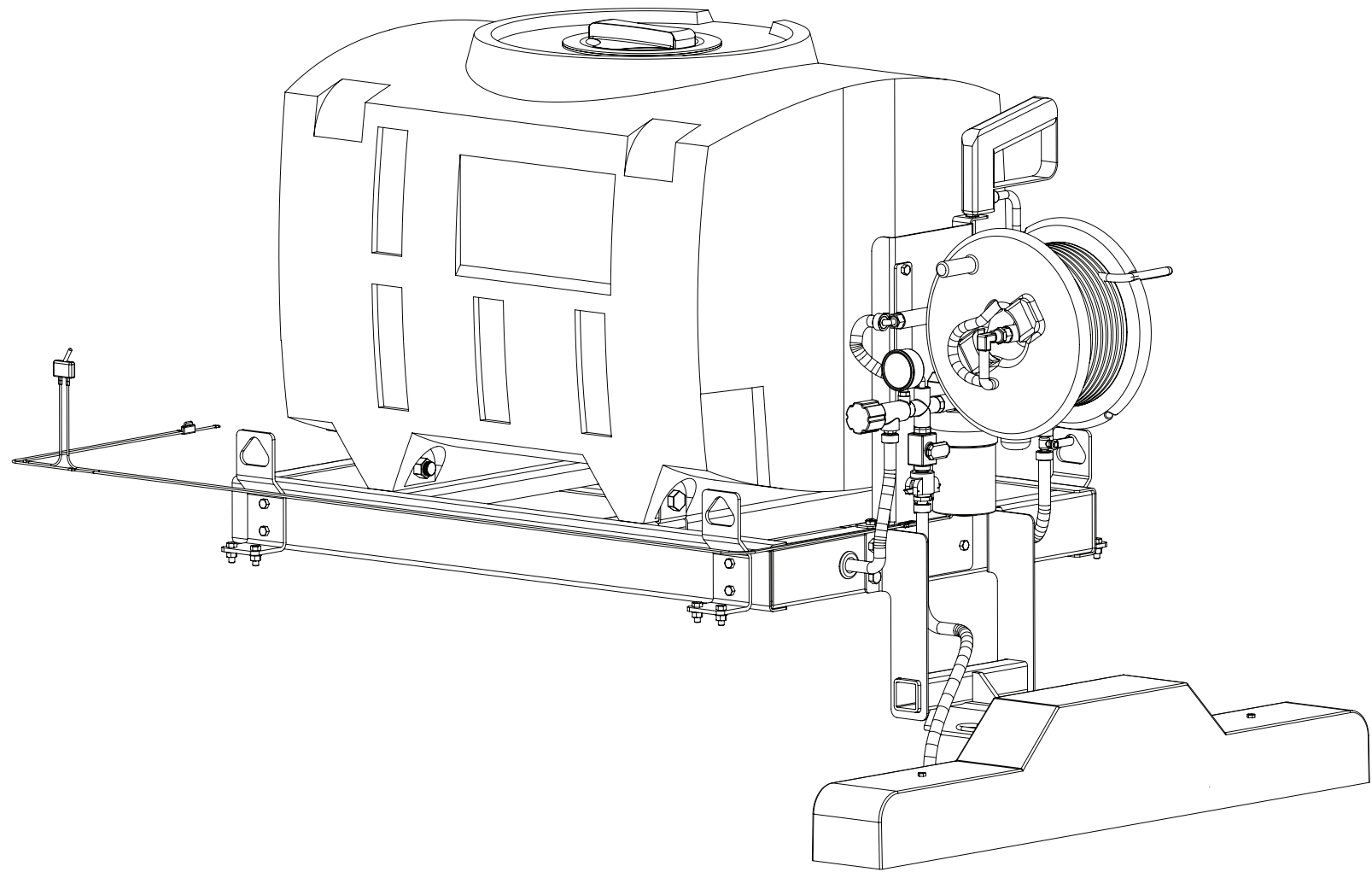
BE AWARE that visibility may be reduced when making turns or backing up.

DO NOT RIDE or **TRANSPORT** cargo on the sprayer.

TURN OFF both sprayer and vehicle, and **SET BRAKES** before leaving unattended.

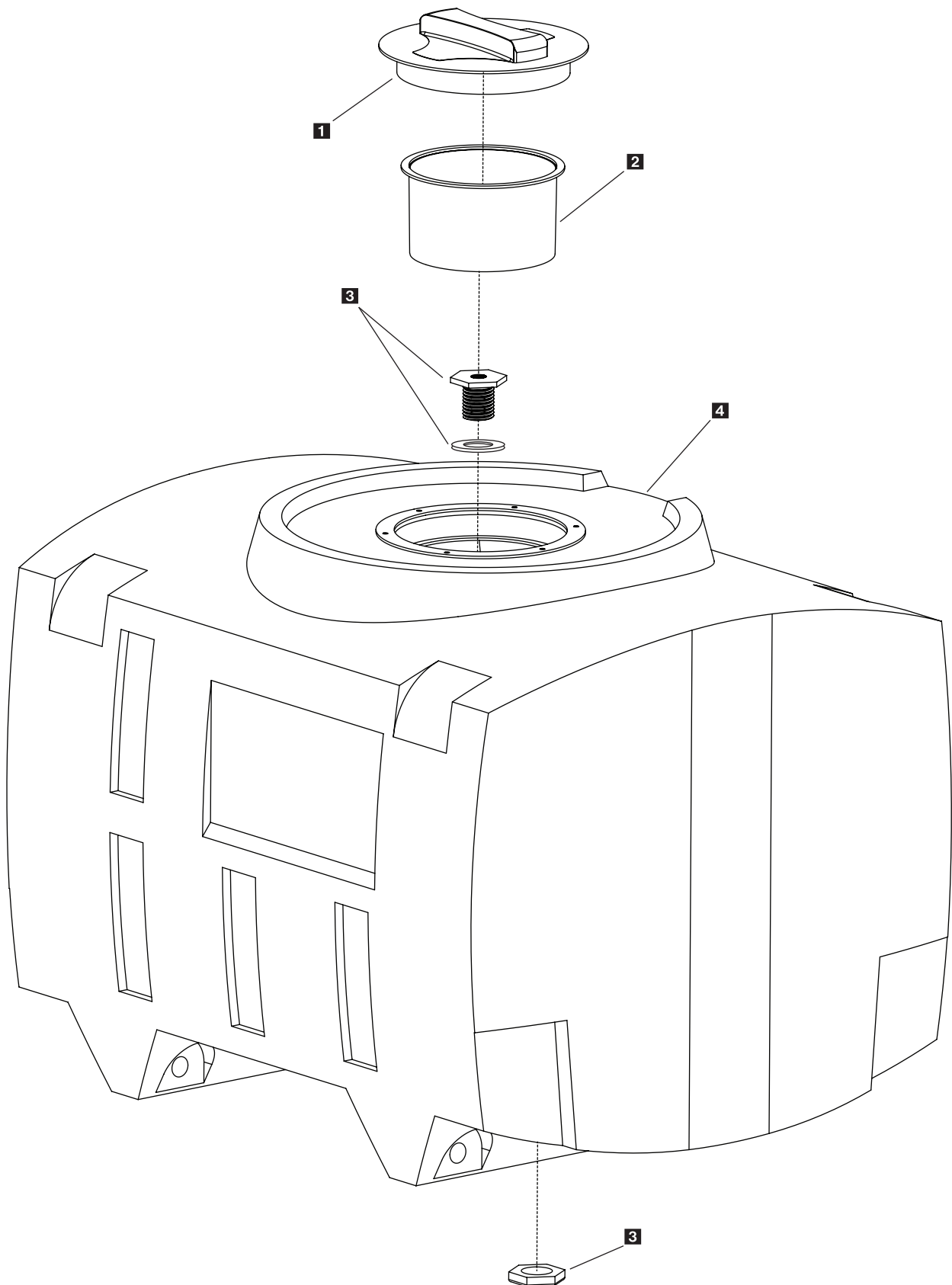
Main Assembly View

Model # VSS-1000



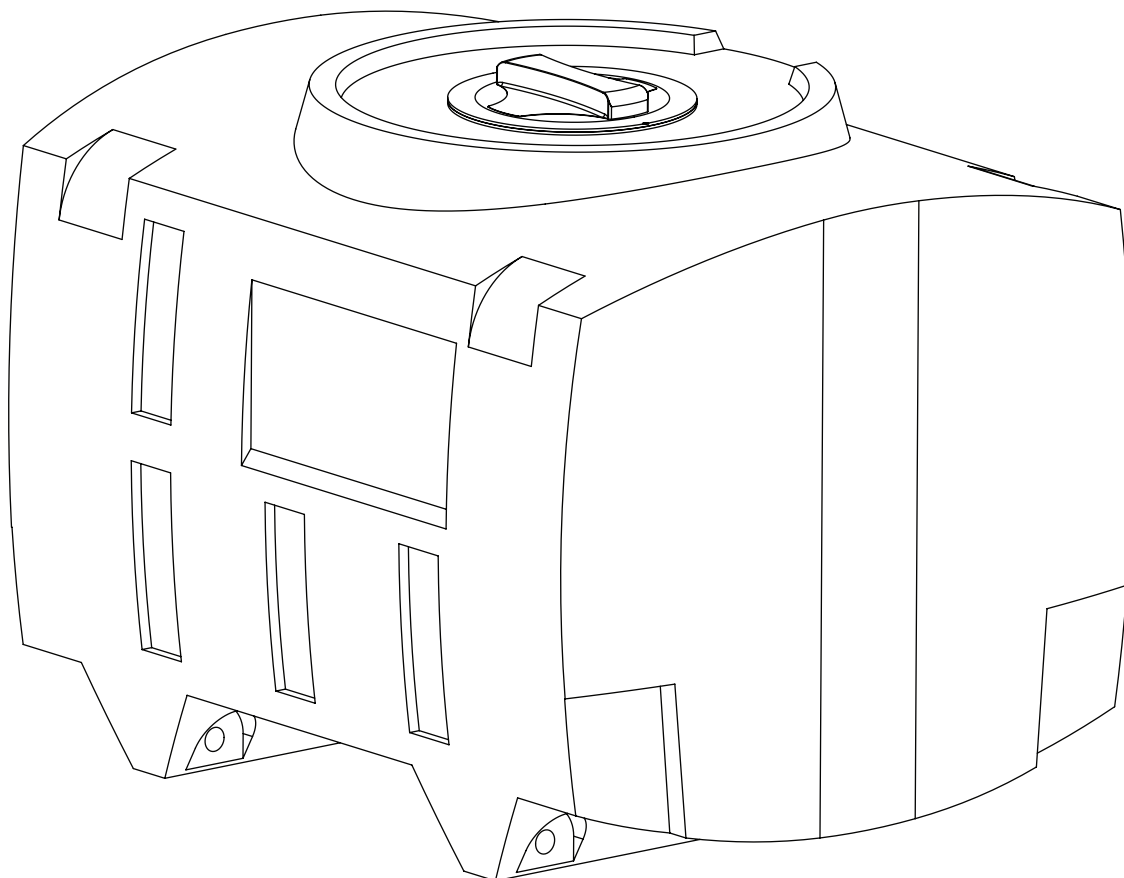
Tank Assembly Parts Breakdown

Model # VSS-1000



Tank Parts Breakdown

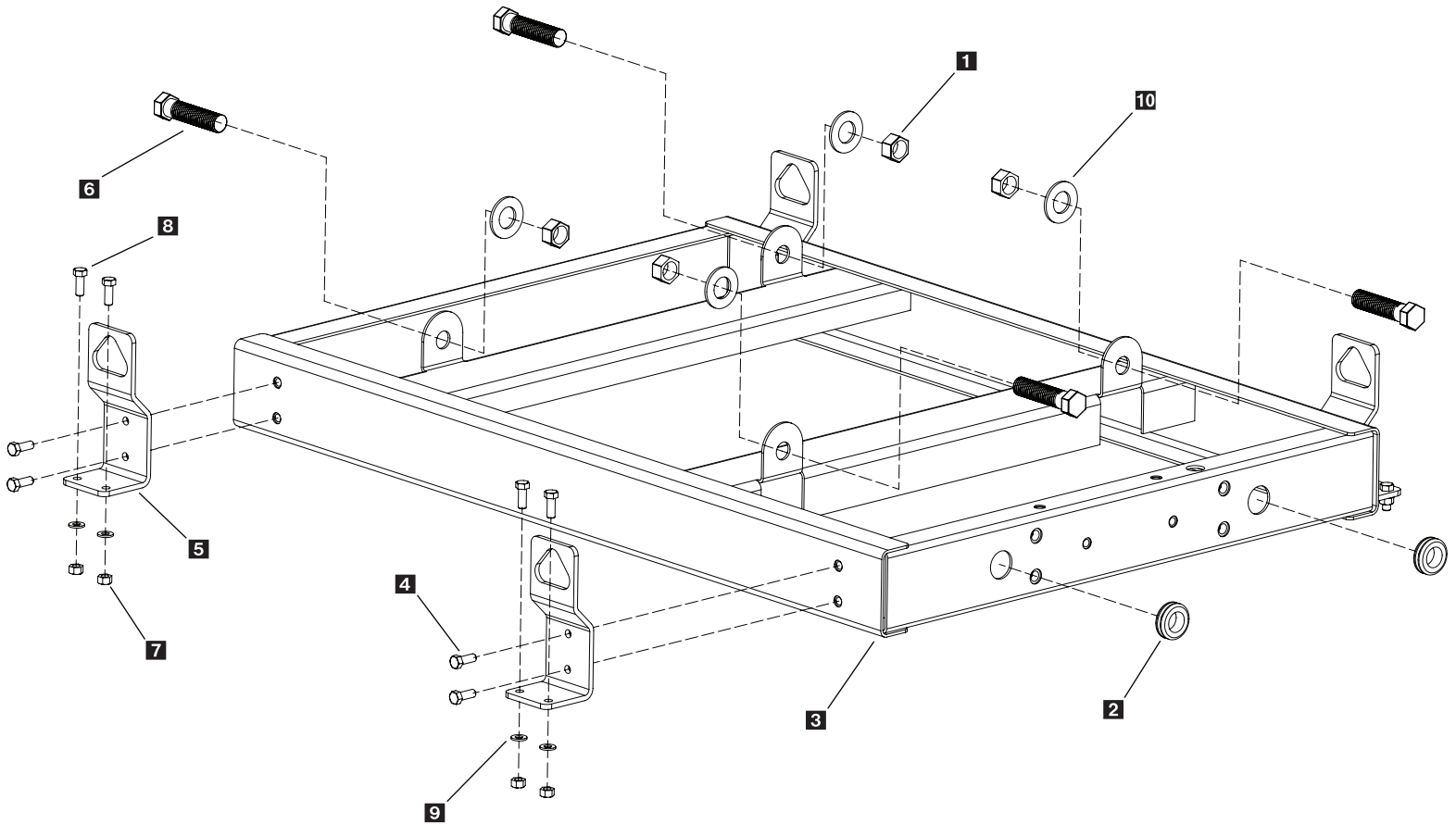
Model # VSS-1000



Key	Part No.	Description	Qty.
1	T 20323	Tank Lid	1
2	T 20324	Basket Strainer	1
3	D 6917	Bulkhead Assembly	1
4	D 5600	100 Gallon Poly Tank	1

