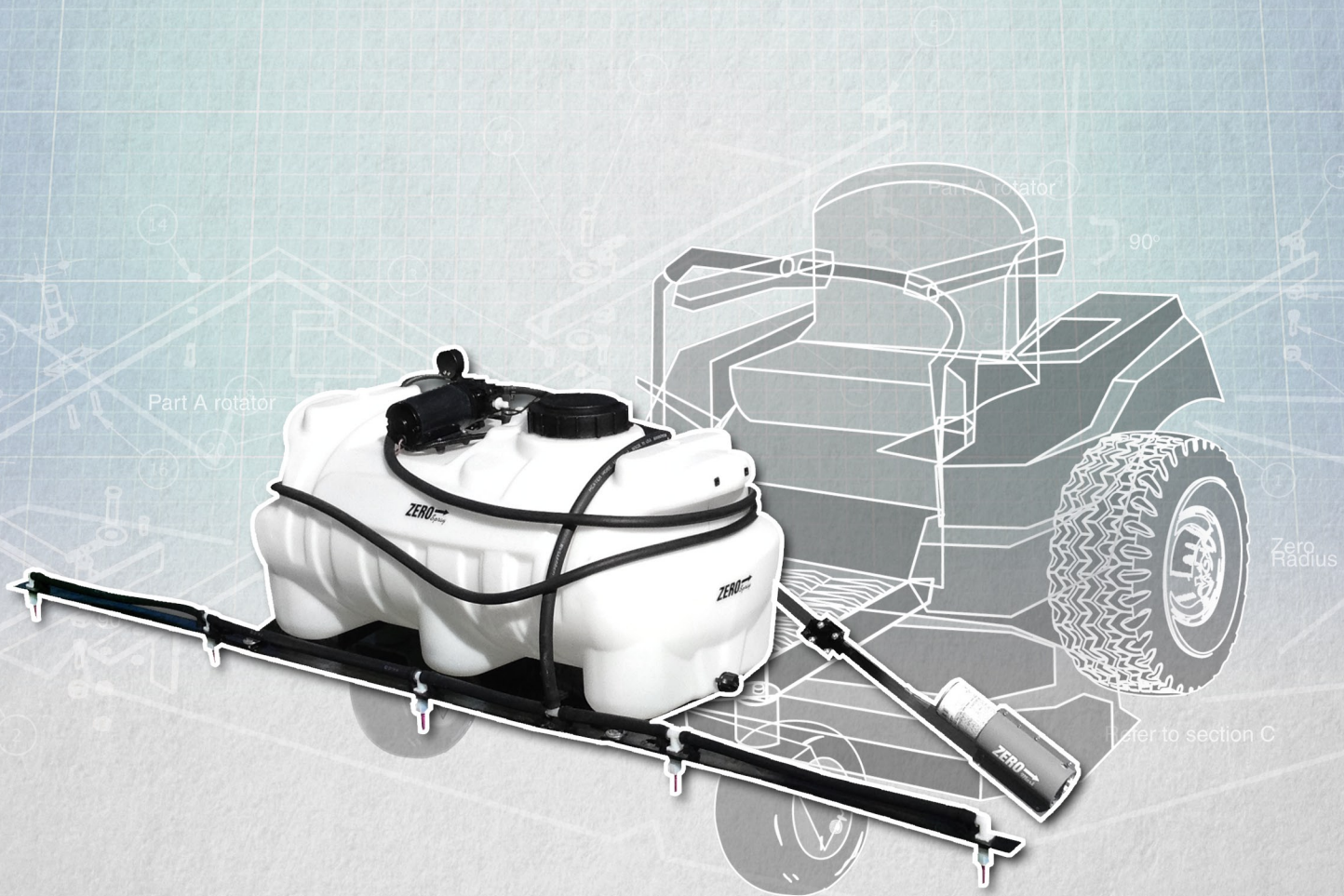


# ZERO Spray

*Zero Radius Sprayer*

## OPERATOR & PARTS MANUAL

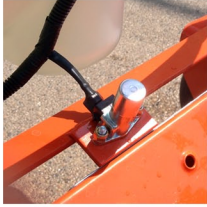
2020 EDITION



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### On/Off Foot Switch

Press On  
Press Off



### Sprayer Controls

**Boom Spray:** Pump runs constant; only spray tips will operate.

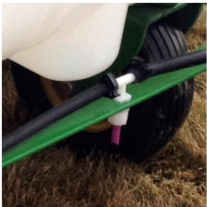
**Wand Spray:** Pump runs only when trigger depressed. Pump stops when not spraying.

