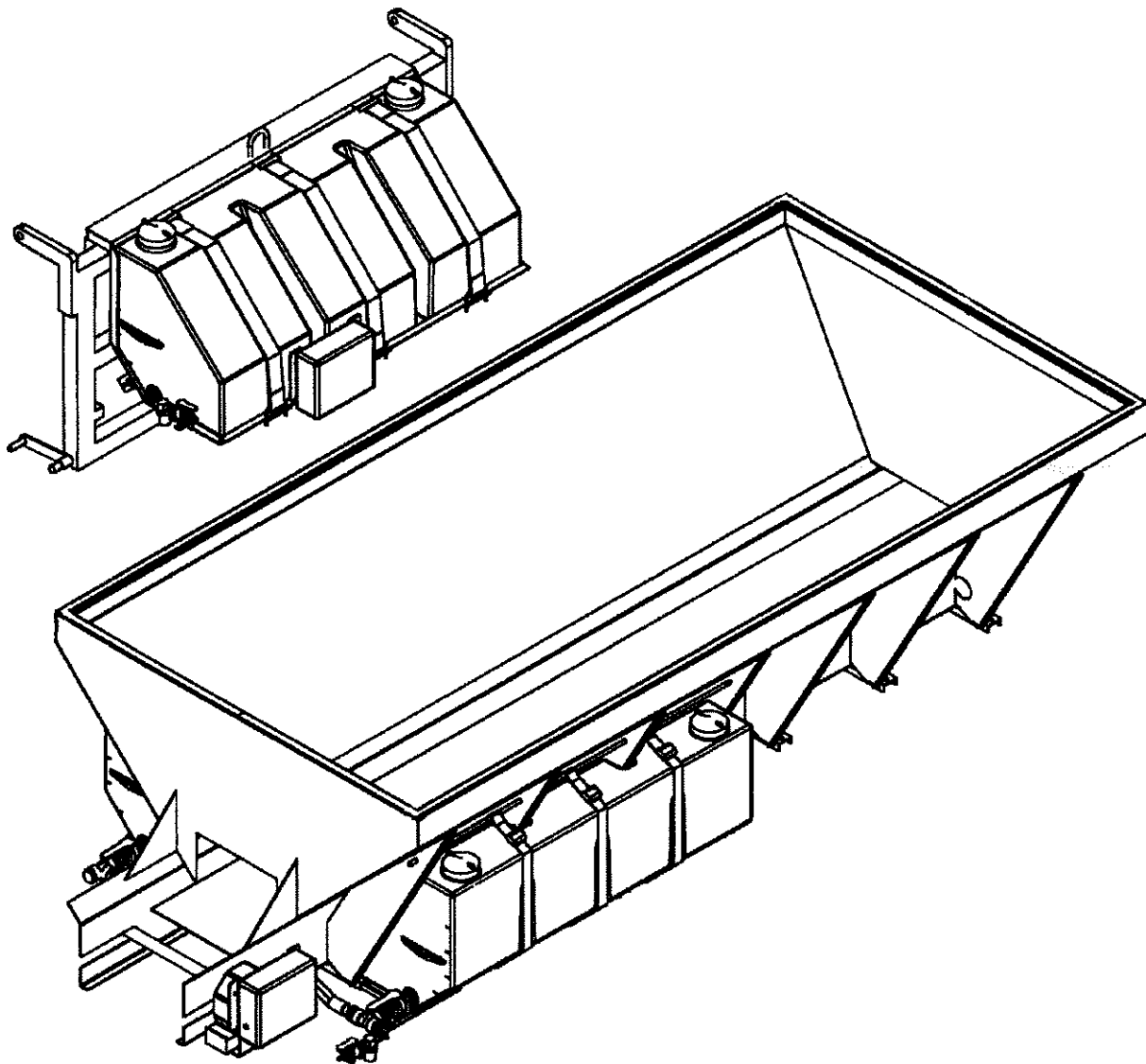


# SWENSON spreader®

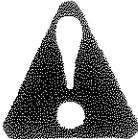


## Spray Systems Installation and Operation Manual

PART NO. 00116-184-01 Rev. C  
May 3, 2004

**THE BEST SAFETY  
DEVICE IS A  
CAREFUL OPERATOR!**

## **SAFETY ALERT SYMBOL**



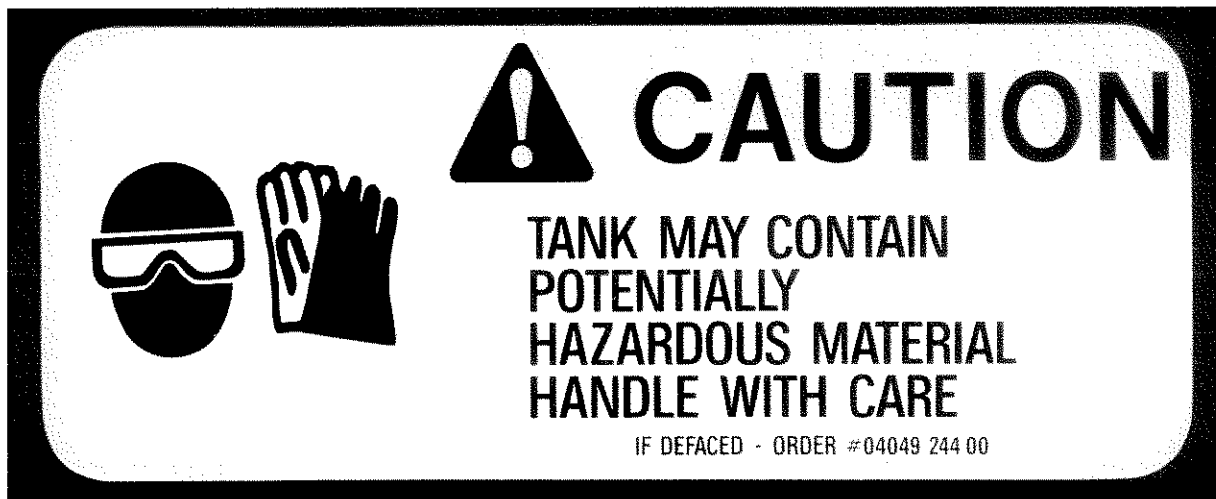
**THIS SYMBOL MEANS ATTENTION!  
BECOME ALERT!  
YOUR SAFETY IS INVOLVED!**  
PLEASE READ AND UNDERSTAND COMPLETELY BEFORE DOING!

### **SAFE EQUIPMENT INSTALLERS AND OPERATORS:**



**TURN OFF ALL POWER BEFORE PERFORMING ANY SERVICE OPERATIONS**

- FOLLOW RECOMMENDED OPERATING PROCEDURES.
- KEEP EQUIPMENT IN SAFE OPERATING CONDITION AT ALL TIMES.
- RECOGNIZE AND AVOID HAZARDS WHILE OPERATING, SERVICING AND MAINTAINING EQUIPMENT.



**NOTICE:** Instructional Material and Parts Lists included in this manual are subject to change without notice.

# TABLE OF CONTENTS

Safety Instructions _____	5
Master List of Parts _____	6-7
V-Box Installation Instructions _____	8-17
Tailgate Installation Instructions _____	18-19
Tailgate Parts _____	20
Variable Speed Control Installation _____	21
Variable Speed Parts Lists _____	22-23
Electric Pump Box w/Pressure Sensor _____	24-25
Electric Pump Box w/Flow Meter _____	26-27
Electric Pump Assembly _____	28-29
Electric Splash Guard, Spray Bar & Mounting _____	30-33
Electric Operating Instructions & Maintenance _____	35-37
Electric Calibration Charts _____	38-39
Electric Troubleshooting _____	40
Electric/Hydraulic Level Sensor Pump Shutoff Kit Instructions _____	41
Hydraulic Pump Box _____	42-43
Bronze Gear Pump _____	44
Hydraulic Splash Guard, Spray Bar & Mounting _____	45-48
Hydraulic Operating Instructions & Maintenance _____	49-51
Hydraulic Troubleshooting _____	52
Hydraulic Calibration Charts _____	53-54
Airport Spray System _____	55-59
V-Box Tank Combination Requirements _____	60-61
Spray System Information _____	62
Warranty _____	63

**NOTES:**

## SAFETY INSTRUCTIONS

Swenson Spreader Spray Systems are intended to be used for de-icing purposes only. -- Misuse of this spray system may cause serious injuries!



### CAUTION!

Safety precautions must be taken when handling de-icing chemicals, care must be taken to avoid accidental contact with skin and eyes!

1. Do not attempt to service spray system when system is operating!  
**!!!TURN SYSTEM OFF!!!**
2. Use rubber gloves and goggles when servicing and filling spray system!
3. Flush system lines thoroughly before disassembling system spray lines!
4. Store de-icing chemicals in containers specifically designed for storage, make sure containers are marked clearly!

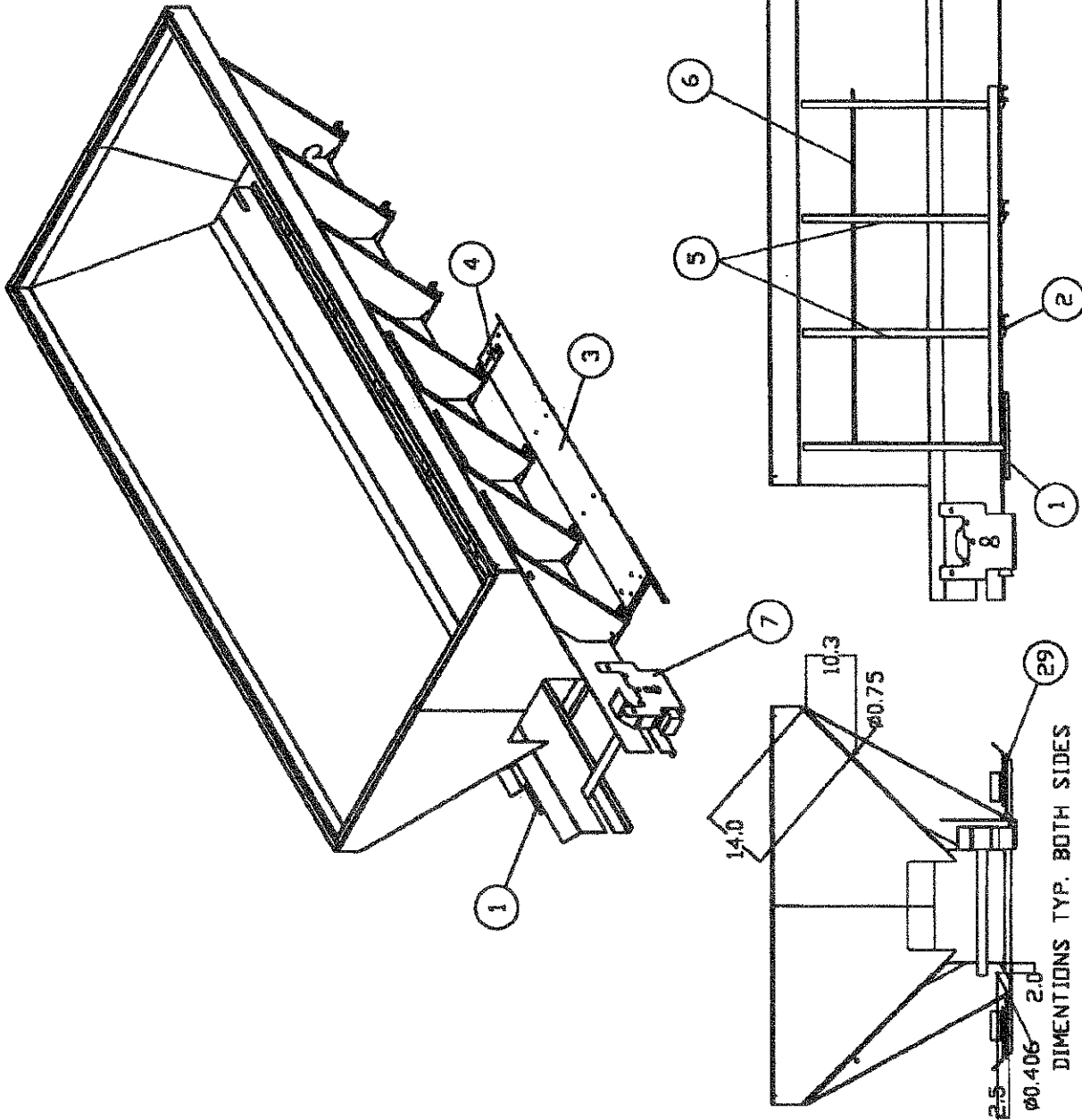
## PARTS LIST FOR SPRAY SYSTEMS

Item #	Part numbers for electric spray syst.	2 135	1 135	2 90	1 90	135 tg	90 tg	Substitute parts to make stainless
Swenson #	Description	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.	
1	00115-945-00 Weldment, Top Support	2	1	2	1	-	-	00115-945-01
2	00115-917-00 Channel	6	3	4	2	-	-	00115-917-01
3	00115-919-00 tank pan - 135 gal.	2	1	-	-	-	-	00115-919-01
3	00115-918-00 tank pan - 90 gal.	-	-	2	1	-	-	00115-918-01
4	00116-143-04 tank stop	2	1	2	1	-	-	00116-143-05
5	04086-031-00 vinyl trim	10 ft.	5 ft.	5 ft.	2.5 ft.	-	-	
6	00115-947-03 rod, strap - 135 gal.	2	1	-	-	-	-	00115-947-04
6	00115-947-01 rod, strap - 90 gal.	-	-	2	1	-	-	00115-947-02
7	00115-924-01 pump mount bracket	1	1	1	1	-	-	only ss
8	04622-052-00 tank - 135 gal.	2	1	-	-	1	-	
8	04622-051-00 tank - 90 gal.	-	-	2	1	-	-	
9	04068-038-00 strap	6	3	4	2	-	-	
10	04109-115-00 bulkhead, 1 1/2"	4	2	4	2	2	2	
11	04109-088-00 plug - 1 1/2"	3	2	3	2	1	1	
12	04110-031-13 nipple - 1 1/2" close	2	1	2	1	-	-	
13	04105-313-01 ball valve - 1 1/2"	2	1	2	1	-	-	
14	04109-080-00 tee - 1 1/2"	2	1	2	1	-	-	
15	04109-108-00 barb - 1 1/2"	2	-	2	-	-	-	
16	04110-017-29 reducer - 1 1/2 to 3/4	1	1	1	1	1	1	
17	04110-006-14 elbow - 3/4 street	1	1	1	1	1	1	
18	04110-028-17 nipple - 3/4" close	2	2	2	2	2	2	
19	04103-038-00 strainer	1	1	1	1	1	1	
20	04109-119-00 Elbow, 3/4" NPT X 1/2" Barb	1	1	1	1	-	-	
21	04078-044-00 Lanyard, 11" Poly	4	2	4	2	2	2	
22	04109-117-00 shank, 3/4 NPT X 1/2 hose barb	1	1	1	1	1	1	
23	04610-030-01 hose - 1 1/2"	1	-	1	-	-	-	
24	00112-176-00 pump box(closed-loop 00112-635-00)	1	1	1	1	1	1	
25	04123-031-00 lid, tank	4	2	4	2	2	2	
26	00117-218-00 assy, plumb support	2	1	2	1	-	-	only ss
27	04025-012-10 pipe saddle	2	1	2	1	-	-	
28	04048-511-02 u-bolt	2	1	2	1	-	-	only zinc plated
29	00117-765-00 Spacer, Tank Pan (Thin)	8	4	6	3	-	-	00116-151-02
30	04003-035-07 5/8-11 x 1.5 carriage bolt	8	4	6	3	-	-	04003-035-08
31	04004-002-56 5/8 SAE flatwasher	8	4	6	3	-	-	04004-002-57
33	04003-003-01 3/8-16 x .75 bolt	8	4	8	4	-	-	04003-003-24

Part numbers for electric spray syst.		2 135	1 135	2 90	1 90	135 tg	90 tg	Substitute parts to make stainless	Substitute parts to make a hyd. spray syst.
Item #	Swenson #	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.		
34	04003-003-03	9	9	9	9	7	7	04003-003-20	
35	04003-003-04	1	1	1	1	-	-	04003-003-26	
36	04003-023-03	16	8	12	6	-	-	04003-023-04	
37	04004-002-08	48	34	48	34	19	15	04004-002-20	
38	04003-806-02	48	26	48	26	19	15	04003-806-12	
39	04004-002-10	20	12	20	12	-	-	04004-002-22	
40	04003-005-01	4	4	4	4	-	-	04003-005-17	
41	04004-001-09	4	4	4	4	-	-	04004-001-16	
42	04004-002-14	4	2	4	2	-	-	04004-002-52	
43	04004-001-10	12	6	10	5	-	-	04004-001-15	
44	04003-801-12	12	6	10	5	-	-	04003-801-22	
45	04090-015-00	2	-	2	-	-	-		
46	04090-028-10	12	12	12	12	12	12		
47	04607-022-00	2	-	2	-	-	-	04607-022-01	
48	04607-007-00	10	10	10	10	10	10		
49	04049-244-00	4	2	4	2	2	2		
50	00112-640-00	1	1	1	1	1	1		00114-303-00, tg qty(2)
51	00109-672-00	1	1	1	1	-	-		00114-312-00, tg qty(-)
52	04078-028-00	1	1	1	1	1	1		hyd. qty 5
53	04109-109-00	2	2	2	2	2	2		
54	04610-025-00	12 ft.	12 ft.	12 ft.	12 ft.	15 ft.	15 ft.		
55	04623-005-00	1	1	1	1	1	1		00115-856-00
56	04109-078-00	-	-	-	-	-	-		hyd. qty(1)
57	04120-114-01	-	-	-	-	-	-		hyd. qty(1)
58	00116-097-02	-	-	-	-	-	-		hyd. qty(1)
59	00116-921-00	-	-	-	-	1	-		hyd. qty(1)
59	00116-920-00	-	-	-	-	-	1		
60	04068-038-00	-	-	-	-	3	2		
61	04105-316-01	1	1	1	1	1	1		
62	00116-919-00	-	-	-	-	1	1		
64	04120-113-00	-	-	-	-	-	-		tg hyd. qty(1)
65	00115-581-00	-	-	-	-	2	2		
67	04109-121-00	1	1	1	1	1	1		
68	04109-122-00	1	1	1	1	1	1		
69	04110-007-11	2	1	2	1	-	-		

Note: tailgate spray system not offered in stainless steel

**SWENSON SPREADER**  
 LUMBERWOOD ELUMIS  
 V-BOX MOUNTING

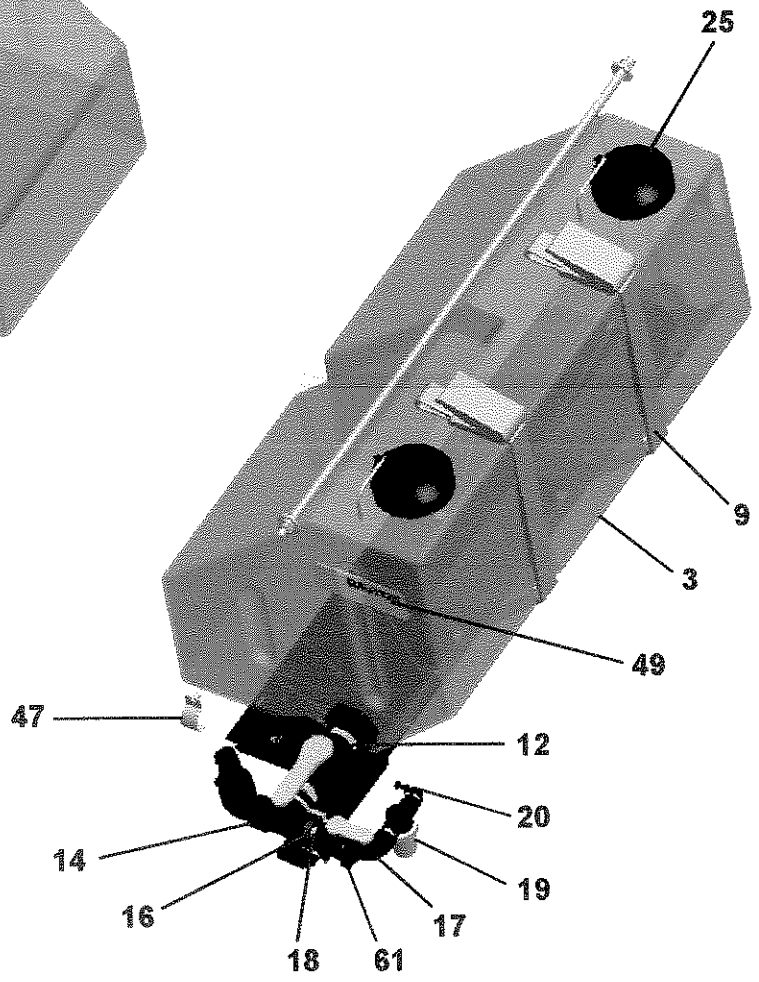
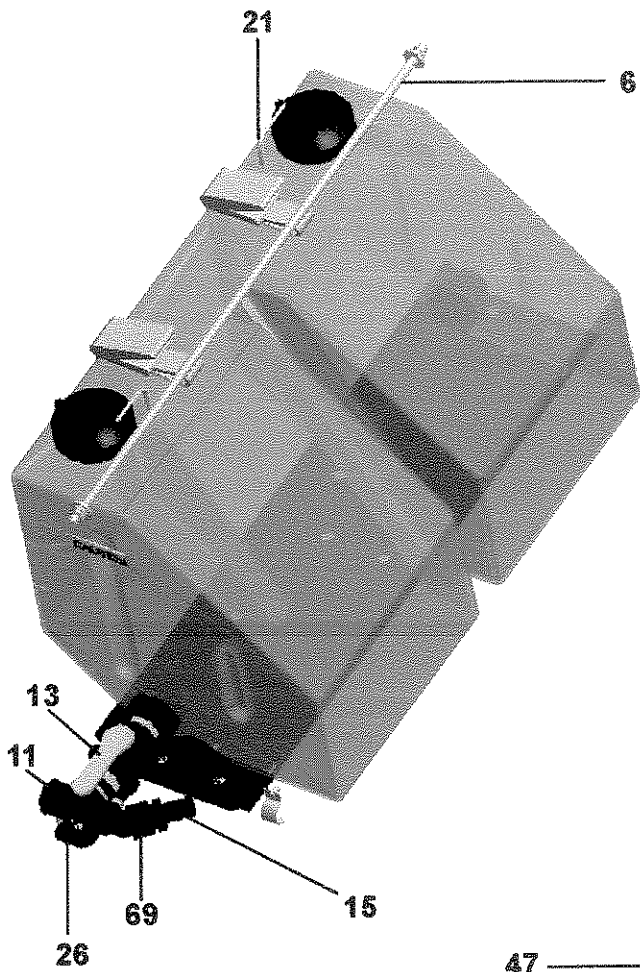


