Dear ADS Customer,

Congratulations on your new ADS Bulk Seed Buggy purchase. Please read these instructions before operation and retain them for future reference.

The design has been constantly reviewed and updated over time to the present models, which we think are the best on the market. We are the only manufacturer in the market that uses all Galvanized construction to reduce maintenance and add to the life of the machine. Our team has designed the ADS Bulk Seed Buggy keeping in mind, gentleness on seed, ease of use, lowest possible load height, long life, road handling ability, and safety in all areas of use. Thank You for your support.

This Owners Manual covers the following models:

STE100
ST100
WST100
BST100
WBST100
ST200
BST200
WST200
WBST200
BST300
WBST300

Important Safety Instructions

* Stay clear of overhead power lines and other obstructions. Fold down auger for transportation.
* Keep hands and clothing away from all moving parts.
* Lift equipment should be of sufficient capacity when loading the ADS Bulk Seed Buggy.
* Do not exceed 35mph when transporting boxes of seed.
* Never allow riders on the ADS Bulk Seed Buggy.
* Use proper trailer weight displacement when unloading. (Keep Positive Tongue Weight, unload back boxes first.)
* Do not place flammable objects close to engine.
* Do not run engine in an enclosed area.
* Refuel in a well ventilated area with the engine off.
* Do not spray water (high pressure cleaners) directly at main Control box.

ADS Bulk Seed Buggy

Record your model and serial numbers on this sheet for future reference if you need to contact the factory for any reason.

Model No. _____

Serial No. _____

Mfg. Date _____

ADS BULK SEED BUGGY

Mfg by: **AG DRYER SERVICES INC.**

234 N. Tyler St. * PO Box 450 * 308-856-4636

Table of Contents

Ag Dryer Services Inc.
Product Warranty

Ag Dryer services, Inc. warrants all products manufactured by it to be free of defect in material and workmanship for a period of one (1) year from the date of purchase.

This Ag Dryer Service, Inc. Warranty does not cover:

1. Items supplied by Ag Dryer Services Inc. but manufactured by others. Ag Dryer Services will aid in handling of warranty on items supplied by others.
2. Products that have been altered by anyone other than an Ag Dryer Services employee.
3. Products that are not used for their intended purpose. Products that are damaged from misuse, negligence, customer alterations, accidents or due to the quality of incoming material.
4. Loss of time, inconvenience, loss of material, down time or any other consequential damage.

To activate this warranty, the purchaser must make contact in writing with Ag Dryer Service, Inc. within one (1) year of date of purchase. To the extent permitted by law, Ag Dryer Services Inc.'s responsibility for malfunctions and defects is limited to repair and replacement as set forth in this limited warranty statement. Any express warranties for the product are limited in duration to the warranty period set forth above and no warranties what so ever will apply after such period. To the extent permitted by law Ag Dryer Services Inc. does not accept liability beyond the remedies set forth in this limited warranty statement or liability for incidental or consequential damages, including without limitation any liability for claims of personal injury, or property damage. Ag Dryer Services, inc. shall be liable on a warranty claim for repair or replacement of any defective products and this is the purchaser's sole and exclusive remedy.

Section A – Features

-Construction

*Welded frame assembly
*Torsion axles—STE100 NOT Equipped
*Galvanized

Galvanized steel has gone through a chemical process to keep it from corroding. The steel gets coated in layers of zinc because rust won't attack this protective metal. For countless outdoor, marine, or industrial applications, galvanized steel is an essential fabrication component.

The principal method of making steel resist corrosion is by alloying it with another metal, zinc. When steel is submerged in melted zinc, the chemical reaction permanently bonds the zinc to the steel through galvanizing. Therefore, the zinc isn't exactly a sealer, like paint, because it doesn't just coat the steel; it actually permanently becomes a part of it.

The zinc goes through a reaction with the iron molecules within the steel to form galvanized steel. The most external layer is all zinc, but successive layers are a mixture of zinc and iron, with an interior of pure steel. These multiple layers are responsible for the amazing property of the metal to withstand corrosion-inducing circumstances, such as saltwater or moisture.

Zinc also protects the steel by acting as a "sacrificial layer." If, for some reason, rust does take hold on the surface of galvanized steel, the zinc will get corroded first. This allows the zinc that is spread over the breach or scratch to prevent rust from reaching the steel. [1]

[1] source: http://www.wisegeek.com/what-is-galvanized-steel.htm

-Design

*Hopper designed for maximum seed flow and clean out characteristics
*Deck designed to keep moisture from hopper. On BST units a roll back tarp serves the same purpose.
*Most models have shut off gates to allow for different varieties of seed. This also allows you to empty the auger before transport. The STE is Not equipped with shut off gates.

-Variable Speed Throttle

*Allows you to set and adjust the desired speed of the auger while standing at your planter box. Refer to section C – Dispensing Seed

-Poly Cup Auger

*Provides superb performance in gentleness on seed, durability and clean out.

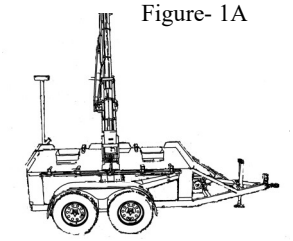
-Discharge Spout

*Three section telescoping spout.
*30’ span when fully extended.
*Discharge height designed for use on all planters including CCS planters.
*Easy access to individual row boxes or bulk containers on your planter.

Section B – Loading & Unloading

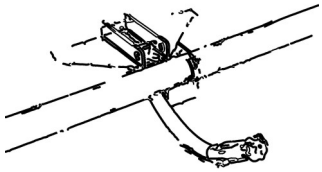
-Loading STE100, ST100 and WST100

Figure- 1A



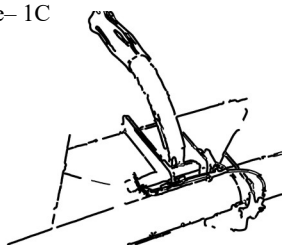
Load from passenger side

Figure- 1B



unlocked

Figure– 1C



locked

*The STE100, ST100 and the WST100 are designed to have both boxes loaded and unloaded from the passenger side of the buggy. **Figure - 1A**

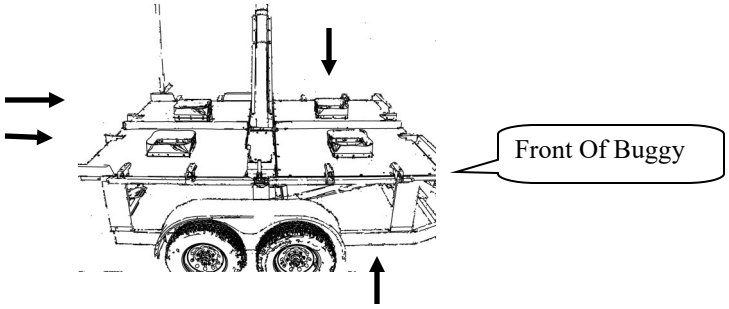
1) Remove the hold-down lock pins and rotate the handles to the down position. **Figure - 1B**
2) Plan accordingly, we recommend dispensing seed from the rear containers first. This will help maintain positive tongue weight and a stable towing unit. Center seed boxes over the deck openings, lower and slide till they make contact with the deck-stops. **NOTE**: Make sure to position seed boxes so that their control handles are on an outer edge where you can reach them.
3) Return hold-down handles to the upright position and replace the locking pins. **Figure - 1C**

-Unloading

1) Follow same hold-down procedure for loading of boxes. **NOTE** Make sure to "lift" boxes, do not slide them off the deck or damage may occur to the gasket. Be careful not to pinch the gasket between lifting forks and the seed box, this could result in the gasket being torn.

-Loading & Unloading the ST200 and WST200

Figure– 2A



*The ST200 and the WST200 are designed to have the front two boxes loaded from each side and the back two boxes are loaded from the rear of the machine. **Figure – 2A**

* Follow the same procedure listed above for the ST100.

-Loading models BST100, 200 & 300, models WBST100, 200 & 300.

*Instructions for rolling and unrolling the tarp can be found at the back of this book in the ROLL TARP OWNER'S MANUAL.

1) Make sure that the shut-off gates on the ADS Bulk Seed Buggy and Weigh Buggy are in the closed position before you begin filling the containers.
   Refer to Section C – Shut-Off Gates
2) All True Bulk Units come with a split container system, plan accordingly, we recommend dispensing seed from the back container first. This will help maintain positive tongue weight and a stable towing unit.

Section C – Operating

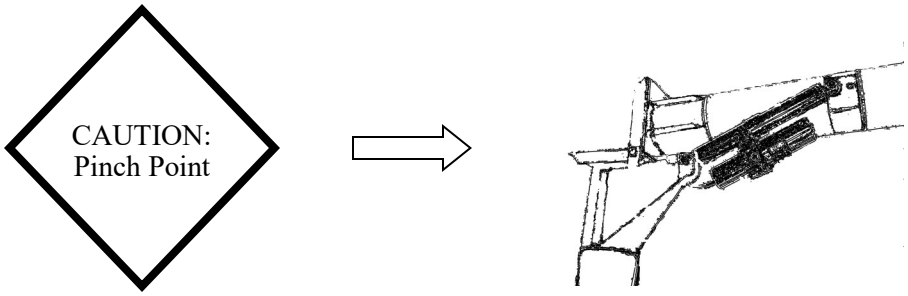
-Pre-Operation Check List

1) Engine and Gearbox – proper fluid levels. The engine and gearbox have been filled with oil and test run before shipment but fluid levels should be checked prior to first operation.
2) Belts alignment and tension.
3) Tire pressure, securely tightened lug nuts and greased wheel bearings.
4) Make sure the auger and sump are cleaned out and that the sump clean-out door is closed.
5) Check the Telescoping spout for obstructions.
6) Check that the battery is fully charged and the terminals are clean. Low voltage affects the system performance and can be caused by a low battery and dirty or corroded terminals.