**Agitate/Mix/Bypass:** Pump runs constant; circulates and mixes chemical before spraying. Bypass can also be used to reduce pressure in Boom or Wand by turning valve counter clockwise.



### Booms

Booms fold in or out manually – Break away feature ensures safety and durability if an obstacle is encountered. When folding boom out it will lock into spray mode, keeping boom straight. Over time and use, booms can loosen at pivot bolt. To rectify, loosen jam lock nut on pivot bolt and retighten regular nut very snug. Retighten jam lock nut onto regular nut very tight to eliminate loosening.



### Spray Nozzles

Spray Nozzles are Ultra Low Drift and are adjusted at factory during pressure test. If a nozzle has come out of alignment, simply loosen tip nut, adjust as necessary and re-tighten.

## SPRAY PUMP

Spray Pump is a 2.2 GPM 12V Demand Pump. Optimum Boom Spray pressure is 35 PSI (+/- 10 PSI) - If pump turns off or pulsates during wand operation, tip pressure is set too high. To reduce pressure loosen brass tip on end of wand to decrease pressure. If a small or fine pattern is required simply open bypass to bring the pressure down by turning bypass valve counter clockwise.




## WINTERIZING

**If sprayer is to be stored in freezing temperatures it must be winterized to prevent damage. There will be no warranty on parts damaged due to frozen water.**

**TO WINTERIZE SPRAYER:** Remove drain cap and drain all water from tank. Replace drain cap and add in enough sprayer antifreeze that boom will spray only antifreeze. Spray out the wand until only antifreeze is being emitted.



## CAUTION

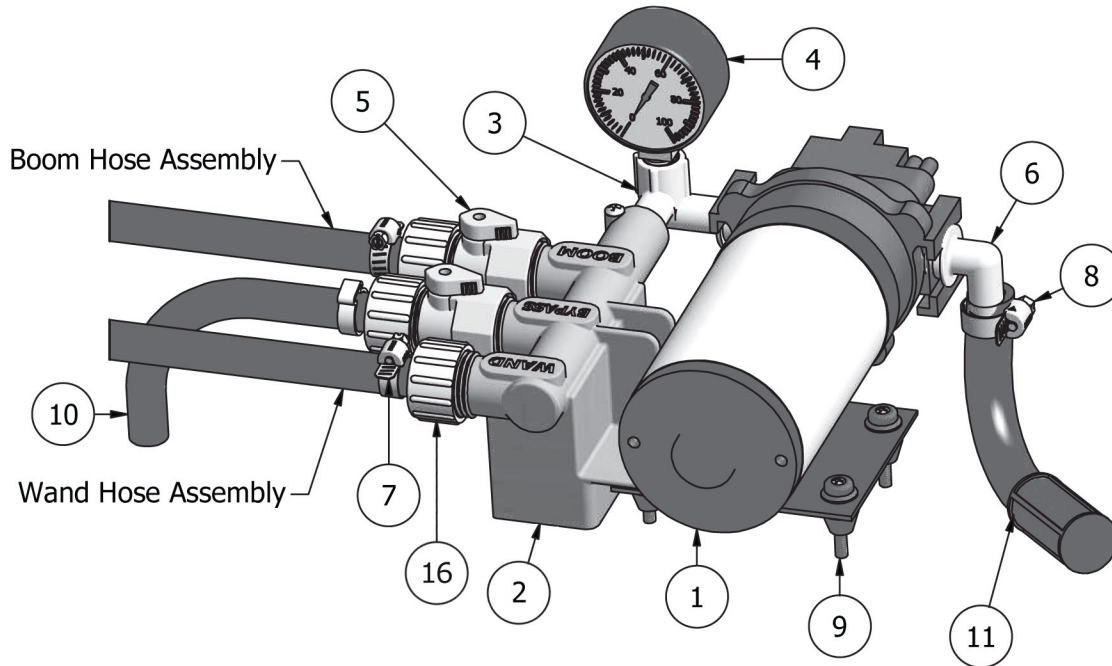
- *Always pull trigger on wand to fill hose with water before using. Air in hose will cause pressure valve to malfunction and cause pump failure.*
- *In hilly, wet, or rough conditions it is recommended that you do not fill tank above 10 gallons.*
- *If sprayer is not in use for a week or more, rinse tank with water and spray out boom nozzles and wand thoroughly. Chemical left in tank for any lengthy period of time can gel or crystalize, causing plugging of nozzles and damage to pump.*
- *Always follow manufacturer's label recommendations regarding safety precautions and mixing on any chemicals being used.*
- **ZERO  Mark** marking paint is water-based and will be damaged if frozen; store in temperatures above freezing.

