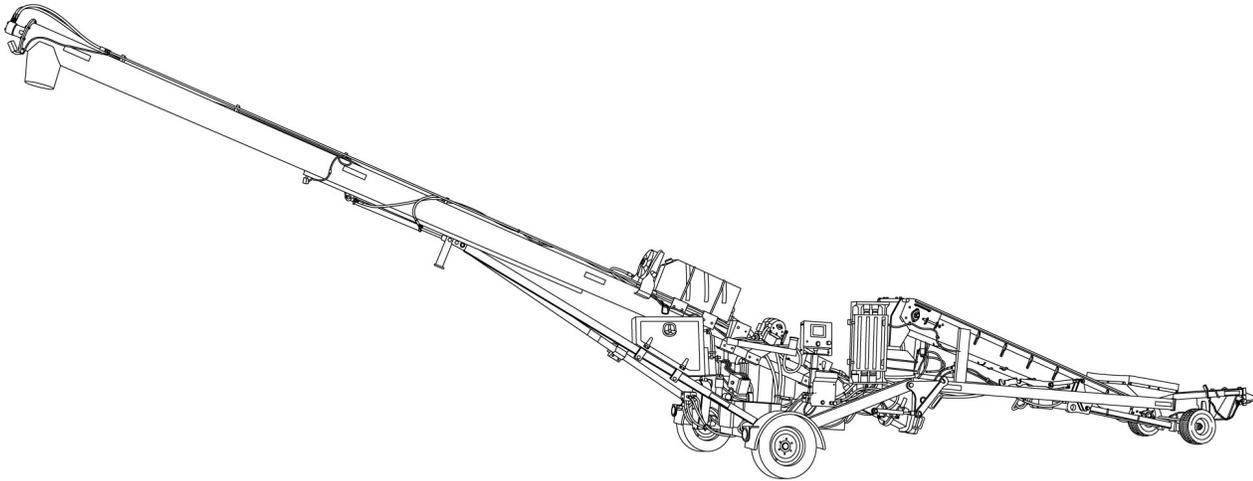


AGI **STORM**

Professional Series – 2017

Seed Treater Operator's Manual

Original Instructions



Read this manual before using product. Failure to follow instructions and safety precautions can result in serious injury, death, or property damage. Keep manual for future reference.

Part Number: 4400-90001

Revised: March 2020

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1. Introduction

Thank you for purchasing a STORM Seed Treater. Follow the instructions in this manual for safe use of the seed treater. With proper care, your seed treater will provide you with many years of trouble-free operation.

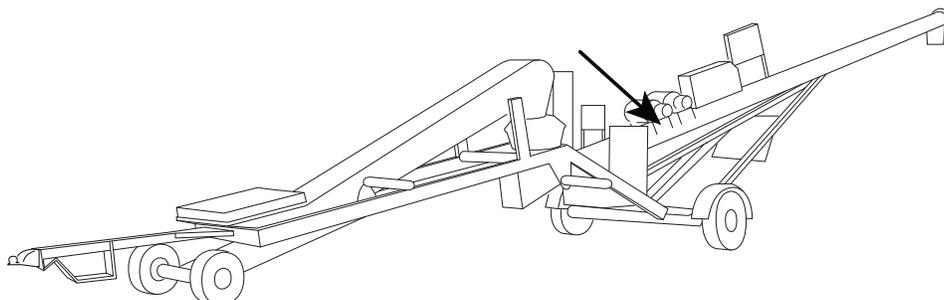
Keep this manual handy for frequent reference and to review with new personnel. A sign-off form is provided on the inside front cover for your convenience. If any information in this manual is not understood or if you need additional information, please contact your local distributor or dealer for assistance.

This manual should be regarded as part of the equipment. Suppliers of both new and second-hand equipment are advised to retain documentary evidence that this manual was provided with the equipment.

1.1. Serial Number Location

Always give your dealer the serial number on your seed treater (shown below) when ordering parts or requesting service or other information. Please record this information in the table below for easy reference.

Serial Number	
Date Received	



1.2. Intended Use

The seed treater is intended for use as listed below and described throughout this manual. Use in any other way is considered as contrary to the intended use.

The seed treater should be operated, maintained, serviced, and repaired only by persons who are familiar with its particular characteristics and understand the relevant safety procedures.

Accident prevention regulations and all other generally recognized regulations on occupational health and safety must be observed at all times.

Any modifications made to the seed treater may relieve the manufacturer of liability for any resulting damage or injury.

Intended use for the seed treater:

- seed types as detailed on the system Operation Screen.
- temperatures warmer than 32°F (0°C).

- capacity at 22.5-45 bu/min (1350-2700 lb/min).
- a suitable hopper bin or truck hopper.

Use in any other way is considered as contrary to the intended use and is not covered by the warranty.

1.2.1 Misuse

Do not install/use the seed treater for/with:

- lifting or using as a hoist or crane.
- any purpose other than treating seed.
- treating oilseeds such as canola.
- normal loading or unloading of grain.

2. Safety

2.1. Safety Alert Symbol and Signal Words



This safety alert symbol indicates important safety messages in this manual. When you see this symbol, be alert to the possibility of injury or death, carefully read the message that follows, and inform others.

Signal Words: Note the use of the signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTICE** with the safety messages. The appropriate signal word for each message has been selected using the definitions below as a guideline.



Indicates an imminently hazardous situation that, if not avoided, will result in serious injury or death.



Indicates a hazardous situation that, if not avoided, could result in serious injury or death.



Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.



Indicates a potentially hazardous situation that, if not avoided, may result in property damage.

2.2. General Product Safety

It is the owner, operator, and maintenance personnel's responsibility to read and understand all safety instructions, safety decals, and manuals and follow them when operating or maintaining the equipment.

- Owners must give instructions and review the information initially and annually with all personnel before allowing them in the work area. Untrained users/operators expose themselves and bystanders to possible serious injury or death.
- Use for intended purposes only.
- Do not modify the seed treater in any way without written permission from the manufacturer. Unauthorized modification may impair the function and/or safety. Any unauthorized modification will void the warranty.
- Follow a health and safety program for your worksite. Contact your local occupational health and safety organization for information.



2.3. Rotating Flighting Safety

DANGER

- KEEP AWAY from rotating flighting.
- DO NOT remove or modify flighting guards, doors, or covers. Keep in good working order. Have replaced if damaged.
- DO NOT operate the seed treater without all guards, doors, and covers in place.
- NEVER touch the flighting. Use a stick or other tool to remove an obstruction or clean out.
- Shut off and lock out power to adjust, service, or clean.



2.4. Overhead Power Lines

DANGER

- When operating or moving, keep seed treater away from overhead power lines and devices.
- The seed treater is not insulated.
- Electrocutation can occur without direct contact.



2.5. Cleated Conveyor Belt Safety

WARNING

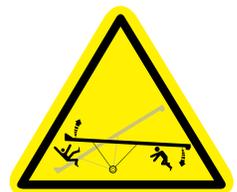
- KEEP HANDS AWAY from moving cleated conveyor belt.
- DO NOT remove or modify guards, doors, or covers. Keep in place and in good working order. Have replaced if damaged.
- DO NOT operate the conveyor without all guards, doors, and covers in place.
- Shut off and lock out power to adjust, service, or clean.



2.6. Upending

WARNING

- Anchor intake end and/or support discharge end to prevent upending.
- Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground.
- Do not raise intake end above tow bar height.
- Empty the seed treater and fully lower before moving.



2.7. Seed Treatment Safety

Hazards associated with handling, sorting, mixing and storage of treated seed and seed treatments can be minimized by following the safety precautions listed below. The below are guidelines only and vary based on the type of seed treatment being used. Consult the seed treatment information sheets for full details.

WARNING

- Before treating seed, follow and have a written plan in place to manage volumes of contaminated water and/or other liquids used in the cleaning/flushing of the seed treating equipment.
- Use personal protective equipment as described on the seed treatment product label.
- Use the seed treater only outdoors, do not use inside a building or structure.
- Thoroughly clean the seed treater after use. Some seed treatments are corrosive and others may plug the equipment. Do not run contaminated water into a stream, public sewer, or in a location where it could contaminate the groundwater or come into contact with people or animals.

2.8. Rotating Parts Safety

WARNING

- Keep body, hair, and clothing away from rotating pulleys, belts, chains, and sprockets.
- Do not operate with any guard removed or modified. Keep guards in good working order.
- Shut off and remove key or lock out power source before inspecting or servicing machine.



2.9. Work Area Safety

- Have another trained person nearby who can shut down the seed treater in case of accident.
- The work area should be kept clear of bystanders, including children.
- Keep the work area clean and free of debris.
- Keep the required personal protective equipment (PPE) and emergency equipment in its designated location.
- Never smoke, drink, or eat in the seed treatment area
- Do not operate with the seed treater in water.
- Keep lighting in place where seed treatment activities are being undertaken during hours of the day when natural light is not present.
- Have an emergency response plan and keep a copy of the plan in the product manual holder.
- Post a sign identifying the name of the company, applicable management phone numbers, and emergency response numbers.

2.10. Guards Safety

- ⚠ WARNING**
- Keep guards in place. Do not operate with guard removed.
 - Do not walk on, step on, or damage guards.
 - Lock out power before removing a guard.
 - Ensure all guards are replaced after performing maintenance.

2.11. Raising and Lowering the Seed Treater

- ⚠ WARNING**
- Before raising/lowering/moving/adjusting the seed treater, make sure the area around the seed treater is clear of obstructions and/or untrained personnel. Never allow anyone to stand on or beneath the seed treater when it is being placed.
 - Lower the seed treater to its lowest position when not in use.
 - Empty the seed treater before raising or lowering.
 - Do not get on or beneath the seed treater when raising or lowering.
 - Raise and lower seed treater on reasonably level ground only.
 - Never attempt to increase height of the seed treater by positioning wheels on lumber, blocks, or by any other means. To do so will result in damage to seed treater and/or serious injury.
 - Do not raise the seed treater in high winds.

2.12. Positioning the Seed Treater

- ⚠ WARNING**
- Transport and place equipment on reasonably level ground when raising, lowering, positioning, or operating.
 - Move the seed treater into position slowly. Do not unhitch and attempt to move by hand.
 - Chock wheels and anchor intake end after placement.

2.13. Towing the Seed Treater

- WARNING**
- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
 - Always travel at a safe speed, the seed treater can be transported up to a maximum of 60 mph (100 km/h) where permitted. Reduce speed on rough surfaces. Use caution when turning corners or meeting traffic.
 - Reduce speed on rough surfaces.
 - Do not transport on slopes greater than 20°.
 - Use caution when turning corners or meeting traffic.
 - Do not allow riders on the seed treater or towing vehicle during transport.
 - Always attach safety chain(s) for transport on roadways.
 - Place the seed treater in the transport position before moving on roads.

2.14. Drives and Lockout Safety

Inspect the power source(s) before using and know how to shut down in an emergency. Whenever you service or adjust your equipment, make sure you shut down the power source and follow lockout and tagout procedures to prevent inadvertent start-up and hazardous energy release. Know the procedure(s) that applies to your equipment from the following power source(s). Ensure that only 1 key exists for each assigned lock, and that you are the only one that holds that key. Ensure that all personnel are clear before turning on power to equipment.



2.14.1 Diesel Engine Safety

WARNING Power Source

- Keep guards in place and secure.
- Properly ventilate surrounding area.
- Never overfill the tank or spill diesel fuel. If fuel is spilled, clean it up immediately.
- Ultra-Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations. Avoid death or serious injury from fire or explosion; consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices that are crucial when refueling.
- Be sure to replace the fuel fill cap when you are done.



Lockout

- Remove the ignition key or disconnect the negative battery terminal.

2.14.2 Electric Motor Safety

WARNING Power Source

- Electric motors and controls shall be installed and serviced by a qualified electrician and must meet all local codes and standards.
- Guards must be in place and secure.
- Ensure electrical wiring and cords remain in good condition; replace if necessary.

2.14.3 Hydraulic Power Safety

WARNING Power Source

- Refer to the rules and regulations applicable to the power source operating your hydraulic drive.
- Do not connect or disconnect hydraulic lines while system is under pressure.
- Keep all hydraulic lines away from moving parts and pinch points.
- Escaping hydraulic fluid under pressure will cause serious injury if it penetrates the skin surface (serious infection or toxic reaction can develop). See a doctor immediately if injured.
- Use metal or wood as a backstop when searching for hydraulic leaks and wear proper hand and eye protection.
- Check all hydraulic components are tight and in good condition. Replace any worn, cut, abraded, flattened, or crimped hoses.
- Clean the connections before connecting to equipment.
- Do not attempt any makeshift repairs to the hydraulic fittings or hoses with tape, clamps, or adhesive. The hydraulic system operates under extremely high pressure; such repairs will fail suddenly and create a hazardous and unsafe condition.

Lockout

- Always place all hydraulic controls in neutral and relieve system pressure before disconnecting or working on hydraulic system.



2.15. Tire Safety

WARNING Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion that may result in serious injury or death.



- DO NOT attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- When replacing worn tires, make sure they meet the original tire specifications. Never undersize the replacement tire.
- DO NOT weld to the tire rim with the tire mounted on the rim. This action may cause an explosion which could result in serious injury or death.
- Inflate tires to the manufacturer's recommended pressure.
- Tires should not be operated at speeds higher than their rated speed.
- Keep wheel lug nuts tightened to manufacturer's recommendations.
- Never reinflate a tire that has been run flat or seriously under-inflated without removing the tire from the wheel. Have the tire and wheel closely inspected for damage before remounting.

2.16. Battery Safety

- WARNING**
- Wear safety glasses and protective gloves when working near batteries.
 - Make certain the battery or terminal covers are in place and in good working order.
 - Keep all sparks and flames away from batteries; gas given off by electrolyte is explosive.
 - Avoid contact with battery electrolyte. Wash off any spilled electrolyte immediately.
 - Do not tip batteries more than 45° to avoid electrolyte loss.
 - To avoid injury from sparks or short circuits, disconnect battery ground cable before servicing any part of an electrical system.

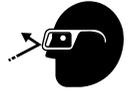


2.17. Personal Protective Equipment

The following Personal Protective Equipment (PPE) should be worn when operating or maintaining the equipment.

Safety Goggles

- Wear safety goggles at all times to protect eyes from chemicals.



Coveralls

- Wear coveralls to protect skin.



Hard Hat

- Wear a hard hat to help protect your head.



Rubber Boots

- Wear rubber boots to prevent contact with chemicals.



Chemically Resistant Gloves

- Wear chemically resistant gloves to protect your hands from chemicals.



Respirator

- Wear a respirator with chemical cartridges to prevent breathing potentially harmful vapors.



Hearing Protection

- Wear ear protection to prevent hearing damage.



2.18. Safety Equipment

The following safety equipment should be kept on site:

Fire Extinguisher

- Provide a fire extinguisher for use in case of an accident. Store in a highly visible and accessible place.



First-Aid Kit

- Have a properly-stocked first-aid kit available for use should the need arise, and know how to use it.



Eyewash Kit

- Keep a portable eye wash kit available or make sure a permanent eyewash station is available should the need arise to flush materials from the eyes. Review instructions for use before working with the seed treater.



Salvage Container

- Keep a sealable salvage container on site, such as a spill containment pallet.