FILE NO. 2/V1391-007 4-3-2000



## TANK MOUNTING AND PLUMBING INSTALLATION INSTRUCTIONS

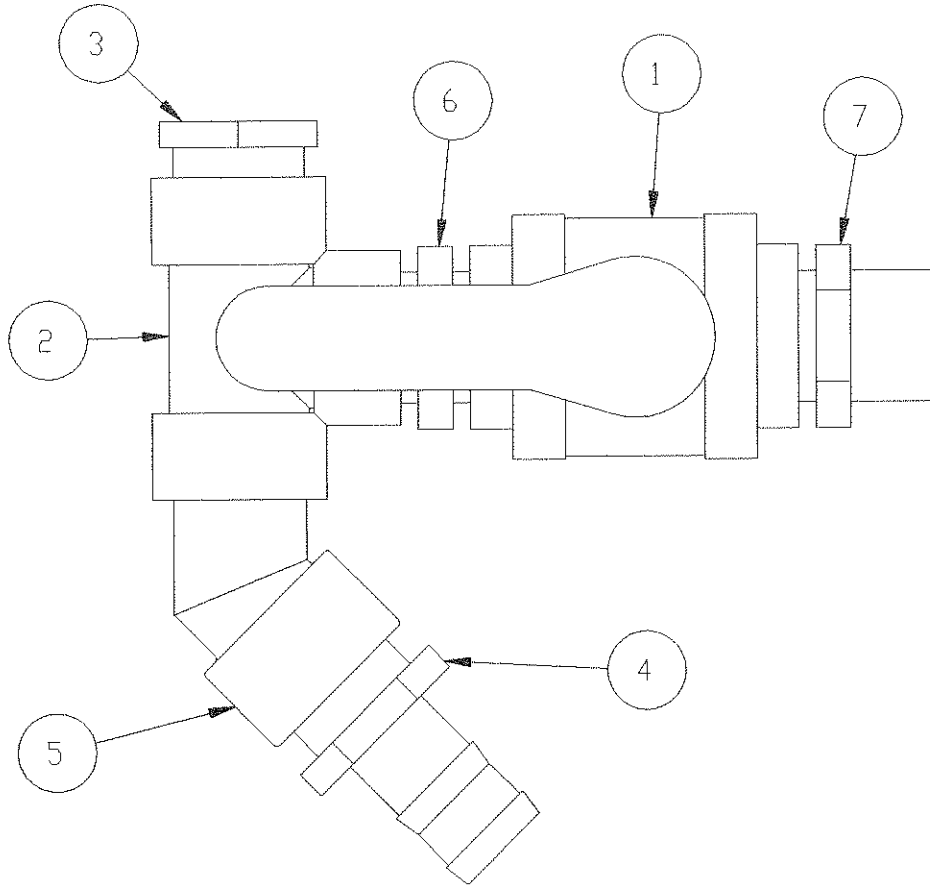
1. Attach channel brackets (Item 1 & 2) loosely to V-Box with 5/8" hardware (Item 30, 31, 43 & 44).
2. Mount tank pan (Item 3) to channel brackets with 1/2" spacers (Item 29) between brackets and pan. Use 3/8" hardware (Items 36, 37, 38 & 39).
3. Attach tank stop (Item 4) loosely to tank pan with 3/8" hardware (Items 33, 37 & 38). If no slots are in pan, wait until you set the tank on tank pan and then place bracket where needed and drill holes.
4. Attach vinyl trim (Item 5) to body jack edges to protect from rubbing the tank. Approximately 2.5 ft. per bodyjack inside of tank.
5. If your V-Box does not have the proper holes for strap rods, drill them at the indicated locations.
6. If you have dual tanks, drill holes for jiffy clamps.
7. Place tank (Item 8) on pan and adjust the channel brackets and tank stop so that the tank fits snug on the tank pan. Tighten hardware, then remove tank to attach plumbing.



# TANK MOUNTING AND PLUMBING INSTALLATION INSTRUCTIONS

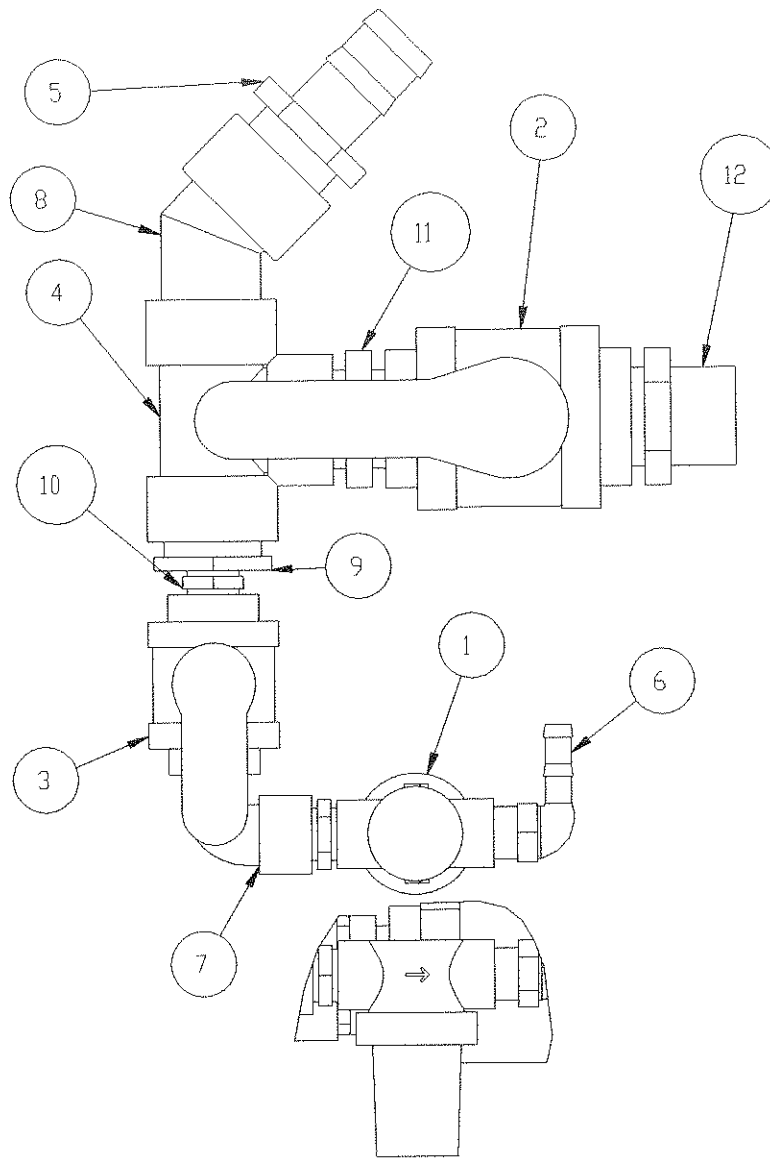
(continued)

8. Install bulkheads (Item 10) into holes near tank base.
9. Attach plumbing components to tank bulkhead using pipe thread sealant on all threaded surfaces.
10. After plumbing or plug is attached to the proper end of the tank, place the tank on the tank pan.
11. Push strap rod (Item 6) through rear body jack, then place strap with loop (Item 9) onto the rod. Push rod end through next body jack, then attach next strap. Repeat one more time if mounting the 135 gallon tank. When finished, tighten 5/8" hardware (Items 42, 43 & 44) onto the ends of the rods.
12. Hook "J" hook end of tank strap to tank pan and pull the straps tight.
13. Attach plumbing "U" bolt (Item 28), pipe saddle (Item 27) and bracket (Item 26) to plumbing support weldment (Item 1) with 3/8" hardware (Items 34, 37 & 38).
14. If you have dual tanks, run 1 1/2" cross over tubing (Item 23 & 47) and secure to V-Box with jiffy clamps and 3/8" hardware (Items 47, 34, 37 & 38).



**PARTS LIST FOR  
SUB-ASSEMBLY PLUMBING, LH DOUBLE  
(00119-503-02)**

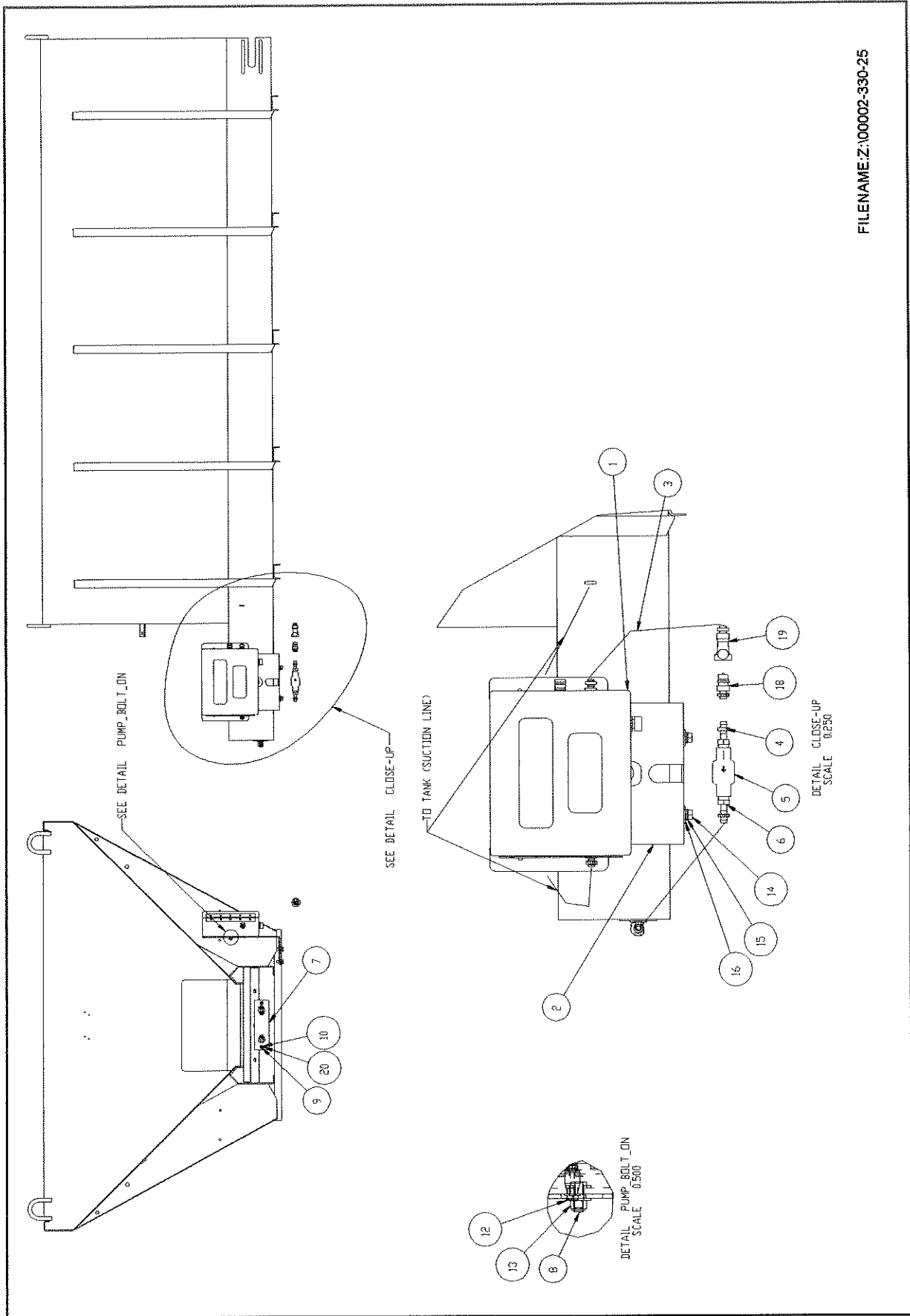
<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04105-313-01	1	Valve, 1 1/2" Ball (Poly)
2	04109-080-00	1	Tee, 1 1/2" Poly NPT
3	04109-088-00	1	Plug, 1 1/2" NPT Pipe (Plastic)
4	04109-108-00	1	Nipple, 1 1/2" King (Poly)
5	04110-007-11	1	Elbow, 1 1/2" 45 Degree Street (Poly)
6	04110-031-13	1	Nipple, 1 1/2" Close (Poly)
7	04110-031-14	1	Nipple, 1 1/2" X 3" (Poly)



**PARTS LIST FOR  
SUB-ASSEMBLY PLUMBING, RH DOUBLE**

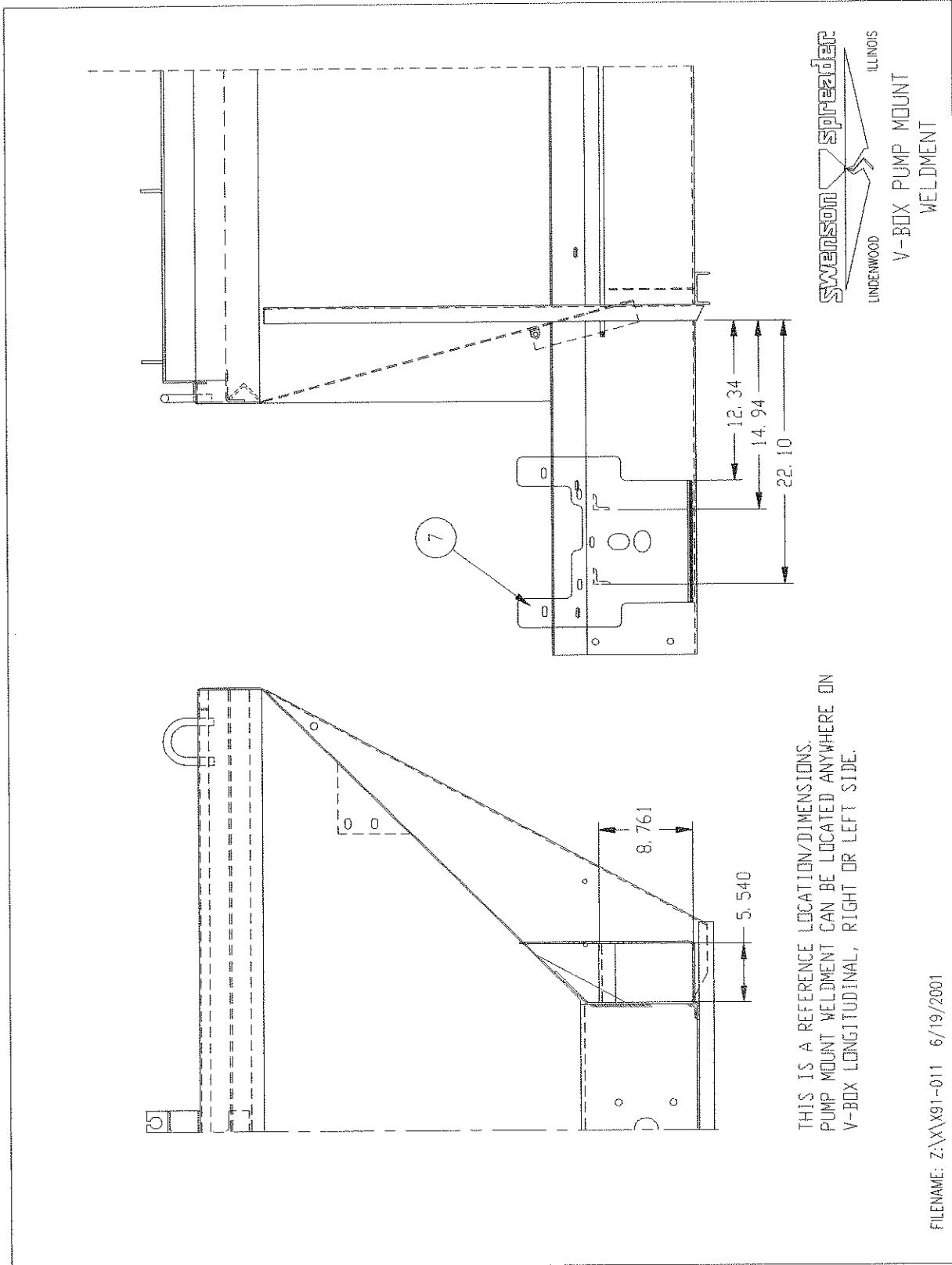
(00119-504-02)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04103-038-00	1	Strainer, Line
2	04105-313-01	1	Valve, 1 1/2" Ball (Poly)
3	04105-316-01	1	Valve, 3/4" Ball (Poly)
4	04109-080-00	1	Tee, 1 1/2" Poly NPT
5	04109-108-00	1	Nipple, 1 1/2" King (Poly)
6	04109-119-00	1	Elbow, 3/4" NPT X 1/2" Barb
7	04110-006-14	1	Elbow, 3/4" 90 Degree Street (Poly)
8	04110-007-11	1	Elbow, 1 1/2" 45 Degree Street (Poly)
9	04110-017-29	1	Bushing, 1 1/2" X 3/4" Hex Reducing (Poly)
10	04110-028-17	2	Nipple, 3/4" Close (Poly)
11	04110-031-13	1	Nipple, 1 1/2" Close (Poly)
12	04110-031-14	1	Nipple, 1 1/2" X 3" (Poly)



## PUMP BOX AND PRESSURE SIDE PLUMBING INSTALLATION INSTRUCTIONS

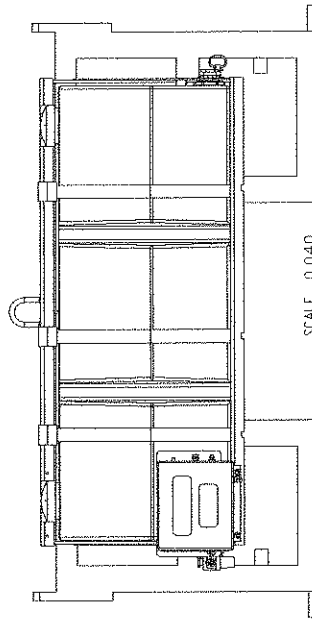
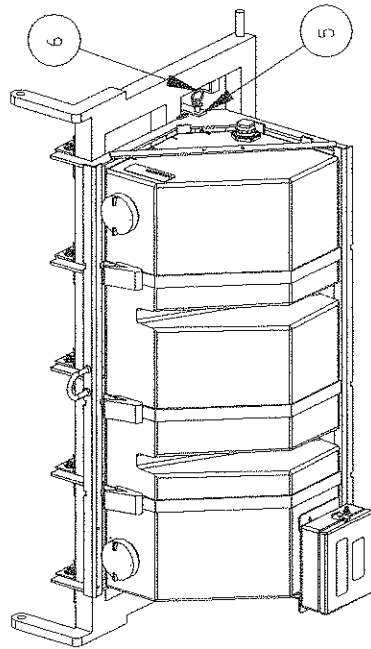
1. Attach pump box bracket (Item 7) to gearbox with 1/2" hardware (Items 39, 40 & 41).
2. Mount pump box (Item 24) to pump box bracket (Item 7) with 3/8" hardware (Items 34, 37 & 38). If mounting hydraulic pump box **(TWO PEOPLE ARE RECOMMENDED FOR THIS OPERATION)** to gearbox use brace bracket (Item 58) with 3/8" hardware (Items 35, 37 & 38) on pump side of brace. After mounting brace to pump box/bracket, you will need to mark where brace meets V-Box and drill hole to attach other side of brace to V-Box with 3/8" hardware (Items 34, 37 & 38). If you have an auger V-Box, or the pump box bracket doesn't fit your gearbox, weld bracket to V-Box longitudinal and weld pieces of angle between longitudinal and bracket to add support to bracket. (See page 16 for length of angle and location.)
3. Attach 1/2" suction line hose (Items 54 & 46, cut to length as needed) from tank plumbing to suction side of pump.
4. Attach nozzle assembly/splash guard (Items 50 & 51) where indicated with 3/8" hardware (Items 34, 37 & 38).
5. Attach 1/2" hose (Item 54), cut to length as needed from pressure side of pump to ball check (Items 52, 53 & 46), then from ball check to the nozzle assemblies. **-NOTE:** The ball check arrow should point to the nozzles.
6. If mounting hydraulic spray system, attach hose (Item 57) from return side of conveyor/auger motor to the pump box fitting leading into the Brand valve in the pump box.