### Sprayer & Pump FAQs:

- **Why does the pump not run all the time?** This is a demand pump and only runs with flow: spray wand, boom spray or during agitation. Pump will also run if there is a leak in the sprayer system.
- **Why does the pump surge while using the spray wand?** Low flow may cause the pump to surge (or cycle). This could happen when the spray wand is adjusted for a small or fine spray pattern. To overcome, slightly open the wand tip. If a small or fine pattern is required simply open bypass to bring the pressure down by turning bypass valve *counter clockwise*.
- **What is the optimal operating boom spray pressure?** 30 – 40 PSI. Pressure can be regulated by opening or closing the valve marked “Bypass”. Pump will run continuously while in Boom Spray mode.
- **What pressure should the pressure gauge read during wand spray?** Typically the spray wand will be operated between 20 and 40 PSI. Pressure can be reduced by turning bypass valve *counter clockwise*.
- **My pump quit and will not restart - what should I check?** Check all electrical connections. Ensure switch is in the ON position. Check in-line fuse. Ensure correct voltage +/- 10%. 12-13 volt.
- **Low flow or no flow at all - what should I check?** Check for a clogged suction hose or a plugged suction strainer in tank. Make sure sprayer controls are set to the proper adjustment for spray mode you want to perform. Check for low voltage/low battery power.
- **Is there a fuse for the sprayer?** Yes – it is located in jumper harness near battery.
- **What size fuse should I use as a replacement?** 15 amp.
- **What is the range of the spray wand?** 35 feet max.
- **How should I clean the tank after use?** Tank should be cleaned with Nutrasol® or similar tank cleaning agent, and then rinsed with water.
- **Is there an adjustment screw on the pump to adjust pressure?** Yes, please refer to the operation instructions, “Adjusting the Pressure Switch” on page 7.
- **Can the spray tip on the wand be replaced with a different type of tip?** Yes, however your wand comes with a #18 tip which is standard. Brass tips generally produce better spray patterns than plastic.
- **Each time I turn on the pump my fuse blows.** 1) Excessive voltage 2) Improper adjustment of the pressure switch 3) Damaged wiring harness
- **Pump continues to run and surge when not spraying.** Ensure all sprayer controls are properly adjusted and your system has no leaks. Check agitate hose to ensure no fluid is passing through the valve while in the closed position. If so replace Y-valve.