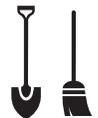
Absorbent Materials

- Keep granular absorbent materials on hand to clean up any chemical spills.



Aluminum Shovel and Broom

- Keep an aluminum shovel and broom for cleanup of spilled materials.



2.19. Safety Decals

- Keep safety decals clean and legible at all times.
- Replace safety decals that are missing or have become illegible. See decal location figures that follow.
- Replaced parts must display the same decal(s) as the original part.
- Replacement safety decals are available **free of charge** from your distributor, dealer, or factory as applicable.

2.19.1 Decal Installation/Replacement

1. Decal area must be clean and dry, with a temperature above 50°F (10°C).

2. Decide on the exact position before you remove the backing paper.
3. Align the decal over the specified area and carefully press the small portion with the exposed sticky backing in place.
4. Slowly peel back the remaining paper and carefully smooth the remaining portion of the decal in place.
5. Small air pockets can be pierced with a pin and smoothed out using the sign backing paper.

2.19.2 Safety Decal Locations and Details

Replicas of the safety decals that are attached to the seed treater and their messages are shown in the figure(s) that follow. Safe operation and use of the seed treater requires that you familiarize yourself with the various safety decals and the areas or particular functions that the decals apply to, as well as the safety precautions that must be taken to avoid serious injury, death, or damage.

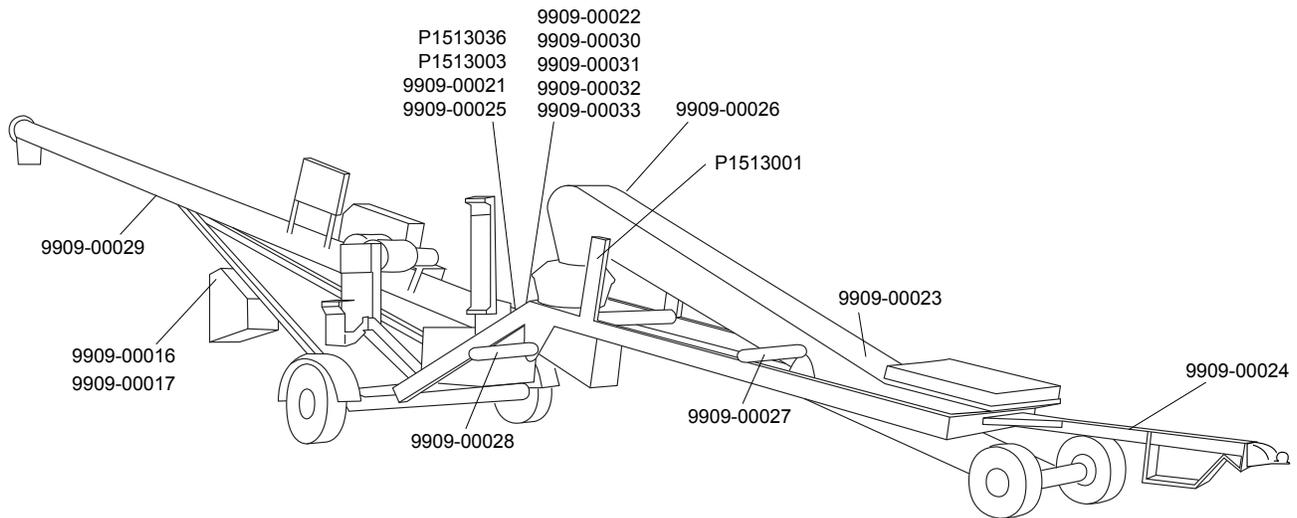


Table 1. Safety Decals

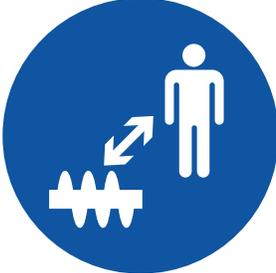
Part Number	Description
9909-00021	<div style="border: 1px solid black; padding: 10px;"> <div style="background-color: red; color: white; text-align: center; padding: 5px;">  DANGER </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div> <div style="text-align: center; margin-top: 10px;"> <p>ROTATING FLIGHTING HAZARD</p> <p>To prevent death or serious injury:</p> <ul style="list-style-type: none"> • KEEP AWAY from rotating auger fighting. • DO NOT remove or modify auger fighting guards, doors, or covers. Keep in good working order. Have replaced if damaged. • DO NOT operate the auger without all guards, doors, and covers in place. • NEVER touch the auger fighting. Use a stick or other tool to remove an obstruction or clean out. • Shut off and lock out power to adjust, service, or clean. </div> </div>

Table 1 Safety Decals (continued)

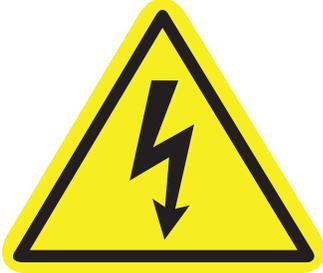
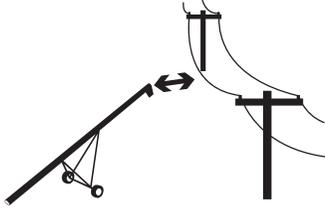
Part Number	Description
P1513003	<div style="border: 1px solid black; padding: 10px;"> <div style="background-color: red; color: white; text-align: center; padding: 5px;">  DANGER </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div> <div style="text-align: center; margin-top: 10px;"> <p>ELECTROCUTION HAZARD</p> <p>To prevent death or serious injury:</p> <ul style="list-style-type: none"> • When operating or moving, keep equipment away from overhead power lines and devices. • Fully lower equipment before moving. <p>This equipment is not insulated.</p> <p>Electrocution can occur without direct contact.</p> </div> </div>
P1513036	<div style="border: 1px solid black; padding: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center; margin-bottom: 10px;">  <div style="background-color: orange; color: black; text-align: center; padding: 5px;">  WARNING </div> </div> <div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center; margin-bottom: 10px;">  </div> <div style="margin-left: 10px;"> <p>HIGH PRESSURE FLUID HAZARD</p> <p>Hydraulic fluid can cause serious injury if it penetrates the skin. If it does, see a doctor immediately.</p> <ul style="list-style-type: none"> • Relieve system pressure before repairing, adjusting or disconnecting. • Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands. </div> </div> </div>

Table 1 Safety Decals (continued)

Part Number	Description
P1513001	<div style="border: 2px solid black; padding: 10px;"> <div style="background-color: #f4a460; text-align: center; padding: 5px;">  WARNING </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p style="margin-top: 10px;">To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Read and understand the manual before assembling, operating, or maintaining the equipment. • Only trained personnel may assemble, operate, or maintain the equipment. • Children and untrained personnel must be kept outside of the work area. • Do not modify the equipment. Keep in good working order. • If the manual, guards, or decals are missing or damaged, contact factory or representative for free replacements. • Lock out power before performing maintenance. • To prevent equipment collapse or upending, support equipment tube while disassembling certain components. • Electric motors must be grounded. Disconnect power before resetting overloads. </div>

Table 1 Safety Decals (continued)

Part Number	Description
9909-00024	 <p>WARNING</p> <p>TRANSPORT HAZARD</p> <p>To prevent serious injury or death:</p> <ul style="list-style-type: none"> • Securely attach equipment to vehicle with correct pin and safety chains. • Use a tow vehicle to move equipment.
9909-00023	 <p>WARNING</p> <p>BELT CRUSH HAZARD</p> <p>To prevent serious injury:</p> <ul style="list-style-type: none"> • KEEP HANDS AWAY from moving cleaned conveyor belt. • DO NOT remove or modify guards, doors, or covers. Keep in place and in good working order. Have replaced if damaged. • DO NOT operate the conveyor without all guards, doors, and covers in place. • Shut off and lock out power to adjust, service, or clean.
9909-00022	 <p>WARNING</p> <p></p>

Table 1 Safety Decals (continued)

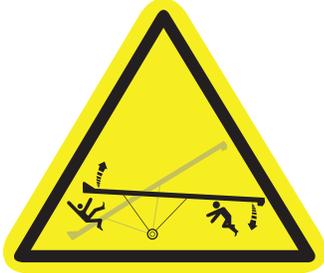
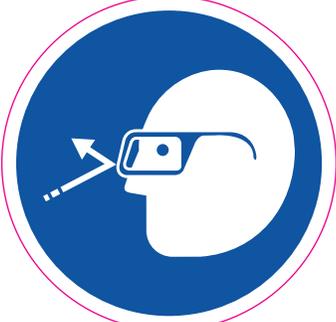
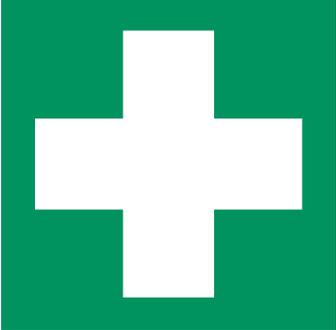
Part Number	Description
9909-00025	<div style="border: 1px solid black; padding: 10px;"> <div style="background-color: #f4a460; text-align: center; padding: 5px;"> WARNING</div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div> <div style="text-align: center; margin-top: 10px;">UPENDING HAZARD</div> <p>To prevent death or serious injury:</p> <ul style="list-style-type: none"> • Anchor intake end and/or support discharge end to prevent upending. • Intake end must always have downward weight. Do not release until attached to tow bar or resting on ground. • Do not raise intake end above tow bar height. • Empty tube and fully lower before moving. </div>
9909-00029	<div style="border: 1px solid black; padding: 10px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;">   </div> <div style="background-color: #f4a460; text-align: center; padding: 5px;"> WARNING</div> </div> <div style="text-align: center; margin-top: 10px;">CRUSH HAZARD</div> <p>To prevent serious injury, engage cylinder lock before transporting.</p> </div>
9909-00026	<div style="border: 1px solid black; padding: 10px;"> <div style="background-color: #f4a460; text-align: center; padding: 5px;"> WARNING</div> <div style="text-align: center; margin-top: 10px;">Keep guards in place when operating.</div> </div>

Table 1 Safety Decals (continued)

Part Number	Description
9909-00028	
9909-00027	
9909-00030	
9909-00031	

Table 1 Safety Decals (continued)

Part Number	Description
9909-00032	 A circular blue decal with a white border. Inside the circle is a white silhouette of a person's head in profile, wearing safety glasses. An arrow points from the left towards the glasses, indicating the direction of impact protection.
9909-00033	 A circular blue decal with a white border. Inside the circle is a white silhouette of two hands, palms facing each other, representing the need for hand protection.
9909-00016	 A square green decal with a white border. Inside the square is a white cross symbol, which is the standard international symbol for first aid.
9909-00017	 A square green decal with a white border. Inside the square is a white silhouette of a fire extinguisher, indicating the presence of fire safety equipment.

3. Features

This section covers the main features of the seed treater.

3.1.

Figure 1. STORM Professional Seed Treater

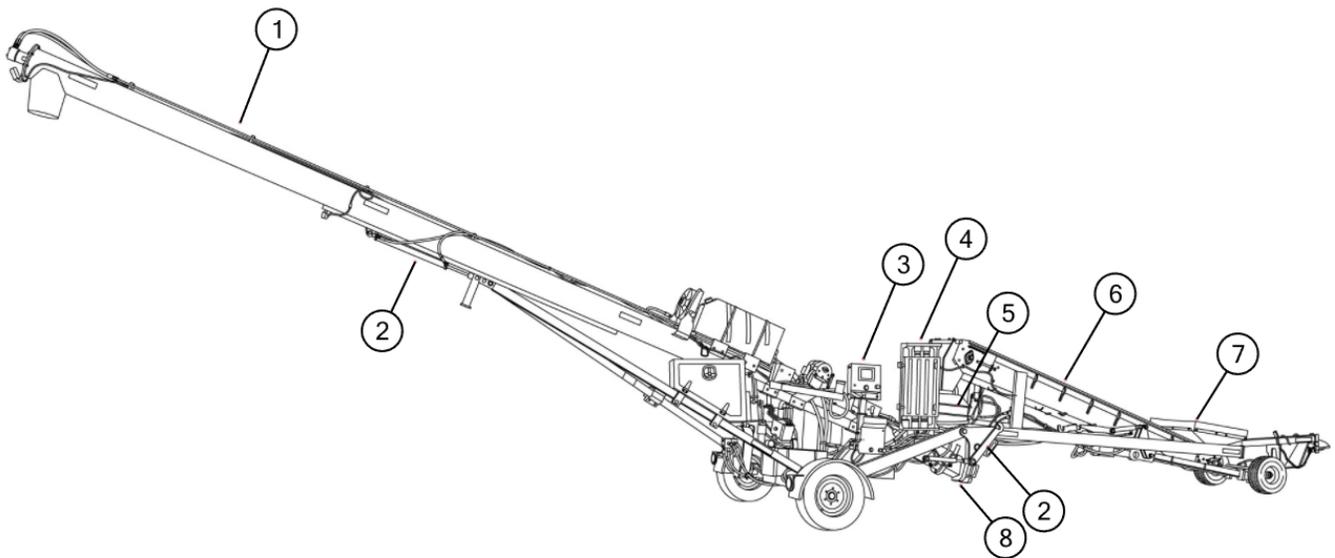


Table 2. STORM Professional Features

Item	Description
1	Mixer Tube
2	Transport Lock
3	Controls
4	Calibration and Treatment Pump Station
5	Atomizing Chamber
6	Conveyor

Table 2 STORM Professional Features (continued)

Item	Description
7	Hopper
8	Mixer Boot

3.2. Controls

The STORM mixer section has the following controls:

Mechanical Controls

- Engine throttle with variable RPM.
- Mover kit controls move/steer the unit.
- Electric switches to raise/lower the mixer tube, boot, and conveyor.
- Calibration Valves.
- Lighting switches.
- Control Box: Use the main breaker on the control box to lock out power from the control system or to perform a system reset.
- Pause Button: Front of control panel.

Touch-Screen Controls

- Operate the flighting.
- Configure, calibrate, run and stop jobs.
- View job information and system status.
- Prepare pumps and conveyor for treating.
- Control pumps and conveyor for clean up.

3.3. Tablet and Smartphone Connection

You can connect to the STORM's equipped wifi and operate the seed treater remotely from your truck or nearby location. To connect, simply use your device and select STORM wifi, then enter the password storm2017.

 **WARNING** When operating remotely, make sure you have a clear view of the seed treater and surrounding area and ensure that no one is in the work area.

4. Preparation

4.1. Emergency Response Plan

A response plan must be developed before using the seed treater the first time to be prepared in the event of an emergency. Keep a copy of the plan in the safety products storage box. This section provides guidance on developing your emergency response plan.

When developing an emergency response plan, include the following:

Potential Emergencies

Emergencies that could occur are:

- Safety: cutting, severing, crushing, entanglement, electrocution, hydraulic fluid injection, chemical contact/irritation, burns.
- Environmental: site contamination, chemical spills, seed spills, treated seed spill.