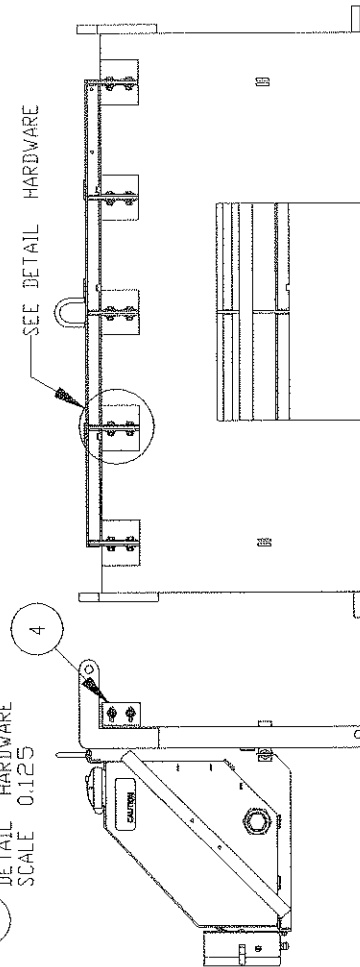
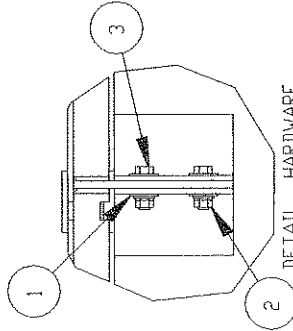
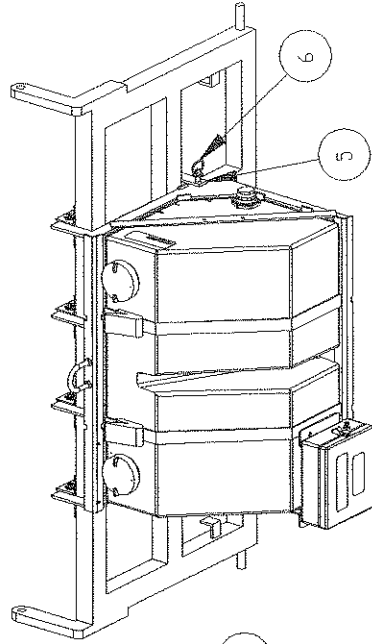


**NOTES:**

ITEM	PART NUMBER	DESCRIPTION	QTY
1	04004-002-22	1/2" FLATWASHER S.S.	20
2	04003-806-16	1/2"-13 FLANGE NUT S.S.	10
3	04003-005-26	1/2"-13x1.75" HH BOLT S.S.	10
4	00116-967-01	ANGLE, SLTD TG SPRY ADJUST S.S.	10
5	00116-922-00	BAR, TG PIN HOLDER	4
6	04014-101-01	PIN, 3/4" HITCH W/ KEEPER	2



ITEM	PART NUMBER	DESCRIPTION	QTY
1	04004-002-10	1/2" FLATWASHER ZP	16
2	04003-806-03	1/2"-13 FLANGE NUT ZP	8
3	04003-005-35	1/2"13x1.75 HH BOLT GR5 ZP	8
4	00116-967-00	ANGLE, SLTD TG SPRY ADJUST	8
5	00116-922-00	BAR, TG PIN HOLDER	4
6	04014-101-01	PIN, 3/4" HITCH W/ KEEPER	2

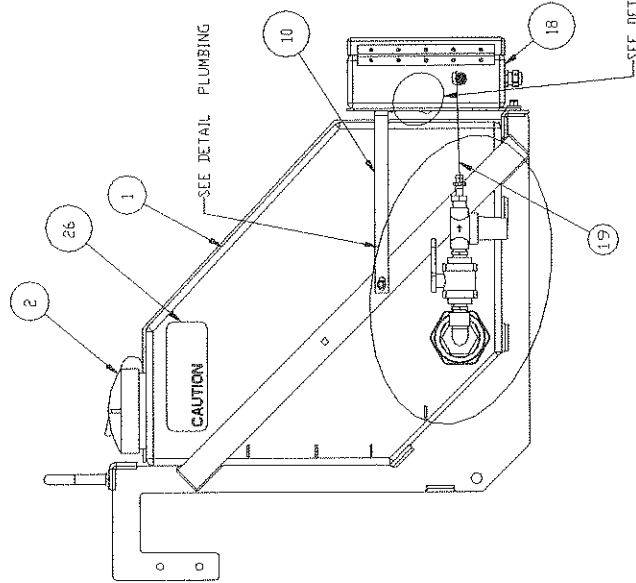
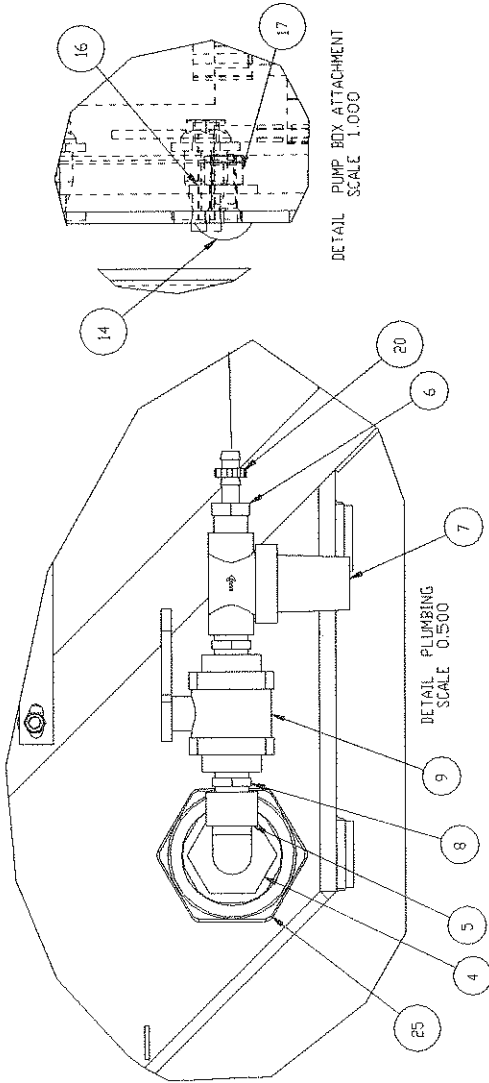


**INSTRUCTION - TAILGATE MOUNTING ADJUSTMENT**  
Z:\IPROPARTS\00116-971-00 3/2002

## TAILGATE MOUNTING INSTRUCTIONS

1. Open the tailgate and place the tailgate prop (Item 65) as indicated to keep the tailgate from closing when the tank is full.
2. Check the width of your tailgate. The tank frame was designed for larger tailgates (4 inches thick), so if your tailgate is less than 4 inches thick, a spacer kit (#00002-332-55 for 90 gal. tank or # 00002-332-57 for 135 gal. tank is recommended. (Kit not supplied with spray systems.)
3. Place the tailgate spray system on the tailgate, centering it as much as possible.
4. Mark locations on the truck's tailgate to weld 4 tabs on opposite sides of two spray system frame ribs, making sure the holes line up. Remove the spray system and weld on the tabs. Put the spray system back onto the tailgate and pin at bottom, using pin #04014-101-01.
5. Mount the spray bar (Item 50) with 3/8" hardware (Items 34, 37 & 38) at a location where the spray hits the dry material before the material reaches the spinner disk. Then connect the spray bar to the pressure side of the pump with the ball check valve and hose barbs (Items 52, 46 & 53) plumbed between the pump and the spray bar to prevent siphoning of liquid from the tank.
6. If you have a hydraulic tailgate spray system, connect the return of the auger/conveyor motor to the fitting leading to the Brand valve in the pump box with the supplied hose (Item 64). You will need to supply your own return line from the pump box back to tank or the next piece of equipment running in series.
7. In a convenient location, cut hose between the spray system pump and nozzles and install the quick couplings (Items 67 & 68) with hose clamps (Item 46).

ITEM	PART NUMBER	QTY.
27	00117-226-00	1
26	04049-244-00	2
25	04109-115-00	2
23	04003-003-36	3
22	04623-005-00	1
21	00115-976-00	1
20	04090-028-10	2
19	04610-025-00	2
18	00112-176-00	1
17	04003-804-11	6
16	04004-002-08	6
15	04066-036-00	2
14	04003-033-02	3
13	00115-925-00	1
12	00116-920-00	1
11	04607-001-00	1
10	00116-919-00	1
9	04105-316-01	1
8	04110-028-17	2
7	04103-038-00	1
6	04109-117-00	1
5	04110-006-14	1
4	04110-017-29	1
3	04109-088-00	1
2	04123-031-00	2
1	04622-051-00	1

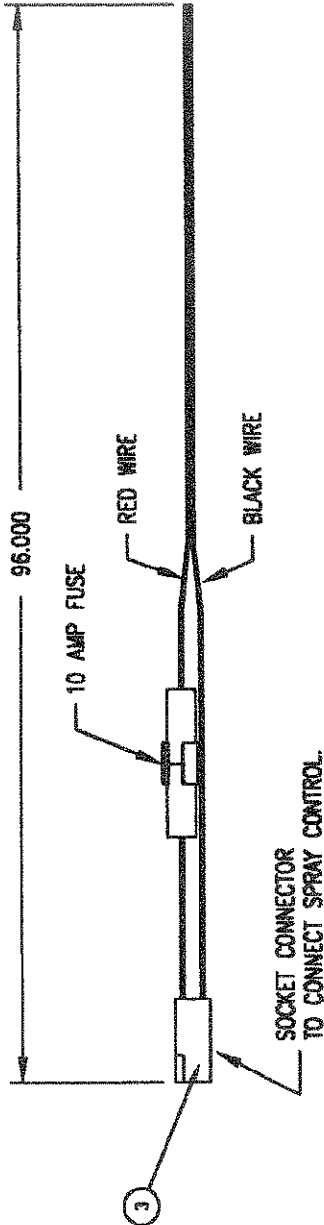


Z:\PROPARTS\00002-330-09 3-2002

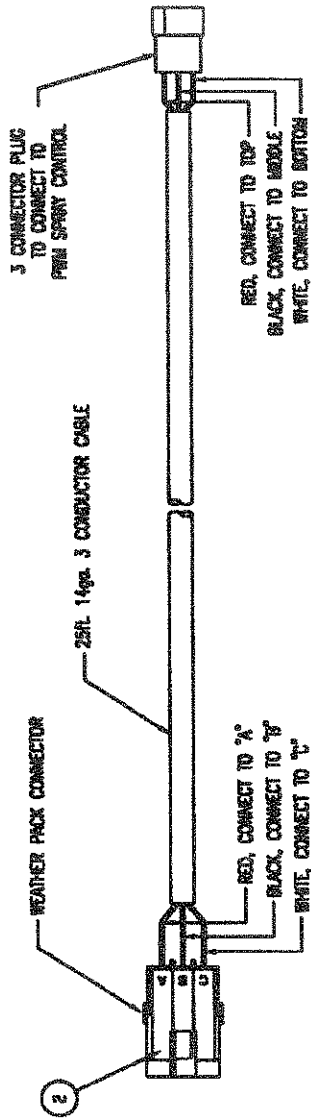
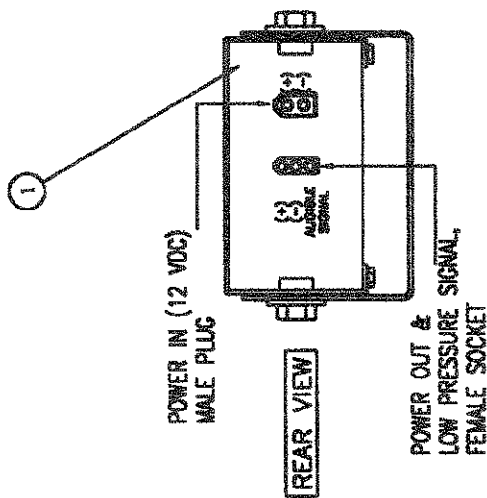
# INSTALLATION INSTRUCTIONS VARIABLE SPEED CONTROL

(04623-005-00 and 00115-856-00)

1. Mount Variable Speed Control unit in cab, in a location for easy operation by the driver. using nuts and bolts supplied.
2. Speed control must be "grounded" using black half of power cable, attach to vehicle "ground".
3. Connect "hot" wire (red half of power cable) to a fused and keyed "hot" wire circuit on the vehicle.
4. Route the 25 foot wire (with plug) back to the pump enclosure and attach to mating plug coming out of the pump box.
5. Make sure that all wires are clear of any moving, hot or sharp objects on the vehicle. Secure wires in place.



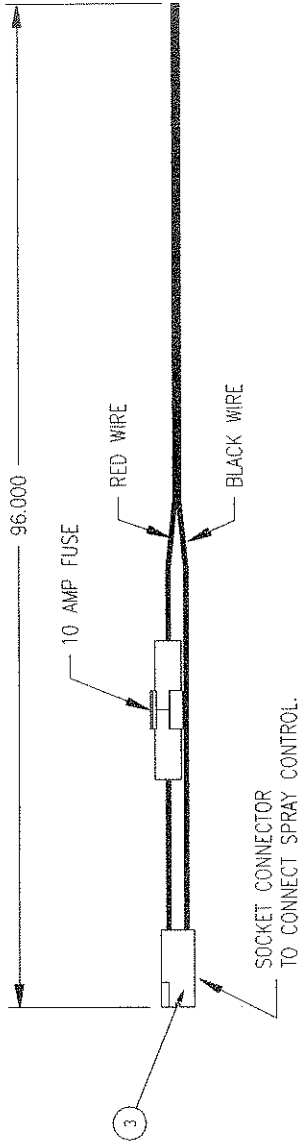
14ga., 2 CONDUCTOR CABLE



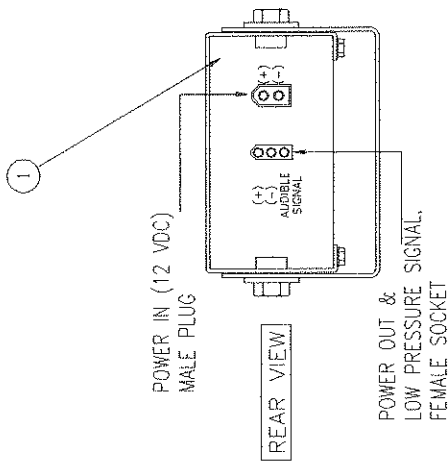
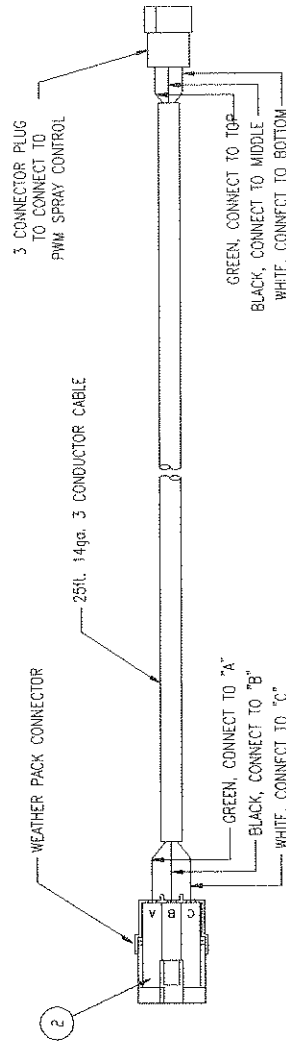
ITEM	SWENSON#	DESCRIPTION
1	04623-005-01	CONTROL, VARIABLE SPEED W/ALARM FOR ELECTRIC SPRAY SYST.
2	04623-005-02	25ft. CABLE, HOOKUP
3	04623-005-03	8ft. CABLE, POWER



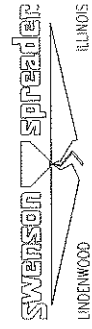
PARTS LIST FOR  
VARIABLE SPEED CONTROL KIT  
04623 005 00



14ga., 2 CONDUCTOR CABLE

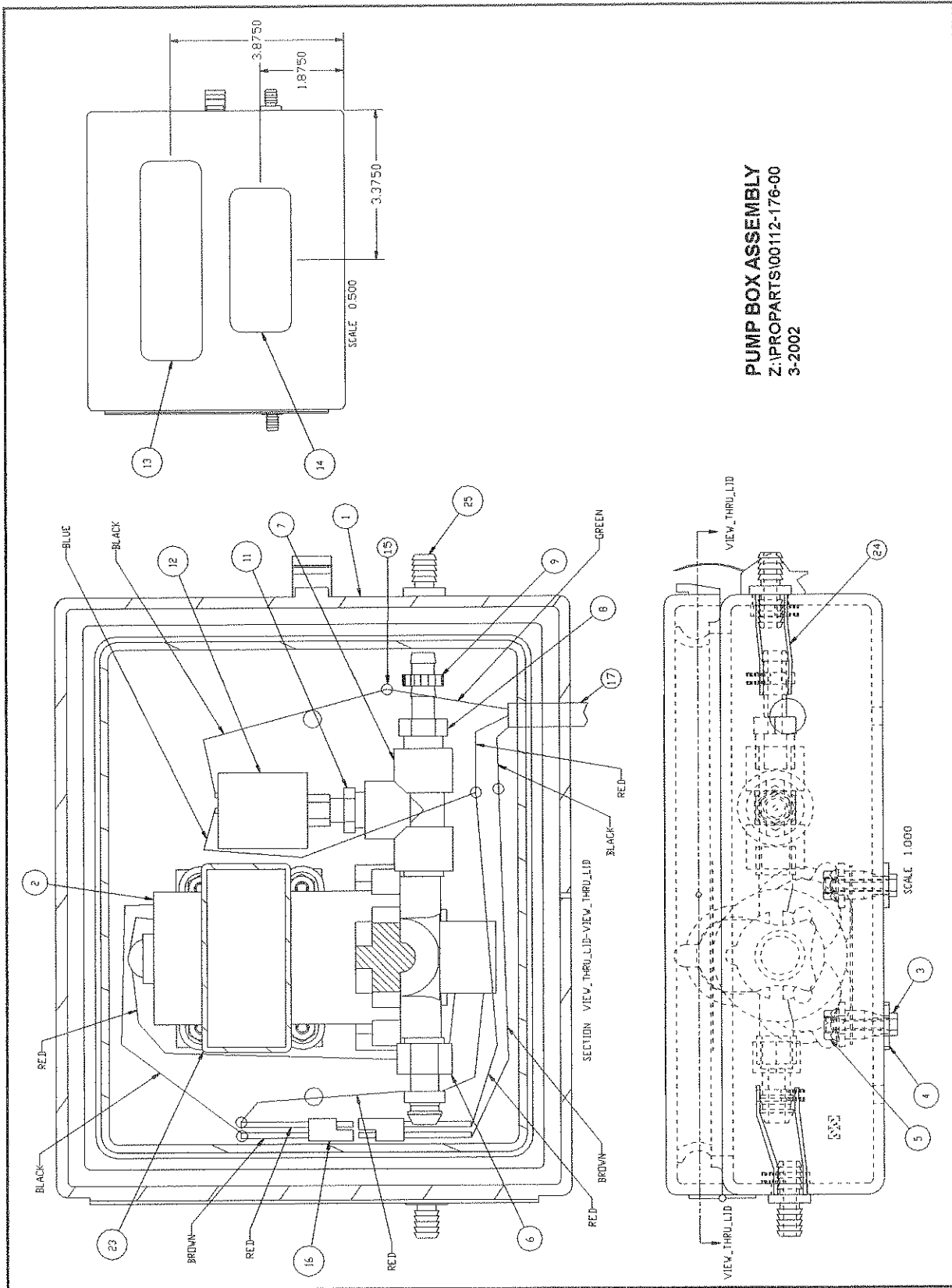


ITEM	SWENSON#	DESCRIPTION
1	04623-006-00	CONTROL, VARIABLE SPEED W/ALARM FOR HYDRAULIC SPRAY SYST.
2	04623-005-02	25ft. CABLE, HOOKUP
3	04623-005-03	8ft. CABLE, POWER