-Folding Auger

Manual Folding Auger – The manual folding auger utilizes a 250 psi gas strut and a lift arm. Unlock the center-over latch located at the auger hinge bracket then using the lift arm for assistance fold the auger tube into the upright position and replace the center-over latch making sure to lock it securely into place by pressing downward on the red latch handle. The lift arm can be fastened to the auger by snapping it into the storage clamp adjacent to the auger tube.

Hydraulic Folding Auger – This auger fold is a 12volt electric-over-hydraulic cylinder operated by a switch at the center of the Seed Buggy. To fold the auger simply hold the switch in the up direction until the auger tube is upright and the hinge brackets make contact. **Caution –** keep hands and fingers clear of hinge area while folding.



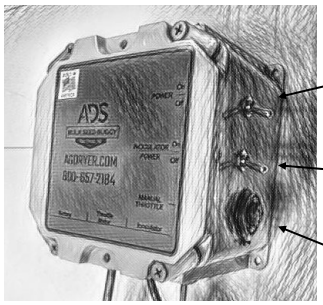
-Honda Engine

*This ADS Bulk Seed Buggy comes equipped with a recoil start Honda GX160 as a standard feature or an Electric Start GX160 (optional)

*For operation information please refer to the included Honda Owners Manual at the Back of this book.

-Control Box

Figure– 3A



Battery Throttle Motor Inoculator

*The main Control Box is located on the front driver side of the Seed Buggy frame.

*The Control Box houses the circuit board and plug-ins for; Battery, Throttle Motor, Inoculator (optional) and Manual Remote. **Figure -3A**

*The main power switch (on/off) and a second Manual Throttle Switch are also located on the Control Box.

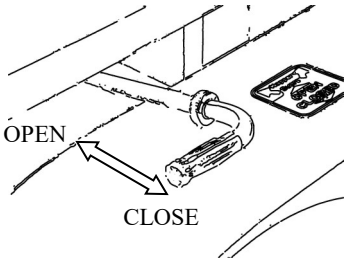
*STE100 Not Equipped.

-Dispensing Seed

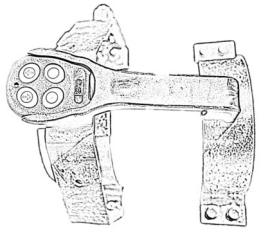
*With the seed containers properly loaded, the auger in the upright position and the Honda engine running follow the steps below to begin filling you planter.

1) Begin by turning the main power switch (located on Control Box) to the “on” position. This supplies 12v to all necessary components.
2) Open the gates for desired seed container. The ADS Bulk Seed Buggy comes with shut–off gates on either side of the auger tube, control handles are located above the driver side fender. **Figure – 4A**
   *STE100 Not Equipped—Use the shutoff on the individual seed boxes.
3) Extend 3-section telescoping tube to your planter box.
4) Use the up and down arrows on the hand-held remote to control the auger speed. **Figure – 4B** At idle the drive is disengaged, start the auger spinning by holding the throttle up button. Once you have established the desired auger speed you may let go of the button and that speed will be maintained. By holding the throttle down button the engine returns to idle and the auger stops.

Figure– 4A



Figure– 4B



5) For models ordered with the Hardwired throttle option follow the same procedure as the Wireless. The Variable Speed Throttle control switch is located at the end of the tube.

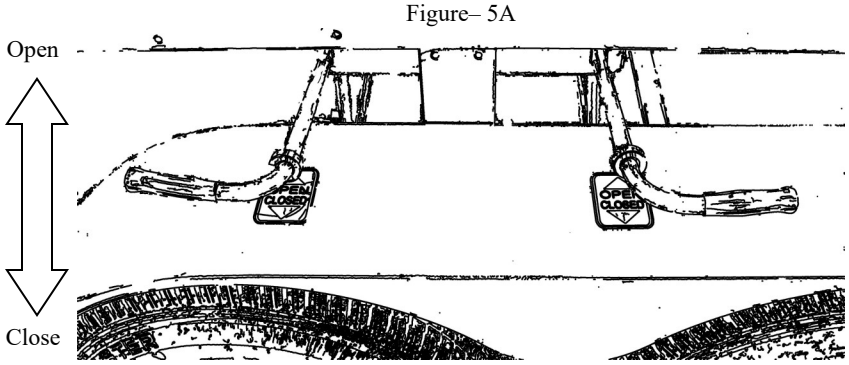
-Shut-Off Gates *STE100 NOT Equipped*

*Your ADS Bulk Seed Buggy comes with Shut-Off Gates on either side of the auger tube, this will allow you to select which container you are filling from and control the flow of the seed.

*The control handles are located above the driver side fender, pull them toward you to close the gate and push them back to open the gates. **Figure – 5A**

*To secure gates in the open position make sure the lock collar slides thru the retaining plate located directly underneath the upper frame.

Figure– 5A



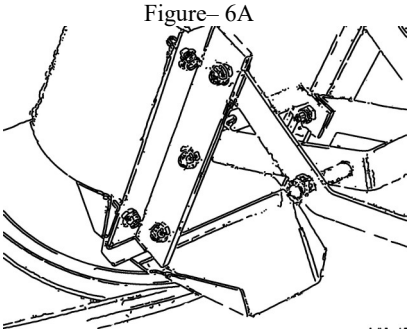
Section D – Cleanout and Transporting

-Proper Cleanout Procedure

*You will want to cleanout the auger prior to changing varieties of seed or before folding the auger tube down for transport. The cleanout door is located at the bottom of the auger tube. **Figure – 6A** The control handle is located on the driver side, adjacent to the auger tube. **Figure – 6B**

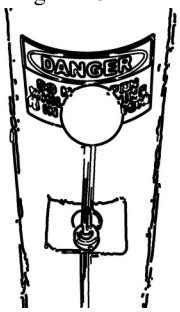
1) With the auger stopped place a bucket or sack under the cleanout door. A full auger tube will hold approximately 20lbs. of seed.
2) Close the Shut-Off Gates to stop seed flow.
3) Open the cleanout door and throttle the engine enough to start the auger spinning. This will allow the remaining seed to exit the auger.

Figure– 6A



Cleanout Door

Figure– 6B



Cleanout Control Handle

-Transportation of Seed Buggy

*Its most likely that you will find a need to move the Seed Buggy at some point during the day, either to a new field or the next location to fill the planter. Follow these simple tips.

1) Empty auger tube (road vibration will cause seed to compact tightly in the bottom of the auger, making startup difficult)
2) Fold auger down when exiting field or in the vicinity of overhead power lines.
3) Make sure that hold-downs are in the locked position.
4) Turn Main power Switch off.
5) Do not exceed 35mph with a full or partial load.

Section E – Maintenance

-End of Season Maintenance

1) Service engine as specified in the Honda Owners Manual.
2) If storing the unit with fuel in the gas tank be sure to add a fuel stabilizer.
3) Clean all seed out of the hopper and auger tube.
4) Remove battery and store in a warm location.
5) Grease bearings, there are 5 grease locations on the seed buggy.
   *All four wheels.
   *Drop foot jack.

-Trouble Shooting

*Throttle motor won't function

1) Check to make sure main power switch located on the control box is turned to the "on" position.
2) Verify you have 12 volts at the battery.
3) Check wire connections to control box, make sure they are tight and secure.
4) Check remote batteries if equipped.
5) If you are still experiencing problems contact Ag Dryer Services 800.657.2184

*Won't deliver seed

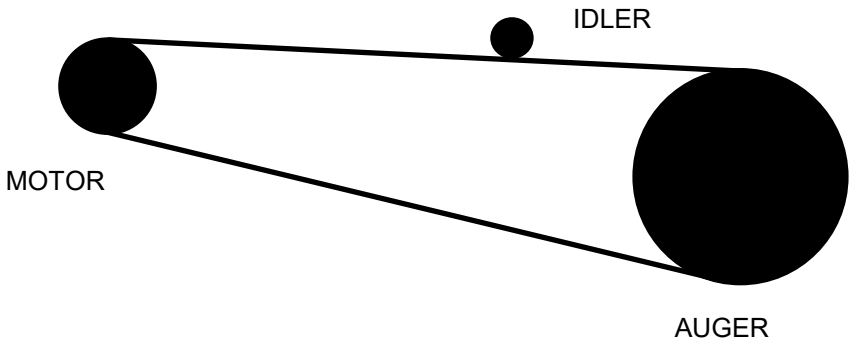
1) Check belt for proper tension.
2) Check 45* spout for obstructions i.e. debris, bird nest, ect.
3) Check top bearing on auger tube to ensure auger has not slid. Top shaft has tape marking the alignment spot with the bearing, an indication of the auger sliding is if a portion of the bare shaft is exposed.
4) Check fold joint for proper alignment.
5) If you are still experiencing problems contact Ag Dryer Services 800.657.2184

-Parts List

Air Filter	SB1220
Belt	
100 Series Models	BB141
200	BB148
200 Goose Neck	BB148
300	BB148
Deck Gasket (all models)	SB 1390
Spark Plug	SB 1205
Telescoping Spout	SB 0790 / SB 0795
Throttle Cable	SB 0840 / SB 0845
Throttle Switch	SB 0910
45* Spout	SB 1325
6” Flex Hose	SB 1340