Training and Procedures for Emergency Response

When training employees on an emergency response plan, know the following:

- Collect employee information including contact numbers, next-of-kin, and medical care. Keep this information in the manual container.
- Know who to call, information about the employee, and the nature of the emergency.
- Complete emergency response training prior to the start of each treating season.
- Test employees to be sure they know what to do in an emergency situation.
- Keep records of training and trained employees.
- Know the location and use of common emergency equipment.
- Know the potential emergencies (see above) that could occur, and how to respond.
- A worker at the site should be trained in First Aid and CPR.
- Know how to use the provided safety equipment.
- Know how to contain and properly clean up a small chemical spill to minimize or prevent environmental damage.
- Review and understand applicable product labels and Material Safety Data Sheets (MSDS) for chemicals that are being used.

4.2. Safety Training

After reading this manual and completing training, an operator must be able to:

	<p>Explain the established procedures for the use and care of emergency and safety equipment including:</p> <ul style="list-style-type: none"> • Personal Protective Equipment (PPE) • First aid kits • Eyewash stations • Fire extinguishers
	<p>Explain procedures for:</p> <ul style="list-style-type: none"> • Safe and effective application of seed treatment products • Care, operation, and cleaning of seed treatment equipment • Labelling of treated seed
	<p>Describe spill cleanup procedures and know where the emergency supplies and equipment are located.</p>
	<p>Describe the components of the Emergency Response Plan, including:</p> <ul style="list-style-type: none"> • safety or environmental hazards that could occur • how to respond in the event of an emergency

4.3. Containment

The STORM seed treater is designed to contain potential treatment escape/spills. Set up of additional containment areas is not necessary, but may be set up on-site, if desired. The containment pan is equipped with drain valves to assist with cleanout. Keep the containment pan drain valves closed prior to treating seed.

5. Transport



Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

5.1. Transport Safety

WARNING

- Check with local authorities regarding transport on public roads. Obey all applicable laws and regulations.
- Always travel at a safe speed; the seed treater can be transported up to a maximum of 60 mph (100 km/h) where permitted by law.
- Yield to other drivers and allow faster traffic to pass.
- Make sure all the lights and reflectors that are required by local authorities are in place, are clean, and can be seen by all over-taking and oncoming traffic.
- Do not transport during times of limited visibility such as fog, snow, or heavy rain. Take extra precautions at night and at dusk.
- Keep others away from the transport vehicle and seed treater.
- Do not allow riders on the seed treater or towing vehicle during transport.
- Stay away from overhead obstructions and power lines when operating and transporting. Electrocutation can occur without direct contact.
- Fully lower the seed treater before transporting, and only raise when next to storage facility.
- Always attach safety cables for transport on roadways.
- Empty seed treater of all grain or seed before transporting. Transporting a full seed treater will place excessive loads on the tube, frame, axle, hitch, and tow vehicle.
- Do not transport on slopes greater than 20°.
- Do not transport with an under-inflated tire(s).
- If the seed treater wheels are partially or fully buried in snow or grain, failure to clear area around the wheels before transporting may cause damage to the seed treater or result in serious injury.

5.2. Transport Procedure

The STORM must be set into its transport position by correctly setting three transport locks in place before connecting to a tow vehicle.

Refer to [Figure 2 - Figure 5](#) and [Table 3 - Table 4](#).

1. Adjust the mixer boot to the transport position and engage its transport lock.
2. Adjust the mixer tube height to allow the mixer tube lock to be placed in position, then use the mixer discharge control to lower the mixer tube until it rests on the lock and close the ball valve.
3. Use the conveyor intake control to raise the STORM hitch.
4. Use the joystick to move the STORM and align the hitch and tow vehicle ball hitch.

5. Remove the pin and slide the hitch lock into the unlocked position on STORM Pro.
6. Use the conveyor intake control to lower the STORM Pro hitch onto the ball of the vehicle hitch.
7. Slide the hitch lock forward, and replace the square pin.
8. Continue to use the conveyor intake control to lower the STORM Pro hitch until the conveyor transport lock can be engaged.
9. Engage the conveyor transport lock.
10. Turn off engine.
11. Use the levers on each drive wheel to disengage the two hydraulic wheel drive motors.
12. Connect the safety cables securely to the towing vehicle, crossing underneath. Leave cables slack enough for angular movement.

WARNING Do not tow with a worn or damaged safety cable.

13. Connect the transport lights and test each function before transporting.

Figure 2. Positioning Controls

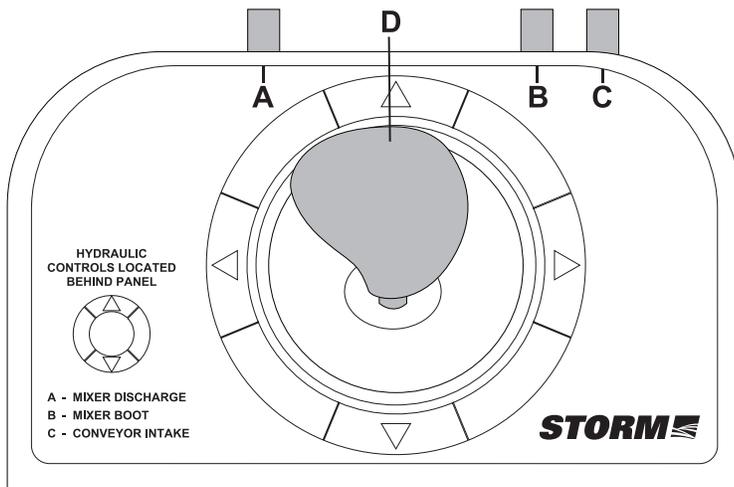


Table 3. Positioning Controls

Item	Description
A	Mixer Discharge Control
B	Mixer Boot Control
C	Conveyor Intake Control
D	Mover Wheels Joystick

Figure 3. Location of Transport Locks

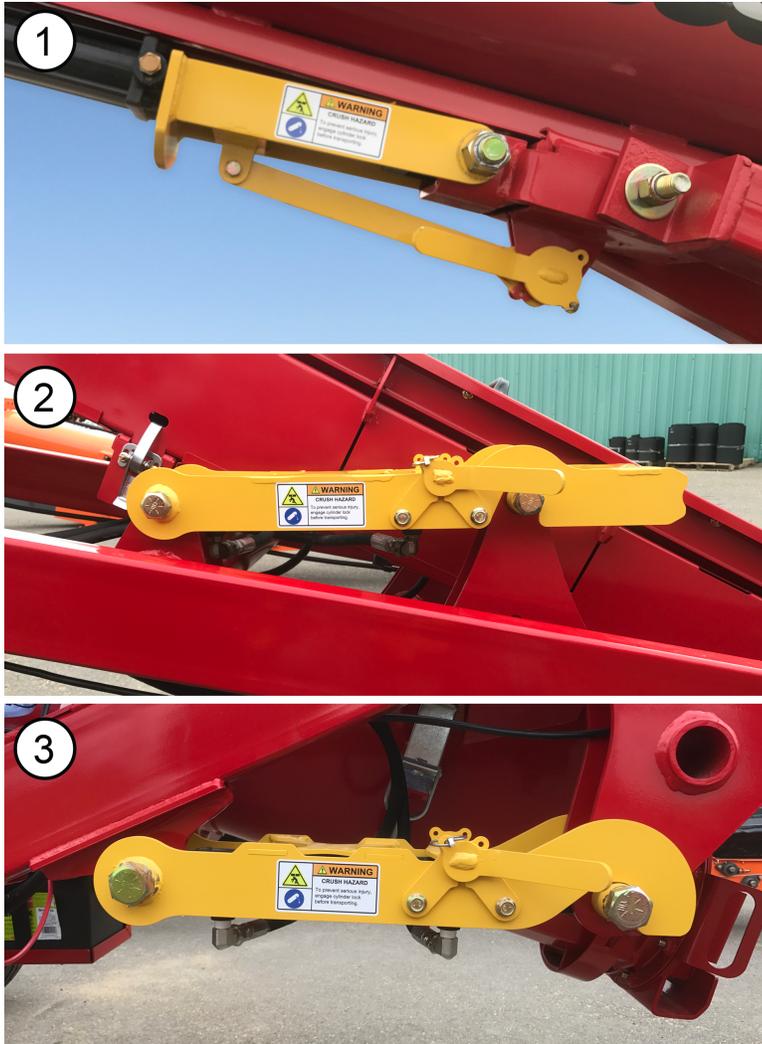


Table 4. Transport Locks

Item	Description
1	Mixer Tube Transport Lock
2	Conveyor Transport Lock
3	Mixer Boot Transport Lock

Figure 4. Correct Safety Cable Connection



Figure 5. Transport Position



6. Placement



Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

6.1. Placement Safety

WARNING

- The seed treater is not insulated, keep away from overhead power lines. Electrocutation can occur without direct contact.
- Anchor intake end before using.
- Place the seed treater on reasonably level ground before operating. The seed treater could topple if ground is too uneven.
- Chock the seed treater wheels after placement.
- Check that wheels are free to move before raising or lowering the seed treater.
- Never attempt to increase height of the seed treater by positioning wheels on lumber, blocks, or by any other means.
- Do not permit anyone to stand beneath the seed treater when raising or lowering.
- Move the seed treater into position slowly. Do not unhitch and attempt to move by hand.
- Do not leave seed treater in raised position when not in use.

6.2. Position the STORM Professional

Refer to [Figure 6](#) and [Table 5](#).

1. Adjust the conveyor to ensure its frame is level with the ground.
2. Use the conveyor intake control (C) and mixer boot control (B) to raise and lower the conveyor to ensure the equipment does not drag on the ground, or impact the bin support legs and foundation.
3. Use the joystick to move the STORM slowly towards the bin.
4. Use the joystick and the conveyor intake control (C) to position the hopper under the bin.
5. Use the mixer boot control (B) to lower the boot to contact the ground.

Important

If you cannot adjust the equipment to ensure the boot contacts the ground, place wheel chocks under the main drive wheels to prevent the equipment from shifting during operation.

6. Use the mixer discharge control (A) to raise the discharge spout above the truck or discharge vessel and close the mixer lock valve to secure the mixer tube. Keep some clearance between the bottom of the discharge spout and the truck or discharge vessel.

NOTICE

Equipment Damage

The discharge spout may lower and cause damage to the STORM or equipment under it if the mixer lock valve is left open.

7. Inspect the position of the atomizing chamber; if the atomizing chamber is not in a vertical position you may:

- Manually adjust the atomizing chamber.
- Adjust the position of the hopper, conveyor, and mixer boot until the atomizing chamber is in a vertical position.

Important

If the atomizing chamber cannot be positioned vertically, treatment quality will be affected. Treating is not recommended in this case.

Figure 6. Positioning Controls

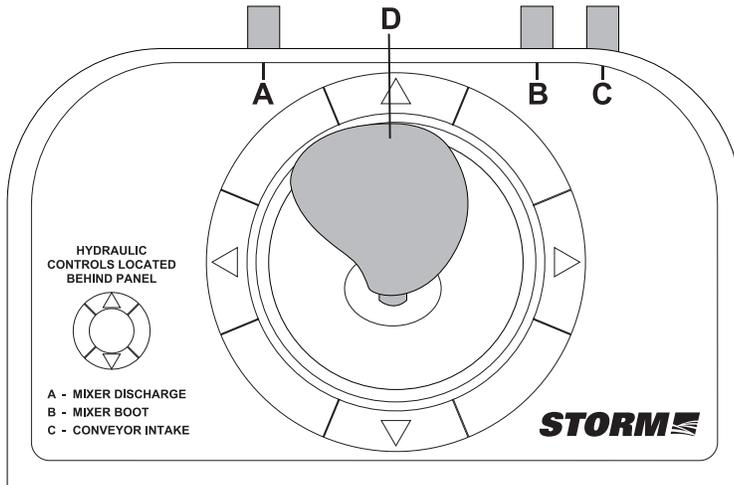


Table 5. Positioning Controls

Item	Description
A	Mixer Discharge Control
B	Mixer Boot Control
C	Conveyor Intake Control
D	Mover Wheels Joystick

7. Operation



Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

7.1. Operation Safety

WARNING

- Keep away from rotating and moving parts, including the conveyor belt, auger flighting, drive components, shafts, and bearings.
- Do not enter the grain bin or truck while the seed treater is operating.
- Always operate with guards, covers, and shields in place.
- Have another trained person nearby who can shut down the equipment in case of accident.
- Keep the work area clear of bystanders.
- Keep the work area clean and free of debris.
- Ensure maintenance has been performed and is up to date.

7.2. Pre-Season Tasks

Complete the following tasks annually before starting each treating season.

- Review the Emergency Response Plan with all personnel who will be operating and assisting with operation of the seed treater, see [Section 4.1 – Emergency Response Plan on page 27](#).
- Check for and Install control system software updates, see [Section 10.2 – Updating System Software on page 71](#).
- Complete pre-season maintenance, see [Section 8.2 – Maintenance Schedule on page 43](#).
- Run a test job (without seed and using water instead of treatment). This will allow you to make sure the system is running properly with no leaks before using seed treatment which can be messy. Refer to the Operation sections that follow.

7.3. Conveyor Break-In

[Table 6](#) lists the recommended break-in activities for the conveyor assembly.

Table 6. Recommended Conveyor Break-in Activities

Time	Speed	Activity
30 min	70%	Run the conveyor unloaded, check for any problems.
10 min	100%	Run the conveyor at full speed with seed (if possible), but do not run pumps. During this time the mixer should also be run at the highest speed.
1st Treatment	70–80%	Run the conveyor at 70–80% for 1st treatment run of the season to help with mixer flow.

It is normal for small chunks of rubber to separate from the intake seals during break-in.

Ensure the belt is tracking in the center of the conveyor. Wing seals should contact the rubbers on both sides of the conveyor intake.

If any unusual noises or vibrations are encountered, determine the source, shut the mixer off, lock out the power source, and adjust. If unsure of the problem, or the procedure to fix it, contact STORM Customer Service.

7.4. Treating Seed

Overview

To treat seed, you need to perform a test weight procedure, create a job, calibrate the pumps, apply treatment and run the mixer, shut down the seed treater, and finally clean up the site. These options are covered in the sections that follow.

If the treating screen does not initialize, do not attempt to boost the 24V battery, wait for the alternator to charge the system electronics, or try pressing the system reset button located on the bottom of the control box.

NOTICE Boosting the battery will result in damage to the system electronic controls.

7.4.1 Create a Job

To create a new job, first give it a name, then enter information about the seed, followed by selecting or entering treatment information. A maximum of 20 jobs can be configured and stored for use.

Before creating a job, ensure the control system batteries are fully charged. The diesel engine does not have to run to create a job.

1. Go to the Job screen and follow the prompts to start a New Job.

Note

New jobs can be created either by starting from a job with all parameters blank, or by copying an existing job and continuing to use it with a different name.

2. Enter a Job Name (description).

Note

Use the treatment type and seed product as the job name, such as “Wheat— Raxil Pro.”

3. Enter the seed information including seed type, density (grams per 0.5 L), and desired treating speed. For seed density measurement procedure, refer to [Section 10.1 – Test Weight Procedure on page 70](#).
4. Enter treatment information including treatment name, application rate (label rate), and dilution rate. There may be pre-programmed treatments listed or custom treatments can be entered.

Note

Custom treatments require a treatment name, application rate, and dilution amount to be entered. Dilutions are considered based on the treatment product. Adding equal parts of water to a treatment is considered 100% dilution. Custom treatments can be saved and used in subsequent jobs.

The job is now created. Next, calibrate the pumps before operating the treater and treating seed.