PARTS LIST FOR  
VARIABLE SPEED CONTROL KIT  
00115 856 00

FILENAME: Z:\X\Y91-015 3-8-02



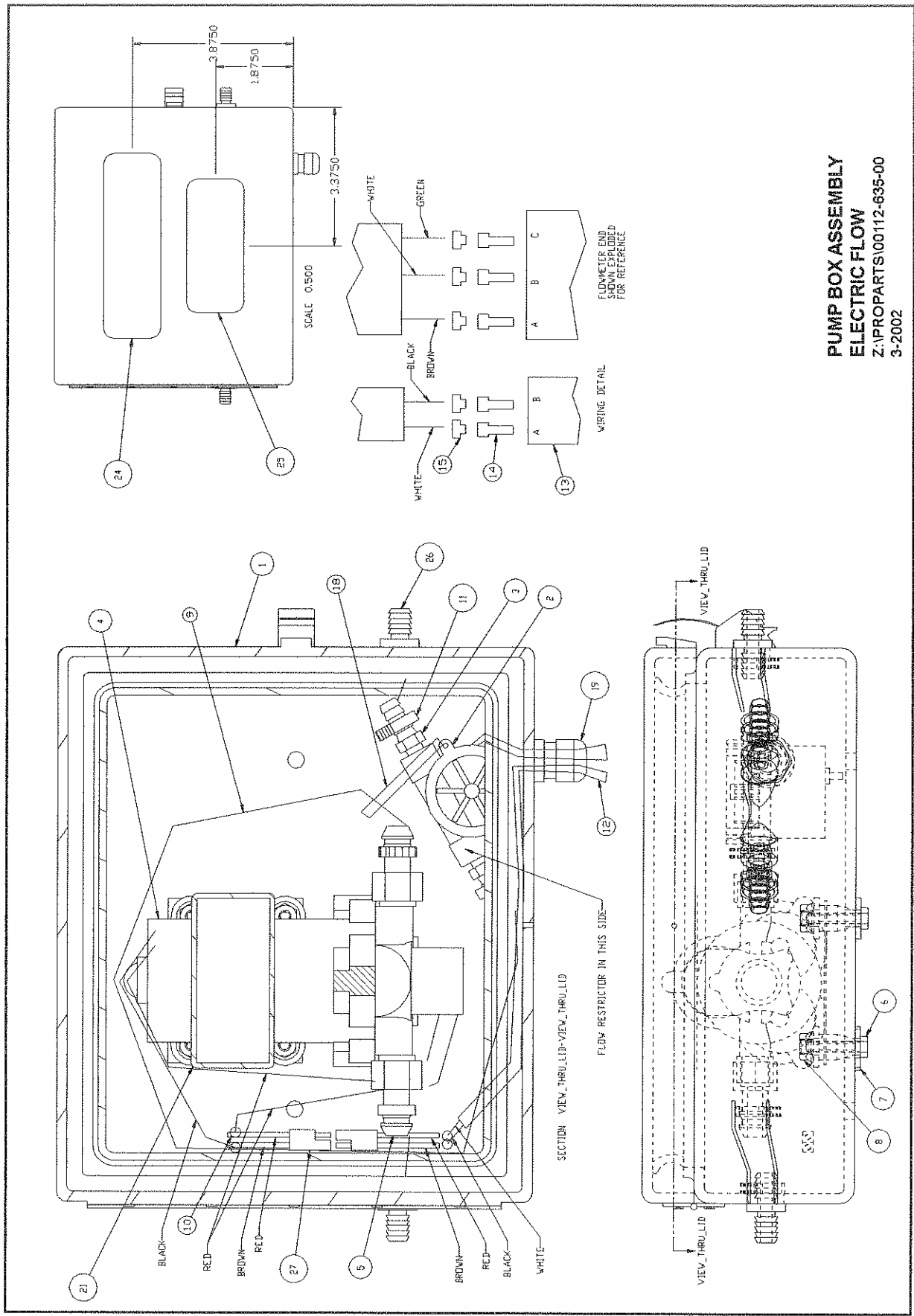
**PUMP BOX ASSEMBLY**  
 Z:\PROPARTS\00112-176-00  
 3-2002



# PARTS LIST FOR PUMP HOUSING

(00112-176-00)

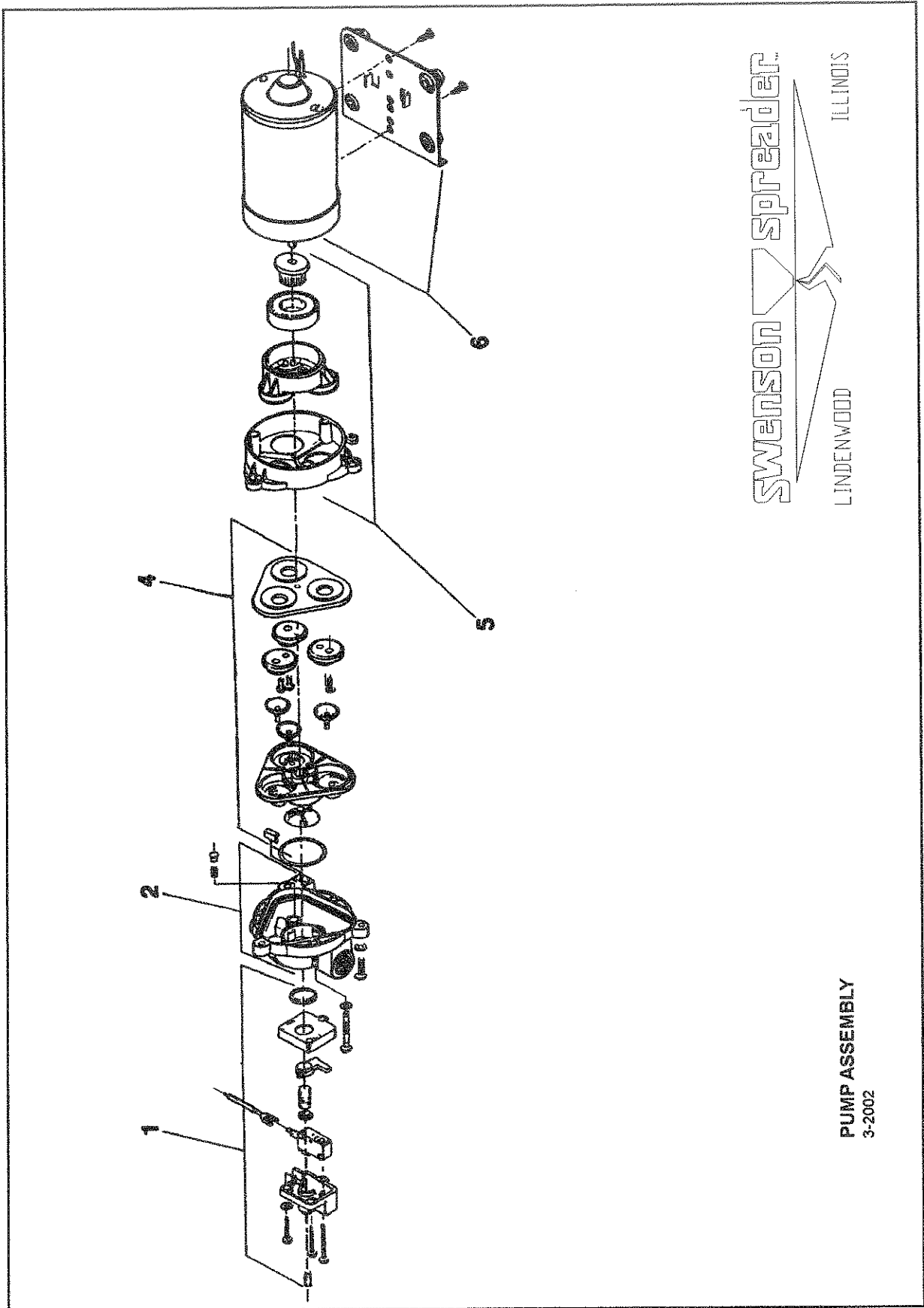
<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04622-022-00	1	Housing, Pump
2	04102-136-00	1	Pump, Diaphragm
3	04003-001-08	4	Bolt, 1/4-20 x 1 1/4 HH GR5 ZP
4	04004-002-05	8	Flatwasher, 1/4" S.A.E. ZP
5	04003-806-05	4	Nut, 1/4-20 Serrated Flange ZP
6	04109-094-00	1	Fitting, 1/2" Female x 1/2" Hose
7	04109-078-00	1	Tee, 1/2" NPT (Poly)
8	04109-109-00	1	Shank, 1/2" MPT x 1/2" Barb - Poly
9	04090-028-10	4	Clamp, Kwik (For 1/2" Hose)
10	04611-059-00	1	Bushing, Strain Relief
11	04110-017-32	1	Bushing, 1/2 x 1/4 Hex. Red. (Poly)
12	04106-026-00	1	Sensor, Pressure, 5 PSI Adjust
13	04049-346-00	1	Decal, Swenson Spreader
14	04049-359-00	1	Decal, Liquid Spray System, TM
15	04638-093-00	5	Smart Splice "Betts" Conv. 12
16	04638-001-00	1	Connector, 2 Wire
17	04627-040-02	1	Assembly, Control Cable
19	04540-005-00	.040	Sealer, Silicone (10.3 oz. Tube)
22	04607-007-00	1	Tie, Nylon 14"
23	04049-243-00	1	Decal, Serial No. (Spray System)
24	04610-025-00	.5 Ft	Hose, 1/2" ID Nylon Braid Clear PVC
25	04109-123-00	2	Fitting, 1/2" Barb x 1/2" Barb



# PARTS LIST FOR PUMP HOUSING

(00112-635-00)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04622-022-00	1	Housing, Pump
2	04106-024-00	1	Flow Meter
3	04109-066-00	2	Shank, 1/4"NPT X 1/4" Hose - Brass
4	04102-136-00	1	Pump, Diaphragm
5	04109-094-00	2	Fitting, 1/2" Female X 1/2" Hose
6	04003-001-08	4	Bolt, 1/4-20 X 1 1/4" H.H. GR 5 ZP
7	04004-002-05	8	Flatwasher, 1/4" S.A.E. ZP
8	04003-806-05	4	Nut, 1/4-20 Serrated Flange ZP
9	04610-025-00	3.5 Ft.	Hose, 1/2" ID Nylon Braid Clear PVC
10	04638-093-00	4	Smart Splice 'Betts' Conv. 12
11	04090-028-10	6	Clamp, Kwik (For 1/2" Hose)
12	04616-009-00	10 Ft.	Wire, 16 Ga. 2 Conductor
13	04896-084-00	1	Plug, Connector
14	04896-036-00	2	Seals, Cable 21897-0001
15	04896-035-00	2	Socket, Connector 21896-0002
17	04607-007-00	1	Tie, Nylon 14"
18	04607-001-00	1	Tie, Nylon 7"
19	04611-059-00	1	Bushing, Strain Relief
21	04049-243-00	1	Decal, Serial No. (Spray System)
23	04540-005-00	.040	Sealer, Silicone (10.3 oz Tube)
24	04049-346-00	1	Decal, Swenson
25	04049-359-00	1	Decal, Liquid Spray System
26	04109-123-00	2	Fitting, 1/2" Barb X 1/2" Barb
27	04638-001-00	1	Molded Connector- 2 Contact



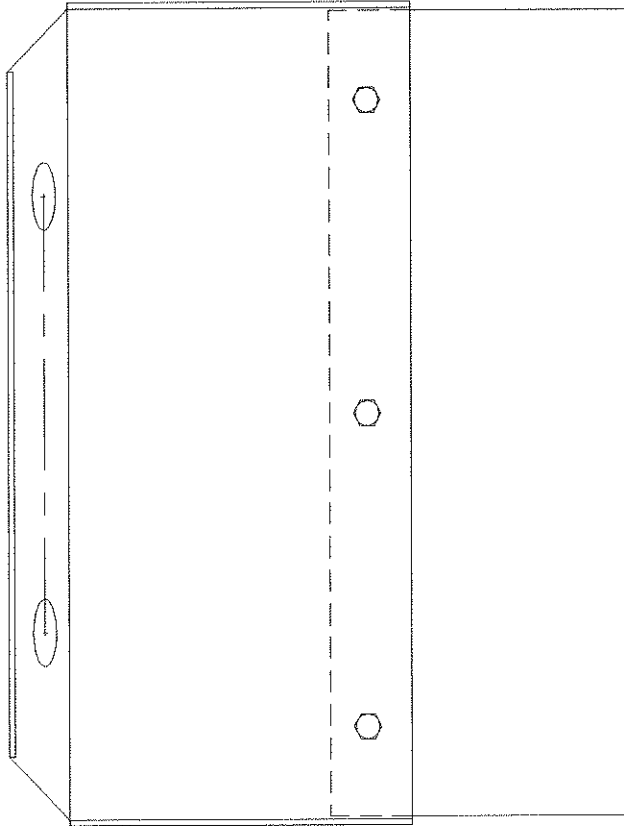
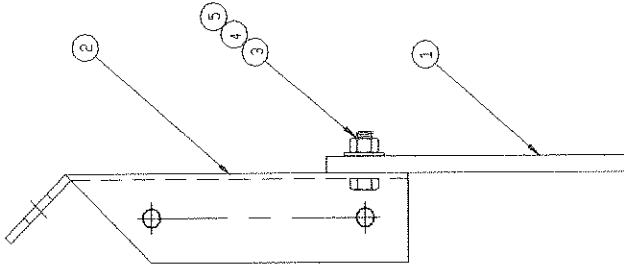
**SWENSON SPREADER**  
LINDENWOOD  
ILLINOIS

**PUMP ASSEMBLY**  
3-2002

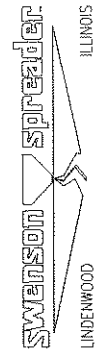
# PARTS LIST FOR ELECTRIC PUMP

(04102 136 00)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04102-136-01	1	Assembly, Switch
2	04102-136-02	1	Upper Housing
4	04102-136-04	1	Kit, Valve Assembly & Diaphragm
5	04102-136-05	1	Lower Housing
6	04102-136-06	1	Motor, 12 VDC

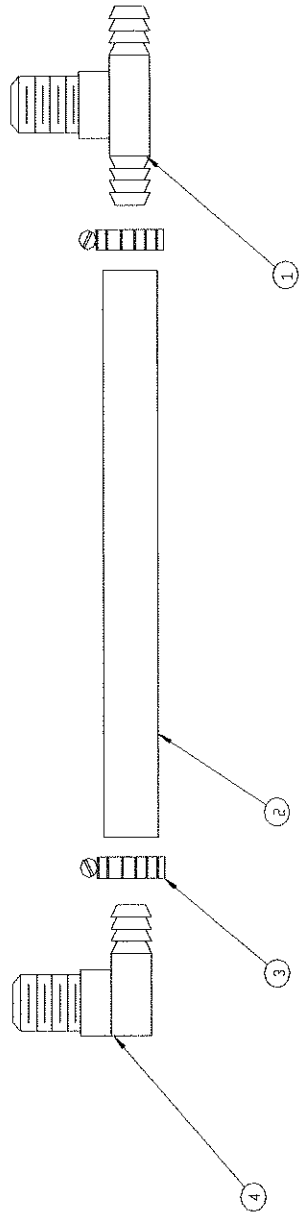
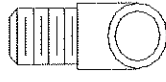
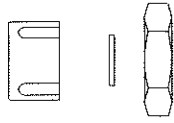
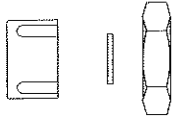
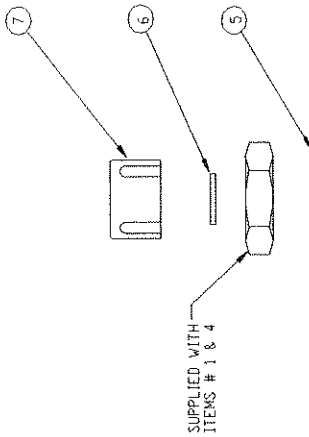


ITEM	PART NUMBER	QTY	DESCRIPTION
5	04003 801 17	3	3/8-16 HEX NUT
4	04004 002 20	3	3/8 FLATWASHER
3	04003 003 20	3	3/8-16 x 1 BOLT
2	00109 637 01	1	SHIELD, CHUTE
1	04086 005 00	1	BLADE, WIPER



PARTS LIST FOR  
00109 672 00

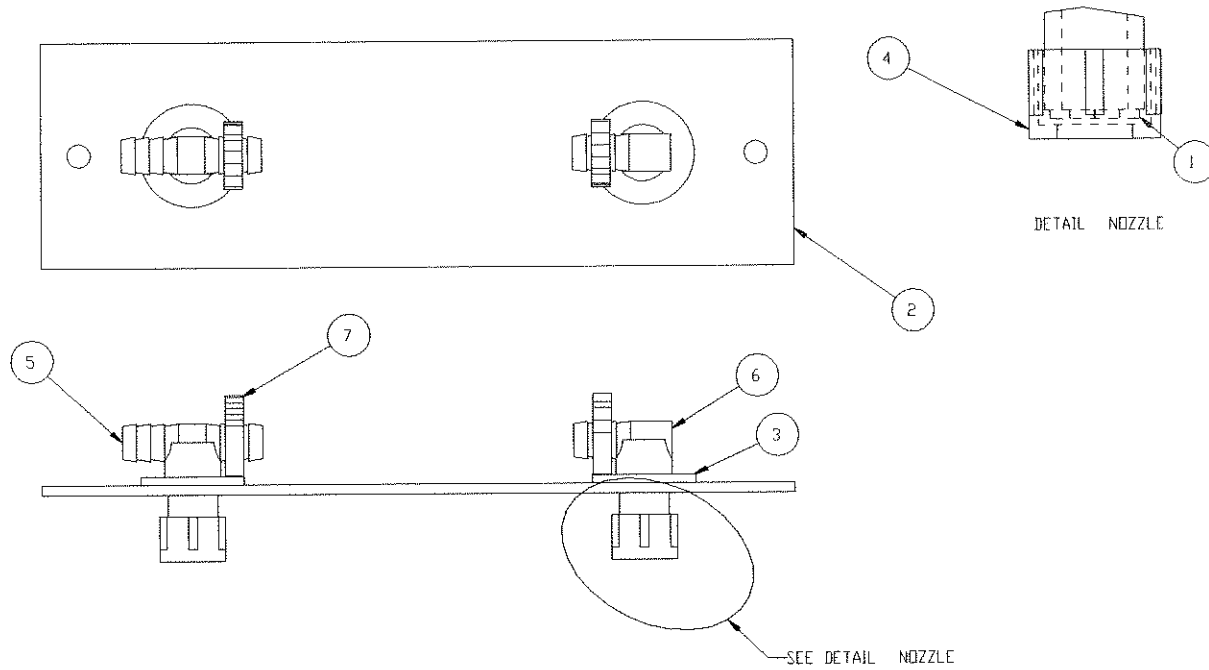
NOTE:  
 NOZZELS MUST BE ASSEMBLED  
 EXACTLY AS SHOWN  
 PIPE THREAD SEALANT  
 TO BE APPLIED TO ALL  
 THREADED JOINTS



ITEM	PART NUMBER	QTY	DESCRIPTION
7	04078 004 00	2	NUT, NOZZLE
6	00112 641 00	2	DISC, RUBBER ORIFICE
5	00109 636 01	1	HOLDER, NOZZLE, SS
4	04078 008 00	1	TEE, 1/2" NOZZLE
3	04090 028 10	2	CLAMP, KWIK
2	04610 025 00	.791 FT	HOSE, 1/2" PVC
1	04078 009 00	1	ELBOW, 1/2" NOZZLE