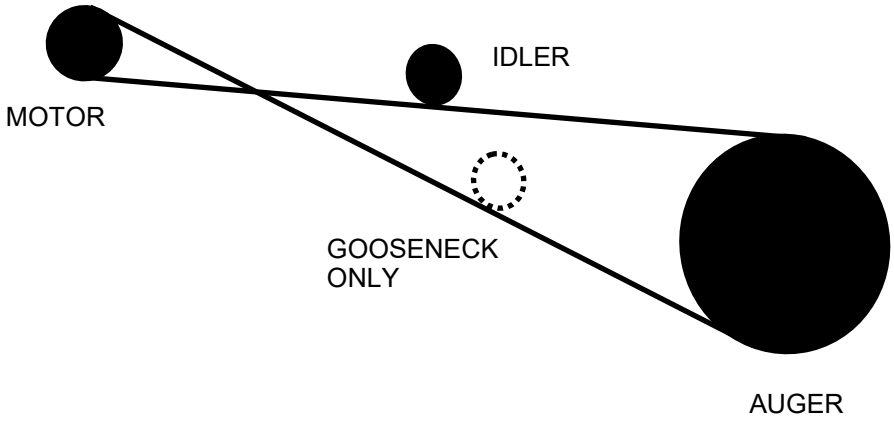
BELT DIAGRAM

ST100 / STE100 / BST100

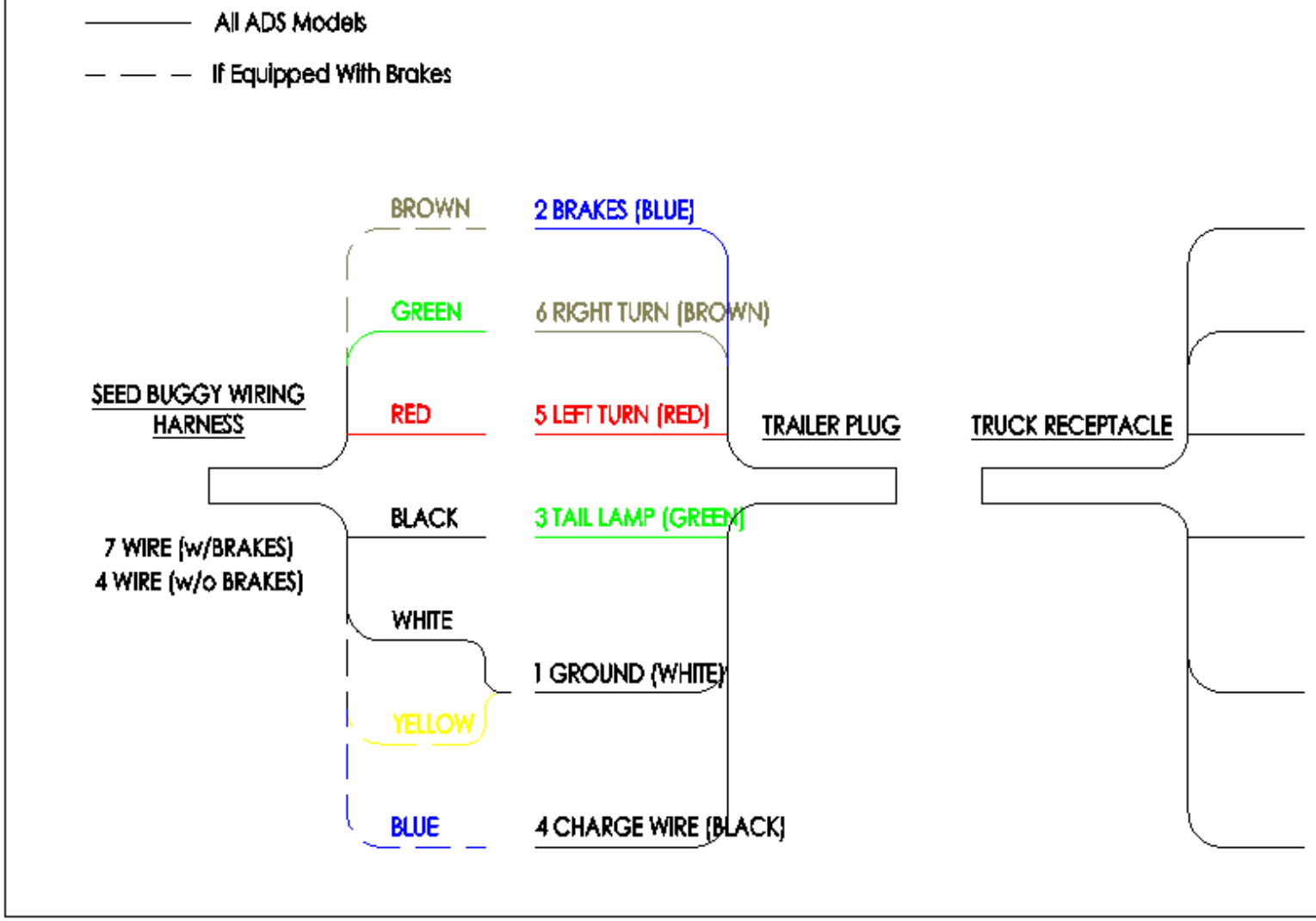


BELT DIAGRAM

ST200 / BST200 / BST300



ADS Bulk Seed Buggy
Trailer Connection



ADS BULK SEED BUGGY
ADS WET SEED TREATER SYSTEM

Remove the ADS SEED TREATER and check that all parts are present.

The ADS SEED TREATER is mounted on a bracket designed to mount on an ADS BULK SEED BUGGY, but it can be used to apply inoculant on seed being handled with almost any equipment. Do not mount the unit higher than the discharge to prevent the material from dripping through the pump.

Fittings on the discharge hose are quick release. Do not remove the center of the fitting. The discharge hose contains a shut-off valve on the bottom of the tank and a strainer inside the hose disconnect.

If you are using an ADS BULK SEED BUGGY, there is no assembly required. If you are using the seed treater with other equipment, you must mount the auger bracket above the ADS SEED TREATER labeling. Mount the bracket with the supplied hardware.

The seed treater comes with a power switch mounted next to the pump on the 2006 and older models. When using the seed treater with a 2006 and older ADS BULK SEED BUGGY, there is an additional switch on the auger motor throttle. This turns the seed treater on as the tender auger is put in operation. When using on a 2007 model and newer, there is a matching plug on the main control box for the seed treater. The inoculator will then be controlled by the remote control.

The flow is adjusted with a "George Fisher" valve mounted beside the pump. There are too many variables
involved (type of material, temp. viscosity, etc) to preset the flow rates at the factory. You must check your seed for proper coverage and read your inoculant instructions.
connect the battery cables and you are ready to start.

ADS BULK SEED BUGGY
ADS DRY SEED TREATER SYSTEM

Bulk seed handling has greatly increased and planting time more valuable now than ever before. While increased yields are available with seed treatment, growers will not always take the additional time to treat seed. The automatic seed treater by Enviropac, match the system to the new bulk handling methods. The seed treater accurately meters the amount of seed treatment and dispenses it onto the seed. The seed & treatment is mixed as the product moves thru the system.

The treater is driven by a low rpm, high torque gearbox & 12 volt motor. Mounts directly on to a ADS SEED BUGGY when ordered with ADS SEED BUGGY. Easily mounts on other equipment with supplied brackets.

The metering gate & special designed blade adjusts the flow rate for varied products & application rates. Also, the blade design helps eliminate product bridging.

When purchased for use on a 2007 ADS BULK SEED BUGGY, connect the supplied cable to the matching plug on the main control box on the seed tender. The inoculator is controlled by the remote control. Keep the cover on the plug in the control panel when the seed treater is not in use. Otherwise, if purchased for use on an older ADS BULK SEED BUGGY, the unit plugs into the wiring harness on the seed tender and is controlled by the seed tender. When purchased for another machine, there is a three way switch and a battery lead supplied.

The dry seed treater adjustable gate and blade dispense the product at a consistent rate to match the flow of seed. The seed and dry product are mixed as they move thru the auger and discharge spout.

ADS SEED TREATER INOCULATION SYSTEM:

Calibration Guide:

The George Fisher metering valve supplied on your inoculation system is the flow control for your seed treater. Ambient temperatures can change the viscosity of chemicals which may affect the calibration setting. Monitor the calibration during extremes in the temperature during the day.

The valve is constructed with two calibration arrows. The short arrow range is from 0-90. The long arrow being 90-180.

This chart displays the approximate ounces metered per minute at 65 degrees Fahrenheit.