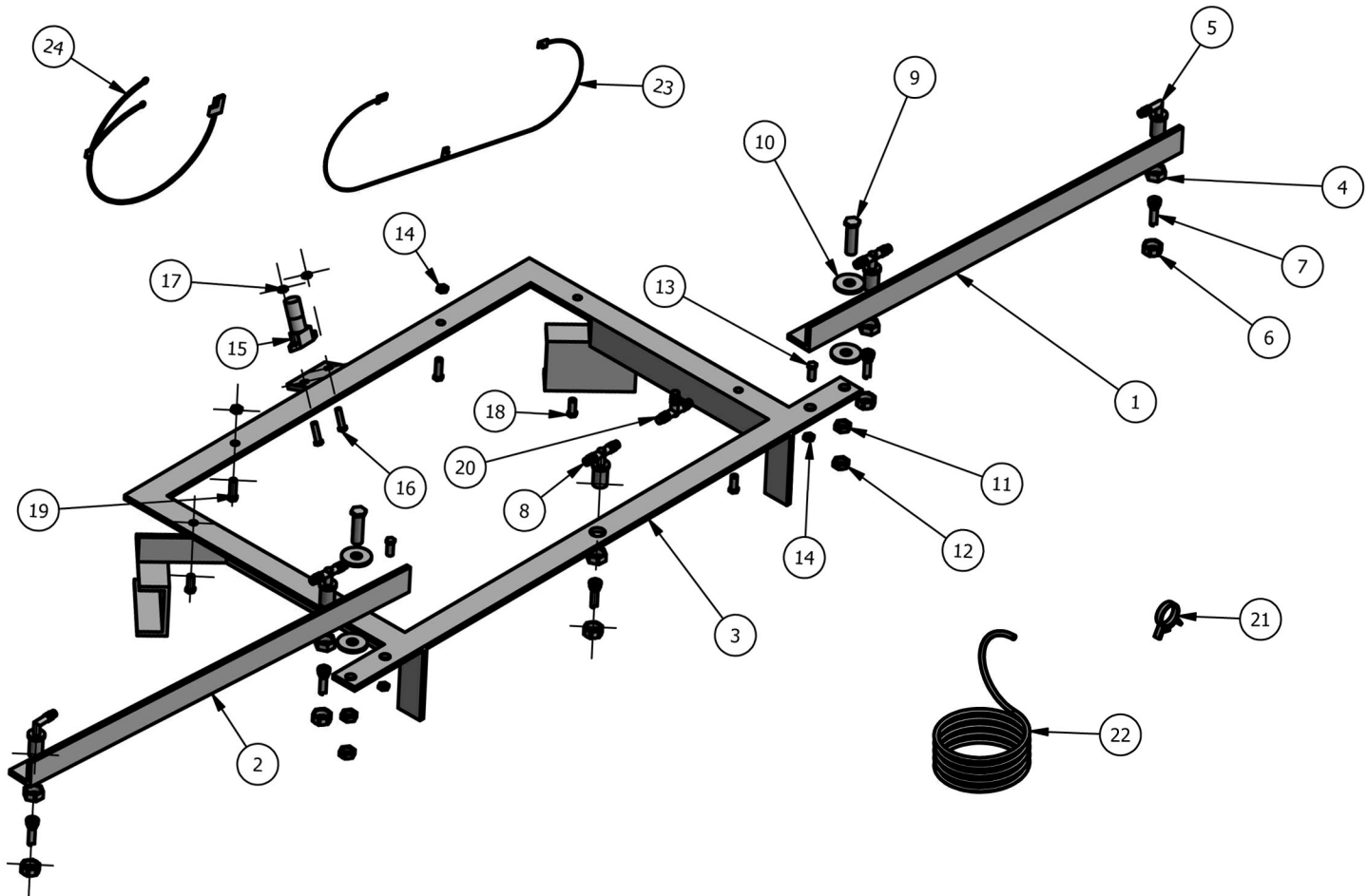
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**!** **WARNING** – Ensure the wiring harness does not become pinched or damaged in any way. This may damage the pump or cause the wiring harness to overheat resulting in a meltdown or fire.



## PARTS LIST

ITEM	QTY	PART #	DESCRIPTION
1	1	Z10234	2.2 GPM Pump
2	1	Z10675	Manifold Valve
3	1	Z10676	Manifold/Gauge elbow
4	1	Z10291	Pressure Gauge
5	2	Z10258	Inline Valve
6	1	Z10680	Pump Elbow (suction)
7	1	Z10155	Adjustable Clamp
8	15	Z10156	Crimp Clamp
9	4	Z10233	Pump Bolt
10	1	Z10145	3/8" hose (6' length)
11	1	Z10248	Suction Filter/Screen
12	1	Z10201	Tank Lid (not shown)
13	1	Z10190	Tank (not shown)
14	1	Z10212	Drain Plug (not shown)
15	1	Z10233	Manual Tube (not shown)
16	3	Z10178	3/4" FPT to 3/8" hose barb