**Swenson Spreader**  
 LINDENWOOD ILLINOIS  
 PARTS LIST FOR  
 00112 640 00

# ASSEMBLY NOZZLE - ELECTRIC



## PARTS LIST FOR ASSEMBLY NOZZLE - ELECTRIC

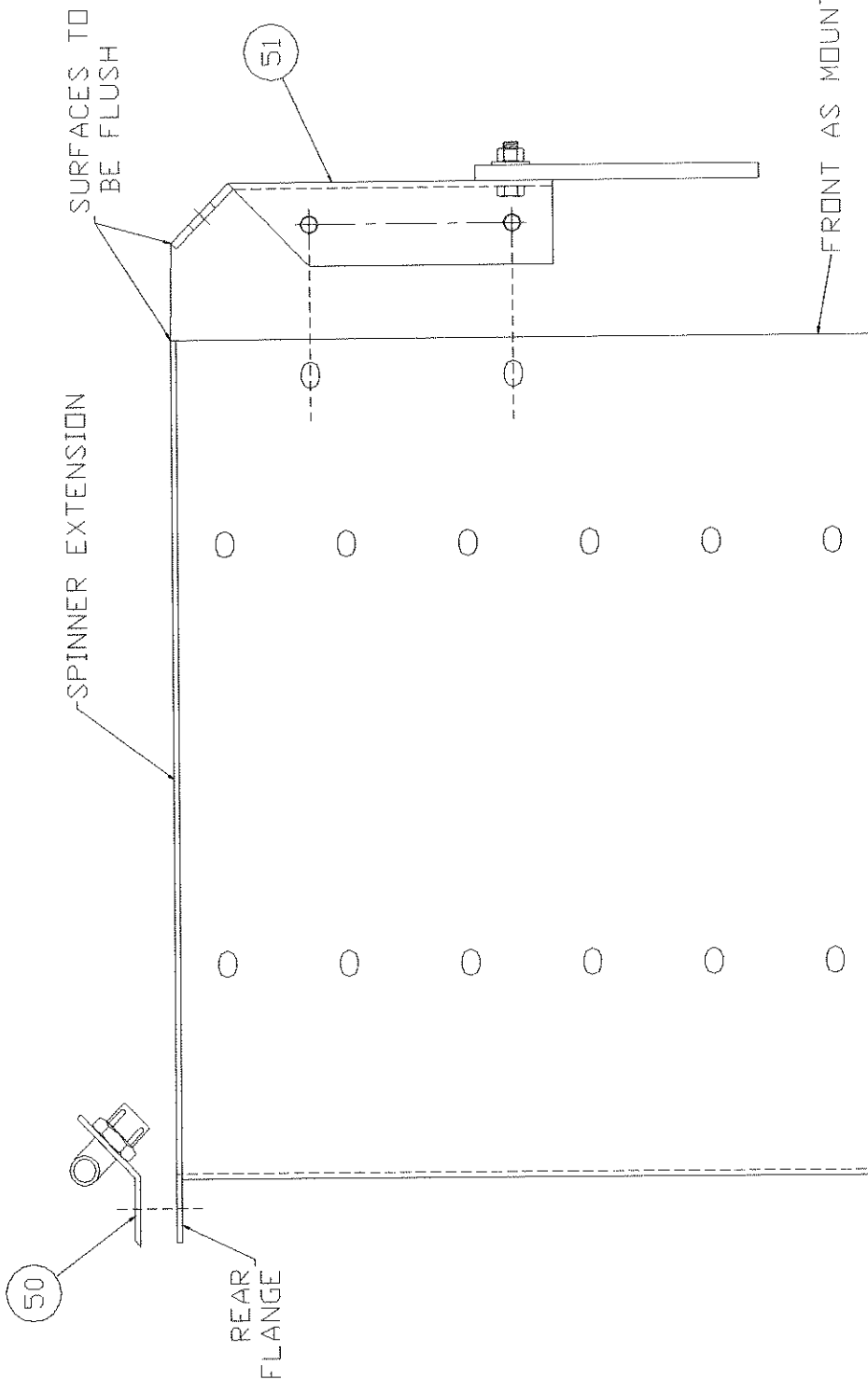
(00119-269-00)

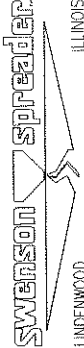
<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	00112-641-00	2	Disc, Rubber Orifice
2	00119-267-00	1	Plate, Nozzle, SS
3	04004-002-22	2	Flatwasher, 1/2" U.S.S., SS
4	04078-004-00	2	Nut, Nozzle
5	04078-008-00	1	Assembly, Tee, 1/2" Nozzle
6	04078-009-00	1	Assembly, Elbow, 1/2" Nozzle
7	04090-028-10	2	Clamp, Kwik, for 1/2" Hose
8	04607-007-00	1	Tie, Nylon 14"
9	04610-025-00	.330 Ft.	Hose, 1/2" ID Nylon Braid Clear PVC



**INSTALLATION INSTRUCTIONS**  
**FOR**  
**TWO (2) NOZZLE WITH HOSE KIT**  
(Electric Spray System Only)

1. Bolt nozzle holder assembly on rear flange of spinner extension nozzles facing into chute, center front to rear and side to side, clamp in place.
- \* 2. Install the splash guard at the front of the spinner extension.
3. Attach 1/2" hose (Item 54) between the pump box and the nozzles with hose clamps (Item 46).
4. Install ball check and hose barbs (Items 52 & 53) between pump box and nozzles making sure arrow is pointing in direction of flow.
5. Locate a convenient place to have the quick disconnects (Items 67 & 68) between the pump box and check valve, cut hose and install quick disconnects with hose clamps (Item 46).
6. Pipe thread sealant must be used on all spray system connections, TEFLON TAPE is not recommended.
7. Make sure spray lines are secured and clear of any moving, hot or sharp objects.
8. If you have a newer, enclosed chute, the 00119-269-00 nozzle can be mounted in the front of the chute or the back cover plate of the hopper.




  
 LINDENWOOD ILLINOIS

ELE. NOZZLE/SPLASH  
 GUARD MOUNTING TO  
 SPINNER EXTENSION

FILENAME: Z:\X\91-020 12-1-99

**NOTES:**

# ELECTRIC SPRAY SYSTEM OPERATING INSTRUCTIONS



## CAUTION!

1. When starting up new equipment, be sure everyone is standing clear, watch for anything that may require shutting system down.
2. Before start up, turn "ON" the ON/OFF valve/valves at the tank/tanks.
3. To start Spray System turn control panel ON/OFF switch to "ON" position, the green and red light will come on, the green light will stay on to indicate system is "ON"; the red light (low level/pressure) will stay on momentarily until operating pressure is reached, then it will go out.
4. Visually inspect for leaks and make sure all spray lines are clear of any moving, hot or sharp objects on vehicle.
5. Variable Speed Control is used used to "fine tune" the spray liquid out-put. (See calibration charts pages 38 & 39.)
6. If red indicator light comes on during operation, the spray tank is empty, or the pump has stopped operation for some reason. (See Trouble Shooting Page 40.)
7. When finished spreading for the day shut off the ON/OFF valve/valves at the tank/tanks.
8. Flush system after use.

**NOTE:**        **DO NOT operate pump without liquid.**

# **MAINTENANCE ELECTRIC SPRAY SYSTEM**

## **I. Pump/Enclosure** (pump, low level/low pressure sensor located in enclosure)

- A. Visually inspect electrical wiring for frayed or loose connections. Repair or replace as required.
- B. Visually inspect spray lines for binding, chafing, etc.. Reroute and secure as required.

## **II. Low Level/Low Pressure Sensor**

- A. Visually inspect electrical wiring coming out of sensor for frayed or loose connections. Repair or replace as required.
- B. If necessary to replace wiring into sensor, see manual for hook-up. Reseal sensor cover to base with silicone sealant to protect from moisture.

## **III. Line Strainer**

- A. Remove and clean strainer screen after every 8 to 10 hours of operation, more frequent cleaning may be required depending on how clean de-icing chemicals are upon entering tank/tanks. To replace 100 mesh screen, order Swenson part number 04103 038 01.

## **IV. Nozzles**

- A. Visually inspect spray pattern for even spray out-put. If spray pattern is uneven disassemble and clean nozzles as required.

## **V. Tank/Tanks**

- A. Visually inspect for damage, loose fittings, mounting nuts and bolts, etc.. Tighten fittings nuts and bolts as required. For tank replacement (see manual).

## **VI. Hoses and Fittings**

- A. Visually inspect hose for binding, chafing, etc.. Reroute and secure as required.
- B. Visually inspect fittings for leaks. Tighten as required.

## **VII. In-Cab On-Off Control Panel**

- A. Visually inspect electrical wiring for frayed wires or loose connections. Repair or replace as required.
- B. Visually inspect lights for operation. Green light - system on, Red light - indicates low liquid level and low pressure.

# MAINTENANCE ELECTRIC SPRAY SYSTEM

(Continued)

## VIII. General Cleaning of Spray System

- A. Wash down after each daily use (external parts, using hot soapy water, to remove mist and spray from de-icing chemicals). (Store unit inside to prevent freezing.)
- B. If spray system is not going to be used for two or more days, drain de-icing chemicals from tank/tanks and spray lines. Flush pump and lines to the nozzles.
- C. It is highly advised that the tank/tanks be filled with 3 to 4 gallons each of R.V. anti-freeze or windshield washer solution and the spray system run for two or three minutes to flush system. This procedure will prevent freezing of pump and spray lines and is also recommended for end of season storage.



## **CAUTION!**

1. DO NOT OPERATE LIQUID PUMP WITHOUT LIQUID!
2. KEEP DE-ICING LIQUID FREE OF SAND GRIT, ETC..
3. DE-ICING CHEMICALS MUST BE HANDLED WITH EXTREME CARE TO PREVENT ACCIDENTAL CONTACT WITH SKIN AND EYES.

# ELECTRIC CALIBRATION CHARTS

1. Charts are based on Swenson Spreader unit with a 50:1 worm gear reducer.  
The charts may be used with non-Swenson units if the conveyor/auger motor is similar and the Average Oil Flow is the same or greater than that shown.
2. If desired Lbs/Mile is known, you can pick a Truck Speed, Gate Height and Controller Setting to give you your desired Gal/Ton.

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 20 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	80	5	108	160	5	54	240	5	36
			10	225		10	113		10	75
2	3	145	5	60	290	5	30	435	5	20
			10	124		10	62		10	41
3	5	255	5	34	510	5	17	765	5	11
			10	71		10	35		10	24
4	6.5	336	5	26	671	5	13	1007	5	9
			10	54		10	27		10	18
5	8	412	5	21	823	5	10	1235	5	7
			10	44		10	22		10	15
6	9	474	5	18	948	5	9	1422	5	6
			10	38		10	19		10	13
7	10	544	5	16	1088	5	8	1632	5	5
			10	33		10	17		10	11
8	12	615	5	14	1230	5	7	1845	5	5
			10	29		10	15		10	10
9	13	675	5	13	1350	5	6	2025	5	4
			10	27		10	13		10	9
10	14	736	5	12	1473	5	6	2209	5	4
			10	24		10	12		10	8
11	15	782	5	11	1565	5	6	2347	5	4
			10	23		10	12		10	8

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 30 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	54	5	160	107	5	81	160	5	54
			10	333		10	168		10	113
2	3	96	5	90	193	5	45	290	5	30
			10	188		10	93		10	62
3	5	170	5	51	340	5	25	510	5	17
			10	106		10	53		10	35
4	6.5	224	5	39	448	5	19	671	5	13
			10	80		10	40		10	27
5	8	274	5	32	549	5	16	823	5	10
			10	66		10	33		10	22
6	9	316	5	27	632	5	14	947	5	9
			10	57		10	28		10	19
7	10	362	5	24	725	5	12	1087	5	8
			10	50		10	25		10	17
8	12	410	5	21	820	5	11	1229	5	7
			10	44		10	22		10	15
9	13	450	5	19	900	5	10	1349	5	6
			10	40		10	20		10	13
10	14	491	5	18	982	5	9	1471	5	6
			10	37		10	18		10	12
11	15	522	5	17	1043	5	8	1563	5	6
			10	34		10	17		10	12

# ELECTRIC CALIBRATION CHARTS

(Continued)

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 40 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	40	5	216	80	5	108	120	5	72
			10	450		10	225		10	150
2	3	73	5	118	145	5	60	218	5	40
			10	247		10	124		10	83
3	5	128	5	68	255	5	34	383	5	23
			10	141		10	71		10	47
4	6.5	168	5	51	336	5	26	504	5	17
			10	107		10	54		10	36
5	8	206	5	42	412	5	21	618	5	29
			10	87		10	44		10	29
6	9	237	5	36	474	5	18	711	5	12
			10	76		10	38		10	25
7	10	272	5	32	544	5	16	816	5	11
			10	66		10	33		10	22
8	12	308	5	28	615	5	14	923	5	9
			10	58		10	29		10	20
9	13	338	5	26	675	5	13	1013	5	9
			10	53		10	27		10	18
10	14	368	5	23	737	5	12	1105	5	8
			10	49		10	24		10	16
11	15	391	5	22	783	5	11	1174	5	7
			10	46		10	23		10	15

All calculations in these charts are for approximate application rates and should be used as a guide only.

For two or more lanes:

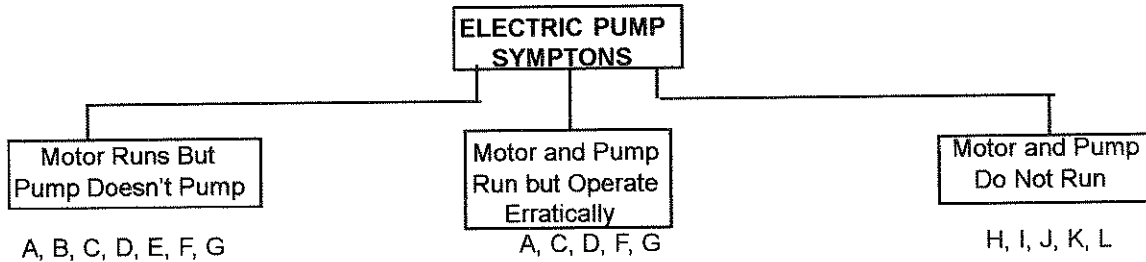
Multiply application for one lane (shown in chart) by desired number of lanes and match Lbs/Mile to switch setting.

Spreader salt application rates are for standard Swenson v-box with a 50:1 worm gear reducer.

Control Setting	Liquid gpm
1	0.2
2	0.51
3	0.82
4	1.13
5	1.44
6	1.75
7	2.06
8	2.37
9	2.68
10	3
10	3



## TROUBLE SHOOTING ELECTRIC PUMP



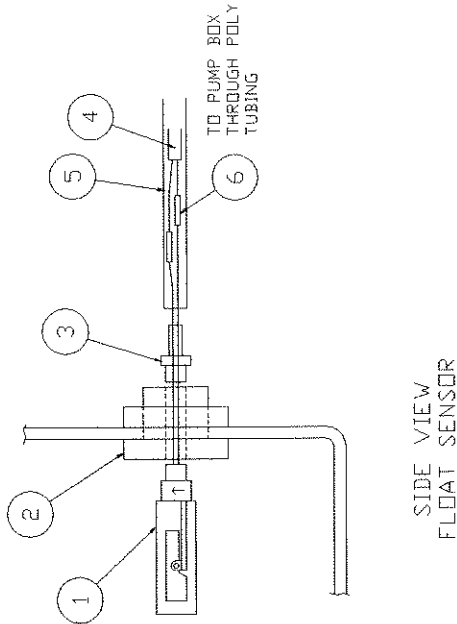
### POSSIBLE CAUSE

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>A. No or low liquid in tank/tanks</li> <li>B. On-Off valve at tank/tanks off</li> <li>C. Clogged strainer</li> <li>D. Diaphragm ruptured</li> <li>E. Frozen internal parts</li> <li>F. Suction line damaged</li> <li>G. Clogged nozzles</li> <li>H. Electrical connection loose, etc.</li> <li>I. Motor burned up</li> <li>J. On-Off switch turned off</li> <li>K. Bad On-Off switch</li> <li>L. Blown fuse in Variable Speed Controller or fuse panel</li> </ul> | <ul style="list-style-type: none"> <li>Fill tank/tanks</li> <li>Turn valve/valves on</li> <li>Clean strainer screen</li> <li>See replacement parts</li> <li>Thaw out inside</li> <li>Check and replace</li> <li>Clean as required</li> <li>Check wiring connections</li> <li>See replacement parts</li> <li>Turn switch On</li> <li>Replace</li> <li>Check and replace fuse</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

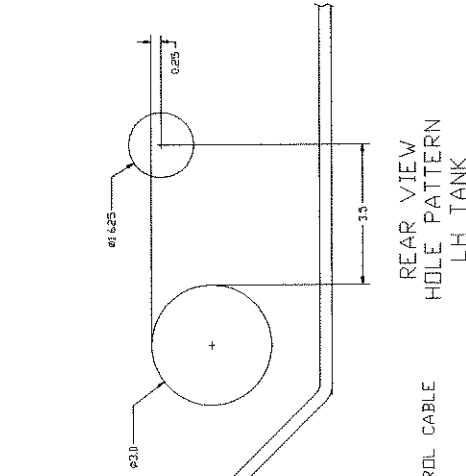


### **CAUTION!**

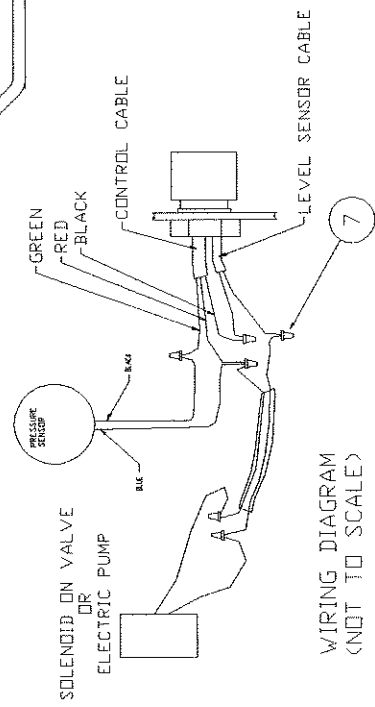
**DE-ICING CHEMICALS MUST BE HANDLED WITH EXTREME CARE TO PREVENT ACCIDENTAL CONTACT WITH SKIN AND EYES.**



SIDE VIEW  
FLOAT SENSOR



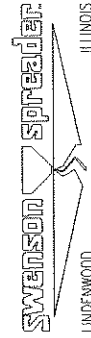
REAR VIEW  
HOLE PATTERN  
LH TANK



WIRING DIAGRAM  
(NOT TO SCALE)

ITEM	PART NUMBER	QTY	DESCRIPTION
9	04002 069 01	4	SCREW, 1/4 TEK
8	04607 004 00	4	ANCHOR, NYLON CABLE
7	04638 093 00	2	BETZ CONNECTORS
6	04638 041 01	2	BUTT CONNECTORS
5	04610 013 00	6 FT.	TUBING, 3/8" CLEAR
4	04616 009 00	6 FT.	WIRE, 2 STRAND
3	04109 034 00	1	FITTING, 1/2"X3/8" BARB
2	04109 124 00	1	FITTING, 1/2" BULKHEAD
1	04123 032 00	1	LEVEL SENSOR