Valve Setting	Approx. oz. Per Minute
0	0
30	6.6
**35	**9.95
45	13.3
60	26.6
75	40.0
105	46.6
135	53.3
165	56.6
180	60.0

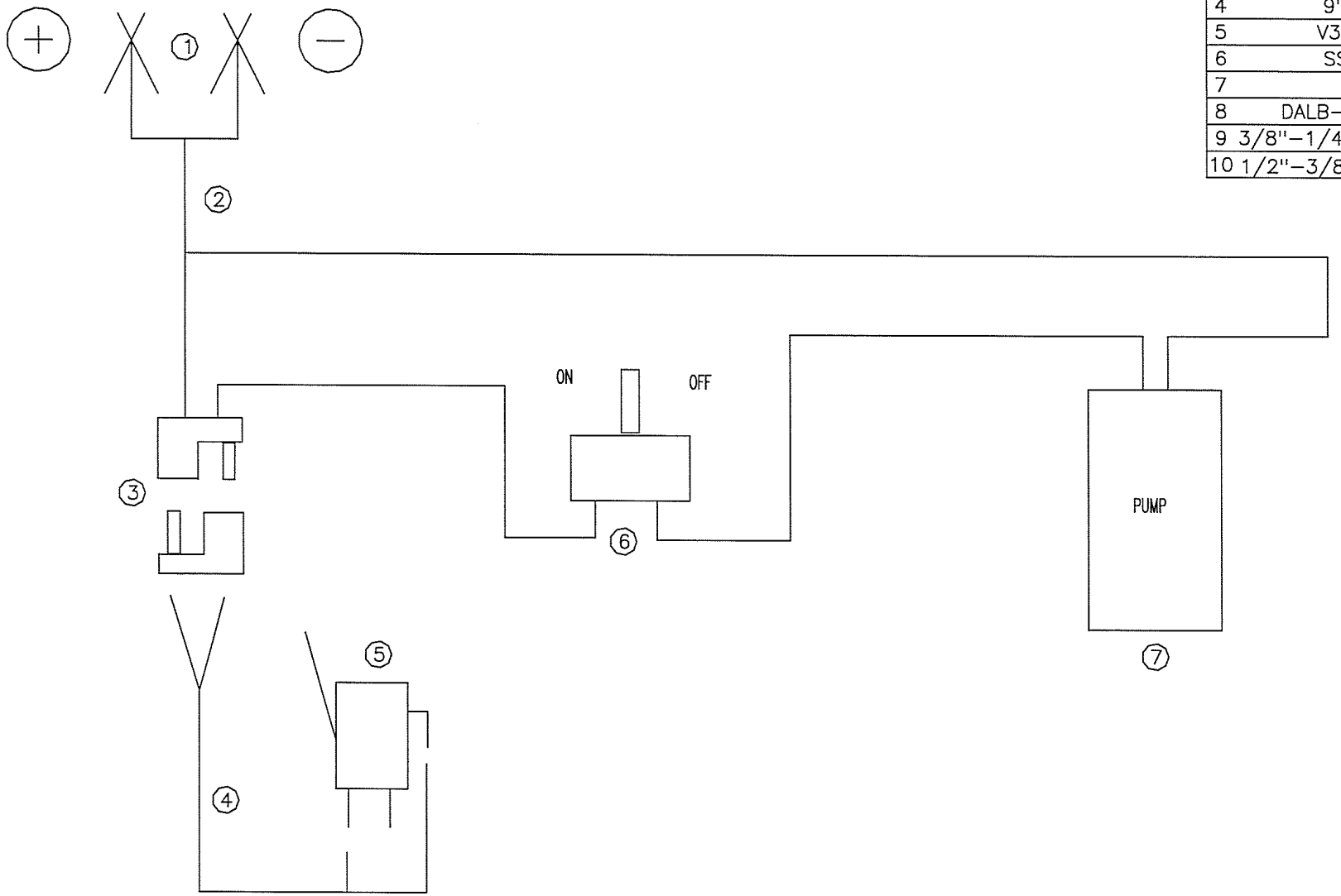
Clean-up

When you are finished using the ADS Seed Treater, the entire unit should be rinsed and purged of all inoculation chemical. The holding tank and all connecting lines should be flushed with clear water. The filter is located in the first connection at the end of the plastic hose that is coming out of the holding tank. It is a 50 mesh filter and should be left in the flow at all times to protect the pump. If you plan to store the ADS Seed Treater in a sub-freezing temperature, flush with RV anti-freeze or windshield washer fluid to prevent freezing.

**** Recommended Valve Setting**

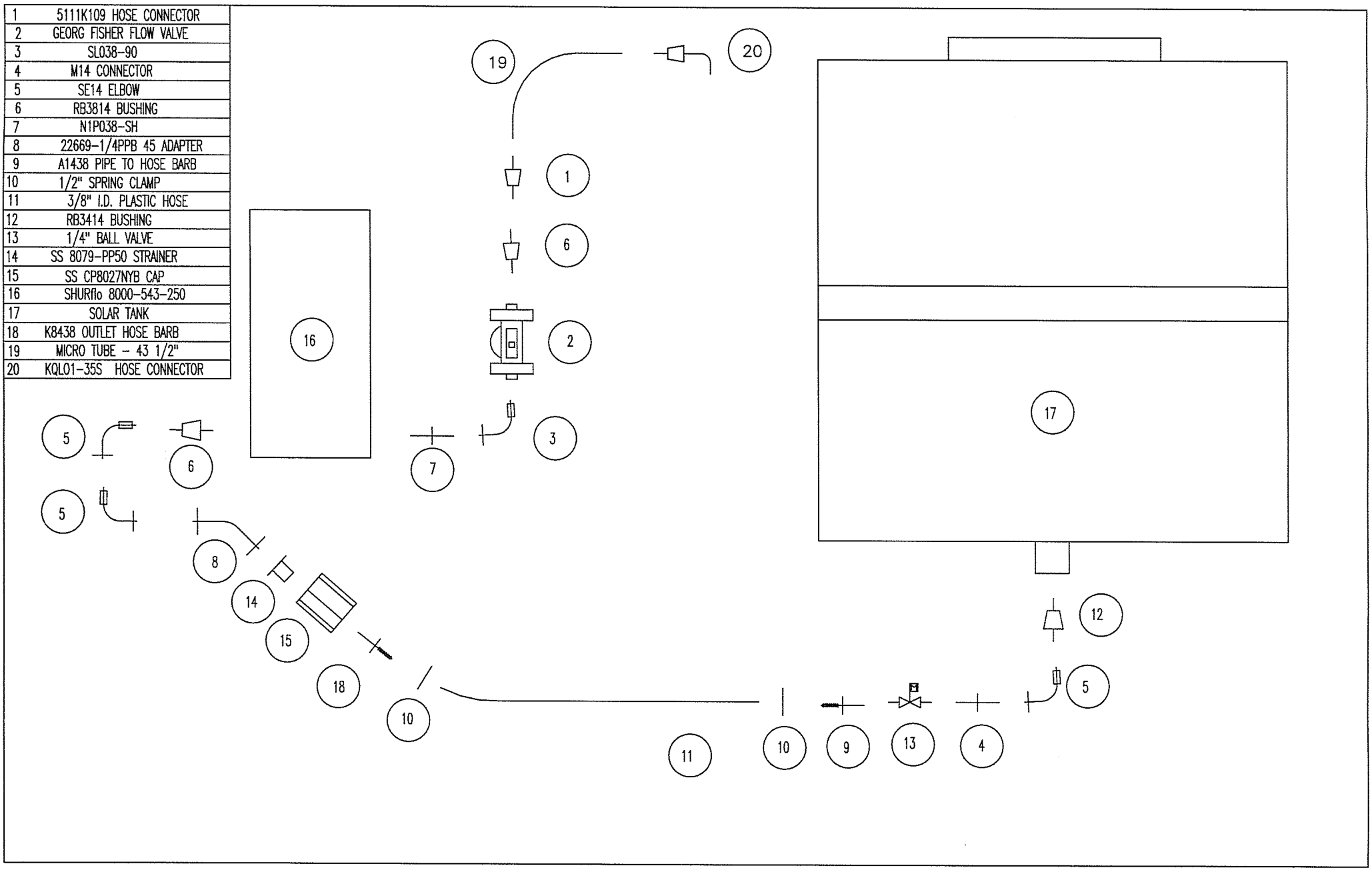
ADS SEED TREATER ELECTRICAL

1	0840A–TEST CLAMPS
2	30" W–0292–250–BL 2 WIRE CORD
3	0710P 2–WAY TRAILER CONNECTOR
4	9"6" 16 AWG 2 WIRE CORD
5	V3L–1122–D8 MICRO SWITCH
6	SS206S–BG TOGGLE SWITCH
7	8000–543–250 SHURflo
8	DALB–1–CG 1/2" LB (NOT SHOWN)
9	3/8"–1/4" STRAIN RELIEF (NOT SHOWN)
10	1/2"–3/8" STRAIN RELIEF (NOT SHOWN)



ADS PLUMBING LIST

1	5111K109 HOSE CONNECTOR
2	GEORG FISHER FLOW VALVE
3	SL038-90
4	M14 CONNECTOR
5	SE14 ELBOW
6	RB3814 BUSHING
7	N1P038-SH
8	22669-1/4PPB 45 ADAPTER
9	A1438 PIPE TO HOSE BARB
10	1/2" SPRING CLAMP
11	3/8" I.D. PLASTIC HOSE
12	RB3414 BUSHING
13	1/4" BALL VALVE
14	SS 8079-PP50 STRAINER
15	SS CP8027NYB CAP
16	SHURflo 8000-543-250
17	SOLAR TANK
18	K8438 OUTLET HOSE BARB
19	MICRO TUBE - 43 1/2"
20	KQL01-35S HOSE CONNECTOR



SHURflo

INDUSTRIAL PUMP 8000 SERIES

Installation and Operation Manual

SHURflo offers various pump models for different applications. The information outlined by this manual is general, and not specific to all 8000 series pumps. Be certain the pumps' materials will be compatible with the fluid being pumped. 8000 series pumps are intended for intermittent or continuous duty when the proper operating criteria are met. Information outlining specific thermal limits, loads, flow data, and other technical information for particular models are available. If unsure of the chemical compatibility with a given elastomers, or the motors' intended design, please call SHURflo for assistance.

CAUTION: "Intermittent Duty" is defined as: Operated and/or frequently started within a period of time that does not cause the motor to reach its maximum thermal limits. If the maximum thermal limit is obtained, the motor must be allowed to return to ambient temperature before resuming operation.

CAUTION: ***DO NOT* use to pump flammable liquids.** Never operate the pump in an explosive environment. Arcing from the motor brushes, switch, or excessive heat from an improperly cycled motor may cause an explosion.

CAUTION: ***DO NOT*** assume fluid compatibility. If the fluid is improperly matched to the pumps' elastomers, a leak may occur. Pumps used to transfer hazardous or hot (max. temperature 170°F [76°C] Viton™ only) chemicals must be in a ventilated area to guard against the possibility of injury due to harmful or explosive liquid/vapors.