7.4.2 Calibrate the Pumps

Calibrating the pumps enables the seed treater to provide the correct amount of treatment for the anticipated seed. Calibration requires the use of the calibration cylinders, treatment products, and the calibration control screens accessed via the touchscreen display.

The pumps need to be calibrated when:

- a job is created
- the temperature changes. For example, colder weather will increase the viscosity of the treatment.
- pump tubing wear may impact pump output.
- the treating speed in a job has been changed due to a seed flow correction.

Note

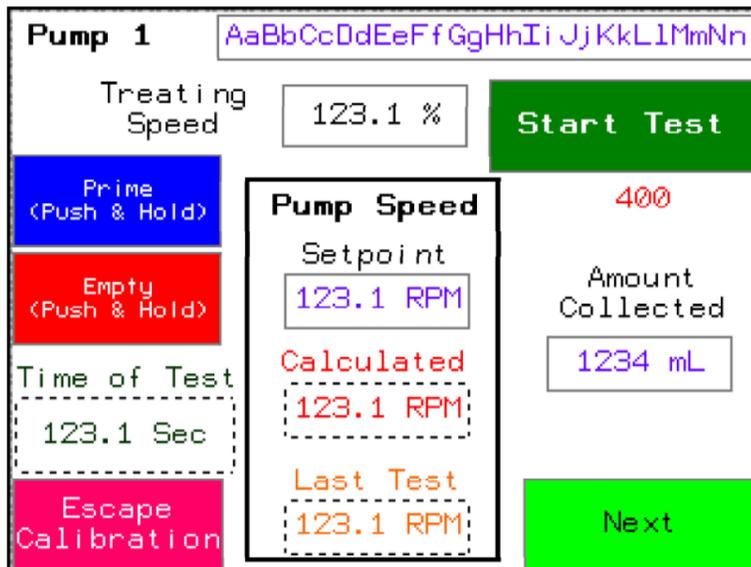
If a “9” is displayed in front of the three digit calibration number (rpm), this means that the pumps are using an estimated value for calibration and should be re-calibrated. The “9” will disappear once the system is re-calibrated.

To Calibrate the Pumps:

If you will be using both pumps, using pump one for the more viscous (thickest) product will speed up the calibration process.

1. Connect to the seed treatment product container –if not already done.
2. Set the valve to the calibrate position for the pump(s) being calibrated.
3. Press the prime key hold and ensure all of the air is out of the system.
4. Set level of the liquid treatment at the zero mark of the calibration cylinder.
5. Press start test and collect liquid.

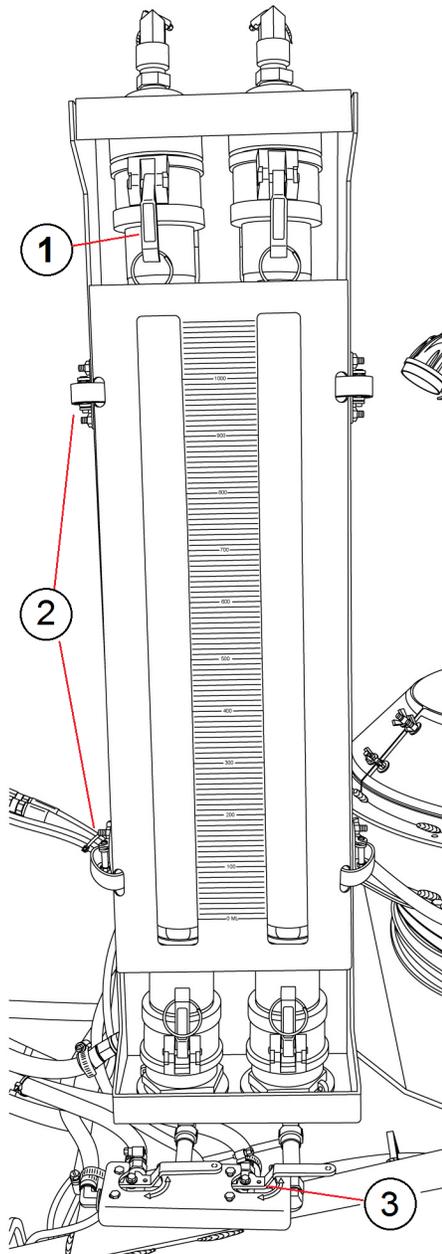
Figure 7.



6. Enter the amount collected into the box on the right hand side of the screen using the graduations on the calibration cylinder.
7. Press next.

8. Choose to try again to hit 1000ml target or use resulted target. It will automatically adjust treating speed to match treatment application, and you can also accept an error in the case of a 2 pump calibration.
9. Press empty until liquid is either:
 - a. Back at the zero mark to retry.
 - b. Out of the cylinder, and line to the opposite side of the treatment line pressure gauges.
10. Repeat process for pump two.

Figure 8. Calibration Cylinder



Item	Description
1	Quick Coupler
2	Latches
3	Calibration Valve

7.4.3 Operate the Treater & Treat Seed

When operating the seed treater for the first time, the chemical hoses may be filled with antifreeze and will need to be flushed out. Refer to the appropriate procedures in the Maintenance section.

1. Start the engine and bring to operating temperature. Ensure batteries are fully charged.

Note

Consult the Perkin's diesel engine operating manual for proper procedure for starting the engine. The engine is equipped with glow plugs that may be needed to start in cold temperatures.

2. Flood the intake hopper completely with seed.
3. Select the job to use and verify that the seed and treatment parameters are correct for the application.
4. Connect the seed treatment containers to the pumps.
5. Calibrate the treater.
6. Prime the pumps. Make sure treatment is at the atomizer.
7. Prime the conveyor with seed. Make sure that seed is at the atomizing chamber.
8. Continue to the operation screen.
9. Set the minimum mixer speed.

Note

Setting the minimum mixer speed creates an alarm indicating to shut-off the treating inputs.

10. Start the mixer empty and set it at 400 rpm (forward direction) by adjusting the engine throttle knob.
11. Enter a specific amount of seed to be treated if desired. The treater will run until the amount is reached or the operator stops the machine.
12. Start treating seed— conveyor, mixer, and pumps will start running.
13. Adjust mixer rpm to ensure that it is adequate for the application.

Note

Typically, 350 rpm is a good starting point. Mixing may be improved by slowing the mixer down and/or increasing the angle of the mixer (higher angle results in more mixing).

14. Run until the desired amount of treated seed is obtained. Stop treater. Do not stop the mixer until it is empty.
15. Adjust the seed flow calibration, if required.

7.4.4 Update the Calibration

After a batch of seed is treated or continuous operation has ended, a seed flow correction screen will be displayed showing the estimated weight of seed that was treated and will prompt the operator for actual weight of seed treated. Entering the actual weight will improve treating precision for the next job.

1. Weigh the actual amount of seed that was treated.

Note

If you don't know or are unable to determine the exact amount of seed that was treated, you can use the amount estimated on the screen.

2. Enter the actual weight. The electronics will recalculate the seed delivery and required treatment flows and correct the pump rpm automatically.
3. The system will then ask you to re-calibrate to verify that its adjustments are correct. Re-calibrate as required, see [Section 7.4.2 – Calibrate the Pumps on page 37](#).
4. The corrections will be saved for use the next time the job is utilized.

7.5. Emergency Stop

Although it is recommended that the seed treater be emptied before stopping, in an emergency situation press the emergency stop button. The emergency stop will stop the conveyor, mixer, seed treatment metering pumps, and atomizer.

Do not use the emergency stop as a lockout for equipment service or maintenance.

For the location of the emergency stop button, refer to [Section 3. – Features on page 25](#).

7.6. Restarting a Full Seed Treater

The seed treater may be filled with material if it is shut down inadvertently or for an emergency. To restart:

1. Shut off the conveyor.
2. Run the mixer tube until empty. If that isn't possible, lift the mixer boot, place a catch pan underneath, open the boot clean-out, and then run mixer flighting backwards.
3. Close any clean-out doors, return the seed treater back to its operating position, re-start the system and resume treating.

7.7. General Clean-Out Procedure

Complete a general clean-out after each treatment is completed or before switching treatment types. A more thorough, advanced clean-out should be completed at the end of each day, or more often if desired, see Maintenance section for that procedure.

1. Run the mixer until empty.
2. Lift the mixer boot off ground and place a catch pan under the boot clean-out door.
3. Open the atomizing chamber cover. Use compressed air or water to clean out the atomizing chamber and mixer boot.
4. Raise the mixer (for better flow back). Open the mixer boot door and run the mixer backwards until it is empty.
5. Go to the clean-out screen.
6. Run metering pumps backwards until empty.
7. Unscrew the filter caps and empty the remaining treatment into the container.

8. Connect the pump intake lines to a rinse water source and run the pumps backwards and forwards until lines are clear.

Note

Male couplers are included to allow for connection.

9. Open the conveyor covers to remove remaining untreated seed.
10. Clean the filter strainers, see [Section 8.8 – Clean the Filter Strainers on page 48](#).
11. Dispose of collected waste in accordance to local standards and/or as defined by seed treatment product labels.

7.8. Chemical Spill Cleanup

The seed treater is equipped with spill clean-up gear including an aluminum shovel, broom, bag of absorbent material, and paper towel.

It is recommended to also carry heavy duty garbage bags, water, and other clean-up materials as recommended by the seed treatment manufacturer. Ammonia or bleach cleaners can be helpful when cleaning up treatment stains.

Seed Treatment Spill - Small

1. Use paper towel and wipe up or use a shovel and broom as applicable.
2. Dispose of waste as per seed treatment manufacturer's label instructions or at an approved chemical waste disposal site.

Seed Treatment Spill - Large

1. Use a combination of absorbent material and paper towel to soak up the spill or use a shovel and broom as applicable.
2. Dispose of waste as per seed treatment manufacturer's label instructions or at an approved chemical waste disposal site.

Treated Seed Spill

Use shovel and broom to retrieve and dispose of treated seed as per the treatment manufacturer's label recommendations.

7.9. Storage

After the season's use, the seed treater should be thoroughly inspected and prepared for storage. Repair or replace any worn or damaged components and perform maintenance as described in the Maintenance Section to prevent any unnecessary downtime at the start of the next season.

To ensure a long, trouble-free life, this procedure should be followed when preparing the unit for storage.

1. Remove all residual material from the mixer and mixer boot, conveyor and conveyor intake.
2. Wash the entire seed treater thoroughly using a water hose or pressure washer to remove all dirt, mud, debris, or residue.
3. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove any entangled material.

4. Touch up all paint nicks and scratches to prevent rusting.
5. Check tire pressure and inflate. For inflation pressure, refer to [Section 11. – Specifications on page 74](#).
6. Inspect the seed treater for cracks, tightness of fittings and fasteners, hydraulic hose cracks (if applicable). Have required repairs performed to replace worn or damaged components.
7. Store in an area that is dry, level, free of debris, and away from human activity. Store inside if possible.
8. Cover the conveyor intake and motor with a waterproof tarpaulin if stored outside to protect from weather.
9. Chock wheels.
10. Support intake on blocks to eliminate prolonged contact with the ground.
11. Coat exposed hydraulic cylinder shaft(s) with a light film of grease to protect from the environment.
12. Open the pump shoes to release pressure on the tubing.
13. Place the seed treater in its transport position.

8. Maintenance



Before continuing, ensure you have completely read and understood this manual's Safety section, in addition to the safety information in the section(s) below.

8.1. Maintenance Safety

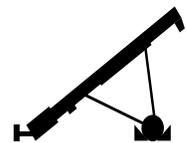
WARNING

- Keep components in good condition. Follow the maintenance procedures.
- Ensure the service area is clean, dry, and has sufficient lighting.
- Do not modify any components without written authorization from the manufacturer. Modification can be dangerous and result in serious injuries.
- Shut down and lock out power before maintaining equipment.
- After maintenance is complete, replace all guards, service doors, and/or covers.
- Use only genuine STORM replacement parts or equivalent. Use of unauthorized parts will void warranty. If in doubt, contact STORM or your local dealer.



Before attempting maintenance of any kind:

- Lower the seed treater fully.
- Chock wheels.
- Support tube if performing maintenance on the undercarriage assembly.
- **If equipped with hydraulics:** Before applying pressure to a hydraulic system, make sure all components are tight and that hoses and couplings are in good condition.



8.2. Maintenance Schedule

Proper maintenance habits mean a longer life, better efficiency, and safer operation. Please follow the Maintenance Schedule below. Keep good records of the hours the seed treater has been operated and the maintenance performed.

For Maintenance of the Diesel Engine, consult the engine Operator's Manual.

Item	Pre-Season	Daily	Weekly	Two Weeks	Yearly (or end of Season)	As Required
Section 8.3 – Visually Inspect the Seed Treater on page 45	X	X			X	
Section 8.14 – Check and Replace the Pump’s Chemical Hoses on page 51	X					
Section 8.12 – Check and Maintain the Containment System on page 50	X			X		
Section 8.7 – Check the Chemical Pump Rollers on page 48	X					
Section 8.6 – Clean the Atomizer and Chemical Hoses on page 46			X			
Section 8.13 – Advanced Mixer Clean-Out on page 51		X				
Section 8.11 – Clean the Conveyor Belt on page 49		X				
Section 8.8 – Clean the Filter Strainers on page 48		X		X		
Section 8.10 – Drain Antifreeze from the System on page 49	X					
Section 8.9 – Fill the System with Antifreeze on page 49					X	
Section 8.4 – Grease/Oil the Bearings and Drive Chain on page 45	X				X	
Section 8.5 – Oil the Chain Coupler on page 46	X				X	
Section 8.15 – Inspect/Replace the Conveyor Rollers and Bearings on page 52	X					
Section 8.16 – Tension the Conveyor Belt on page 53	X					
Section 8.17 – Align the Conveyor Belt on page 54	X					
Section 8.21 – Clean and Wash the Equipment on page 58	X			X	X	
Section 8.18 – Tension the Drive Belts on page 56	X					
Section 8.19 – Align the Drive Belts on page 57	X					
Section 8.20 – Replace the Drive Belts on page 57						X
Section 8.22 – Inspect Belt Lacing on page 58	X					
Section 8.23 – Replace the Belt Lacing on page 58						X
Section 8.24 – Replace the Conveyor Belt on page 58						X
Section 8.25 – Pinion Gear Adjustment on page 60						X
Section 8.26 – Change the Hydraulic Oil on page 61						X

8.3. Visually Inspect the Seed Treater

WARNING Lock out power before inspecting.

Check the following during a visual inspection:

1. Ensure all guards are in place and in good working order.
2. Examine the seed treater for damage or unusual wear.
3. Check tightness of bolts/nuts, fasteners, and hardware (re-torque if necessary).
4. Be sure all safety decals are in place and are legible.
5. Check that the discharge and intake area are free of obstructions.
6. Inspect all moving or rotating parts to see if anything has become entangled in them. Remove any entangled material.
7. Inspect hydraulic hoses and fittings for leaks and wear. Fix or replace where necessary.
8. Check wheel bolts are tight and examine tires for gashes, uneven wear, or loss of air pressure. See [Section 11. – Specifications on page 74](#) for recommended tire pressure and torque information.
9. Check all operating, lifting, and transport components. Replace damaged or worn parts before using the seed treater.
10. Make sure access, service, and cleanout covers are in place and secure.