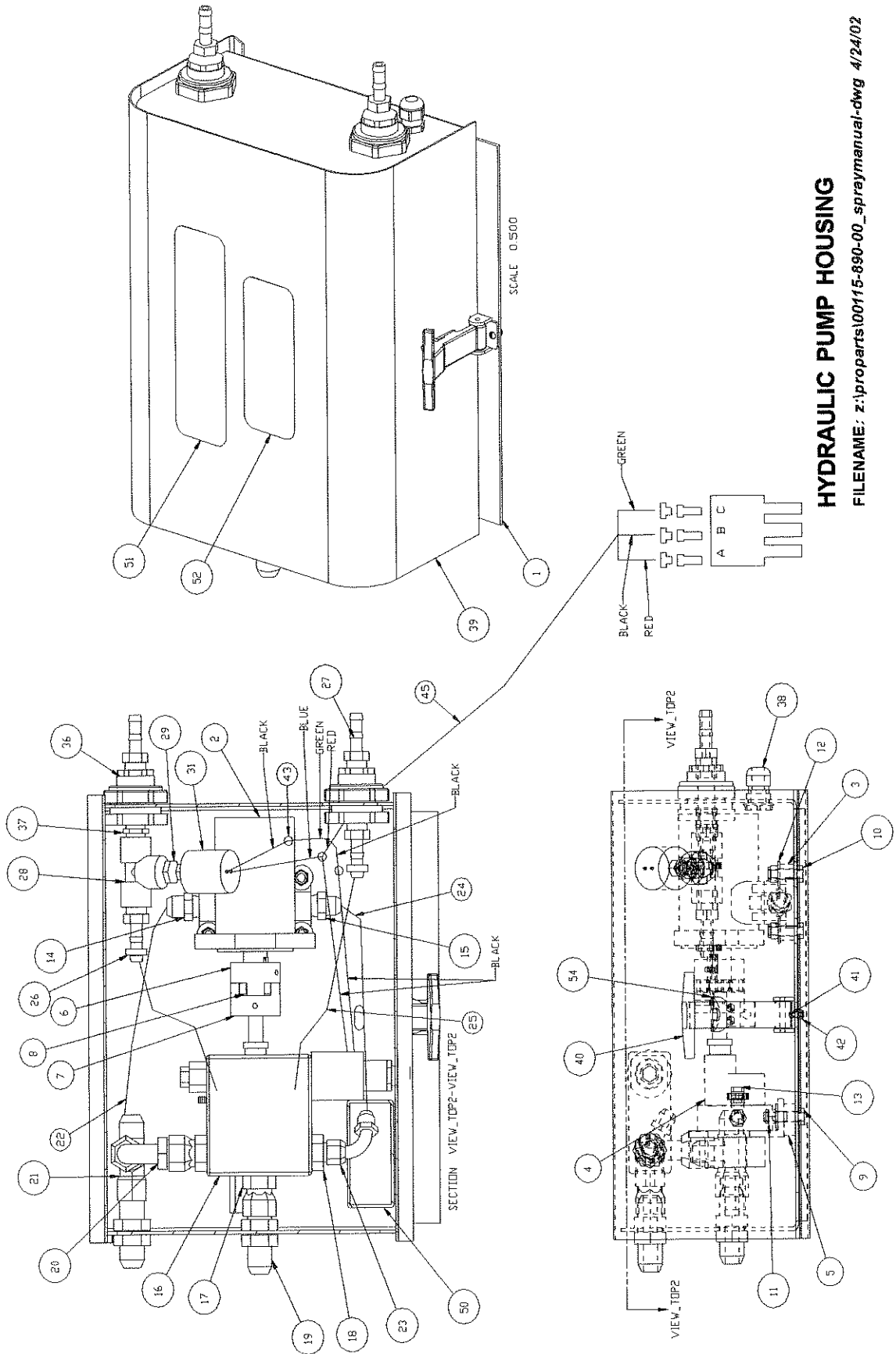
ITEMS 8 & 9  
NOT SHOWN



INSTR., 00116 506 00  
LEVEL SENSOR/  
PUMP SHUTOFF KIT  
INSTALLATION

INSTRUCTIONS FOR INSTALLING LEVEL SENSOR SHUT-OFF

- 1) DRILL 1 5/8" DIA. HOLE INTO END OF TANK CENTER HOLE 1/4" ABOVE TOP THREADS OF THE 1 1/2" BULKHEAD FITTING
- 2) INSTALL LEVEL SENSOR AND 1/2X3/8 BARB FITTING INTO 1/2" BULKHEAD FITTING. BE SURE TO USE PIPE THREAD SEALANT.
- 3) INSTALL 1/2" BULKHEAD FITTING INTO THE TANK AS SHOWN. MAKE SURE TO MARK THE OUTSIDE PART OF THE 1/2" BULKHEAD FITTING TO KNOW WHEN THE ARROW ON THE LEVEL SENSOR IS POINTING UP.
- 4) CONNECT 2-WIRE CABLE TO LEVEL SENSOR, RUN THROUGH PLASTIC TUBING ALONG V-BOX AND INTO THE PUMP BOX.
- 5) INSIDE THE PUMP BOX, DISCONNECT THE BLACK WIRE (FROM THE CONTROL CABLE) FROM THE VALVE SOLENOID. USE THE CONNECTORS TO WIRE THE LEVEL SENSOR IN SERIES AS SHOWN.
- 6) GO BACK AND SECURE WIRE TO V-BOX WITH THE CABLE TIES AND TECH SCREWS.



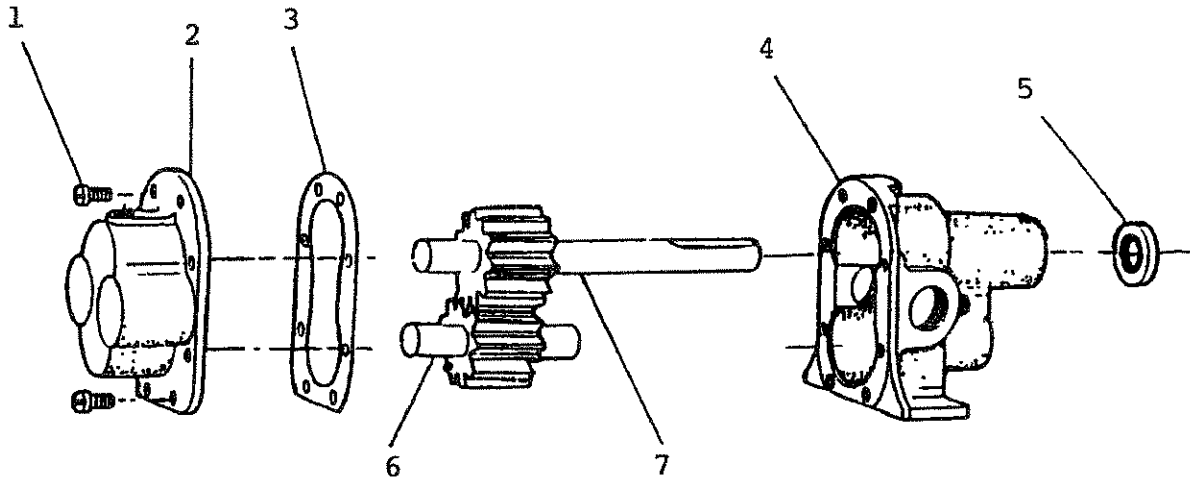
**HYDRAULIC PUMP HOUSING**

FILENAME: z:\proparts\100115-890-00\_spraymanual-dwg 4/24/02

# PARTS LIST FOR HYDRAULIC PUMP HOUSING

(00115-890-00)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	00115-851-00	1	Base, Pump Box
2	04101-158-00	1	Motor, Hydraulic, Eaton
3	04101-159-00	1	Mounting, Manifold
N/S	04101-102-09	1	Seal Kit
4	04102-129-00	1	Pump, Bronze
5	00115-850-00	1	Base, Pump Mount
6	04038-033-00	1	Coupling Half 1" Poly
7	04038-032-00	1	Coupling Half 5/8" Poly
8	04038-034-00	1	Spider, Poly
9	04003-003-28	4	Bolt, 3/8-16 x 1 1/2 HH SS
10	04003-003-57	2	Bolt, 3/8-16 x 1 3/4 HH SS
11	04003-804-08	6	Locknut, 3/8-16 Nylon Insert SS
12	04004-002-20	6	Flatwasher, 3/8" U.S.S. SS
13	04109-054-00	2	Fitting, 3/8 MPT x 1/2 Barb 90 Deg.
14	04121-059-03	1	Adapter, 1/2 NPT/#10 JIC Male
15	04121-059-04	1	Adapter, 1/2 NPT/#8 JIC Male
16	04105-345-00	1	Valve, Electric Flow Divider
17	04121-059-01	2	Adapter, #12 O-Ring M/#12 JIC Swivel
18	04121-059-02	1	Adapter, #12 O-Ring M/#8 JIC Male
19	04121-044-03	2	Fitting, Bulkhead, Straight, JIC
20	04121-060-01	1	Adapter, Tube Elbow #12 JIC
21	04121-030-12	1	Tee, #12 Swivel Nut Run
22	04120-110-00	1	Hose, 1/2" #10, #12 JIC Swivel
23	04121-060-02	1	Adapter, Tube Elbow #8 JIC
24	04120-109-01	1	Hose, 1/2", #8JIC Swivel, #8JIC Sweep
25	04610-025-00	1.83 Ft	Hose, 1/2" ID Nylon Braid Clear PVC
26	04090-028-10	4	Clamp, Kwik, (For 1/2" Hose)
27	04109-109-00	4	Shank, 1/2" MPT x 1/2" Hose Barb Poly
28	04109-078-00	1	Tee, 1/2" NPT (Poly)
29	04110-017-23	1	Bushing, 1/2 x 1/4 Hex Reducing Brass
30	04110-025-08	1	Nipple, CLS 1/4 Brass
31	04106-026-00	1	Sensor, Pressure, 5 PSI Adjust.
34	04093-029-00	2.917 Ft.	Trim, Rubber Seal w/Adhesive
35	04093-028-00	5.417 Ft.	Trim, Vinyl w/Ball
36	04109-124-00	2	Grommet, Split
37	04110-027-18	1	Fitting, 1/2" Close Nipple (Poly)
38	04611-059-00	1	Bushing, Strain Relief
39	00115-852-00	1	Lid, Pump Box
40	04019-013-01	1	Handle, Latch
41	04003-063-07	4	Screw, #8-32 x 1/2 Slotted RH SS
42	04003-804-28	4	Locknut, #8-32 Nylon Insert SS
43	04638-093-00	5	Smart Splice "Betts" Conv. 12
45	04627-040-02	1	Assembly, Control Cable
49	04540-005-00	.080	Sealer, Silicone (10.3 oz. Tube)
50	04049-243-00	1	Decal, Serial No. (Spray System)
51	04049-346-00	1	Decal, Swenson Spreader
52	04049-359-00	1	Decal, Liquid Spray System
54	04019-013-02	1	Keeper, Latch

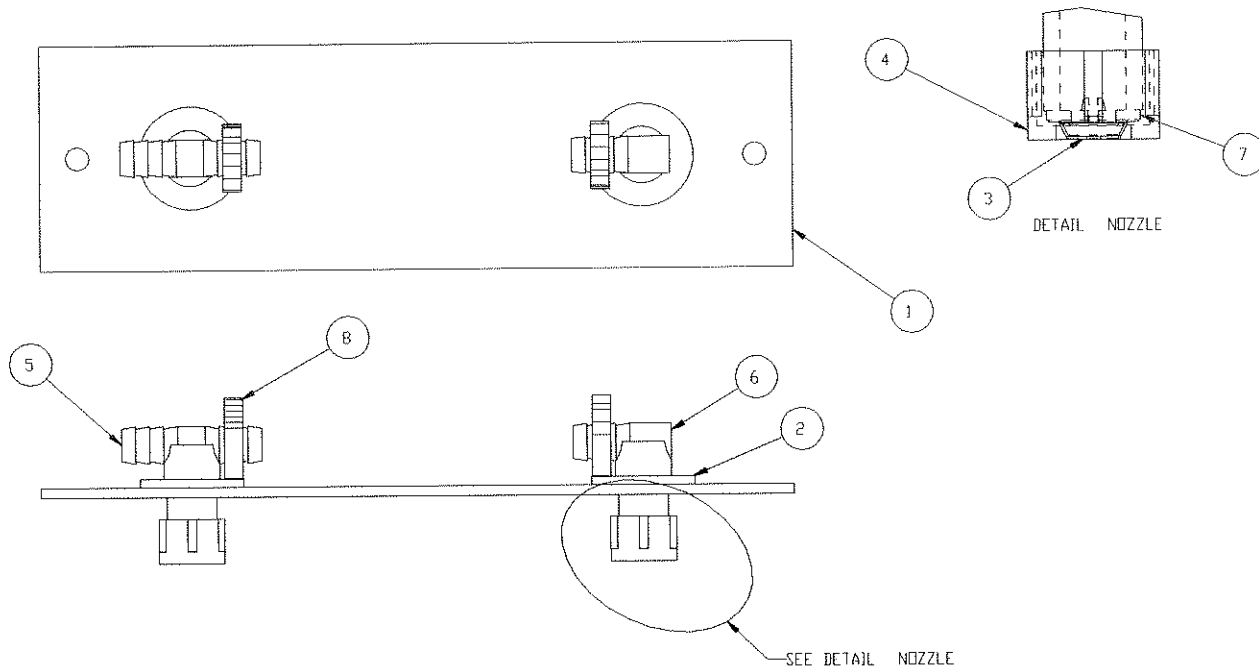


## PARTS LIST FOR BRONZE GEAR PUMP

(04102-129-00)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04102-129-01	8	Screw
2	04102-129-02	1	Cover
3	04102-129-03	1	Gasket
4	04102-129-04	1	Body
5	04102-129-15	1	Lip Seal
6	04102-129-16	1	Idler Gear Assembly
7	04102-129-17	1	Drive Gear Assembly

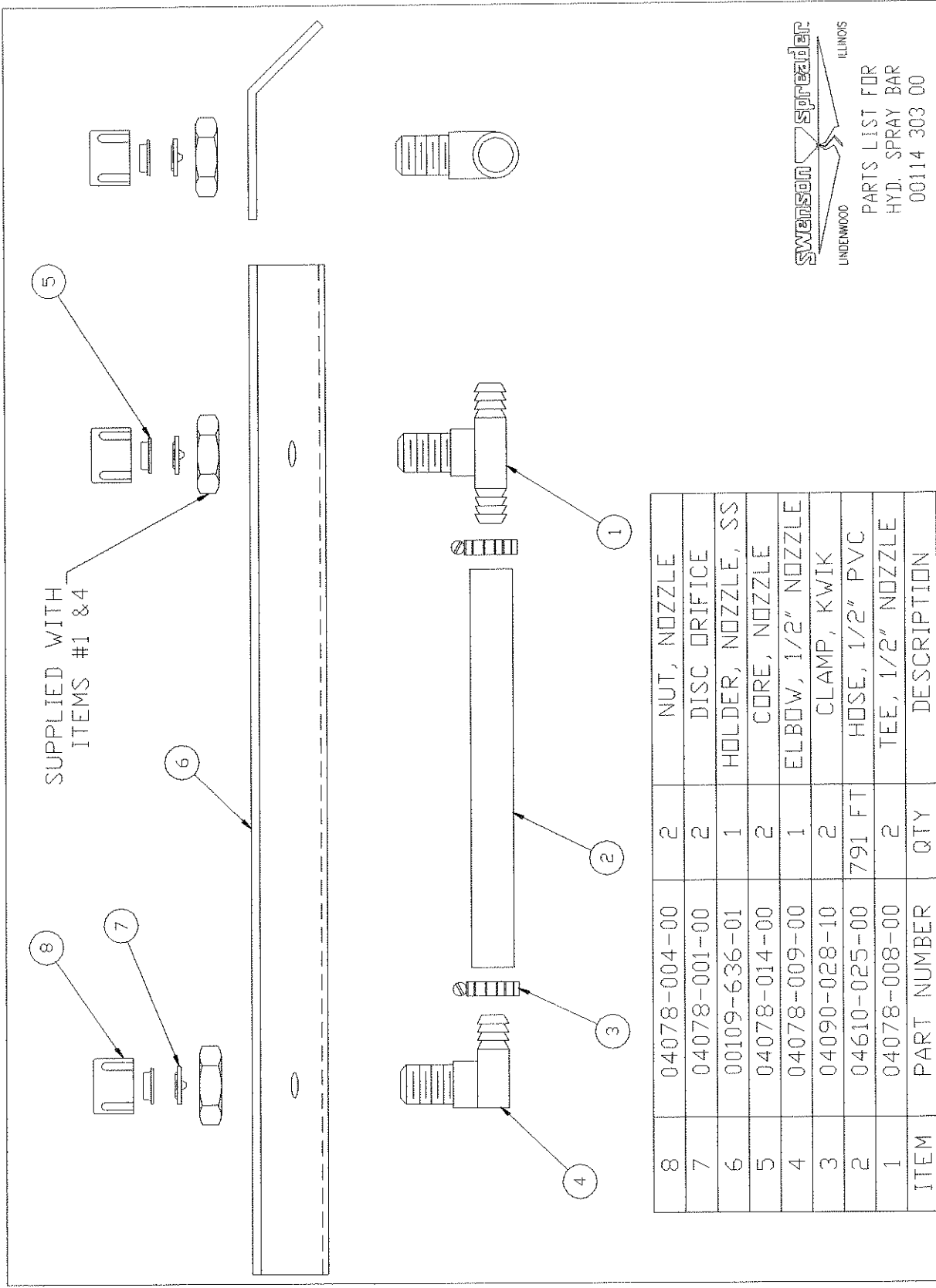
## ASSEMBLY NOZZLE - HYDRAULIC



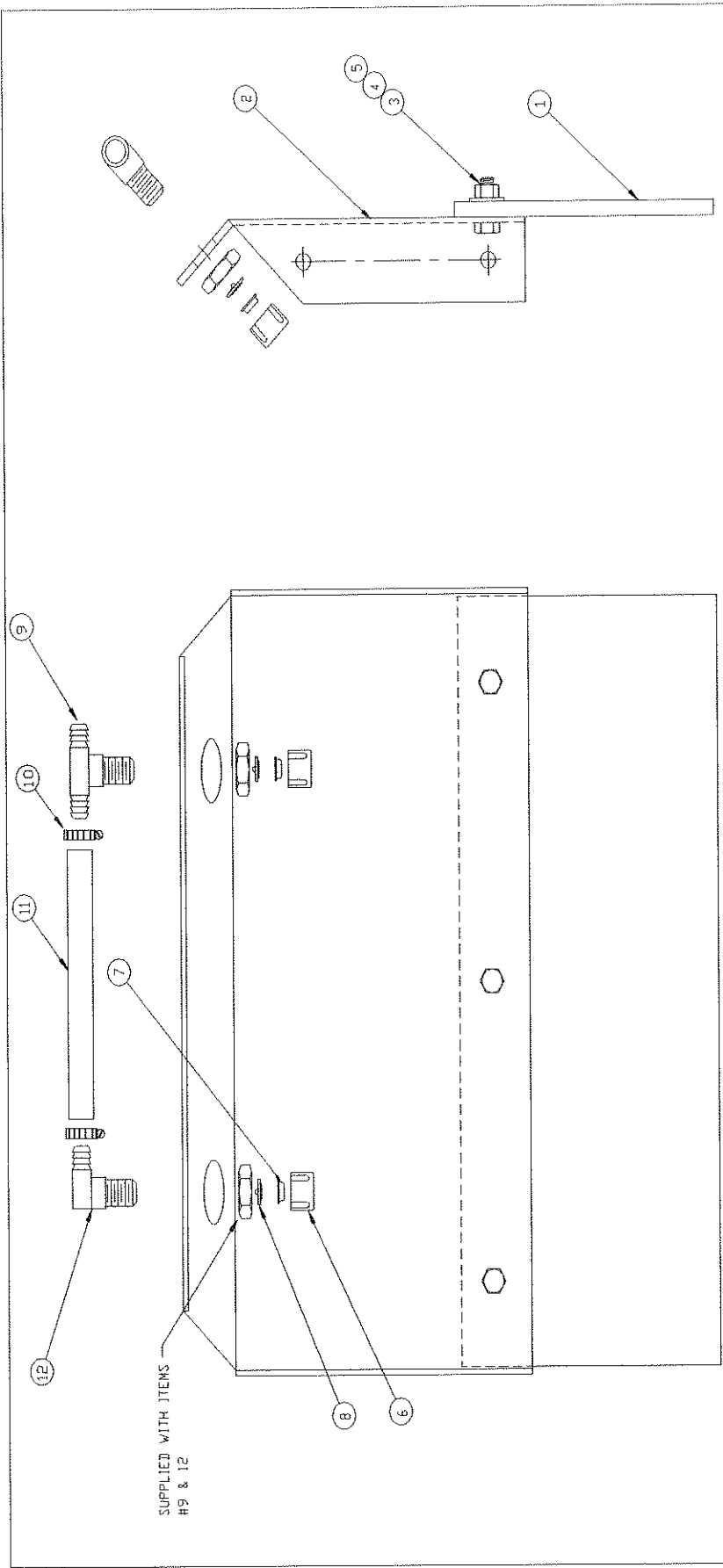
### PARTS LIST FOR ASSEMBLY NOZZLE - HYDRAULIC

(00119-268-00)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	00119-267-00	1	Plate, Nozzle, SS
2	04004-002-22	2	Flatwasher, 1/2" U.S.S., SS
3	04078-001-00	2	Disc, Orifice
4	04078-004-00	2	Nut, Nozzle
5	04078-008-00	1	Assembly, Tee, 1/2" Nozzle
6	04078-009-00	1	Assembly, Elbow, 1/2" Nozzle
7	04078-014-00	2	Core, Nozzle
8	04090-028-10	2	Clamp, Kwik for 1/2" Hose
9	04607-007-00	1	Tie, Nylon 14"
10	04610-025-00	.330 Ft.	Hose, 1/2" ID Nylon Braid Clear PVC