CAUTION: ***DO NOT*** operate the pump at pressures which cause the motor to exceed the amperes rating indicated on the nameplate. Various pump models are equipped with thermal breakers to interrupt operation due to excessive heat. Once the temperature of the motor is within proper limits it will automatically reset, and the pump ***will start operation without warning.***

CAUTION: To prevent electrical shock, disconnect power before initiating any work. In the case of pump failure, the motor housing and/or the fluid being pumped may carry high voltage to components normally considered safe.

PRESSURE SWITCH OPERATION (If Equipped)

The pressure switch reacts to outlet pressure, and interrupts power at a preset shut-off pressure, indicated on the pump label. When outlet pressure drops below a predetermined limit (typically 15-20 PSI. [1-1.4 bar] less than the shut-off pressure), the switch will close and the pump will operate until the shut-off (high) pressure is reached again. The shut-off pressure is factory-set to calibrated standards.

CAUTION: Improper adjustment of the pressure switch setting may cause severe overload, or premature failure. Refer to SHURflo Service Bulletin #1031 for the proper adjustment procedure. Failures due to improper adjustment of the pressure switch setting will not be covered under the limited warranty.

If the plumbing is restrictive, or the flow rate is very low, the pump may repressurize the outlet faster than the fluid is being released, causing rapid cycling (ON/OFF within 2 sec.). If the pump is subjected to rapid cycling during normal operation, or for infrequent periods, damage may occur. Applications that exhibit rapid cycling should have restrictions in the outlet minimized. If not feasible, consider a SHURflo Accumulator or a SHURflo "bypass" model pump.

BYPASS OPERATION (If Equipped*)

A bypass pump may be used in an application that would normally induce frequent starts/stops of the motor, and thereby create a potential for overheating. Models equipped with an internal bypass are designed to pump at high pressure while at low flow rates. Bypass models equipped with a switch may operate for several seconds even though the discharge side has been closed off. Models equipped with a bypass only will continue to run until the power is turned OFF.

MOUNTING

- The 8000 series pumps are self-priming. Horizontal and vertical prime vary depending on the fluid viscosity and pump configuration. Refer to the pumps' Flow vs. Pressure Data.
- The pump should be located in an area that is dry, and provides adequate ventilation. If mounted within an enclosure, provisions to cool the motor may be necessary. Heat sinks, which attach to the motor, are available from SHURflo if increased heat dissipation is necessary.

CAUTION: ***DO NOT*** locate the motor near low temperature plastics or combustible materials. The surface temperature of the motor may exceed 250°F [121°C].

- The pump may be mounted in any position. However, if mounting the pump vertically, the pump head should be in the down position, so that in the unlikely event of a leak, fluid will not enter the motor.
- Secure the rubber feet with #8 hardware. ***DO NOT*** compress the feet; doing so will reduce their ability to isolate vibration/noise.

PLUMBING

- Use flexible, high-pressure tubing, compatible with the fluid to connect the inlet/outlet ports. Tubing should be either 3/8" or 1/2" [10 or 13 mm] I.D., and at least 18 in. [46 cm] length is suggested to minimize stress on the fitting/ports, and reduce noise. Allow for the shortest possible tubing route and avoid sharp bends that may kink over time.
- Installation of a 50-mesh strainer is recommended to prevent foreign debris from entering the system. Failures due to foreign debris are not covered under the limited warranty.

NOTE: Restrictions on the inlet may cause vacuum levels to reach the fluid vapor pressure, causing cavitation, degassing, vapor lock and a loss in performance. Inlet pressure must not exceed 30 psi [2.1 bar] maximum.

- If a check valve is installed in the plumbing, it must have a cracking pressure of no more than 2 psi [.14 bar].

NOTE: SHURflo does not recommend the use of metal fittings, or rigid pipe, to plumb the inlet/outlet ports. Standard plastic male and female threaded fittings can be acquired at commercial plumbing supply stores. SHURflo also distributes Swivel Barb Fittings, and special fittings, through our dealers (See SHURflo website for list of available dealers).

- **3/8" Female NPT models:** In some cases, the ports may require a suitable thread sealer applied sparingly. ***DO NOT*** over-tighten, max. torque 3.7 ft\Lb (45 in\Lb) [5 Nm].
- **1/2" Male threaded models:** Are intended to be used with SHURflo Swivel Barb Fittings, which seal with an internal taper when ***hand tightened***. Standard 1/2" NPT fittings may be used when tightened to a max. torque of 3.7 ft\Lb (45 in\Lb) [5 Nm].

CAUTION: Sealers and Teflon tape may act as a lubricant, causing cracked housings or stripped threads due to over tightening. Care should be used when applying sealers. Sealers may enter the pump, inhibiting valve action, causing no prime, or no shut-off. A failure due to foreign debris is not covered under warranty.

- **Snap-Lock models:** The slide fittings are open when the slide is moved out toward the switch. Fittings should be inserted flush against housing port before the slide is moved to the locked position. Fittings of Nylon or Polypropylene are available in various sizes.

ELECTRICAL

CAUTION: Electrical wiring should be performed by a qualified electrician, in accordance with all local electrical codes.

- Improper duty cycle and/or rapid start/stop conditions may cause the internal thermal breaker (if equipped) to trip, or can result in premature motor failure due to excessive heat. Refer to the pumps' Flow vs. Pressure Data.
- Pumps should be on a dedicated (individual) circuit, controlled with a double pole switch (UL/C-UL certified) rated at, or above, the fuse ampere indicated by the pump motor label. Depending on the distance of the

power source from the pump, and ampere load on the circuit, wires may need to be heavier than indicated by the chart.

CAUTION: All 115 VAC and 230 VAC pump motors and systems, ***MUST*** be grounded per local and state electrical codes.

- For the pump to meet UL/C-UL requirements the circuit ***MUST be protected with a slow-blow fuse*** (UL/C-UL certified), or equivalent circuit breaker, as indicated on the motor label. Use an approved wire of the size specified or heavier.

VOLTAGE	MODEL	FUSE (amp)	WIRE LEADS	WIRE SIZE
12 DC	80XX-XXX-XXX	7.5 ~ 15.0	RED (positive +) BLACK (negative -)	#14 AWG [2.5 Mm²] (or heavier)
24 DC	80XX-XXX-XXX	2.5 ~ 10.0		
36 DC	80XX-XXX-XXX	1.5 ~ 5.0		
115 AC	800X-X1X-XXX 800X-X2X-XXX	1.25	BLACK (common/hot) WHITE (neutral) GREEN (ground)	#18 AWG C-UL / TEW 1015 (or heavier) [1 Mm²]
	800X-X3X-XXX 800X-X6X-XXX	1.0		
230 AC	800X-X0X-XXX 809X-X0X-XXX	0.8	BROWN (common/hot) BLUE (neutral) GRN/YELL (ground)	
	800X-X9X-XXX 809X-X1X-XXX	0.5		

CAUTION: Circuit protection is dependent on the individual application requirements. Failure to provide proper overload/thermal devices may result in a motor failure, which is not covered under the limited warranty.

*The information outlined by this manual is general, and not specific to all 8000 series pumps. Contact the factory for information outlining technical specifications for a particular model.

TROUBLESHOOTING

PUMP WILL NOT START:

- ✓ Fuse or breaker
- ✓ For correct voltage (±10%) and electrical connections
- ✓ Pressure switch operation and correct voltage at switch or motor wires (as equipped)
- ✓ Rectifier or motor for open or grounded circuit
- ✓ For locked drive assembly

WILL NOT PRIME: (No discharge/motor runs)

- ✓ Out of product
- ✓ Strainer for debris
- ✓ Inlet tubing/plumbing; severe vacuum leak
- ✓ Inlet/Outlet tube severely restricted (kinked)
- ✓ For debris in pump inlet/outlet valves
- ✓ Proper voltage with the pump operating (±10%)
- ✓ Pump housing for cracks

LEAKS FROM PUMP HEAD OR SWITCH:

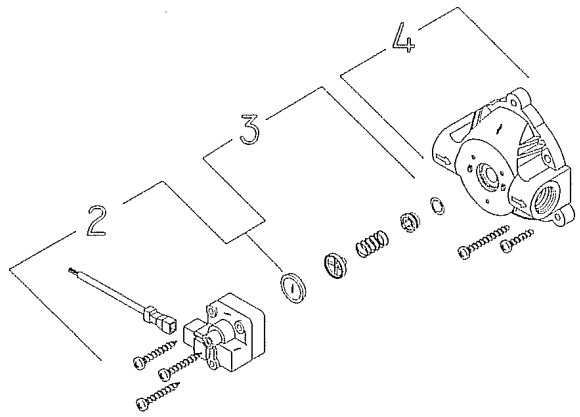
- ✓ For loose screws at switch or pump head.
- ✓ Switch diaphragm ruptured or pinched
- ✓ For punctured diaphragm if fluid is present at bottom drain holes

PUMP WILL NOT SHUT-OFF:
(Pressure switch equip.)