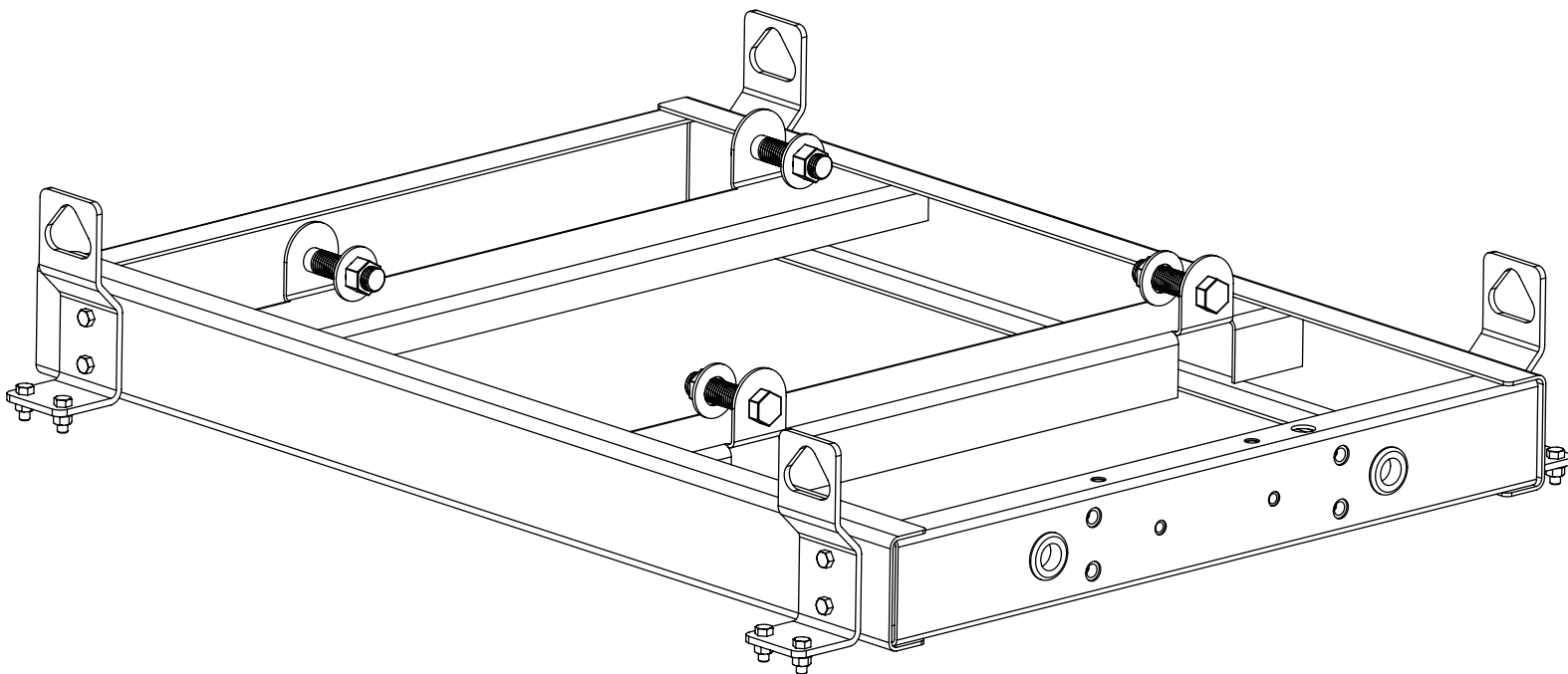
Frame Assembly Parts Breakdown

Model # VSS-1000



Frame Parts Breakdown

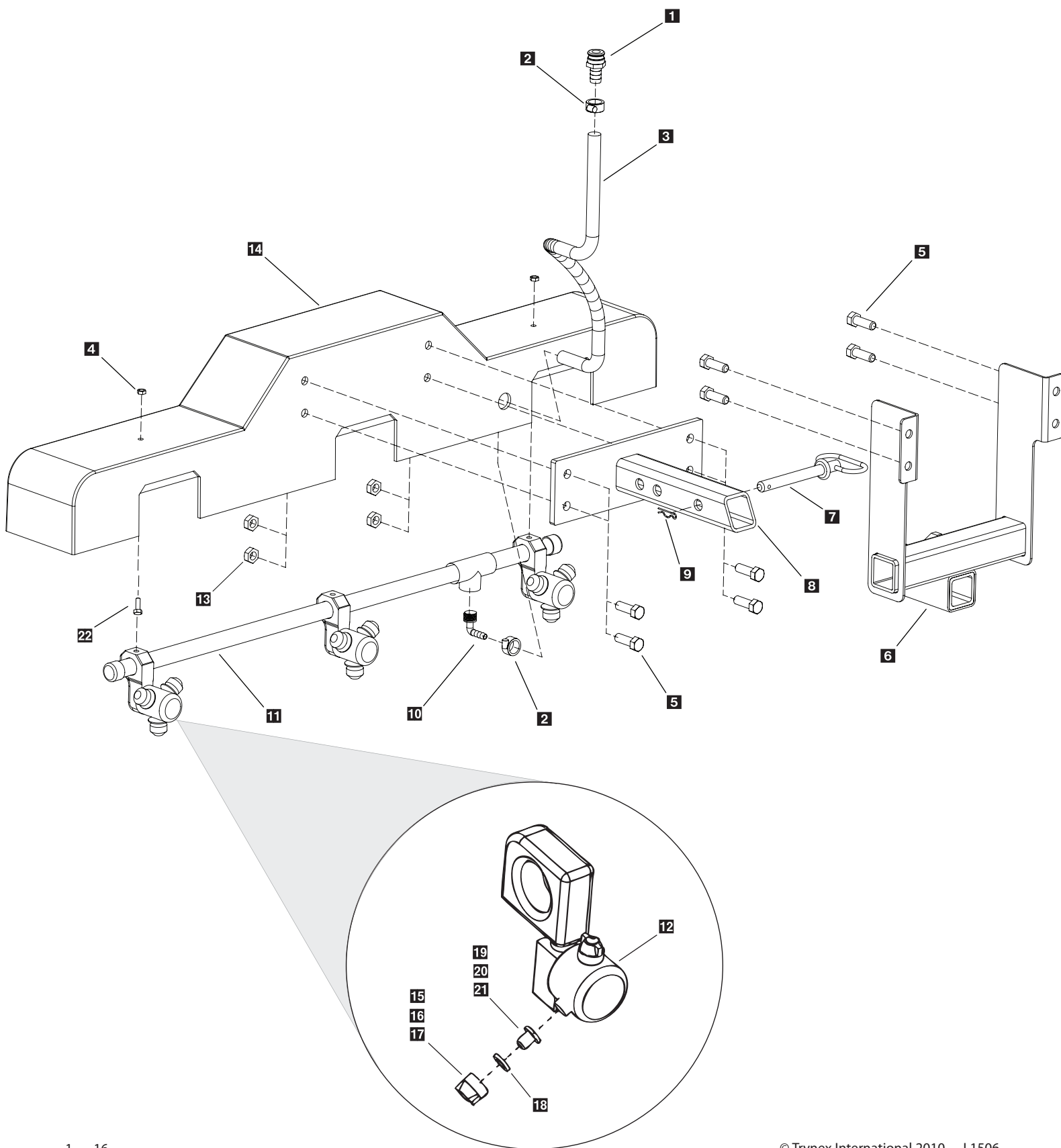
Model # VSS-1000



Key	Part No.	Description	Qty.
1	D 4129	3/4-10 Nylox Nut	4
2	D 5602	Hose Grommet	2
3	D 5601	100 Gallon Base Weldment	1
4	D 6452	3/8-16 x 1 Serrated Flange	8
5	D 5244	Lift / Mounting Bracket	4
6	D 5614	3/4-10 x 3-1/2 Hex Head	4
7	D 4124	3/8-16 Nylox Nut	8
8	D 4122	3/8-16 x 1-1/2 Hex Head	8
9	D 4125	3/8 Flat Washer	8
10	D 4409	3/4 Flat SAE Washer	4

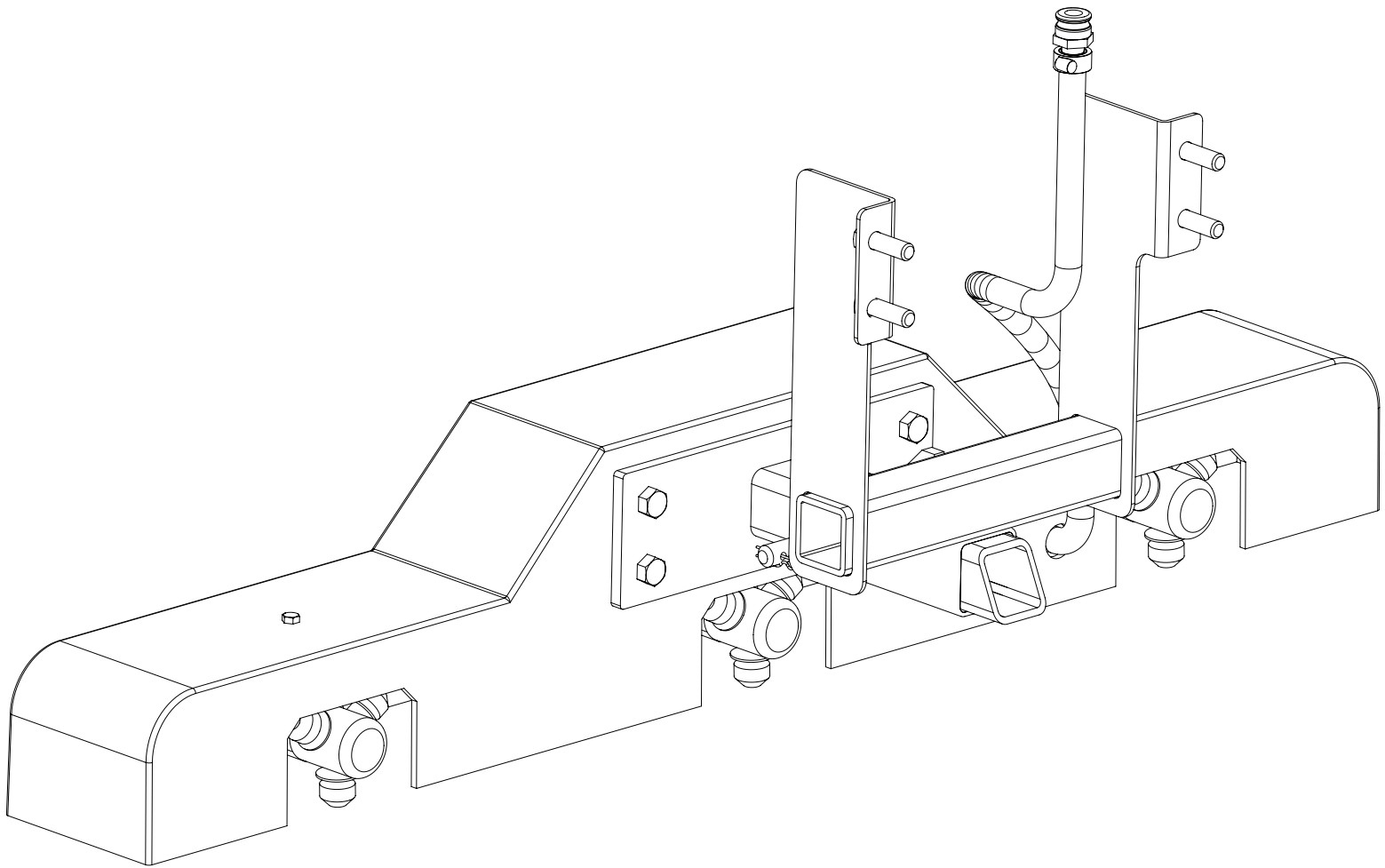
Spray Boom Assembly Parts Breakdown

Model # VSS-1000



Spray Boom Parts Breakdown

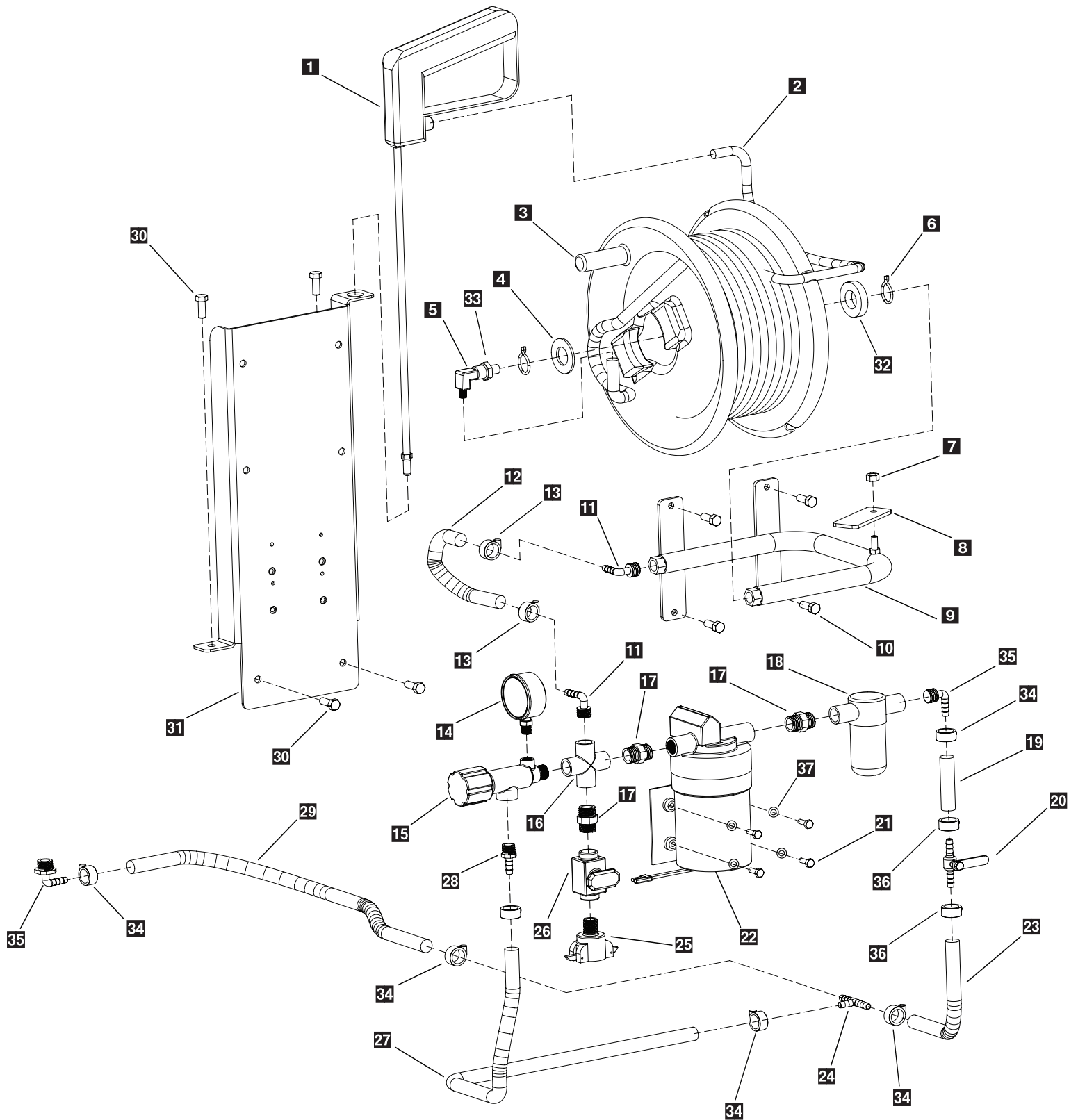
Model # VSS-1000



Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
1	D 5607	1/2" Hose Barb With Banjo QD	1	12	D 6939	Rotary Nozzle Assembly	3
2	T 20327	1/2" Hose Crimp Clamp	2	13	D 5535	1/2-13 Serrated Flange Nut	8
3	D 5613	1/2" Boom Supply Hose	1	14	D 5603	48" Poly Boom Body	1
4	D 5706	5/16" Serrated Flange Nut	2	15	D 6955	Yellow Nozzle Cap	1
5	D 6528	1/2-13 x 1 Serrated Flange Bolt	4	16	D 6956	Red Nozzle Cap	1
6	D 5290	Wet Boom Mount	1	17	D 6957	Green Nozzle Cap	1
7	D 4136	Hitch Pin	1	18	D 6961	Nozzle Gasket	1
8	D 6485	Light Duty Receiver Mount	1	19	D 5232	Fan Tip	1
9	D 4135	Hair Pin Clip	1	20	D 5233	Streamer Tip	1
10	D 5254	3/4 NPT x 1/2" Hose Barb 90 Degree	1	21	D 5234	Triple Streamer Tip	1
11	D 5604	Boom Manifold Pipe	1	22	D 6166	5/16-18 x 1" HH	2