**SWENSON** *Spreader*  
 ILLINOIS  
 LINDENWOOD  
 PARTS LIST FOR  
 HYD. SPRAY BAR  
 00114 303 00



ITEM	PART NUMBER	QTY	DESCRIPTION
12	04078-009-00	1	ELBOW, 1/2" NOZZLE
11	04610-025-00	.791 FT	HOSE, 1/2" PVC
10	04090-028-10	2	CLAMP, KWIK
9	04078-008-00	1	TEE, 1/2" NOZZLE
8	04078-014-00	2	CORE, NOZZLE
7	04078-001-00	2	DISC ORIFICE
6	04078-004-00	2	NUT, NOZZLE
5	04003-801-17	3	3/8-16 HEX NUT
4	04004-002-20	3	3/8 FLATWASHER
3	04003-003-20	3	3/8-16 x 1 BOLT
2	00109-637-01	1	SHIELD, CHUTE
1	04086-005-00	1	BLADE, WIPER
	PART NUMBER	QTY	DESCRIPTION

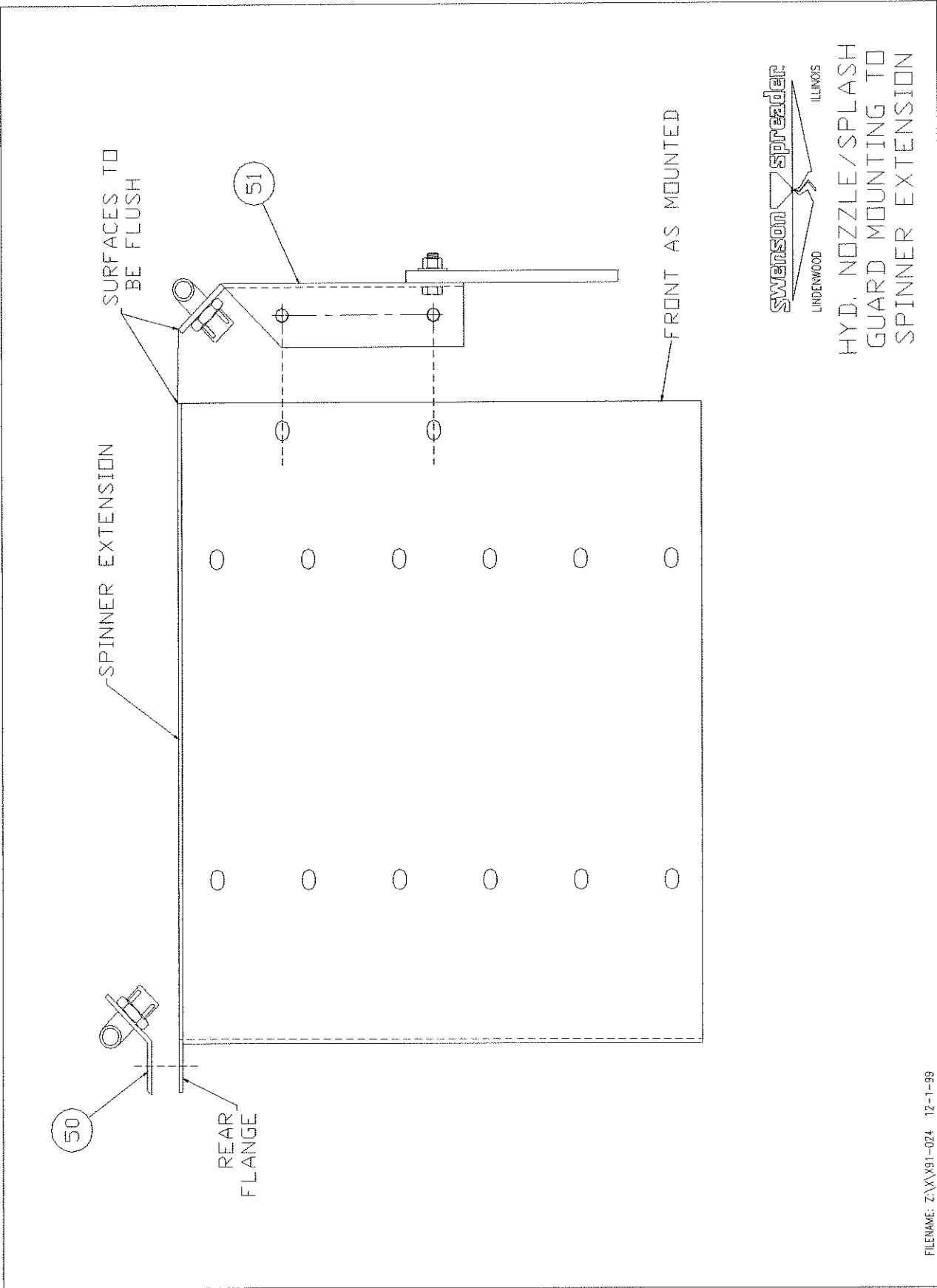
**SWENSON** *Spreader*  
 LINDENWOOD ILLINOIS  
 PARTS LIST FOR  
 HYD. SPRAY BAR/  
 SPLASH GUARD  
 00114 312 00


FILENAME: Z:\X\91-022 12-1-98



**INSTALLATION INSTRUCTIONS  
FOR  
FOUR (4) NOZZLE WITH HOSE KIT**  
(Hydraulic Spray System Only)

1. Bolt nozzle holder assembly on rear flange of spinner extension nozzles facing into chute, center front to rear and side to side, clamp in place.
- \* 2. Attach spray hose to the spray nozzle "tee", secure using clamp provided, route the opposite end of the hose to the output post on the spray pump, hose will attach to a 1/2" MPT X 1/2" barbed fitting attached to a 1/2" tee and 1/2" close nipple. attach and clamp.
3. Install forward spray bar assembly, using the procedure outlined in the splash guard Assembly Installation Instructions.
4. After the mounting of the forward spray bar assembly is completed, attach spray hose to the spray nozzle "tee", secure using clamp provided, route the opposite end of the hose to the opposite end of 1/2" "tee" used in Step #2\*, attach to the 1/2" MPT x 1/2" barbed fitting, attach clamp.
5. Find convenient location for disconnect between pump box and check valve, cut hose and install quick disconnects (Items 67 & 68) with hose clamps (Item 46).
6. Pipe thread sealant must be used on all spray system connections, TEFLON TAPE is not recommended.
7. Make sure spray lines are secured and clear of any moving, hot or sharp objects.
8. If you have a newer, enclosed chute, two 00119-268-00 nozzles can be used. One mounts to the front of the chute and the other mounts to the back cover plate of the hopper.




  
 LINDENWOOD ILLINOIS

HYD. NOZZLE/SPLASH  
 GUARD MOUNTING TO  
 SPINNER EXTENSION

FILENAME: Z:\X\X91-024 12-1-99

# HYDRAULIC SPRAY SYSTEM OPERATING INSTRUCTIONS



## CAUTION!

1. When starting up new equipment, be sure everyone is standing clear, watch for anything that may require shutting the system down.
2. Turn on Ball Valve before starting unit.
3. The spray system hydraulic motor is hooked up in series with the spreader hydraulics; but, operates independently.

- a. Start vehicle engine and allow hydraulic system to warm up as would be done with any hydraulic system.

Note: Vehicle hydraulics must be on operating mode when starting or operating spray system.

4. To start spray system turn control panel ON-OFF switch to the "On" position, the green and red light will come on, the green light will stay on to indicate system "ON", the red light (low level/pressure) will stay on momentarily until operating pressure is reached, then it will go out.

The red light will come back on when your level of liquid is low in tank/tanks or the operating pressure drops below 10 P.S.I..

5. Visually inspect for leaks and make sure spray lines are clear of any moving, hot or sharp objects on vehicle.
6. When using the new charts, page 55 & 56, the ratio of liquid to dry can be adjusted by changing the controller setting in the cab.
7. Turn ball valve at each tank off when finished spreading for the day.

# MAINTENANCE HYDRAULIC SPRAY SYSTEM

## I. BRONZE PUMP

- A. Lubricate with a high quality multi-purpose grease every 8 to 10 hours of operation.  
**CAUTION: DO NOT OVERGREASE PUMP. USE 1/2 STROKE WITH HAND GREASE GUN. NEWER MODELS DO NOT HAVE GREASE ZERKS AND DO NOT NEED TO BE GREASED.**

## II. COUPLING

- A. Visually inspect for wear on spider (rubber spacer) and loose set screws. Replace or tighten as required.

## III. HYDRAULIC MOTOR WITH SOLENOID

- A. Visually inspect hydraulic hose connections for leaks. Tighten connections or replace hoses as required.
- B. Visually inspect electrical wiring for frayed wires or loose connections. Repair or replace as required.

## IV. LOW LEVEL/LOW PRESSURE SENSOR

- A. Visually inspect electrical wiring coming out of sensor for frayed wires or loose connections. Repair or replace as required.
- B. If necessary to replace wiring into sensor, see manual for hook-up, page 38.

## V. LINE STRAINER

- A. Remove and clean strainer screen after every 8 or 10 hours of operation, more frequent cleaning may be required depending on how clean de-icing chemicals are upon entering tank/tanks. To replace 100 mesh screen, order Swenson part number 04103 038 01.

## VI. NOZZLES

- A. Visually inspect spray pattern for even spray out-put (should be cone shaped). If spray pattern is uneven disassemble and clean nozzles as required.

## VII. TANK/TANKS

- A. Visually inspect for damage, loose fittings, mounting nuts and bolts, etc.. Tighten fittings, nuts and bolts as required.

## VIII. HOSES AND FITTINGS

- A. Visually inspect hoses for binding, chafing, etc. Re-route and secure as required.
- B. Visually inspect fittings for leaks and tighten as required.

## IX. IN-CAB ON-OFF CONTROL PANEL

- A. Visually inspect electrical wiring for frayed wires or loose connections. Repair or replace as required.
- B. Visually inspect lights for operation. Green light - System ON, Red light - Indicates LOW Liquid Level and LOW Pressure.

# MAINTENANCE HYDRAULIC SPRAY SYSTEM

(CONTINUED)

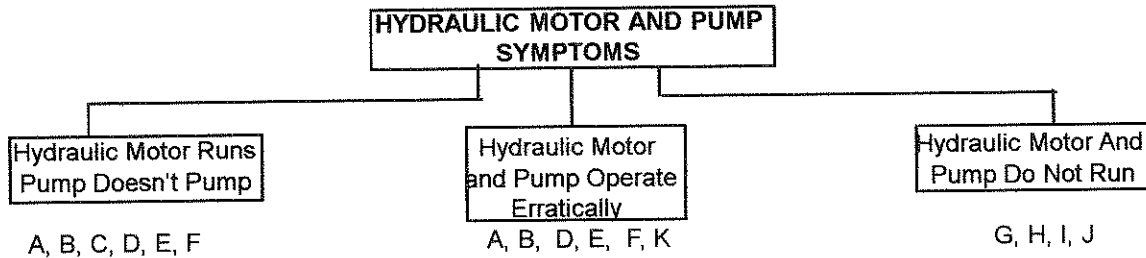
- X. GENERAL CLEANING OF SPRAY SYSTEM
- A. Wash down after each daily use (external parts) using hot soapy water to remove mist and spray from de-icing chemicals. (Store unit inside to prevent freezing.)
  - B. If Spray system is not going to be used for two or more days drain de-icing chemicals from tank/tanks and spray lines. (See "C" below)
  - C. It is highly advised that the tank/tanks be filled with 3 or 4 gallons each of R. V. anti-freeze or windshield washer solution and spray system run for two or three minutes to flush system. This procedure will prevent freezing of pump and spray lines and is also recommended for end of the season storage.



## CAUTION!

1. DO NOT OPERATE LIQUID PUMP WITHOUT LIQUID!
2. KEEP DE-ICING LIQUID FREE OF SAND GRIT, ETC..
3. DE-ICING CHEMICALS MUST BE HANDLED WITH EXTREME CARE TO PREVENT ACCIDENTAL CONTACT WITH SKIN AND EYES.

# TROUBLE SHOOTING HYDRAULIC MOTOR AND PUMP



## POSSIBLE CAUSE

<ul style="list-style-type: none"> <li>A. Coupling loose on pump shaft</li> <li>B. No or low liquid in tank/tanks</li> <li>C. On-Off valve at tank/tanks off</li> <li>D. Clogged strainer</li> <li>E. Suction line damaged</li> <li>F. Clogged nozzles</li> <li>G. Hydraulics to operate hydraulic motor not turned on in cab (flow valve)</li> <li>H. Solenoid burned up on hydraulic motor</li> <li>I. On-Off switch turned off</li> <li>J. Bad On-Off switch</li> <li>K. Electrical connection loose, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Check and Tighten</li> <li>Fill tank/tanks</li> <li>Turn valve/valves on</li> <li>Clean strainer screen</li> <li>Check and replace</li> <li>Clean as required</li> <li>Adjust or turn hydraulic system on</li> <li>See replacement parts</li> <li>Turn switch On</li> <li>Replace</li> <li>Check wiring connections</li> </ul>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



## **CAUTION!**

**DE-ICING CHEMICALS MUST BE HANDLED WITH EXTREME CARE TO PREVENT ACCIDENTAL CONTACT WITH SKIN AND EYES.**

If additional refinement of liquid spray out-put is required, please contact factory.

PLEASE NOTE: Spray system is designed to operate with 15 gallon hydraulic oil maximum.

## HYDRAULIC CALIBRATION CHARTS

1. Charts are based on Swenson Spreader unit with a 50:1 worm gear reducer.  
The charts may be used with non-Swenson units if the conveyor/auger motor is similar and the Average Oil Flow is the same or greater than that shown.
2. If desired Lbs/Mile is known, you can pick a Truck Speed, Gate Height and Controller Setting to give you your desired Gal/Ton.

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 20 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	80	1	19	160	1	10	240	1	6
2	3	145	1	10	290	1	5	435	1	3
			2	40		2	20		2	13
3	5	255	1	6	510	1	3	765	1	2
			3	40		3	20		3	13
4	6.5	336	2	17	671	2	9	1007	2	6
			4	43		4	22		4	14
5	8	412	3	25	823	3	13	1235	3	8
			5	40		5	20		5	13
6	9	474	4	30	948	4	15	1422	4	10
			7	43		7	21		7	14
7	10	544	5	30	1088	5	15	1632	5	10
			10	40		10	20		10	13
8	12	615	5	27	1230	5	14	1845	5	9
			10	35		10	18		10	12
9	13	675	5	25	1350	5	13	2025	5	8
			10	32		10	16		10	11
10	14	736	5	23	1473	5	12	2209	5	7
			10	30		10	15		10	10
11	15	782	5	21	1565	5	11	2347	5	7
			10	28		10	14		10	9

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 30 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	54	1	19	107	1	9	160	1	6
2	3	96	1	10	193	1	5	290	1	3
			2	40		2	20		2	13
3	5	170	1	6	340	1	3	510	1	2
			3	40		3	20		3	13
4	6.5	224	2	17	448	2	9	671	2	6
			4	43		4	21		4	14
5	8	274	3	25	549	3	12	823	3	8
			5	40		5	20		5	13
6	9	316	4	30	632	4	15	947	4	10
			7	43		7	21		7	14
7	10	362	5	31	725	5	15	1087	5	10
			10	40		10	20		10	13
8	12	410	5	27	820	5	13	1229	5	9
			10	35		10	18		10	12
9	13	450	5	25	900	5	12	1349	5	8
			10	32		10	16		10	11
10	14	491	5	23	982	5	11	1471	5	7
			10	30		10	15		10	10
11	15	522	5	21	1043	5	11	1563	5	7
			10	28		10	14		10	9

# HYDRAULIC CALIBRATION CHARTS

(Continued)

Conveyor/ Auger Valve Setting	Avg. Oil Flow gpm	Truck Speed 40 mph								
		Gate Height 2"			Gate Height 4"			Gate Height 6"		
		Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton	Lbs/Mile	Setting	Gal/Ton
1	1.5	40	1	10	80	1	5	120	1	3
2	3	73	1	5	145	1	3	218	1	2
			2	20		2	10		2	7
3	5	128	1	3	255	1	2	383	1	1
			3	20		3	10		3	7
4	6.5	168	2	9	336	2	5	504	2	3
			4	22		4	11		4	7
5	8	206	3	13	412	3	7	618	3	4
			5	20		5	10		5	7
6	9	237	4	15	474	4	8	711	4	5
			7	22		7	11		7	7
7	10	272	5	15	544	5	8	816	5	5
			10	20		10	10		10	7
8	12	308	5	14	615	5	7	923	5	5
			10	18		10	9		10	6
9	13	338	5	13	675	5	7	1013	5	4
			10	16		10	8		10	6
10	14	368	5	12	737	5	6	1105	5	4
			10	15		10	8		10	5
11	15	391	5	11	783	5	6	1174	5	4
			10	14		10	7		10	5

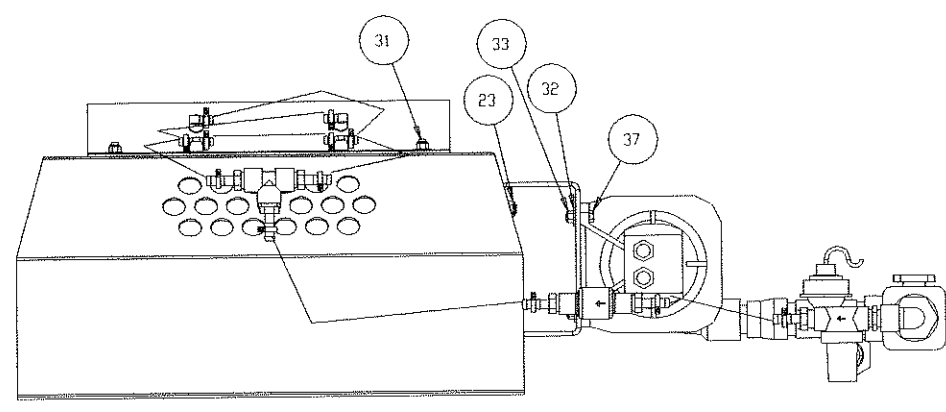
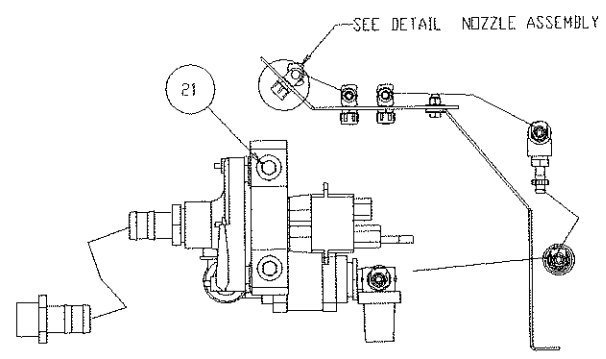
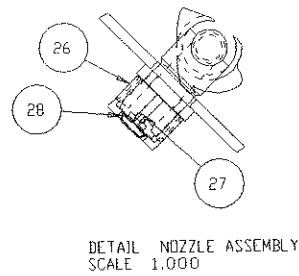
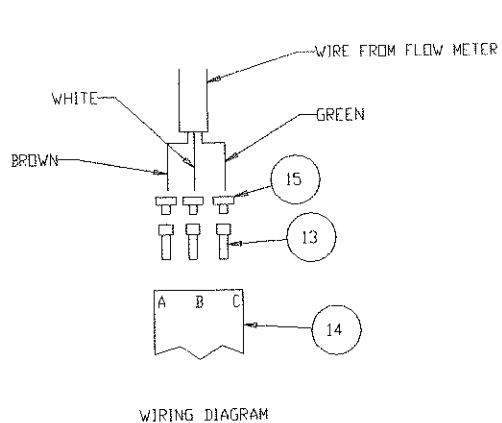
All calculations in these charts are for approximate application rates and should be used as a guide only.

For two or more lanes:

Multiply application for one lane (shown in chart) by desired number of lanes and match Lbs/Mile to switch setting.