- ✓ Output line closed and no leaks
- ✓ For air trapped in outlet line or pump head
- ✓ For correct voltage to pump (±10%)
- ✓ Inlet/Outlet valves for debris or swelling
- ✓ For loose drive assembly or pump head screws
- ✓ Pressure switch operation/adjustment (Refer to S/B #1031 for proper differential and pressure adjustment procedure)

NOISY / ROUGH OPERATION:

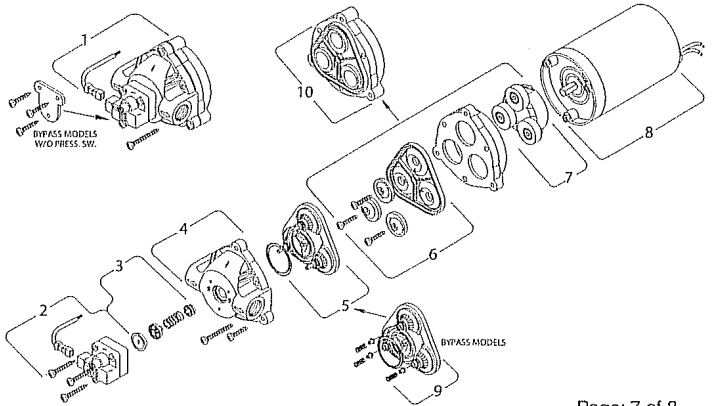
- ✓ For mounting feet that are compressed to tight
- ✓ For loose pump head or drive screws
- ✓ Does the mounting surface multiply noise (flexible)
- ✓ Is the pump plumbed with rigid pipe causing noise transmission



SERVICE KITS

Kits are readily available to repair standard 8000 series pumps. Repair kits include simple illustrated instructions, allowing easy installation. To insure that the correct kit is received, the model number and all nameplate data must be included with the order. Contact a SHURflo distributor, or SHURflo directly, to order the necessary repair kit.

KEY#	DESCRIPTION
1	Complete assembled pump head
2	Pressure switch assembly
3	Check valve components
4	Upper housing
5	Valve assembly
6	Diaphragm assembly
7	Drive Assembly
8	Motor
9	Bypass Valve assembly
10	Solid Diaphragm assembly



INDUSTRIAL PRODUCT LIMITED WARRANTY

SHURflo Industrial series pumps and products are warranted to be free of defects in material and workmanship under normal use, for a period of one (1) year from the date of manufacture, or one (1) year from date of purchase, with proof of purchase. This limited warranty will not exceed two (2) years, in any event.

The limited warranty will not apply to pumps/products that were improperly installed, misapplied, damaged, altered, incompatible with fluids or components not manufactured by SHURflo.

All Industrial pumps/products ***must*** be flushed of ***any*** chemicals before shipping✧. All warranty considerations are governed by SHURflo's written Return Policy.

Returns are to be shipped postage prepaid to either service center; SHURflo Cypress, CA or Elkhart, IN. SHURflo shall not be liable for freight damage incurred during shipping. Package returns carefully.

SHURflo's obligation under this warranty policy is limited to the repair or replacement of the pump/product. All returns will be tested per SHURflo factory criteria. Products found not defective (under the terms of this limited warranty) are subject to charges paid by the returnee for the testing and packaging of "tested good" non-warranty returns.

No credit or labor allowances will be given for pumps or products returned as defective. Warranty replacements will be shipped on a freight allowed basis. SHURflo reserves the right to choose the method of transportation.

This limited warranty is in lieu of all other warranties, expressed or implied, and no other person is authorized to give any other warranty or assume obligation or liability on SHURflo's behalf. SHURflo shall not be liable for any labor, damage or other expense, nor shall SHURflo be liable for any indirect, incidental or consequential damages of any kind incurred by the reason of the use or sale of any defective product or part. This limited warranty covers industrial products distributed within the United States of America. Other world market areas should consult with the actual distributor for any deviation from this document.

RETURN POLICY

All Industrial pumps/products ***must*** be flushed of ***any*** chemical (ref. OSHA Section 1910.1200 (d)(e)(f)(g)(h)) and hazardous chemicals ***must*** be labeled / tagged before being shipped✧ to SHURflo for service or warranty consideration. SHURflo reserves the right to request a Material Safety Data Sheet from the returnee for any pump/product it deems necessary. SHURflo reserves the right to "disposition as scrap" pumps/products returned which contain unknown fluids. SHURflo reserves the right to charge the returnee for any and all costs incurred for chemical testing, and proper disposal of components containing unknown fluids. SHURflo request this in order to protect the environment and personnel from the hazards of handling unknown fluids.

✧ Carriers, including U.S.P.S., airlines, UPS, ground freight, etc., require specific identification of any hazardous materials to be shipped. Failure to do so may result in a substantial fine and/or prison term. Check with your shipping company for specific instructions.

SHURflo
Pentair Water

NSF COMPONENT

SHURflo reserves the right to update specifications, prices, or make substitutions.

SHURflo
5900 Katella Ave.
Cypress, CA 90630
(800) 854-3218 (562) 795-5200
FAX (562) 795-7564
Shipping: 5900 Katella Ave., Suite B
Cypress, CA 90630

SHURflo East
52748 Park Six Court
Elkhart, IN 46514-5427
(800) 854-3218

SHURflo Europe, Middle East, Africa
Pentair Water Belgium bvba
Industriepark Wolfstee, Toekomstlaan 30
B-2200 Herentals, Belgium
Phone +32-14-283500 • Fax +32-14-283505

911-314 Rev. T 02/09 ECO 16213

Inoculator
Seed Treater
Patent Pending

Manufactured By:

Enviropac, Inc.
229 St. Rt. 251
Compton, IL 61318

The Inoculator/Seed Treater has been manufactured by:

ENVIROPAC, INC.
229 ST. RT. 251
COMPTON, IL. 61318-0229

Call our CUSTOMER ASSISTANCE NUMBER: 800/752-1414 for service, warranty or any suggestions that you may have concerning the use or operation of the treater. Thank you for your purchase of our equipment!

WARRANTY

The only warranty Enviropac, Inc. gives and the only warranty the distributor or dealer is authorized to give is as follows:

Duration: One (1) year from date of purchase of this product.

We warrant products sold by us to be in accordance with our published specifications or those specifications agreed by us in writing at the time of sale. Our obligation and liability under this warranty is expressly limited to repairing, or replacing , at our option, within 12 months after the date of retail delivery, any product not meeting the specifications. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. Our obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect or consequential damage or delay. If requested by us, products or parts for which a warranty claim is made are to be returned transportation prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by us, or any alteration or repair by others in such manner as in our judgment affects the product materially and adversely shall void this warranty.

NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.

Enviropac, Inc. reserves the right to make improvement changes on any of our products without notice.

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

Failure to follow all Safety Rules and precautions can result in serious injury or death.

WARNING: The warnings and safety instructions in this manual must be followed to provide reasonable safety and efficiency in using this unit. The operator is responsible for following warnings and instructions in this manual and on the unit. Read the entire Operator's Manual before installing and using the unit! Restrict the use of the unit to persons who read, understand and follow the warnings and instructions in this manual.

OPERATOR SAFETY

- Always wear goggles, gloves and appropriate clothing when operating, servicing or performing maintenance on the unit.
- DO NOT operate the unit when you are tired, ill, upset or if you are under the influence of alcohol, drugs or medication.
- Keep children and bystanders away from the work area when connecting, disconnecting or operating the unit.
- Restrict the use of this unit to persons who have read, understand and follow the warnings and instructions in this manual.
- The unit is designed to dispense dry inoculants or seed treatment additives only. DO NOT dispense liquid treatments.

ELECTRICAL SAFETY

- Use only on 12 volt system .
- Do not use in presence of flammable liquids or gases to avoid creating a fire or explosion and/or causing damage to the unit.
- **WARNING - TO REDUCE THE RISK OF ELECTRICAL SHOCK -** Do not use in damp locations. Do not expose to snow, rain or water. Do not handle electric cord or unit with wet hands.

WARNING - To reduce the risk of electrical shock, the wiring is marked for outdoor application having an electrical rating not

less that the rating of the unit. Make sure your wiring remains in good condition.

- Do not use the unit if the switch does not turn the unit on and off properly. Have the unit repaired prior to use.
- Do not pull or carry by the cord. Do not unplug the unit by pulling on the cord. To unplug, grasp the plug, not the cord.

UNIT SAFETY

- Stop the motor and disconnect the power source before opening the base of the unit. Wiring within the base unit or at the battery can cause a shock or injury hazard.
- Inspect the entire unit before each use for worn, loose, missing or damaged parts. Do not use until the unit is in proper working order.
- Have all internal parts service performed by qualified repair personnel to avoid creating a hazard.
- Never run the unit without the proper equipment attached.
- Do not use any accessory or attachments other than those recommended by the manufacture for use with your unit.
- Use only in daylight or in good artificial light.

OPERATION SAFETY

- **Mount the unit securely to the bulk seed wagon**. Improper mounting can cause the unit to tip over, damaging the unit or causing the material not to dispense properly.
- Avoid accidental starting. Be sure the switch is in the off position when the unit is attached to the battery source.
- After attaching the treater to the power source, check to verify that the switch is operating properly. If the switch does not activate the unit, disconnect from the power source prior to servicing.

IF ANY ELECTRICAL PROBLEMS ARE PRESENT, DISCONNECT THE BATTERY CLAMPS AND CORRECT THE PROBLEM IMMEDIATELY!

- Operator MUST be at the work station to turn on master switch.
- Turn off all controls and allow the motor to stop before disconnecting the unit from the power source.
- Avoid dangerous environments. Do not use in unventilated areas or where dust or explosive vapors can build up.

- Do not overreach or use from unstable surfaces such as ladders or slopes. Keep firm footing and balance at all times.
- Keep others including children and bystanders a minimum of 30 feet away. Stop the motor immediately if you are approached.

MAINTENANCE SAFETY

- Maintain the unit according to recommended procedures.
- Disconnect the power source before servicing, cleaning, performing maintenance or storing the unit.
- Use only genuine replacement parts as recommended by the manufacture to avoid creating a hazard.
- Never douse the unit with water or other liquids. Clean as shown in "CLEANING AND STORAGE" area of manual.
- Check the electrical wiring prior to each use, ***always*** with the unit stopped and the power source disconnected.
- Store the unit when not in use in a cool, dry area indoors away from dry or liquid fertilizer.

