

Gustafson



Farmer Applied Seed Treater (F.A.S.T.)



Installation and Operation Manual

LIMITED WARRANTY
GUSTAFSON SEED TREATING, CONDITIONING AND AUTOMATIC SAMPLING EQUIPMENT

Gustafson LLC warrants to the first purchaser Gustafson seed treating, conditioning and automatic sampling equipment to be free of defects in materials or workmanship for a period of 1 year. To obtain service under this warranty, the defect must be brought to the attention of a Gustafson technical sales representative for verification of the defect. The Gustafson technical sales representative will make arrangements of the repair or replacement of the defective material or workmanship through an authorized Gustafson manufacturing representative. Gustafson will, without charge for parts or labor, either repair or replace the defective part (s) using new or authorized remanufactured parts. The decision to repair or replace said part (s) is solely the prerogative of Gustafson LLC. Parts for which replacements are made become the property of Gustafson LLC.

Gustafson LLC makes no other express warranty on this product. **The duration of any implied warranties, including the implied warranty of merchantability, is limited to the duration of the express warranty herein. Gustafson LLC hereby excludes incidental and consequential damages, including loss of time, inconvenience, or loss of production, for any breach of any express or implied warranty, including any implied warranty of merchantability that may be applicable to this product.**

Some states do not allow limitation on how long an implied warranty lasts, or the exclusion or limitation of incidental or consequential damages, so the above limitation and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. Any legal claim or action arising from any express or implied warranty contained herein must be brought to Gustafson LLC within 6 months of the date it arises.

This warranty does not apply to the following:

Maintenance - This includes, but is not limited to, such things as cleaning, flushing systems, corrosion prevention, mechanical or electrical adjustments, or repairs which become necessary through normal wear and tear; or periodic maintenance such as lubrication and gear or variable speed oil changes.

Service and wear items - This includes, but is not limited to, the replacement of belts, drive chains, sprockets, fasteners, bulbs, fuses, ball bearings, bushings and other electrical or mechanical components that have a useful life based on how much these components are used.

Lack of service - This includes, but is not limited to, damage attributable to failure to perform maintenance in services in accordance with the manufacturer of the component.

Damage - This includes, but is not limited to, damage resulting from negligence, improper installation, the installation process, improper or incorrect wiring, corrosion, construction welding, freight damage.

Controls - Systems without Gustafson supplied control packages or systems using other controls are not covered under the terms of this warranty.

TRAINING, CALIBRATION ASSISTANCE AND SERVICE CALLS

Gustafson trained employees may assist in the training and calibration of equipment - Due to factors such as temperature variations, seed flow changes, improper mixing procedures and other factors that are out of Gustafson LLC's control, Gustafson LLC does not accept responsibility for the calibration of the system.

Electronic controlled seed and chemical proportioners - Infield training and calibration assistance of up to 15 hours or 1 trip to the purchaser's location is included in the price of qualified electronic controlled seed and chemical proportioners. Additional hours will be billed to the purchaser at \$60 per hour plus travel expenses for units in the continental United States. Electronic controlled seed and chemical proportioners purchased outside of the continental United States \$60.00 per hour portal to portal will be billed to the purchaser. Service calls for non-warranty items will be charged at \$60.00 per hour portal to portal plus expenses.

All other standard seed treaters, sizers and automatic samplers - Service calls for non-warranty items will be charged at \$60.00 per hour, per person, portal to portal.

Farmer Applied Seed Treater (F.A.S.T.)

The following instructions apply to the Gustafson LLC F.A.S.T. System. These instructions contain information on installation and calibration. Please read and completely understand these instructions before proceeding to install the equipment.

Gustafson LLC reserves the right to change specifications, models, components, or materials at any time without notice. For further detailed information and any questions regarding the equipment, call the Gustafson technical representative for your area. For parts or service call (800) 634-6738 or if you are in the Minneapolis area call (952) 445-6868. Please have this operation manual available when contacting Gustafson LLC.

SERIAL NUMBER _____

USE CAUTION

Always use caution and common sense when working with any chemical. Read the product label and MSDS carefully and follow the instructions exactly.

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Introduction

Gustafson's Farmer Applied Seed Treater (F.A.S.T.) System is a versatile seed treating system designed to be mounted directly on a truck box or wagon, to dispense fungicides, insecticides or inoculants, into any auger conveyance system.