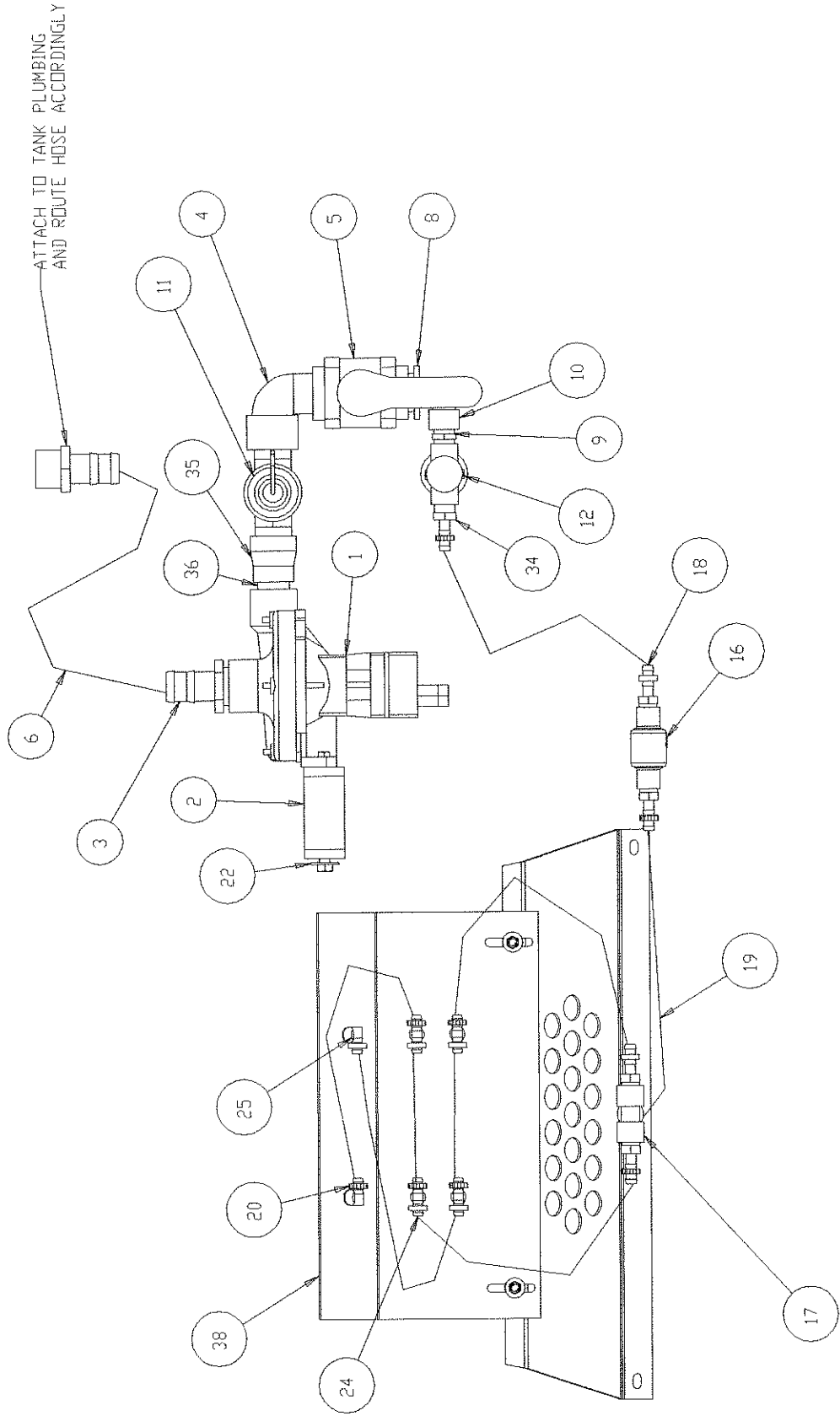
Spreader salt application rates are for standard Swenson v-box with a 50:1 worm gear reducer.





## PARTS LIST FOR AIRPORT SPRAY ASSEMBLY

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
13	04896-035-00	3	Socket, Connector
14	04896-037-00	1	Connector/Seal Assembly Plug
15	04896-126-00	3	Seals, Cable (22 Gauge Wire)
21	04003-005-23	2	Bolt, 1/2"-13 x 1 1/4" HH, SS
23	04003-804-07	2	Locknut, 1/2"-13 Nylon Insert SS
26	04078-004-00	6	Nut, Nozzle
27	04078-014-00	6	Core, Nozzle
28	04078-001-00	6	Disc, Orifice
31	04003-003-20	2	Bolt, 3/8"-16 X 1" HH, SS
32	04004-002-20	6	Flatwasher, 3/8" U.S.S., SS
33	04003-804-08	4	Locknut, 3/8"-16 Nylon Insert, SS
37	04003-003-26	2	Bolt, 3/8"-16 x 1 1/4" HH, SS

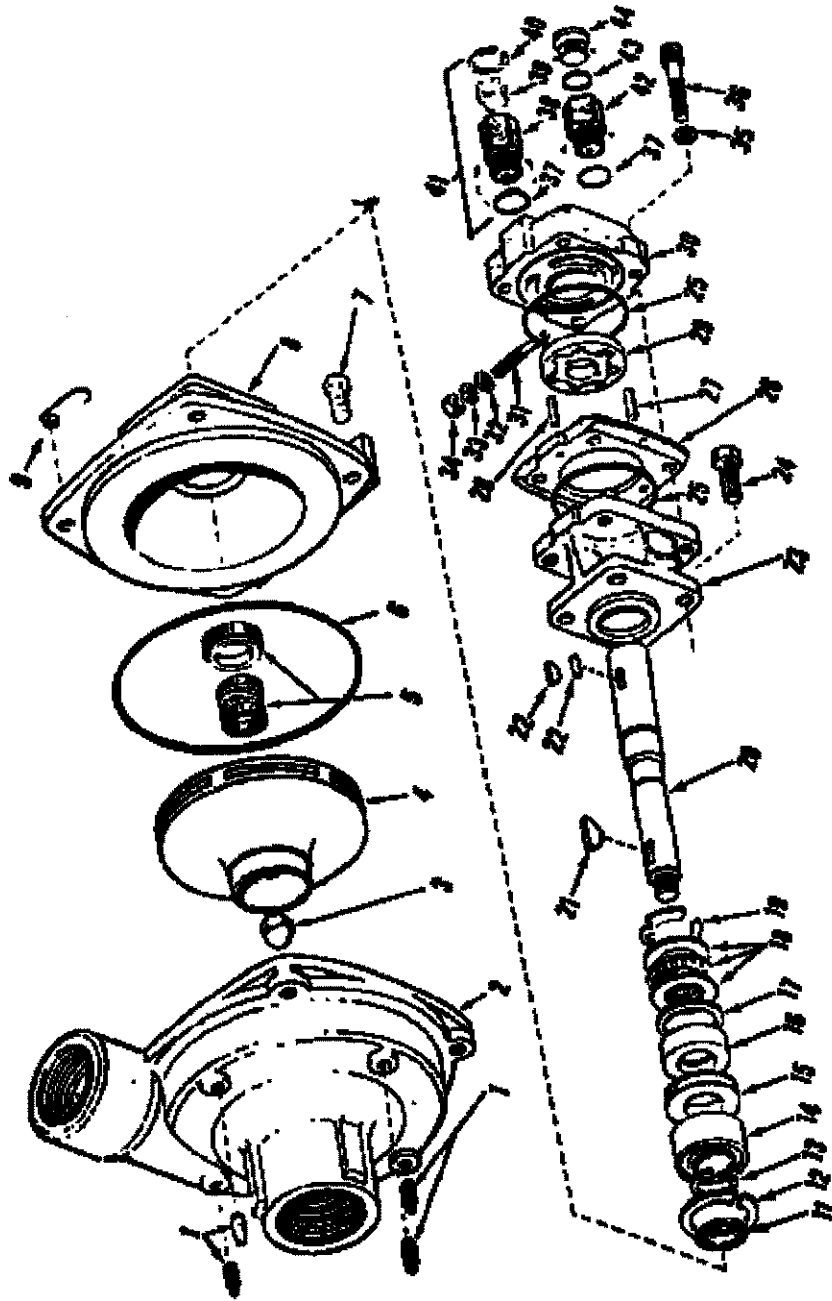


## PARTS LIST FOR AIRPORT SPRAY ASSEMBLY

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04102-125-00	1	Pump, Hypro (Viton Seal)
2	00119-125-00	1	Bracket, Hypro Pump Mount
3	04109-108-00	2	Nipple, 1 1/2" King (Poly)
4	04110-006-16	1	Elbow, 1 1/2" 90 Degree Street (Poly)
5	04105-313-01	1	Valve, 1 1/2" Ball (Poly)
6	04610-030-00	4 Ft.	Hose, 1 1/2" Low Temp. Suction
8	04110-017-29	1	Bushing, 1 1/2" x 3/4" Hex Reducing Poly
9	04110-028-17	1	Nipple, 3/4" Close (Poly)
10	04110-006-14	1	Elbow, 3/4" 90 Degree Street (Poly)
11	04106-022-00	1	Meter, 1 1/2" Rapid Check Flow
12	04103-038-00	1	Strainer, Line
16	04078-028-00	1	Valve, Inline-Check
17	04109-078-00	1	Tee, 1/2" NPT (Poly)
18	04109-109-00	5	Shank, 1/2" NPT x 1/2" Barb (Poly)
19	04610-025-00	8 Ft.	Hose, 1/2" ID Nylon Braid Clear PVC
20	04090-028-10	16	Clamp, Kwik, for 1/2" Hose
24	04078-008-00	4	Assembly, Tee, 1/2" Nozzle
25	04078-009-00	2	Assembly, Elbow 1/2" Nozzle
34	04109-117-00	1	Shank, 3/4" NPT X 1/2" Hose Barb
35	04110-014-26	1	Coupling, 1 1/2" X 1 1/4" Reducing
36	04110-030-11	1	Nipple, 1 1/4" Close, Brass
38	00108-324-00	1	Holder Nozzle

# HYPRO PUMP

(Viton Seal)



1. Unpack and inspect all parts for missing or damaged items.
2. Hook-up spray system per diagram on page #2 of Dickey-john manual.
3. Learning to use the control console - see Pages #5 through #10.
4. Constants: All constants for spray system are factory set except for #120 ground speed calibration. See page #16 for set up procedure (DICKEY-john manual).
5. Operation: See pages # 19 and #20 of DICKEY-john manual.
6. Trouble shooting: See pages # 21 through # 27 of DICKEY-john manual.
7. Miscellaneous: See pages # 29 through # 33 of DICKEY-john manual.

# PARTS LIST FOR HYPRO PUMP

(Viton Seal)

<u>Item</u>	<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
1	04102-125-01	4	Plug, Drain/Vent
2	04102-125-02	1	Pump Casing
3	04102-125-03	1	Impeller Nut
4	04102-125-04	1	Impeller
5	04102-125-05	1	Mechanical Seal (Viton)
6	04102-125-06	1	O-Ring
7	04102-125-07	4	Capscrew, Hex Head
8	04102-125-08	1	Mounting Flange
9	04102-125-09	1	Nameplate
11	04102-125-10	1	Slinger Ring
12	04102-125-11	1	Retaining Ring
13	04102-125-12	1	Snap Ring
14	04102-125-13	1	Ball Bearing
15	04102-125-14	1	Spacer
16	04102-125-15	1	Shaft Seal
17	04102-125-16	1	Seal Spacer
18	04102-125-17	1	Thrust Bearing Assembly
19	04102-125-18	1	Snap Ring
20	04102-128-19	1	Shaft
21	04102-125-20	1	Woodruff Key
22	04102-125-21	1	Roll Pin
23	04102-125-22	1	Motor, Front Body
24	04102-125-23	4	Capscrew, Hex Head
25	04102-125-24	2	O-Ring
26	04102-125-25	1	Gerotor Housing
27	04102-125-26	1	Dowel Pin
28	04102-125-27	1	Dowel Pin
29	04102-125-28	1	Gerotor
30	04102-125-29	1	Motor End Plate
31	04102-125-30	1	By-Pass Adjusting Screw
32	04102-125-31	1	Gasket
33	04102-125-32	1	Washer
34	04102-125-33	1	Locknut
35	04102-125-34	4	Washer
36	04102-125-35	4	Capscrew, Socket Head
37	04102-125-36	2	O-Ring
38	04102-125-37	1	Tank Port Adapter
39	04102-128-38	1	Poppet
40	04102-125-39	1	Retaining Ring
41	04102-125-40	1	Tank Check Valve Assembly
42	04102-125-41	1	Pressure Port Adapter
43	04102-125-42	1	Orifice O-Ring
44	04102-125-43	1	Metering Orifice

## V-BOX TANK COMBINATIONS REQUIREMENTS

TANK	MINIMUM NUMBER OF V-BOX BODY JACKS REQUIRED	MINIMUM V-BOX SIZE REQUIRED
1 - 90 Gallon or 2 - 90 Gallon ( Opposite sides)	3	8-9 ft.
1 - 135 Gallon or 2 - 135 Gallon ( Opposite sides)	4	8-9 ft.
4 - 90 Gallon (2 on each side)	5	10-11 ft.
2 - 90 Gal. and 2 - 135 Gal. (1 of each type on each side)	6	12-13 ft.
4 - 135 Gallon (2 on each side)	7	14-15 ft.

### ADD-ON NUMBERS

Choose from these numbers to order a spray system and have it factory installed when you order a V-Box. Choose one number from the following #1 (Pump Add-Ons) and one number from #2 (Tank Add-Ons). If you chose any number from #1 with the word "FLOW" in the title, you will not receive a controller with the unit unless you order a separate part number. (\* Includes variable rate controller kit.)

#### #1 PUMP ADD-ONS

Includes: Pump Box, Pump Box Mounting, Nozzles and Plumbing from the Pressure Side of the pump to the nozzles. (\*Includes variable rate controller kit.)

Electric Pressure	00002-330-25*
Electric Flow	00002-330-26
Hydraulic Pressure	00002-331-25*
Hydraulic Flow	00002-331-26

#### #2 TANK ADD-ONS

Includes: Tank, Tank Mounting and Plumbing from the tank to the suction side of the pump.

1 90 Gallon w/Carbon Mounting	00002-332-01
1 90 Gallon w/Stainless Mounting	00002-332-02
2 90 Gallon w/Carbon Mounting	00002-332-03
2 90 Gallon w/Stainless Mounting	00002-332-04
1 135 Gallon w/Carbon Mounting	00002-332-05
1 135 Gallon w/Stainless Mounting	00002-332-06
2 135 Gallon w/Carbon Mounting	00002-332-07
2 135 Gallon w/Stainless Mounting	00002-332-08

### TAILGATE KITS

LSST 90 Gallon Mount, Adjust	00002-332-55
LSST 90 Gallon Mount, Adjust, SS	00002-332-56
LSST 135 Gallon Mount, Adjust	00002-332-57
LSST 135 Gallon Mount, Adjust, SS	00002-332-58

# V-BOX TANK COMBINATIONS REQUIREMENTS

(Continued)

## PACKAGE NUMBERS

Choose from these numbers to order a spray system and have it delivered for you as a package for you or your dealer to install.

Includes everything: Pump Box and Mounting, Tanks and Mounting, Nozzles and all Plumbing.  
(\*Includes Variable Rate Controller Kit.)

### ELECTRIC

LSSE-V, 1 90 Gal. Carbon      00002-330-01* LSSE-V, 2 90 Gal. Carbon      00002-330-03* LSSE-V, 1 135 Gal. Carbon      00002-330-05* LSSE-V, 2 135 Gal. Carbon      00002-330-07* LSSE-T, 90 Gal.                      00002-330-09* LSSE-T, 135 Gal.                    00002-330-11*	LSSE-V, 1 90 Gal. Stainless      00002-330-02* LSSE-V, 2 90 Gal. Stainless      00002-330-04* LSSE-V, 1 135 Gal. Stainless      00002-330-06* LSSE-V, 2 135 Gal. Stainless      00002-330-08* LSSE PUMP, PRESSURE              00002-330-27 LSSE PUMP, FLOW NO CTL.        00002-330-28
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### HYDRAULIC

LSSH-V, 1 90 Gal. Carbon      00002-331-01* LSSH-V, 2 90 Gal. Carbon      00002-331-03* LSSH-V, 1 135 Gal. Carbon      00002-331-05* LSSH-V, 2 135 Gal. Carbon      00002-331-07* LSSH-T 90 Gal.                      00002-331-09* LSSH-T 135 Gal.                    00002-331-11*	LSSH-V, 1 90 Gal. Stainless      00002-331-02* LSSH-V, 2 90 Gal. Stainless      00002-331-04* LSSH-V, 1 135 Gal. Stainless      00002-331-06* LSSH-V, 2 135 Gal. Stainless      00002-331-08* LSSH PUMP, RESSURE                00002-331-27 LSSH PUMP, FLOW                    00002-331-28
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## CLOSED-LOOP SYSTEMS

Includes: Pump Box with Flow Meter Sensor, Tanks and Mounting, Nozzles and Plumbing.  
Does not include controller.

### ELECTRIC

LSSE-V, 1 90 Gal. Carbon      00002-330-13 LSSE-V, 2 90 Gal. Carbon      00002-330-15 LSSE-V, 1 135 Gal. Carbon      00002-330-17 LSSE-V, 2 135 Gal. Carbon      00002-330-19 LSSE-T, 90 Gal.                      00002-330-21 LSSE-T, 135 Gal.                    00002-330-23	LSSE-V, 1 90 Gal. Stainless      00002-330-14 LSSE-V, 2 90 Gal. Stainless      00002-330-16 LSSE-V, 1 135 Gal. Stainless      00002-330-18 LSSE-V, 2 135 Gal. Stainless      00002-330-20
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

### HYDRAULIC

LSSH-V, 1 90 Gal. Carbon      00002-331-13 LSSH-V, 2 90 Gal. Carbon      00002-331-15 LSSH-V, 1 135 Gal. Carbon      00002-331-17 LSSH-V, 2 135 Gal. Carbon      00002-331-19 LSSH-T 90 Gal.                      00002-331-21 LSSH-T 135 Gal.                    00002-331-23	LSSH-V, 1 90 Gal. Stainless      00002-331-14 LSSH-V, 2 90 Gal. Stainless      00002-331-16 LSSH-V, 1 135 Gal. Stainless      00002-331-18 LSSH-V, 2 135 Gal. Stainless      00002-331-20
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

## OTHER KITS

### QUICK FILL KITS

Note: Dual Tank Plumbing includes 1 1/2" equalizer standard!

1 1/2" Ball Valve, 1 1/2" Female Quick Coupling	00002-332-09
1 1/2" Ball Valve, 1 1/2" Male Quick Coupling	00002-332-10
1 1/2" Ball Valve, 2" Female Quick Coupling	00002-332-11
1 1/2" Ball Valve, 2" Male Quick Coupling	00002-332-12
HYDRAULIC SHUT-OFF KIT	00001-981-95
LEVEL SENSON SHUT-OFF KIT	00116-506-00

## SPRAY SYSTEM INFORMATION

When ordering parts or requesting information or assistance please be sure to always provide the information below.

The spray system serial number. It is shown on the serial number decal located somewhere close to the spray pump.

Type of spray system . . . . . HYDRAULIC or ELECTRIC, V-BOX or TAILGATE

The space below is provided as a convenient place to record this information, just fill in the blanks.

SPRAY TYPE \_\_\_\_\_

SERIAL NO. \_\_\_\_\_

DATE PURCHASED \_\_\_\_\_

DATE of INSTALLATION \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

**PLEASE NOTE:** Instructions, diagrams and part locations are suggested as a reference for Swenson Spreader Models, modifications might be necessary to avoid interference with various accessories on spreader models other than Swenson located in the reference locations.

**CALL YOUR AUTHORIZED SWENSON SPREADER DEALER FOR PARTS AND SERVICE**  
**SWENSON SPREADER (815) 393-4455**  
**TOLL FREE (888) 825-7323**  
**FAX (866)310-0300**  
**email: [swensonsales@swensonspreader.com](mailto:swensonsales@swensonspreader.com)**

**NOTICE: INSTRUCTIONAL MATERIAL AND PARTS LIST INCLUDED IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE.**









Effective 5/1/99

Dealers have the responsibility of calling to the attention of their customers the following warranty prior to acceptance of an order from that customer for any SWENSON® product.

## WARRANTY

SWENSON warrants to the original purchaser for use that, if any part of the product proves to be defective in material or workmanship within one year from the date of original installation, and is returned to SWENSON within 30 days after such defect is discovered, SWENSON will (at our option) either replace or repair said part. This warranty does not apply to damage resulting from misuse, neglect, accident or improper installation or maintenance. Said part will not be considered defective if it substantially fulfills the performance specifications. THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE AND OF ANY OTHER TYPE, WHETHER EXPRESS OR IMPLIED. SWENSON® neither assumes nor authorizes anyone to assume for it any other obligation or liability in connection with said part and will not be liable for consequential damages.

All gasoline engines and hydraulic pumps are warranted by their manufacturer and not by Swenson Spreader LLC. Electrical or hydraulic components are not to be disassembled without the express written permission of Swenson Spreader LLC. Defective parts returned to Swenson Spreader LLC must be accompanied by the following information: spreader model, serial number, date installed and dealer from whom purchased.

Purchaser accepts these terms and warranty limitations unless the product is returned within fifteen days for full refund of purchase price.



SWENSON SPREADER LLC  
P.O. BOX 127  
LINDENWOOD, ILLINOIS 61049-0127

PHONE: (815)393-4455  
TOLL FREE: (888)825-7323  
SALES & SERVICE FAX: (866)310-0300

email: [swensonsales@swensonspreader.com](mailto:swensonsales@swensonspreader.com)  
website: [www.swensonspreader.com](http://www.swensonspreader.com)

**IMPORTANT  
INFORMATION  
ENCLOSED**