ASSEMBLY

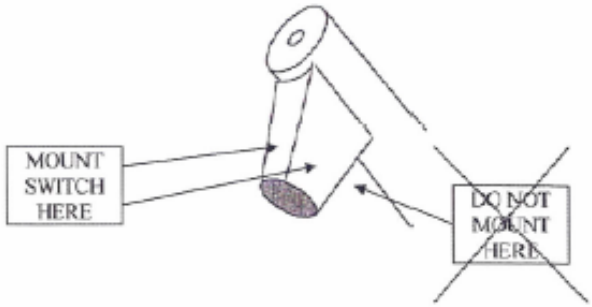
A. PREPARATION

Your Operator's Manual has been developed to help you assemble the unit and to understand its safe operation. It is important that you read your manual completely to become familiar with the unit before you begin assembly or operation. If you have any questions or need further assistance, call our **CUSTOMER ASSISTANCE NUMBER**:

ENVIROPAC, INC.
800/752-1414

B. OPTIONAL MICRO SWITCH MOUNTING ASSEMBLY

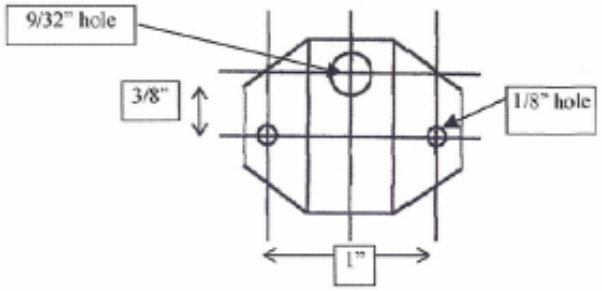
1. The optional automatic switch is designed to provide *"hands free"* operation of the unit. It is important to mount the switch to provide a 30° angle ***down*** into the flow of the grain. (See drawing). The switch must be positioned in a location of the discharge spout to maintain a 30° angle for the switch. In order to mount the switch it will be necessary to have access to the discharge area of the conveyor.



WARNING: Disconnect the power source on the conveyor before Installing the micro switch.

2. Attach the micro switch to the mounting bracket using two (2) M3 X 16 mm bolts, spring washers and nuts. **IMPORTANT:** Micro switch must be pushed to the top of the mounting bracket and the bolts tightened securely to provide proper lever clearance.

3. A template is provided to drill the mounting bracket holes. Attach the template to the conveyor discharge. Drill two (2) 1/8" holes for the #8 X 1/2" sheet metal screws. Drill a 9/32" hole forthe switch lever arm. Attach the mounting bracket to the conveyor.

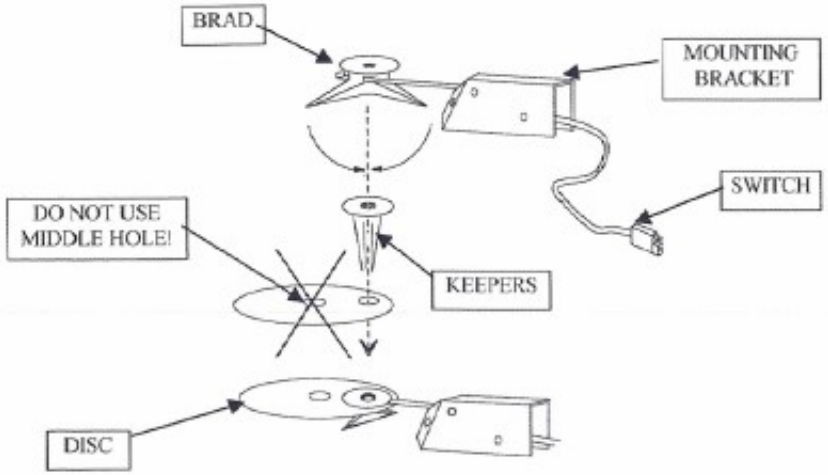


NOTE: Check the operation of the switch by depressing the lever arm. There will be a **"click"** sound if the switch is properly mounted. If you do not hear the sound, adjust the switch to provide correct alignment.

A. Make certain the switch is tightened at the top of the bracket.

B. Check that the hole placement matches the measurements shown

3. a. Place the nylon brad inside the discharge of the conveyor on the end of the lever arm. The neck area of the brad will be at the end of the lever arm.
   b. Bend the brad keepers down until they touch.
   c. Place the disc into the brad, USING THE OUTSIDE HOLE. **(Do not use the center hole)**
   Bend the keepers back to a level position under the actuator disc.
   d. Again, check the switch operation by depressing the disc and listening for the **"clicking"** sound.

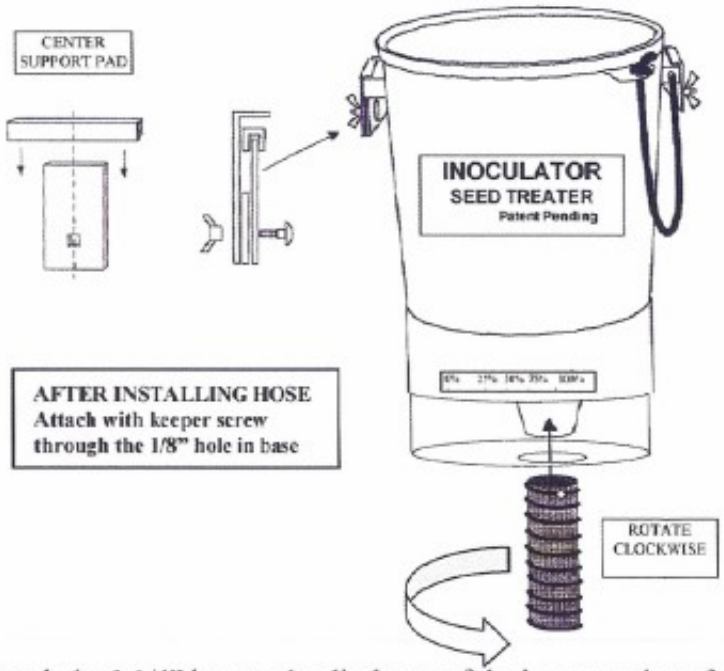


C. MOUNTING THE UNIT TO THE GRAIN CART

1. The unit has been assembled and tested at the factory. It is important that it be securely mounted to the grain cart. This will prevent tipping over the unit and damaging the unit or hose assembly. Also it will provide level discharge of the product from the unit.

2. Mount the universal mounting bracket (bolts not provided) to the grain cart at a location that will provide a **straight hose** location into the hopper of the conveyor. **If the hose is not straight, product may not discharge correctly!** It should be at a height that can be conveniently reached by the operator.

3. Attach the treater to the mounting bracket as shown in the following drawing.



4. Attach the 1 1/4" hose to the discharge of the lower section of the treater. The hose should be pushed firmly onto the to the discharge spout. The hose end that attaches to the treater has been expanded & "marked". ROTATE THE HOSE CLOCKWISE TO TIGHTEN ON THE SPOUT. The spout is located above the outlet hole in the base of the unit. **DO NOT** cut the hose until the area of moving grain is determined. (See step 1 in calibration area)

D. ATTACHING WIRING HARNESS (AUTOMATIC MODEL)

The unit has weather resistant plug connections at the motor/gearbox and at the optional automatic switch. Battery clamps are provided on the main wiring harness for attachment to a 12 Volt power source.

CAUTION: Do not connect the battery clamps until the cable is properly connected to the motor and optional micro switch.

1. Remove the plug guard from the 6" main wiring harness plug connection. Attach to the matching plug on the motor harness of the treater.

2. Run the main harness behind the treater and along the conveyor to the top of the conveyor. If the optional automatic switch is installed, remove the plug guard from the exposed connection of the main wiring harness plug. IF THE OPTIONAL SWITCH IS NOT USED, **DO NOT REMOVE THE PLUG GUARD!**
3. Attach the 12" main wiring harness connection plug to the matching plug on the micro switch (if installed).

4. Make sure the wiring harness is located where it will not be damaged when the conveyor is folded or unfolded.

5. Secure the main harness to the conveyor to maintain the proper position. Cable ties can be used to secure the wiring.

6. Run the toggle switch cable down the spout and secure it to the spout. Position the switch box at a convenient location for operation.

7. Prior to attaching the battery cables, make certain the toggle switch is in the "OFF" position. Attach the RED clamp to the positive pole on the battery and the BLACK clamp to the negative pole of the battery. **This is important to provide proper blade rotation.**

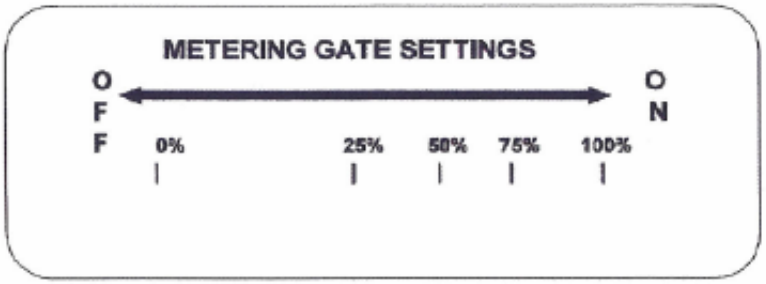
8. While at the operator's station, turn the toggle switch to the "ON" position. The blade should be running **counter clockwise.** If it is not running that direction, shut-off the toggle switch and reverse the battery clamps.