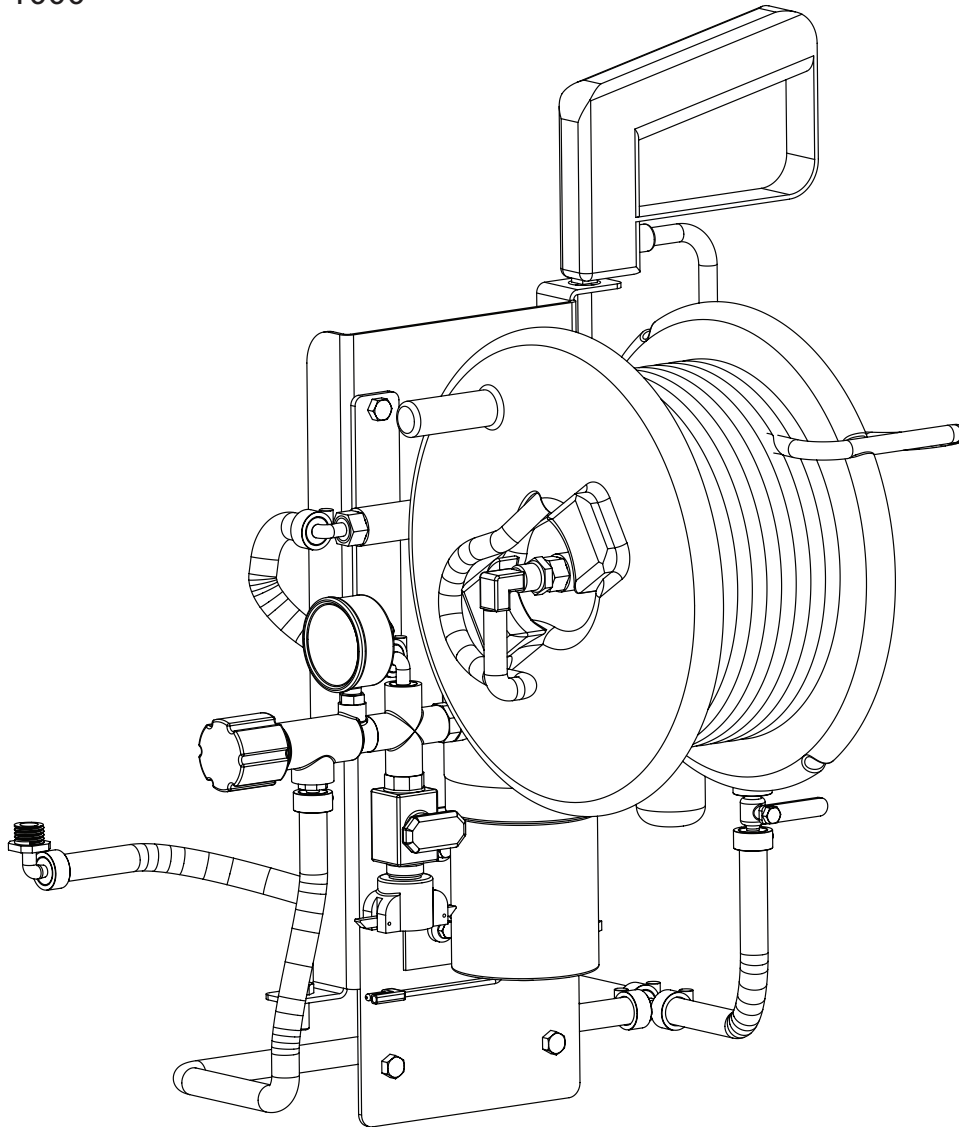
Pump/Plumbing Assembly Parts Breakdown

Model # VSS-1000



Pump/Plumbing Parts Breakdown

Model # VSS-1000



Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
1	T 20307	Spot Spray Wand	1	19	T 20329	1/2" Suction Hose Valve To Filter 3" Long	1
2	T 20306	50 Foot Hose	1	20	T 20318	1/2" Brass Ball Valve	1
3	T 20305	Poly Hose Reel	1	21	D 6529	10-32 x 1-1/4 Phil Pan Head MS SS	4
4	D 4321	1" Flat Washer SAE	1	22	D 5242	12 Volt On Demand Pump	1
5	T 20330	3/8 #6 37 Degree Brass 90 Degree Elbow	1	23	D 5609	1/2" Suction Hose / Tee Valve	1
6	T 20319	Hose Reel Retainer Clip	1	24	D 5610	1/2" Pvc Hose Barb Tee	1
7	D 6138	5/16" Nylox Nut	1	25	D 5606	1/2" MNPT Banjo QD Female	1
8	T 20311	Hose Reel Latch	1	26	D 6927	1/2" Pvc Ball Valve	1
9	T 20310	Hose Reel Support Bracket	1	27	D 5611	1/2" Bypass Hose	1
10	D 6166	5/16-16 x 1 Hex Head	4	28	D 5255	3/4" x 1/2" Str Hose Barb	1
11	T 20314	3/8 x 3/8 90 Degree Barb	1	29	D 5612	1/2" Main Suction Hose	1
12	D 5608	3/8" Hose Reel Supply Hose	1	30	D 6452	3/8-16 x 1 Serrated Flange Bolt	1
13	T 20325	3/8" Hose Crimp Clamp	2	31	T 20302	Hose Reel Upright	4
14	D 5213	System Pressure Gauge	1	32	T 20315	1-1/16" Shaft Collar	1
15	D 5212	Regulator Valve	1	33	T 20316	3/8 Rotary Valve	1
16	D 5605	3/4" Pvc Cross	1	34	T 20327	1/2" Hose Crimp Clamp	6
17	D 5225	3/4" x 1/2" Reducing Nipple	3	35	T 20313	3/4 x 1/2 Hose Barb 90 Degree	2
18	D 6918	Strainer	1	36	T 20333	Ball Valve Hose Clamp	2
				37	D 6157	#10 Flat Washer SAE	4

Assembly / Installation Instructions

Model # VSS-1000



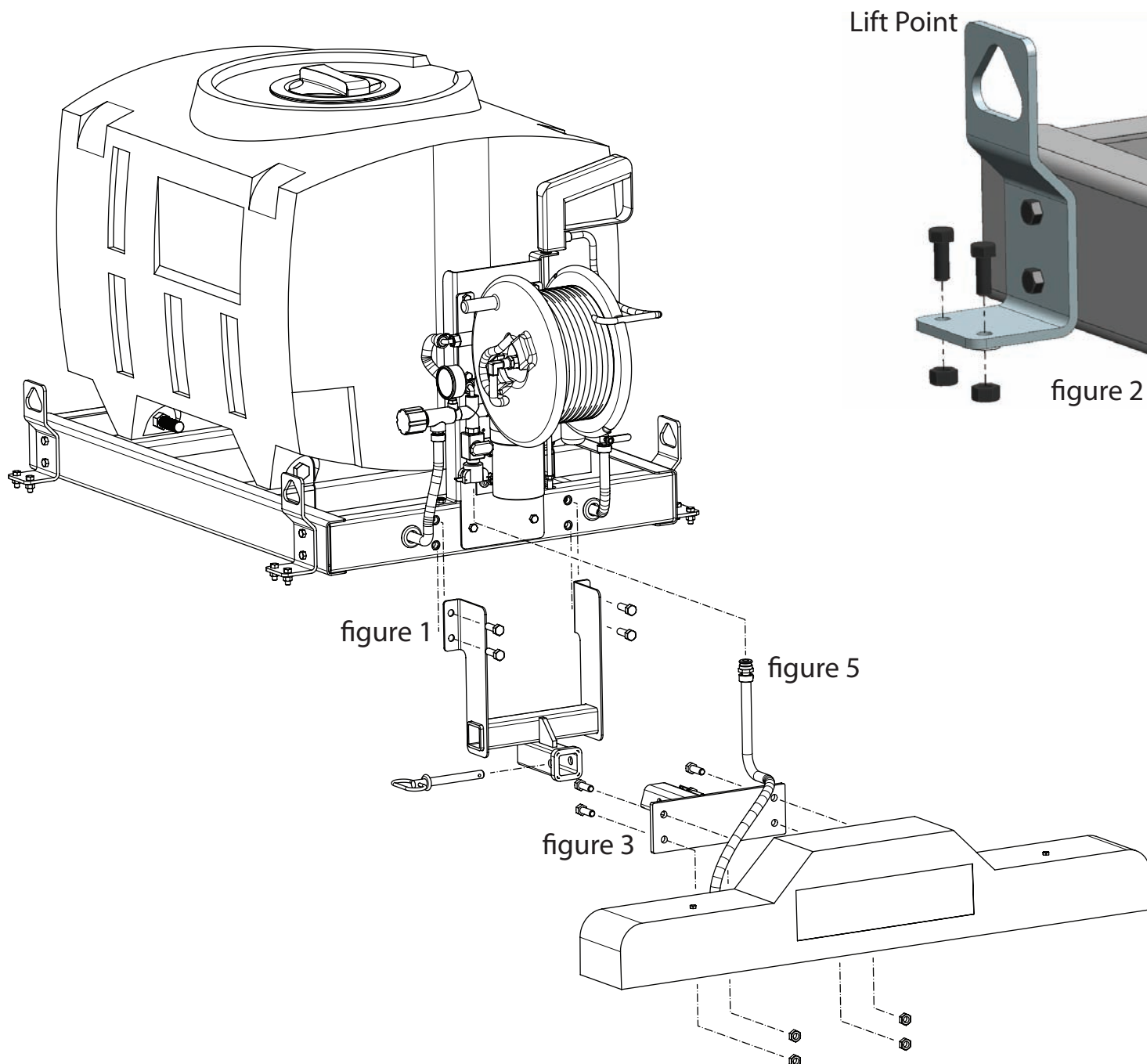
Step 1: Bolt boom mount assembly onto rear of frame with supplied hardware (see fig 1).

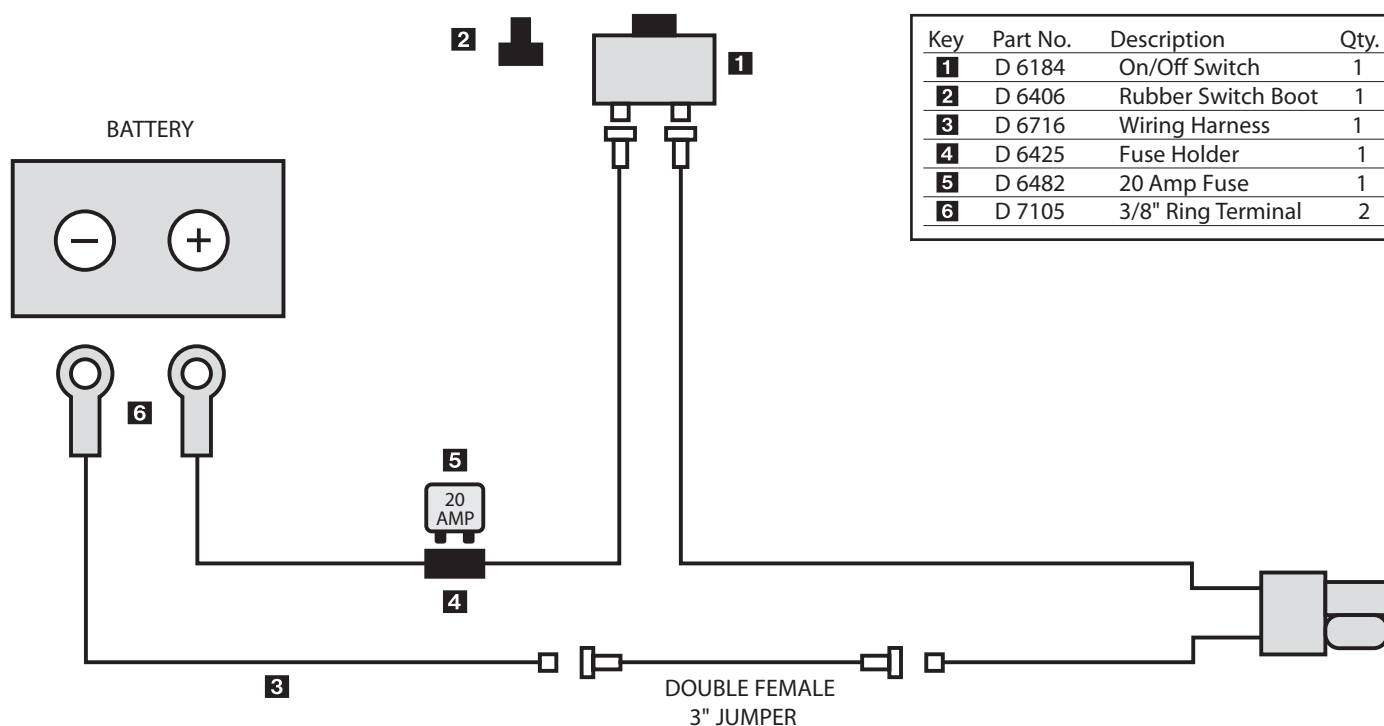
Step 2: Lift main assembly using the four corner lift point brackets and position onto vehicle. Center spray system left to right and then slide forward until boom mount just makes contact with vehicle. Bolt into place with supplied hardware (see fig 2).

Step 3: Bolt boom onto 2" receiver mount with supplied hardware (see fig 3).

Step 4: Install boom assembly with mount into receiver that was installed in step one (see fig 4).

Step 5: Plug boom hose into pump output fitting located below shutoff valve (see fig 5).





VSS 1000 WIRING INSTRUCTIONS

Step 1: First, install switch at desired location.

Step 2: Run spreader/vehicle harness from the rear of vehicle to switch area. Attach the female spade red wire to the switch. Leave the black wire for Step 5.

Step 3: Route the power harness from the battery to the switch/control.

Step 4: Attach the red lead to the positive side of the battery and the black lead to the negative side of the battery.

Step 5: Attach the female spade red wire on switch terminal. Using 3" double female black wire jumper, attach the black wire from the power harness to the black wire of the vehicle harness.

Step 6: Install rubber weatherproof boot on switch before finishing installation.

Step 7: Insert dielectric grease on terminals of SAE plug at rear of vehicle.