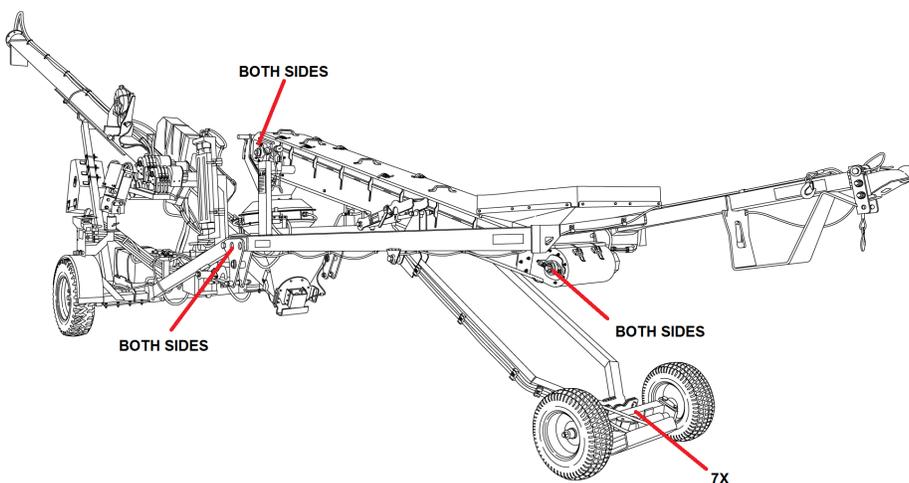
8.4. Grease/Oil the Bearings and Drive Chain

To keep the system operating effectively, check all grease points (bearings, zerks, chains) and ensure that they are sufficiently well greased.

Refer to [Section 11. – Specifications on page 74](#) for grease and oil types.

1. Clear the chain coupler of debris and spray with chain oil.
2. Grease the bearings.

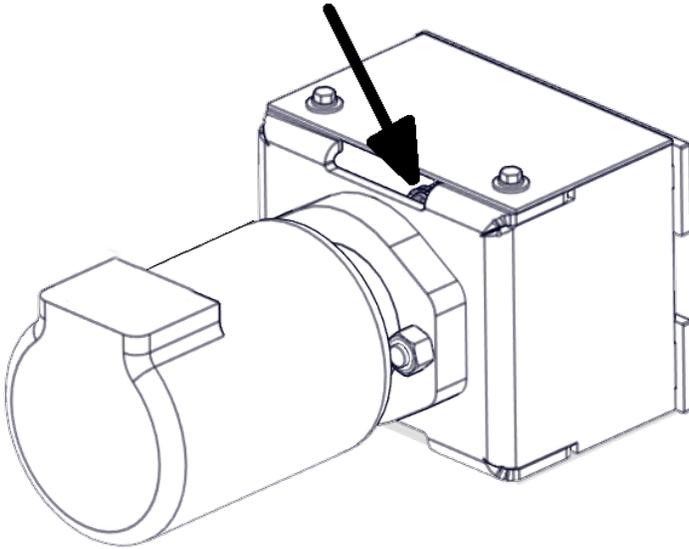
Figure 9. Greasing Locations



8.5. Oil the Chain Coupler

The chain coupler is located between the hydraulic motor and the conveyor's drive roller.

Figure 10. Chain Coupler Location



8.6. Clean the Atomizer and Chemical Hoses

After operating the seed treater, thoroughly clean the system to ensure efficient operation for the next treating application.

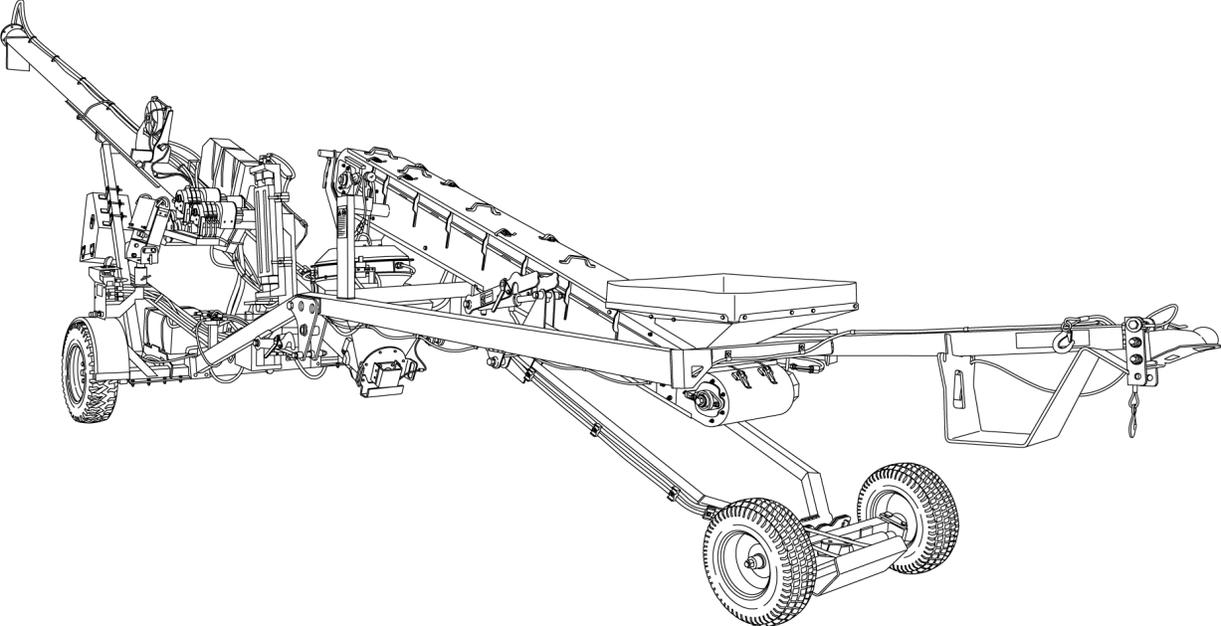
Use the Flush Out function on the system maintenance screen.



Refer to 2.7 Seed Treatment Safety, page 10 for information on safe disposal of contaminated rinse water.

1. Place the seed treater in the clean-out position. Place a container under the seed treater to catch runoff.
2. Open all clean-out doors and covers.
3. Use the system pumps to run water to flush the hoses and clean out the atomizer.
4. Use an additional water hose to flush out the atomizer chamber.

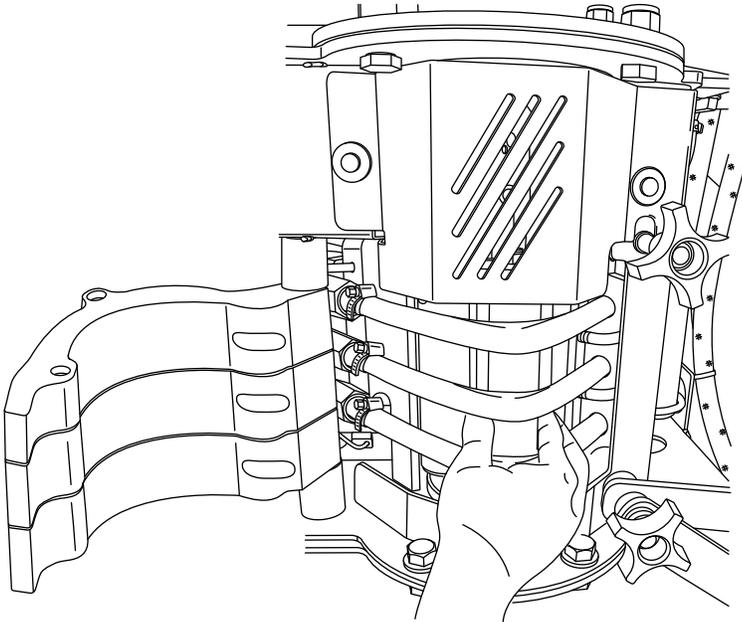
Figure 11. Clean-Out Position



8.7. Check the Chemical Pump Rollers

1. Open the covers and confirm the pump rollers move freely.

Figure 12. Chemical Pump Rollers



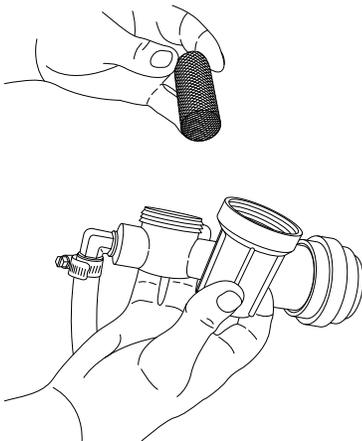
8.8. Clean the Filter Strainers

1. Unscrew the cap and rinse residue from strainer and replace. Replace the cartridge if it is damaged.

Note

Watch for the rubber seal that seals the cup to the body, it can get lost easily when cleaning.

Figure 13. Strainer



8.9. Fill the System with Antifreeze

At the end of each treating season, fill the chemical hoses with antifreeze to keep them in good condition.

Use the Flush Out function on the system maintenance screen.

1. Place hose ends in antifreeze.
2. Turn the pumps on, run antifreeze through the system.

Note

Ensure the ball valves are not set to calibration mode.

8.10. Drain Antifreeze from the System

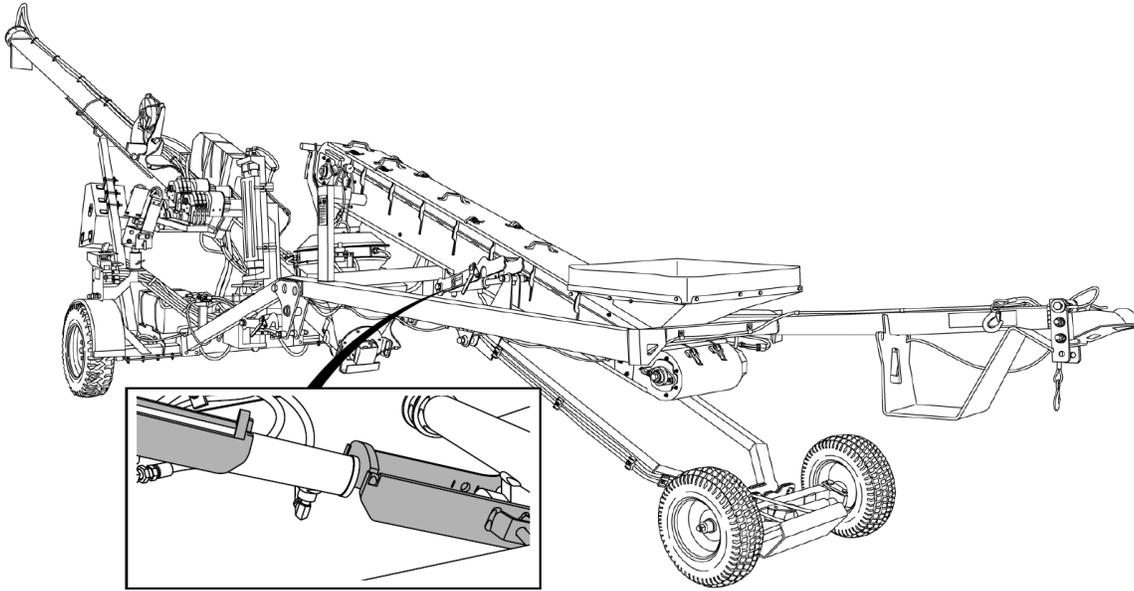
At the start of each treating season, drain antifreeze by flushing the Pumps, Hoses, Filters, and Coupler. Run the pumps until clear.

Use the Flush Out function on the system maintenance screen.

1. Drain and collect antifreeze from treatment lines and filters.
2. Store the antifreeze for further use or dispose of safely.
3. Flush all hoses and lines with water, and dispose of rinse-water safely (it will contain anti-freeze).
4. Ensure pump shoes are closed.
5. Run pumps forward and backward, and check for any unusual noise or actions.

8.11. Clean the Conveyor Belt

1. Remove the conveyor covers.
2. Position the conveyor in clean out position, lock the cylinder in place, see [Figure 14](#).
3. Remove the bottom covers.
4. Check the belt and lacing and corners for seed residue and thoroughly clean the belt and lacing from with a high pressure washer.

Figure 14. Clean-Out Position

8.12. Check and Maintain the Containment System

Chemical Hoses

Ensure nothing is caught in the hoses, if there is, flush out with water or replace the line if necessary.

Catch Containers

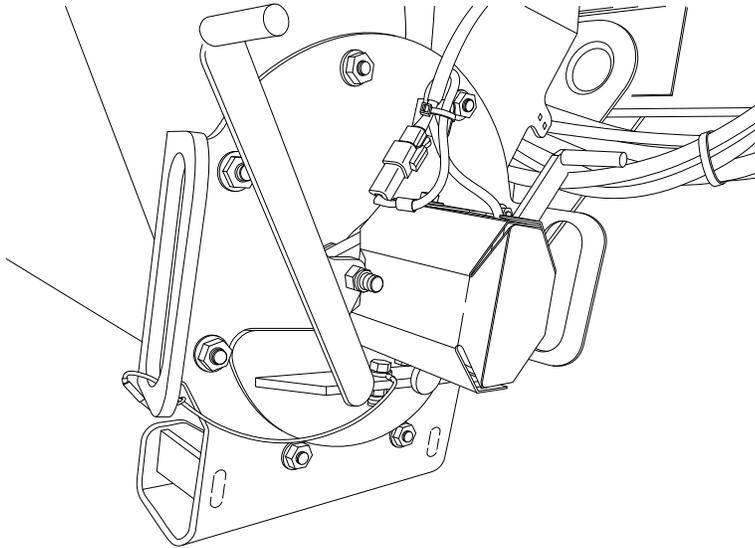
Replace if these are worn or contain cracks/holes.

Fittings

Check for leaks at intake filters and other connection points, replace if cracked or worn.

Mixer Boot Clean-out Door

Make sure the neoprene seal is in good condition, replace if damaged.

Figure 15. Mixer Boot Clean-out Door Seal

8.13. Advanced Mixer Clean-Out

Complete this procedure daily or more often as required to keep the seed treater operating effectively.

1. Position the seed treater with the mover controls to allow for the full extraction of the mixer flighting with the mixer tube at a low angle, boot slightly raised, and conveyor intake at full height.
2. Lockout power to the mixer.
3. Remove the bolt at the mixer discharge.
4. Remove bolts holding bottom mixer bearing plate.
5. Pull the mixer flighting out.
6. Clean with compressed air or water.
7. Reassemble.

8.14. Check and Replace the Pump's Chemical Hoses

To prevent chemical leaks/spills and ensure accurate metering, change pump the tubing annually or if there are kinks, wear, or leaks.

For hose type and length, refer to [Section 11. – Specifications on page 74.](#)

To replace the pump's chemical hoses:

1. Remove clamps and hoses.
2. Check the length of the new hose is identical to the hose being replaced.

Important

Replacement hoses must be identical in type and length or the pump may not meter seed correctly.

3. Slide the new hoses on and reconnect the clamps.

Note

Use rubbing alcohol or soapy water to aid in getting hoses on.

8.14.1 Pump Tubing Break-In

The pump tubing elements require a minimum 30 minute break-in period in order to meter consistently. If proper break-in is not performed, the system will not calibrate correctly.