E. ATTACHING WIRING HARNESS (DIRECT WIRED MODEL)

This model is used with "existing" wiring & switch on the conveyor. The unit must be wired direct with the conveyor or air system. Attach the WHITE wire to the positive lead and the BLACK wire to the negative lead. **This is important for proper blade rotation.**

CALIBRATION

A. With various product consistencies and flow rates to be dispensed and types of conveyors, each grower must calibrate the unit for his particular conditions. The following scale on the treater will provide **percentage** of flow rate consistent with product being dispensed. **For each product being used, the treater must be re-calibrated.**



1. **IMPORTANT: For proper treatment of seed, the location of the discharge hose is important. The hose should be positioned to apply the product ABOVE the *"flow"* of the grain. Seed must be moving past the end of the hose. It will be necessary to have product in the grain cart and run the conveyor to determine the correct hose position. DO NOT PUT HOSE IN GRAIN!**

2. Prior to running the treater and seed at the same time, it is necessary to match the flow rate of the treater to the capacity of the conveyor.

3. Meter the flow of seed at the hopper into the conveyor until a steady flow moves across the outlet of the hose.

4. **CALIBRATION - OPTION 1**

a. Time the quantity of seed conveyed in one (1) minute at the rate required for seed movement across the hose. RECORD THE QUANTITY CONVEYED IN POUNDS OF SEED.

b. Using the manufactures recommended treatment rate, determine the ounces to treat the amount conveyed in the above step and place this amount of treatment in the treater.

c. With the treater set at 100% of flow and a container under the discharge hose, run the treater and time the flow rate required to empty the container. RECORD THE TIME TO DISPENSE THIS QUANTITY.

d. Compare the time to convey the seed with the time to discharge the treater. The convenient scale for the metering gate will allow you to calculate the correct setting. EXAMPLE:

Step 1: 480# of seed conveyed in 60 sec
Step 2: 30.72 ounces required to treat 480# of seed
Step 3: 45 seconds required to empty treater at 100% rate
Step 4: Divide 45 sec by 60 sec = 75% gate setting.

$$\frac{\text{Actual time in sec}}{\text{60 seconds}} = \text{Adjusted gate setting \%}$$

e. If the treater does not empty totally, slow the conveyor and repeat calibration.

4. **CALIBRATION - OPTION 2**

a. Fill the treater with the correct quantity of treatment for a total drill or planter fill.

b. Set the treater at 100% of discharge rate.

c. Begin filling the planter or drill at the correct rate to provide seed movement across the discharge of the hose. Run the treater in the "ON" position.

d. When the drill or planter is approximately 1/2 full, shut-off both the treater and conveyor.

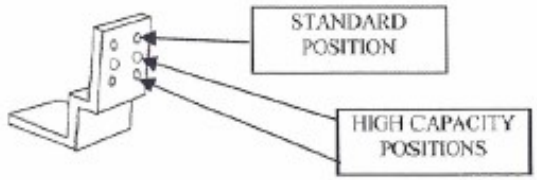
e. Check the amount of seed treatment in the treater. If it has approximately 1/2 of the material in the container, the setting is close to the proper rate and will need no adjustment. If the treater is less or more than 1/2 full, measure the amount in the treater. Adjust the gate to the lower setting prior to the next fill or slow the conveyor and repeat calibration. Proper calibration should be obtained after several fills of the drill or planter. EXAMPLE:

Step 1: Drill holds 2500# of seed.
Step 2: 160 ounces of treatment required to treat 2500# of seed
Step 3: Set the treater at 100% of flow rate
Step 4: Fill the drill or planter to approximately 1/2 full.
Step 5: The measured amount of treatment in the treater is 55 ounces. (105 ounces have been used)
Step 6: Divide 80 ounces (Req. amount of 1/2 of drill fill) by 105(act amount used) = 75% gate setting

$$\frac{\text{Req. amount}}{\text{Act amount used}} = \text{Adjusted Gate Setting \%}$$

B. METERING LEDGE POSITION

1. The metering ledge is provided to maintain a consistent flow rate from the treater and to prevent plugging of certain products. Depending on the product being applied and the rate of the conveyor, the ledge can be positioned for standard or high capacity. **IMPORTANT:** If the product contains lumps or is not in proper condition, the lumps need to be broken into finer sizes prior to being put in the treater. These lumps can cause plugging of the discharge.



USING THE INOCULATOR/SEED TREATER

A. OPERATOR SAFETY

As an inoculator/seed treater the unit is designed to dispense dry material. NEVER use the unit with any liquid products.

Read this manual completely prior to operating the unit and refer to the OPERATION SAFETY section on page 2.

B. DISPENSING DRY PRODUCTS INTO GRAIN

1. After the treater is properly calibrated and the hose is positioned into the flowing area of the grain, treatment may begin.

WARNING: Keep hands away from moving areas of the conveyor!

2. Set the metering gate at the proper position from the calibration.

3. Fill the treater with the amount of product required for the seed to be dispensed for **one fill of the drill or planter.** This helps maintain quality of certain dry treatment products. Also, it eliminates too much product in the treater if planting has to stop because of weather, field size, etc. IF PRODUCT IS IN THE CONTAINER DURING MOVEMENT, COMPACTING CAN OCCUR AND DAMAGE TO THE TREATER.

NOTE: Do Not attach the lid with product in the container. Excessive condensation & damage to the product can occur.

4. Open the slide gate(s) on the grain cart to provide the correct flow of grain.

5. While on the platform, turn the toggle switch to the "ON" position and begin the filling process of both the grain and seed treatment.

6. When grain begins to discharge from the conveyor, flip the switch to the "AUTOMATIC" position for hands-free operation. (Optional)

7. If for some reason the automatic switch does not begin operation, switch back to the "ON" position and continue to fill. (See "Trouble Shooting" area if problem continues)

8. After filling the drill or planter, move the toggle switch to the "OFF" position.

NOTE: Direct wired units will run only when the conveyor is running.

GENERAL MAINTENANCE & TROUBLE SHOOTING

A. IN-SEASON MAINTENANCE

DISCONNECT THE POWER SOURCE ON THE TREATER AND THE CONVEYOR BEFORE SERVICING, CLEANING OR PERFORMING MAINTENANCE ON THE UNIT.

1. The Inoculator/Seed Treater is designed to move dry, flow able product. If the product contains lumps or takes on humidity, it may cause plugging of the discharge spout.

2. **The discharge spout becomes plugged**
   a. If the unit becomes plugged , disconnect the unit from the power source. Dislodge the plugged spout by removing the hose and dislodge the material in the spout. Inspect the material and if the product is not of the correct consistency, replace with correct product. After the problem is corrected, reconnect to power source.
   b. Product may "backup" in the hose if the grain is not flowing past the discharge of the hose. Shut off the power at the treater AND the conveyor. Set the metering rate of the conveyor to provide movement of grain past the discharge of the hose. Also, the discharge hose **must** be straight to provide proper discharge.

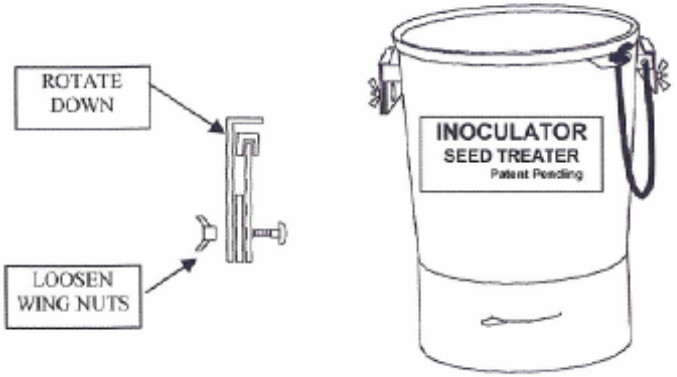
WARNING: Keep hands away from moving areas of the conveyor!

3. **The material becomes packed in the treater**
Product should not be transported or left in the treater overnight.

STOP

DO NOT TRANSPORT WITH PRODUCT IN TREATER!
*** PRODUCT CAN GO OUT OF CONDITION**
*** PRODUCT CAN COMPACT & DAMAGE TREATER**

If planting is delayed because of weather, moving fields, etc. and product is left in the treater, packing may occur.
Remove any unused product prior to transporting or for overnight storage.
Also, the treater is designed to hold only enough material for each drill or planter fill. This keeps the seed treatment out of the sunlight and maintains the quality of the material. To remove treater, loosen thumb screws on mounting bracket and rotate the hold down clips down.



4. **Optional automatic switch does not run the conveyor**

a. It is important the switch be located in an area at a 30° or greater angle to the flow of grain. If it is not in this position, small seed may lodge in the lever arm hole.

⚠ **Disconnect power at the treater and the conveyor prior to servicing the switch!**

b. Check the position of the micro switch in the bracket. Make certain that the switch is securely positioned at the top of the mounting bracket.

5. **The treater does not empty at the correct rate**
For each product being used, the treater must be re-calibrated.
SEE PROPER CALIBRATION (page 8).

6. **The treater does not run in manual or automatic**
a. Check the connection at the power source
b. Make certain that all plugs are fully plugged in.

7. **The blade turns on the shaft**
Make certain the set screw is properly tightened. Position the blade so that the flat side of the blade matches the flat of the gearbox shaft.

END OF SEASON MAINTENANCE

At the end of the season or if the treater will not be used for a period of time, following is the proper storage procedure.

1. Disconnect the main wiring harness from the connection on the treater.

2. Unbolt the treater from the mounting bracket.

3. **To winterize the treater**:

a. With air, blow excess product from the container.

b. DO NOT apply any silicone or material to the motor or gearbox.

c. The automatic switch is water-tight, however, you may consider removing it and storing inside out of the weather.

d. The wiring harness is designed for outdoor use; however, you may consider removing and storing it inside, away from deterioration from the weather.

4. Store the treater when not in use in a cool, dry area indoors away from dry or liquid fertilizer.

CLICK FOR OWNERS MANUALS