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Calibration Data

Model # VSS-1000



De-Ice / Anti-Ice Rotary Nozzle Flow Rate Chart
at variable speeds and pressure settings

GPA / MILES PER HOUR

PSI	GPM	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
20	0.71	52.71	47.9	43.93	40.55	37.66	35.15	32.95	31.01	29.29	27.75	26.35
30	0.87	64.5	58.7	53.83	49.69	46.14	43.07	40.37	38	35.88	34	32.3
40	1	74.25	67.5	61.88	57.11	53.04	49.5	46.04	43.68	41.25	39.08	37.13
50	1.12	82.1	75.5	69.3	63.97	59.4	55.44	51.98	48.92	46.2	43.77	41.58

Gallons Per Minute Formula

$$\frac{\text{GPA} \times \text{MPH} \times \text{W (per nozzle)}}{5,940}$$

Gallons Per Minute Formula

$$\frac{\text{GAL}/1000\text{FT}^2 \times \text{MPH} \times \text{W (per nozzle)}}{136}$$

Gallons Per Acre Formula

$$\frac{5,940 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

Gallons Per 1000 Square Feet

$$\frac{136 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

GPM - Gallons Per Minute

GPA- Gallons Per Acre

GAL/1000 FT² - Gallons Per 1000 Square Feet

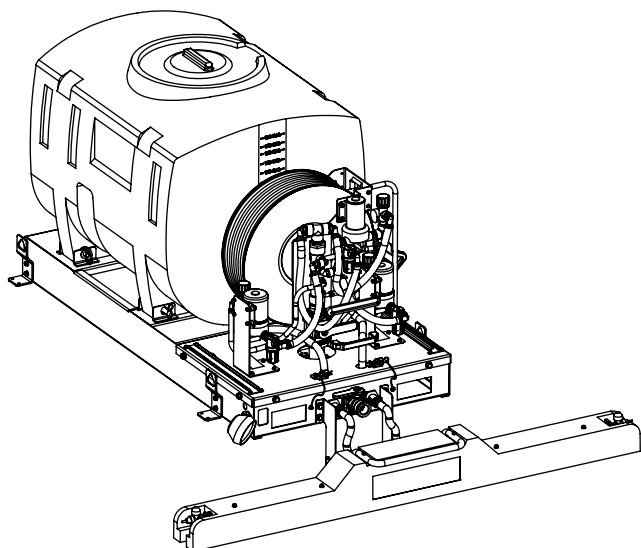
W - Nozzle spacing

ASSEMBLY VIEWS

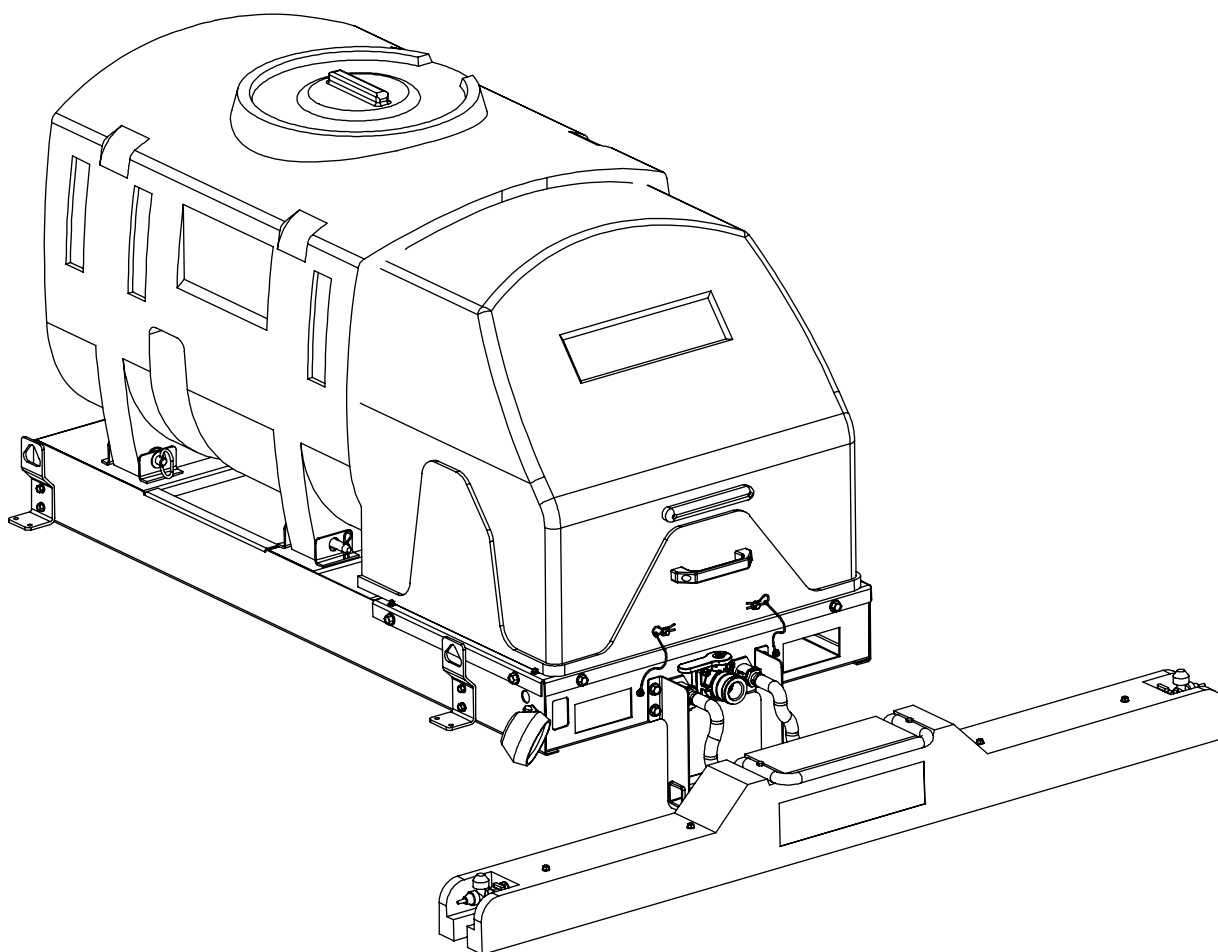
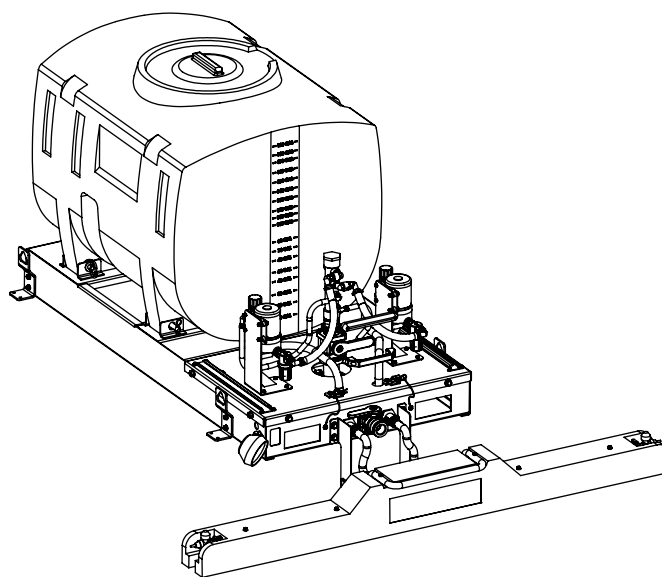
Model # VSS 2000 / VSS 3000