The following instructions apply to Gustafson's F.A.S.T. System. The drawings in this manual are representative of the F.A.S.T. System. Use them as a guide for proper installation and operational procedures.

Read these instructions completely before proceeding to assemble, install and operate this machine.

This machine should be installed, operated and serviced by qualified individuals. Follow local, state and federal regulations for proper installation and operational requirements.

Please have this manual accessible when contacting the customer service representative for the area.

Installation

**REPORT ANY DAMAGE
IMMEDIATELY!**

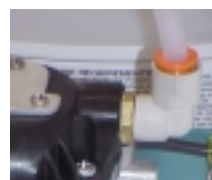
- ☞ Remove the F.A.S.T. System unit and remaining contents from the shipping carton and check for lost or damaged parts prior to installation.

- ☞ The F.A.S.T. unit can either sit on the ground or is equipped with a hanger bracket. Be sure that you mount or locate the unit in a secure area. The area should be convenient to get to, but safe from truck or tractor traffic and from tipping or access by small children. Do not mount the F.A.S.T. unit higher than the discharge site into the auger or chemical may be siphoned from the chemical container.



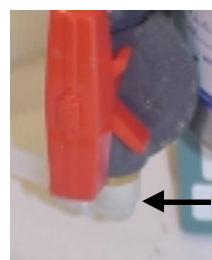
Compression fitting

- ☞ All fittings are compression fittings. Do not remove the orange plastic insert in the fittings. This is not a plug.



Pump in-port

- 1 Connect the intake hose on the suction line by inserting it into the in-port on the pump. Ensure that the hose is pushed all of the way into the port securely. The pump will inhale air if the intake line is not all of the way into the port and there will be no volume from the pump.



Metering valve

- 2 Connect the 3/8" OD discharge hose into the metering valve. Be sure to push the hose all of the way into the port securely. This hose should be as direct as possible to the auger and secured along the auger with wire ties or tape. It should never have low points caused by slack or be wrapped around the auger on the way to the auger bracket.



Auger bracket

- 3 To install auger bracket or auger 16' or longer, mount auger bracket approximately 4-6' from the grain intake end of the auger. For augers 8-16' long, mount the auger bracket 2-4' from the grain intake end of auger. Place the auger bracket and gasket on top of the auger and drill two 9/64" holes through the auger case. Mount the auger bracket with #10 self-tapping screws. Once the auger bracket is secure, drill a 3/8" hole through the center hole on the auger bracket. Attach elbow fitting to the auger bracket. Insert the discharge hose into the elbow fitting.

Installation, continued...

- ④ Depending upon which model you have, either connect the 12 volt battery cable to your battery, **red to positive (+)**, or connect your 115 volt power cord to a 115 volt power source.

You may begin the calibration process

Calibration

**CHECK CALIBRATION
BEFORE USE!**

- ❶ Always check calibration before use. Temperature, chemical viscosity, auger angle, auger capacity and an inconsistent 12 volt charging system, may affect calibration.
 - ❷ To properly calibrate the F.A.S.T. unit, it is necessary to determine the volume or weight of seed transported by the auger during a predetermined period of time. Access to scale, seed bags or any other device to measure the seed is essential.
 - ❸ Read the entire chemical label and make sure you understand the usage and rates to be applied. Take special note whether the recommended application rate of chemical use is given in **fluid ounces per bushel** or in **fluid ounces per CWT (100 lb.) of seed**.
- ☞ You have determined that the **chemical application rate** is 6.8 oz. per 100 lbs. of soybean seed. **This rate must be known prior to calibration.**

☞ **Example:** *It has been determined that the chemical rate is 6.8 oz. per 100 lbs. The auger is transporting 10 bushels or 600 lbs. of soybean seed in one minute. Therefore, it is necessary to catch 40.8 oz. of chemical per minute. $600 \text{ lbs.} \div 100 \text{ lbs.} = 6 \text{ cwt.} \times 6.8 \text{ oz. per cwt} = 40.8 \text{ oz. per minute.}$*



Suction pipe

- ❹ Mount a 2-1/2 gallon chemical container on the bracket (shake well before mounting). Remove the cap and insert the chemical suction pipe assembly in the container and secure the cap. Attach the quick-coupler to the suction pipe assembly. Remove the discharge hose from the auger bracket and place into a calibrated container. Make sure the battery cables are connected and turn the pump on to fill the discharge line with product. Use the calibration guide (page 11 of this manual).