This procedure must be repeated each time that pump tubing is changed.

For each new pump tubing element:

1. Open valves on the top of the calibration cylinders. Keep locks in place.
2. Disconnect the hoses from the fittings on the atomizer.
3. Connect a male coupler to the dry-break coupler of the associated pump, and place the couplers in a suitably large-volume container of water.
4. Route the hoses from the top of the calibration cylinders into the pail of water.
5. On the touch screen, select Flush Out from the Maintenance screen.
6. Ensure that the pump with the tubing element that is intended for break-in is set to On and in the Forward direction.
7. Ensure that the pump with the tubing not intended for break-in is set to Off.
8. Press Start and run the pump for a minimum of 30 minutes circulating water the entire time.

8.15. Inspect/Replace the Conveyor Rollers and Bearings

Inspecting the Conveyor Rollers and Bearings

To inspect the rollers, listen for the belt slipping (squealing sound) from the drive roller on the conveyor.

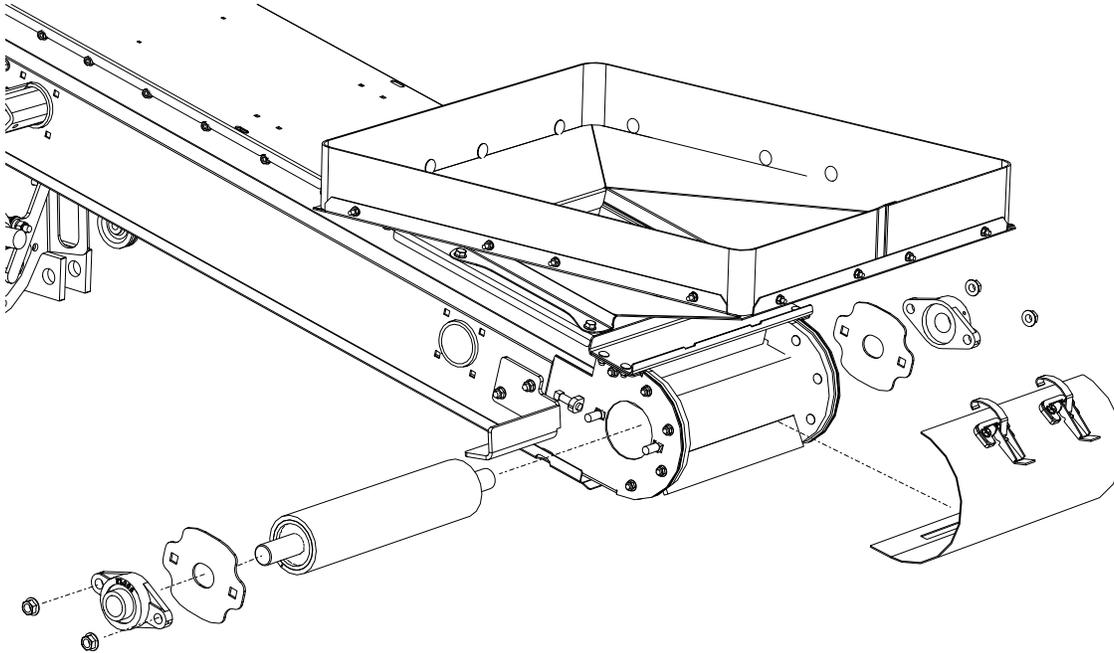
NOTICE

Operating the conveyor with a damaged roller will result in a damaged conveyor belt.

Check the roller bearings for wear. Any rollers making noise, getting hot while running, or that give should be replaced.

Replacing a Conveyor Roller and Bearing

1. Remove and replace the components as shown in [Figure 16](#)

Figure 16. Replacing a Conveyor Roller

8.16. Tension the Conveyor Belt

Adjusting your conveyor belt for proper tension helps to ensure trouble-free operation and long belt life.

Ensure the belt is thoroughly clean prior to tensioning or aligning the belt. Foreign materials may affect tension and alignment. Refer to [Section 8.11 – Clean the Conveyor Belt on page 49](#).

The conveyor belt only needs to be tight enough to not slip on the drive roller. If the belt is too loose, it will slip on the drive roller making a noticeable sound, slowing the belt down. The conveyor belt should pull roughly level with the conveyor side channel with 5–10lb of force, otherwise the belt will require tensioning, or loosening from being too tight.

NOTICE

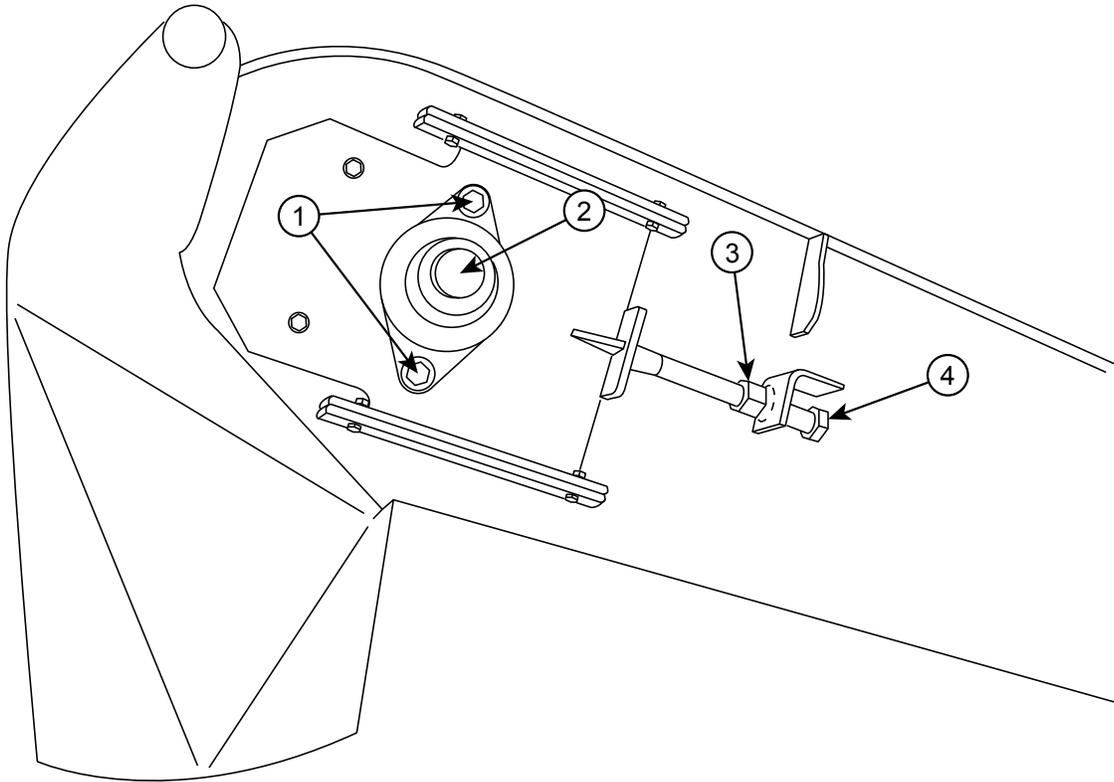
Failure to stop using a conveyor with a slipping belt will damage it and/or the drive roller lagging. In extreme cases, sections of burnt belt will have to be replaced. This type of damage is not covered by warranty.

To set correct conveyor belt tension:

1. Loosen the bearing bolts and jam nut at the spout roller, see [Figure 17 on page 54](#).
2. Tighten the tightener bolts equally, use a tape measure to verify. The conveyor belt should deflect 1-2" when pushed down with a 5 lb force, or be difficult to pull from the sides of hopper transition.
3. Tighten the bearing bolts and jam nut (if included).
4. Ensure the hopper roller is tensioned equally by using a tape measure to check both sides.
5. Check the belt tension by running the conveyor for one minute. If the conveyor belt is not slipping, then proceed to next step; otherwise repeat from step 1.
6. After the conveyor belt has been tensioned, check the alignment of all rollers, see [Section 8.17 – Align the Conveyor Belt on page 54](#).

- 7. If the conveyor belt is still loose after tensioning, the belt needs to be shortened or replaced (depending on wear).

Figure 17. Conveyor Hopper



Item	Description
1	Bearing Bolt and Nut
2	Spout Roller
3	Jam Nut
4	Tightener Bolt

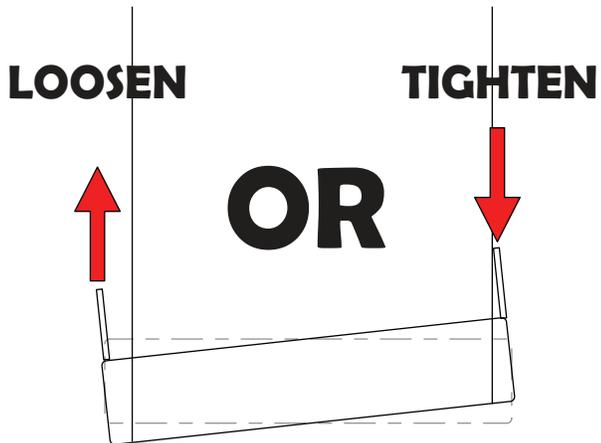
8.17. Align the Conveyor Belt

Basic Conveyor Belt Alignment:

The conveyor belt will run straight when all of the rollers are straight.

Loosen or tighten the adjustment bolt(s) to align the conveyor belt. Tighten the side the belt has moved toward, or loosen the side the belt has moved away from.

Figure 18. Roller out of Alignment

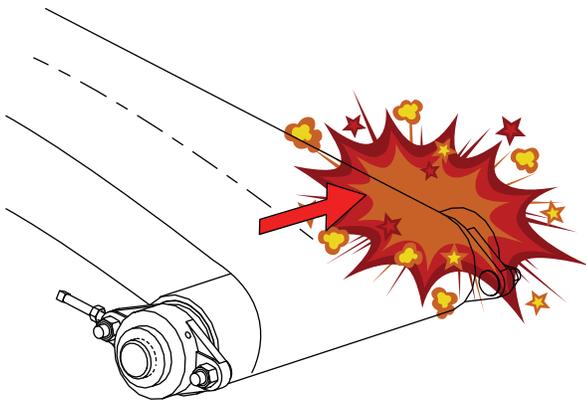
**Before Aligning the Belt:**

- The conveyor must be empty of all grain.
- Wait until the belt makes a complete revolution before adjusting the rollers. Some belts may have uneven edges, appearing misaligned.

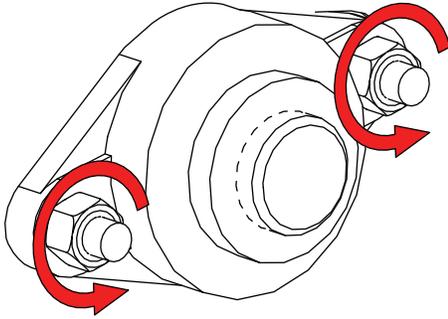
To Align the Belt:

If your belt is tracking off-center, follow the sections and steps in the order following to center it.

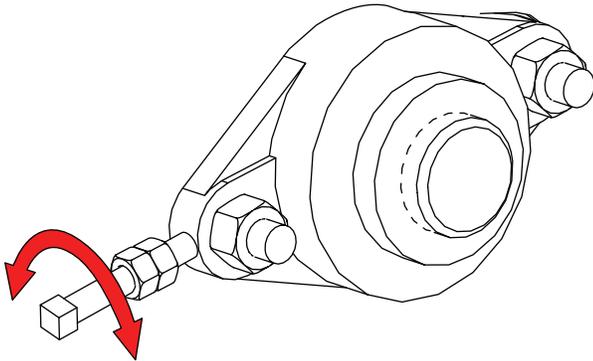
Figure 19. Belt Tracking to One Side

**8.17.1 Adjust the Rollers**

1. Loosen bearing nuts and jam nuts (if equipped).

Figure 20. Loosen the Bearing Nuts

2. Rotate adjustment bolt 1/2 turn.

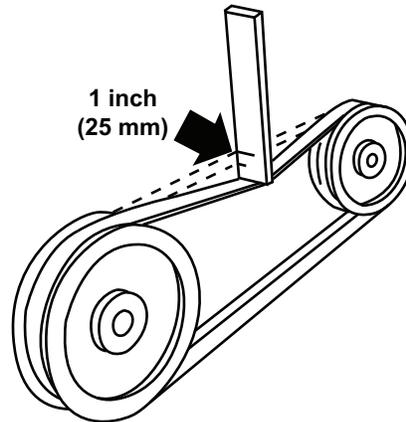
Figure 21. Rotate the Adjustment Bolt

3. Restart conveyor and run empty for 1 minute.
4. Stop the conveyor and remove ignition key or lock out the power source.
5. If the belt has centered, move to next step. If not, repeat Step 2 to Step 4 until the belt is centered.
6. Tighten the bearing bolts and jam nut (if equipped).
7. Replace any guards that were removed.

8.18. Tension the Drive Belts

➡ When equipped:

1. Remove guard and push on the center of the belt span with a force of approximately 5 lb. The belts will deflect approximately 1" (25 mm) when properly tensioned.

Figure 22. Typical Drive Belt Tensioning

2. Tighten or loosen the drive belts (or idler pulley when equipped) to achieve the proper tension.

Important

The drive belt should be just tight enough to not slip on the drive pulley when operating. If the belt is too loose, it will slip, possibly causing a squeaking sound and slowing the belt down. If the belt is too tight, it will cause excess wear.

3. Reattach and secure guard. Start system to ensure proper operation.

8.19. Align the Drive Belts

➡ When equipped:

1. Lay a straight edge across the pulley faces to check the alignment.
2. Use the pulley hub to move the pulley to the required position for alignment.
3. Tighten the hub bolts to secure pulley on the drive shaft.
4. Check the belt tension.
5. Reattach and secure the guard.

8.20. Replace the Drive Belts

➡ When equipped:

1. Remove the guard.
2. Fully loosen the drive belts.
3. Remove and replace the old belts.
4. Tighten the drive belts as described in Belt Tension.
5. Align the drive belts as described in Belt Alignment.
6. Reattach and secure the guard.

8.21. Clean and Wash the Equipment

1. Clean out excess grain from all areas of the seed treater.
2. Make sure water can drain from the seed treater tube and intake, then wash the tube with a water hose or pressure washer until all dirt, mud, debris, or residue is gone.

Important

Do not contact electronic controls with high pressure washer.

3. Provide sufficient time for the water to drain from the seed treater.

8.22. Inspect Belt Lacing

Inspect the condition of the belt lacing, if any clips are worn through, replace all lacing.