Shown with optional hose reel kit

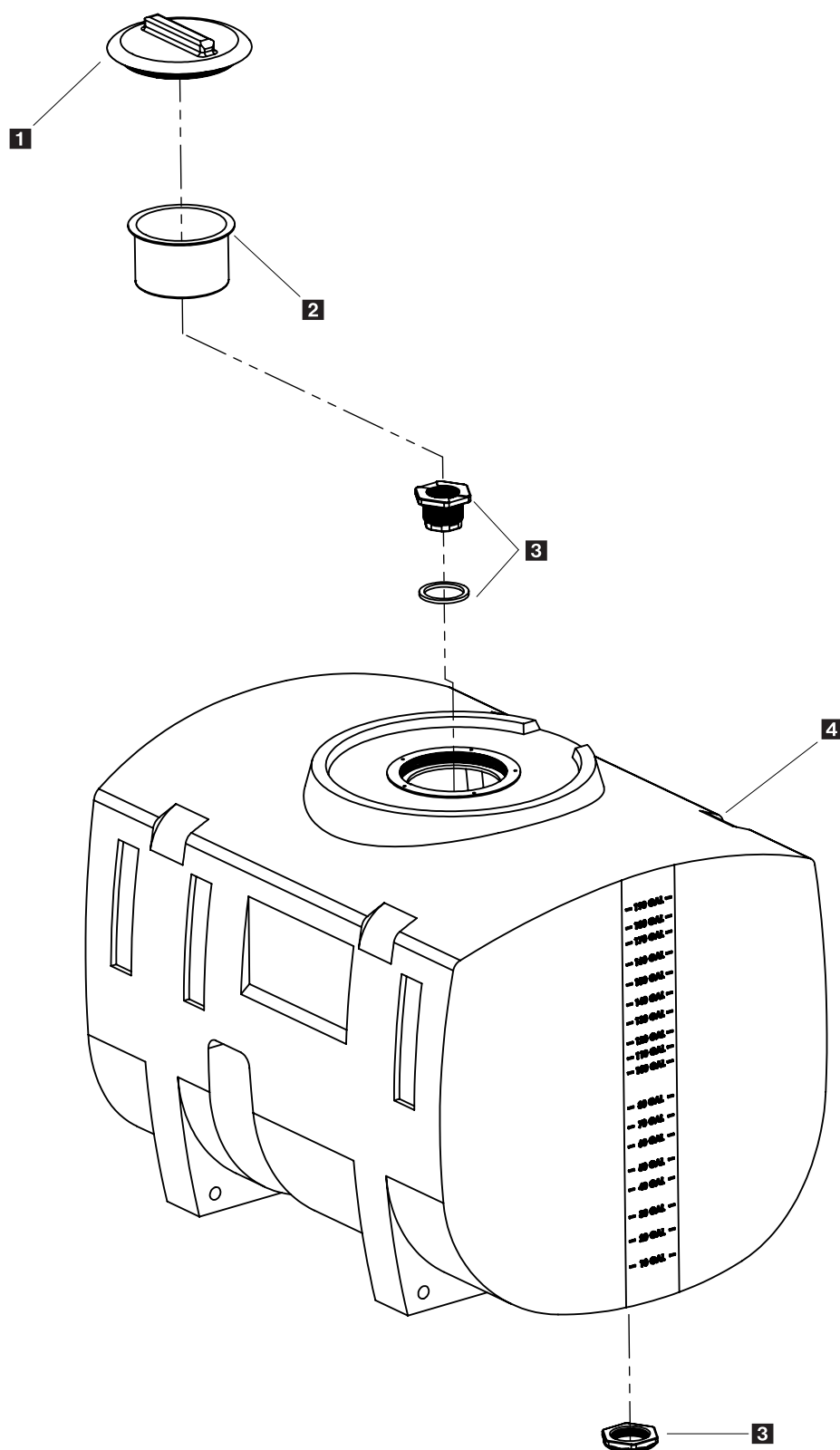


Shown without optional hose reel kit



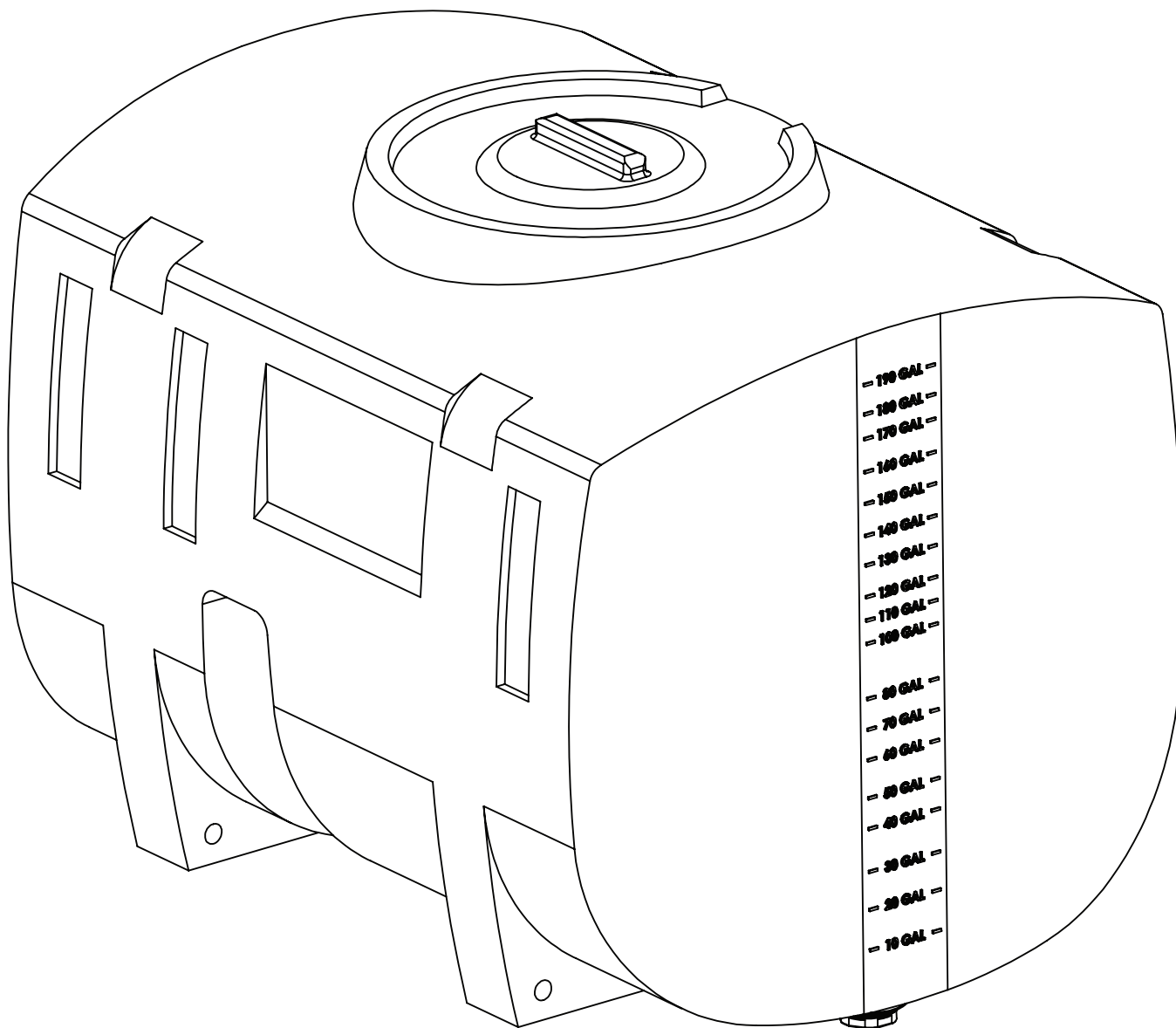
Tank Assembly Parts Breakdown

Model # VSS 2000 / 3000



Tank Parts Breakdown

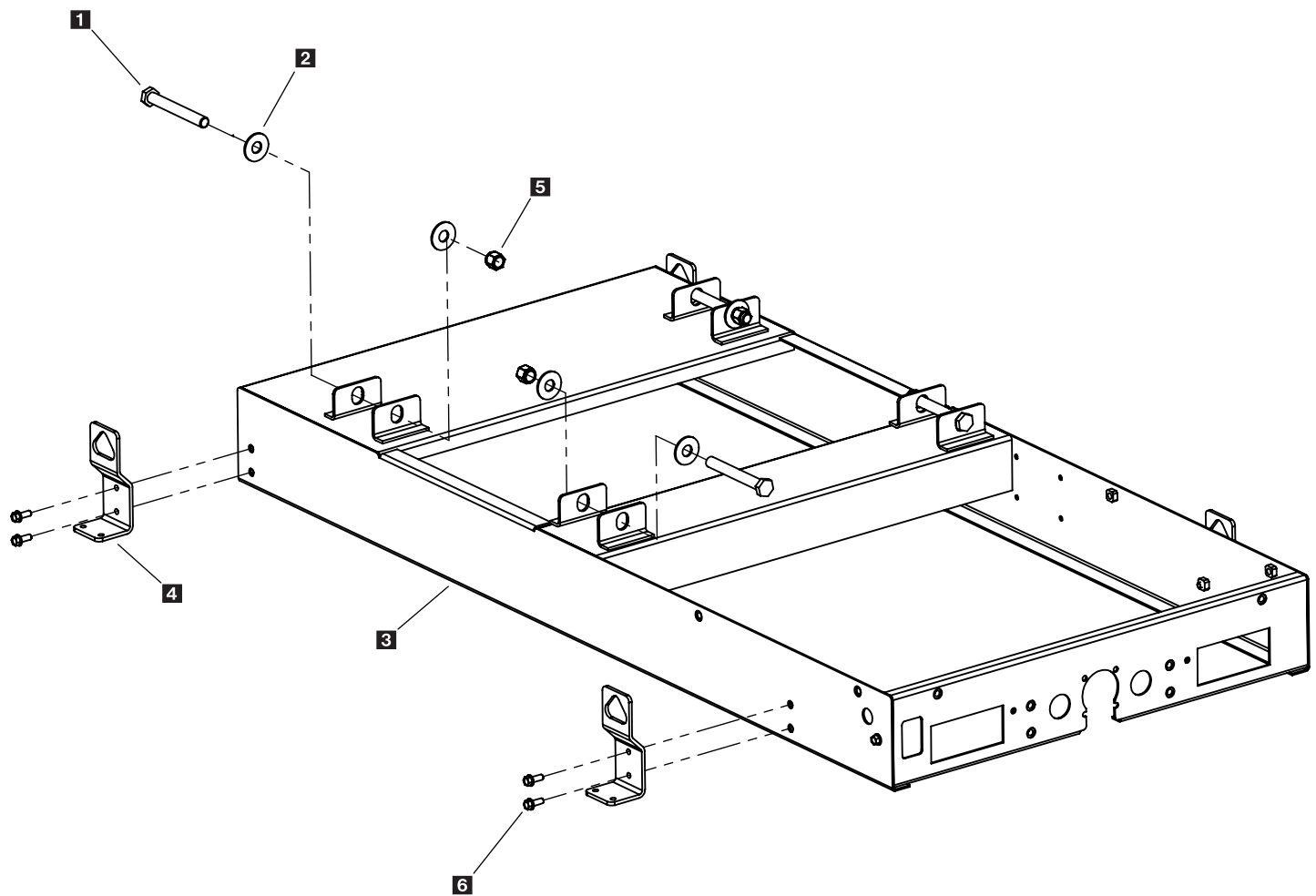
Model # VSS 2000 / 3000



Key	Part No.	Description	Qty.
1	T 20323	Tank Lid	1
2	T 20324	Tank Fill Strainer	1
3	D 6917	Tank Bulkhead Assembly	1
4	D 5200	VSS 2000 Tank (shown)	1
4	D 5299	VSS 3000 Tank	1

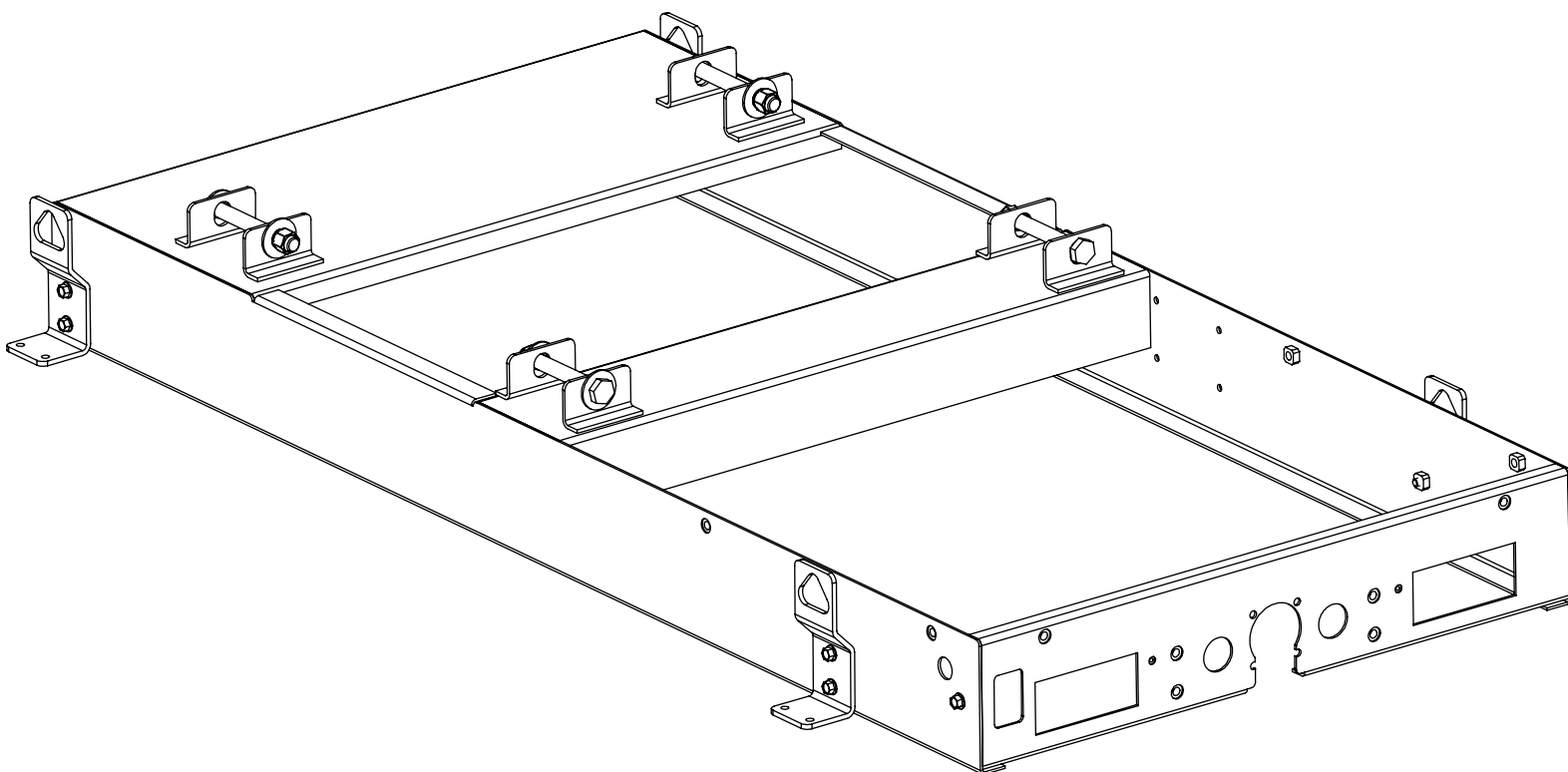
Frame Assembly Parts Breakdown

Model # VSS 2000 / 3000



Frame Parts Breakdown

Model # VSS 2000 / 3000



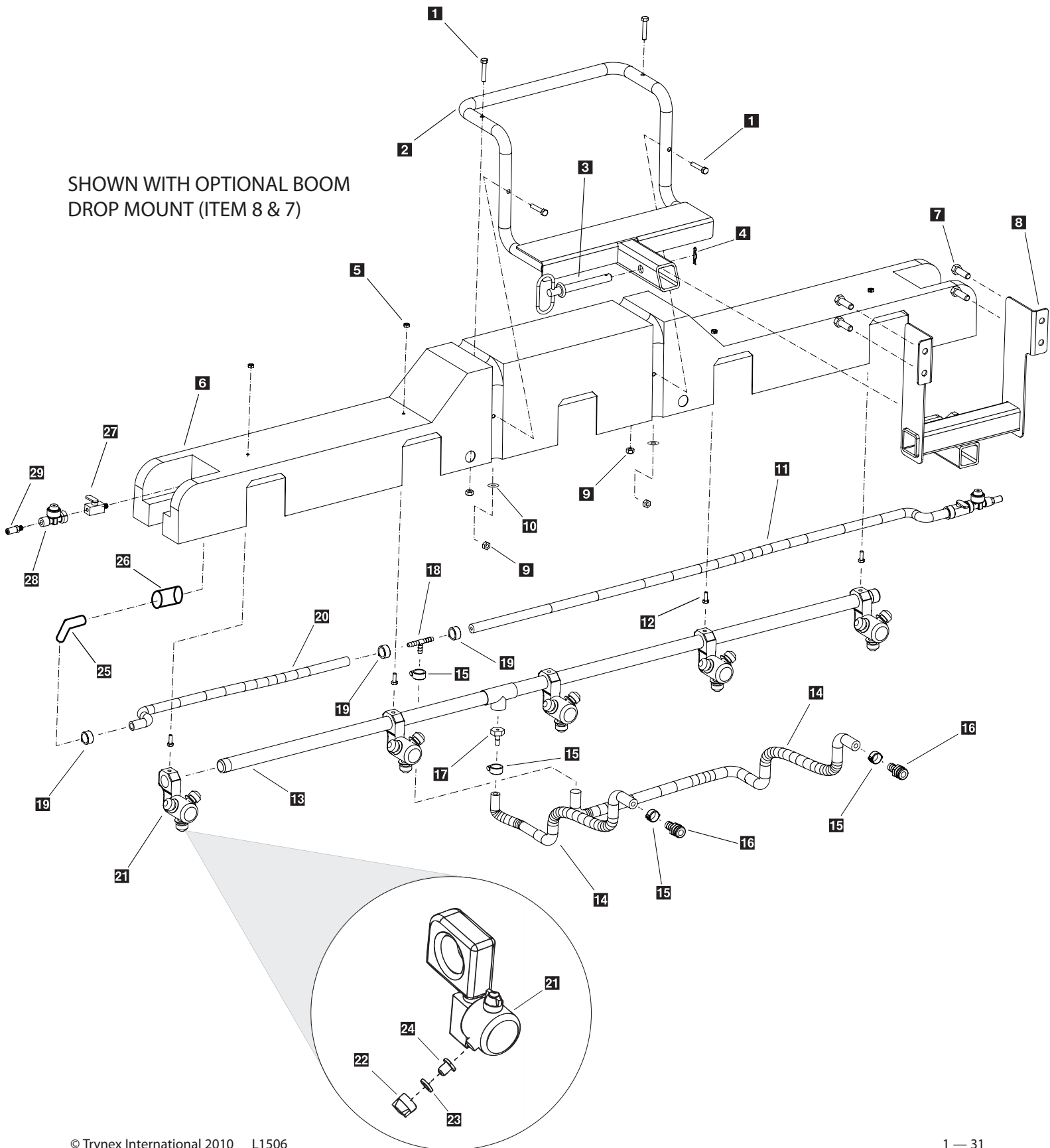
Key	Part No.	Description	Qty.
1	D 5291	3/4-10 x 6" Hex Bolt	4
2	D 5335	Tank Spacer	4
3	D 5280	200 Gallon Frame Weldment	1
3	D 5230	300 Gallon Frame Weldment	1
4	D 5244	Lift / Mounting Bracket	4
5	D 4129	3/4-10 Nylock Nut	4
6	D 4122	3/8-16 x 1-1/2 Hex Head Bolt	8

Spray Boom Assembly

Model # VSS 2000 / 3000

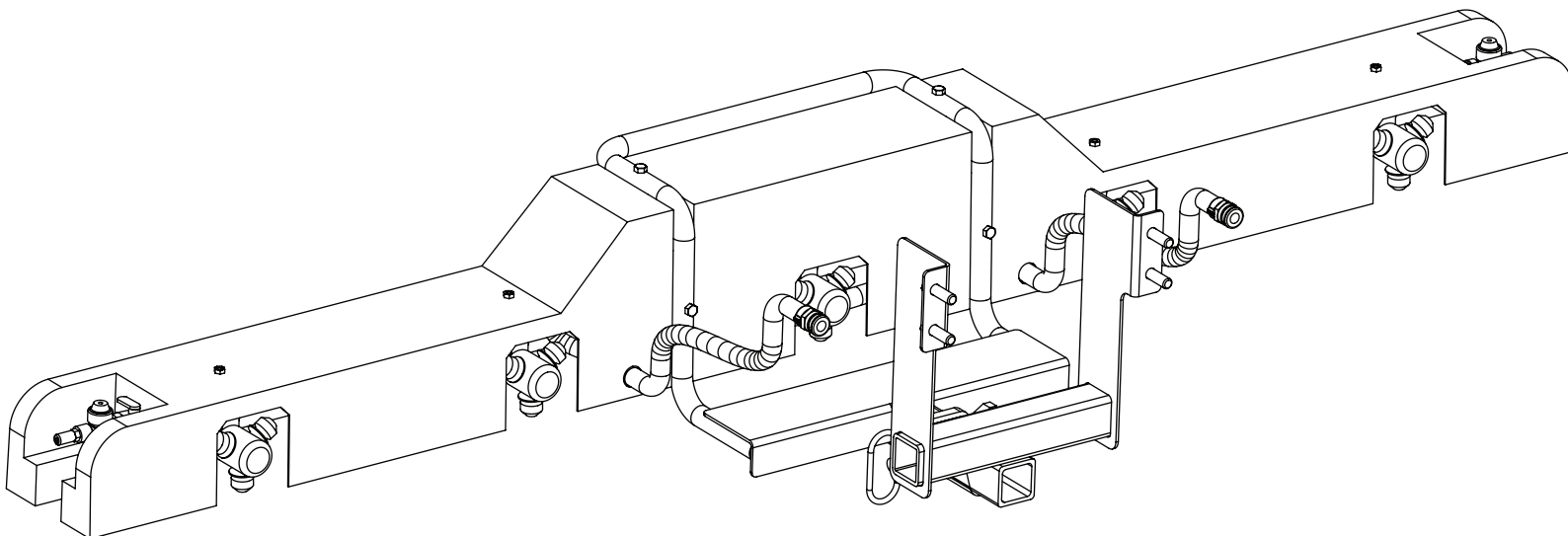


SHOWN WITH OPTIONAL BOOM
DROP MOUNT (ITEM 8 & 7)