Calibration, continued...



Metering valve

- ⑤ If the required volume of product is not correct, adjust the metering valve and repeat the procedure until proper product-to-seed ratio is achieved.

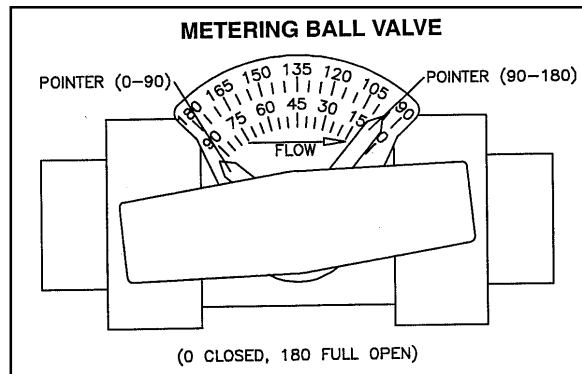
- ⑥ Re-connect the discharge line to the auger bracket.

You may begin the treating process.

- ☞ *Re-check the calibration if extremely high or low temperatures exist. The viscosity and flowability of certain chemical will change with temperature.*

☞Example, *treating in the early morning, when the temperature is cool and then again in the afternoon, when the temperature has changed, will affect the calibration.*

Valve Settings, contunued...



Small auger or low volume applications

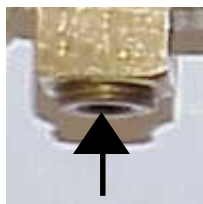
☞ In some cases where a 4" or smaller auger is used, the amount of seed that is transferred by the auger becomes low enough that the pump cannot accurately and consistently meter the low volume of chemical that is needed for proper calibration. This may also occur with some brush augers that are moving low volumes of seed per minute. Flow through the pump will be uneven or the pump may stop for a brief time, if the amount of chemical needed per minute falls below 8 oz.

☞ **Note:** *Brush augers will often times lose capacity when moving treated seed. Capacity may be cut by 25% or more. It may become necessary to cut back on the treatment rate to match the lower volume of treated seed moving through a brush auger. If soybeans seem wetter than they should, this could be the problem.*



Brass street "T"

☞ The F.A.S.T. unit may easily be adapted to correct low volume application problems: by-pass part of the chemical coming from the pump and still regulate the flow with the metered ball valve.



Brass plug

☞ Locate the brass street "T" between the galvanized street elbow and the metered ball valve. On the side of the street "T" is a brass plug. Remove this plug and install the extra brass elbow fitting contained in the auger bracket assembly. Remove the brass vent plug in the cap of the suction pipe. Run a piece of 3/8" OD tubing into the hole for the vent plug in the cap and insert the other end of the tubing into the extra brass fitting installed.

Maintenance

☞ **Note:** *The inside of the auger is coated with chemical and should not be used to convey grain for feed, food or oil purposes at any time! If you wish to auger seed without treating it, dis-engage the pump and close the metering ball valve.*

- ❶ When finished treating seed, remove the chemical dip tube from the chemical container. Disconnect the discharge tubing from the elbow fitting on the auger bracket and place it in the chemical container. Push in the orange plastic insert in the fitting and pull the discharge hose loose.
 - ❷ Turn the remote switch to ON to empty the chemical lines and the pump.
 - ❸ Place the chemical dip tube into a pail containing 1-2 gallons of clean water. Turn the remote switch to ON and pump the clean water through the system to flush the chemical lines, the pump and the metering ball valve. Repeat this procedure as needed until all lines, pump and valve are clean.
 - ❹ If the F.A.S.T. unit will be stored in sub-freezing temperatures, flush the system with R.V. antifreeze or a windshield washer fluid to prevent freezing.
 - ❺ Wrap all lines and hoses and store in a clean, dry location.
-