8.23. Replace the Belt Lacing

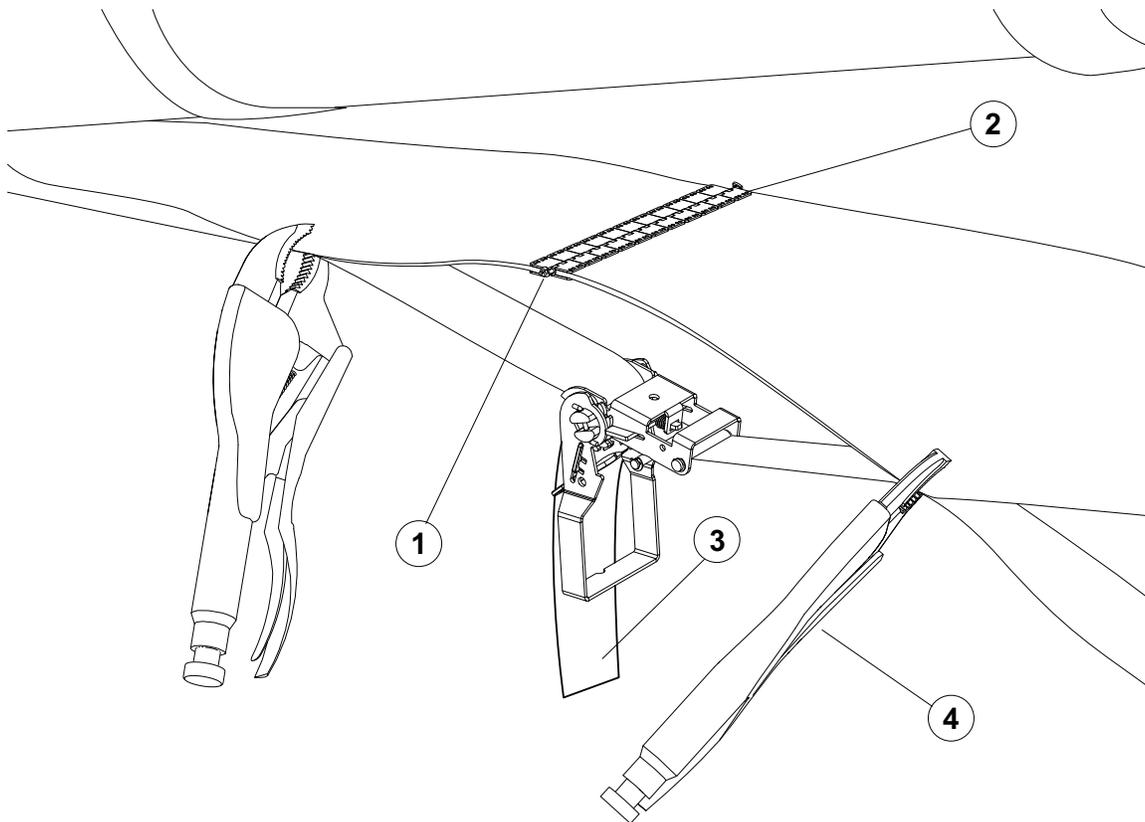
1. Remove the conveyor cover and rotate the conveyor belt until the lacing is by the hopper or is easily accessible.
2. Loosen the conveyor belt and remove the lacing retainer clip and pin.
3. Using a square and sharp knife, cut the lacing off right behind the lacing clips. The cut belt **MUST** have a square end.
4. Use a lacing tool to install new lacing clips. Lacing clips are one clip shorter than the belt width. For example: the lacing for a 15" wide belt is 14 clips. Center the lacing on the belt and install the lacing as per instructions on the lacing tool.
5. Reattach the conveyor belt ends together. If required, use a ratchet strap clamped to both ends of the belt to cinch the belting ends together. [Figure 23 on page 59](#).
6. Install the lacing pin and crimp the retainer clips onto each end of the lacing pin. [Figure 24 on page 60](#).
7. Remove the ratchet strap and tighten the conveyor belt, see [Section 8.16 – Tension the Conveyor Belt on page 53](#).
8. Check and set the belt alignment, see [Section 8.17 – Align the Conveyor Belt on page 54](#).
9. Engage the conveyor drive. Allow the conveyor to run for 30 seconds, then shut down the conveyor and inspect the lacing.

8.24. Replace the Conveyor Belt

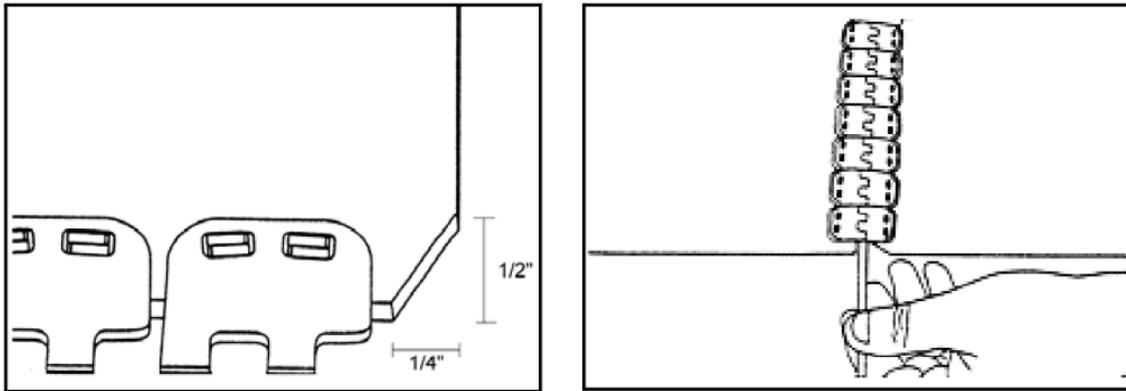
1. Remove the conveyor cover and rotate the conveyor belt until the lacing is by the hopper or is easily accessible.
2. Move the tension roller to its loosest position.
3. Pull all the slack to the lacing area.
4. Remove the lacing retainer clip and pin.
5. Attach one end of the replacement belt to the belt end being removed, closest to the hopper.
6. Pull the old belt out and the new belt will be threaded into place.

7. Disconnect the old belt.
8. Reattach conveyor belt ends together. If required, use a ratchet strap clamped to both ends of belt to cinch belting ends together. [Figure 23 on page 59.](#)

Figure 23. Using the Ratchet Strap



9. Install the lacing pin and crimp the retainer clips onto each end of the lacing pin, see [Section 8.23 – Replace the Belt Lacing on page 58.](#)
10. Remove the ratchet strap and tighten the conveyor belt, see [Section 8.16 – Tension the Conveyor Belt on page 53.](#)
11. Check and set the belt alignment, see [Section 8.17 – Align the Conveyor Belt on page 54.](#)
12. Engage the conveyor drive. Allow it to run for 30 seconds, then shut down the conveyor and inspect the lacing.

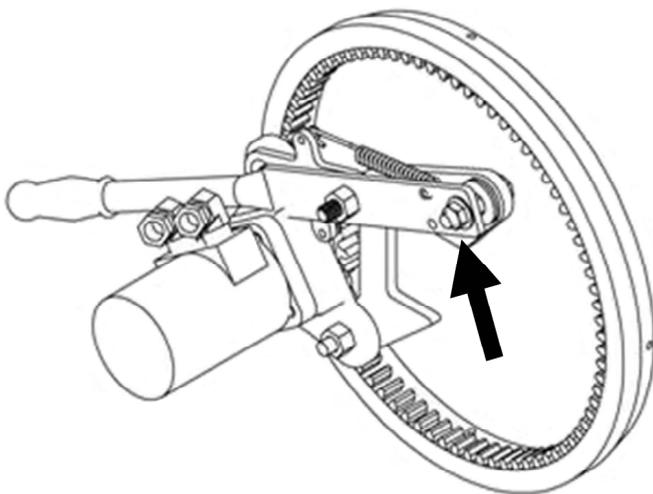
Figure 24. Lacing the Conveyor Belt

8.25. Pinion Gear Adjustment

➔ When Equipped:

The pinion gear should mesh with the ring gear to provide maximum tooth contact. If the pinion gear does not mesh entirely with the ring gear:

1. Adjust the handle slot bolt (which bolts to the drive mount clamp) so full meshing of the pinion gear is achieved when the handle is in the over-center position. The pinion gear will need adjustment when gear teeth bind or are not meshing sufficiently.
 - **Gear teeth binding:** If the handle will not lock into over-center position, loosen the slot bolt nuts and slide the handle away from the tire.
 - **Insufficient Meshing:** If the pinion gear will barely mesh with the ring gear, loosen the slot bolt jam nuts and slide the handle towards the tire until the pinion gear teeth mesh with the ring gear teeth without binding.

Figure 25. Pinion Gear Adjustment Nut

8.26. Change the Hydraulic Oil

Change the hydraulic oil to remove any accumulation of dirt or condensation in the system. Do not over-fill the reservoir. Leave space to allow for level fluctuation. Refer to [Section 11. – Specifications on page 74](#) for oil type.

9. Troubleshooting

⚠ WARNING Shut down and lock out all power sources before diagnosing any of the causes or attempting any of the solutions below.

In the following section, we have listed some causes and solutions to some of the problems you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this section, please contact your local dealer or distributor. Before you contact them, please have this operation manual and the serial number from your machine ready.

Seed Treating Issues

Problem	Cause	Solution
Seed rates are outside of the expected +/-5%	Cleated conveyor belt is slipping on the drive rollers.	Adjust belt tension and tracking. Ensure side bearing mount plates are free to slide as required.
	Inconsistent feed rate to conveyor	During operation, ensure that the metering conveyor is full across the cleats by checking the inspection panel on the top of the conveyor.
		Check for blockage of the conveyor intake.
		Ensure that the seed supply gate is fully opened and completely flooding the intake of the conveyor
		Center the conveyor intake under the seed supply opening.
		In a non-typical situation when the conveyor is not being flood fed, like when supplying the conveyor from a truck with a rear opening, the height of the seed in the intake must be the same as the height of the fully deployed and flooded intake hopper.
	Electronics not achieving proper conveyor motor speeds.	Check Conveyor Drive ratio. It should be 1:1. If not adjust.
		Not enough hydraulic flow to meet setting on electronics. Increase motor speed to increase hydraulic flow.
		Ensure that the Conveyor Correction Factor is set at 1000.
Conveyor intake wiper is out of adjustment.	Hopper bent, call dealer for assistance.	

Pump won't prime, pump output is fluctuating	Air leak on intake.	Check treatment container connectors for correct fit, damage or manufacturing problems.
		Check filter is tight and seal is installed.
	Pump shoe is not fully engaged.	Check that the pump latches are engaged and tight.
Pump output is inconsistent and outside of the expected +/-5%, or pump is difficult to calibrate	There is an air leak in the fittings on the intake line.	Confirm the location of air leak by removing the tubing from the connector assembly and placing it directly into the product. If calibration is normal, the leak is located in the connector assembly; replace the connector assembly.
		Check that the dry break couplers are fully engaged. Re-engage if required.
		Check the condition of the pump hose, especially inside of the pump and on the intake side of the pump. Ensure it is not cracked or badly distorted.
		Check for loose connections on the intake side of the pump. Tighten loose fittings and hose clamps. Check for cracked fittings or fittings that may not be have been assembled with pipe thread sealant. Replace and reassemble as necessary.
		Ensure the container attached to the pump is free of air leaks, including the connector assembly and drop tube.
		Check for filter seal and that filter body is tight.
	The line is restricted on the intake or output side of the pump.	Check the condition of the pump hose. Ensure it has not collapsed, has become plugged, or is worn-out.
		Check filter and nozzles for plugging.
		If in freezing conditions, check for frozen deposits in the lines.
		If using a slurried product, check for product settling in the lines.
Pump is operating too slowly.	Some application rates, combined with low seed densities and slow treating speeds can result in slow pump operating speeds. Pump speeds under 60 rpm result in inconsistent flows and are not allowed by the software system. If possible,	

		increase product application rate by diluting in order to increase pump speeds or re-configure pump.
		Increase treating speed to increase pump speed if operating below 100%.
	Pump is operating too fast.	Viscous (thick) products with high application rates, combined with high seed densities and high treating speeds can result in the pump operating inefficiently. Decrease treating speed to reduce pump speed or re-configure pump.
	There are calibration errors.	Accepting calibration errors while calibrating a job results in inaccurate pump outputs when the job is run; recalibrate the pumps to eliminate the errors.
		The system signals a calibration error has occurred on the results screen during the calibration procedure.
		Running a job without adjusting for seed flow corrections results in inaccurate pump outputs; re-calibrate the pumps to remove the estimated job parameters and replace them with calibrated parameters.
		The system signals it is using estimated values by adding a 9 as a prefix to the Calibration field on the Job Details screen.
	Product condition is inconsistent.	Inadequate mixing may result in product stratification. Ensure that the product has been properly mixed prior to pumping the product with the STORM.
		Over-mixing can cause some products to foam. Consult with the product manufacturer for proper handling recommendations
	Product is too thick to meter properly.	Dilute product, if possible, to reduce viscosity. Re-calibrate as required to ensure accuracy of application.
		Some treatment products change in viscosity with temperature. Ensure calibrations are performed for the conditions at the time of treating.
	Pump is damaged.	Pump may be damaged or warped. Replace if required.

Seed coverage is poor	Atomizer not spinning.	Check connections or for damage to the atomizer.
	Atomizer basket or mixing chamber is plugged.	Remove and clean components.
	Application rates are lower than 300 ml/100 kg of seed.	Consider increasing dilution of treating product or use second pump (if not being utilized) to add water to application.
		Coverage is best for wheat, peas and lentils at application rates of 400 to 600 ml/100kg.
		Coverage is best for barley and oats at application rates of 500 to 700 ml/100kg.
	Application rates are not being obtained.	Check seed delivery and pump rates and ensure they are being met.
		Check condition of pump tubing; replace if there is visible warping or damage.
	Seed condition is affecting coverage.	Dusty seed, dry seed, and frozen seed can affect coverage of many seed treatments.
Treating speed is not optimal for mixer speed.	Running the mixer (auger throttle) too quickly can result insufficient mixing and result in poor coverage.	
Treatment product is too thick.	Thick treatment products may not cover seed adequately. Consult treatment product manufacturer for recommendations and dilute to reduce viscosity if possible	
Excessive build-up in atomizing chamber and application boot.	Seed condition is poor (dusty, dry, etc.).	Dirty or dusty seed will cause build-up. Avoid using excessively dirty or dusty seed.
	Treatment product is too thick.	Thick treatment products can increase build-up. Consult treatment product manufacturer and dilute treatment if possible.
Build-up of treatment on metering conveyor belt	Treatment is flowing when seed is not.	Check for interrupted seed flow. Do not operate the pumps with no seed flow.
	Seed is dusty.	Seed treatment will readily bind to the dust in the seed. Airborne particulates may stick to the conveyor belt.
System won't operate at higher conveyor speeds	Pump max. speed limit has been met.	Increase number of metering elements utilized in the pump.

	Inadequate hydraulic flow.	Increase engine speed to increase hydraulic flow. Check condition of hydraulic oil and replace if necessary.
	Poor electrical connection to differential valve.	Check connections.
	Conveyor out of adjustment causing excessive drag.	An improperly adjusted conveyor can increase power requirements. Adjust conveyor.

Conveyor

Problem	Cause	Solution
Conveyor belt slipping.	Conveying belt loose.	Tighten and align belt, see Belt Tension and Belt Alignment in Maintenance.
	Drive roller lagging worn or damaged.	Replace drive roller lagging, see dealer.
Excessive conveyor belt edge fraying.	Belt not aligned.	Align belt, see Belt Alignment in Maintenance.
Conveyor belt loose.	Belt stretches over time.	Re-tension belt, see Belt Tension in Maintenance.
		If belt is fully tensioned, you may need to shorten belt and re-lace, see Belt Relacing in Maintenance.
Grain leaking from conveyor hopper.	Belt not aligned (centered).	Align belt, see Belt Alignment in Maintenance.
Grain leaking from conveyor discharge between belt and tube.	Belt not aligned (centered).	Align belt, see Belt Alignment in Maintenance.