Spray Boom Parts Breakdown

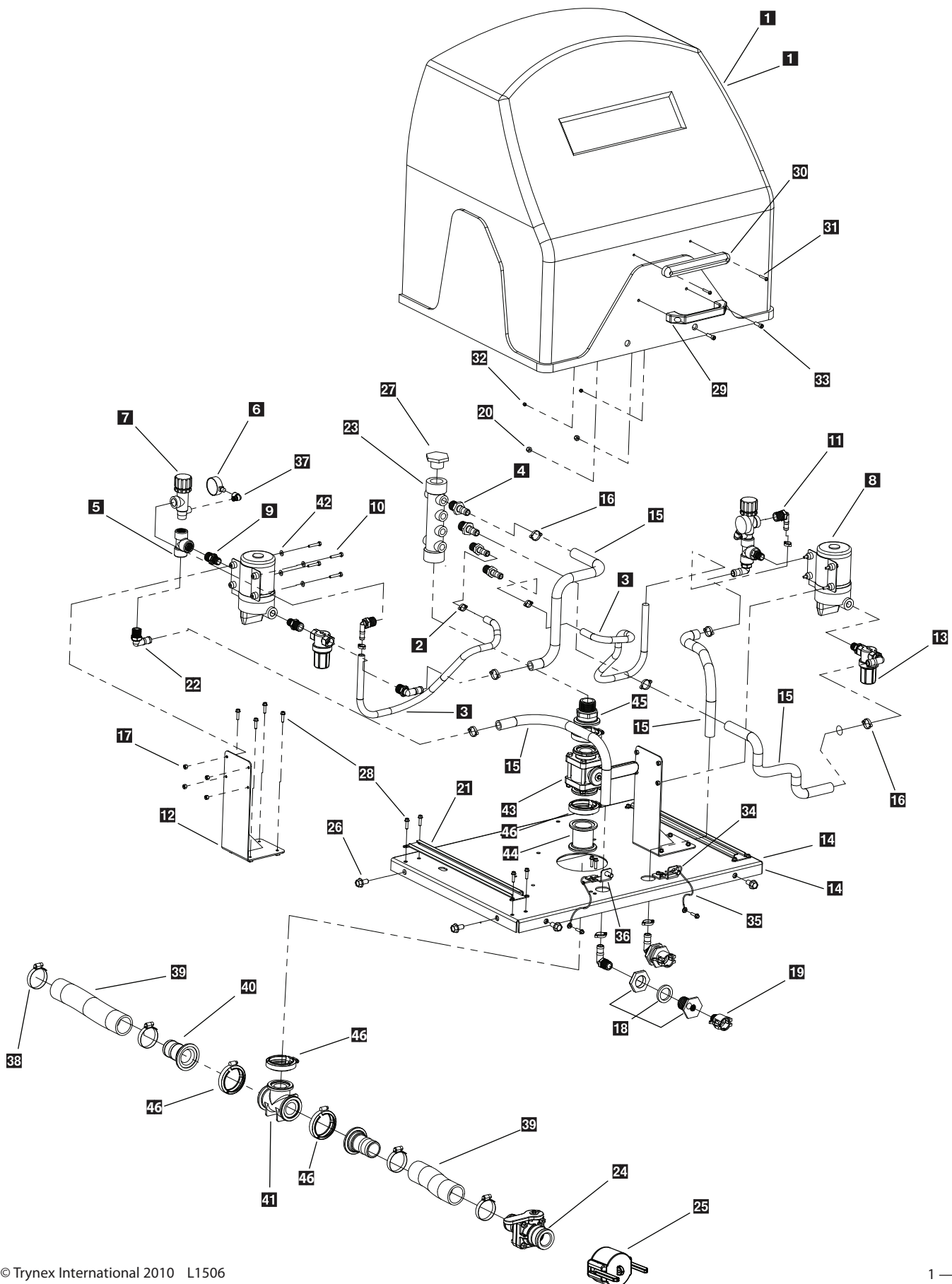
Model # VSS 2000 / 3000



Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
1	D 6462	5/16-18 x 1-3/4 Hex Head	4	17	D 6928	3/4" Straight Hose Barb	1
2	D 5223	Boom Bracket	1	18	D 5250	3/4"x1/2"x1/2" Barb Tee	1
3	D 4136	5/8 x 5-1/2 Hitch Pin	1	19	D 5260	1/2" Hose Crimp Clamp	4
4	D 4135	2-5/16 Hair Pin Clip	1	20	D 5235	1/2" x 30" Pvc Hose	1
5	D 5706	5/16-18 Serrated Flange Nut	4	21	D 6939	Rotary Nozzle Assembly	5
6	D 5210	Plastic Boom	1	22	D 6955	Yellow Nozzle Cap	5
7	D 6528	1/2-13 x 1 Serrated Flange Bolt	4	22	D 6956	Red Nozzle Cap	5
8	D 5290	Wet Boom Mount	1	22	D 6957	Green Nozzle Cap	5
9	D 6138	5/16-18 Nylox Nut Zinc	4	23	D 6961	Nozzle Gasket	15
10	D 6165	5/16 Flat Washer	4	24	D 5232	Fan Nozzle	5
11	D 5236	1/2" x 48" Pvc Hose	1	24	D 5233	Streamer Nozzle	5
12	D 5209	5/16-18 x 3/4 Hex Head	4	24	D 5234	Triple Streamer Nozzle	5
13	D 5227	Spray Boom 1" Pipe	1	25	D 5202	1/4" x 1/2" Brass Hose Barb 45 Degree	2
14	D 5238	3/4" x 30" Pvc Hose	2	26	D 5201	1/4" Female Brass Bulkhead	2
15	D 5240	3/4" Hose Crimp Clamp	4	27	D 5231	Boomless Nozzle Valve	2
16	D 5228	3/4" Hose Quick Disconnect Fitting	2	28	D 5241	Boomless Nozzle Check Valve	2
				29	D 5215	Boomleszs Nozzle	2

Main Plumbing Assembly

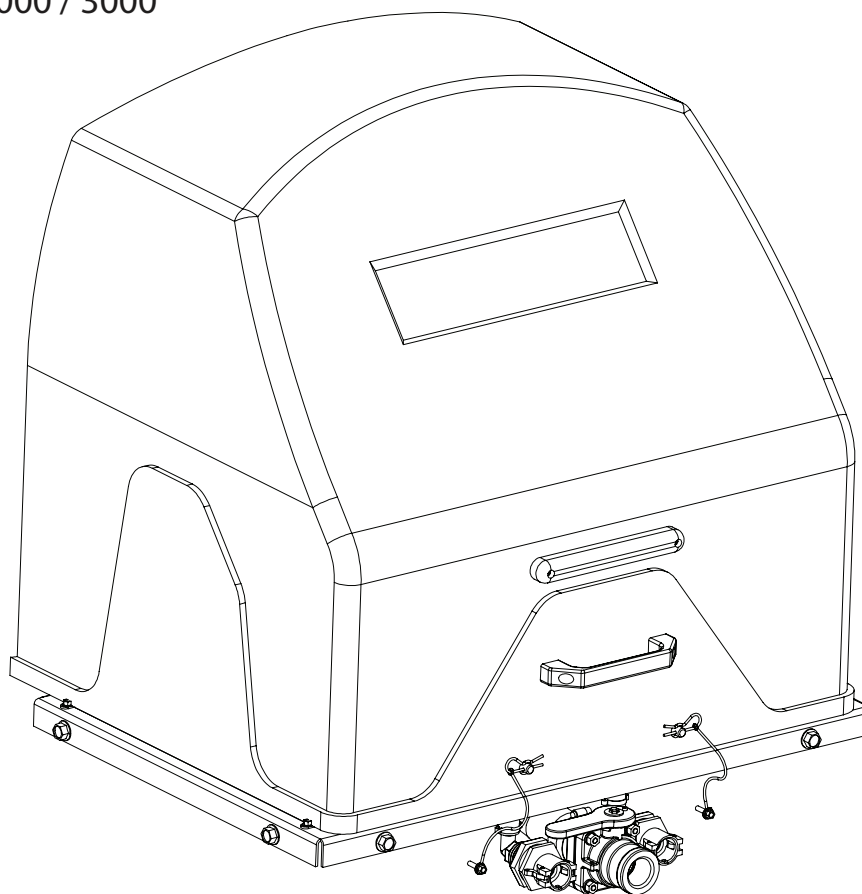
Model # VSS 2000 / 3000



Main Pump/Plumbing Parts Breakdown



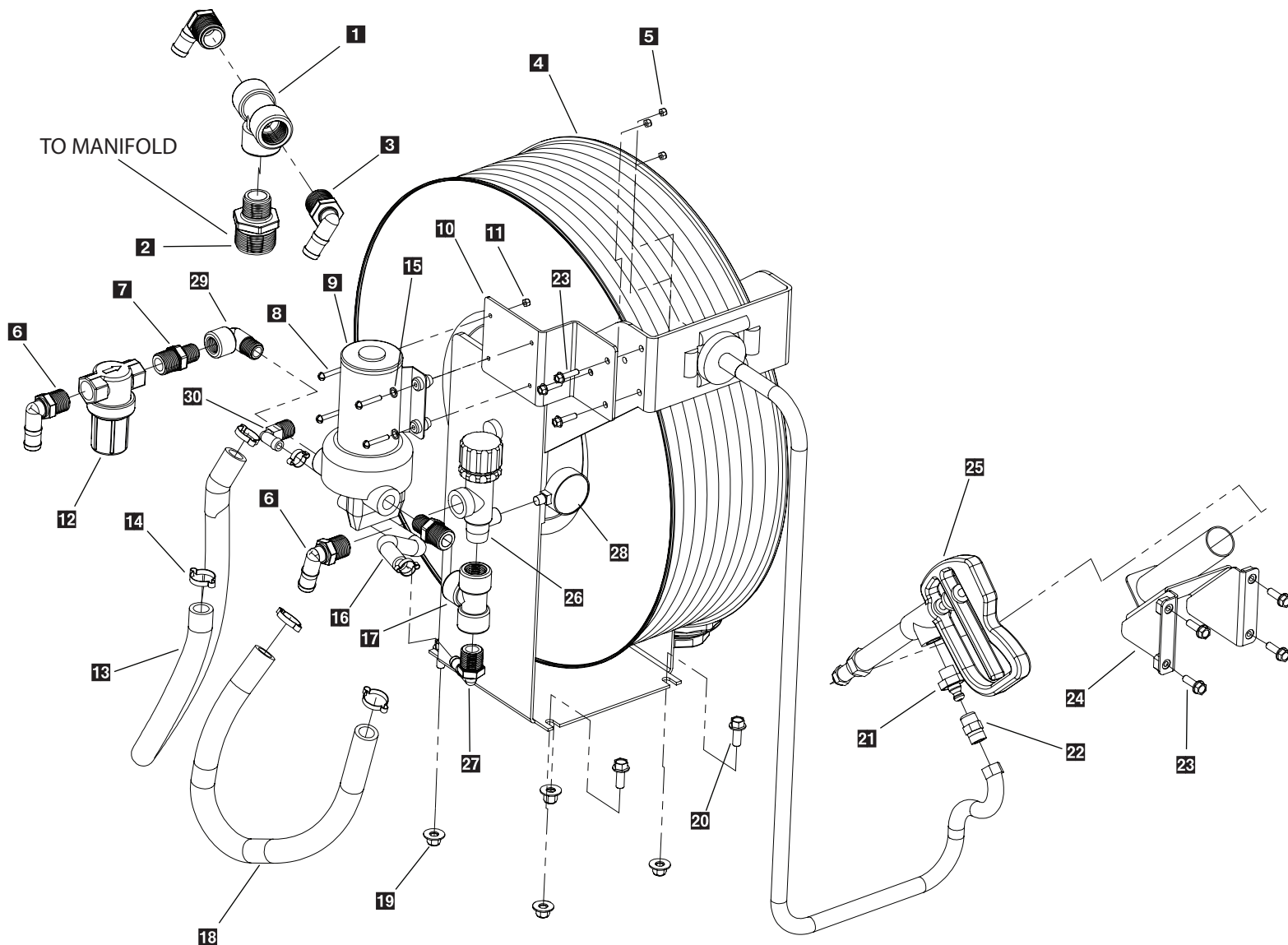
Model # VSS-2000 / 3000



1	D 5214	Pump Assembly Cover VSS-2000	1
1	D 5256	Pump Assembly Cover VSS-3000	1
2	D 5260	1/2" Hose Crimp Clamp	8
3	D 6989	1/2" x 48" PVC Hose 23 Inches Long	1
3	D 6989	1/2" x 48" PVC Hose 27 Inches Long	1
4	D 5255	3/4" x 1/2" Straight Hose Barb	1
5	D 6926	3/4" NPT Tee	3
6	D 5213	0 - 100 PSI Gauge	3
7	D 5212	Regulator Valve	3
8	D 5205	7.0 GPM Pump	1
9	D 5225	3/4" x 1/2" Reducing Nipple	6
10	T30726	1/4"-20 x 1-1/2 SS	4
11	D 5254	3/4" x 1/2" 90 Degree Hose Barb	6
12	D 5198	1/2" NPT Street Ell	3
13	D 6918	3/4" Strainer	3
14	D 5199	Pump Mounting Base VSS-2000	1
14	D 5238	Pump Mounting Base VSS-3000	1
15	D 6990	3/4" x 19" PVC Hose	1
15	D 6990	3/4" x 21" PVC Hose	2
15	D 6990	3/4" x 24" PVC Hose	1
16	D 5240	3/4" Hose Crimp Clamp	10
17	T 15016	1/4"-20 Nylox SS	5
18	D 6917	3/4" Bulkhead	2
19	D 6916	Female Quick Disconnect	2
20	T 15018	5/16-18 Nylox Nut SS	2
21	D 5257	Pump Cover Track Slide	2
22	D 6905	3/4" x 90 Degree Hose Barb	3
23	D 5207	Hose Manifold	1
24	D 5193	Tank Fill Valve 2" Ball Valve	1
25	D 5222	Fill Port Cap	1
26	D 6528	1/2"-13 x 1 Serrated Flange Bolt	6
27	D 5185	1-1/2 Inch Poly Plug	1
28	D 6132	1/4-20 x 1 Serrated Flange Bolt	20
29	D 5248	Cover Handle	1
30	D 6514	Rear CHMSL Brake Light	1
31	D 6529	# 10 Black Oxide Screw	2
32	D 6158	# 10 Lock Nut	2
33	D 5293	Handle Bolts	2
34	D 4135	5/16 Hair Pin Clip	2
35	D 5296	Hair Pin Cable Lanyard	2
36	D 5258	Cover Mounting Pin Bracket	2
37	D 5249	1/4" 90 Degree Gauge Elbow	3
38	D 5189	1/4" 90 Degree Gauge Elbow	3
39	D 5196	2" Red EPDM Hose x 1" Long	8
39	D 5196	2" Red EPDM Hose x 1" Long	14
40	D 5192	2" Flange x 2" Hose Barb	2
41	D 5195	2" Flanged Tee	1
42	T 15104	1/4" Flat Washer SS	8
43	D 5197	2" Ball Valve Tank Shut Off	1
44	D 5194	Flange	1
45	D 5191	Flange Adapter	1
46	D 5187	Flange Clamp	5

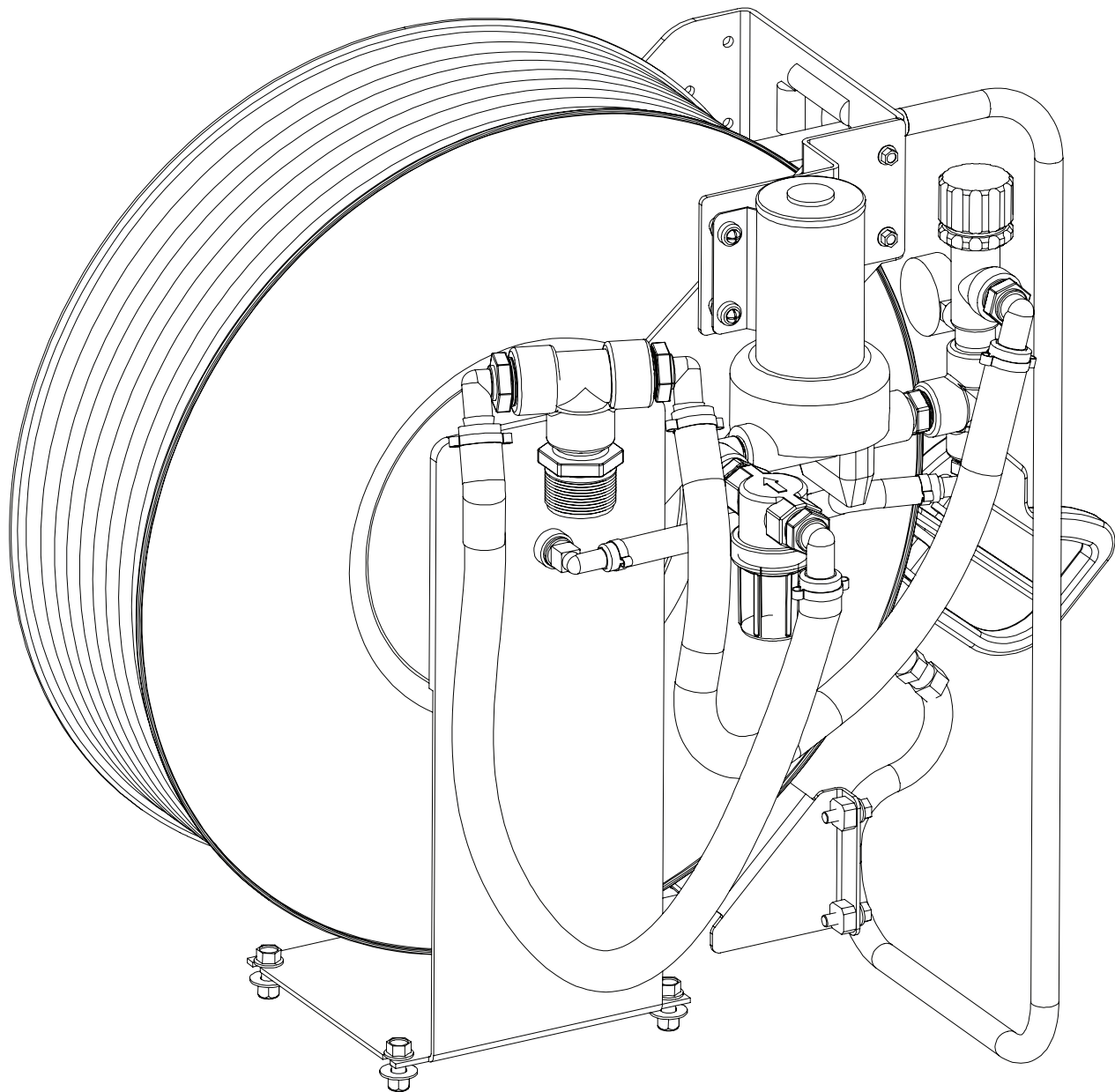
HRK-175 Hose Reel (Optional Kit) Parts Breakdown