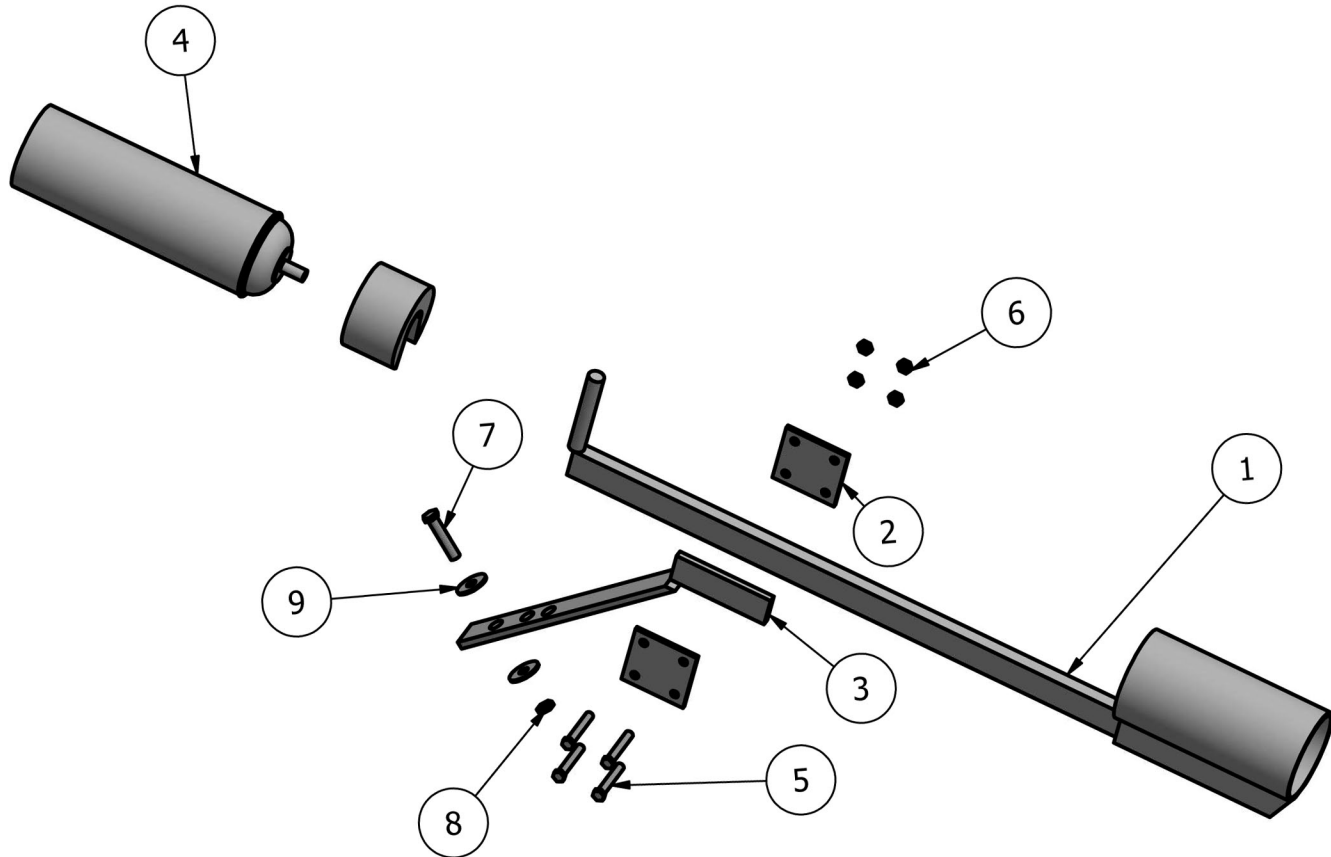


## PARTS LIST

ITEM	QTY	PART #	DESCRIPTION
1	1	Z10012	LH Boom
2	1	Z10011	RH Boom
3	1	ZJD456	Bracket - John Deere - Z400 - Z500 - Z600
3A	1	ZJD700	Bracket - John Deere - Z700
3B	1	ZJD9RM	Bracket - John Deere - Z800 - Z900
3C	1	CRZT01	Bracket - Cub Cadet - RZT - Z Force
3D	1	RZTS01	Bracket - Cub Cadet - Steering Wheel
3E	1	KKZ100	Bracket - Kubota - Kommander 100
3F	1	KKZ400	Bracket - Kubota - Kommander 400
3G	1	KZD700	Bracket - Kubota - Z700
3H	1	ZD1211	Bracket - Kubota - Tilt Assist
3I	1	TRTC01	Bracket - Toro - Time Cutter
3J	1	GHFM01	Bracket - Grass Hopper - Front Mount
4	5	Z10112	Tip Body Nut
5	2	Z10098	Tip Body - Elbow
6	5	Z10134	Tip Nut
7	5	Z10123	Spray Tip - Ultra Low Drift - 0.025
8	3	Z10087	Tip Body - Tee