F.A.S.T. SYSTEM

REF	DESCRIPTION	12VDC	115VAC
1	DIP TUBE ASSEMBLY	42002500	42002500
2	FITTING, PLASTIC 3/8" NPT X 3/8"	25501200	25501200
3	FITTING, PLASTIC MALE COUPLER INSERT	28131400	28131400
4	FITTING, PLASTIC FEMALE COUPLER BODY	28131300	28131300
5	BREATHER VENT, 1/8" MPT	42000300	42000300
6	2-1/2 GAL. JUG CAP W/HOLES	42000200	42000200
7	PIPE COUPLER, GALV. 3/8"	24030000	24030000
8	FITTING, BRASS 3/8" MPT X 1/2" HOSE	27551700	27551700
9	TUBE SUCTION, 2/12" GALLON JUG	42000500	42000500
10	STRAINER, 12 MESH SUMP	42000400	42000400
11	POWER SWITCH ASSEMBLY	41013900	41013900
12	ELECTRICAL RUBBER-BOOT, 50151	42515	42515
13	ELECTRICAL ON/OFF LABEL	22202	22202
14	ELECTRICAL BOX COVER W/1 HOLE	43057-1	43057-1
15	ELECTRICAL BOX GASKET DIE	42566-1	42566-1
16	ELECTRICAL SWITCH, ON/OFF TOGGLE	25830	25830
17	ELECTRICAL BOX BODY - RED DOT AE-1	42037	42037
18	ELECTRICAL CONNECTOR - CORD, SHC-1023	42451	42451
19	POWER CORD, 20', 16-2	41014200	41014200
20	POWER SOURCE CORD	42000600	42940
21	AUGER BRACKET ASSEMBLY	27553200	27553200
22	FITTING, BRASS ELBOW 3/8" NPT X 3/8" HOSE	27552700 (2)	27552700 (2)
23	SCREW, TAP "AB", #10 X 1/2"	23710100	23710100
24	AUGER BRACKET	23730200	23730200
25	AUGER GASKET	23740000	23740000
26	BYPASS DIAPHRAGM -PISTON ASSY (REPAIR KIT)	42001200	42001200
27	BYPASS VALVE KIT (REPAIR KITS)	42001000	42001000
28	BYPASS UPPER HOUSING KIT (REPAIR KITS)	42001100	42001100
29	PAIL HANGER CLAMP ASSEMBLY	41002000	41002000
30	PAIL HANGER, 2-1/2 GALLON	41000000	41000000
31	ELECTRICAL CABLE CLAMP, 32N1275	42012	42012
32	PIPE, STREET ELBOW GALV. 3/8"	20681400	20681400
33	TUBING, POLY 3/8" OD (PER FOOT)	24060000	24060000
34	FITTING, BRASS ELBOW 3/8" NPT X 3/8" HOSE	27552700	27552700
35	PUMP, SHURFLO BYPASS	42000100	42000800

F.A.S.T. SYSTEM

REF	DESCRIPTION	12VDC	115VAC
36	CABLE, 5' PUMP TO SWITCH	42000700	42960
37	NIPPLE, BRASS HEX 3/8"	27550500	27550500
38	VALVE, 3/8" METERING BALL	27551500	27551500
39	FITTING, BRASS ELBOW 3/8" NPT X 3/8" HOSE	27552700	27552700
40	TUBING, POLY 3/8" OD (PER FOOT)	24060000	24060000
41	ELECTRICAL CONNECTOR	42150	42451
42	ELECTRICAL CONNECTOR, SHC-1023	42451	42451
43	ELECTRICAL BODY, CH T19	42555	42555
44	ELECTRICAL GASKET, 1941	42565	42565
45	ELECTRICAL COVER, CH 190	42560	42560
46	ELECTRICAL CONNECTOR	42150	42451
47	AUGER BRACKET SCREEN	23730300	23730300
48	PIPE PLUG 3/8"	23000800	23000800
49	STREET TEE 3/8"	27551800	27551800
50	PUMP ASSEMBLY	42002000	42003000
51	T - BODY ASSEMBLY	42001400	42001500
52	TRAVEL ASSEMBLY	42001300	42001300
*	MEASURING CUP (not shown)	41026000	41026000
**	SWITCH CORD ASSEMBLY (incl. ref # 11,20,51)	42002100	42002200
	COMPLETE FAST SYSTEM	332	333

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