Model # VSS 2000 / 3000



Hose Reel Parts Breakdown

Model # VSS 2000 / 3000

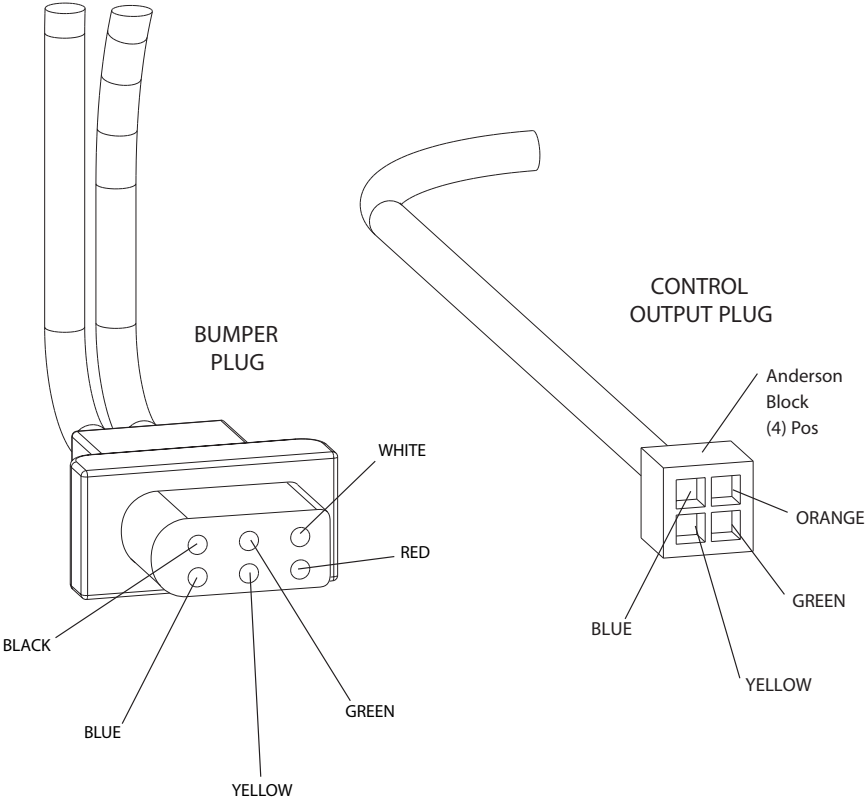


Key	Part No.	Description	Qty.	Key	Part No.	Description	Qty.
1	D 5317	1" Tee Poly	1	16	D 6989	1/2" PVC Hose (12" Long)	12
2	D 5316	1-1/2" x 1" Reducing Nipple Poly	1	17	D 6926	3/4" Tee	1
3	D 5318	1" x 3/4" 90 Hose Barb Poly	2	18	D 6990	3/4" PVC Hose (23" Long)	23
4	D 5206	Hose Reel 100' Spring Return	1	19	D 6584	3/8-16 Serrated Flange Bolt	4
5	T 15018	5/16-18 Nylock Stainless	1	20	D 6452	3/8"-16 x 1" Serrated Hex Bolt	4
6	D 6905	3/4" 90 Degree Barb	2	21	D 5208	Coupler Plug 1/2" NPT	1
7	D 5225	3/4" x 1/2" Reducing Nipple	2	22	D 5204	Coupler Socket 1/2" NPT	1
8	D 5294	#10-32 x 1-1/4" SS HH MS 18-8 (304)	4	23	D 5209	5/16"-18 x 3/4" SS HH Bolt 18-8 (304)	7
9	D 5242	5.0 GPM Pump	1	24	D 5243	Gun Mount Bracket	1
10	D 5287	Pump Bracket	1	25	D 5224	Spray Gun	1
11	D 5948	#10-32 Nylox Nut SS	4	26	D 5212	Regulator Valve	1
12	D 6918	Strainer	1	27	D 5254	3/4" x 1/2" 90 Deg. Hose Barb HB075/050	1
13	D 6990	3/4" Pvc Hose (28" Long)	28	28	D 5213	Gauge	1
14	D 5240	1-1/16" Hose Crimp Ring	4	29	D 6923	1/2" 90 Degree Street Elbow	1
15	D 5292	#10 SS Flat Washer 18-8 (304)	4	30	D 5203	1/2" x 1/2" Brass Hose Barb 90 Degree	1

Vehicle Harness

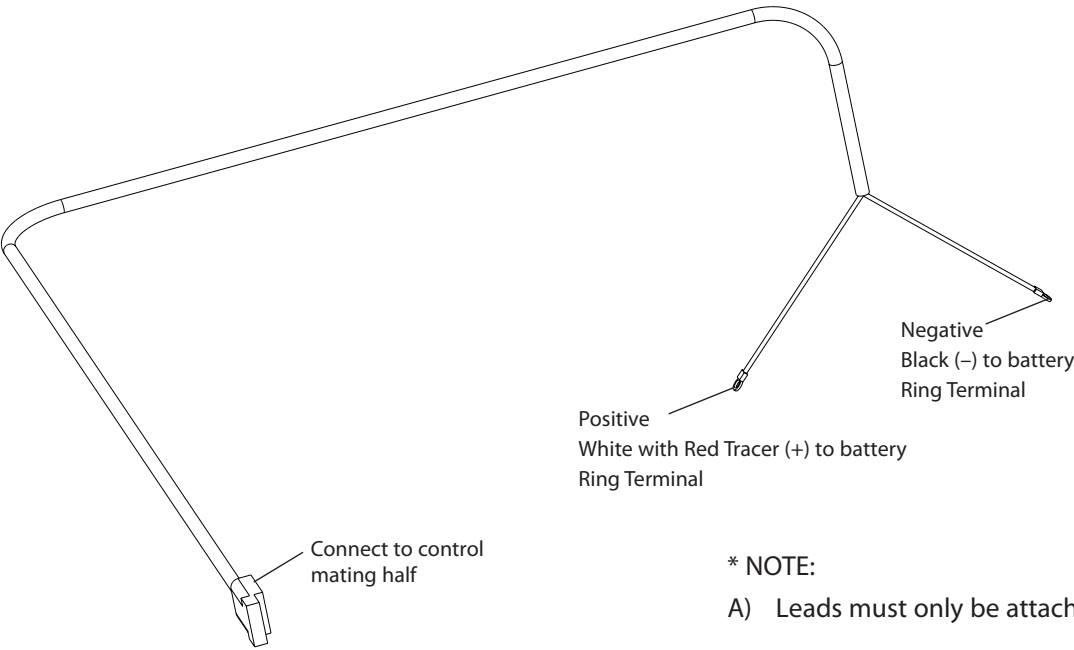


Model # VSS-2000 / 3000



Control Power Harness

Model # VSS-2000 / 3000



* NOTE:
A) Leads must only be attached to battery.

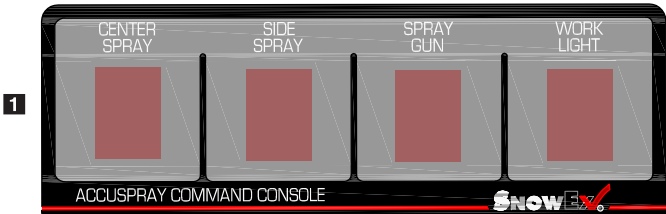
Key	Part No.	Description	Qty.
1	D 6341	Control	1
2	D 5218	Vehicle Harness	1

Wiring Instructions and Electrical System

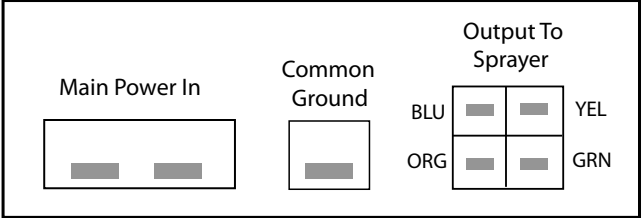
Model # VSS-2000 / 3000

- Step 1: Attach vehicle harness rubber plug end to rear of vehicle using supplied hardware.
- Step 2: Route harness along vehicle frame and away from any heat sources. Ty-wrap harness to vehicle frame as you go along. Route (4) conductor block and common ground through vehicle bulkhead using service accesses. If you need to dill a hole make sure to inspect the area inside and out before doing so, this will minimize any damage to wires or other vehicle components.
- Step 3: Route control power cable through vehicle bulhead to the batter. Connect terminal ends to battery and tywrap harness to along the way back to the vehicle bulkhead.
- Step 4: Select a suitable mounting spot for sprayer control and install with supplied hardware. Once you have the control mounted, install harness connectors into the back of the control. Leave some slack in harness so the connector are not under any strain. Ty-wrap all harnesses to proper points, take up any extra harness length and coil up inside the engine compartment. **DO NOT MODIFY HARNESS LENGTH OR CONNECTORS.** Connect sprayer harness to bumper plug, then test each funtion on the control by switching each function on and off to verify proper installation.

VSS-2000 / 3000 Electrical System

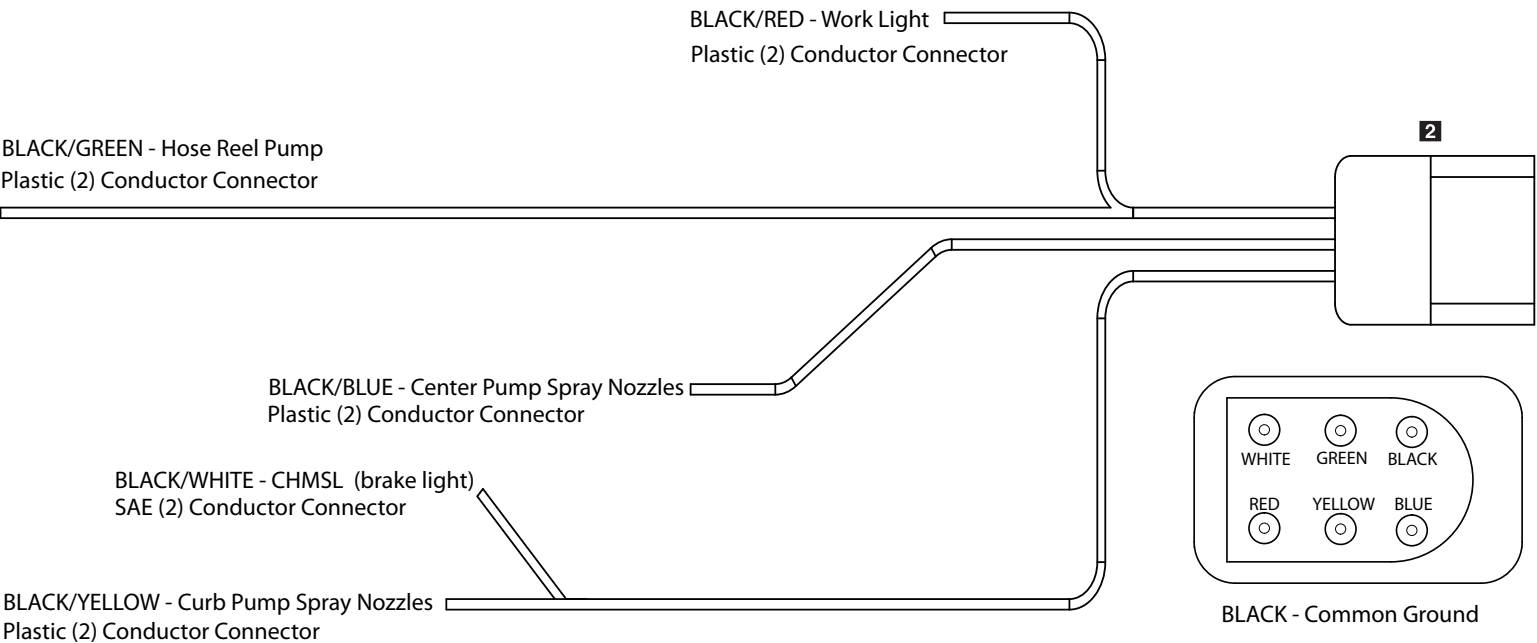


D 5216 Spray Control Front



Rear View Of Spray Control

NOTE: Colors Are For Harness Ends



Key	Part No.	Description	Qty.
1	D 5216	Control	1
2	D 5219	Sprayer Harness	1

Assembly / Installation Instructions

Model # VSS-2000/3000



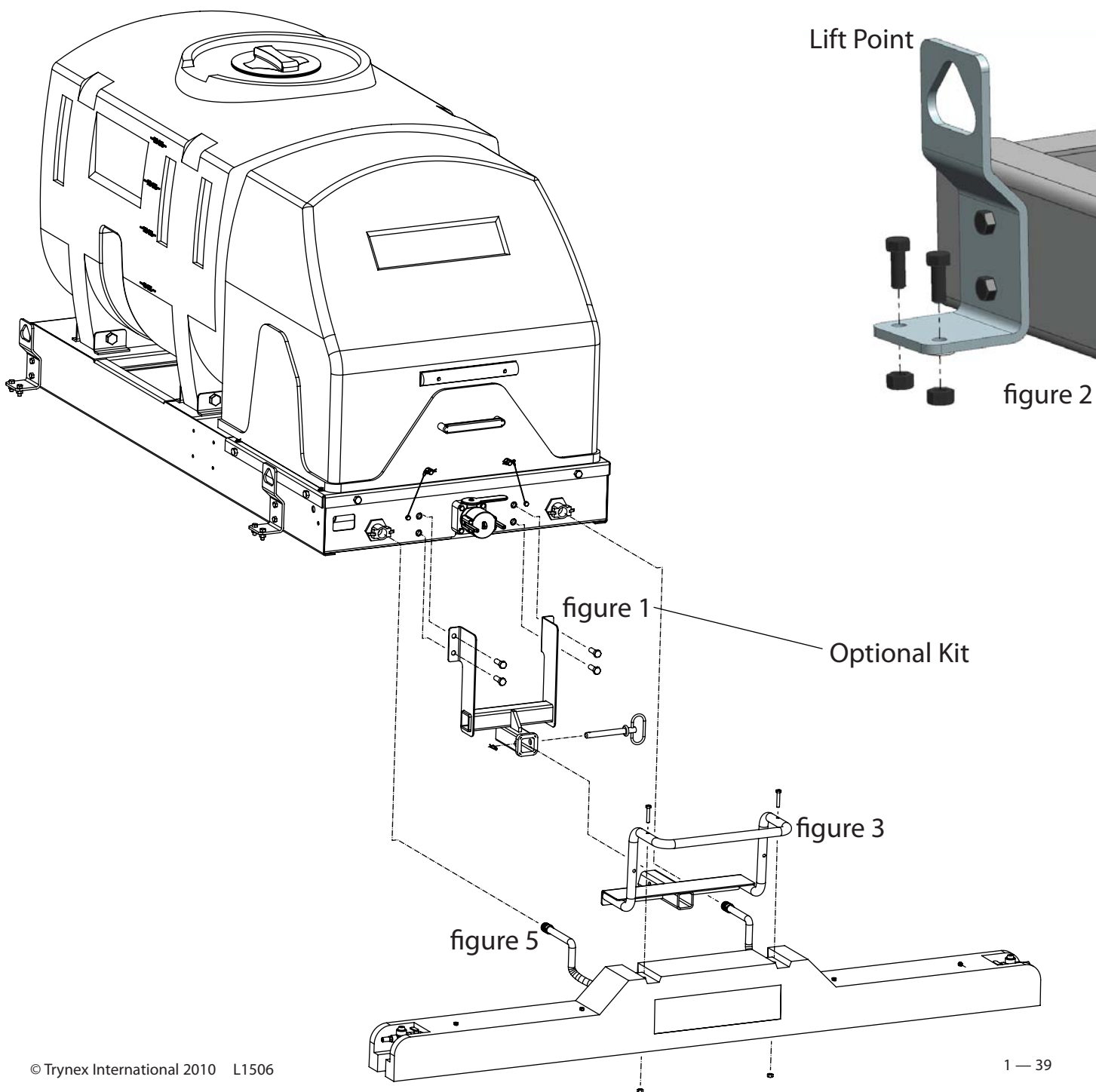
Step 1: Bolt boom mount assembly onto rear of frame with supplied hardware (see fig 1).