ITEM	QTY	PART #	DESCRIPTION
9	2	Z10021	Boom Bolt 1/2" x 2"
10	4	Z10032	Flat Washer - 1/2"
11	2	Z10043	Nut - 1/2"
12	2	Z10054	Lock Nut - 1/2"
13	2	Z10065	Bolt - Carriage Head - 5/16" x 3/4"
14	4	Z10076	Nut - Flange - 5/16"
15	1	Z10267	Foot On/Off Switch C/W Harness
16	2	Z10268	Bolt/Switch - 1/4" x 1"
17	2	Z10078	Nut - Lock - 1/4"
18	4	Z10290	Tank Bolt - Flange - 5/16" x 3/4"
19	2	Z10310	Bracket Bolt - Flange - 5/16" x 1"
20	1	Z10101	Hose Tee
21	16	Z10156	Hose Clamp
22	As Needed	Z10145	Spray Hose - 3/8" x 6'
23	1	n/a	Wire Harness - Switch/Pump
24	1	Z10289	Wire Harness - Battery Connector
24A	1	Z10287	Battery Harness - ZD1211
Not Shown	3	Z10332	Zip Tie/Wire Harness

**OPTIONAL FEATURE**



**PARTS LIST**

ITEM	QTY	PART #	DESCRIPTION
1	1	M20012	Dispenser Wand
2	2	M20045	Clamp Plate
3	1	M20034	Bracket - John Deere
3A	1	MTOR01	Bracket Toro
3B	1	MKUB01	Bracket Kubota
3C	1	MCUB02	Bracket Cub Cadet
3D	1	MGHF01	Bracket - Grass Hopper
4	1	M20023	Marking Paint (White)
4A	1	M20024	Marking Paint (Flourescent Green)
5	4	M20056	Bolt - Bracket - 1/4" x 1 1/2"
6	4	Z10078	Nut - Lock - 1/4"
7	1	M20089	Bolt - Flange - 5/16" x 1 1/2"
8	1	Z10076	Nut - Flange - 5/16"
9	2	M20067	Washer - Machine - 5/16" x 1"
Not Shown	2	M20093	Zero Mark Decal

### **Problem / Causes and Remedies:**

#### **Pump will not Start**

*Check:*

- Correct voltage (+/-10%) and electrical connections
- Fuse or breaker
- Pressure switch operation and correct voltage switch
- Rectifier or motor for open or grounded circuit
- Locked drive assembly

#### **Pump will not Prime** (No discharge with motor running)

*Check:*

- Debris in strainer
- Restriction (kinks) in inlet/outlet hose
- Debris or swelling in inlet/outlet hose

#### **Pump will not Shut Off** (Output line closed and no leaks)

*Check:*

- Air Trapped in outlet line or pump head
- Correct voltage to pump
- Debris in pump inlet/outlet valves
- Loose drive assembly or pump head screws
- Pressure switch operations/adjustments

#### **Leaks from Pump Head or Switch**

*Check:*

- Loose screws at switch or pump head
- Switch diaphragm ruptured or pinched
- Punctured diaphragm if fluid is present

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### **Pressure Sensing Demand Switch –**

The PowerFLO Series 7800 pump is controlled by a built-in pressure sensing demand switch. When a valve is opened down stream of the pump, line pressure drops thus starting the pump automatically.

Conversely, when the valve shuts, the line pressure increases turning the pump off automatically. The pressure switch actuates in response to the pump outlet pressure at a pre-determined and preset pressure. Typically, the OFF pressure is accurately set at the Factory and the ON pressure is within an allowable range below that value. In response to the characteristics of the system in which the pump is installed, the flexibility and length of the tubing, the valves and the duration that they are open; these pressure settings may vary. Therefore, variation in pressure setting is expected with use and over time.

### **Adjusting the Pressure Switch –**

Should the pressure switch OFF setting vary with use and time to an unsuitable value, it may be adjusted for optimum performance. Turn the setscrew clockwise to increase the OFF pressure setting and counter clockwise to decrease. The screw should not be adjusted more than one half turn without consulting the Factory.

Excessive adjustment of the pressure switch could cause low system pressure, rapid cycling ON/OFF operation, and reduced pump and motor life. Damage may occur. The Warranty does not cover improper adjustment of the pressure switch.

# ZERO Spray

*Exclusive Options Available*

## ZERO Mark

**SIMPLE AND COST EFFECTIVE  
MARKING SYSTEM**



*Coming Soon!*

## ZERO Spread

**FERTILIZER SPREADER**

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