Mixer

Problem	Cause	Solution
Poor product flow.	Input speed is too slow.	Increase engine rpm.
	Flow into the hopper is restricted.	Clear grating of obstructions.
	Material is too wet or heavy.	Unloading rates are for dry grain.

	Flighting is worn.	Repair or replace as required.
Excessive noise or vibration. *Remember to follow proper break-in procedures—flighting may run rough until tube is polished. If noise is extreme from outset or continuous after several loads of grain are fed, continue with troubleshooting.	Flighting peeled back due to plugging.	Inspect spout end of seed treater for flighting condition. Remove and replace flighting sections as necessary.
	Top drive inadequately engaged	Check shear pin.
	Broken/distorted flighting sections.	Support seed treater and remove all flighting sections. Check for straightness of flight stubs by rolling across flat concrete section. Straighten stub or replace as necessary. Take care not to bend flighting when reinstalling.
	Obstruction in seed treater tube.	Visually inspect for cloth or trash wrapped around flighting, or buildup of gum from oily crops such as flax or canola.
Premature wear on seed treater tubes.	Seed treater being run at low capacity or empty for extended period of time.	Frequently occurs on farms using grain wagons. Seed treater should not be left unattended when filling bins. Depending on application, a belt conveyor may be more appropriate.
	Bent flighting.	
	Flighting allowed to wear beyond normal point of replacement.	When flighting becomes razor thin at intake, replacement is critical. Since flight material is double thickness at welded lap joints, high spots on flight occur and can accelerate spot tube wear.
The flighting does not turn.	Seed treater flighting is plugged or obstructed.	Identify and remove obstruction.
	Bearing is seized.	Identify the bearing and replace.
	Shear pin broken.	Replace shear pin.
	Hydraulic issue.	Check hydraulic and electric systems, call dealer for service.
Seed treater flighting is noisy.	Obstruction in the seed treater tube.	Identify and remove obstruction.
	Flighting shaft bolts are loose or damaged.	Tighten or replace bolts.
	Flighting shaft is bent.	Repair or replace flighting shaft.

	Flighting is damaged.	Repair or replace flighting.
	Worn bearing.	Repair or replace bearing.
Shear bolts fail repeatedly.	Incorrect shear bolt type.	Replace with correct part number. STORM shear bolts are specifically designed to provide correct driveline protection.
	Shear bolt hole worn out-of-round.	Frequent use of the incorrect shear bolt size can wear the mounting hole creating a “scissor effect,” which will require replacement of the affected parts.
	Flighting peeled back as a result of plugging.	Occurs when bin has overfilled, or corn spreaders restrict end of discharge. Inspect flighting at discharge end of seed treater. If necessary, replace flighting.
	Driveline failure.	See Maintenance Section.

Mover and Lift Kit

Problem	Cause	Solution
Valve is leaking.	Loose/cracked fittings.	Tighten/replace fittings.
	Worn hose.	Replace hose.
	Valve spools are worn.	Replace valve.
Machine operates slowly.	Oil is hot.	Check oil level and add if required.
	Blockage in hydraulic lines.	Suction hose blocked or kinked.
	Power source is not producing enough oil volume and/or pressure.	Speed up the engine to produce more flow/pressure The power unit may not have enough capacity to operate properly.
	Cushion block needs adjusting.	Adjust valve on cushion block by turning inward 1/8 of a turn at a time, refer to Ram and Travel Speed.
	Filter plugged (if equipped).	Change filter.
Mixer will not raise.	Relief valve pressure set too low.	Adjust relief valve pressure, refer to Hydraulic Pressure Adjustment.
	Oil level is too low.	Check oil level.

	Pump is worn out.	Replace pump.
Hydraulic cylinder leaking.	Worn seal.	Replace seal.
Pinion gear slipping or binding.	Pinion gear not adjusted properly.	Adjust the pinion gear. See Pinion Gear Adjustment.

Drive

Problem	Cause	Solution
Drive belts jumping off pulleys.	Motor misaligned.	Ensure drive and driven pulleys are correctly aligned.
	Belts mismatched.	Check Specifications section for correct belt sizes and only replace in pairs.
	Belt tension inadequate.	Adjust tension.
	Using a lower horsepower motor than recommended.	See Specifications for recommended motor sizes.

10. Appendix

10.1. Test Weight Procedure

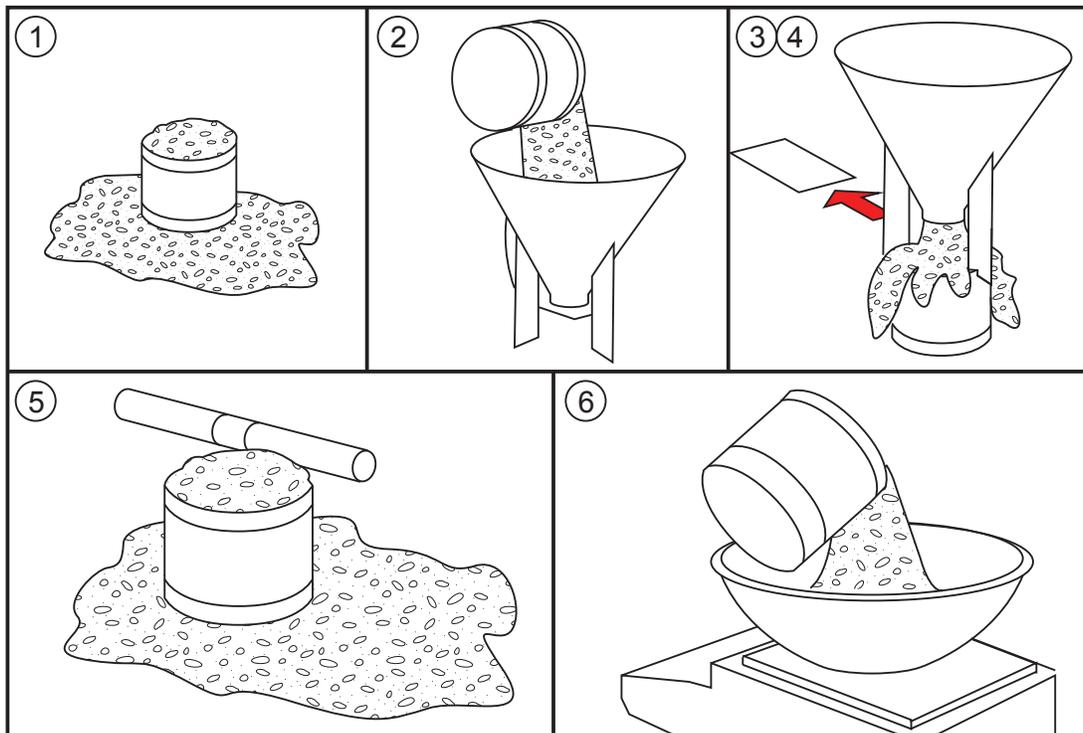
Follow this procedure to achieve highly accurate seed density and highly accurate seed treatment application.

Repeat this procedure five times for best accuracy. Eliminate the highest and lowest value and average the three middle measurements for best results.

1. Fill the 0.5 litre measure to overflowing with the grain to be tested.
2. Ensure the slide is inserted into the Cox funnel, then pour the contents of the 0.5 litre measure, plus an extra handful, into the Cox funnel.
3. Place the 0.5 litre measure on a solid base. Position the Cox funnel on top of the 0.5 litre measure so that the notched legs of the Cox funnel fit securely onto the measure's rim. Remove the slide on the Cox funnel quickly so that the grain drops evenly into the 0.5 litre measure.
4. Carefully remove the Cox funnel from the top of the 0.5 litre measure so as not to disturb the grain. Any jarring of the cup at this point will result in compaction of the grain in the 0.5 litre measure and could produce inaccurate results.
5. Place the hardwood striker on the rim of the 0.5 litre measure and, using three zigzag, equal motions, scalp off the excess grain in the measure.
6. Pour the grain remaining in the 0.5 litre measure into the scale pan. Determine the weight in grams of the grain in the scale pan.

Note

See www.labtronics.ca for further information, including test weight conversion charts.

Figure 26. Test Weight Procedure Steps

10.2. Updating System Software

To Ensure your STORM is operating at optimum levels, always install the most up-to-date software found on the "Downloading Software" tab.

The STORM control uses a USB Flash Drive to transfer treating history and to install new software. It is located under the USB port weather cap on the control box of your STORM.

Steps to Installing New Software

1. Ensure that important treating records and job information has been removed from the STORM controls. Updating the software will erase all data stored in the controls. To do this follow the instructions on the "Recording Treating History and Job Information" tab.
2. Format the USB flash drive by following the instructions on the "Formatting the USB Flash Drive" tab. Formatting will erase the entire contents of the USB flash drive.
3. Download the software and extract it to the USB flash drive by following the directions on the "Software Download Instructions" tab.
4. Install the software onto the STORM controls by following the instructions on the "Software Installation Instructions" tab.

If you are having issues with the download and installation process, please contact STORM Customer Service at 1.855.662.6609 or storm@aggrowth.com.

10.2.1 Treating History & Job Information

Important

Installing new software will erase all treating history and job information stored in the controls. This step does not apply to new users who have not set up a treating history.

Before Updating the Software

1. Download the history from the Touchscreen onto the USB. Please consult the operator manual for your STORM model for step by step instructions. Instruction manuals can be found on the Literature tab above.
2. Record job parameters from "Jobs" on HMI.
3. Record total lifetime use.
4. Transfer history files to the computer.

If you are having issues with the download and installation process, please contact STORM Customer Service at 1-855-662-6609 or storm@aggrowth.com.

10.2.2 Formatting a USB

How to Format a USB Flash Drive Using a PC

1. Put your USB in the USB port on your computer.
2. Click the start-up icon on the lower left side of the screen.
3. Click on "Computer" on the right side.
4. Right click on "Removable Disk" or the name given to your USB.
5. Click "Format". Ensure that the file system type is selected as fat32 and that quick format has been selected for the formatting option.
6. Click "Start".

How to Format a USB Flash Drive Using a Mac

1. Insert USB flash drive into the USB port on the computer.
2. Click "Finder" -> "Applications" -> "Utilities" -> "Disk Utility".
3. On the left side, click your USB. Choose the root folder, and not the indented folder below it.
4. Click "Erase".
5. Click "Erase" again.

Note

Formatting can take a few seconds or a few minutes.

If you are having issues with the download and installation process, please contact STORM Customer Service at 1-855-662-6609 or storm@aggrowth.com.

10.2.3 Downloading Software

Steps to Downloading the Software

1. The STORM USB Flash Drive is located under the USB port weather cap on the control box of your STORM unit.

2. Once you have located the USB, insert it the USB port on your computer. The flash drive may appear on your desktop as removable drive.
3. If you have both the STORM FX and STORM PRO, please make sure you downloading the correct files for the model you will be updating.
4. Click the "Downloading Software" tab for the latest software version. Both .exe and .zip files are available for your convenience. Although the .exe file is recommended, some firewalls may prevent the file from being downloaded to your computer. We assure you that the files are virus free and safe for download. If you are not able to download the .exe file, a.zip file is available. Please note that with the .zip version, you will need to extract the data before saving it to your USB. This requires .zip software. Visit www.zipeg.com for more details.
5. When you click the software version of your choice, your browser will automatically download the file to your computer. Typically, the default folder will be "Downloads". You can create and select an alternate folder on your desktop labeled "STORM Software" for easy access.
6. If you have downloaded the .zip file you must first unpack the file and then save the contents to the USB. This requires .zip software. Visit www.zipeg.com for more details. You should have nine items on the USB before ejecting.
7. If you have downloaded the .exe file, please double click on the file, choose run, update the destination folder to your removable drive using the browse button and finally press the extract button. Please verify you have nine items on your USB before ejecting.

Note

Please ensure that the software file is not located inside another folder or with other files you may have on the flash drive.

If you are having issues with the download and installation process, please contact STORM Customer Service at 1-855-662-6609 or storm@aggrowth.com.

10.2.4 Installing Software

Important

Updating software will erase all job information. Manually write down recipes and other important information before completing the steps below.

1. Power up the STORM controls. The unit will automatically initialize the software. When complete, the main screen will be displayed. Plug the USB into the USB port .
2. The software update will start automatically. When asked "Do you want to install a new project from the USB drive?", Select "Yes" and the software will begin loading.
3. When the message "Installation Complete" appears, press "Restart" at the bottom of the screen. The unit will initialize the software again.
4. When the main screen is displayed on the STORM Classic and STORM FX, unplug the control box for 30 seconds. Power up the control box again and make sure the software loads properly. The main screen should be displayed if it has loaded properly.
5. **DO NOT REMOVE THE USB** - leave in and cover with the weather cap.

If you are having issues with the download and installation process, please contact STORM Customer Service at 1-855-662-6609 or storm@aggrowth.com.

11. Specifications

CAPACITY	
Seed Flow	22.5 to 45 bu/min with 60 lb/bu
Treatment Application Rate	10 to 1200 ml/100kg
Treatment Application Coverage Accuracy	+/- 5% (typical)
Tube Size of Mixer	10" (254 mm)
DIMENSIONS	
Transport	Length 49' (14.9 m)
	Width 8'6" (2.59 m)
	Height 11'6" (3.51 m)
Discharge Clearance	Min 9'5" (2.87 m)
	Max 23'7" (7.19 m)
TIRES	
Size/Type	15" Radial
Inflation Pressure	20-24 PSI (137-165 kPa)
WEIGHT	
Hitch Tongue Weight	500 lb (318 kg)
Total Weight	4850 lb (2200 kg)
POWER REQUIREMENTS	
Diesel Engine	34 HP (25 KW)
Diesel Engine DC Power (One battery, alternator on engine)	12 VDC
Control System DC Power (Two batteries in series, alternator on PTO on engine)	24 VDC
PART SPECIFICATIONS	
Treating Hoses	IP26 Masterflex Norprene Food (10-3/4" – exact length critical)
Chemical Filter	30 Mesh
Fuel Tank Capacity	14 US Gal (53 L)
Hydraulic System Capacity	40 L (Universal Tractor Fluid)
Hydraulic Oil Filter	10 micron with 3/4 NPTF (Lenz CP-752-10)
OTHER	
Fire Extinguisher	10lb 4A 60 BC

12. STORM Warranty

Ag Growth International (AGI) warrants products of its manufacture against defects in materials or workmanship under normal and reasonable use for a period of 18 months after date of delivery to the original purchaser.

Our obligation under this warranty is limited to repairing, replacing, or refunding defective part or parts which shall be returned to a distributor or a dealer of our Company, or to our factory, with transportation charges prepaid. This warranty does not obligate AGI to bear the cost of labor in replacing defective parts. Any defects must be reported to the Company before the end of the one year period.

This warranty shall not apply to equipment which has been altered, improperly assembled, improperly maintained, or improperly repaired so as to adversely affect its performance. AGI makes no express warranty of any character with respect to parts not of its manufacture.

The foregoing is in lieu of all other warranties, expressed or implied, including any warranties that extend beyond the description of the product, and the IMPLIED WARRANTY of MERCHANTABILITY is expressly excluded.

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Please include the part number listed on the cover page in your message.