Step 2: Lift main assembly using the four corner lift point brackets and position onto vehicle. Center spray system left to right and then slide forward until boom mount just makes contact with vehicle. Bolt into place with supplied hardware (see fig 2).

Step 3: Bolt boom onto 2" receiver mount with supplied hardware (see fig 3).

Step 4: Install boom assembly with mount into receiver that was installed in step one (see fig 4).

Step 5: Plug boom hose into pump output fitting located below shutoff valve (see fig 5).



Calibration Data

Model # VSS-2000/3000



De-Ice / Anti-Ice Rotary Nozzle Flow Rate Chart
at variable speeds and pressure settings

GPA / MILES PER HOUR

PSI	GPM	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
20	0.71	52.71	47.9	43.93	40.55	37.66	35.15	32.95	31.01	29.29	27.75	26.35
30	0.87	64.5	58.7	53.83	49.69	46.14	43.07	40.37	38	35.88	34	32.3
40	1	74.25	67.5	61.88	57.11	53.04	49.5	46.04	43.68	41.25	39.08	37.13
50	1.12	82.1	75.5	69.3	63.97	59.4	55.44	51.98	48.92	46.2	43.77	41.58

Gallons Per Minute Formula

$$\frac{\text{GPA} \times \text{MPH} \times \text{W (per nozzle)}}{5,940}$$

Gallons Per Minute Formula

$$\frac{\text{GAL}/1000\text{FT}^2 \times \text{MPH} \times \text{W (per nozzle)}}{136}$$

Gallons Per Acre Formula

$$\frac{5,940 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

Gallons Per 1000 Square Feet

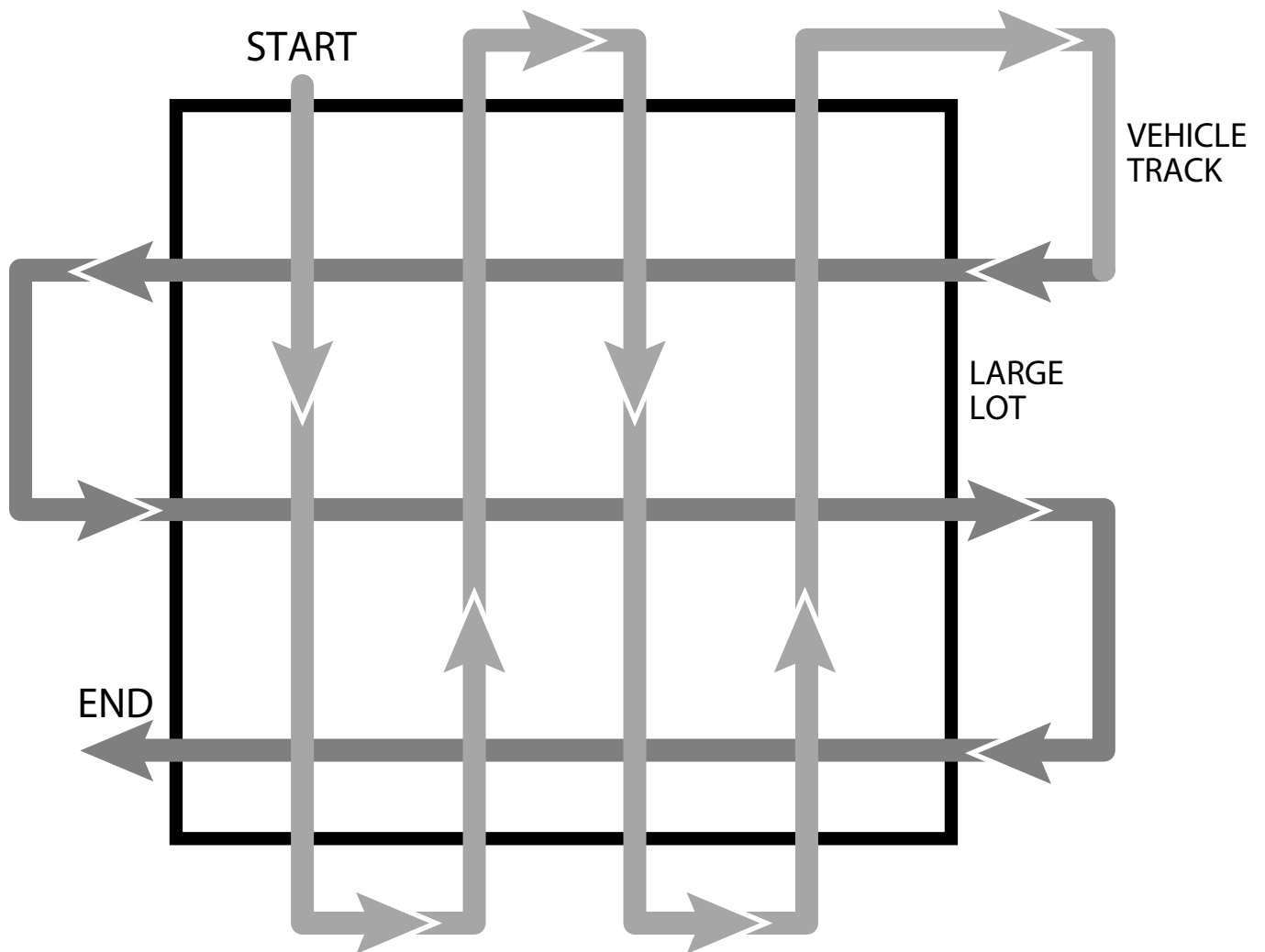
$$\frac{136 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

GPM - Gallons Per Minute

GPA- Gallons Per Acre

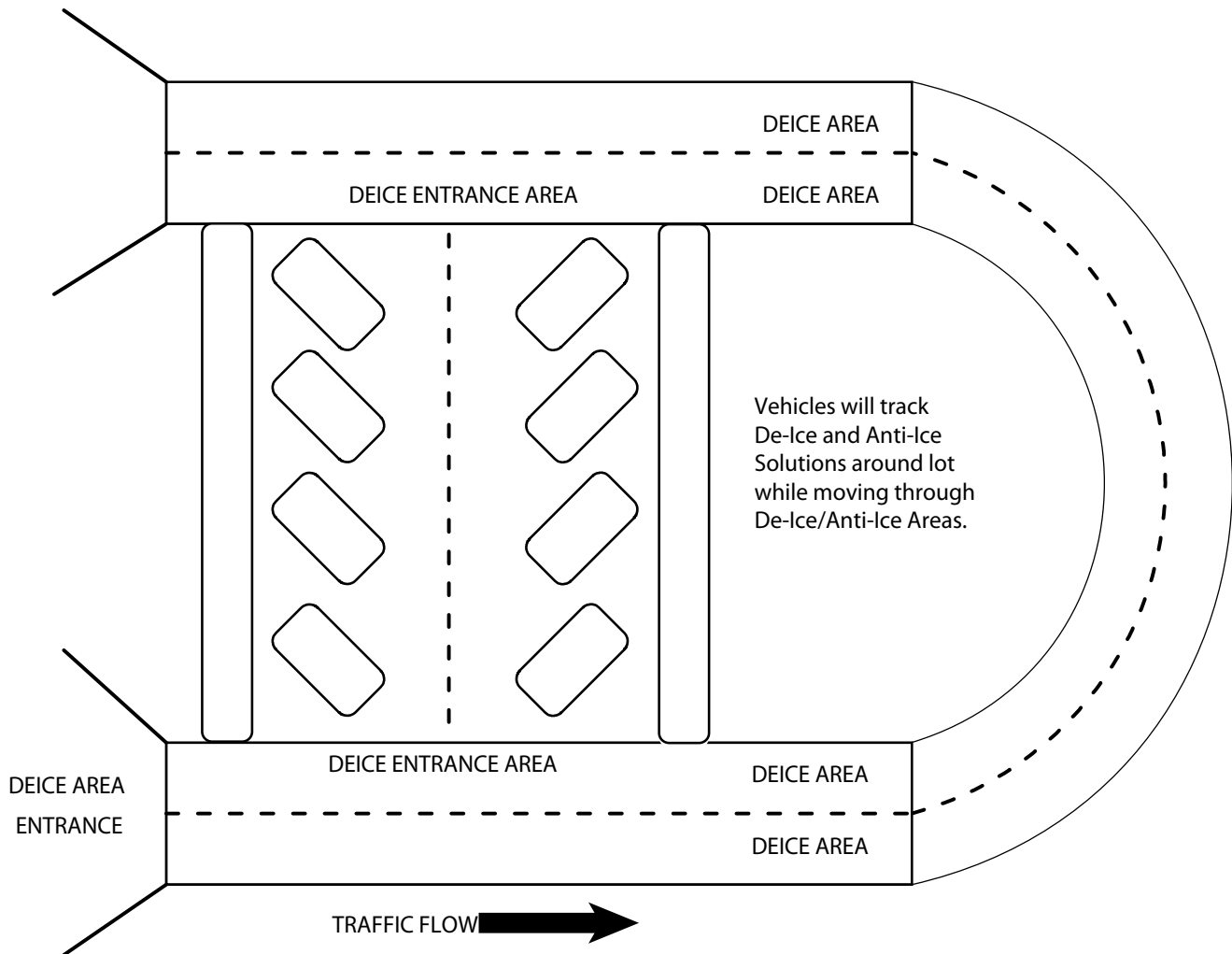
GAL/1000 FT² - Gallons Per 1000 Square Feet

W - Nozzle spacing



De-Icing Examples

Strip Mall Lot



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Clean-Out Instructions



VSS 1000 / 2000 / 3000

- Step 1: Disconnect nozzle assemblies at rear of vehicle at Quick-Disconnect point.
- Step 2: Make yourself a hose with matching male Quick-Disconnect to hook-up at Quick-Disconnect point.
- Step 3: Install hose at Quick-Disconnect point and put the other end in the storage tank.
- Step 4: Turn on pump until the tank is empty.
- Step 5: Add water and RV antifreeze; mix into tank.
- Step 6: Reinstall Quick-Disconnect from nozzle assemblies.
- Step 7: Run pump until it is running clear out of each nozzle.

Whenever service is necessary, your local SnowEx Dealer knows your Sprayer best. Take your Sprayer to your local dealer for any maintenance or service needs on your unit. If this is not possible, the Troubleshooting Guide below may assist you in identifying the problem.

Warning: First read all warning instructions and safety messages before servicing your Sprayer.

Preliminary Checks

- Be sure all electrical connections are tight and clean.
- Be sure nothing is obstructing the nozzles.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Pump doesn't run.	Loose electrical connections.	Check all connections.
	Blown Fuse.	Replace fuse.
	Pump Seized.	Replace pump.
Controller shut down.	Poor electrical connections.	Clean or replace connectors. Use dielectric grease.
	Electrical short.	Check electrical connections. Check for bare wires.
	Controller failure.	Replace controller.
Liquid not spraying.	Empty tank.	Fill tank.
	Full strainer.	Clean or replace element.
	Pump not running.	Refer to Problem 1.
	Obstructed nozzle.	Remove and clean.

Limited Warranty

Warranty will be for a period of two years from the date of purchase against defects in material or workmanship under normal use and service, subject to limitations detailed below. Warranty period of two years begins on the date of purchase by the original retail user.

The WARRANTY REGISTRATION CARD must be returned to the manufacturer for this warranty to become effective. This warranty applies to the original retail purchaser only. This warranty does not cover damages caused by improper installation, misuse, lack of proper maintenance, alterations or repairs made by anyone other than authorized Trynex dealers or Trynex personnel. Due to the corrosive properties of the materials dispensed by spreaders, Trynex does not warrant against damage caused by corrosion. Warranty claims by the user must be made to the dealer from where the product was purchased, unless otherwise authorized by Trynex. Trynex reserves the right to determine if any part is defective and to repair or replace such parts as it elects. This warranty does not cover shipping costs of defective parts to or from the dealer.

LIMITATION OF LIABILITY

Neither Trynex, nor any company affiliated with it, makes any warranties, representations for promise as to the performance or quality other than what is herein contained. The liability of Trynex to the purchaser for damages arising out of the manufacture, sale, delivery, use or resale of this spreader shall be limited to and shall not exceed the costs of repair or replacement of defective parts. Trynex shall not be liable for loss of use, inconvenience or any other incidental, indirect or consequential damages, so the above limitations on incidental or consequential damages may not apply to you.

NO DEALER HAS AUTHORITY TO MAKE ANY REPRESENTATION OR PROMISE ON BEHALF OF TRYNEX INTERNATIONAL, OR TO ALTER OR MODIFY THE TERMS OR LIMITATIONS OF THIS WARRANTY IN ANY WAY.

Warranty Registration and Customer Survey



To initiate the warranty on your new SnowEx spreader and assure prompt warranty service, please complete the following warranty registration and customer survey, sign and mail it back to the factory within 30 days of purchase.

- 1) Date of Purchase: _____
- 2) Name: _____
Address: _____

Phone: _____
- 3) SnowEx Model Purchased: _____ Serial Number: _____
- 4) Is this your first Trynex Spreader? ☐ Yes ☐ No
- 5) What type of vehicle are you using with your Spreader?
Make _____ Model _____ Year _____
- 6) What type of material are you using in your spreader? _____
- 7) SnowEx Dealer Name: _____
SnowEx Dealer Address: _____

SnowEx Dealer Phone: _____
- 8) Does your Trynex Dealer stock Trynex replacement Parts? ☐ Yes ☐ No ☐ I don't know
- 9) Do you feel your Trynex Dealer sold you the correct product for your needs/application? ☐ Yes ☐ No
- 10) How would you rate your overall satisfaction with your SnowEx Dealer?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Satisfied	Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Dissatisfied	Very Dissatisfied
- 11) How would you rate your overall satisfaction with your SnowEx Product?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Very Satisfied	Satisfied	Somewhat Satisfied	Somewhat Dissatisfied	Dissatisfied	Very Dissatisfied
- 12) Would you purchase another Trynex Product? ☐ Yes ☐ No
- 13) If you would like to receive E-Mail ALERTS for new products, bulletins or special promotions please supply address : _____
- 14) Please use the space below to convey your comments and/or suggestions.

- NOTE: I have read the owner's manual and all safety precautions and I understand that this equipment could be dangerous if not operated with care and under the proper conditions.
- 15) Owner's signature: **X** _____

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